



**2023 Det-Tronics Product Catalog**  
Celebrating 50 Years



Detector Electronics Corporation  
6901 West 110th Street,  
Minneapolis, Minnesota 55438 USA

Phone: +1 952-941-5665  
Toll-Free: +1 800-765-3473  
[www.det-tronics.com](http://www.det-tronics.com)  
[det-tronics@carrier.com](mailto:det-tronics@carrier.com)



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## MULTISPECTRUM INFRARED

### X3301 Multispectrum Infrared Flame Detector



**X3301 Multispectrum Infrared Flame Detector** (Spec Sheet: 90-1218, 90-1219) establishes the benchmark in hydrocarbon based fire detection performance and false alarm rejection. The detector utilizes advanced signal processing algorithms supported by an embedded 32-bit microprocessor to provide continuous protection in the presence of false alarm sources and environments with infrared radiation present. Multiple sensitivity and output options are available enabling the X3301 to be used in a variety of applications such as offshore oil/gas platforms. Standard outputs include fire alarm, auxiliary alarm and fault relays, with RS-485 Modbus. Optional 0-20 mA, HART, Pulse, or Eagle Quantum Premier outputs are also available. Hangar Mode processing option provides an increased verification time to a sustained fire while maintaining extended detection range capability. Hangar mode provides additional false alarm rejection capability for applications that contain temporary sources of alarm.

- Model options available that are optimized for Aircraft Hangars, Turbines, and Automotive Paint Spray Booth applications.
- Models available with SIL 2 certification
- Increased detection range compared to traditional detectors
- Third-party certified performance to multiple fuel types
- Terminal block allows for Class X Pathway Designation per NFPA 72
- 125 feet (30.5 m) of detection range on axis for methane
- Microprocessor controlled heated optics enable optimal performance in adverse environments
- Data logger for event time and date stamping
- Automatic **o<sub>i</sub>** (optical integrity) continuously verifies each sensors ability to detect fire
- **Calibrated** manual testing/magnetic **o<sub>i</sub>**, no test lamp required
- Four conduit entries for easy installation
- Division Approval Ratings: FM and CSA
- Zone Approval Ratings: FM, CSA, ATEX, and IECEx
- DNV, MED, ULC, USCG
- EN 54 part 10 certified by VdS, LPCB
- Meets Construction Product Directive
- Optional HART output, AMS aware, and FDT/DTM capable
- Tricolor LED on detector faceplate indicates detector status condition
- Automotive Model meets NFPA 33 response requirements for under 0.5 seconds

# MULTISPECTRUM INFRARED

## X3301 Model Matrix

MODEL	DESCRIPTION																				
X3301	Multispectrum IR Flame Detector																				
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>MATERIAL</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Aluminum (AL)</td> </tr> <tr> <td>S</td> <td>Stainless Steel (SS)</td> </tr> </tbody> </table>	TYPE	MATERIAL	A	Aluminum (AL)	S	Stainless Steel (SS)														
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<sup>†</sup> Type 23 Output - When HART output chosen detector does not have RS-485 communication available.

<sup>‡</sup>Type Approvals can use one or more letters to designate the approvals of the product.

<sup>§</sup> ULC approval applies to output types 11, 13, 15, 21, and 23, 33, 34 Certified by QPS Evaluation Services, Inc.

<sup>§§</sup>VdS approval only applies to output types 11, 13, and 14

# MULTISPECTRUM INFRARED

Table A1 - X3301 Software Part Number Configuration Matrix

Dash	Sensitivity	Alarm Relay	Aux Relay	Fault Relay	Special
-001	Medium	De-energized Non-latching	Energized Non-latching	Energized Non-latching	None
-002	Very High	De-energized Non-latching	Energized Non-latching	Energized Non-latching	None
-003	Very High	De-Energized Non-latching	Energized Non-latching	Energized Non-latching	Single-Stage Automotive
-004*	Low	De-energized Non-latching	Energized Non-latching	Energized Non-latching	3 min o; 10 fails to fault
-005†	Medium	De-energized Non-latching	De-energized Non-latching	Energized Non-latching	Automotive
-010*	T-Low	De-energized Non-latching	Energized Non-latching	Energized Non-latching	None
-034	Medium	De-energized Non-latching	De-energized Non-latching	Energized Non-latching	Hangar‡
-035	Very High	De-energized Non-latching	De-energized Non-latching	Energized Non-latching	Hangar‡

\* Compatible with EQP Controller firmware 11.08 and later.

† Available only on type 21 & 22 (Automotive) output.

‡ See 95-8735 Hangar Mode Addendum and Consult Factory for Recommendations

**NOTE:** The X3301 window heaters are set to 100% as a default but can be configured from 0-100% with the Enhanced Flame Inspector. Please refer to section E.3 for more details.

## Application Guidelines

The following criteria should be considered when choosing a sensitivity level for the intended application:

- Potential for interference from IR emitting sources
- Speed of response based on fuel type and fire size
- Distance between the hazard and the flame detector

These are typical industry application settings. They may not be applicable to all installations. Contact factory for additional application guidance.

Offshore	001, 004
Turbine	010, 001
Compressor	001, 010
Hangar	034 or 035
Petroleum Loading Racks	034
Automotive	005, -003 (Single Stage)
High IR Backgrounds	004, 010, 034

**NOTE:** Latching relays cannot be used in voted systems.

# MULTISPECTRUM INFRARED

## X3301 Multispectrum Infrared Flame Detector - SIL 2

Model	Part Number *	Material	Threads	Output	Div/Zone Ex d e	Div/Zone Ex d	SIL/FM/CSA/ATEX/IECEX
X3301A4N11T1	028234-XXX	AL	3/4 NPT	Relay	X		X
X3301A4M11T1	028235-XXX	AL	M25	Relay	X		X
X3301S4N11T1	028236-XXX	SS	3/4 NPT	Relay	X		X
X3301S4M11T1	028237-XXX	SS	M25	Relay	X		X
X3301A4N11T2	028238-XXX	AL	3/4 NPT	Relay		X	X
X3301A4M11T2	028239-XXX	AL	M25	Relay		X	X
X3301S4N11T2	028240-XXX	SS	3/4 NPT	Relay		X	X
X3301S4M11T2	028241-XXX	SS	M25	Relay		X	X
X3301A4N13T1	028258-XXX	AL	3/4 NPT	Relay/0-20 mA	X		X
X3301A4M13T1	028259-XXX	AL	M25	Relay/0-20 mA	X		X
X3301S4N13T1	028260-XXX	SS	3/4 NPT	Relay/0-20 mA	X		X
X3301S4M13T1	028261-XXX	SS	M25	Relay/0-20 mA	X		X
X3301A4N13T2	028270-XXX	AL	3/4 NPT	Relay/0-20 mA		X	X
X3301A4M13T2	028271-XXX	AL	M25	Relay/0-20 mA		X	X
X3301S4N13T2	028272-XXX	SS	3/4 NPT	Relay/0-20 mA		X	X
X3301S4M13T2	028273-XXX	SS	M25	Relay/0-20 mA		X	X
X3301A4N23T1	028244-XXX	AL	3/4 NPT	Rly/0-20/HART	X		X
X3301A4M23T1	028245-XXX	AL	M25	Rly/0-20/HART	X		X
X3301S4N23T1	028246-XXX	SS	3/4 NPT	Rly/0-20/HART	X		X
X3301S4M23T1	028247-XXX	SS	M25	Rly/0-20/HART	X		X
X3301A4N23T2	028248-XXX	AL	3/4 NPT	Rly/0-20/HART		X	X
X3301A4M23T2	028249-XXX	AL	M25	Rly/0-20/HART		X	X
X3301S4N23T2	028250-XXX	SS	3/4 NPT	Rly/0-20/HART		X	X
X3301S4M23T2	028251-XXX	SS	M25	Rly/0-20/HART		X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 13.8lb (6.3kg)</b>							

\*The last 3 digits of the part number identify the software configuration. Please see table A1 to choose the correct option.

## X3301 Multispectrum Infrared Flame Detector - SIL 2 EQP

Model	Part Number	Material	Threads	Output	Div/Zone Ex d e	Div/Zone Ex d	SIL/FM/CSA/ATEX/IECEX
X3301A4N14T1	028262-001	AL	3/4 NPT	EQP	X		X
X3301A4M14T1	028263-001	AL	M25	EQP	X		X
X3301S4N14T1	028264-001	SS	3/4 NPT	EQP	X		X
X3301S4M14T1	028265-001	SS	M25	EQP	X		X
X3301A4N14T2	028274-001	AL	3/4 NPT	EQP		X	X
X3301A4M14T2	028275-001	AL	M25	EQP		X	X
X3301S4N14T2	028276-001	SS	3/4 NPT	EQP		X	X
X3301S4M14T2	028277-001	SS	M25	EQP		X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 13.8lb (6.3kg)</b>							

The standard EQP detectors are completely configurable using the S3 software and are shipped defaulted to the -001 setting.

# MULTISPECTRUM INFRARED

## X3301 Multispectrum Infrared Flame Detector

Model	Part Number*	Material	Threads	Output	Div/Zone Ex d e	Div/Zone Ex d	FM/CSA/ ATEX/IECEX
X3301A4N15W1	028112-XXX	AL	3/4 NPT	Pulse/Relay	X		X
X3301A4M15W1	028113-XXX	AL	M25	Pulse/Relay	X		X
X3301S4N15W1	028114-XXX	SS	3/4 NPT	Pulse/Relay	X		X
X3301A4N15W2	028132-XXX	AL	3/4 NPT	Pulse/Relay		X	X
X3301A4M15W2	028133-XXX	AL	M25	Pulse/Relay		X	X
X3301S4N15W2	028134-XXX	SS	3/4 NPT	Pulse/Relay		X	X
X3301A4N21W2	028118-005	AL	3/4 NPT	Automotive		X	X
X3301A4M21W2	028119-005	AL	M25	Automotive		X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 13.8lb (6.3kg)</b>							

\*The last 3 digits of the part number identify the software configuration. Please see table A1 to choose the correct option. (Automotive versions are not configurable).

## X3301 Multispectrum Infrared Flame Detector - EQP

Model	Part Number	Material	Threads	Output	Div/Zone Ex d e	Div/Zone Ex d	FM/CSA/ ATEX/IECEX
X3301A4N14W1	028124-001	AL	3/4 NPT	EQP	X		X
X3301A4M14W1	028125-001	AL	M25	EQP	X		X
X3301S4N14W1	028126-001	SS	3/4 NPT	EQP	X		X
X3301A4N14W2	028128-001	AL	3/4 NPT	EQP		X	X
X3301A4M14W2	028129-001	AL	M25	EQP		X	X
X3301S4N14W2	028130-001	SS	3/4 NPT	EQP		X	X
X3301A4N14W1	028124-034	AL	3/4 NPT	EQP/Hangar	X		X
X3301A4M14W1	028125-034	AL	M25	EQP/Hangar	X		X
X3301S4N14W1	028126-034	SS	3/4 NPT	EQP/Hangar	X		X
X3301S4M14W1	028127-034	SS	M25	EQP/Hangar	X		X
X3301A4N14W2	028128-034	AL	3/4 NPT	EQP/Hangar		X	X
X3301A4M14W2	028129-034	AL	M25	EQP/Hangar		X	X
X3301S4N14W2	028130-034	SS	3/4 NPT	EQP/Hangar		X	X
X3301S4M14W2	028131-034	SS	M25	EQP/Hangar		X	X
X3301A4N22W2	028228-005	AL	3/4 NPT	EQP/Automotive		X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 13.8lb (6.3kg)</b>							

The standard EQP detectors are completely configurable using the S3 software and are shipped defaulted to the -001 setting. (Automotive version and Hangar version are not configurable).

# MULTISPECTRUM INFRARED

## X3301 Multispectrum Infrared Flame Detector - Brazil

Model	Part Number*	Material	Threads	Output	Ex d	INMETRO	SIL
X3301A4N13SB2	029656-XXX	AL	3/4 NPT	Relay/0-20 mA	X	X	X
X3301S4N13SB2	029657-XXX	SS	3/4 NPT	Relay/0-20 mA	X	X	X
X3301A4N14B2	028204-001	AL	3/4 NPT	EQP	X	X	
X3301S4N14B2	028205-001	SS	3/4 NPT	EQP	X	X	
X3301A4N14SB2	029658-001	AL	3/4 NPT	EQP	X	X	X
X3301S4N14SB2	029659-001	SS	3/4 NPT	EQP	X	X	X
X3301A4N23SB2	029660-XXX	AL	3/4 NPT	Rly/0-20/HART	X	X	X
X3301S4N23SB2	029661-XXX	SS	3/4 NPT	Rly/0-20/HART	X	X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 13.8lb (6.3kg)</b>							

\*The last 3 digits of the part number identify the software configuration. Please see table A1 to choose the correct option.  
The EQP detectors are completely configurable using the S3 software and are defaulted to the -001 setting.

## X3301 Multispectrum Infrared Flame Detector - Russia

Model	Part Number*	Material	Threads	Output	Ex d e	Ex d	VNIPO/ VNIIFTRI	SIL
X3301A4M11R1	028136-XXX	AL	M25	Relay	X		X	
X3301S4M11R1	028137-XXX	SS	M25	Relay	X		X	
X3301A4M11R2	028138-XXX	AL	M25	Relay		X	X	
X3301S4M11R2	028139-XXX	SS	M25	Relay		X	X	
X3301S4N11R2	028145-XXX	SS	3/4 NPT	Relay		X	X	
X3301A4M13R1	028140-XXX	AL	M25	Relay/0-20 mA	X		X	
X3301S4M13R1	028141-XXX	SS	M25	Relay/0-20 mA	X		X	
X3301A4M13R2	028142-XXX	AL	M25	Relay/0-20 mA		X	X	
X3301S4M13R2	028143-XXX	SS	M25	Relay/0-20 mA		X	X	
X3301S4N13R2	028179-XXX	SS	3/4 NPT	Relay/0-20 mA		X	X	
X3301A4M13SR2	028266-XXX	AL	M25	Relay/0-20 mA		X	X	X
X3301A4M23SR1	028268-XXX	AL	M25	Rly/0-20/HART	X		X	X
X3301S4M23SR1	028269-XXX	SS	M25	Rly/0-20/HART	X		X	X
X3301S4M23SR2	028253-XXX	SS	M25	Rly/0-20/HART		X	X	X
X3301S4M23R2	028215-XXX	SS	M25	Rly/0-20/HART		X	X	
X3301A4M14R1	028160-001	AL	M25	EQP	X		X	
X3301S4M14R1	028161-001	SS	M25	EQP	X		X	
X3301A4M14R2	028162-001	AL	M25	EQP		X	X	
X3301A4M15R2	028171-XXX	AL	M25	Relay/Pulse		X	X	
X3301S4M15R2	028173-XXX	SS	M25	Relay/Pulse		X	X	
X3301A4M14SR2	028267-001	AL	M25	EQP		X	X	X
X3301A4N14R1	028164-001	AL	3/4 NPT	EQP	X		X	
X3301S4N14R1	028165-001	SS	3/4 NPT	EQP	X		X	
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 13.8lb (6.3kg)</b>								

\*The last 3 digits of the part number identify the software configuration. Please see table A1 to choose the correct option.  
The standard EQP detectors are completely configurable using the S3 software and are defaulted to the -001 setting.

# MULTISPECTRUM INFRARED

## X3301 Multispectrum Infrared Flame Detector - Ukraine

Model	Part Number*	Material	Threads	Output	Ex d e	Ex d	TCCEXEE/IKRCEPRO
X3301A4M11U1	028152-XXX	AL	M25	Relay	X		X
X3301S4M11U1	028153-XXX	SS	M25	Relay	X		X
X3301A4M11U2	028154-XXX	AL	M25	Relay		X	X
X3301S4M11U2	028155-XXX	SS	M25	Relay		X	X
X3301A4M13U1	028156-XXX	AL	M25	Relay/0-20 mA	X		X
X3301S4M13U1	028157-XXX	SS	M25	Relay/0-20 mA	X		X
X3301A4M13U2	028158-XXX	AL	M25	Relay/0-20 mA		X	X
X3301S4M13U2	028159-XXX	SS	M25	Relay/0-20 mA		X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 13.8lb (6.3kg)</b>							

\*The last 3 digits of the part number identify the software configuration. Please see table A1 to choose the correct option.

## X3301 Multispectrum Infrared Flame Detector - China

Model	Part Number	Material	Threads	Output	Ex d	NEPSI	CCCF
X3301A4N11Y2	028280-001	AL	3/4 NPT	Relay	X	X	
X3301A4N23Y2	028294-001	AL	3/4 NPT	Rly/0-20/HART	X	X	
X3301S4N23Y2	028296-001	SS	3/4 NPT	Rly/0-20/HART	X	X	
X3301A4M11Y2	028281-001	AL	M25	Relay	X	X	
X3301S4N11Y2	028282-001	SS	3/4 NPT	Relay	X	X	
X3301S4M11Y2	028283-001	SS	M25	Relay	X	X	
X3301A4N13Y2	028284-001	AL	3/4 NPT	Relay/0-20 mA	X	X	X
X3301A4N13Y2	028284-002	AL	3/4 NPT	Relay/0-20 mA	X	X	X
X3301A4M13Y2	028285-001	AL	M25	Relay/0-20 mA	X	X	
X3301S4N13Y2	028286-001	SS	3/4 NPT	Relay/0-20 mA	X	X	
X3301S4M13Y2	028287-001	SS	M25	Relay/0-20 mA	X	X	
X3301A4N21Y2	028292-005	AL	3/4 NPT	Automotive	X	X	
X3301A4M21Y2	028293-005	AL	M25	Automotive	X	X	
X3301A4M23Y2	028295-001	AL	M25	Rly/0-20/HART	X	X	
X3301S4M23Y2	028297-001	SS	M25	Rly/0-20/HART	X	X	
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 13.8lb (6.3kg)</b>							

## MULTISPECTRUM INFRARED

### X3302 Multispectrum Infrared Flame Detector



**X3302 Multispectrum Infrared Flame Detector** (Spec Sheet: 90-1232) provides a large field of view for hydrogen fire detection coupled with superior false alarm rejection. The detector utilizes advanced signal processing algorithms supported by an embedded 32-bit microprocessor to provide continuous protection in the presence of false alarm sources and environments with infrared radiation present. When configured for Very High Sensitivity, the X3302 has a detection range of 125 feet on axis and 100 feet off axis to a hydrogen fire and is recommended for any indoor/outdoor application. The detector is available in aluminum or stainless steel. Standard outputs include fire alarm, auxiliary alarm and fault relays, with RS-485 Modbus. Optional 0-20 mA, HART, Pulse, or Eagle Quantum Premier outputs are also available. Ideal applications include hydrogen storage, aerospace, battery rooms, and filling stations.

- Eagle Quantum Premier model
- Models available with SIL 2 certification
- Multiple sensitivities and certified performance to Hydrogen, Methane, Syngas and Methanol
- Terminal block allows for Class X Pathway Designation per NFPA 72
- 125 feet on axis *and* 100 feet off axis detection range for hydrogen fire
- Microprocessor controlled heated optics, enable optimal performance in adverse environments
- Data logger for event time and date stamping
- Optional HART output, AMS aware, and FDT/DTM capable
- Automatic **o<sub>i</sub>** (optical integrity) continuously verifies each sensors ability to detect fire
- Calibrated manual testing/magnetic **o<sub>i</sub>**, no test lamp required
- Four conduit entries for easy installation
- Division Approval Ratings: FM and CSA
- Zone Approval Ratings: FM, CSA, ATEX, and IECEx
- Tricolor LED on detector faceplate indicates detector status condition

# MULTISPECTRUM INFRARED

## X3302 Model Matrix

MODEL	DESCRIPTION														
X3302	Multispectrum IR Flame Detector														
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>MATERIAL</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Aluminum (AL)</td> </tr> <tr> <td>S</td> <td>Stainless Steel (SS)</td> </tr> </tbody> </table>	TYPE	MATERIAL	A	Aluminum (AL)	S	Stainless Steel (SS)								
TYPE	MATERIAL														
A	Aluminum (AL)														
S	Stainless Steel (SS)														
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>THREAD TYPE</th> </tr> </thead> <tbody> <tr> <td>4M</td> <td>4 Port, M25</td> </tr> <tr> <td>4N</td> <td>4 Port, 3/4" NPT</td> </tr> </tbody> </table>	TYPE	THREAD TYPE	4M	4 Port, M25	4N	4 Port, 3/4" NPT								
TYPE	THREAD TYPE														
4M	4 Port, M25														
4N	4 Port, 3/4" NPT														
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>OUTPUTS</th> </tr> </thead> <tbody> <tr> <td>13</td> <td>Relay and 0-20 mA</td> </tr> <tr> <td>14</td> <td>Eagle Quantum Premier (EQP)</td> </tr> <tr> <td>15</td> <td>Relay and Pulse</td> </tr> <tr> <td>16</td> <td>Addressable Module Only (third-party type)</td> </tr> <tr> <td>23<sup>†</sup></td> <td>HART, Relay, and 0-20 mA</td> </tr> </tbody> </table>	TYPE	OUTPUTS	13	Relay and 0-20 mA	14	Eagle Quantum Premier (EQP)	15	Relay and Pulse	16	Addressable Module Only (third-party type)	23 <sup>†</sup>	HART, Relay, and 0-20 mA		
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13	Relay and 0-20 mA														
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	<table border="1"> <thead> <tr> <th>TYPE</th> <th>APPROVALS<sup>‡</sup></th> </tr> </thead> <tbody> <tr> <td>A</td> <td>FM/CSA</td> </tr> <tr> <td>B</td> <td>INMETRO (BRAZIL)</td> </tr> <tr> <td>R</td> <td>VNIIPO/VNIIFTRI (RUSSIA)</td> </tr> <tr> <td>S</td> <td>SIL</td> </tr> <tr> <td>T</td> <td>SIL/FM/CSA/ATEX/IECEX</td> </tr> <tr> <td>W</td> <td>FM/CSA/ATEX/IECEX</td> </tr> </tbody> </table>	TYPE	APPROVALS <sup>‡</sup>	A	FM/CSA	B	INMETRO (BRAZIL)	R	VNIIPO/VNIIFTRI (RUSSIA)	S	SIL	T	SIL/FM/CSA/ATEX/IECEX	W	FM/CSA/ATEX/IECEX
TYPE	APPROVALS <sup>‡</sup>														
A	FM/CSA														
B	INMETRO (BRAZIL)														
R	VNIIPO/VNIIFTRI (RUSSIA)														
S	SIL														
T	SIL/FM/CSA/ATEX/IECEX														
W	FM/CSA/ATEX/IECEX														
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>CLASSIFICATION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Division/Zone Ex d e</td> </tr> <tr> <td>2</td> <td>Division/Zone Ex d</td> </tr> </tbody> </table>	TYPE	CLASSIFICATION	1	Division/Zone Ex d e	2	Division/Zone Ex d								
TYPE	CLASSIFICATION														
1	Division/Zone Ex d e														
2	Division/Zone Ex d														

<sup>†</sup>Type 23 Output - When HART output chosen detector does not have RS-485 communication available.

<sup>‡</sup>Type Approvals can use one or more letters to designate the approvals of the product.

# MULTISPECTRUM INFRARED

Table A2 - X3302 Software Part Number Configuration Matrix

Dash	Sensitivity	Alarm Relay	Aux Relay	Fault Relay	Special
-001	Medium	De-energized Non-latching	Energized Non-latching	Energized Non-latching	None
-002	Very High	De-energized Non-latching	Energized Non-latching	Energized Non-latching	None
-004	Low	De-energized Non-latching	Energized Non-latching	Energized Non-latching	3 min o <sub>i</sub> 10 fails to fault
-006	Medium	De-energized Latching	De-energized Latching	Energized Non-latching	None
-007	Very High	De-energized Latching	De-energized Latching	Energized Non-latching	None
-009	Low	De-energized Latching	De-energized Latching	Energized Non-latching	3 min o <sub>i</sub> 10 fails to fault
-050	High	De-energized Non-latching	Energized Non-latching	Energized Non-latching	None
-051	High	De-energized Latching	De-energized Latching	Energized Non-latching	None

**NOTE:** The X3302 window heaters are set to 100% as a default but can be configured from 0-100% with the Enhanced Flame Inspector. Please refer to section E.3 for more details.

## Application Guidelines

The following criteria should be considered when choosing a sensitivity level for the intended application:

- Speed of response based on fuel type and fire size
- Distance between the hazard and the flame detector

These are typical industry application settings. They may not be applicable to all installations. Contact factory for additional application guidance.

Fertilizer (Outdoor), Ammonia, Refrigerants	001
Aerospace, Hydrogen Storage	002
Filling Stations, Turbines	004
Fertilizer (Indoor), Refrigerants, Compressors, Battery Manufacturing	050

**NOTE:** Latching relays cannot be used in voted systems.

# MULTISPECTRUM INFRARED

## X3302 Multispectrum Infrared Flame Detector - SIL 2

Model	Part Number*	Material	Threads	Output	Div/Zone Ex d e	Div/Zone Ex d	FM/CSA/ ATEX/IECEX	SIL 2
X3302A4N13T1	029008-XXX	AL	3/4 NPT	Relay/0-20mA	X		X	X
X3302A4M13T1	029009-XXX	AL	M25	Relay/0-20mA	X		X	X
X3302S4N13T1	029010-XXX	SS	3/4 NPT	Relay/0-20mA	X		X	X
X3302S4M13T1	029011-XXX	SS	M25	Relay/0-20mA	X		X	X
X3302A4N13T2	029012-XXX	AL	3/4 NPT	Relay/0-20mA		X	X	X
X3302A4M13T2	029013-XXX	AL	M25	Relay/0-20mA		X	X	X
X3302S4N13T2	029014-XXX	SS	3/4 NPT	Relay/0-20mA		X	X	X
X3302S4M13T2	029015-XXX	SS	M25	Relay/0-20mA		X	X	X
X3302A4N23T1	029032-XXX	AL	3/4 NPT	Relay/0-20mA/HART	X		X	X
X3302A4M23T1	029033-XXX	AL	M25	Relay/0-20mA/HART	X		X	X
X3302S4N23T1	029034-XXX	SS	3/4 NPT	Relay/0-20mA/HART	X		X	X
X3302S4M23T1	029035-XXX	SS	M25	Relay/0-20mA/HART	X		X	X
X3302A4N23T2	029036-XXX	AL	3/4 NPT	Relay/0-20mA/HART		X	X	X
X3302A4M23T2	029037-XXX	AL	M25	Relay/0-20mA/HART		X	X	X
X3302S4N23T2	029038-XXX	SS	3/4 NPT	Relay/0-20mA/HART		X	X	X
X3302S4M23T2	029039-XXX	SS	M25	Relay/0-20mA/HART		X	X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 13.8lb (6.3kg)</b>								

\*The last 3 digits of the part number identify the software configuration. Please see table A2 to choose the correct option.

## MULTISPECTRUM INFRARED

### *X3302 Multispectrum Infrared Flame Detector*

Model	Part Number*	Material	Threads	Output	Div/Zone Ex d e	Div/Zone Ex d	FM/CSA ATEX/IECEX
X3302A4N14W1	029024-001	AL	3/4 NPT	EQP	X		X
X3302S4N14W1	029026-001	SS	3/4 NPT	EQP	X		X
X3302A4N14W2	029028-001	AL	3/4 NPT	EQP		X	X
X3302S4N14W2	029030-001	SS	3/4 NPT	EQP		X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 13.8lb (6.3kg)</b>							

\*The last 3 digits of the part number identify the software configuration. Please see table A2 to choose the correct option.

The standard EQP detectors are completely configurable using the S3 software and are shipped defaulted to the -001 setting.



## ULTRAVIOLET/INFRARED

### X5200 UVIR Flame Detector



**X5200 UVIR Flame Detector** (Spec Sheet: 90-1156) meets the most stringent requirements worldwide with advanced ultra high speed detection capabilities and immunity to extraneous sources, combined with a superior mechanical design. The combination of Arc Rejection on the UV sensor and TDSA/Quick Fire on the IR sensor make this detector the highest false alarm immune UVIR available. The mounting arrangement allows the UV and IR sensors to monitor the same hazardous location with a 90-degree field of view. When both sensors simultaneously detect the presence of a flame, an alarm signal is generated.

The standard output configuration includes fire, fault, and auxiliary relays with RS-485 Modbus. Optional 0-20 mA, Eagle Quantum Premier, or HART outputs are also available. Auxiliary relay offers the flexibility to customize detection, using UV, IR, or both. A model with pulse output is available for easy retrofitting into existing Det-Tronics controller based systems.

The X5200 housing is available in aluminum or stainless steel, with NEMA/Type 4X and IP66/IP67 rating. Typical applications include paper machines, munitions, petrochemical applications, and aerosol filling.

- Eagle Quantum Premier and Eagle Quantum compatible models available
- Models available with SIL 2 certification
- Responds to a fire in the presence of modulated blackbody radiation (i.e., heaters, ovens, turbines) without false alarm
- Ultra high speed capability
- Optional HART output, AMS aware, and FDT/DTM capable
- Heated optics for increased resistance to moisture and ice
- Automatic, manual, or magnetic **o**i (optical integrity)
- FM, CSA, ATEX, and IECEx
- EN 54 part 10 certified by BRE, LPCB
- Meets Construction Product Directive
- Configurable auxiliary relay allows independent alarm signaling
- Terminal block allows for Class X Pathway Designation per NFPA 72
- EMI, RFI, EMC Directive Compliant
- Built-in data logging / event monitoring
- Tricolor LED on detector faceplate indicates detector status condition

# ULTRAVIOLET/INFRARED

## X5200 Model Matrix

MODEL	DESCRIPTION
X5200	UVIR Flame Detector
X5200G	UVIR Flame Detector with Kr <sup>85</sup> free Source Tube
X5200M*	UVIR Flame Detector with Molybdenum Tube
TYPE	MATERIAL
A	Aluminum (AL)
S	Stainless Steel (SS)
TYPE	THREAD TYPE
4M	4 Port, M25
4N	4 Port, 3/4" NPT
TYPE	OUTPUTS
11	Relay
13	Relay and 0-20 mA
14	Eagle Quantum Premier
24	Eagle Quantum
15	Relay and Pulse
16	Addressable Module Only (third-party type)
23 <sup>‡</sup>	HART, Relay, and 0-20 mA
TYPE	APPROVALS <sup>§</sup>
A	FM/CSA
B	INMETRO (BRAZIL)
E	ATEX/IECEX/EN 54-10
R	VNIIPO/VNIIFTRI (RUSSIA)
S	SIL
T	SIL/FM/CSA/ATEX/IECEX
U	TCCExEE/UKRCEPRO (UKRAINE)
W	FM/CSA/ATEX/IECEX
TYPE	CLASSIFICATION
1	Division/Zone Ex d e
2	Division/Zone Ex d

\*Special Application - consult factory before ordering.

<sup>‡</sup>Type 23 Output - When HART output chosen detector does not have RS-485 communication available.

<sup>§</sup>Type Approvals can use one or more letters to designate the approvals of the product

# ULTRAVIOLET/INFRARED

Table B1 - X5200 Software Part Number Configuration Matrix

Dash	UV Sensitivity	Arc Rejection	IR Sensitivity	Alarm Output IR Qualifications	Alarm Relay	Aux Output Function	ARC Rejection	Aux Output IR Qualifications	Aux Relay	Fault Relay
-001	High	High	High	TDSA Only	De-Energized Non-latching	Follows Alarm	High	TDSA	Energized Non-latching	Energized Non-latching
-002	High	Very High	High	TDSA or Quick	De-Energized Non-latching	Follows Alarm	Very High	TDSA or Quick	Energized Non-latching	Energized Non-latching
-003	High	Off	Very High	TDSA or Quick	De-Energized Non-latching	UV or IR	Off	TDSA	Energized Non-latching	Energized Non-latching
-004	High	High	Very High	TDSA Only	De-Energized Non-latching	Pre-Alarm	High	TDSA	Energized Non-latching	Energized Non-latching
-005	Medium	High	High	TDSA or Quick	De-Energized Non-latching	UV or IR	High	TDSA	Energized Non-latching	Energized Non-latching
-006	High	High	Low	TDSA Only	De-Energized Non-latching	Pre-Alarm	High	TDSA	Energized Non-latching	Energized Non-latching
-007	High	High	High	TDSA Only	De-Energized Latching	Follows Alarm	High	TDSA	De-energized Latching	Energized Non-latching
-008	High	Very High	High	TDSA or Quick	De-Energized Latching	Follows Alarm	Very High	TDSA or Quick	De-energized Latching	Energized Non-latching
-009	High	Off	Very High	TDSA or Quick	De-Energized Latching	UV or IR	Off	TDSA	De-energized Latching	Energized Non-latching
-010	High	High	Very High	TDSA Only	De-Energized Latching	Pre-Alarm	High	TDSA	De-energized Latching	Energized Non-latching
-011	Medium	High	High	TDSA or Quick	De-Energized Latching	UV or IR	High	TDSA	De-energized Latching	Energized Non-latching
-012	High	High	Low	TDSA Only	De-Energized Latching	Pre-Alarm	High	TDSA	De-energized Latching	Energized Non-latching
-013*	High	Off	High	TDSA or Quick	De-Energized Non-Latching	Follows Alarm	Off	TDSA or Quick	Energized Non-Latching	Energized Non-latching
-014*	High	Off	High	TDSA or Quick	De-Energized Latching	Follows Alarm	Off	TDSA or Quick	De-energized Latching	Energized Non-latching
-015	Very High	Low	Very High	TDSA or Quick	De-Energized Non-Latching	Follows Alarm	Off	TDSA or Quick	Energized Non-Latching	Energized Non-latching
-016	Very High	Low	Very High	TDSA or Quick	De-Energized Latching	Follows Alarm	Off	TDSA or Quick	De-energized Latching	Energized Non-latching
-019	Very High	Off	Very High	TDSA or Quick	De-Energized Non-Latching	UV or IR	Off	TDSA	Energized Non-Latching	Energized Non-latching
-021	Very High	Off	Very High	TDSA or Quick	De-Energized Latching	Follows Alarm	Off	TDSA or Quick	Energized Latching	Energized Non-latching
-022	Very High	Off	Very High	TDSA or Quick	De-Energized Non-Latching	UV or IR	Off	TDSA or Quick	De-Energized Non-latching	Energized Non-latching

\*Available only on the X5200M model

ARC = Arc Rejection. An algorithm that prevents false alarms from transient UV sources

TDSA = "Time Domain Signal Analysis" proprietary signal processing algorithm for superior IR false alarm rejection

Quick = Signal processing for explosive IR events

## Application Guidelines

The following criteria should be considered when choosing a sensitivity level for the intended application:

- Speed of response based on fuel type and fire size
- Distance between the hazard and the flame detector

These are typical industry application settings. They may not be applicable to all installations. Contact factory for additional application guidance.

Offshore	001
Compressor	002
Paper Machine	003
Engine Test Cells	001
Aerosol Fill	013/022
Munitions	013/022
High Speed	013/022

**NOTE:** Latching relays cannot be used in voted systems.

## ULTRAVIOLET/INFRARED

### X5200 UVIR Flame Detector - SIL 2

Model	Part Number *	Material	Threads	Output	Div/Zone Ex d e	Div/Zone Ex d	SIL/FM/CSA/ ATEX/IECEX
X5200A4N13T1	008650-XXX	AL	3/4 NPT	Relay/0-20 mA	X		X
X5200A4M13T1	008651-XXX	AL	M25	Relay/0-20 mA	X		X
X5200S4N13T1	008652-XXX	SS	3/4 NPT	Relay/0-20 mA	X		X
X5200A4N13T2	008654-XXX	AL	3/4 NPT	Relay/0-20 mA		X	X
X5200A4M13T2	008655-XXX	AL	M25	Relay/0-20 mA		X	X
X5200S4N13T2	008656-XXX	SS	3/4 NPT	Relay/0-20 mA		X	X
X5200S4M13T2	008657-XXX	SS	M25	Relay/0-20 mA		X	X
X5200A4N23T1	008658-XXX	AL	3/4 NPT	Rly/0-20/HART	X		X
X5200A4M23T1	008659-XXX	AL	M25	Rly/0-20/HART	X		X
X5200S4N23T1	008660-XXX	SS	3/4 NPT	Rly/0-20/HART	X		X
X5200S4M23T1	008661-XXX	SS	M25	Rly/0-20/HART	X		X
X5200A4N23T2	008662-XXX	AL	3/4 NPT	Rly/0-20/HART		X	X
X5200A4M23T2	008663-XXX	AL	M25	Rly/0-20/HART		X	X
X5200S4N23T2	008664-XXX	SS	3/4 NPT	Rly/0-20/HART		X	X
X5200S4M23T2	008665-XXX	SS	M25	Rly/0-20/HART		X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 14.6lb (6.7kg)</b>							

\*The last 3 digits of the part number identify the software configuration. Please see table B1 to choose the correct option.

### X5200G UVIR Flame Detector - Munitions

Model	Part Number *	Material	Threads	Output	Div/Zone Ex d e	Div/Zone Ex d	SIL/FM/CSA/ ATEX/IECEX	Aux Relay
X5200GA4N13T1	013320-022	AL	3/4 NPT	Relay/0-20 mA	X		X	UV or IR Alarm
X5200GA4M13T1	013322-022	AL	M25	Relay/0-20 mA	X		X	UV or IR Alarm
X5200GA4N13T2	013321-022	AL	3/4 NPT	Relay/0-20 mA		X	X	UV or IR Alarm
X5200GA4M13T2	013323-022	AL	M25	Relay/0-20 mA		X	X	UV or IR Alarm
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 14.6lb (6.7kg)</b>								

# ULTRAVIOLET/INFRARED

## X5200 UVIR Flame Detector

Model	Part Number*	Material	Threads	Output	Div/Zone Ex d e	Div/Zone Ex d	FM/CSA/ ATEX/IECEX
X5200A4N11W1	008500-XXX	AL	3/4 NPT	Relay	X		X
X5200A4M11W1	008501-XXX	AL	M25	Relay	X		X
X5200S4N11W1	008502-XXX	SS	3/4 NPT	Relay	X		X
X5200S4M11W1	008503-XXX	SS	M25	Relay	X		X
X5200A4N11W2	008504-XXX	AL	3/4 NPT	Relay		X	X
X5200A4M11W2	008505-XXX	AL	M25	Relay		X	X
X5200S4N11W2	008506-XXX	SS	3/4 NPT	Relay		X	X
X5200S4M11W2	008507-XXX	SS	M25	Relay		X	X
X5200A4N14W1	008516-001	AL	3/4 NPT	EQP	X		X
X5200A4M14W1	008517-001	AL	M25	EQP	X		X
X5200S4N14W1	008518-001	SS	3/4 NPT	EQP	X		X
X5200S4M14W1	008519-001	SS	M25	EQP	X		X
X5200A4N14W2	008520-001	AL	3/4 NPT	EQP		X	X
X5200A4M14W2	008521-001	AL	M25	EQP		X	X
X5200S4N14W2	008522-001	SS	3/4 NPT	EQP		X	X
X5200S4M14W2	008523-001	SS	M25	EQP		X	X
X5200A4N15W1	008524-XXX	AL	3/4 NPT	Pulse/Relay	X		X
X5200A4M15W1	008525-XXX	AL	M25	Pulse/Relay	X		X
X5200S4N15W1	008526-XXX	SS	3/4 NPT	Pulse/Relay	X		X
X5200S4M15W1	008527-XXX	SS	M25	Pulse/Relay	X		X
X5200A4N15W2	008528-XXX	AL	3/4 NPT	Pulse/Relay		X	X
X5200A4M15W2	008529-XXX	AL	M25	Pulse/Relay		X	X
X5200S4N15W2	008530-XXX	SS	3/4 NPT	Pulse/Relay		X	X
X5200S4M15W2	008531-XXX	SS	M25	Pulse/Relay		X	X
X5200A4N24W1	008556-XXX	AL	3/4 NPT	Eagle Quantum	X		X
X5200A4M24W1	008557-001	AL	M25	Eagle Quantum	X		X
X5200S4N24W1	008558-001	SS	3/4 NPT	Eagle Quantum	X		X
X5200A4N24W2	008560-001	AL	3/4 NPT	Eagle Quantum		X	X
X5200A4M24W2	008561-001	AL	M25	Eagle Quantum		X	X
X5200S4N24W2	008562-001	SS	3/4 NPT	Eagle Quantum		X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 14.6lb (6.7kg)</b>							

\*The last 3 digits of the part number identify the software configuration. Please see table B1 to choose the correct option.

The EQ and EQP detectors are completely configurable using the S3 configuration software and are shipped defaulted to the -001 setting.

# ULTRAVIOLET/INFRARED

## X5200G UVIR Flame Detector - ATEX/IECEX/EN 54-10

The X5200G UVIR Flame Detector contains a Kr-85 free source tube.  
There are no differences in detection performance when compared to an X5200.

Model	Part Number*	Material	Threads	Output	Div/Zone Ex d e	Div/Zone Ex d	ATEX/IECEX/ EN 54-10	SIL2
X5200GA4N11SE1	013244-XXX	AL	3/4 NPT	Relay	X		X	X
X5200GA4M11SE1	013245-XXX	AL	M25	Relay	X		X	X
X5200GS4N11SE1	013246-XXX	SS	3/4 NPT	Relay	X		X	X
X5200GS4M11SE1	013247-XXX	SS	M25	Relay	X		X	X
X5200GA4N11SE2	013248-XXX	AL	3/4 NPT	Relay		X	X	X
X5200GA4M11SE2	013249-XXX	AL	M25	Relay		X	X	X
X5200GS4N11SE2	013250-XXX	SS	3/4 NPT	Relay		X	X	X
X5200GS4M11SE2	013251-XXX	SS	M25	Relay		X	X	X
X5200GA4N13SE1	013252-XXX	AL	3/4 NPT	Relay/0-20 mA	X		X	X
X5200GA4M13SE1	013253-XXX	AL	M25	Relay/0-20 mA	X		X	X
X5200GS4N13SE1	013254-XXX	SS	3/4 NPT	Relay/0-20 mA	X		X	X
X5200GS4M13SE1	013255-XXX	SS	M25	Relay/0-20 mA	X		X	X
X5200GA4N13SE2	013256-XXX	AL	3/4 NPT	Relay/0-20 mA		X	X	X
X5200GA4M13SE2	013257-XXX	AL	M25	Relay/0-20 mA		X	X	X
X5200GS4N13SE2	013258-XXX	SS	3/4 NPT	Relay/0-20 mA		X	X	X
X5200GS4M13SE2	013259-XXX	SS	M25	Relay/0-20 mA		X	X	X
X5200GA4N23SE1	013260-XXX	AL	3/4 NPT	Rly/0-20/HART	X		X	X
X5200GA4M23SE1	013261-XXX	AL	M25	Rly/0-20/HART	X		X	X
X5200GS4N23SE1	013262-XXX	SS	3/4 NPT	Rly/0-20/HART	X		X	X
X5200GS4M23SE1	013263-XXX	SS	M25	Rly/0-20/HART	X		X	X
X5200GA4N23SE2	013264-XXX	AL	3/4 NPT	Rly/0-20/HART		X	X	X
X5200GA4M23SE2	013265-XXX	AL	M25	Rly/0-20/HART		X	X	X
X5200GS4N23SE2	013266-XXX	SS	3/4 NPT	Rly/0-20/HART		X	X	X
X5200GS4M23SE2	013267-XXX	SS	M25	Rly/0-20/HART		X	X	X
X5200GA4N14E1	013268-001	AL	3/4 NPT	EQP	X		X	
X5200GA4M14E1	013269-001	AL	M25	EQP	X		X	
X5200GS4N14E1	013270-001	SS	3/4 NPT	EQP	X		X	
X5200GS4M14E1	013271-001	SS	M25	EQP	X		X	
X5200GA4N14E2	013272-001	AL	3/4 NPT	EQP		X	X	
X5200GA4M14E2	013273-001	AL	M25	EQP		X	X	
X5200GS4N14E2	013274-001	SS	3/4 NPT	EQP		X	X	
X5200GS4M14E2	013275-001	SS	M25	EQP		X	X	
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 14.6lb (6.7kg)</b>								

\*The last 3 digits of the part number identify the software configuration. Please see table B1 to choose the correct option.

The EQ and EQP detectors are completely configurable using the S3 configuration software and are shipped defaulted to the -001 setting.

## X5200G UVIR Flame Detector - CSA

Model	Part Number*	Material	Threads	Output	Div/Zone Ex d e	Div/Zone Ex d	CSA
X5200GA4N13C1	013308-XXX	AL	3/4 NPT	Relay/0-20 mA	X		X
X5200GA4N13C2	013312-XXX	AL	3/4 NPT	Relay/0-20 mA		X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 14.6lb (6.7kg)</b>							

\*The last 3 digits of the part number identify the software configuration. Please see table B1 to choose the correct option.

The EQ and EQP detectors are completely configurable using the S3 configuration software and are shipped defaulted to the -001 setting.

## ULTRAVIOLET/INFRARED

### X5200G UVIR Flame Detector - Russia

Model	Part Number*	Material	Threads	Output	Ex d e	Ex d	VNIPO/ VNIIFTRI
X5200GA4M11R1	013200-XXX	AL	M25	Relay	X		X
X5200GS4M11R1	013206-XXX	SS	M25	Relay	X		X
X5200GA4M11R2	013201-XXX	AL	M25	Relay		X	X
X5200GS4M11R2	013202-XXX	SS	M25	Relay		X	X
X5200GA4M13R1	013203-XXX	AL	M25	Relay/0-20 mA	X		X
X5200GS4M13R1	013204-XXX	SS	M25	Relay/0-20 mA	X		X
X5200GA4M13R2	013205-XXX	AL	M25	Relay/0-20 mA		X	X
X5200GS4M13R2	013207-XXX	SS	M25	Relay/0-20 mA		X	X
X5200GA4M14R1	013208-001	AL	M25	EQP	X		X
X5200GS4M14R1	013209-001	SS	M25	EQP	X		X
X5200GA4M14R2	013210-001	AL	M25	EQP		X	X
X5200GS4M14R2	013211-001	SS	M25	EQP		X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 14.6lb (6.7kg)</b>							

\*The last 3 digits of the part number identify the software configuration. Please see table B1 to choose the correct option.

The EQP detectors are completely configurable using the S3 configuration software and are shipped defaulted to the -001 setting.

### X5200M UVIR Flame Detector - Moly

The X5200M UV/IR detector utilizes a molybdenum (moly) sensing element. Moly-based sensors have an increased spectral range of 1850 to 2650 angstroms, which is better suited for detecting substances with unusual chemistry and some black powders.

Model	Part Number	Material	Threads	Output	Div/Zone Ex d e	Div/Zone Ex d	FM/CSA/ ATEX/IECEx
X5200MA4N13W1	008540-013	AL	3/4 NPT	Relay/0-20 mA	X		X
X5200MS4M13W1	008543-013	SS	M25	Relay/0-20 mA	X		X
X5200MA4N13W2	008544-013	AL	3/4 NPT	Relay/0-20 mA		X	X
X5200MS4M13W2	008547-013	SS	M25	Relay/0-20 mA		X	X
X5200MA4N15W1	008548-013	AL	3/4 NPT	Pulse/Relay	X		X
X5200MA4N15W2	008552-013	AL	3/4 NPT	Pulse/Relay		X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 14.6lb (6.7kg)</b>							

\*The last 3 digits of the part number identify the software configuration. Please see table B1 to choose the correct option.

## ULTRAVIOLET/INFRARED

### X5200 UVIR Flame Detector - Brazil

Model	Part Number*	Material	Threads	Output	Ex d	INMETRO
X5200A4N11B2	008641-XXX	AL	3/4 NPT	Relay	X	X
X5200A4N13B2	008643-XXX	AL	3/4 NPT	Relay/0-20 mA	X	X
X5200S4N13B2	008644-XXX	SS	3/4 NPT	Relay/0-20 mA	X	X
X5200A4N14B2	008645-001	AL	3/4 NPT	EQP	X	X
X5200S4N14B2	008646-001	SS	3/4 NPT	EQP	X	X
X5200A4N23B2	008647-XXX	AL	3/4 NPT	Rly/0-20/HART	X	X
X5200S4N23B2	008648-XXX	SS	3/4 NPT	Rly/0-20/HART	X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 14.6lb (6.7kg)</b>						

\*The last 3 digits of the part number identify the software configuration. Please see table B1 to choose the correct option.

The EQP detectors are completely configurable using the S3 software and are defaulted to the -001 setting

### X5200 UVIR Flame Detector - Ukraine

Model	Part Number*	Material	Threads	Output	Ex d e	Ex d	TCCExEE UKRCEPRO
X5200A4M11U1	008572-XXX	AL	M25	Relay	X		X
X5200S4M11U1	008573-XXX	SS	M25	Relay	X		X
X5200A4M11U2	008574-XXX	AL	M25	Relay		X	X
X5200S4M11U2	008575-XXX	SS	M25	Relay		X	X
X5200A4M13U1	008576-XXX	AL	M25	Relay/0-20 mA	X		X
X5200S4M13U1	008577-XXX	SS	M25	Relay/0-20 mA	X		X
X5200A4M13U2	008578-XXX	AL	M25	Relay/0-20 mA		X	X
X5200S4M13U2	008579-XXX	SS	M25	Relay/0-20 mA		X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 14.6lb (6.7kg)</b>							

\*The last 3 digits of the part number identify the software configuration. Please see table B1 to choose the correct option.



## SINGLE FREQUENCY INFRARED

### X9800 Single Frequency IR Flame Detector



The **X9800 IR Flame Detector** (Spec Sheet: 90-1160) meets the most stringent requirements worldwide with advanced detection capabilities and immunity to extraneous sources, combined with a superior mechanical design. The detector is equipped with dual signal processing (Quick Fire high speed operation and Time Domain Signal Analysis) and automatic/magnetic manual **o<sub>i</sub>** (optical integrity) test capability. The detector has Division and Zone explosion-proof ratings and is suitable for use in indoor and outdoor applications.

The standard output configuration includes fire, fault, and auxiliary relays with RS-485 Modbus. Optional 0-20 mA, Pulse, Eagle Quantum Premier, or HART outputs are also available. A model with pulse output is available for easy retrofitting into existing Det-Tronics R74XX controller-based systems.

The X9800 housing is available in aluminum or stainless steel, with NEMA/Type 4X and IP66/IP67 rating. Typical applications include: printing, petrochemical, automotive, and dirty environments.

- Models available with SIL 2 certification
- Unequaled false alarm rejection, TDSA
- Tricolor LED on detector faceplate indicates detector status condition
- Ultra High speed capability
- Heated optics for increased resistance to moisture and ice
- Automatic, manual, or magnetic **o<sub>i</sub>** testing
- Optional HART output and AMS aware
- Tricolor LED indicates normal operation, fire, and fault conditions
- FM, CSA, ATEX, and IECEx
- EN 54 part 10 certified by BRE, LPCB
- Mounting arm allows easy sighting
- Integral wiring compartment for ease of installation
- Terminal block allows for Class X Pathway Designation per NFPA 72
- Meets NFPA 33 response requirement for under 0.5 seconds (available when model selected)
- Built-in data logging / event monitoring

# SINGLE FREQUENCY INFRARED

## X9800 Model Matrix

MODEL	DESCRIPTION																
<b>X9800</b>	Single Frequency IR Flame Detector																
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>MATERIAL</th> </tr> </thead> <tbody> <tr> <td><b>A</b></td> <td>Aluminum (AL)</td> </tr> <tr> <td><b>S</b></td> <td>Stainless Steel (SS)</td> </tr> </tbody> </table>	TYPE	MATERIAL	<b>A</b>	Aluminum (AL)	<b>S</b>	Stainless Steel (SS)										
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<sup>†</sup> Type 23 Output - When HART output chosen detector does not have RS-485 communication available.

<sup>‡</sup>Type Approvals can use one or more letters to designate the approvals of the product.

# SINGLE FREQUENCY INFRARED

Table C1 - X9800 Software Part Number Configuration Matrix

Dash	IR Sensitivity	Alarm Output IR Qualification	Alarm Relay	Aux Output Function	Aux Output IR Qualification	Aux Relay	Fault Relay
-001	High	TDSA	De-Energized Non-latching	Follows Alarm	TDSA	Energized Non-latching	Energized Non-latching
-002	High	TDSA or Quick	De-Energized Non-latching	Follows Alarm	TDSA or Quick	Energized Non-latching	Energized Non-latching
-003	Very High	TDSA or Quick	De-Energized Non-latching	Follows Alarm	TDSA or Quick	Energized Non-latching	Energized Non-latching
-004	Very High	TDSA	De-Energized Non-latching	Follows Alarm	TDSA	Energized Non-latching	Energized Non-latching
-005	High	TDSA or Quick	De-Energized Non-latching	Independent	Quick	Energized Non-latching	Energized Non-latching
-006	Low	TDSA	De-Energized Non-latching	Follows Alarm	TDSA	Energized Non-latching	Energized Non-latching
-007	High	TDSA	De-Energized Latching	Follows Alarm	TDSA	De-energized Latching	Energized Non-latching
-008	High	TDSA or Quick	De-Energized Latching	Follows Alarm	TDSA or Quick	De-energized Latching	Energized Non-latching
-009	Very High	TDSA or Quick	De-Energized Latching	Follows Alarm	TDSA or Quick	De-energized Latching	Energized Non-latching
-010	Very High	TDSA	De-Energized Latching	Follows Alarm	TDSA	De-energized Latching	Energized Non-latching
-011	High	TDSA or Quick	De-Energized Latching	Independent	Quick	De-energized Latching	Energized Non-latching
-012	Low	TDSA	De-Energized Latching	Follows Alarm	TDSA	De-energized Latching	Energized Non-latching
-013	High	Quick	De-Energized Non-Latching	Pre-Alarm	None	Energized Non-Latching	Energized Non-latching

TDSA = "Time Domain Signal Analysis" proprietary signal processing algorithm for superior IR false alarm rejection

Quick = Signal processing for explosive IR events

## Application Guidelines

The following criteria should be considered when choosing a sensitivity level for the intended application:

- Speed of response based on fuel type and fire size
- Distance between the hazard and the flame detector

These are typical industry application settings. They may not be applicable to all installations. Contact factory for additional application guidance.

Offshore	001
Compressor	002
High Speed	003
Powder Coating	013
Automotive	005
Printing	001, -002, -005

**NOTE:** Latching relays cannot be used in voted systems.

## SINGLE FREQUENCY INFRARED

### X9800 Single Frequency IR Flame Detector - SIL 2

Model	Part Number*	Material	Threads	Output	Div/Zone Ex d e	Div/Zone Ex d	SIL/FM/CSA/ ATEX/IECEX
X9800A4N13T1	008800-XXX	AL	3/4 NPT	Relay/0-20mA	X		X
X9800A4M13T1	008801-XXX	AL	M25	Relay/0-20mA	X		X
X9800S4N13T1	008802-XXX	SS	3/4 NPT	Relay/0-20mA	X		X
X9800S4M13T1	008803-XXX	SS	M25	Relay/0-20mA	X		X
X9800A4N13T2	008804-XXX	AL	3/4 NPT	Relay/0-20mA		X	X
X9800A4M13T2	008805-XXX	AL	M25	Relay/0-20mA		X	X
X9800S4N13T2	008806-XXX	SS	3/4 NPT	Relay/0-20mA		X	X
X9800S4M13T2	008807-XXX	SS	M25	Relay/0-20mA		X	X
X9800A4N23T1	008808-XXX	AL	3/4 NPT	Rly/0-20 HART	X		X
X9800A4M23T1	008809-XXX	AL	M25	Rly/0-20 HART	X		X
X9800S4N23T1	008810-XXX	SS	3/4 NPT	Rly/0-20 HART	X		X
X9800S4M23T1	008811-XXX	SS	M25	Rly/0-20 HART	X		X
X9800A4N23T2	008812-XXX	AL	3/4 NPT	Rly/0-20 HART		X	X
X9800A4M23T2	008813-XXX	AL	M25	Rly/0-20 HART		X	X
X9800S4N23T2	008814-XXX	SS	3/4 NPT	Rly/0-20 HART		X	X
X9800S4M23T2	008815-XXX	SS	M25	Rly/0-20 HART		X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 14.6lb (6.7kg)</b>							

\*The last 3 digits of the part number identify the software configuration. Please see table C1 to choose the correct option.

The EQP detectors are completely configurable using the S3 configuration software and are shipped defaulted to the -001 setting.

# SINGLE FREQUENCY INFRARED

## X9800 Single Frequency IR Flame Detector

Model	Part Number*	Material	Threads	Output	Div/Zone Ex d e	Div/Zone Ex d	FM/CSA/ ATEX/IECEX
X9800A4N14W1	008716-001	AL	3/4 NPT	EQP	X		X
X9800A4M14W1	008717-001	AL	M25	EQP	X		X
X9800S4N14W1	008718-001	SS	3/4 NPT	EQP	X		X
X9800S4M14W1	008719-001	SS	M25	EQP	X		X
X9800A4N14W2	008720-001	AL	3/4 NPT	EQP		X	X
X9800A4M14W2	008721-001	AL	M25	EQP		X	X
X9800S4N14W2	008722-001	SS	3/4 NPT	EQP		X	X
X9800S4M14W2	008723-001	SS	M25	EQP		X	X
X9800A4N15W1	008724-XXX	AL	3/4 NPT	Pulse/Relay	X		X
X9800S4N15W1	008726-XXX	SS	3/4 NPT	Pulse/Relay	X		X
X9800S4M15W1	008727-XXX	SS	M25	Pulse/Relay	X		X
X9800A4N15W2	008728-XXX	AL	3/4 NPT	Pulse/Relay		X	X
X9800A4M15W2	008729-XXX	AL	M25	Pulse/Relay		X	X
X9800S4N15W2	008730-XXX	SS	3/4 NPT	Pulse/Relay		X	X
X9800S4M15W2	008731-XXX	SS	M25	Pulse/Relay		X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 14.6lb (6.7kg)</b>							

\*The last 3 digits of the part number identify the software configuration. Please see table C1 to choose the correct option.

The EQP detectors are completely configurable using the S3 configuration software and are shipped defaulted to the -001 setting.

## X9800 Single Frequency IR Flame Detector - Ukraine

Model	Part Number*	Material	Threads	Output	Ex d e	Ex d	TCCExEE/ UKRCEPRO
X9800A4M11U2	008764-XXX	AL	M25	Relay		X	X
X9800A4M13U1	008766-XXX	AL	M25	Relay/0-20 mA	X		X
X9800S4M13U1	008767-XXX	SS	M25	Relay/0-20 mA	X		X
X9800A4M13U2	008768-XXX	AL	M25	Relay/0-20 mA		X	X
X9800S4M13U2	008769-XXX	SS	M25	Relay/0-20 mA		X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 14.6lb (6.7kg)</b>							

\*The last 3 digits of the part number identify the software configuration. Please see table C1 to choose the correct option.

## X9800 Single Frequency IR Flame Detector - Russia

Model	Part Number*	Material	Threads	Output	Ex d e	Ex d	VNIPO/ VNIIFTRI
X9800A4M11R1	008740-XXX	AL	M25	Relay	X		X
X9800A4M11R2	008742-XXX	AL	M25	Relay		X	X
X9800A4M13R1	008744-XXX	AL	M25	Relay/0-20 mA	X		X
X9800S4M13R1	008745-XXX	SS	M25	Relay/0-20 mA	X		X
X9800A4M13R2	008746-XXX	AL	M25	Relay/0-20 mA		X	X
X9800S4M13R2	008747-XXX	SS	M25	Relay/0-20 mA		X	X
X9800A4M14R1	008770-001	AL	M25	EQP	X		X
X9800A4M14R2	008772-001	AL	M25	EQP		X	X
X9800A4M23R1	008794-XXX	AL	M25	Rly/0-20/HART	X		X
X9800A4M23R2	008796-XXX	AL	M25	Rly/0-20/HART		X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 14.6lb (6.7kg)</b>							

\*The last 3 digits of the part number identify the software configuration. Please see table C1 to choose the correct option.

The EQP detectors are completely configurable using the S3 software and are shipped defaulted to the -001 setting.

# ULTRAVIOLET

## X2200 UV Flame Detector



**X2200 UV Flame Detector** (Spec Sheet: 90-1157) meets the most stringent requirements worldwide with advanced signal processing and immunity to extraneous sources, combined with Ultra-high speed capability. The detector is equipped with both automatic and manual **oi** (optical integrity). The detector has Division and Zone explosion-proof ratings and is suitable for use in a variety of applications.

The standard output configuration includes fire, fault, and auxiliary relays with RS-485 Modbus. Optional 0-20 mA, Pulse, Eagle Quantum Premier, or HART outputs are also available. A model with pulse output is available for easy retrofitting into existing Det-Tronics R74XX controller based systems.

The X2200 housing is available in aluminum or stainless steel, with NEMA/Type 4X and IP66/IP67 rating. Typical applications include: HVDC converter stations, munitions, sulfur production, and silane storage.

- Models available with SIL 2 certification
- ARC rejection - Advanced signal processing
- Unequaled false alarm rejection - Solar blind
- Responds to a fire in the presence of modulated blackbody radiation without false alarm
- Ultra-High speed capability
- Optional HART output and AMS aware
- Automatic, manual, or magnetic **oi** (optical integrity) testing
- Pulse output for compatibility with Det-Tronics R74XX controller-based systems (optional)
- FM, CSA, ATEX, CE, and IECEx
- EN 54 part 10 certified by BRE, LPCB
- Tricolor LED indicates normal operation, fire, and fault conditions
- Mounting arm allows easy sighting
- Integral wiring compartment for ease of installation
- Terminal block allows for Class X Pathway Designation per NFPA 72
- EMI, RFI, EMC Directive Compliant
- Built-in data logging / event monitoring
- Molybdenum Model available for applications that require increased spectral sensitivity

*X2200 Model Matrix*

MODEL	DESCRIPTION
<b>X2200</b>	UV Flame Detector
<b>X2200G</b>	UV Flame Detector with Kr <sup>85</sup> free Source Tube
<b>X2200M*</b>	UV Flame Detector with Molybdenum Tube
<b>X2200GM*</b>	UV Flame Detector with Molybdenum Tube, Kr <sup>85</sup> free

TYPE	MATERIAL
<b>A</b>	Aluminum (AL)
<b>S</b>	Stainless Steel (SS)

TYPE	THREAD TYPE
<b>4M</b>	4 Port, M25
<b>4N</b>	4 Port, 3/4" NPT

TYPE	OUTPUTS
<b>11</b>	Relay
<b>13</b>	Relay and 0-20 mA
<b>14</b>	Eagle Quantum Premier
<b>15</b>	Relay and Pulse
<b>16</b>	Addressable Module Only (third-party type)
<b>23<sup>†</sup></b>	HART, Relay, and 0-20 mA
<b>24</b>	Eagle Quantum

TYPE	APPROVALS <sup>§</sup>
<b>A</b>	FM/CSA
<b>B</b>	INMETRO (BRAZIL)
<b>E</b>	ATEX/IECEX/EN 54-10
<b>R</b>	VNIPO/VNIIFTRI (RUSSIA)
<b>S</b>	SIL
<b>T</b>	SIL/FM/CSA/ATEX/IECEX
<b>U</b>	TCCEXEE/UKRCEPRO (UKRAINE)
<b>W</b>	FM/CSA/ATEX/IECEX

TYPE	CLASSIFICATION
<b>1</b>	Division/Zone Ex d e
<b>2</b>	Division/Zone Ex d

\*Special Application - consult factory before ordering.

<sup>†</sup>Type 23 Output - When HART output chosen detector does not have RS-485 communication available.

<sup>§</sup>Type Approvals can use one or more letters to designate the approvals of the product

# ULTRAVIOLET

Table D1 - X2200 Software Part Number Configuration Matrix

Dash	UV Sensitivity	Arc Rejection	Alarm Relay	Aux Output Function	Aux Relay	Fault Relay
-001	High	High	De-Energized Non-latching	Follows Alarm	Energized Non-latching	Energized Non-latching
-002	High	Very High	De-Energized Non-latching	Follows Alarm	Energized Non-latching	Energized Non-latching
-003	High	Off	De-Energized Non-latching	Pre-Alarm	Energized Non-latching	Energized Non-latching
-005	Medium	High	De-Energized Non-latching	Follows Alarm	Energized Non-latching	Energized Non-latching
-006	High	High	De-Energized Non-latching	Pre-Alarm	Energized Non-latching	Energized Non-latching
-007	High	High	De-Energized Latching	Follows Alarm	De-energized Latching	Energized Non-latching
-008	High	Very High	De-Energized Latching	Follows Alarm	De-energized Latching	Energized Non-latching
-009	High	Off	De-Energized Latching	Pre-Alarm	De-energized Latching	Energized Non-latching
-010	Medium	High	De-Energized Latching	Follows Alarm	De-energized Latching	Energized Non-latching
011	High	High	De-Energized Latching	Pre-Alarm	De-energized Latching	Energized Non-latching
-013*	High	Off	De-Energized Non-latching	Follows Alarm	Energized Non-latching	Energized Non-latching
-014*	High	Off	De-Energized Latching	Follows Alarm	De-energized Latching	Energized Non-latching
-015	Very High	Low	De-Energized Non-latching	Follows Alarm	Energized Non-latching	Energized Non-latching
-016	Very High	Low	De-Energized Latching	Follows Alarm	De-energized Latching	Energized Non-latching
-017	Very High	Off	De-Energized Non-latching	Pre-Alarm	Energized Non-latching	Energized Non-latching
-018	Very High	Off	De-Energized Non-latching	Follows Alarm	Energized Non-latching	Energized Non-latching
-019	Very High	Off	De-Energized Non-latching	Pre-Alarm	De-Energized Non-latching	Energized Non-latching

\*Available only on the X2200M model

ARC = Arc Rejection. An algorithm that prevents false alarms from transient UV sources

## Application Guidelines

The following criteria should be considered when choosing a sensitivity level for the intended application:

- Speed of response based on fuel type and fire size
- Distance between the hazard and the flame detector

These are typical industry application settings. They may not be applicable to all installations. Contact factory for additional application guidance.

HVDC	019
Compressor	002
High Speed	003
Automotive	005
Turbine	006
Munitions	013/019

**NOTE:** Latching relays cannot be used in voted systems.

## X2200 UV Flame Detector - SIL 2

Model	Part Number *	Material	Threads	Output	Div/Zone Ex d e	Div/Zone Ex d	SIL/FM/CSA/ ATEX/IECEX
X2200A4N13T1	008430-XXX	AL	3/4 NPT	Relay/0-20 mA	X		X
X2200A4M13T1	008431-XXX	AL	M25	Relay/0-20 mA	X		X
X2200S4N13T1	008432-XXX	SS	3/4 NPT	Relay/0-20 mA	X		X
X2200S4M13T1	008433-XXX	SS	M25	Relay/0-20 mA	X		X
X2200A4N13T2	008434-XXX	AL	3/4 NPT	Relay/0-20 mA		X	X
X2200A4M13T2	008435-XXX	AL	M25	Relay/0-20 mA		X	X
X2200S4N13T2	008436-XXX	SS	3/4 NPT	Relay/0-20 mA		X	X
X2200S4M13T2	008437-XXX	SS	M25	Relay/0-20 mA		X	X
X2200A4N23T1	008438-XXX	AL	3/4 NPT	Rly/0-20/HART	X		X
X2200A4M23T1	008439-XXX	AL	M25	Rly/0-20/HART	X		X
X2200S4N23T1	008440-XXX	SS	3/4 NPT	Rly/0-20/HART	X		X
X2200S4M23T1	008441-XXX	SS	M25	Rly/0-20/HART	X		X
X2200A4N23T2	008442-XXX	AL	3/4 NPT	Rly/0-20/HART		X	X
X2200A4M23T2	008443-XXX	AL	M25	Rly/0-20/HART		X	X
X2200S4N23T2	008444-XXX	SS	3/4 NPT	Rly/0-20/HART		X	X
X2200S4M23T2	008445-XXX	SS	M25	Rly/0-20/HART		X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 14.6lb (6.7kg)</b>							

\*The last 3 digits of the part number identify the software configuration. Please see table D1 to choose the correct option.

## X2200 UV Flame Detector - Moly - SIL 2

The X2200M UV detector utilizes a molybdenum (moly) sensing element. Moly-based sensors have an increased spectral range of 1850 to 2650 angstroms, which is better suited for detecting substances with unusual chemistry, sulfur fires, and some black powders.

Model	Part Number *	Material	Threads	Output	Div/Zone Ex d e	Div/Zone Ex d	SIL/FM/CSA/ ATEX/IECEX
X2200MA4N23T1	008446-XXX	AL	3/4 NPT	Rly/0-20/HART	X		X
X2200MA4M23T1	008447-XXX	AL	M25	Rly/0-20/HART	X		X
X2200MS4N23T1	008448-XXX	SS	3/4 NPT	Rly/0-20/HART	X		X
X2200MS4M23T1	008449-XXX	SS	M25	Rly/0-20/HART	X		X
X2200MA4N23T2	008450-XXX	AL	3/4 NPT	Rly/0-20/HART		X	X
X2200MA4M23T2	008451-XXX	AL	M25	Rly/0-20/HART		X	X
X2200MS4N23T2	008452-XXX	SS	3/4 NPT	Rly/0-20/HART		X	X
X2200MS4M23T2	008453-XXX	SS	M25	Rly/0-20/HART		X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 14.6lb (6.7kg)</b>							

\*The last 3 digits of the part number identify the software configuration. Please see table D1 to choose the correct option.

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## X2200 UV Flame Detector

Model	Part Number*	Material	Threads	Output	Div/Zone Ex d e	Div/Zone Ex d	FM/CSA/ ATEX/IECEX
X2200A4N14W1	008316-001	AL	3/4 NPT	EQP	X		X
X2200S4N14W1	008318-001	SS	3/4 NPT	EQP	X		X
X2200A4N14W2	008320-001	AL	3/4 NPT	EQP		X	X
X2200S4N14W2	008322-001	SS	3/4 NPT	EQP		X	X
X2200A4N15W1	008324-XXX	AL	3/4 NPT	Pulse/Relay	X		X
X2200S4N15W1	008326-XXX	SS	3/4 NPT	Pulse/Relay	X		X
X2200S4M15W1	008327-XXX	SS	M25	Pulse/Relay	X		X
X2200A4N15W2	008328-XXX	AL	3/4 NPT	Pulse/Relay		X	X
X2200S4N15W2	008330-XXX	SS	3/4 NPT	Pulse/Relay		X	X
X2200S4M15W2	008331-XXX	SS	M25	Pulse/Relay		X	X
X2200A4N24W1	008356-001	AL	3/4 NPT	Eagle Quantum	X		X
X2200S4N24W1	008358-001	SS	3/4 NPT	Eagle Quantum	X		X
X2200A4N24W2	008360-001	AL	3/4 NPT	Eagle Quantum		X	X
X2200S4N24W2	008362-001	SS	3/4 NPT	Eagle Quantum		X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 14.6lb (6.7kg)</b>							

\*The last 3 digits of the part number identify the software configuration. Please see table D1 to choose the correct option.

The EQ and EQP detectors are completely configurable using the configuration software and are shipped defaulted to the -001 setting.

## X2200M UV Flame Detector - Moly

The X2200M UV detector utilizes a molybdenum (moly) sensing element. Moly-based sensors have an increased spectral range of 1850 to 2650 angstroms, which is better suited for detecting substances with unusual chemistry, sulfur fires, and some black powders.

Model	Part Number*	Material	Threads	Output	Div/Zone Ex d e	Div/Zone Ex d	FM/CSA/ATEX/IECEX
X2200MA4N13W1	008340-013	AL	3/4 NPT	Relay/0-20 mA	X		X
X2200MS4M13W1	008343-013	SS	M25	Relay/0-20 mA	X		X
X2200MS4M13W2	008347-013	SS	M25	Relay/0-20 mA		X	X
X2200MS4N14W1	008374-001	SS	3/4 NPT	EQP	X		X
X2200MA4M14W2	008377-001	AL	M25	EQP		X	X
X2200MS4N14W2	008378-001	SS	3/4 NPT	EQP		X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 14.6lb (6.7kg)</b>							

\*The last 3 digits of the part number identify the software configuration. Please see table D1 to choose the correct option.

The EQP detectors are completely configurable using the S3 configuration software and are shipped defaulted to the -001 setting.

## X2200 UV Flame Detector - Brazil

Model	Part Number*	Material	Threads	Output	Ex d	INMETRO
X2200A4N11B2	008420-XXX	AL	3/4 NPT	Relay	X	X
X2200S4N11B2	008421-XXX	SS	3/4 NPT	Relay	X	X
X2200A4N13B2	008422-XXX	AL	3/4 NPT	Relay/0-20 mA	X	X
X2200S4N13B2	008423-XXX	SS	3/4 NPT	Relay/0-20 mA	X	X
X2200A4N14B2	008424-001	AL	3/4 NPT	EQP	X	X
X2200S4N14B2	008425-001	SS	3/4 NPT	EQP	X	X
X2200A4N23B2	008426-XXX	AL	3/4 NPT	Rly/0-20/HART	X	X
X2200S4N23B2	008427-XXX	SS	3/4 NPT	Rly/0-20/HART	X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 14.6lb (6.7kg)</b>						

\*The last 3 digits of the part number identify the software configuration. Please see table D1 to choose the correct option.

The EQP detectors are completely configurable using the S3 software and are defaulted to the -001 setting

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### X2200G UV Flame Detector - Russia

Model	Part number	Material	Threads	Output	Ex d e	Ex d	VNIPO/VNIIFTRI
X2200GMA4M23R2	013099-001	AL	M25	Relay/0-20 mA/HART		X	X
X2200GMA4M23R2	013099-015	AL	M25	Relay/0-20 mA/HART		X	X
X2200GA4M11R2	013000-001	AL	M25	Relay		X	X
X2200GS4M11R2	013001-001	SS	M25	Relay		X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 14.6lb (6.7kg)</b>							

### X2200 UV Flame Detector - Ukraine

Model	Part Number*	Material	Threads	Output	Ex d e	Ex d	TCCEEE/ UKRCEPRO
X2200A4M11U1	008380-XXX	AL	M25	Relay	X		X
X2200S4M11U1	008381-XXX	SS	M25	Relay	X		X
X2200A4M11U2	008382-XXX	AL	M25	Relay		X	X
X2200S4M11U2	008383-XXX	SS	M25	Relay		X	X
X2200A4M13U1	008384-XXX	AL	M25	Relay/0-20 mA	X		X
X2200S4M13U1	008385-XXX	SS	M25	Relay/0-20 mA	X		X
X2200A4M13U2	008386-XXX	AL	M25	Relay/0-20 mA		X	X
X2200S4M13U2	008387-XXX	SS	M25	Relay/0-20 mA		X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 14.6lb (6.7kg)</b>							

\*The last 3 digits of the part number identify the software configuration. Please see table D1 to choose the correct option.

## X2200G UV Flame Detector - ATEX/IECEX/EN 54-10

The X2200G UV Flame Detector contains a Kr-85 free source tube.  
There are no differences in detection performance when compared to an X2200.

Model	Part Number*	Material	Threads	Output	Div/Zone Ex d e	Div/Zone Ex d	ATEX/IECEX/ EN 54-10	SIL2
X2200GA4N11SE1	013010-XXX	AL	3/4 NPT	Relay	X		X	X
X2200GA4M11SE1	013011-XXX	AL	M25	Relay	X		X	X
X2200GS4N11SE1	013012-XXX	SS	3/4 NPT	Relay	X		X	X
X2200GS4M11SE1	013013-XXX	SS	M25	Relay	X		X	X
X2200GA4N11SE2	013014-XXX	AL	3/4 NPT	Relay		X	X	X
X2200GA4M11SE2	013015-XXX	AL	M25	Relay		X	X	X
X2200GS4N11SE2	013016-XXX	SS	3/4 NPT	Relay		X	X	X
X2200GS4M11SE2	013017-XXX	SS	M25	Relay		X	X	X
X2200GA4N13SE1	013018-XXX	AL	3/4 NPT	Relay/0-20 mA	X		X	X
X2200GA4M13SE1	013019-XXX	AL	M25	Relay/0-20 mA	X		X	X
X2200GS4N13SE1	013020-XXX	SS	3/4 NPT	Relay/0-20 mA	X		X	X
X2200GS4M13SE1	013021-XXX	SS	M25	Relay/0-20 mA	X		X	X
X2200GA4N13SE2	013022-XXX	AL	3/4 NPT	Relay/0-20 mA		X	X	X
X2200GA4M13SE2	013023-XXX	AL	M25	Relay/0-20 mA		X	X	X
X2200GS4N13SE2	013024-XXX	SS	3/4 NPT	Relay/0-20 mA		X	X	X
X2200GS4M13SE2	013025-XXX	SS	M25	Relay/0-20 mA		X	X	X
X2200GA4N23SE1	013026-XXX	AL	3/4 NPT	Rly/0-20/HART	X		X	X
X2200GA4M23SE1	013027-XXX	AL	M25	Rly/0-20/HART	X		X	X
X2200GS4N23SE1	013028-XXX	SS	3/4 NPT	Rly/0-20/HART	X		X	X
X2200GS4M23SE1	013029-XXX	SS	M25	Rly/0-20/HART	X		X	X
X2200GA4N23SE2	013030-XXX	AL	3/4 NPT	Rly/0-20/HART		X	X	X
X2200GA4M23SE2	013031-XXX	AL	M25	Rly/0-20/HART		X	X	X
X2200GS4N23SE2	013032-XXX	SS	3/4 NPT	Rly/0-20/HART		X	X	X
X2200GS4M23SE2	013033-XXX	SS	M25	Rly/0-20/HART		X	X	X
X2200GA4N14E1	013034-XXX	AL	3/4 NPT	EQP	X		X	
X2200GA4M14E1	013035-XXX	AL	M25	EQP	X		X	
X2200GS4N14E1	013036-XXX	SS	3/4 NPT	EQP	X		X	
X2200GS4M14E1	013037-XXX	SS	M25	EQP	X		X	
X2200GA4N14E2	013038-XXX	AL	3/4 NPT	EQP		X	X	
X2200GA4M14E2	013039-XXX	AL	M25	EQP		X	X	
X2200GS4N14E2	013040-XXX	SS	3/4 NPT	EQP		X	X	
X2200GS4M14E2	013041-XXX	SS	M25	EQP		X	X	
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 14.6lb (6.7kg)</b>								

\*The last 3 digits of the part number identify the software configuration. Please see table D1 to choose the correct option.

The EQP detectors are completely configurable using the configuration software and are shipped defaulted to the -001 setting.

## X2200G UV Flame Detector - CSA

Model	Part Number*	Material	Threads	Output	Div/Zone Ex d e	Div/Zone Ex d	CSA
X2200GA4N13C1	013098-001	AL	3/4 NPT	Relay and 0-20 mA	X		X
X2200GA4N13C2	013102-001	AL	3/4 NPT	Relay and 0-20 mA		X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 14.6lb (6.7kg)</b>							

# ULTRAVIOLET

## *X2200GM UV Flame Detector - Moly*

In addition to having a Kr-85 free source tube, the X2200GM UV Flame Detector utilizes a molybdenum (moly) sensing element. Moly-based sensors have an increased spectral range of 1850 to 2650 angstroms, which is better suited for detecting substances with unusual chemistry, sulfur fires, and some black powders.

Model	Part Number*	Material	Threads	Output	Div/Zone Ex d e	Div/Zone Ex d	ATEX/IECEX	SIL2
X2200GMA4N11SE2	013042-003	AL	3/4 NPT	Relay/0-20 mA		X	X	X
X2200GMA4N11SE2	013042-013	AL	3/4 NPT	Relay/0-20 mA		X	X	X
X2200GMA4M11SE2	013043-003	AL	M25	Relay/0-20 mA		X	X	X
X2200GMA4M11SE2	013043-013	AL	M25	Relay/0-20 mA		X	X	X
<b>Ship Weight: Aluminum = 7lb (3.2kg) Stainless Steel = 14.6lb (6.7kg)</b>								

\*The last 3 digits of the part number identify the software configuration. Please see table D1 to choose the correct option.

The EQP detectors are completely configurable using the S3 configuration software and are shipped defaulted to the -001 setting.



# X-SERIES FLAME DETECTOR SPARE PARTS & ACCESSORIES

## X-Series Flame Detector Spare Parts

### X-Series Sensor Modules - SIL 2

Model	Part Number*	Material	Ex d e	Ex d	SIL/FM/CSA/ATEX/IECEX	Ship Weight
X3301**	029965-XXX	AL	X		X	2 lb (0.9 kg)
X3301**	029966-XXX	SS	X		X	4 lb (1.8 kg)
X3301**	029967-XXX	AL		X	X	2 lb (0.9 kg)
X3301**	029968-XXX	SS		X	X	4 lb (1.8 kg)
X3301 EQP/LON†	027866-001	AL	X		X	2 lb (0.9 kg)
X3301 EQP/LON†	027867-001	SS	X		X	4 lb (1.8 kg)
X3301 EQP/LON†	027868-001	AL		X	X	2 lb (0.9 kg)
X3301 EQP/LON†	027869-001	SS		X	X	4 lb (1.8 kg)
**Replacement sensor modules for EQP/LON models dated January 2009 or newer.						
†Replacement sensor modules for EQP/LON models dated December 2008 or older (not capable of t-low setting).						
X3302	022340-001	AL	X		X	2 lb (0.9 kg)
X3302	022341-001	SS	X		X	4 lb (1.8 kg)
X3302	022342-001	AL		X	X	2 lb (0.9 kg)
X3302	022343-001	SS		X	X	4 lb (1.8 kg)
X5200	012130-XXX	AL	X		X	2 lb (0.9 kg)
X5200	012131-XXX	SS	X		X	4 lb (1.8 kg)
X5200	012132-XXX	AL		X	X	2 lb (0.9 kg)
X5200	012133-XXX	SS		X	X	4 lb (1.8 kg)
X5200M	012134-XXX	AL	X		X	2 lb (0.9 kg)
X5200M	012135-XXX	SS	X		X	4 lb (1.8 kg)
X5200M	012136-XXX	AL		X	X	2 lb (0.9 kg)
X5200M	012137-XXX	SS		X	X	4 lb (1.8 kg)
X9800	012138-XXX	AL	X		X	2 lb (0.9 kg)
X9800	012139-XXX	SS	X		X	4 lb (1.8 kg)
X9800	012140-XXX	AL		X	X	2 lb (0.9 kg)
X9800	012141-XXX	SS		X	X	4 lb (1.8 kg)
X2200	012142-XXX	AL	X		X	2 lb (0.9 kg)
X2200	012143-XXX	SS	X		X	4 lb (1.8 kg)
X2200	012144-XXX	AL		X	X	2 lb (0.9 kg)
X2200	012145-XXX	SS		X	X	4 lb (1.8 kg)
X2200M	012146-XXX	AL	X		X	2 lb (0.9 kg)
X2200M	012147-XXX	SS	X		X	4 lb (1.8 kg)
X2200M	012148-XXX	AL		X	X	2 lb (0.9 kg)
X2200M	012149-XXX	SS		X	X	4 lb (1.8 kg)

\*The last 3 digits of the part number identify the software configuration.

The EQP detectors are completely configurable using the configuration software and are shipped defaulted to the -001 setting.



## X-SERIES FLAME DETECTOR SPARE PARTS & ACCESSORIES

### *X2200G Sensor Modules - SIL/ATEX/EN54/IECEX*

Model	Part Number*	Material	Div/Zone Ex d e	Div/Zone Ex d	SIL/ATEX/IECEX	Ship Weight
X2200G	013070-001	AL	X		X	2 lb (0.9 kg)
X2200G	013071-001	AL		X	X	2 lb (0.9 kg)
X2200G	013072-001	SS	X		X	4 lb (1.8 kg)
X2200G	013073-001	SS		X	X	4 lb (1.8 kg)

### *X5200G Sensor Modules - SIL/ATEX/IECEX*

Model	Part Number*	Material	Div/Zone Ex d e	Div/Zone Ex d	SIL/ATEX/IECEX	Ship Weight
X5200G	013370-001	AL	X		X	2 lb (0.9 kg)
X5200G	013371-001	AL		X	X	2 lb (0.9 kg)
X5200G	013372-001	SS	X		X	4 lb (1.8 kg)
X5200G	013373-001	SS		X	X	4 lb (1.8 kg)

### *X5200G Sensor Modules - SIL 2 - Munitions*

Model	Part Number*	Material	Div/Zone Ex d e	Div/Zone Ex d	SIL/FM/CSA/ATEX/IECEX	Ship Weight
X5200G	013374-022	AL		X	X	2 lb (0.9 kg)
X5200G	013375-022	AL	X		X	4 lb (0.9 kg)

# X-SERIES FLAME DETECTOR SPARE PARTS & ACCESSORIES

## X-Series Sensor Modules

Model	Part Number*	Material	Ex d e	Ex d	FM/CSA/ ATEX/IECEX	ATEX/ IECEX	Ship Weight
X3301	027752-XXX	AL	X		X		2 lb (0.9 kg)
X3301	027753-XXX	AL		X	X		2 lb (0.9 kg)
X3301	027754-XXX	SS	X		X		4 lb (1.8 kg)
X3301	027755-XXX	SS		X	X		4 lb (1.8 kg)
X3301 Automotive	027753-005	AL		X	X		2 lb (0.9 kg)
X3302	028992-XXX	AL	X		X		2 lb (0.9 kg)
X3302	028993-XXX	AL		X	X		2 lb (0.9 kg)
X3302	028994-XXX	SS	X		X		4 lb (1.8 kg)
X3302	028995-XXX	SS		X	X		4 lb (1.8 kg)
X5200	007756-XXX	AL	X		X		2 lb (0.9 kg)
X5200	007757-XXX	AL		X	X		2 lb (0.9 kg)
X5200	007758-XXX	SS	X		X		4 lb (1.8 kg)
X5200	007759-XXX	SS		X	X		4 lb (1.8 kg)
X5200G	013288-XXX	AL	X			X	2 lb (0.9 kg)
X5200G	013289-XXX	AL		X		X	2 lb (0.9 kg)
X5200G	013290-XXX	SS	X			X	4 lb (1.8 kg)
X5200G	013291-XXX	SS		X		X	4 lb (1.8 kg)
X5200M	011225-013	AL	X		X		2 lb (0.9 kg)
X5200M	011226-013	AL		X	X		2 lb (0.9 kg)
X5200M	011227-013	SS	X		X		4 lb (1.8 kg)
X5200M	011228-013	SS		X	X		4 lb (1.8 kg)
X9800	007760-XXX	AL	X		X		2 lb (0.9 kg)
X9800	007761-XXX	AL		X	X		2 lb (0.9 kg)
X9800	007762-XXX	SS	X		X		4 lb (1.8 kg)
X9800	007763-XXX	SS		X	X		4 lb (1.8 kg)
X2200	007764-XXX	AL	X		X		2 lb (0.9 kg)
X2200	007765-XXX	AL		X	X		2 lb (0.9 kg)
X2200	007766-XXX	SS	X		X		4 lb (1.8 kg)
X2200	007767-XXX	SS		X	X		4 lb (1.8 kg)
X2200G	013080-XXX	AL	X			X	2 lb (0.9 kg)
X2200G	013081-XXX	AL		X		X	2 lb (0.9 kg)
X2200G	013082-XXX	SS	X			X	4 lb (1.8 kg)
X2200G	013083-XXX	SS		X		X	4 lb (1.8 kg)
X2200GM	013084-XXX	AL	X			X	2 lb (0.9 kg)
X2200GM	013085-XXX	AL		X		X	2 lb (0.9 kg)
X2200GM	013086-XXX	SS	X			X	4 lb (1.8 kg)
X2200GM	013087-XXX	SS		X		X	4 lb (1.8 kg)
X2200M	007706-013	AL	X		X		2 lb (0.9 kg)
X2200M	007707-013	AL		X	X		2 lb (0.9 kg)
X2200M	007708-013	SS	X		X		4 lb (1.8 kg)
X2200M	007709-013	SS		X	X		4 lb (1.8 kg)

\*The last 3 digits of the part number identify the software configuration.



## X-SERIES FLAME DETECTOR SPARE PARTS & ACCESSORIES

### X-Series Flame Detector EMI Output Boards

Description	Part Number	Ship Weight
EMI/Relay/0-20 Board (X-Series)	007308-001	<1 lb (<0.45 kg)
EMI/Pulse/Relay Board (X-Series)	007308-002	<1 lb (<0.45 kg)
EMI/EQP Board (X-Series)	007308-003	<1 lb (<0.45 kg)
EMI/EQ Retrofit Board (X2200 and X5200 only)	007308-004	<1 lb (<0.45 kg)
EMI/Relay/0-20/HART Board (X-Series)	007308-005	<1 lb (<0.45 kg)
EMI/Automotive Board (X3301)	007308-006	<1 lb (<0.45 kg)



### X-Series Miscellaneous Spare Parts

Description	Part Number	Material	Ship Weight
<b>Note: oi Replacement Kits consist of five (5) plates and a W6300B1003</b>			
oi Replacement Kit, X3301	009208-001	Black Plastic	<1 lb (<0.45 kg)
oi Replacement Kit, X3301, SS	010831-001	SS	<1 lb (<0.45 kg)
oi Replacement Kit, X3302	009208-003	Black Plastic	<1 lb (<0.45 kg)
oi Replacement Kit, X3302, SS	010831-002	SS	<1 lb (<0.45 kg)
oi Replacement Kit, X5200/X9800/X2200	009208-002	Black Plastic	<1 lb (<0.45 kg)
<b>Note: oi plates for any X-Series Flame Detector require a W6300 Inspector Connector to calibrate</b>			
oi Reflector Plate, X3301	007307-001	Black Plastic	<1 lb (<0.45 kg)
oi Reflector Plate, X3301, SS	010830-001	SS	<1 lb (<0.45 kg)
oi Reflector Plate, X3302	007307-003	Black Plastic	<1 lb (<0.45 kg)
oi Reflector Plate, X3302, SS	010830-002	SS	<1 lb (<0.45 kg)
oi Reflector Plate, X5200/X9800/X2200	007307-002	Black Plastic	<1 lb (<0.45 kg)
O-ring - Rear Cover	107427-040	Viton	<1 lb (<0.45 kg)
O-ring - Rear Cover	104346-154	Fluorosilicone (blue)	<1 lb (<0.45 kg)

**NOTE: Not interchangeable** - Reference instruction manual 95-8530 to determine the correct oi replacement plate.

### X-Series Flame Detector Accessories



**W6300B Inspector Connector with Enhanced Flame Inspector Software** (Manual: 95-8751) for use with X3301, X3302, X5200, X9800, and X2200 flame detectors. Allows for validation of configuration and uploading of important detector status data such as power-up/down, faults and alarms to a personal computer (PC) where it can be displayed, saved and/or printed. Enhanced Flame Inspector CD included

#### W6300 Inspector Connector - X-Series

Model/Description	Part Number	Converter	Ship Weight
W6300B1003 Connector with Software	007819-002	USB	<1 lb (<0.46 kg)
Replacement Converter RS485 to USB	103881-001	USB	<1 lb (<0.46 kg)
Enhanced Flame Inspector CD	009207-001	N/A	<1 lb (<0.46 kg)



# X-SERIES FLAME DETECTOR SPARE PARTS & ACCESSORIES

## X-Series Miscellaneous Accessories

Description	Part Number	Ship Weight
Magnet*	102740-002	<1 lb (<0.45 kg)
Magnet and Adapter for Extension Pole	008082-001	<1 lb (<0.45 kg)
Magnet and Extension Pole (6ft to 13ft)	007739-001	2 lb (.91 kg)
Magnet and Extension Pole (8ft to 22ft)	007739-002	4 lb (1.81 kg)
14mm Hex Wrench	103363-001	<1 lb (<0.45 kg)
Screwdriver	103406-001	<1 lb (<0.45 kg)
1 oz grease for detectors (non-silicon)	005003-001	<1 lb (<0.45 kg)
Black Static Cap for oi Calibration	102991-001	<1 lb (<0.45 kg)
Window cleaner (6 pack)	001680-001	<1 lb (<0.45 kg)

\*1 magnet ships with each individual order of X-Series detectors, free of charge.



14mm Hex Wrench  
103363-001



Magnet and Extension Pole  
007739-001



Dome Head Stop Plug - Nickel Brass



Type A Stop Plug - Nickel Brass

## Stop Plugs and Reducers

ITEM NUMBER	STYLE	MATERIAL	OVERALL LENGTH (mm)	THREAD TYPE	HEX SIZE
101197-001	TYPE A STOP PLUG	ALUMINUM	14.8	3/4 NPT	12
101197-002	TYPE A STOP PLUG	ALUMINUM	14.5	1/2 NPT	10
101197-003	DOME HEAD STOP PLUG	STAINLESS STEEL	21.5	M25	12
101197-004	TYPE A STOP PLUG	STAINLESS STEEL	14.8	3/4 NPT	12
101197-005	DOME HEAD STOP PLUG	ALUMINUM	21.5	M25	12
101197-006	DOME HEAD STOP PLUG	ALUMINUM	21.5	M20	10
101197-007	DOME HEAD STOP PLUG	STAINLESS STEEL	21.5	M20	10
101197-008	DOME HEAD STOP PLUG	NICKEL BRASS	21.5	M20	10
101197-009	DOME HEAD STOP PLUG	NICKEL BRASS	21.5	M25	12
101197-010	TYPE A STOP PLUG	NICKEL BRASS	14.8	3/4 NPT	12
101197-011	TYPE A STOP PLUG	NICKEL BRASS	14.5	1/2 NPT	10
101197-012	TYPE A STOP PLUG	STAINLESS STEEL	14.5	1/2 NPT	10
101197-501	IP WASHER	NYLON	-	M20	-
101197-502	IP WASHER	NYLON	-	M25	-
101197-503	IP WASHER	TEFLON PTFE	-	M20	-
101197-503	IP WASHER	TEFLON PTFE	-	M25	-
102804-001	REDUCER	ALUMINUM	-	M25 to M20	-
102804-003	REDUCER	STAINLESS STEEL	-	M25 to M20	-

Ship Weight: 1/2 NPT = 0.07lb (0.030kg), 3/4 NPT = 0.11lb (0.05kg), M20 = 0.14lb (0.062kg), M25 = 0.28lb (0.125 kg)  
Available Stop Plug Approvals: ATEX, IECEx, CEC, NEC, EAC, INMETRO, SAC, UKRAINE, CCoE, ABS, LLOYD'S, RMRS

\*NEMA/TYP 4 and IP66 rating requires addition of Teflon tape

\*\*Metric threaded stop plugs are fitted with silicone O-Rings

\*\*\*For silicone sensitive applications the silicone O-Ring can be removed from Metric stop plugs and fitted with an IP washer

# DUAL SPECTRUM INFRARED

## PM-5MPX Dual Spectrum Flame Detector



**PM-5MPX Dual Spectrum Flame Detector** (Spec Sheet: 90-1182) is optimized for the rigorous semiconductor fabrication industry, which is beset with many hazards that result in stringent and application-specific requirements for fire protection safety systems. Additionally, the PM-5MPX is well-suited for the detection of cutting oil fires within CNC machine grinding applications.

- Complies to FM wet bench performance standards
- Approved to FM3260: 2000
- Dual spectrum IR design
- Compact size
- LED indicator for operational status
- Built-in mounting plate
- Typical response of <0.5 sec
- Fast response—as fast as 25 milliseconds
- Polypropylene housing: excellent resistance to corrosion and contamination effects
- FM approved for intrinsic safety
- Highly resistant to false alarms
- May qualify for RoHS machine guarding exception

### *PM-5MPX Dual Spectrum IR Flame Detector*

Model	Part Number	Encl Material	Cable Length	FM	Ship Weight
PM-5MPX	421132-001	Polypropylene	50 ft	X	0.5 lb (0.23 kg)



PSS-ML

### *PM-5MPX Accessories*

Part Number	Description	Ship Weight
007351-001	PSS-ML Test Lamp	<1 lb (<0.45 kg)



# SMOKE DETECTORS

## U5015 Explosion-Proof Smoke Detector



**U5015 Explosion-Proof Smoke Detector** (Spec Sheet: 90-1217) The U5015 Explosion-Proof Smoke Detector has Division and Zone explosion-proof ratings and is suitable for industrial and commercial applications. The detector is designed to operate effectively with both smoldering and rapidly growing fires, and will annunciate a fault condition ensuring no undisclosed failures. The U5015 Explosion-Proof Smoke Detector outputs include 0-20 mA, a localized LED, and relays.

- FM Approved for use in Class I, Division 1 and Class I, Zone 1 hazardous locations
- FM Approved for smoke detection performance (FM 3230)
- IECEx Zone approved
- Trouble-free photoelectric operation
- 0-20 mA output for DCS integration
- Self-checking circuitry ensures reliable smoke detection
- Alarm, Auxiliary and Fault relays for controlling annunciating devices or fire panel interface
- LED provides a visual indication that an alarm has occurred
- IP44 ingress protection level suitable for onshore or offshore requirements

### U5015 Model Matrix

MODEL	DESCRIPTION										
U5015	Explosion-Proof Smoke Detector										
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>MATERIAL</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Aluminum (AL)</td> </tr> </tbody> </table>	TYPE	MATERIAL	A	Aluminum (AL)						
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TYPE	APPROVAL										
A	FM/IECEX/CSA										
R	VNIIFTRI (RUSSIA)										

## SMOKE DETECTORS

### U5015 Explosion-Proof Smoke Detector (FM/IECEX/CSA)

Model	Part Number	Housing Material	J-box Material	# of Ports	Latch	Non-Latch	Conduit Entry	FM/IECEX/CSA
U5015A1N13A	012500-201	ABS	AL	1	X		3/4" NPT	X
U5015A2N13A	012500-202	ABS	AL	2	X		3/4" NPT	X
U5015A3N13A	012500-203	ABS	AL	3	X		3/4" NPT	X
U5015A4N13A	012500-204	ABS	AL	4	X		3/4" NPT	X
U5015A1M13A	012500-205	ABS	AL	1	X		M25	X
U5015A2M13A	012500-206	ABS	AL	2	X		M25	X
U5015A3M13A	012500-207	ABS	AL	3	X		M25	X
U5015A4M13A	012500-208	ABS	AL	4	X		M25	X
U5015A1N12A	012500-211	ABS	AL	1		X	3/4" NPT	X
U5015A2N12A	012500-212	ABS	AL	2		X	3/4" NPT	X
U5015A3N12A	012500-213	ABS	AL	3		X	3/4" NPT	X
U5015A4N12A	012500-214	ABS	AL	4		X	3/4" NPT	X
U5015A1M12A	012500-215	ABS	AL	1		X	M25	X
U5015A2M12A	012500-216	ABS	AL	2		X	M25	X
U5015A3M12A	012500-217	ABS	AL	3		X	M25	X
U5015A4M12A	012500-218	ABS	AL	4		X	M25	X
<b>Ship Weight: 8lb (3.6kg)</b>								

### U5015 Explosion-Proof Smoke Detector (Russia)

Model	Part Number	Housing Material	J-box Material	# of Ports	Latch	Non-Latch	Conduit Entry	VNIIFTRI
U5015A1M13R	012500-905	ABS	AL	1	X		M25	X
U5015A2M13R	012500-906	ABS	AL	2	X		M25	X
U5015A3M13R	012500-907	ABS	AL	3	X		M25	X
U5015A4M13R	012500-908	ABS	AL	4	X		M25	X
<b>Ship Weight: 8lb (3.6kg)</b>								

### U5015 Spare Parts & Accessories

Part Number	Description	Ship Weight
104286-001	U5015 Replacement Sensor Module	<1 lb (<0.45 kg)
104234-001	Phoenix Contact ME-MAX-NEF/QUINT20A Line Filter*	<1lb (<0.45kg)
102740-002	Magnet	<1 lb (<0.45 kg)
007739-001	Magnet with Extension Pole	<1 lb (<0.45 kg)
101197-001	Stop Plug, 3/4" NPT, AL	<1 lb (<0.45 kg)
101197-005	Stop Plug, M25, AL	<1 lb (<0.45 kg)
000119-008	Smoke Detector Tester (Canned Smoke)	<1 lb (<0.45 kg)

\* Required for Maritime Installations

# SMOKE DETECTORS

## Q5016 Duct Mount Accessory



**Q5016 Duct Mount Accessory** (Instruction Manual: 95-8752) is used with the U5015 explosion-proof smoke detector to detect smoke within air handling duct work. Mounted to the exterior of the duct wall, the Q5016 utilizes the differential pressure created between the inlet (sampling) and outlet (exhaust) tubes to drive a continuous air sample through the measurement chamber. The Q5016 is designed for hazardous industrial and commercial applications. Also available in red epoxy painted option.

- Air Velocity Range of 300 to 4000 ft/min (91.4 to 1219 meters/min)
- NEMA 250 Type 4X
- All aluminum surfaces are coated with chemical film per MIL-DTL-5541 TYPE II Class 1A and ISO 8081

### Q5016 Duct Mount Accessory

Model	Part Number	Inlet Tube Length
Q5016-1	013901-001	1 ft (0.3 m)
Q5016-3	013901-003	3 ft (0.9 m)
Q5016-6	013901-006	6 ft (1.8 m)
Q5016-10	013901-010	10 ft (3.1 m)
<b>Ship Weight: 14.2lb (6.5kg)</b>		

### Q5016 Duct Mount Accessory (Russia)

Model	Part Number	Inlet Tube Length
Q5016R-1	013901-901	1 ft (0.3 m)
Q5016R-3	013901-903	3 ft (0.9 m)
Q5016R-6	013901-906	6 ft (1.8 m)
Q5016R-10	013901-910	10 ft (3.1 m)
<b>Ship Weight: 14.2lb (6.5kg)</b>		

## SMOKE DETECTORS

### Q5016 Duct Mount Accessory



**Q5016 Duct Mount Accessory** (Instruction Manual: 95-8752) Prior to painting, all aluminum surfaces are coated with chemical film per MIL-DTL-5541 TYPE II Class 1A and ISO 8081. The Q5016 Duct Mount Accessory is painted with a deep-red epoxy. Qualification Tests Per ISO 12944-6, Category C5-I and C5-M.

- Air Velocity Range of 300 to 4000 ft/min (91.4 to 1219 meters/min)
- NEMA 250 Type 4X
- All aluminum surfaces are coated with chemical film per MIL-DTL-5541 TYPE II Class 1A and ISO 8081

### Q5016 Duct Mount Accessory - Red Painted

Model	Part Number	Inlet Tube Length
Q5016-1-RED	013901-011	1 ft (0.3 m)
Q5016-3-RED	013901-013	3 ft (0.9 m)
Q5016-6-RED	013901-016	6 ft (1.8 m)
Q5016-10-RED	013901-020	10 ft (3.1 m)
<b>Ship Weight: 14.2lb (6.5kg)</b>		

### Q5016 Duct Mount Accessory - Red Painted (Russia)

Model	Part Number	Inlet Tube Length
Q5016R-1-RED	013901-911	1 ft (0.3 m)
Q5016R-3-RED	013901-913	3 ft (0.9 m)
Q5016R-6-RED	013901-916	6 ft (1.8 m)
Q5016R-10-RED	013901-920	10 ft (3.1 m)
<b>Ship Weight: 14.2lb (6.5kg)</b>		

### Q5016 Duct Mount Accessory Spare Parts

Model	Part Number
Q5016 inlet tube 1 ft (0.3 m) w/stop	013660-001
Q5016 inlet tube 3 ft (0.9 m) w/stop	013660-003
Q5016 inlet tube 6 ft (1.8 m) w/stop	013660-006
Q5016 inlet tube 10 ft (3.0 m) w/stop	013660-010
Q5016 outlet tube, 1 ft	013628-001
Inlet tube stop plug	013653-001
Differential pressure adaptors (2x)	013655-001
Chamber gasket	013626-001
Locknut, serrated flange	400587-001

## ACCESSORIES

### Test Lamps



**W8066 UV Test Lamp** (Spec Sheet: 90-1055) is used for on-site testing of all UV detector types. It replaces W866. Consists of a UV lamp powered by a replaceable 9 volt battery and is contained in a plastic enclosure. Available as intrinsically safe. "G" version available Kr85 Free.



**W867 Explosion-Proof UVIR Test Lamp** (Spec Sheet: 90-1055) is used for on-site testing of UV, single frequency IR, or UVIR detectors. Consists of a high-energy broad band lamp powered by rechargeable batteries and is contained in an explosion-proof non-ferrous metallic enclosure.



**W8067 Test Lamp** (Manual: 95-8626) for on-site testing of the UVIR and single frequency IR detectors.  
NON EXPLOSION-PROOF - CANNOT BE USED IN HAZARDOUS LOCATIONS.

#### *W8066 UV Test Lamp*

Model/Description	Part Number	FM	CSA	Ship Weight
W8066A1001	004483-001	X	X	1.5 lb (0.7 kg)
W8066G1001 Kr85-free	004483-002			1.5 lb (0.7 kg)
W8066A Replacement Bulb	002405-002			<1 lb (<0.45 kg)
W8066G Replacement Bulb	002405-004			<1 lb (<0.45 kg)
Screw-on cap, red for Lens	004520-003			1.5 lb (0.7 kg)
Window, Fused Silica	004648-001			1.5 lb (0.7 kg)
Seal, Pushbutton Boot	102219-001			1.5 lb (0.7 kg)

#### *W867 Explosion-Proof UVIR Test Lamp*

Model/Description	Part Number	FM	Ship Weight
W867C3004 Test Lamp 110/220 VAC*	004000-006	X	14 lb (6.2 kg)
Universal Battery Charger for W867 and W8067, 110/220 VAC	009997-002		1 lb (0.4 kg)
Battery Charger, W8673001, 120 VAC	009117-002		1 lb (0.4 kg)
W867 Battery Pack Kit	004611-002		7 lb (3.2 kg)
W867 Bulb Replacement Assembly	010543-001		<1 lb (<0.4 kg)

\*Includes Universal Battery Charger

#### *W8067 Test Lamp*

Model/Description	Part Number	Ship Weight
W8067S1004	006439-004	2.0 lb (0.95 kg)
Universal Battery Charger for W867 and W8067, 110/220 VAC	009997-002	<1 lb (<0.4 kg)
W8067S Battery, 6V (2 required for 12V operation)	103855-001	<1 lb (<0.4 kg)
W8067S Battery, 12V	103937-001	<1 lb (<0.4 kg)

**Laser, Laser Aimer Holder**



**Laser Aimer** is for use with the Q1201A and Q1201C Laser Holder in sighting and testing the area of flame detection coverage. When used with its holder, the laser beam identifies the center and edges of the detector's field of view (FOV). **NEW! Green laser available, for greater visibility. Preferred for most applications.** Includes battery.



**Q1201C Laser Aimer Holder** (Manual: 95-8596) is for use with X3301, X3302, X5200, X9800, X2200, and X3300 flame detectors. Designed to hold the Laser Aimer to show exact location of the center of the detector's FOV. Two additional holding positions are available for locating the outside edges of the FOV at either 30 degrees off center (75 degrees total FOV) or at 45 degrees off center (90 degrees total FOV). While the Laser Aimer is being used to locate edges of the FOV it can be rotated 360 degrees to identify the entire area of flame detection coverage.



**Q1201C Accessory** is used with the Q1201C to determine the top aim point of the flame detector when a 10 or 20 degree FOV sight limiter is to be installed.

*Laser, Laser Aimer Holder*

Model/Description	Part Number	For Use With	Ship Weight
Red Laser Aimer	006097-001	Q1201A, B, and C	1 lb (0.46 kg)
Green Laser Aimer	006097-002	Q1201A, B, and C	1 lb (0.46 kg)
Battery, 3V Lithium	102871-001	Laser Aimer	<1 lb (<0.46 kg)
Q1201C1001	007255-001	All X-Series	2 lb (0.95 kg)
Q1201 Accessory	012125-001	Q1201C1001 (Provides 10° & 20° field of view)	1 lb (0.46 kg)

**Weather Shield, FOV Limiter**



**Q2000 X-Series Weather Shield** provides added weather protection. Epoxy coated aluminum.

*Q2000 X-Series Weather Shield*

Model	Part Number	Material*	Ship Weight
Q2000A1001	007338-001	AL	1 lb (0.45kg)

\*Epoxy coated.



**Q2033 Field of View (FOV) Limiter / Weather Shield for the X3301 or X3302**

For applications with friendly fires or flares, which require a controlled cone of vision. Order the 10° model for the greatest reduction in field of view, the 20° for standard limitation, or the 30° to maintain the field of view and use as a weather shield.

*Q2033 FOV Limiter for X3301 and X3302*

Model	Part Number	Material*	Ship Weight
Q2033A10R 10° FOV Limiter for X3301/X3302	007338-010	AL	1 lb (0.45 kg)
Q2033A20R 20° FOV Limiter for X3301/X3302	007338-020	AL	1 lb (0.45 kg)
Q2033A30R 30° FOV Limiter for X3301/X3302	007338-030	AL	1 lb (0.45 kg)
Spare Restrictor Plate 10° FOV	007912-010	AL	<1 lb (<0.45 kg)
Spare Restrictor Plate 20° FOV	007912-020	AL	<1 lb (<0.45 kg)
Spare Restrictor Plate 30° FOV	007912-030	AL	<1 lb (<0.45 kg)

\*Epoxy coated.

## ACCESSORIES

### Flame Detector Hardware



**Q1116 Universal Air Shield Assembly** (Manual: 95-8597). Use on all X-Series flame detectors in areas with air-borne contaminants. Available in aluminum with a sintered air diffuser. Quick connect air line fitting accepts 1/4 inch OD nylon tubing for instrument grade air supply of 12 to 20 psi at 3 or more cubic feet per minute.

#### Q1116 Universal Air Shield Assembly

Model	Part Number	Air Connection	Air Supply	Air Requirement	Ship Weight
Q1116A1001	007240-001	1/4" OD nylon tubing	12-20 psi	3 cfm minimum	2 lb (0.9 kg)
N/A	011990-001	Q1116/Q1118 SINTER REPLACEMENT KIT			2 lb (0.9 kg)



**Q1118 Universal Air Shield/Flange Mount Assembly** (Manual: 95-8595). Use on all X-Series flame detectors in areas with air-borne contaminants. Available in either aluminum or stainless steel with a sintered air diffuser. Quick connect air line fitting accepts 1/4 inch OD nylon tubing for instrument grade air supply of 10 to 20 psi at 3 or more cubic feet per minute.

#### Q1118 Universal Air Shield / Flange Mount Assembly

Model	Part Number	Material	Air Connection	Air Supply	Air Requirement	Ship Weight
Q1118A1001	007818-001	AL	1/4" OD nylon tubing	10-30 psi	3-20 cfm target	2 lb (0.9 kg)
Q1118S1001	007818-002	SS	1/4" OD nylon tubing	10-30 psi	3-20 cfm target	6 lb (2.75 kg)
N/A	011990-001	Q1116/Q1118 SINTER REPLACEMENT KIT				2 lb (0.9 kg)

**NOTE:** Not compatible with Q9033



**Q1198 Dual Air Shield/Flange Mount Assembly** (Manual: 95-8598). Use on X9800 in areas with high levels of powdered air-borne contaminants. Available in Aluminum with a sintered air diffuser. Provided with two quick connect air line fittings - one for constant air flow function and the second for quick clean/purge function. Both fittings accept 1/4 inch OD nylon tubing for instrument grade air supply of 10 to 60 psi at 3 or more cubic feet per minute.

#### Q1198 Dual Air Shield / Flange Mount Assembly for X9800

Model	Part Number	Material	Air Connection	Air Supply	Air Requirement	Ship Weight
Q1198A1001	009199-001	AL	6mm OD nylon tubing	10-20 psi	3-5 cfm min	2 lb (0.9 kg)

**NOTE:** Not compatible with Q9033

**Flame Detector Mounting Hardware**



**Q9033A** Aluminum Mounting Arm for all aluminum X-Series flame detectors.

**NOTE:** For use with aluminum detectors only.



**Q9033B** Stainless steel Mounting Arm for all X-Series flame detectors (DNV approved with X3301).

**NOTE:** For use with stainless steel and aluminum detectors.



**Q9033 Collar Attachment** (Manual: 95-8686) for all X-Series flame detectors . Used in conjunction with the Q9033A/B Mounting Arm. The Collar Attachment adds versatility to the mounted detector by allowing a wider (3-dimensional) range of motion and improved viewing angles (DNV approved with X3301).



**Q1130** (Manual: 95-8662) Flange mount assembly for X3301 and X3302, allows the detector to be mounted externally to monitor storage or process areas. Not suitable for Zone 0 defined locations.

*Flame Detector Mounting Hardware*

Model	Part Number	For Use With	Ship Weight
Q9033A1000	007290-002	AL X2200, X5200, X9800, X3301, X3302	6 lb (2.75 kg)
Q9033B1000	007290-001	SS X2200, X5200, X9800, X3301, X3302	14 lb (6.4 kg)
Q9033 Collar Attachment*	011385-001	Q9033A, Q9033B	2.05 lb (0.9 kg)
Q9033 Collar Attachment†	011385-002	Q9033A, Q9033B	2.05 lb (0.9 kg)
Q9033 Spare Lock Washer	103019-002	Q9033A, Q9033B	0.04lb (0.02 kg)
Q9033A Spare M16 Top Screw	400525-018	Q9033A	0.2 lb (0.1 kg)
Q1130A1001	010857-001	X3301, X3302	2.8 lb (1.3 kg)

\*Note: Screws that connect collar halves enter from the top

†Note: Screws that connect collar halves enter from the bottom

## ACCESSORIES



**4-Inch Pipe Mount Bracket and U-Bolt Kit** (Specification Sheet 90-1227) This kit is used to install an X-Series flame detector and Q9033 mounting arm to a 4-inch pipe. This kit includes a pipe mount plate, all hardware for installing mounting arm to plate, and U-Bolts and hardware for attaching the pipe mount plate to a 4-Inch pipe. All materials are 316 Stainless Steel.

### *4-Inch Pipe Mount Bracket and U-Bolt Kit*

Model	Part Number	Ship Weight
4" Pipe Mnt Kit, SS, w/ Hardware	000609-026	2.5 lb (1.3 kg)



**2-Inch U-Bolt Kit** (Specification Sheet 90-1228) This kit is used to install an X-Series flame detector and Q9033 mounting arm to a 2-inch pipe. This kit includes two U-bolts, washers, lock washers, and hex nuts. All materials are 316 Stainless Steel

### *2-Inch Pipe Mount Bracket and U-Bolt Kit*

Model	Part Number	Ship Weight
2" Pipe Mt. U Bolt Kit	000609-035	0.75 lb (0.3 kg)



**Sun shade for X-Series Flame Detectors** (Specification Sheet 90-1229)The sun shade installs between the wall, pole surface, or pole mount bracket and the Q9033 mounting arm providing the flame detector with protection from the sun and precipitation. Material is 316 Stainless Steel. Detector in photo below is shown installed on a 4-inch pole using the 4-Inch Pipe Mount Bracket and U-Bolt Kit (Part number 000609-026) which is not included with the Sun Shade.

### *Sun shade for X-Series Flame Detectors*

Model	Part Number	Ship Weight
Stainless Steel Sun Shade for X-Series Flame Detector	000003-067	5 lbs. (2.27 kg)

**Power Supplies**

**EQP21XXPS Power Supplies** can be used as singular or duplex. The power supply is available in a DIN rail mount or panel mount configuration for ease of mounting. Power supplies should be sized to approximately 50% of the power draw requirement or to local code requirements.

*EQP21XX Power Supply*

Model	Part Number	Description	Ship Weight
EQP2120PS-B	010988-001*	EQP2120PS-B 20A 120/220V PANEL	3.7 lb (1.7 kg)
EQP2120PS	010988-002	EQP2120PS 20A 120/220V DIN	3.7 lb (1.7 kg)
EQP2110PS-P	010985-001*	EQP2110PS-P 10A 120/220V, PANEL	2.9 lb (1.3 kg)
EQP2110PS	010985-002	EQP2110PS 10A 120/220V, DIN	2.9 lb (1.3 kg)

\*For FM/USCG approved system

## DUAL SPECTRUM INFRARED

### Legacy / Miscellaneous Spare and Replacement Parts

#### Miscellaneous Detector Parts for Regular Maintenance

Part Number	Description	Use With	Ship Weight
001680-001	K1003A1006 6PK Window Cleaner	-	0.5 lb (0.26 kg)
002507-001	K1002A1001 UV window cleaning kit (2 bottles cleaner, 8 <b>oi</b> rings)	-	0.5 lb (0.26 kg)
002519-001	<b>oi</b> ring for UV detectors	-	0.5 lb (0.26 kg)
003525-001	<b>oi</b> ring for IR detectors	-	0.5 lb (0.26 kg)
003996-001	UVIR window cleaning kit (2 bottles cleaner, 4 ea of UVIR <b>oi</b> rings)	-	0.5 lb (0.26 kg)
107427-004	Viton O-ring (small) for UV and IR sensor housings	2 per housing	0.5 lb (0.26 kg)
107427-040	Viton O-ring	U7698E rear housings	0.5 lb (0.26 kg)
001981-001	Banana jacks for base conversion to plug in sensor module (qty 4 required)	C7050	0.5 lb (0.26 kg)

#### UV Sensor Module (**Available until Jan 1, 2024**) - for C7050B High Temp Legacy Detectors

Model	Part Number	Comments	Controller	Ship Weight
DE1888K3	003240-221	For C7050B and UVHT only	EQP	5 oz. (0.14 kg)



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## ACOUSTIC

### FlexSonic® Acoustic Detector



The **FlexSonic® Acoustic Detector** – comprised of the **AC100 Acoustic Sensor** and the **ATX10 Acoustic Transmitter** (Spec Sheet: 90-1208) is designed to recognize the unique frequency content of events such as gas leaks. When a pressurized gas leak occurs, the frequency content of the sound being generated extends beyond the audible portion of the spectrum into the ultrasonic region (above 20 kHz). The intensity of the sound generated by a leak is determined by several factors including pressure differential, leak rate, gas viscosity, and distance from the leak source.

Acoustic detection is less susceptible to environmental factors (such as high winds) that can degrade the ability of traditional sensing technology based on gas concentration to detect the presence of a leak. When combined with line-of-sight and/or point gas detectors, the additional layer of protection provided by the FlexSonic Acoustic Detector offers the ultimate solution for gas leak detection.

- Analyzes 24 discrete ultrasonic bands
- Nearly instantaneous response
- Non-contact gas leak detection
- 4-20 mA output combined with HART
- Extensive data logging with removable storage that records the acoustic spectrum
- Superior false alarm discrimination with patented technology
- **Ideally suited for locations where traditional technologies are challenged, such as outdoor and unmanned operations**
- Large detection coverage area
- FM, CSA, ATEX, and IECEX
- Certified SIL 2 Capable for all gas types
- Globally approved Explosion-proof 316 stainless steel housing
- Integrated Acoustic Integrity Check (AIC)
- No routine calibration required
- Not affected by poisoning

*FlexSonic AC100/ATX10 Kits*

Part Number	Description	Consists of:	SIL/FM/CSA/ ATEX/IECEX	SIL/ INMETRO	SIL/ VNIIFTRI
012152-001	AC100/ATX Kit, 3/4" NPT	AC100SNT2 ATX10S5N26T	X		
012153-001	AC100/ATX Kit, M25	AC100SMT2 ATX10S5M26T	X		
012152-601	AC100/ATX Kit, 3/4" NPT	AC100SNSB2 ATX10S5N26SB		X	
012153-601	AC100/ATX Kit, M25	AC100SMSB2 ATX10S5M26SB		X	
012153-901	AC100/ATX Kit, M25	AC100MSR2 ATX10S5M26SR			X
<b>Ship Weight: 18 lb (8.2 kg)</b>					

Kit includes individually packaged AC100 and ATX10.

*Typical FlexSonic Customer Proposal*

Qty	Model	Part Number	Description
1	AC100/ATX10 KIT, M25	012153-001	Consists of AC100SMT2 and ATX10S5M26T

*Spare Parts*

Qty	Model	Part Number	Description
1	N/A	104155-001	Micro SDHC Card, 4GB Industrial Temperature Rating
1	N/A	009700-001	Magnetic Tool

*Accessories*

Qty	Part Number	Description
1	104218-001	35mm Socket for use with M25 model
1	012401-001	Acoustic Configurator Package
2	101197-003	Stop Plug, M25, SS, IP66

*FlexSonic AC100 Model Matrix*

MODEL	DESCRIPTION	
AC100	Acoustic Sensor	
	TYPE	MATERIAL
	S	Stainless Steel
	TYPE	THREAD TYPE
	N	3/4" NPT
	M	M25
	TYPE	APPROVALS*
	B	INMETRO (BRAZIL)
	R	VNIIFTRI (RUSSIA)
	S	SIL
	T	SIL/FM/CSA/ATEX/IECEX
	TYPE	CLASSIFICATION
	2	Division/Zone Ex d

\*Type Approvals can use one or more letters to designate the approvals of the product.

*FlexSonic AC100 Acoustic Sensor*

Model	Part Number	Threads	Ex d	SIL/FM/CSA/ ATEX/IECEX	SIL/ INMETRO	SIL/ VNIIFTRI
AC100SNT2	010567-003	3/4" NPT	X	X		
AC100SMT2	010567-004	M25	X	X		
AC100SNSB2	010567-603	3/4" NPT	X		X	
AC100SMSB2	010567-604	M25	X		X	
AC100MSR2	010567-904	M25	X			X
<b>Ship Weight: 6.2 lb (2.8 kg)</b>						

NOTE: Above part numbers do not include foam insert.

*AC100 Spare Parts*

Part Number	Description	Ship Weight
011355-001	Foam Insert	<1lb (<0.45 kg)

*AC100 Accessories*

Part Number	Description	Ship Weight
104218-001	35mm Socket for use with M25 model	1.8 lb (<0.8 kg)
226365-601	STB7A5YW, AL, M25	2.2 lb (1.0 kg)
226365-602	STB7A5NW, AL, 3/4 NPT	2.2 lb (1.0 kg)
226365-603	STB7S5YW, SS, M25	3.0 lb (1.4 kg)
226365-604	STB7S5NW, SS, 3/4 NPT	3.0 lb (1.4 kg)
226365-606	STB7A5NB ,AL, 3/4, INMETRO	2.2 lb (1.0 kg)
226365-607	STB7S5NB, SS, 3/4, INMETRO	3.0 lb (1.4 kg)
226365-963	STB7S5YR,SS,M25,RUSSIA	3.0 lb (1.4 kg)

## ACOUSTIC

### FlexSonic ATX10 Model Matrix

MODEL	DESCRIPTION	
ATX10	AC100 Transmitter	
	TYPE	MATERIAL
	S	Stainless Steel
	TYPE	# OF OPEN PORTS
	5	5 Port
	TYPE	THREAD TYPE
	N	3/4" NPT
	M	M25
	TYPE	OUTPUT
	26	4-20 mA w/HART Protocol
	TYPE	APPROVALS*
	B	INMETRO (BRAZIL)
	R	VNIIFTRI (RUSSIA)
	S	SIL
	T	SIL/FM/CSA/ATEX/IECEX

\*Type Approvals can use one or more letters to designate the approvals of the product.

### FlexSonic ATX10 Transmitter for AC100

Model	Part Number	Threads	4-20 RS485 HART	Ex d	SIL/FM/CSA/ATEX/IECEX	SIL/INMETRO	SIL/VNIIFTRI
ATX10S5N26T	011942-001	3/4 NPT	X	X	X		
ATX10S5M26T	011942-002	M25	X	X	X		
ATX10S5N26SB	011942-601	3/4 NPT	X	X		X	
ATX10S5M26SB	011942-602	M25	X	X		X	
ATX10S5M26SR	011942-902	M25	X	X			X
<b>Ship Weight: 11.5 lb (5.2 kg)</b>							

### ATX10 Spare Parts

Part Number	Description	Ship Weight
010969-001	ATX10 Replacement Module	1 lb (0.45 kg)
011365-102	ATX10 Memory Module Assembly (SD Card not included)	1 lb (0.45 kg)
104155-001	Micro SDHC Card, 4G, Industrial Temperature Rating	<1lb (<0.45kg)
103028-027	Plug, 5mm, 4 Position - P1	<1lb (<0.45kg)
103028-028	Plug, 5mm, 5 Position - J3	<1lb (<0.45kg)

### ATX10 Accessories

Part Number	Description	Ship Weight
012400-001	Acoustic Inspector Package	<1lb (<0.45kg)
012401-001	Acoustic Configurator Package	<1lb (<0.45kg)
012402-001	W6300G1004 Acoustic Software Connector (software not included)	1 lb (0.45 kg)
009700-001	Magnetic Tool	<1lb (<0.45kg)
104218-001	35mm Socket for use with M25 model	1.8 lb (<0.8 kg)

### Stop Plugs

Part Number	Description	Ship Weight
101197-004*	Stop Plug, 3/4" NPT, SS	<1 lb (<0.45 kg)
101197-003	Stop Plug, M25, SS, IP66	<1 lb (<0.45 kg)

\*NEMA Type 4X/IP66 rating requires Teflon tape.

## INFRARED

### PointWatch Eclipse® PIRECL Infrared Hydrocarbon Gas Detector



The **PointWatch Eclipse PIRECL Hydrocarbon Detector** (Spec Sheet: 90-1138) is our most rugged stainless steel, point infrared gas detector providing detection of methane, propane, butane and ethylene, among other flammable hydrocarbon gases in the LFL range. Standard signal outputs include isolated 4-20 mA, HART communication protocol, and RS-485 serial communication supporting Modbus. An Eagle Quantum Premier (EQP) version, and optional 2-alarm plus 1-fault relay package are also available. A tri-color LED provides visual display of operating status. The weather baffle provides excellent optics protection with an easy twist-lock removal. Additional features include:

- Compliance to ANSI/ISA-12.13-.1:2013 performance standard
- Performance certified to ATEX EN60079-29-1, FM 6310/6320, and CSA 22.2 #152
- Eagle Quantum Premier model
- **Models available with SIL 2 certification**
- Internal wiring compartment saves money and time spent on installation
- Heated optics
- Non-intrusive calibration
- Immune to poisoning
- Handheld communicator capability
- FDT/DTM capable
- Ex d, e, ib protection designs
- FM, CSA, ATEX, and IECEx hazardous location certifications
- DNV and MED offshore certifications
- Conforms to global life safety requirements for combustible gas when connected through:  
Internal relays, EQP Controller, FlexVu UD10, UD10-DCU,  
EQ3710 Analog Input Module (AIM)
- Remote calibration capability using UD10 or model PIRTB junction box
- **Sample draw and duct mount accessories available**
- LON configurations are certified as NFPA 72 Class X devices
- Fast response output options available

#1 SELLING DET-TRONICS PRODUCT!

PIRECL Model Matrix

MODEL	DESCRIPTION	
PIRECL	PointWatch Eclipse Point Infrared Gas Detector	
	TYPE	THREAD TYPE
	A	3/4" NPT
	B	Metric M25
TYPE	OUTPUT AND MEASUREMENT OPTIONS	
1	4-20 mA with HART Protocol and RS-485: 0-100% LFL Full Scale Range	
4	Eagle Quantum Premier Compatible Only: 0-100% LFL Full Scale Range	
11*	4-20 mA with HART Protocol and RS-485: 0-100% LFL Full Scale Range, FAST RESPONSE	
14*	Eagle Quantum Premier Compatible Only: 0-100% LFL Full Scale Range, FAST RESPONSE	
TYPE	OPTIONAL OUTPUTS	
A	HART Communication Port	
B	HART Communication Port and Relay Board (not compatible with EQP) <b>Ex d only</b>	
D	No Optional Outputs	
E	Relay Board (not compatible with EQP) <b>Ex d only</b>	
TYPE	WEATHER PROTECTION	
1	Weather Baffle with Hydrophobic filter	
2	Weather Baffle without Hydrophobic filter	
3	Weather Baffle with Hydrophobic filter and 1/16" threaded calibration port	
5	No Weather Protection installed	
TYPE	APPROVALS <sup>†</sup>	
B	INMETRO (BRAZIL)	
BT	SIL/INMETRO (BRAZIL)	
R	VNIIFTRI (RUSSIA)	
S	SIL	
T	SIL/FM/CSA/ATEX/IECEX	
W	FM/CSA/ATEX/IECEX	
Y	CCCF (CHINA)	
TYPE	CLASSIFICATION	
1	Division/Zone Ex d e	
2	Division/Zone Ex d	

\*FAST RESPONSE Outputs only available with "T" Approval

<sup>†</sup>Type Approvals can use one or more letters to designate the approvals of the product.

Typical PIRECL Customer Proposal

Qty	Model	Part Number	Description
1	PIRECLA11B1T2	014046-205	3/4 NPT, 4-20 mA, w/relays, w/hydrophobic filter, SIL/FM/CSA/ATEX/IECEX approvals

Spare Parts

Qty	Model	Part Number	Description
1	N/A	007165-002	**Weather baffle with standard inlet nozzle w/hydrophobic filter
1	NA	009862-001	PIRECL Module, 4-20 mA, Standard Response
1	NA	009862-001P	PIRECL Module, 4-20 mA, Standard Response, Propane Calibration
1	NA	009862-002	PIRECL Module, LON, Standard Response
1	NA	009862-003	PIRECL Module, 4-20 mA, SIL, Standard Response
1	NA	009862-004	PIRECL Module, LON, SIL, Standard Response
1	NA	009862-901	PIRECL Module, 4-20 mA, Russian, Standard Response
1	NA	009862-902	PIRECL Module, LON, Russian, Standard Response
1	NA	009862-903	PIRECL Module, 4-20 mA, SIL, Russian, Standard Response
1	NA	009862-904	PIRECL Module, LON, SIL, Russian, Standard Response
1	NA	009862-005	PIRECL Module, 4-20 mA, SIL, Fast Response
1	NA	009862-006	PIRECL Module, LON, SIL, Fast Response

\*For PIRECL Module installation instructions, refer to document 95-8707.

\*\*The standard inlet nozzle can be removed to allow installation of 1/16" NPT fittings.



**PIRECL Weather Baffle**  
007165-002



**PIRECL Module**

PIRECL & UD10 - HART Compatibility

	UD10 - HART 5	UD10 - HART 7
PIRECL - HART 5	YES	YES
PIRECL - HART 7	LIMITED*	YES

\*Reference Technical Bulletin 76-1059 for details

# INFRARED

## PIRECL PointWatch Eclipse Models - SIL/FM/CSA/ATEX/IECEX - Fast Response

Model	Part Number*	Threads	Output	HART Port	Relays	Weather Protection†	Div/Zone Ex d e	Div/Zone Ex d	Color/ Calibration
PIRECLA11A1T1	014046-201	3/4 NPT	4-20 mA	X	No	w/ hydrophobic	X		
PIRECLA11A1T2	014046-241	3/4 NPT	4-20 mA	X	No	w/ hydrophobic		X	
PIRECLA11B1T2	014046-205	3/4 NPT	4-20 mA	X	Yes	w/ hydrophobic		X	
PIRECLA11A3T1	014046-210	3/4 NPT	4-20 mA	X	No	1/16 NPT w/hydro	X		
PIRECLA11A3T2	014046-242	3/4 NPT	4-20 mA	X	No	1/16 NPT w/hydro		X	
PIRECLA14A1T1	014046-212	3/4 NPT	EQP	X	No	w/ hydrophobic	X		
PIRECLA14A1T2	014046-243	3/4 NPT	EQP	X	No	w/ hydrophobic		X	
PIRECLA14A3T1	014046-216	3/4 NPT	EQP	X	No	1/16 NPT w/hydro	X		
PIRECLA14A3T2	014046-244	3/4 NPT	EQP	X	No	1/16 NPT w/hydro		X	
PIRECLB11A1T1	014046-202	M25	4-20 mA	X	No	w/ hydrophobic	X		
PIRECLB11A1T2	014046-245	M25	4-20 mA	X	No	w/ hydrophobic		X	
PIRECLB11B1T2	014046-206	M25	4-20 mA	X	Yes	w/ hydrophobic		X	
PIRECLB11A3T1	014046-240	M25	4-20 mA	X	No	1/16 NPT w/hydro	X		
PIRECLB11A3T2	014046-246	M25	4-20 mA	X	No	1/16 NPT w/hydro		X	
PIRECLB14A1T1	014046-213	M25	EQP	X	No	w/ hydrophobic	X		
PIRECLB14A1T2	014046-247	M25	EQP	X	No	w/ hydrophobic		X	
PIRECLB14A3T1	014046-217	M25	EQP	X	No	1/16 NPT w/hydro	X		
PIRECLB14A3T2	014046-248	M25	EQP	X	No	1/16 NPT w/hydro		X	
PIRECLA11D1T1	014048-201	3/4 NPT	4-20 mA		No	w/ hydrophobic	X		
PIRECLA11D1T2	014048-241	3/4 NPT	4-20 mA		No	w/ hydrophobic		X	
PIRECLA11D1T2	014048-241E	3/4 NPT	4-20 mA		No	w/ hydrophobic		X	Ethylene
PIRECLA11E1T2	014048-205	3/4 NPT	4-20 mA		Yes	w/ hydrophobic		X	
PIRECLA11D3T1	014048-210	3/4 NPT	4-20 mA		No	1/16 NPT w/hydro	X		
PIRECLA11D3T2	014048-242	3/4 NPT	4-20 mA		No	1/16 NPT w/hydro		X	
PIRECLA14D1T1	014048-212	3/4 NPT	EQP		No	w/ hydrophobic	X		
PIRECLA14D1T2	014048-243	3/4 NPT	EQP		No	w/ hydrophobic		X	
PIRECLA14D3T1	014048-216	3/4 NPT	EQP		No	1/16 NPT w/hydro	X		
PIRECLA14D3T2	014048-244	3/4 NPT	EQP		No	1/16 NPT w/hydro		X	
PIRECLB11D1T1	014048-202	M25	4-20 mA		No	w/ hydrophobic	X		
PIRECLB11D1T2	014048-245	M25	4-20 mA		No	w/ hydrophobic		X	
PIRECLB11E1T2	014048-206	M25	4-20 mA		Yes	w/ hydrophobic		X	
PIRECLB11D1T2	014048-245-LG	M25	4-20 mA		No	w/ hydrophobic		x	Light Gray
PIRECLB11D3T1	014048-240	M25	4-20 mA		No	1/16 NPT w/hydro	X		
PIRECLB11D3T2	014048-246	M25	4-20 mA		No	1/16 NPT w/hydro		X	
PIRECLB14D1T1	014048-213	M25	EQP		No	w/ hydrophobic	X		
PIRECLB14D1T2	014048-247	M25	EQP		No	w/ hydrophobic		X	
PIRECLB14D3T1	014048-217	M25	EQP		No	1/16 NPT w/hydro	X		
PIRECLB14D3T2	014048-248	M25	EQP		No	1/16 NPT w/hydro		X	
<b>Ship Weight: 11.5lb (5.2kg)</b>									

\*Part numbers listed are factory calibrated to methane. Add a "P" to the end of the part number for propane (example: 014046-201P). Add "E" for ethylene or "B" for butane.

†Units with 1/16 NPT are 007529-XXX Duct Kit compatible

*PIRECL PointWatch Eclipse Models - INMETRO (Brazil) - Fast Response*

Model	Part Number*	Threads	Output	Hart Port	Relays	Weather Protection	Ex d	SIL
PIRECLA11B1BT2	014046-605	3/4 NPT	4-20 mA	X	X	w/ hydrophobic	X	X
PIRECLA11A1BT2	014046-641	3/4 NPT	4-20 mA	X		w/ hydrophobic	X	X
PIRECLA11D1BT2	014048-641	3/4 NPT	4-20 mA			w/ hydrophobic	X	X
PIRECLA14A1BT2	014046-643	3/4 NPT	EQP	X		w/ hydrophobic	X	X
PIRECLA14A3BT2	014046-644	3/4 NPT	EQP	X		w/ hydrophobic	X	X
PIRECLA14D1BT2	014048-643	3/4 NPT	EQP			w/ hydrophobic	X	X
<b>Ship Weight: 11.5 lb (5.2 kg)</b>								

\*Part numbers listed are factory calibrated to Methane. Add a "P" to the end of the part number for propane (example: 014046-605P).

Add "E" for ethylene or "B" for butane.

*PIRECL PointWatch Eclipse Models - VNIIFTRI (Russia)*

Model	Part Number*	Threads	Output	HART Port	Relays	Weather Protection†	Ex d e	Ex d	SIL
PIRECLB1A1R1	007168-902	M25	4-20 mA	X	No	w/ hydrophobic	X		
PIRECLB1A1R2	007168-905	M25	4-20 mA	X	No	w/ hydrophobic		X	
PIRECLB1A2R1	007168-904	M25	4-20 mA	X	No	no hydrophobic	X		
PIRECLB1A2R2	007168-907	M25	4-20 mA	X	No	no hydrophobic		X	
PIRECLB1B1R2	007168-906	M25	4-20 mA	X	Yes	w/ hydrophobic		X	
PIRECLB1B2R2	007168-908	M25	4-20 mA	X	Yes	no hydrophobic		X	
PIRECLB1A3R1	007168-940	M25	4-20 mA	X	No	1/16 NPT w/hydro	X		
PIRECLB1A3R2	007168-946	M25	4-20 mA	X	No	1/16 NPT w/hydro		X	
PIRECLB1A1SR2	007168-965	M25	4-20 mA	X		w/ hydrophobic		X	X
PIRECLB1B1SR2	007168-966	M25	4-20 mA	X	X	w/ hydrophobic		X	X
PIRECLB1B2SR2	007168-968	M25	4-20 mA	X	X	no hydrophobic		X	X
PIRECLB1A3SR2	007168-986	M25	4-20 mA	X		1/16 NPT w/hydro		X	X
PIRECLA4A3R1	007168-916	3/4 NPT	EQP	X	No	1/16 NPT w/hydro	X		
PIRECLA4A1R1	007168-912	3/4 NPT	EQP	X	No	w/ hydrophobic	X		
PIRECLB4A1R2	007168-913	M25	EQP	X	No	w/ hydrophobic		X	
PIRECLB4A2R2	007168-915	M25	EQP	X	No	no hydrophobic		X	
PIRECLB4A1SR2	007168-973	M25	EQP	X		w/ hydrophobic		X	X
PIRECLB4A2SR2	007168-975	M25	EQP	X		no hydrophobic		X	X
PIRECLA1B1SR2	007168-985	3/4 NPT	EQP		X	w/ hydrophobic			X
<b>Ship Weight: 11.5lb (5.2kg)</b>									

\*Part numbers listed are factory calibrated to methane. Add a "P" to the end of the part number for propane (example: 007168-902P).

Add "E" for ethylene or "B" for butane.

†Units with 1/16 NPT are 007529-XXX Duct Kit compatible

## INFRARED

### PIRECL PointWatch Eclipse Models - CCCF/NEPSI (China)

Model	Part Number	Threads	Output	HART Port	Relays	Weather Protection*	Ex d e	Ex d	CCCF/NEPSI
PIRECLA1A1Y1	007168-101	3/4 NPT	4-20 mA	X	No	w/ hydrophobic	X		X
PIRECLA1A2Y1	007168-103	3/4 NPT	4-20 mA	X	No	no hydrophobic	X		X
PIRECLA1B1Y2	007168-105	3/4 NPT	4-20 mA	X	Yes	w/ hydrophobic		X	X
PIRECLA1A3Y1	007168-110	3/4 NPT	4-20 mA	X	No	1/16 NPT w/hydro	X		X
PIRECLB1A1Y1	007168-102	M25	4-20 mA	X	No	w/ hydrophobic	X		X
PIRECLB1B1Y2	007168-106	M25	4-20 mA	X	Yes	w/ hydrophobic		X	X
PIRECLA1D1Y1	010195-101	3/4 NPT	4-20 mA		No	w/ hydrophobic	X		X
PIRECLA1E1Y2	010195-105	3/4 NPT	4-20 mA		Yes	w/ hydrophobic		X	X
PIRECLB1E1Y2	010195-106	M25	4-20 mA		Yes	w/ hydrophobic		X	X
PIRECLA1D1Y2	010195-141	3/4 NPT	4-20 mA		No	w/ hydrophobic		X	X
PIRECLB1D1Y2	010195-145	M25	4-20 mA		No	w/ hydrophobic		X	X
<b>Ship Weight: 11.5lb (5.2kg)</b>									

\*Units with 1/16 NPT are 007529-XXX Duct Kit compatible



## INFRARED

### PIRECL Accessories and Sample Draw



The **AMS TREX Device Communicator** is available from Det-Tronics. The intrinsically safe AMS TREX Communicator enable connection to the PIRECL via the onboard optional HART port connection. Features include a 5.7 inch (14.5 cm) resistive touchscreen display, loop power to power a device, and loop diagnostics.



The **Remote HART Port Kit and Remote HART cable kit** (Manual: 95-8553) are used with the Model PIRECL PointWatch Eclipse IR gas detector to provide access to the Eclipse's optional onboard, intrinsically-safe HART port for a distance up to 20 meters. Cable set is 20 meter long, 2-core, shielded 20 AWG conductors with overall PVC-jacket, and is IEC332 approved.



The standard factory-installed **Weather Baffle** (Spec Sheet: 90-1155) for the PIRECL Eclipse comes with a 3/16" (4.8 mm) barb fitted inlet tube. A special replacement weather baffle is available with a 1/16" FNPT, internally-threaded calibration gas opening. It enables users to install a threaded compression fitting (not supplied) into the baffle for use with plastic or metal tubing, and is 007529-XXX Direct Duct compatible.



The **Q300A Sample Draw Cup** (Manual: 95-8706) enables the Model PIRECL Eclipse to function within a gas sampling system. It consists of an outer cup assembly with stainless-steel, inlet/outlet compression fittings for 0.25 inch diameter tubing, a special inner baffle assembly with external-threaded extension, and silicon gaskets to ensure proper cup assembly seal is provided.

*AMS TREX Device Communicator*

Part Number	Description	Ship Weight
103922-003*	AMS TREX Device Communicator	7.5 lb (3.4 kg)

\*Discount does not apply.

*Remote HART Replicator Kits for use with PIRECL*

Part Number	Description	Ship Weight
000118-010	Remote HART Port Kit, includes 20 meter prefab cable set	7.5 lb (3.4 kg)
000118-020*	Remote HART Cable Kit, includes 20 meter prefab cable set	7.5 lb (3.4 kg)

\*Kit requires the use of a Communicator-to-Cable Connector (p/n 000118-021) for connection to the HART field communicator.

*Spare Parts for HART Port Replicator Kit*

Part Number	Description	Ship Weight
000118-011	Cordset, 20 meters intrinsically safe cable with prefab connectors	6 lb (2.7 kg)
000118-012	Stainless steel adapter for PIRECL HART connector	<1 lb (<0.45 kg)
000118-013	HART port connector box, IP67 rated, w/stainless connectors	<1 lb (<0.45 kg)
000118-016	SS Cap, Male	<1 lb (<0.45 kg)
000118-021*	Extension cordset, TREX Communicator to 000118-011	1 lb (0.45 kg)

\*Qty 1 required per each TREX Communicator.

*PIRECL Weather Baffles*

Part Number	Description	Ship Weight
007165-002*	Weatherbaffle with std inlet nozzle, w/hydrophobic filter (standard)	<1 lb (<0.45 kg)
007165-005	Weatherbaffle w/ 7/16-20 ext threads	<1 lb (<0.45 kg)

\*Inlet nozzle is removeable to provide a 1/16" FNPT inlet.

*PIRECL Sample Draw Cup*

Part Number	Description	Ship Weight
012200-001	Q300A Sample Draw Cup for PIRECL (not included), 1/4" fitting	8 oz (0.23 kg)

*PIRECL Miscellaneous Parts*

Part Number	Description	Ship Weight
006682-002	PIRECL windshield calibration bag	<1 lb (<0.45 kg)
009192-001	Cover, calibration nozzle, tethered, clear*	<1 lb (<0.45 kg)
102740-002	Calibration magnet†	<1 lb (<0.45 kg)
007145-101	Relay Board	<1 lb (<0.45 kg)
107427-040	O-ring, 3.75" I.D., j-box cover	<1 lb (<0.45 kg)
107427-052	O-ring, 2.43" I.D., weathershield	<1 lb (<0.45 kg)
107427-053	O-ring, 3.25" I.D., front flange (internal)	<1 lb (<0.45 kg)

\*Replaces discontinued calibration cap p/n's 102823-001 and 103035-001

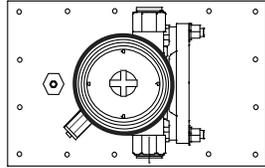
†Calibration magnet is provided on the order with a PIRECL

# INFRARED

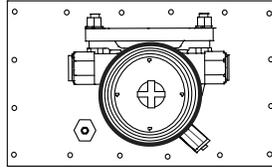
## Duct-Mounting Kits for PointWatch Eclipse Model PIRECL



The **Direct Duct Mount Assembly** (p/n 007525-XXX series) (Spec Sheet: 90-1151) is FM approved for use with PointWatch Eclipse model PIRECL to be installed directly within air handling ductwork. The assembly is mounted on the duct wall, with the PIRECL sensing chamber exposed directly to duct airflow, ensuring fast response to Methane. A built-in calibration gas nozzle with an external, self-sealing fitting enables testing and calibration without removal of the detector from the duct. Not recommended for applications where duct air temperatures can exceed 167 °F (75 °C). Price includes all necessary hardware for proper operation, but does not include the PointWatch Eclipse PIRECL gas detector. A factory pre-assembled Direct Duct Mount Kit is available (p/n 007529-XXX series) that provides a PIRECL detector prefit into the Direct Duct Mount kit assembly. Pricing for the 007529-XXX assembly includes the PIRECL gas detector. The Direct Duct Mount Assembly complies to the ANSI/ISA-12.13.01-2000 performance standards.



Vertical Mount



Horizontal Mount

### Direct Duct Mount Kits (PIRECL not included)

Part Number	Mount	Material	Ship Weight
007525-003	Vertical	316 SS	3.5 lb (1.6 kg)
007525-004	Vertical	Aluminum	1 lb (0.46 kg)
007525-005	Horizontal	316 SS	3.5 lb (1.6 kg)
007525-006	Horizontal	Aluminum	1 lb (0.46 kg)

\*Use PIRECL with standard baffle.

### Direct Duct Mount Assemblies

Part Number	Mount	PIRECL Model	PIRECL Output	Hart Port	Material
014101-410	Vertical	PIRECLA11D3T1	4-20 mA	X	316 SS
014101-440	Vertical	PIRECLB11D3T1	4-20 mA	X	316 SS
014101-416	Vertical	PIRECLA14D3T1	EQP	X	316 SS
014101-417	Vertical	PIRECLB14D3T1	EQP	X	316 SS
007529-903	Vertical	PIRECLA4A3R1	EQP	X	316 SS
007529-908	Horizontal	PIRECLA4A3R1	EQP	X	316 SS
<b>Ship Weight 15 lb (6.8 kg)</b>					



The **Model Q900 Duct Mount Kit** (Spec Sheet: 90-1152) is FM approved for use with PointWatch Eclipse model PIRECL to detect combustible hydrocarbon gases within air handling ductwork. The Q900 is mounted to the exterior (top or side) of the duct wall and utilizes a duct inlet / outlet tube arrangement that provides cross-duct air sampling without the need for vacuum pumps or aspirators. The Duct Mount Kit is ideal for high temperature applications, and high temperature flexible teflon tubes are provided to enable easy access to optics for inspection purposes. Price includes all necessary hardware for proper operation, but does not include the PIRECL gas detector. One duct air inlet tube and one outlet tube are furnished with each Q900 kit. The Q900 Duct Mount Kit complies to the ANSI/ISA-12.13.01-2000 performance standards.

**NOTE:** The Direct Duct Mount and Q900 Duct Mount Accessories are third-party performance approved by FM.

*Model Q900 Duct Mount Kit (PIRECL not included)*

Part Number	Description	Inlet tube Length	Ship Weight lb (kg)	
007355-002	Q900A1001-1 DUCT MT KIT	1FT INLET TUBE INCLUDED	7.5	(3.4)
007355-003	Q900A1001-3 DUCT MT KIT	3FT INLET TUBE INCLUDED	8	(3.6)
007355-004	Q900A1001-6 DUCT MT KIT	6FT INLET TUBE INCLUDED	10	(4.5)
007355-005	Q900A1001-10 DUCT MT KIT	10FT INLET TUBE INCLUDED	13	(5.9)
007355-006	Q900A1001-13 DUCT MT KIT	13FT INLET TUBE INCLUDED	16	(7.3)
007355-902	*Q900A1001-R-1 DUCT MT KIT	1FT INLET TUBE INCLUDED	7.5	(3.4)
007355-903	*Q900A1001-R-3 DUCT MT KIT	3FT INLET TUBE INCLUDED	8	(3.6)
007355-904	*Q900A1001-R-6 DUCT MT KIT	6FT INLET TUBE INCLUDED	10	(4.5)
007355-905	*Q900A1001-R-10 DUCT MT KIT	10FT INLET TUBE INCLUDED	13	(5.9)
007355-906	*Q900A1001-R-13 DUCT MT KIT	13FT INLET TUBE INCLUDED	16	(7.3)

\*Russian model

*Model Q900 Duct Mount Kit for Marine Applications-Stainless Steel (PIRECL not included)*

Part Number	Description	Inlet tube Length	Ship Weight lb (kg)	
009931-002	Q900C1001-1 DUCT MNT KIT	1FT INLET TUBE INCLUDED	27.5	(12.5)
009931-003	Q900C1001-3 DUCT MNT KIT	3FT INLET TUBE INCLUDED	28	(12.7)
009931-004	Q900C1001-6 DUCT MNT KIT	6FT INLET TUBE INCLUDED	30	(13.6)
009931-005	Q900C1001-10 DUCT MNT KIT	10FT INLET TUBE INCLUDED	33	(15.0)
009931-006	Q900C1001-13 DUCT MNT KIT	13FT INLET TUBE INCLUDED	36	(16.3)
009931-902	*Q900C1001-R-1 DUCT MNT KIT	1FT INLET TUBE INCLUDED	27.5	(12.5)
009931-903	*Q900C1001-R-3 DUCT MNT KIT	3FT INLET TUBE INCLUDED	28	(12.7)
009931-904	*Q900C1001-R-6 DUCT MNT KIT	6FT INLET TUBE INCLUDED	30	(13.6)
009931-905	*Q900C1001-R-10 DUCT MNT KIT	10FT INLET TUBE INCLUDED	33	(15.0)
009931-906	*Q900C1001-R-13 DUCT MNT KIT	13FT INLET TUBE INCLUDED	36	(16.3)

\*Russian model

## INFRARED

### *Model Q900 Spare Parts*

<b>Part Number</b>	<b>Description</b>	<b>Length</b>	<b>Material</b>	<b>Ship Weight</b>
000214-281	Inlet Tube	1 ft (0.3 m)	316 SS	8 oz (0.23 kg)
000214-282	Inlet Tube	3 ft (0.9 m)	316 SS	1 lb (0.45 kg)
000214-283	Inlet Tube	6 ft (1.8 m)	316 SS	3 lb (1.35 kg)
000214-284	Inlet Tube	10 ft (3.1 m)	316 SS	6 lb (2.4 kg)
000214-285	Inlet Tube	13 ft (4 m)	316 SS	9 lb (4.0 kg)
000214-419	Inlet Tube	15 ft (4.6 m)	316 SS	11 lb (5.0 kg)
000214-280	Outlet Tube	1 ft (0.3 m)	316 SS	8 oz (0.23 kg)
102359-001	Stopper Plug	N/A	Rubber	< 1 lb (<0.45 kg)
010283-001	Sample Cup	N/A	N/A	1lb (0.46kg)

## FlexVu® UD10 Universal Display (for Infrared)



**FlexVu UD10 Universal Display** (Spec Sheet: 90-1200) is recommended for applications where a gas detector with digital read-out of detected gas levels are required. The FlexVu UD10 Universal Display Unit is designed for use with various Det-Tronics infrared gas sensor/transmitters such as PIRECL, PIR9400, PIRDUCT, or LS2000. The display unit is designed and approved as a stand-alone controller when connected to a certified gas detector and performs all the functions of a gas controller.

- Compliance to ANSI/ISA-12.13.01-2013 performance standard
- Performance certified to FM 6310/6320, CSA 22.2 #152, ATEX EN60079-29-1
- Division Approval Ratings: FM and CSA
- Zone Approval Ratings: FM, CSA, ATEX, and IECEx
- Eagle Quantum Premier model
- **Universal design supports a variety of Det-Tronics sensors/detectors**
- Non-intrusive menu allows device configuration and calibration without de-classifying the hazardous area
- **Continuously displays gas level, gas type, and units measured**
- Data logger for event time and date stamping
- Heated and backlit display
- Relay, modbus, and linear isolated/non-isolated 4-20 mA output with HART, **configurable 4-20 mA output loop monitoring**
- FDT/DTM capable
- IP66 rated

# INFRARED

## FlexVu UD10 Model Matrix

MODEL	DESCRIPTION	
UD10	Universal Display Unit	
	TYPE	MATERIAL
	A	Aluminum
	S	Stainless Steel (316)
	TYPE	THREAD TYPE
	5M	5 Port, Metric M25
	5N	5 Port, 3/4" NPT
	TYPE	OUTPUTS
	25	Relay, 4-20mA, RS485, HART
	28	EQP / DCU Emulator
TYPE	APPROVALS*	
B	INMETRO (BRAZIL)	
R	VNIIFTRI (RUSSIA)	
S	SIL	
T	SIL/FM/CSA/ATEX/IECEX	
W	FM/CSA/ATEX/IECEX	
TYPE	CLASSIFICATION (Div/Zone)	
2	Ex d (Flameproof)	

\* Type Approvals can use one or more letters to designate the approvals of the product.

## FlexVu UD10 Universal Display - Infrared - FM/CSA/ATEX/IECEX

Model	Part Number	Material	Threads	Relay 4-20 RS485 HART	EQP- DCU Emulator	SIL 2
UD10A5M25T2	010765-001	AL	M25	X		X
UD10A5N25T2	010765-002	AL	3/4 NPT	X		X
UD10S5M25T2	010765-003	316 SS	M25	X		X
UD10S5N25T2	010765-004	316 SS	3/4 NPT	X		X
UD10A5M28W2	010765-005	AL	M25		X	
UD10A5N28W2	010765-006	AL	3/4 NPT		X	
UD10S5M28W2	010765-007	316 SS	M25		X	
UD10S5N28W2	010765-008	316 SS	3/4 NPT		X	
<b>Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 10.5lb (4.8kg)</b>						

## FlexVu UD10 Universal Display - Infrared - INMETRO (Brazil)

Model	Part Number	Material	Threads	Relay 4-20 RS485 HART	EQP- DCU Emulator	SIL 2
UD10A5M25SB2	010765-081	AL	M25	X		X
UD10A5N25SB2	010765-082	AL	3/4 NPT	X		X
UD10S5M25SB2	010765-083	316 SS	M25	X		X
UD10S5N25SB2	010765-084	316 SS	3/4 NPT	X		X
UD10A5M28B2	010765-085	AL	M25		X	
UD10A5N28B2	010765-086	AL	3/4 NPT		X	
UD10S5M28B2	010765-087	316 SS	M25		X	
UD10S5N28B2	010765-088	316 SS	3/4 NPT		X	
<b>Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 10.5lb (4.8kg)</b>						

*FlexVu UD10 Universal Display - Infrared - VNIIFTRI (Russia)*

Model	Part Number	Material	Threads	Relay 4-20 RS485 HART	EQP- DCU Emulator	SIL 2
UD10A5M25SR2	010765-909	AL	M25	X		X
UD10A5N25SR2	010765-910	AL	3/4 NPT	X		X
UD10S5M25SR2	010765-911	316 SS	M25	X		X
UD10S5N25SR2	010765-912	316 SS	3/4 NPT	X		X
UD10A5M28R2	010765-905	AL	M25		X	
UD10A5N28R2	010765-906	AL	3/4 NPT		X	
UD10S5M28R2	010765-907	316 SS	M25		X	
UD10S5N28R2	010765-908	316 SS	3/4 NPT		X	
<b>Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 10.5lb (4.8kg)</b>						

*FlexVu UD10 Spare Modules*

Part Number	Description	Output	Ship Weight
010569-001	UD10 Display Module	Relay/4-20mA	1 lb (0.45 kg)
010535-001	UD10 Display Module	EQP-DCU	1 lb (0.45 kg)

*FlexVu UD10 Miscellaneous Spare Parts*

Part Number	Description	Ship Weight
010973-001	UD10/CGS REPLACEMENT BOARD	<1 lb (<0.45 kg)
011919-001	UD10/NTMOS REPLACEMENT BOARD	<1 lb (<0.45 kg)
107427-040	3.75" O-RING, UD10 COVER, FKM, BROWN	<1lb (<0.45 kg)
107427-079	3.75" O-RING, UD10 COVER, FVMQ, BLUE	<1lb (<0.45 kg)

*FlexVu UD10 Accessories*

Part Number	Description	Ship Weight
009700-001	Magnetic Tool	<1 lb (0.45 kg)
014019-001	Gas Inspector 11 CD	<1 lb (0.45 kg)
014020-001	W6300G1006 Gas Inspector 11 Kit (includes CD)	1 lb (0.45 kg)
102988-002	Plug, 5.0mm, 6 Position - P2	<1 lb (0.45 kg)
102988-026	Plug, 5.0mm, 3 Position - P1 (J10, CGS)	<1 lb (0.45 kg)
102988-028	Plug, 5.0mm, 5 Position - (J3, CGS)	<1 lb (0.45 kg)
103726-002	Plug, 3.5mm, 3 Position - J2	<1 lb (0.45 kg)
103726-004	Plug, 3.5mm, 5 Position - J3	<1 lb (0.45 kg)
103726-011	Plug, 3.5mm, 12 Position - J4	<1 lb (0.45 kg)

# INFRARED

## Stop Plugs and Reducers

ITEM NUMBER	STYLE	MATERIAL	OVERALL LENGTH (mm)	THREAD TYPE	HEX SIZE
101197-001	TYPE A STOP PLUG	ALUMINUM	14.8	3/4 NPT	12
101197-002	TYPE A STOP PLUG	ALUMINUM	14.5	1/2 NPT	10
101197-003	DOME HEAD STOP PLUG	STAINLESS STEEL	21.5	M25	12
101197-004	TYPE A STOP PLUG	STAINLESS STEEL	14.8	3/4 NPT	12
101197-005	DOME HEAD STOP PLUG	ALUMINUM	21.5	M25	12
101197-006	DOME HEAD STOP PLUG	ALUMINUM	21.5	M20	10
101197-007	DOME HEAD STOP PLUG	STAINLESS STEEL	21.5	M20	10
101197-008	DOME HEAD STOP PLUG	NICKEL BRASS	21.5	M20	10
101197-009	DOME HEAD STOP PLUG	NICKEL BRASS	21.5	M25	12
101197-010	TYPE A STOP PLUG	NICKEL BRASS	14.8	3/4 NPT	12
101197-011	TYPE A STOP PLUG	NICKEL BRASS	14.5	1/2 NPT	10
101197-012	TYPE A STOP PLUG	STAINLESS STEEL	14.5	1/2 NPT	10
101197-501	IP WASHER	NYLON	-	M20	-
101197-502	IP WASHER	NYLON	-	M25	-
101197-503	IP WASHER	TEFLON PTFE	-	M20	-
101197-503	IP WASHER	TEFLON PTFE	-	M25	-
102804-001	REDUCER	ALUMINUM	-	M25 to M20	-
102804-003	REDUCER	STAINLESS STEEL	-	M25 to M20	-

**Ship Weight: 1/2 NPT = 0.07lb (0.030kg), 3/4 NPT = 0.11lb (0.05kg), M20 = 0.14lb (0.062kg), M25 = 0.28lb (0.125 kg)**  
**Available Stop Plug Approvals: ATEX, IECEx, CEC, NEC, EAC, INMETRO, SAC, UKRAINE, CCoE, ABS, LLOYD'S, RMRS**



**Dome Head Stop Plug - Nickel Brass**



**Type A Stop Plug - Nickel Brass**

\*NEMA/TYP E 4 and IP66 rating requires addition of Teflon tape

\*\*Metric threaded stop plugs are fitted with silicone O-Rings

\*\*\*For silicone sensitive applications the silicone O-Ring can be removed from Metric stop plugs and fitted with an IP washer



### FlexVu® UD10 Universal Display Repair / Upgrade Kit

(Technical Bulletin: 76-1046) The UD10 Repair/Upgrade Kit allows field conversion of an existing U9500 Infniti® Transmitter, Model 505 Transmitter, or Eagle Quantum Premier® Digital Communication Unit (DCU) to a FlexVu® UD10 Universal Display. The existing junction box base, along with the existing conduit and field wiring, can be left in place and do not need to be replaced.

### FlexVu UD10 Upgrade Kit - Infrared

Model	Part Number	Material	Threads	Relay 4-20 RS485 HART	EQP-DCU Emulator	FM/CSA/ATEX/IECEx	SIL 2
UPGRADE KIT UD10A5M25T2	010970-001	AL	M25	X		X	X
UPGRADE KIT UD10A5N25T2	010970-002	AL	3/4 NPT	X		X	X
UPGRADE KIT UD10S5M25T2	010970-003	316 SS	M25	X		X	X
UPGRADE KIT UD10S5N25T2	010970-004	316 SS	3/4 NPT	X		X	X
UPGRADE KIT UD10A5M28W2	010970-005	AL	M25		X	X	
UPGRADE KIT UD10A5N28W2	010970-006	AL	3/4 NPT		X	X	
UPGRADE KIT UD10S5M28W2	010970-007	316 SS	M25		X	X	
UPGRADE KIT UD10S5N28W2	010970-008	316 SS	3/4 NPT		X	X	

**Ship Weight: Aluminum = 3.5lb (1.6kg) Stainless Steel = 8.7lb (3.9kg)**

Model PIRTB PointWatch Termination Box



- Use for stand-alone PointWatch Model PIR9400
- Required for remote separation from U9500H transmitter
- Use with PIRECL Eclipse or PIR9400 when remote calibration initiation is required
- Magnetic reed switch calibration and LED gives calibration feedback
- Tall cover boxes with window enable one person, non-intrusive calibration
- Short cover boxes without window require two people to accomplish non-intrusive calibration

*PIRTB Junction Box Model Matrix (for use with PIRECL and PIR9400)*

MODEL	DESCRIPTION	
PIRTB	PointWatch Termination Box	
	TYPE	MATERIAL
	A	Aluminum
	S	Stainless Steel
	TYPE	# OF OPEN PORTS
	2	2 Port
	5	5 Port
	TYPE	THREAD TYPE
	L	Metric M25
	N	3/4" NPT
	M	Metric M20/M25
	TYPE	APPROVALS
	B	INMETRO (Brazil)
	R	VNIIFTRI (Russia)
	W	FM/CSA/ATEX/IECEX
	TYPE	COVER TYPE
	1	Short without window
	3	Tall with window
	TYPE	CABLE ENTRIES
	I	Ports 2 and 6 open (aluminum only)
	L	Ports 2 and 4 open
	V	Ports 2 thru 6 open

## INFRARED

### Model PIRTB PointWatch Termination Boxes - short cover

Model	Part Number	Material	Threads	FM/CSA/ATEX/IECEX	VNIIFTRI	Ports
PIRTBA2NW1L	006414-001	AL	3/4 NPT	X		2
PIRTBA2MW1L	006414-002	AL	M20/25	X		2
PIRTBS2NW1L	006414-007	SS	3/4 NPT	X		2
PIRTBA2NW1I	006414-009	AL	3/4 NPT	X		2
PIRTBA5NW1V	006414-016	AL	3/4 NPT	X		5
PIRTBS5NW1V	006414-017	SS	3/4 NPT	X		5
PIRTBA5LW1V	006414-018	AL	M25	X		5
PIRTBS5LW1V	006414-019	SS	M25	X		5
PIRTBA2MR1L	006414-902	AL	M20/25		X	2
<b>Ship Weight: Aluminum = 2 lb (0.95 kg) Stainless Steel = 9 lb (4.1 kg)</b>						

### Model PIRTB PointWatch Termination Boxes - tall cover

Model	Part Number	Material	Threads	FM/CSA/ATEX/IECEX	INMETRO	VNIIFTRI	Ports
PIRTBA2NW3L	006414-003	AL	3/4 NPT	X			2
PIRTBA2MW3L	006414-004	AL	M20/25	X			2
PIRTBS2NW3L	006414-014	SS	3/4 NPT	X			2
PIRTBA2NB3L	006414-015	AL	3/4 NPT		X		2
PIRTBA5NW3V	006414-020	AL	3/4 NPT	X			5
PIRTBS5NW3V	006414-021	SS	3/4 NPT	X			5
PIRTBA5LW3V	006414-022	AL	M25	X			5
PIRTBS5LW3V	006414-023	SS	M25	X			5
PIRTBA2MR3L	006414-904	AL	M20/25			X	2
<b>Ship Weight: Aluminum = 2.2 lb (1kg) Stainless Steel = 9.5 lb (4.3 kg)</b>							

Stop Plugs and Reducers

ITEM NUMBER	STYLE	MATERIAL	OVERALL LENGTH (mm)	THREAD TYPE	HEX SIZE
101197-001	TYPE A STOP PLUG	ALUMINUM	14.8	3/4 NPT	12
101197-002	TYPE A STOP PLUG	ALUMINUM	14.5	1/2 NPT	10
101197-003	DOME HEAD STOP PLUG	STAINLESS STEEL	21.5	M25	12
101197-004	TYPE A STOP PLUG	STAINLESS STEEL	14.8	3/4 NPT	12
101197-005	DOME HEAD STOP PLUG	ALUMINUM	21.5	M25	12
101197-006	DOME HEAD STOP PLUG	ALUMINUM	21.5	M20	10
101197-007	DOME HEAD STOP PLUG	STAINLESS STEEL	21.5	M20	10
101197-008	DOME HEAD STOP PLUG	NICKEL BRASS	21.5	M20	10
101197-009	DOME HEAD STOP PLUG	NICKEL BRASS	21.5	M25	12
101197-010	TYPE A STOP PLUG	NICKEL BRASS	14.8	3/4 NPT	12
101197-011	TYPE A STOP PLUG	NICKEL BRASS	14.5	1/2 NPT	10
101197-012	TYPE A STOP PLUG	STAINLESS STEEL	14.5	1/2 NPT	10
101197-501	IP WASHER	NYLON	-	M20	-
101197-502	IP WASHER	NYLON	-	M25	-
101197-503	IP WASHER	TEFLON PTFE	-	M20	-
101197-503	IP WASHER	TEFLON PTFE	-	M25	-
102804-001	REDUCER	ALUMINUM	-	M25 to M20	-
102804-003	REDUCER	STAINLESS STEEL	-	M25 to M20	-

**Ship Weight: 1/2 NPT = 0.07lb (0.030kg), 3/4 NPT = 0.11lb (0.05kg), M20 = 0.14lb (0.062kg), M25 = 0.28lb (0.125 kg)**  
**Available Stop Plug Approvals: ATEX, IECEx, CEC, NEC, EAC, INMETRO, SAC, UKRAINE, CCoE, ABS, LLOYD'S, RMRS**



**Dome Head Stop Plug - Nickel Brass**



**Type A Stop Plug - Nickel Brass**

\*NEMA/TYPE 4 and IP66 rating requires addition of Teflon tape

\*\*Metric threaded stop plugs are fitted with silicone O-Rings

\*\*\*For silicone sensitive applications the silicone O-Ring can be removed from Metric stop plugs and fitted with an IP washer

# INFRARED

## PIRDUCT IR Gas Monitor



The Model **PIRDUCT** DuctWatch (Spec Sheet: 90-1188) is an infrared (IR) based flammable gas detection/monitoring solution ideal for combustion turbine enclosure detection/monitoring and sample air handling ductwork applications. The DuctWatch is easy to install and commission, and does not require expensive extractive sampling system hardware. Providing a full scale measurement range of 0 to 15% LFL (7500 ppm) methane vapor concentration, the DuctWatch delivers a new level of flammable hydrocarbon gas protection for high airflow environments. PIRDUCT is compatible for mounting on any flat mounting surface, and is provided with a solid mounting plate with seal gasket to prevent air leakage. Minimum internal duct width of 3 feet (1 meter) is required for proper instrument clearance and installation. Air movement is required for proper device performance.

- Compliance to ANSI/ISA-12.13.01-2000 performance standard
- Performance certified to ATEX EN60079-29-1, FM 6310/6320, and CSA 22.2.

PIRDUCT is available in the following configurations:

- Factory-fit with an aluminum 5-port Det-Tronics PIRTB wiring termination box
- No junction box provided on type "5" models
- Fully compatible with FlexVu UD10 (sold separately), for display readout and calibration capabilities

### PIRDUCT Model Matrix

MODEL	DESCRIPTION
PIRDUCT	Point Infrared DuctWatch Gas Monitor
TYPE	THREAD TYPE
A	3/4" NPT
B	M25
TYPE	SIGNAL OUTPUT
2	4-20 mA with Hydrophobic filter
TYPE	APPROVALS
W	FM/CSA/ATEX/IECEX
TYPE	WIRING TERMINATION JUNCTION BOX
1	Factory-fit with PIRTB5NW3V (std 4-20 mA), AL, 3/4"NPT cable entry
2	Factory-fit with PIRTB5LW3V (std 4-20 mA), AL, M25 cable entry
5	No factory-fit wiring j-box provided

### PIRDUCT Models

Model	Part Number	Output	w/Hydro Filter	Wiring Enclosure	Entry thread type	# of ports	Approvals	Ship Weight
PIRDUCTB2W2	008945-007	4-20 mA	X	PIRTBA5LW3V	M25	5	FM, CSA, ATEX, IECEX	14.8 lb (6.7 kg)
PIRDUCTA2W1	008945-008	4-20 mA	X	PIRTBA5NW3V	3/4 NPT	5		14.8 lb (6.7 kg)
PIRDUCTA2W5	008945-011	4-20 mA	X	none	3/4 NPT	na		10.6 lb (4.8 kg)
PIRDUCTB2W5	008945-012	4-20 mA	X	none	M25	na		10.6 lb (4.8 kg)

### PIRDUCT Miscellaneous Accessories

Part Number	Description	Ship Weight
006468-007	7.5% LFL methane gas calibration kit	11.5 lb (5.2 kg)
226166-012	7.5% LFL methane cylinder	1.5 lb (0.7 kg)
006876-002	Hydrophobic Filter Replacement Kit (2 filters)	<1.0 lb (< 0.45 kg)
014568-001	5x9 inch PIRDUCT Gasket Kit (Qty 5)	<1.0 lb (< 0.45 kg)

PIRECL, PIR9400, and PIRDUCT Certified Calibration Kits



**PIRECL, PIR9400, and PIRDUCT Certified Calibration Kits** (Spec Sheet: 90-1214) are high accuracy compressed gas calibration kits provided for field calibration of all PointWatch IR detectors. Each kit includes:

- Two 3.6 ft<sup>3</sup> (103 liters) cylinders of Class 2.2 non-flammable, non-toxic compressed gas
- A 2.5 liter/minute regulator and pressure indicator
- 3-foot tube
- Sturdy plastic carrying case



The Windshield Calibration Bag enables calibration to be performed in abnormally high wind conditions. The bag is slipped over the gas detector and secured with a Velcro sealing strap. Gas is applied to the detector through the calibration nozzle on the end of the detector.

**NOTE:** PointWatch PIR9400, and PointWatch Eclipse each require their own unique calibration bag model (not included in Calibration Kit).



*PIR Calibration Bags*

Part Number	Description	Ship Weight
006682-002	PIRECL Windshield calibration bag	8 oz (0.23 kg)
006682-001	PIR9400 Windshield calibration bag	8 oz (0.23 kg)

*PIRECL, PIR9400, and PIRDUCT Calibration Kits*

Part Number	Gas	%LFL	% Vol	Standard	Balance	Ship Weight
006468-006	Butane	50%	0.95	ISO	Air	11.5 lb (5.23 kg)
006468-022	Butane	50%	0.7	IEC	Air	11.5 lb (5.23 kg)
006468-002	Ethane	50%	1.5	ISO	Air	11.5 lb (5.23 kg)
006468-021	Ethane	50%	1.2	IEC	Air	11.5 lb (5.23 kg)
006468-003	Ethylene	50%	1.35	ISO	Air	11.5 lb (5.23 kg)
006468-020	Ethylene	50%	1.15	IEC	Air	11.5 lb (5.23 kg)
006468-007*	Methane	7.5%	0.375	ISO	Air	11.5 lb (5.23 kg)
006468-917†	Methane	7.5%	0.33	ISO	Air	11.5 lb (5.23 kg)
006468-014	Methane	50%	2.2	IEC	Air	11.5 lb (5.23 kg)
006468-914**†	Methane	50%	2.2	IEC	Air	11.5 lb (5.23 kg)
006468-001	Methane	50%	2.5	ISO	Air	11.5 lb (5.23 kg)
006468-906†	Methane	50%	2.5	ISO	Air	11.5 lb (5.23 kg)
006468-015	Propane	50%	0.85	IEC	Air	11.5 lb (5.23 kg)
006468-915†	Propane	50%	0.85	IEC	Air	11.5 lb (5.23 kg)
006468-004	Propane	50%	1.1	ISO	Air	11.5 lb (5.23 kg)
006468-005	Propylene	50%	1	ISO	Air	11.5 lb (5.23 kg)
006468-019	Propylene	50%	1	IEC	Air	11.5 lb (5.23 kg)
006468-016	Empty kit - no cal gas					8.5 lb (3.9 kg)

\*PIRDUCT

†These items are certified for Russian projects.

**NOTE:** Average lead time is 2-3 weeks.

## INFRARED

### Replacement Gas Cylinders for Combustible Gas Calibration Kits

Part Number	Gas	%LFL	% Vol	Standard	Balance	Ship Weight
226166-006	Zero Air	N/A	20.9 Oxygen	N/A	Nitrogen	1.5 lb (0.7 kg)
226166-011	Butane	50%	0.95	ISO	Air	1.5 lb (0.7 kg)
226166-022	Butane	50%	0.7	IEC	Air	1.5 lb (0.7 kg)
226166-002	Ethane	50%	1.5	ISO	Air	1.5 lb (0.7 kg)
226166-021	Ethane	50%	1.2	IEC	Air	1.5 lb (0.7 kg)
226166-902†	Ethane	50%	1.5	ISO	Air	1.5 lb (0.7 kg)
226166-003	Ethylene	50%	1.35	ISO	Air	1.5 lb (0.7 kg)
226166-020	Ethylene	50%	1.15	IEC	Air	1.5 lb (0.7 kg)
226166-005	Hydrogen	50%	2.0	ISO	Air	1.5 lb (0.7 kg)
226166-012*	Methane	7.5%	0.38	ISO	Air	1.5 lb (0.7 kg)
226166-917*†	Methane	7.5%	0.33	ISO	Air	1.5 lb (0.7 kg)
226166-007	Methane	20%	1.0	ISO	Air	1.5 lb (0.7 kg)
226166-008	Methane	25%	1.25	ISO	Air	1.5 lb (0.7 kg)
226166-009	Methane	35%	1.75	ISO	Air	1.5 lb (0.7 kg)
226166-014	Methane	50%	2.2	IEC	Air	1.5 lb (0.7 kg)
226166-914†	Methane	50%	2.2	IEC	Air	1.5 lb (0.7 kg)
226166-001	Methane	50%	2.5	ISO	Air	1.5 lb (0.7 kg)
226166-901†	Methane	50%	2.5	ISO	Air	1.5 lb (0.7 kg)
226166-015	Propane	50%	0.85	IEC	Air	1.5 lb (0.7 kg)
226166-915†	Propane	50%	0.85	IEC	Air	1.5 lb (0.7 kg)
226166-004	Propane	50%	1.1	ISO	Air	1.5 lb (0.7 kg)
226166-010	Propylene	50%	1	ISO	Air	1.5 lb (0.7 kg)
226166-019	Propylene	50%	1	IEC	Air	1.5 lb (0.7 kg)

\*PIRDUCT †These items are certified for Russian projects Cylinders have an accuracy of +/- 2% with a cylinder size of 6D  
**NOTE:** Average lead time is 2-3 weeks

### PIR Calibration Kit Replacement Parts

Part Number	Description	Ship Weight
162552-002	Regulator, 2.5 LPM	8 oz (0.23 kg)
162553-001	Replacement carrying case	8 oz (0.23 kg)
101678-007	Tubing, 3 ft.	8 oz (0.23 kg)
101678-013	Tubing, 100 ft. spool	8 oz (0.23 kg)

## FlexSight™ LS2000 Line-of-Sight Infrared Gas Detector



The **FlexSight LS2000 Line-of-Sight Infrared Gas Detection System** (Spec Sheet: 90-1215) is a stainless steel, IR beam-type hydrocarbon gas detection system. The system consists of two modules (transmitter and receiver) offering:

- Eagle Quantum Premier model
- **Industry Leading Misalignment Tolerance:  $\pm 0.8$  degrees ( $\sim \pm 56\text{cm}$  @ 40m;  $\sim \pm 168\text{cm}$  @ 120m). Patented design.**
- Compliance to ISA-12.13.04 performance standard
- Third party certified for Methane (default). Factory calibrated to Methane, Propane, and Butane
- Performance certified to EN60079-29-4
- $-55^{\circ}\text{C}$  to  $+75^{\circ}\text{C}$  certified temperature range
- Compliance to FM6325 and ISA-12.13.04 performance standards
- **Certified SIL 2 capable**
- Module separation distance range from 5-120 meters
- IR source: High performance, long lasting xenon flashlamp - **10 year warranty on IR source**
- **5 year detector warranty**
- Standard 4-20 mA output (configurable), HART communications (on receiver), RS485 Modbus
- Optional alarm relays (Ex d only)
- **Easy Install / Alignment**
  - Mounting / alignment hardware included with both modules
  - Built-in locking adjusters deliver fine control of alignment angles
  - Telescope alignment tool for accurate alignment
  - **No HART or Software Interrogation tool required**
- Use of **'Smart'** monitoring and control: maintains device temperature, heater obscuration triggers, drift / beam block tolerance, power supply and 4-20 mA monitoring, event logging, power consumption management
- Non-intrusive zero calibration options: on-board magnetic switch, HART communication, external switch, or MODBUS communication
- DNV Maritime approval
- Globally certified including SIL, FM, CSA, ATEX, IECEx, CE, DNV, INMETRO, and CUTR / KIM approvals
- Optional communication link provides: dynamic lamp power adjustments, synchronized LEDs, remote configuration read and calibration initiation from the transmitter

# INFRARED

## LS2000 Model Matrix

MODEL	DESCRIPTION														
LS2000	Line-of-Sight Infrared Gas Detector														
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>MATERIAL</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>Stainless Steel</td> </tr> </tbody> </table>	TYPE	MATERIAL	S	Stainless Steel										
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TYPE	CONDUIT ENTRY THREAD TYPE														
N	3/4" NPT, 4 Port Receiver, 2 Port Transmitter														
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00	None (Transmitter only)														
14	Eagle Quantum Premier (EQP) (Receiver or Kit)														
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TYPE	CONFIGURATION														
S	Transmitter/Receiver/Mounting Hardware														
T	Transmitter Only														
R	Receiver Only														
TM	Spare Transmitter Electronics Module														
RM	Spare Receiver Electronics Module														

\*The LS2000 is factory-calibrated to these gas types: methane, propane, and butane. This selection indicates which gas type the device was configured to detect when it left the factory. This selection can be changed in the field via HART or MODBUS.

†Type Approvals can use one or more letters to designate the approvals of the product.

## Typical LS2000 Customer Proposal

Qty	Model	Part Number	Description
1	LS2000SM18SMSE1S	012731-503	Consists of LS2000SM00NNSE1T Transmitter, LS2000SM18SMSE1R Receiver, and two Mounting & Alignment Brackets

LS2000 - Complete Gas Detector Systems - SIL/FM/CSA

Model	Part Number	Target Gas	Range	Threads	Relay Output	EQP Output	DNV·GL	Ex d e	Ex d
LS2000SN18SMSA1S	012731-401	Methane	Short	3/4 NPT			X	X	
LS2000SM18SMSA1S	012731-403			M25			X	X	
LS2000SN25SMSA2S	012731-426			3/4 NPT	X		X		X
LS2000SM25SMSA2S	012731-427			M25	X		X		X
LS2000SN18SMSA2S	012731-402			3/4 NPT			X		X
LS2000SN18LMSA1S	012731-451		Long	3/4 NPT			X	X	
LS2000SM18LMSA1S	012731-453			M25			X	X	
LS2000SN25LMSA2S	012731-476			3/4 NPT	X		X		X
LS2000SM25LMSA2S	012731-477			M25	X		X		X
LS2000SN18LMSA2S	012731-452			3/4 NPT			X		X
LS2000SN14SMSA1S	011760-401	Methane	Short	3/4 NPT		X	X	X	
LS2000SM14SMSA1S	011760-403			M25		X	X	X	
LS2000SN14SMSA2S	011760-426			3/4 NPT		X	X		X
LS2000SM14SMSA2S	011760-427			M25		X	X		X
LS2000SN14LMSA1S	011760-451		Long	3/4 NPT		X	X	X	
LS2000SM14LMSA1S	011760-453			M25		X	X	X	
LS2000SN14LMSA2S	011760-476			3/4 NPT		X	X		X
LS2000SM14LMSA2S	011760-477			M25		X	X		X
LS2000SN18SPSA1S	012731-401P	Propane	Short	3/4 NPT			X	X	
LS2000SN25SPSA2S	012731-426P			3/4 NPT	X		X		X
LS2000SN18LPSA1S	012731-451P		Long	3/4 NPT			X	X	
LS2000SN25LPSA2S	012731-476P			3/4 NPT	X		X		X
LS2000SN14SPSA1S	011760-401P	Propane	Short	3/4 NPT		X	X	X	
LS2000SN14SPSA2S	011760-426P			3/4 NPT		X	X		X
LS2000SN14LPSA1S	011760-451P		Long	3/4 NPT		X	X	X	
LS2000SN14LPSA2S	011760-476P			3/4 NPT		X	X		X
LS2000SN18SBSA1S	012731-401B	Butane	Short	3/4 NPT			X	X	
LS2000SN25SBSA2S	012731-426B			3/4 NPT	X		X		X
LS2000SN18LBSA1S	012731-451B		Long	3/4 NPT			X	X	
LS2000SN25LBSA2S	012731-476B			3/4 NPT	X		X		X
LS2000SN14SBSA1S	011760-401B	Butane	Short	3/4 NPT		X	X	X	
LS2000SN14SBSA2S	011760-426B			3/4 NPT		X	X		X
LS2000SN14LBSA1S	011760-451B		Long	3/4 NPT		X	X	X	
LS2000SN14LBSA2S	011760-476B			3/4 NPT		X	X		X
<b>Ship Weight = 85 lbs (38 kg)</b>									

**NOTE:** All complete systems have a long range (L) of 30-120 meters or a short range (S) of 5-60 meters (apertures may be needed for shortest 15m of each range).  
The complete system includes a transmitter, receiver, aperture, and mounting hardware.

# INFRARED

## LS2000 - Complete Gas Detector Systems - SIL/ATEX/IECEX

Model	Part Number	Target Gas	Range	Threads	Relay Output	EQP Output	DNV-GL	Ex d e	Ex d			
LS2000SN18SMSE1S	012731-501	Methane	Short	3/4 NPT			X	X				
LS2000SN18SMSE2S	012731-502			3/4 NPT			X		X			
LS2000SM18SMSE1S	012731-503			M25			X	X				
LS2000SM18SMSE2S	012731-504			M25			X		X			
LS2000SN25SMSE2S	012731-526			3/4 NPT	X		X		X			
LS2000SM25SMSE2S	012731-527			M25	X		X		X			
LS2000SN18LMSE1S	012731-551		Long	Long	3/4 NPT			X	X			
LS2000SN18LMSE2S	012731-552				3/4 NPT			X		X		
LS2000SM18LMSE1S	012731-553				M25			X	X			
LS2000SM18LMSE2S	012731-554				M25			X		X		
LS2000SN25LMSE2S	012731-576				3/4 NPT	X		X		X		
LS2000SM25LMSE2S	012731-577				M25	X		X		X		
LS2000SN14SMSE1S	011760-501	Methane	Short	3/4 NPT		X	X	X				
LS2000SM14SMSE1S	011760-503			M25		X	X	X				
LS2000SN14SMSE2S	011760-526			3/4 NPT		X	X		X			
LS2000SM14SMSE2S	011760-527			M25		X	X		X			
LS2000SN14LMSE1S	011760-551		Long	Long	3/4 NPT		X	X	X			
LS2000SM14LMSE1S	011760-553				M25		X	X	X			
LS2000SN14LMSE2S	011760-576				3/4 NPT		X	X		X		
LS2000SM14LMSE2S	011760-577				M25		X	X		X		
LS2000SM18SPSE1S	012731-503P	Propane	Short	M25			X	X				
LS2000SM18SPSE2S	012731-504P			M25			X		X			
LS2000SM25SPSE2S	012731-527P			M25	X		X		X			
LS2000SM18LPSE1S	012731-553P		Long	Long	M25			X	X			
LS2000SM18LPSE2S	012731-554P				M25			X		X		
LS2000SN25LPSE2S	012731-576P				3/4 NPT	X		X		X		
LS2000SM25LPSE2S	012731-577P	M25	X		X		X					
LS2000SM14SPSE1S	011760-503P	Propane	Short	M25		X	X	X				
LS2000SM14SPSE2S	011760-527P			M25		X	X		X			
LS2000SM14LPSE1S	011760-553P		Long	Long	M25		X	X	X			
LS2000SM14LPSE2S	011760-577P				M25		X	X		X		
LS2000SN18SBSE1S	012731-501B	Butane	Short	3/4 NPT			X	X				
LS2000SM18SBSE1S	012731-503B			M25			X	X				
LS2000SM18SBSE2S	012731-504B			M25			X		X			
LS2000SM25SBSE2S	012731-527B			M25	X		X		X			
LS2000SN18LBSE1S	012731-551B			3/4 NPT			X	X				
LS2000SM18LBSE1S	012731-553B		Long	Long	M25			X	X			
LS2000SM18LBSE2S	012731-554B				M25			X		X		
LS2000SM25LBSE2S	012731-577B				M25	X		X		X		
LS2000SM14SBSE1S	011760-503B				Butane	Short	M25		X	X	X	
LS2000SM14SBSE2S	011760-527B						M25		X	X		X
LS2000SM14LBSE1S	011760-553B	Long	Long	M25			X	X	X			
LS2000SM14LBSE2S	011760-577B			M25			X	X		X		

**Ship Weight = 85 lbs (38 kg)**

**NOTE:** All complete systems have a long range (L) of 30-120 meters or a short range (S) of 5-60 meters (apertures may be needed for shortest 15m of each range).

The complete system includes a transmitter, receiver, aperture, and mounting hardware.

LS2000 - Complete Gas Detector Systems - SIL/INMETRO

Model	Part Number	Target Gas	Range	Threads	Relay Output	EQP Output	DNV	Ex d e	Ex d
LS2000SN14SMSB2S	011760-626	Methane	Short	3/4 NPT		X	X		X
LS2000SN18SMSB1S	012731-201			3/4 NPT			X	X	
LS2000SN18SMSB2S	012731-202			3/4 NPT			X		X
LS2000SN25SMSB2S	012731-226			3/4 NPT	X		X		X
LS2000SN14LMSB2S	011760-676		Long	3/4 NPT		X	X		X
LS2000SN18LMSB1S	012731-251			3/4 NPT			X	X	
LS2000SN18LMSB2S	012731-252			3/4 NPT			X		X
LS2000SN25LMSB2S	012731-276			3/4 NPT	X		X		X
LS2000SN18SPSB1S	012731-201P	Propane	Short	3/4 NPT			X	X	
LS2000SN18SPSB2S	012731-202P			3/4 NPT			X		X
LS2000SN25SPSB2S	012731-226P			3/4 NPT	X		X		X
LS2000SN18LPSB1S	012731-251P		Long	3/4 NPT			X	X	
LS2000SN18LPSB2S	012731-252P			3/4 NPT			X		X
LS2000SN25LPSB2S	012731-276P			3/4 NPT	X		X		X
LS2000SN18SBSB1S	012731-201B	Butane	Short	3/4 NPT			X	X	
LS2000SN18SBSB2S	012731-202B			3/4 NPT			X		X
LS2000SN25SBSB2S	012731-226B			3/4 NPT	X		X		X
LS2000SN18LBSB1S	012731-251B		Long	3/4 NPT			X	X	
LS2000SN18LBSB2S	012731-252B			3/4 NPT			X		X
LS2000SN25LBSB2S	012731-276B			3/4 NPT	X		X		X
<b>Ship Weight = 85 lbs (38 kg)</b>									

**NOTE:** All complete systems have a long range (L) of 30-120 meters or a short range (S) of 5-60 meters (apertures may be needed for shortest 15m of each range).  
The complete system includes a transmitter, receiver, aperture, and mounting hardware.

LS2000 - Complete Gas Detector Systems - SIL/VNIIFTRI (Russian)

Model	Part Number	Target Gas	Range	Threads	Relay Output	DNV	Ex d e	Ex d
LS2000SM18MSR1S	012731-905	Methane	Short	M25		X	X	
LS2000SM25MSR2S	012731-927	Methane	Short	M25	X	X		X
LS2000SM18MSR1S	012731-953	Methane	Long	M25		X	X	
LS2000SM18MSR2S	012731-954	Methane	Long	M25		X		X
<b>Ship Weight = 85 lbs (38 kg)</b>								

**NOTE:** All complete systems have a long range (L) of 30-120 meters or a short range (S) of 5-60 meters (apertures may be needed for shortest 15m of each range).  
The complete system includes a transmitter, receiver, aperture, and mounting hardware.

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### LS2000 Transmitter Replacement - SIL/FM/CSA

Model	Part Number	Threads	DNV-GL	Ex d e	Ex d
LS2000SN00NNSA1T	012020-401	3/4 NPT	X	X	
LS2000SN00NNSA2T	012020-402	3/4 NPT	X		X
LS2000SM00NNSA1T	012020-403	M25	X	X	
LS2000SM00NNSA2T	012020-404	M25	X		X
<b>Ship Weight = 23 lbs (10.4 kg)</b>					

NOTE: Spare transmitters do not include mounting hardware

### LS2000 Transmitter Replacement - SIL/ATEX/IECEX

Model	Part Number	Threads	DNV-GL	Ex d e	Ex d
LS2000SN00NNSE1T	012020-501	3/4 NPT	X	X	
LS2000SN00NNSE2T	012020-502	3/4 NPT	X		X
LS2000SM00NNSE1T	012020-503	M25	X	X	
LS2000SM00NNSE2T	012020-504	M25	X		X
<b>Ship Weight = 23 lbs (10.4 kg)</b>					

NOTE: Spare transmitters do not include mounting hardware

### LS2000 Transmitter Replacement - SIL/INMETRO

Model	Part Number	Threads	DNV-GL	Ex d e	Ex d
LS2000SN00NNSB1T	012020-201	3/4 NPT	X	X	
LS2000SN00NNSB2T	012020-202	3/4 NPT	X		X
<b>Ship Weight = 23 lbs (10.4 kg)</b>					

NOTE: Spare transmitters do not include mounting hardware

### LS2000 Transmitter Replacement - SIL/VNIIFTRI (Russian)

Model	Part Number	Threads	DNV-GL	Ex d e	Ex d
LS2000SM00NNSR1T	012020-903	M25	X	X	
<b>Ship Weight = 23 lbs (10.4 kg)</b>					

NOTE: Spare transmitters do not include mounting hardware

LS2000 - Receiver Replacement - SIL/FM/CSA

Model	Part Number	Target Gas	Range	Threads	Relay Output	EQP Output	DNV-GL	Ex d e	Ex d	
LS2000SN18SMSA1R	012097-401	Methane	Short	3/4 NPT			X	X		
LS2000SN18SMSA2R	012097-402			3/4 NPT			X		X	
LS2000SM18SMSA1R	012097-403			M25			X	X		
LS2000SN25SMSA2R	012097-426			3/4 NPT	X		X		X	
LS2000SM25SMSA2R	012097-427			M25	X		X		X	
LS2000SN18LMSA1R	012097-451		Long	3/4 NPT			X	X		
LS2000SN18LMSA2R	012097-452			3/4 NPT			X		X	
LS2000SM18LMSA1R	012097-453			M25			X	X		
LS2000SN25LMSA2R	012097-476			3/4 NPT	X		X		X	
LS2000SM25LMSA2R	012097-477			M25	X		X		X	
LS2000SN14SMSA1R	011758-401	Methane	Short	3/4 NPT		X	X	X		
LS2000SM14SMSA1R	011758-403			M25			X	X	X	
LS2000SN14SMSA2R	011758-426			3/4 NPT			X	X		X
LS2000SM14SMSA2R	011758-427			M25			X	X		X
LS2000SN14LMSA1R	011758-451		Long	3/4 NPT		X	X	X		
LS2000SM14LMSA1R	011758-453			M25			X	X	X	
LS2000SN14LMSA2R	011758-476			3/4 NPT			X	X		X
LS2000SM14LMSA2R	011758-477			M25			X	X		X
LS2000SN18SPSA1R	012097-401P	Propane	Short	3/4 NPT			X	X		
LS2000SN25SPSA2R	012097-426P			3/4 NPT	X		X		X	
LS2000SN18LPSA1R	012097-451P		Long	3/4 NPT			X	X		
LS2000SN25LPSA2R	012097-476P			3/4 NPT	X		X		X	
LS2000SN14SPSA1R	011758-401P	Propane	Short	3/4 NPT		X	X	X		
LS2000SN14SPSA2R	011758-426P			3/4 NPT			X	X		X
LS2000SN14LPSA1R	011758-451P		Long	3/4 NPT			X	X	X	
LS2000SN14LPSA2R	011758-476P			3/4 NPT			X	X		X
LS2000SN18SBSA1R	012097-401B	Butane	Short	3/4 NPT			X	X		
LS2000SN25SBSA2R	012097-426B			3/4 NPT	X		X		X	
LS2000SN18LBSA1R	012097-451B		Long	3/4 NPT			X	X		
LS2000SN25LBSA2R	012097-476B			3/4 NPT	X		X		X	
LS2000SN14SBSA1R	011758-401B	Butane	Short	3/4 NPT		X	X	X		
LS2000SN14SBSA2R	011758-426B			3/4 NPT			X	X		X
LS2000SN14LBSA1R	011758-451B		Long	3/4 NPT			X	X	X	
LS2000SN14LBSA2R	011758-476B			3/4 NPT			X	X		X

Ship Weight = 20 lbs (9 kg)

NOTE: Spare receivers do not include mounting hardware

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## LS2000 - Receiver Replacement - SIL/ATEX/IECEx

Model	Part Number	Target Gas	Range	Threads	Relay Output	EQP Output	DNV-GL	Ex d e	Ex d	
LS2000SN18SMSE1R	012097-501	Methane	Short	3/4 NPT			X	X		
LS2000SN18SMSE2R	012097-502			3/4 NPT			X		X	
LS2000SM18SMSE1R	012097-503			M25			X	X		
LS2000SM18SMSE2R	012097-504			M25			X		X	
LS2000SN25SMSE2R	012097-526			3/4 NPT	X		X		X	
LS2000SM25SMSE2R	012097-527			M25	X		X		X	
LS2000SN18LMSE1R	012097-551		Long	3/4 NPT			X	X		
LS2000SN18LMSE2R	012097-552			3/4 NPT			X		X	
LS2000SM18LMSE1R	012097-553			M25			X	X		
LS2000SM18LMSE2R	012097-554			M25			X		X	
LS2000SN25LMSE2R	012097-576			3/4 NPT	X		X		X	
LS2000SM25LMSE2R	012097-577			M25	X		X		X	
LS2000SN14SMSE1R	011758-501			Methane	Short	3/4 NPT		X	X	X
LS2000SM14SMSE1R	011758-503					M25		X	X	X
LS2000SN14SMSE2R	011758-526	3/4 NPT				X	X		X	
LS2000SM14SMSE2R	011758-527	M25				X	X		X	
LS2000SN14LMSE1R	011758-551	Long	3/4 NPT			X	X	X		
LS2000SM14LMSE1R	011758-553		M25			X	X	X		
LS2000SN14LMSE2R	011758-576		3/4 NPT			X	X		X	
LS2000SM14LMSE2R	011758-577		M25			X	X		X	
LS2000SM18SPSE1R	012097-503P	Propane	Short	M25			X	X		
LS2000SM18SPSE2R	012097-504P			M25			X		X	
LS2000SM25SPSE2R	012097-527P			M25	X		X		X	
LS2000SM18LPSE1R	012097-553P		Long	M25			X	X		
LS2000SM18LPSE2R	012097-554P			M25			X		X	
LS2000SN25LPSE2R	012097-576P			3/4 NPT	X		X		X	
LS2000SM25LPSE2R	012097-577P			M25	X		X		X	
LS2000SM14SPSE1R	011758-503P	Propane	Short	M25		X	X	X		
LS2000SM14SPSE2R	011758-527P			M25		X	X		X	
LS2000SM14LPSE1R	011758-553P		Long	M25		X	X	X		
LS2000SM14LPSE2R	011758-577P			M25		X	X		X	
LS2000SM18SBSE1R	012097-503B	Butane	Short	M25			X	X		
LS2000SM18SBSE2R	012097-504B			M25			X		X	
LS2000SM25SBSE2R	012097-527B			M25	X		X		X	
LS2000SM18LBSE1R	012097-553B		Long	M25			X	X		
LS2000SM18LBSE2R	012097-554B			M25			X		X	
LS2000SM25LBSE2R	012097-577B			M25	X		X		X	
LS2000SM14SBSE1R	011758-503B	Butane	Short	M25		X	X	X		
LS2000SM14SBSE2R	011758-527B			M25		X	X		X	
LS2000SM14LBSE1R	011758-553B		Long	M25		X	X	X		
LS2000SM14LBSE2R	011758-577B			M25		X	X		X	

**Ship Weight = 20 lbs (9 kg)**

**NOTE:** Spare receivers do not include mounting hardware

LS2000 - Receiver Replacement - SIL/INMETRO

Model	Part Number	Target Gas	Range	Threads	Relay Output	EQP Output	DNV	Ex d e	Ex d
LS2000SN14SMSB2R	011758-626	Methane	Short	3/4 NPT		X	X		X
LS2000SN18SMSB1R	012097-201			3/4 NPT			X	X	
LS2000SN18SMSB2R	012097-202			3/4 NPT					X
LS2000SN25SMSB2R	012097-226			3/4 NPT	X		X		X
LS2000SN14LMSB2R	011758-676		Long	3/4 NPT		X	X		X
LS2000SN18LMSB1R	012097-251			3/4 NPT			X	X	
LS2000SN18LMSB2R	012097-252			3/4 NPT					X
LS2000SN25LMSB2R	012097-276			3/4 NPT	X		X		X
LS2000SN18SPSB1R	012097-201P	Propane	Short	3/4 NPT			X	X	
LS2000SN18SPSB2R	012097-202P			3/4 NPT					X
LS2000SN25SPSB2R	012097-226P			3/4 NPT	X		X		X
LS2000SN18LPSB1R	012097-251P		Long	3/4 NPT			X	X	
LS2000SN18LPSB2R	012097-252P			3/4 NPT					X
LS2000SN25LPSB2R	012097-276P			3/4 NPT	X		X		X
LS2000SN18SBSB1R	012097-201B	Butane	Short	3/4 NPT			X	X	
LS2000SN18SBSB2R	012097-202B			3/4 NPT					X
LS2000SN25SBSB2R	012097-226B			3/4 NPT	X		X		X
LS2000SN18LBSB1R	012097-251B		Long	3/4 NPT			X	X	
LS2000SN18LBSB2R	012097-252B			3/4 NPT					X
LS2000SN25LBSB2R	012097-276B			3/4 NPT	X		X		X
<b>Ship Weight = 20 lbs (9 kg)</b>									

NOTE: Spare receivers do not include mounting hardware

LS2000 Receiver Replacement - SIL/VNIIFTRI (Russian)

Model	Part Number	Target Gas	Range	Threads	Relay Output	DNV	Ex d e	Ex d
LS2000SM18SMSR1R	012097-905	Methane	Short	M25		X	X	
LS2000SM25SMSR2R	012097-927	Methane	Short	M25	X	X		X
LS2000SM18LMSR1R	012097-953	Methane	Long	M25		X	X	
LS2000SM18LMSR2R	012097-954	Methane	Long	M25		X		X
<b>Ship Weight = 10.4 lbs (4.7 kg)</b>								

NOTE: Includes front electronics module only

## INFRARED

### LS2000 Spare Transmitter Module - SIL/FM/CSA

Model	Part Number	Threads	DNV-GL	Ex d e	Ex d
LS2000SN00NNSA1TM	012713-401	3/4 NPT	X	X	
LS2000SN00NNSA2TM	012713-402	3/4 NPT	X		X
LS2000SM00NNSA1TM	012713-403	M25	X	X	
LS2000SM00NNSA2TM	012713-404	M25	X		X
<b>Ship Weight = 10.4 lbs (4.7 kg)</b>					

NOTE: Includes front electronics module only

### LS2000 Spare Transmitter Module - SIL/ATEX/IECEX

Model	Part Number	Threads	DNV-GL	Ex d e	Ex d
LS2000SN00NNSE1TM	012713-501	3/4 NPT	X	X	
LS2000SN00NNSE2TM	012713-502	3/4 NPT	X		X
LS2000SM00NNSE1TM	012713-503	M25	X	X	
LS2000SM00NNSE2TM	012713-504	M25	X		X
<b>Ship Weight = 10.4 lbs (4.7 kg)</b>					

NOTE: Includes front electronics module only

### LS2000 Spare Transmitter Module - SIL/INMETRO

Model	Part Number	Threads	DNV-GL	Ex d e	Ex d
LS2000SN00NNSB1TM	012713-201	3/4 NPT	X	X	
LS2000SN00NNSB2TM	012713-202	3/4 NPT	X		X
<b>Ship Weight = 10.4 lbs (4.7 kg)</b>					

NOTE: Includes front electronics module only

LS2000 Spare Receiver Modules - SIL/FM/CSA

Model	Part Number	Target Gas	Range	Threads	Relay Output	EQP Output	DNV-GL	Ex d e	Ex d	
LS2000SN18SMSA1RM	012714-401	Methane	Short	3/4 NPT			X	X		
LS2000SM18SMSA1RM	012714-403			M25			X	X		
LS2000SN25SMSA2RM	012714-426			3/4 NPT	X		X		X	
LS2000SM25SMSA2RM	012714-427			M25	X		X		X	
LS2000SN14SMSA1RM	011759-401			3/4 NPT		X	X	X		
LS2000SM14SMSA1RM	011759-403			M25		X	X	X		
LS2000SN14SMSA2RM	011759-426			3/4 NPT		X	X		X	
LS2000SM14SMSA2RM	011759-427			M25		X	X		X	
LS2000SN18LMSA1RM	012714-451			3/4 NPT				X	X	
LS2000SM18LMSA1RM	012714-453			M25				X	X	
LS2000SN25LMSA2RM	012714-476		3/4 NPT	X			X		X	
LS2000SM25LMSA2RM	012714-477		M25	X			X		X	
LS2000SN14LMSA1RM	011759-451		3/4 NPT		X	X	X			
LS2000SM14LMSA1RM	011759-453		M25		X	X	X			
LS2000SN14LMSA2RM	011759-476		3/4 NPT		X	X			X	
LS2000SM14LMSA2RM	011759-477		M25		X	X			X	
LS2000SN18SPSA1RM	012714-401P		Propane	Short	3/4 NPT			X	X	
LS2000SN25SPSA2RM	012714-426P				3/4 NPT	X		X		X
LS2000SN14SPSA1RM	011759-401P				3/4 NPT		X	X	X	
LS2000SN14SPSA2RM	011759-426P				3/4 NPT		X	X		X
LS2000SN18LPSA1RM	012714-451P	3/4 NPT						X	X	
LS2000SN25LPSA2RM	012714-476P	3/4 NPT		X			X		X	
LS2000SN14LPSA1RM	011759-451P	3/4 NPT			X	X	X			
LS2000SN14LPSA2RM	011759-476P	3/4 NPT			X	X			X	
LS2000SN18SBSA1RM	012714-401B	Butane		Short	3/4 NPT			X	X	
LS2000SN25SBSA2RM	012714-426B				3/4 NPT	X		X		X
LS2000SN14SBSA1RM	011759-401B		3/4 NPT			X	X	X		
LS2000SN14SBSA2RM	011759-426B		3/4 NPT			X	X		X	
LS2000SN18LBSA1RM	012714-451B		3/4 NPT					X	X	
LS2000SN25LBSA2RM	012714-476B		3/4 NPT	X			X		X	
LS2000SN14LBSA1RM	011759-451B		3/4 NPT		X	X	X			
LS2000SN14LBSA2RM	011759-476B		3/4 NPT		X	X			X	

Ship Weight = 7.8 lbs (3.6 kg)

NOTE: Includes front electronics module only

# INFRARED

## LS2000 Spare Receiver Modules - SIL/ATEX/IECEX

Model	Part Number	Target Gas	Range	Threads	Relay Output	EQP Output	DNV-GL	Ex d e	Ex d	
LS2000SN18SMSE1RM	012714-501	Methane	Short	3/4 NPT			X	X		
LS2000SN18SMSE2RM	012714-502			3/4 NPT			X		X	
LS2000SM18SMSE1RM	012714-503			M25			X	X		
LS2000SM18SMSE2RM	012714-504			M25			X		X	
LS2000SN25SMSE2RM	012714-526			3/4 NPT	X		X		X	
LS2000SM25SMSE2RM	012714-527			M25	X		X		X	
LS2000SN14SMSE1RM	011759-501			3/4 NPT		X	X	X		
LS2000SM14SMSE1RM	011759-503			M25		X	X	X		
LS2000SN14SMSE2RM	011759-526			3/4 NPT		X	X		X	
LS2000SM14SMSE2RM	011759-527			M25		X	X		X	
LS2000SN18LMSE1RM	012714-551		3/4 NPT				X	X		
LS2000SN18LMSE2RM	012714-552		3/4 NPT				X		X	
LS2000SM18LMSE1RM	012714-553		M25				X	X		
LS2000SM18LMSE2RM	012714-554		M25				X		X	
LS2000SN25LMSE2RM	012714-576		3/4 NPT	X			X		X	
LS2000SM25LMSE2RM	012714-577		M25	X			X		X	
LS2000SN14LMSE1RM	011759-551		3/4 NPT		X	X	X			
LS2000SM14LMSE1RM	011759-553		M25		X	X	X			
LS2000SN14LMSE2RM	011759-576		3/4 NPT		X	X			X	
LS2000SM14LMSE2RM	011759-577		M25		X	X			X	
LS2000SM18SPSE1RM	012714-503P	Propane	Short	M25			X	X		
LS2000SM18SPSE2RM	012714-504P			M25				X		X
LS2000SM25SPSE2RM	012714-527P			M25	X			X		X
LS2000SM14SPSE1RM	011759-503P			M25		X	X	X		
LS2000SM14SPSE2RM	011759-527P			M25		X	X			X
LS2000SM18LPSE1RM	012714-553P		M25				X	X		
LS2000SM18LPSE2RM	012714-554P		M25				X		X	
LS2000SM25LPSE2RM	012714-577P		M25	X			X		X	
LS2000SM14LPSE1RM	011759-553P		M25		X	X	X			
LS2000SM14LPSE2RM	011759-577P		M25		X	X			X	
LS2000SM18SBSE1RM	012714-503B	Butane	Short	M25			X	X		
LS2000SM18SBSE2RM	012714-504B			M25				X		X
LS2000SM25SBSE2RM	012714-527B			M25	X			X		X
LS2000SM14SBSE1RM	011759-503B			M25		X	X	X		
LS2000SM14SBSE2RM	011759-527B			M25		X	X			X
LS2000SM14SBSE1RM	011759-503B		M25		X	X	X			
LS2000SM14SBSE2RM	011759-527B		M25		X	X			X	
LS2000SM18LBSE1RM	012714-553B		M25				X	X		
LS2000SM18LBSE2RM	012714-554B		M25				X		X	
LS2000SM25LBSE2RM	012714-577B		M25	X			X		X	
LS2000SM14LBSE1RM	011759-553B	M25		X	X	X				
LS2000SM14LBSE2RM	011759-577B	M25		X	X			X		

**Ship Weight = 7.8 lbs (3.6 kg)**

**NOTE:** Includes front electronics module only

LS2000 Spare Receiver Modules - SIL/INMETRO

Model	Part Number	Target Gas	Range	Threads	Relay Output	DNV	Ex d e	Ex d
LS2000SN18SMSB1RM	012714-201	Methane	Short	3/4 NPT		X	X	
LS2000SN18SMSB2RM	012714-202			3/4 NPT		X		X
LS2000SN25SMSB2RM	012714-226			3/4 NPT	X	X		X
LS2000SN18LMSB1RM	012714-251		Long	3/4 NPT		X	X	
LS2000SN18LMSB2RM	012714-252			3/4 NPT		X		X
LS2000SN25LMSB2RM	012714-276			3/4 NPT	X	X		X
LS2000SN18SPSB1RM	012714-201P	Propane	Short	3/4 NPT		X	X	
LS2000SN18SPSB2RM	012714-202P			3/4 NPT		X		X
LS2000SN25SPSB2RM	012714-226P			3/4 NPT	X	X		X
LS2000SN18LPSB1RM	012714-251P		Long	3/4 NPT		X	X	
LS2000SN18LPSB2RM	012714-252P			3/4 NPT		X		X
LS2000SN25LPSB2RM	012714-276P			3/4 NPT	X	X		X
LS2000SN18SBSB1RM	012714-201B	Butane	Short	3/4 NPT		X	X	
LS2000SN18SBSB2RM	012714-202B			3/4 NPT		X		X
LS2000SN25SBSB2RM	012714-226B			3/4 NPT	X	X		X
LS2000SN18LBSB1RM	012714-251B		Long	3/4 NPT		X	X	
LS2000SN18LBSB2RM	012714-252B			3/4 NPT		X		X
LS2000SN25LBSB2RM	012714-276B			3/4 NPT	X	X		X
<b>Ship Weight = 7.8 lbs (3.6 kg)</b>								

NOTE: Includes front electronics module only

## INFRARED

### LS2000 Accessories

Part Number	Description
012287-002	LS2000 Alignment Tool
012673-001	Test Films, LS2000, Methane, Propane, Butane
012673-002	Test Films, LS2000, Transmitter, Methane, Propane, Butane
103922-003	AMS Trex Device Communicator
014020-001	W6300G1006 Gas Inspector II Kit (PC software and connection hardware included)
014331-001	LS2000E, Ethylene Test Film
009246-003	Gas Test Cell, LS2000 Methane ISO
009246-004	Gas Test Cell, LS2000 Methane IEC
009246-005	Gas Test Cell, LS2000 Propane ISO
009246-006	Gas Test Cell, LS2000 Propane IEC
009246-007	Gas Test Cell, LS2000 Butane ISO
009246-008	Gas Test Cell, LS2000 Butane IEC
009246-904	Gas Test Cell, LS2000 Methane IEC, Russian
009246-906	Gas Test Cell, LS2000 Propane IEC, Russian
009246-908	Gas Test Cell, LS2000 Butane IEC, Russian
012840-001	Gas Cell Adapter (converts OPECL Test Cell to mount on LS2000 Rx)
012718-003	Flat Surface Adapter Plate (converts OPECL flat surface mounting to LS2000)
012790-001	Thermal Shield for Right Module*
012791-001	Thermal Shield for Left Module*

\* Two Thermal Shields required per complete LS2000 system (one right and one left)



**System Test Film  
012673-001**

### LS2000 Spare Parts

Part Number	Description
102740-002	Calibration Magnet*
011773-001	Short Range Aperture†
012300-001	Spare Brow, Rx
012312-001	Spare Brow, Tx
400525-023	Spare M8 Flange Bolt for Tx Module
012660-001	Spare Mounting & Alignment Bracket (for one module only)
103578-001	Anti-seize Lubricant Packet
006680-001	Grease Kit, Silicone
104346-154	O-Ring, 3.75" i.d., for wiring compartment cover
104346-046	O-Ring, 4.25", for front flange Transmitter

\*1 magnet ships with each individual order of an LS2000 Kit or Receiver free of charge.

†Qty 1 aperture is provided with each LS2000 Transmitter



# INFRARED

## CATALYTIC

### CGS Combustible Gas Sensor



**CGS Combustible Gas Sensor** (Spec Sheet: 90-1041). Stainless steel catalytic sensor that provides an accurate measurement of combustible gas concentration in the % LFL range. Requires FlexVu UD10, Model 505, U9500A or FlexVu UD30 transmitter.

- Compliance to ANSI/ISA-12.13.01-2000 performance standard
- Performance certified to FM 6310/6320, CSA 22.2 #154, and ATEX EN60079-29-1
- Performance certified to IEC60079-29-1 when connected to the FlexVu UD10, UD10-DCU
- **Detects hydrogen and hydrocarbon gases**
- Constant current or constant voltage options available
- Poison resistant construction
- 3/4" NPT or 20 mm thread option
- Wire lead options of 6" or 30"
- Sensor Separation Termination Box (STB) option available
- Variety of special accessories available
- FlexVu UD10 universal display provides full digital readout, calibration and user interface
- **Performance approved from -40°C to 75°C for life safety applications**
- Hazardous Location approved from -55°C to 125°C for process control applications
- SIL2 certified when used with FlexVu UD10 and UD30 Universal Displays

## CATALYTIC

### Combustible Gas Sensor for Models 505, 500, and K-Series Transmitters

Model	Part Number	Replaces old catalytic sensor p/n	Threads	Lead Length	FM/CSA/ATEX/IECEX	Russia
CGSS1A6V2R1X	006824-002	225006-002, 225957-001, 226530-001, 226531-001, 226931-001, 226931-002, 226999-002, 226999-004, 223106-002	3/4 NPT	6 in	X	
CGSS1A3V2R1X	006824-006	225006-005, 226530-004, 226531-002, 226931-003, 226931-004	3/4 NPT	30 in	X	
CGSS1C3V2R1X	006824-008		M20	30 in	X	
CGSS1C6V2R1X	006824-004	226999-010, 226999-013, 226999-018, 226999-019	M20	6 in	X	
CGSS1C6V2R1R	006824-904		M20	6 in		X
<b>Shipping Weight = 1 lb. (0.45 kg)</b>						

**NOTES:** CGS sensors always require a transmitter (sold separately).

Constant voltage

### Combustible Gas Sensor for UD10, UD30, DCUEX, U9500A, U8700, 400, 405, 810, 820, and 880 Transmitters

Model	Part Number	Replaces old catalytic sensor p/n	Threads	Lead Length	FM/CSA/ATEX/IECEX	Russia	Brazil
CGSS1A6C2R1X	006824-001	225006-004, 225957-002, 226530-003, 226531-003, 226931-005, 226931-006, 226999-011, 226999-012	3/4 NPT	6 in	X		
CGSS1A6C2R1B	006824-101		3/4 NPT	6 in			X
CGSS1A3C2R1X	006824-005	225006-003, 226530-005, 226531-004, 226931-007, 226931-008	3/4 NPT	30 in	X		
CGSS1C3C2R1X	006824-007	225006-003, 226530-005, 226531-004, 226931-007, 226931-008	M20	30 in	X		
CGSS1C6C2R1X	006824-003	226999-008, 226999-020, 226999-014, 226999-021	M20	6 in	X		
CGSS1C6C2R1R	006824-903		M20	6 in		X	
<b>Shipping Weight = 1 lb. (0.45 kg)</b>							

**NOTES:** CGS sensors always require a transmitter (sold separately).

Constant current

## FlexVuUD10 Universal Display (for Catalytic)



**FlexVu UD10 Universal Display** (Spec Sheet: 90-1200) is recommended for applications where a gas detector with digital read-out of detected gas levels are required. The FlexVu UD10 Universal Display Unit is designed for use with various Det-Tronics catalytic gas sensor/transmitters such as Model 505 or CGS. The display unit is designed and approved as a stand-alone device and performs all the functions of a gas controller.

- Compliance to ANSI/ISA-12.13.01-2000 performance standard
- Performance certified to FM 6310/6320, CSA 22.2 #152, ATEX EN60079-29-1, and IEC60079-29-1
- **Certified as a stand-alone combustible gas controller/detector when used with the CGS sensor**
- Division Approval Ratings: FM and CSA
- Zone Approval Ratings: FM, CSA, ATEX, and IECEx
- Eagle Quantum Premier model
- Non-intrusive menu allows device configuration and calibration without de-classifying the hazardous area
- Continuously displays gas level, gas type, and units measured
- Data logger for event time and date stamping
- Heated and backlit LCD display
- Relay, modbus, and linear isolated/non-isolated 4-20 mA output with HART, **configurable 4-20 mA output loop monitoring**
- IP66 rated
- SIL2 certified when used with CGS combustible gas sensor

## CATALYTIC

### FlexVu UD10 Model Matrix - CGS

MODEL	DESCRIPTION
UD10	Universal Display Unit
	<b>TYPE</b> <b>MATERIAL</b>
	<b>A</b> Aluminum
	<b>S</b> Stainless Steel (316)
	<b>TYPE</b> <b>THREAD TYPE</b>
	<b>5M</b> 5 Port, Metric M25
	<b>5N</b> 5 Port, 3/4" NPT
	<b>TYPE</b> <b>OUTPUTS</b>
	<b>25</b> Relay, 4-20mA, RS485, HART
	<b>28</b> EQP / DCU Emulator
	<b>TYPE</b> <b>APPROVALS</b>
	<b>B</b> INMETRO (BRAZIL)
	<b>R</b> VNIIFTRI (RUSSIA)
	<b>S</b> SIL
	<b>T</b> SIL/FM/CSA/ATEX/IECEX
	<b>W</b> FM/CSA/ATEX/IECEX
	<b>TYPE</b> <b>CLASSIFICATION (Div/Zone)</b>
	<b>2</b> Ex d (Flameproof)
	<b>TYPE</b> <b>OPTIONAL CONDITIONING BOARD</b>
	<b>C</b> CGS

### Typical UD10/CGS Customer Proposal

Qty	Part Number	Description
1	006824-003	Catalytic Combustible Gas Sensor (CGS), M20, CC
1	010254-001	UD10A5M25W2C Universal Display, AL, M25
2	101197-005	Stop plug, M25, AL
1	102804-001	Reducer, M25 to M20, AL

### Option

Qty	Part Number	Description
1	226365-119	STB1A2MW Sensor Separation Termination Box

### Accessories

Qty	Part Number	Description
1	225130-001	Methane Gas Calibration Kit, 50% LFL methane
1	226166-001	Spare 103 L gas cylinder, 50% LFL methane

*FlexVu UD10 Universal Display - CGS - SIL/FM/CSA/ATEX/IECEX*

Model	Part Number	Material	Threads	Relay 4-20 RS485 HART	EQP-DCU Emulator	Cond. Board	SIL/FM/CSA/ATEX/IECEX	FM/CSA/ATEX/IECEX
UD10A5M25W2C	010254-001	AL	M25	X		CGS		X
UD10A5N25W2C	010254-002	AL	3/4 NPT	X		CGS		X
UD10S5M25W2C	010254-003	316 SS	M25	X		CGS		X
UD10S5N25W2C	010254-004	316 SS	3/4 NPT	X		CGS		X
UD10A5M25T2C	010254-021	AL	M25	X		CGS	X	
UD10A5N25T2C	010254-022	AL	3/4 NPT	X		CGS	X	
UD10S5M25T2C	010254-023	316 SS	M25	X		CGS	X	
UD10S5N25T2C	010254-024	316 SS	3/4 NPT	X		CGS	X	
UD10A5M28W2C	010254-005	AL	M25		X	CGS		X
UD10A5N28W2C	010254-006	AL	3/4 NPT		X	CGS		X
UD10S5M28W2C	010254-007	316 SS	M25		X	CGS		X
UD10S5N28W2C	010254-008	316 SS	3/4 NPT		X	CGS		X
<b>Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 10.5lb (4.8kg)</b>								

*FlexVu UD10 Universal Display - CGS - SIL/Brazil*

Model	Part Number	Material	Threads	Relay 4-20 RS485 HART	EQP-DCU Emulator	Cond. Board	INMETRO
UD10A5M25B2C	010254-081	AL	M25	X		CGS	X
UD10A5N25B2C	010254-082	AL	3/4 NPT	X		CGS	X
UD10S5M25B2C	010254-083	316 SS	M25	X		CGS	X
UD10S5N25B2C	010254-084	316 SS	3/4 NPT	X		CGS	X
UD10A5N28B2C	010254-086	AL	3/4 NPT		X	CGS	X
UD10S5M28B2C	010254-087	316 SS	M25		X	CGS	X
UD10S5N28B2C	010254-088	316 SS	3/4 NPT		X	CGS	X
UD10S5M25SB2C	010254-093	316SS	M25	X		CGS	X
UD10S5N25SB2C	010254-094	316SS	3/4 NPT	X		CGS	X
UD10A5M25SB2C	010254-095	AL	M25	X		CGS	X
UD10A5N25SB2C	010254-096	AL	3/4 NPT	X		CGS	X
<b>Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 10.5lb (4.8kg)</b>							

## CATALYTIC

### *FlexVu UD10 Universal Display - CGS - SIL/Russia*

Model	Part Number	Material	Threads	Relay 4-20 RS485 HART	EQP- DCU Emulator	Cond. Board	VNIIFTRI
UD10A5M25R2C	010254-901	AL	M25	X		CGS	X
UD10A5N25R2C	010254-902	AL	3/4 NPT	X		CGS	X
UD10S5M25R2C	010254-903	316 SS	M25	X		CGS	X
UD10S5N25R2C	010254-904	316 SS	3/4 NPT	X		CGS	X
UD10A5M28R2C	010254-905	AL	M25		X	CGS	X
UD10A5N28R2C	010254-906	AL	3/4 NPT		X	CGS	X
UD10S5M28R2C	010254-907	316 SS	M25		X	CGS	X
UD10S5N28R2C	010254-908	316 SS	3/4 NPT		X	CGS	X
UD10A5M25SR2C	010254-911	AL	M25	X		CGS	X
UD10A5N25SR2C	010254-912	AL	3/4 NPT	X		CGS	X
UD10S5M25SR2C	010254-913	316 SS	M25	X		CGS	X
UD10S5N25SR2C	010254-914	316 SS	3/4 NPT	X		CGS	X
<b>Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 10.5lb (4.8kg)</b>							

### *FlexVu UD10 Spare Modules*

Part Number	Description	Output	Ship Weight
010569-001	UD10 Display Module	Relay/4-20mA	1 lb (0.45 kg)
010535-001	UD10 Display Module	EQP-DCU	1 lb (0.45 kg)

### *FlexVu UD10 Spare Parts*

Part Number	Description	Ship Weight
010973-001	UD10/CGS REPLACEMENT BOARD	<1 lb (<0.45 kg)

*FlexVu UD10 Accessories*

Part Number	Description	Ship Weight
009700-001	Magnetic Tool	<1 lb (0.45 kg)
014019-001	Gas Inspector 11 CD	<1 lb (0.45 kg)
014020-001	W6300G1006 Gas Inspector 11 Kit (includes CD)	1 lb (0.45 kg)
102988-002	Plug, 5.0mm, 6 Position - P2	<1 lb (0.45 kg)
102988-026	Plug, 5.0mm, 3 Position - P1 (J10, CGS)	<1 lb (0.45 kg)
102988-028	Plug, 5.0mm, 5 Position - (J3, CGS)	<1 lb (0.45 kg)
103726-002	Plug, 3.5mm, 3 Position - J2	<1 lb (0.45 kg)
103726-004	Plug, 3.5mm, 5 Position - J3	<1 lb (0.45 kg)
103726-011	Plug, 3.5mm, 12 Position - J4	<1 lb (0.45 kg)

*Stop Plugs and Reducers*

ITEM NUMBER	STYLE	MATERIAL	OVERALL LENGTH (mm)	THREAD TYPE	HEX SIZE
101197-001	TYPE A STOP PLUG	ALUMINUM	14.8	3/4 NPT	12
101197-002	TYPE A STOP PLUG	ALUMINUM	14.5	1/2 NPT	10
101197-003	DOME HEAD STOP PLUG	STAINLESS STEEL	21.5	M25	12
101197-004	TYPE A STOP PLUG	STAINLESS STEEL	14.8	3/4 NPT	12
101197-005	DOME HEAD STOP PLUG	ALUMINUM	21.5	M25	12
101197-006	DOME HEAD STOP PLUG	ALUMINUM	21.5	M20	10
101197-007	DOME HEAD STOP PLUG	STAINLESS STEEL	21.5	M20	10
101197-008	DOME HEAD STOP PLUG	NICKEL BRASS	21.5	M20	10
101197-009	DOME HEAD STOP PLUG	NICKEL BRASS	21.5	M25	12
101197-010	TYPE A STOP PLUG	NICKEL BRASS	14.8	3/4 NPT	12
101197-011	TYPE A STOP PLUG	NICKEL BRASS	14.5	1/2 NPT	10
101197-012	TYPE A STOP PLUG	STAINLESS STEEL	14.5	1/2 NPT	10
101197-501	IP WASHER	NYLON	-	M20	-
101197-502	IP WASHER	NYLON	-	M25	-
101197-503	IP WASHER	TEFLON PTFE	-	M20	-
101197-503	IP WASHER	TEFLON PTFE	-	M25	-
102804-001	REDUCER	ALUMINUM	-	M25 to M20	-
102804-003	REDUCER	STAINLESS STEEL	-	M25 to M20	-

**Ship Weight:** 1/2 NPT = 0.07lb (0.030kg), 3/4 NPT = 0.11lb (0.05kg), M20 = 0.14lb (0.062kg), M25 = 0.28lb (0.125 kg)  
**Available Stop Plug Approvals:** ATEX, IECEX, CEC, NEC, EAC, INMETRO, SAC, UKRAINE, CCoE, ABS, LLOYD'S, RMRS



**Dome Head Stop Plug - Nickel Brass**



**Type A Stop Plug - Nickel Brass**

\*NEMA/TYPE 4 and IP66 rating requires addition of Teflon tape

\*\*Metric threaded stop plugs are fitted with silicone O-Rings

\*\*\*For silicone sensitive applications the silicone O-Ring can be removed from Metric stop plugs and fitted with an IP washer



CGS Combustible Gas Certified Calibration Kits



**Combustible Gas Certified Calibration Kits** (Spec Sheet: 90-1059) for combustible gas sensors. Kits include sturdy plastic carrying case containing:

- Two 3.6 ft<sup>3</sup> (103 liters) cylinders of Class 2.2 non-flammable, non-toxic compressed gas
- Regulator/shutoff valve with gauge, 3-foot tubing and stainless steel CGS calibration cup
- Regulator provides fixed flow rate of 1 liter per minute designed for CGS sensors
- 3-foot tube
- Sturdy plastic carrying case

*Calibration Kits for CGS Catalytic Sensor*

Part Number	Gas	LFL	% Vol	Standard	Balance	Ship Weight
225130-002	Ethane	50%	1.5	ISO	Air	11.5 lb (5.23 kg)
225130-902*	Ethane	50%	1.5	ISO	Air	11.5 lb (5.23 kg)
225130-003	Ethylene	50%	1.35	ISO	Air	11.5 lb (5.23 kg)
225130-005	Hydrogen	50%	2.0	ISO	Air	11.5 lb (5.23 kg)
225130-905*	Hydrogen	50%	2.0	ISO	Air	11.5 lb (5.23 kg)
225130-006	Methane	20%	1.0	ISO	Air	11.5 lb (5.23 kg)
225130-007	Methane	25%	1.25	ISO	Air	11.5 lb (5.23 kg)
225130-008	Methane	35%	1.75	ISO	Air	11.5 lb (5.23 kg)
225130-014	Methane	50%	2.2	IEC	Air	11.5 lb (5.23 kg)
225130-914*	Methane	50%	2.2	IEC	Air	11.5 lb (5.23 kg)
225130-001	Methane	50%	2.5	ISO	Air	11.5 lb (5.23 kg)
225130-901*	Methane	50%	2.5	ISO	Air	11.5 lb (5.23 kg)
225130-015	Propane	50%	0.85	IEC	Air	11.5 lb (5.23 kg)
225130-915*	Propane	50%	0.85	IEC	Air	11.5 lb (5.23 kg)
225130-004	Propane	50%	1.1	ISO	Air	11.5 lb (5.23 kg)
225130-009	Empty kit—no cal gas					10 lb (4.6 kg)

\*These items are certified for Russian projects.

**NOTE:** Average lead time is 2-3 weeks

## CATALYTIC

### Replacement Gas Cylinders for Combustible Gas Calibration Kits

Part Number	Gas	%LFL	% Vol	Standard	Balance	Ship Weight
226166-006	Zero Air	N/A	20.9	N/A	Nitrogen	1.5 lb (0.7 kg)
226166-002	Ethane	50%	1.5	ISO	Air	1.5 lb (0.7 kg)
226166-902*	Ethane	50%	1.5	ISO	Air	1.5 lb (0.7 kg)
226166-003	Ethylene	50%	1.35	ISO	Air	1.5 lb (0.7 kg)
226166-005	Hydrogen	50%	2.0	ISO	Air	1.5 lb (0.7 kg)
226166-905*	Hydrogen	50%	2.0	ISO	Air	1.5 lb (0.7 kg)
226166-007	Methane	20%	1.0	ISO	Air	1.5 lb (0.7 kg)
226166-008	Methane	25%	1.25	ISO	Air	1.5 lb (0.7 kg)
226166-009	Methane	35%	1.75	ISO	Air	1.5 lb (0.7 kg)
226166-014	Methane	50%	2.2	IEC	Air	1.5 lb (0.7 kg)
226166-914*	Methane	50%	2.2	IEC	Air	1.5 lb (0.7 kg)
226166-001	Methane	50%	2.5	ISO	Air	1.5 lb (0.7 kg)
226166-901*	Methane	50%	2.5	ISO	Air	1.5 lb (0.7 kg)
226166-015	Propane	50%	0.85	IEC	Air	1.5 lb (0.7 kg)
226166-915*	Propane	50%	0.85	IEC	Air	1.5 lb (0.7 kg)
226166-004	Propane	50%	1.1	ISO	Air	1.5 lb (0.7 kg)
226166-010	Propylene	50%	1.2	ISO	Air	1.5 lb (0.7 kg)

\*These items are certified for Russian projects.

**NOTE:** Average lead time is 2-3 weeks

### Replacement Kit Replacement Parts

Part Number	Description	Ship Weight
004976-001	Standard calibration cup, SS	8 oz (0.23 kg)
101678-007	Tubing, 3 ft.	8 oz (0.23 kg)
101678-013	Tubing, 100 ft. spool	8 oz (0.23 kg)
162552-001	1 LPM Regulator for CGS sensors	8 oz (0.23 kg)
162553-001	Carrying Case	8 oz (0.23 kg)

## Duct Mount and Sample Draw Assemblies for CGS



**Direct Duct Mount Assembly** (Spec Sheet: 90-1046). For mounting combustible sensors to air handling duct work. The Direct Duct Mount CGS assembly enables combustible gas detection in air handling, heating, ventilating, and air conditioning ducts. Designed for flat surface mounting only.

- Seal gaskets provided to prevent leakage
- Circular duct wall cutout required
- Positive pressure ducts only
- Calibration gas inlet enables in-situ calibration
- Flexible conduit/cabling recommended to enable sensor removal from assembly



**Model Q811 Duct Mount Enclosure** (Manual: 95-8459) The Q811 provides combustible gas detection in air handling, heating, ventilating, and air conditioning ducts.

- Designed for flat surface mounting only
- Stainless steel NEMA 4X enclosure
- 316 Stainless steel enclosure and sample inlet tube spans the duct's cross section
- 1 foot outlet tube returns the sample
- Requires a 600–4000 fpm velocity



**Sample Draw Cup Assembly** for CGS. The Sample Draw cup assembly for CGS provides a sealed enclosure with compression fittings to enable the CGS to be used as part of an extractive gas sampling system.

- Aluminum enclosure with seals provides airtight flow chamber
- Brass compression fittings accept 1/4" OD tubing
- Threaded cover enables sensor removal
- Sampling system hardware required for proper operation

### Direct Duct Mount Assemblies for CGS

Part Number	Material	Ship Weight
226846-001	AL	6 oz (0.17 kg)
226846-008	SS	1 lb (0.46 kg)

### Model Q811 CGS Duct Mount Enclosure

Part Number	Material	Ship Weight	Thread
000811-106	SS	10 lb (4.5 kg)	M20
000811-105	SS	10 lb (4.5 kg)	3/4"

**NOTE:** 1 inlet and 1 outlet tube included at no extra cost.  
Specify length of inlet tube at time of order (1, 3, 6, 10 or 13 ft).

### Q811 Spare Parts

Part Number	Description	Length	Material	Ship Weight
000214-281	Inlet Tube	1 ft (0.3 m)	316 SS	8 oz (0.23 kg)
000214-282	Inlet Tube	3 ft (0.9 m)	316 SS	1 lb (0.45 kg)
000214-283	Inlet Tube	6 ft (1.8 m)	316 SS	3 lb (1.35 kg)
000214-284	Inlet Tube	10 ft (3.1 m)	316 SS	6 lb (2.4 kg)
000214-285	Inlet Tube	13 ft (4 m)	316 SS	9 lb (4.0 kg)
000214-419	Inlet Tube	15 ft (4.6 m)	316 SS	11 lb (5.0 kg)
000214-280	Outlet Tube	1 ft (0.3 m)	316 SS	8 oz (0.23 kg)
102359-001	Stopper Plug	N/A	Rubber	<1 lb (<0.45 kg)

### Sample Draw Cup Assembly for CGS

Part Number	Material	Ship Weight
009171-001	AL	1 lb (0.45 kg)

## CATALYTIC

CGS Accessories: Rain Shields, Splash Guards, Dust Covers, Remote Calibration Cups



**Rain Shields** (Spec Sheet: 90-1046) protect combustible sensors from rain and snow.



**Splash Guards** (Spec Sheet: 90-1046) protect combustible sensors from ingress due to rain or splashing water.



**Dust Covers** (Spec Sheet: 90-1046) are recommended to protect sensors in windy, dusty, and oily environments. Porex and stainless steel filters available.



**Remote Calibration cups** provide the means to apply calibration to a CGS gas sensor from a remote location. Tubing not included. Options include barbed fitting or 1/4" compression fitting.

**NOTE:** Only one accessory recommended to be fitted per catalytic sensor.

### *Rain Shields*

Part Number	Material	Ship Weight
226349-001	AL	6 oz (0.17 kg)

### *Splash Guard*

Part Number	Material	Ship Weight
006491-001	AL	2 lb (0.95 kg)

### *Dust Covers*

Part Number	Material	Ship Weight
225312-001	SS	2 oz (0.06 kg)
226190-001	Porex*	2 oz (0.06 kg)

\*Porex not recommended for outdoors or temperatures above 75°C.

### *Remote Calibration Cups*

Part Number	Use	Filter Material	Tube Fitting Type	Ship Weight
225777-001	Indoor	Porex*	Barbed	0.5 lb (0.14 kg)
004996-001	Indoor	Porex*	Compression	0.5 lb (0.14 kg)
006618-001	Outdoor	SS Screen	Barbed	0.5 lb (0.14 kg)
006618-002	Outdoor	SS Screen	Compression	0.5 lb (0.14 kg)

\*Porex not recommended for outdoors or temperatures above 75°C.

## TOXICS

### GTS Toxic Gas Sensor Module (GT3000 Series)



**GTS Toxic Gas Sensor Module** Housings are incorporated into the GTX toxic gas transmitter. The electrochemical cell is embedded in the module. Refer to Instruction Manual 95-8616 for sensor comparisons and cross-sensitivities.

- Performance approved models
- **Plus (+) series sensors with dual reservoir technology and extended temperature range**
- Sensor modules are available in a variety of gas types and concentration ranges
- Hot-swappable capabilities with the GTX transmitter
- Easy install and removal with the GTX transmitter
- Intrinsically safe (IS) design
- **SIL models available for Hydrogen Sulfide and Oxygen sensors**
- **DNV models available with Hydrogen Sulfide sensors**
- Suitable for outdoor applications requiring IP66 rating
- Electrochemical sensor cell for increased accuracy, stability, and reliability
- Highly specific response reduces the chance of false alarms resulting from the presence of other gases
- Temperature compensated to ensure consistent performance over entire operating temperature range
- Hydrophobic filter easily replaced without opening the device or use of tools
- EMI/RFI hardened
- Event and calibration logs are stored in non-volatile memory and are accessible using a UD10/UD20, HART device, or AMS software.
- FDT/DTM capable
- Real-time clock with battery back-up

GTS Model Matrix

MODEL	DESCRIPTION	
GTS	Toxic Gas Sensor Module	
	TYPE	GAS / RANGE
	H2S+	Hydrogen Sulfide (certified SIL 2 capable)
	20P	0 - 20 PPM
	50P	0 - 50 PPM
	100P	0 - 100 PPM
	CL2	Chlorine
	10P	0 - 10 PPM
	NH3	Ammonia
	100P	0 - 100 PPM
	500P	0 - 500 PPM
	H2	Hydrogen
	1000P	0 - 1000 PPM
	O2	Oxygen (certified SIL 2 capable)
	25V	0 - 25 % by Vol
	CO	Carbon Monoxide
	100P	0 - 100 PPM
	500P	0 - 500 PPM
	SO2+	Sulfur Dioxide
	20P	0 - 20 PPM
	100P	0 - 100 PPM
	NO2	Nitrogen Dioxide
	20P	0 - 20 PPM
	TYPE	SAFETY INTEGRITY LEVEL
	S	SIL 2
	N	NON-SIL
	TYPE	LABEL
	C	CHINESE
	E	ENGLISH
	K	KAZAKH
	P	PORTUGUESE (Brazil)
	R	RUSSIAN
	TYPE	HOUSING
	S	STANDARD
	E	ENHANCED SHIELDING

*GTS Toxic Gas Sensor Module - ENGLISH*

Model Number	Part Number	Toxic Gas	ppm Range	% by Volume
GTSH2S+20PSEE <sup>1</sup>	009471-341 <sup>1</sup>	H2S	0-20	
GTSH2S+50PSEE <sup>1</sup>	009471-342 <sup>1</sup>	H2S	0-50	
GTSH2S+100PSES <sup>2</sup>	009471-343 <sup>2</sup>	H2S	0-100	
GTSH2S+100PSEE <sup>1</sup>	009471-344 <sup>1</sup>	H2S	0-100	
GTSCl210PNES <sup>3</sup>	009471-304 <sup>3</sup>	Cl2	0-10	
GTSNH3100PNES <sup>2</sup>	009471-305 <sup>2</sup>	NH3	0-100	
GTSNH3500PNES <sup>3</sup>	009471-306 <sup>3</sup>	NH3	0-500	
GTSH21000PNES <sup>3</sup>	009471-308 <sup>3</sup>	H2	0-1000	
GTSO225VSES <sup>3</sup>	009471-309 <sup>3</sup>	O2		0-25%
GTSCO100PNES <sup>2</sup>	009471-310 <sup>2</sup>	CO	0-100	
GTSCO500PNES <sup>2</sup>	009471-311 <sup>2</sup>	CO	0-500	
GTSSO2+20PNES <sup>3</sup>	009471-313 <sup>3</sup>	SO2	0-20	
GTSSO2+100PNES <sup>3</sup>	009471-314 <sup>3</sup>	SO2	0-100	
GTSNO220PNES <sup>3</sup>	009471-316 <sup>3</sup>	NO2	0-20	

**NOTE:** Refer to the GT3000 Instruction Manual 95-8616 for details on performance approvals.

NOTES:	GTS Approval when paired with appropriate GTX approval type	GTX approval types
1	DNV/FM/CSA/IECEX	N
2	FM/CSA/IECEX	N
3	CSA/IECEX	N

*GTS Toxic Gas Sensor Module - PORTUGUESE (Brazil)*

Model Number	Part Number	Toxic Gas	ppm Range	% by Volume
GTSH2S+20PSPE	009471-601	H2S	0-20	
GTSH2S+50PSPE	009471-602	H2S	0-50	
GTSH2S+100PSPE	009471-603	H2S	0-100	
GTSH2S+100PSPS	009471-604	H2S	0-100	
GTSCl210PNPS	009471-605	Cl2	0-10	
GTSNH3100PNPS	009471-606	NH3	0-100	
GTSNH3500PNPS	009471-607	NH3	0-500	
GTSO225VSPS	009471-608	O2		0-25%
GTSCO100PNPS	009471-609	CO	0-100	
GTSCO500PNPS	009471-610	CO	0-500	
GTSH21000PNPS	009471-611	H2	0-1000	

**NOTE:** Refer to the GT3000 Instruction Manual 95-8616 for details on performance approvals.

## TOXICS

### *GTS Toxic Gas Sensor Module - RUSSIAN*

Model Number	Part Number	Toxic Gas	ppm Range	% by Volume
GTSH2S+20PSRE	009471-944	H2S	0-20	
GTSH2S+50PSRE	009471-945	H2S	0-50	
GTSH2S+100PSRE	009471-946	H2S	0-100	
GTSH2S+100PSRS	009471-947	H2S	0-100	
GTSNH3100PNRS	009471-949	NH3	0-100	
GTSH21000PNRS	009471-953	H2	0-1000	
GTSCO100PNRS	009471-951	CO	0-100	
GTSCO500PNRS	009471-952	CO	0-500	

**NOTE:** Refer to the GT3000 Instruction Manual 95-8616 for details on performance approvals.

### *GTS Toxic Gas Sensor Module - KAZAKH*

Model Number	Part Number	Toxic Gas	ppm Range	% by Volume
GTSH2S+20PSKE	009471-860	H2S	0-20	
GTSH2S+50PSKE	009471-861	H2S	0-50	
GTSH2S+100PSKE	009471-862	H2S	0-100	
GTSH2S+100PSKS	009471-863	H2S	0-100	
GTSH21000PNKS	009471-864	H2	0-100	

**NOTE:** Refer to the GT3000 Instruction Manual 95-8616 for details on performance approvals.

### *GTS Toxic Gas Sensor Module - CHINESE*

Model Number	Part Number	Toxic Gas	ppm Range	% by Volume
GTSH2S+20PSCE	009471-812	H2S	0-20	
GTSH2S+50PSCE	009471-813	H2S	0-50	
GTSH2S+100PSCE	009471-814	H2S	0-100	
GTSH2S+100PSCS	009471-815	H2S	0-100	
GTSO225VSCS	009471-816	O2		0-25%
GTSCO100PNCS	009471-817	CO	0-100	
GTSCO500PNCS	009471-818	CO	0-500	
GTSSO2+20PNCS	009471-819	SO2	0-20	
GTSSO2+100PNCS	009471-820	SO2	0-100	

**NOTE:** Refer to the GT3000 Instruction Manual 95-8616 for details on performance approvals.

*GT3000 Spares and Accessories*

Part Number	Description
010780-003	GT3000 Remote Calibration Adaptor
009737-001	GTS Calibration cup
009640-001	GTS Replacement Filter
010783-001	GT3000 Remote Calibration Filter
012509-001	Q312 GT3000 Sample Draw
012509-002	Q312 GT3000 Sample Draw with Fittings
009700-001	Magnetic Tool



**GT3000 Remote Calibration Adaptor**



**GTS Calibration Cup**



**GTS Replacement Filter**



**Q312 Sample Draw**



**Magnetic Tool**

## TOXICS



### Model Q912 Duct Mount Enclosure

The Model Q912 Duct Mount Enclosure provides reliable detection of toxic gases within air-handling ductwork. The device mounts directly to the ductwork, and uses a cross-sectional inlet and outlet sampling tube arrangement that allows large volume air sampling. The Q912 is compatible with the entire Det-Tronics GT3000 family of gas detectors, and is suitable for hazardous industrial and commercial applications.

- Stainless steel NEMA 4X enclosure
- Stainless steel sample inlet tube spans the duct's cross section
- 1, 3, 6, 10 or 13 ft (0.3, 0.9, 1.8, 3.1 or 4 meter) inlet tube options
- 1 ft (0.3 m) outlet tube returns the sample
- Requires a 600–4000 fpm velocity
- Designed for flat surface mounting only

### Model Q912 Toxic Duct Mount Enclosure

Part Number	Description*	Detector Conduit	Inlet Tube Length
012513-001	Q912 Duct Mount M25, 1ft inlet	M25	1 ft (0.3m)
012513-003	Q912 Duct Mount M25, 3ft inlet	M25	3 ft (0.9m)
012513-006	Q912 Duct Mount M25, 6ft inlet	M25	6 ft (1.8m)
012513-010	Q912 Duct Mount M25, 10ft inlet	M25	10 ft (3.1m)
012513-013	Q912 Duct Mount M25, 13ft inlet	M25	13 ft (4m)
012514-001	Q912 Duct Mount 3/4", 1ft inlet	3/4"	1 ft (0.3m)
012514-003	Q912 Duct Mount 3/4", 3ft inlet	3/4"	3 ft (0.9m)
012514-006	Q912 Duct Mount 3/4", 6ft inlet	3/4"	6 ft (1.8m)
012514-010	Q912 Duct Mount 3/4", 10ft inlet	3/4"	10 ft (3.1m)
012514-013	Q912 Duct Mount 3/4", 13ft inlet	3/4"	13 ft (4m)
012363-001	Spare Diffuser Insert		

\*1 ft outlet tube included with each duct mount.

### Model Q912 Spare Parts

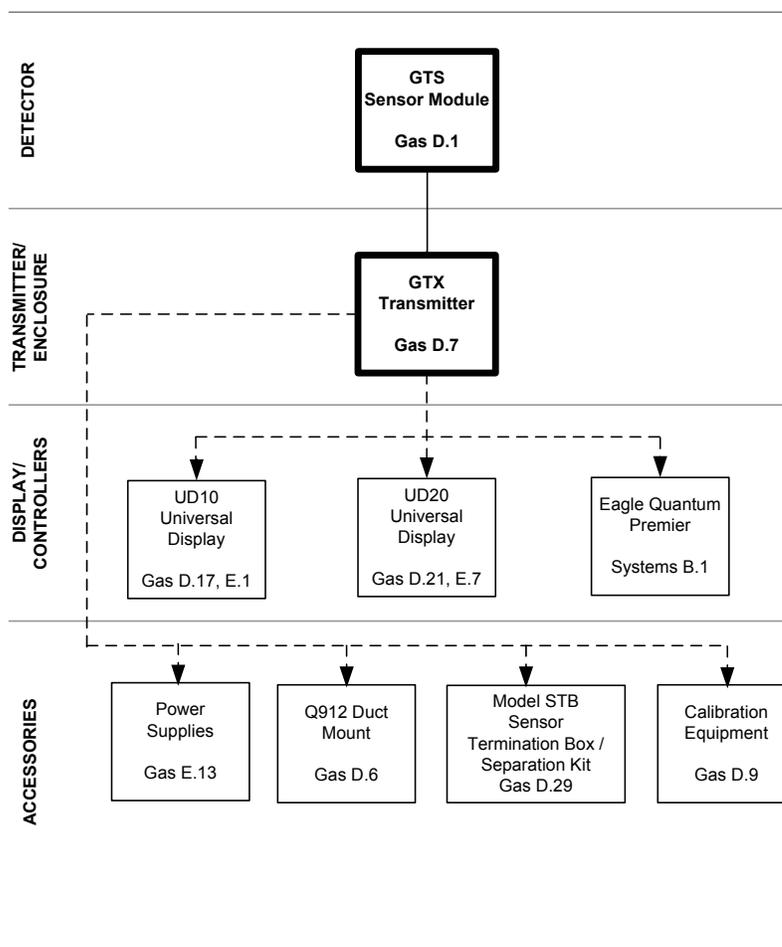
Part Number	Description	Length	Material	Ship Weight
000214-281	Inlet Tube	1 ft (0.3 m)	316 SS	8 oz (0.23 kg)
000214-282	Inlet Tube	3 ft (0.9 m)	316 SS	1 lb (0.45 kg)
000214-283	Inlet Tube	6 ft (1.8 m)	316 SS	3 lb (1.35 kg)
000214-284	Inlet Tube	10 ft (3.1 m)	316 SS	6 lb (2.4 kg)
000214-285	Inlet Tube	13 ft (4 m)	316 SS	9 lb (4.0 kg)
000214-280	Outlet Tube	1 ft (0.3 m)	316 SS	8 oz (0.23 kg)
102359-001	Stopper Plug	N/A	Rubber	<1 lb (<0.45 kg)

GTX Toxic Gas Transmitter (GT3000 Series)



**GTX Toxic Gas Transmitter** (Spec Sheet: 90-1199). Stainless steel, toxic gas transmitter that provides an accurate measurement of toxic gasses.

- 316 Stainless Steel
- Approved as a stand-alone device when combined with a GTS toxic gas sensor
- 4-20 mA output with HART
- Intrinsically safe (IS) or Explosion-proof design
- IP66 rated
- **SIL 2 capable sensors are Hydrogen Sulfide and Oxygen**
- Performance approved and verified
- Self-contained transmitter circuitry
- Event and calibration logs are stored in non-volatile memory and are accessible using a UD10/UD20, HART device, AMS software, or Gas Inspector.
- FDT/DTM capable
- Real-time clock with battery back-up
- Magnetic switch and LEDs for user interface
- 2-wire loop powered



KEY: ————— = Required    - - - - - = Option    —●— = Choice Required

# TOXICS

## GTX Model Matrix

MODEL	DESCRIPTION												
GTX	Toxic Gas Transmitter												
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>MATERIAL</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>Stainless Steel (316)</td> </tr> </tbody> </table>	TYPE	MATERIAL	S	Stainless Steel (316)								
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4	Intrinsically Safe												
5	Explosion-proof												

*GTX Toxic Gas Transmitter (for use with FlexVu models UD10/20, and GDTB)*

Model Number	Part Number	Threads	IS	Ex Proof	Approvals
GTXSN26N4	009480-321	3/4 NPT	X		FM/CSA/IECEX
GTXSM26N4	009480-322	M25	X		FM/CSA/IECEX
GTXSN26N5	009480-323	3/4 NPT		X	FM/CSA/IECEX
GTXSM26N5	009480-324	M25		X	FM/CSA/IECEX
GTXSN26B5	009480-305	3/4 NPT		X	INMETRO
GTXSM26B5	009480-306	M25		X	INMETRO
GTXSM26SK5	009480-866	M25		X	KAZAKH
GTXSN26R4	009480-905	3/4 NPT	X		RUSSIA
GTXSM26R4	009480-906	M25	X		RUSSIA
GTXSN26R5	009480-907	3/4 NPT		X	RUSSIA
GTXSM26R5	009480-908	M25		X	RUSSIA
GTXSN26Y4	009480-805	3/4 NPT	X		CHINA
GTXSM26Y4	009480-806	M25	X		CHINA
<b>Ship Weight: &lt;11lb (&lt;0.45kg)</b>					

**NOTE:** Refer to the GT3000 Instruction Manual 95-8616 for details on performance approvals.

*GTX Toxic Gas Transmitter (for use with U9500)*

Model Number	Part Number	Threads	IS	Ex Proof	Approvals
GTXSN29N4	009480-325	3/4 NPT	X		FM/CSA/IECEX
GTXSM29N4	009480-326	M25	X		FM/CSA/IECEX
GTXSN29N5	009480-327	3/4 NPT		X	FM/CSA/IECEX
GTXSM29N5	009480-328	M25		X	FM/CSA/IECEX
GTXSN29B5	009480-307	3/4 NPT		X	INMETRO
GTXSM29B5	009480-308	M25		X	INMETRO
<b>Ship Weight: &lt;11lb (&lt;0.45kg)</b>					

**NOTE:** Refer to the GT3000 Instruction Manual 95-8616 for details on performance approvals.

## TOXICS

### GT3000 Certified Calibration Kits

**GT3000 Certified Calibration Kits** (Manual: 95-8643) consists of a sturdy carrying case containing:



*Configuration 1*

#### **Configuration 1**

GT3000 calibration kit with two cylinders of calibration gas

- Two cylinders of Class 2.2 non-flammable, non-toxic compressed gas
- A 1 liter/minute regulator and pressure indicator
- 3-foot tube
- GT3000 Calibration Cup



*Configuration 2*

#### **Configuration 2**

GT3000 calibration kit with one cylinder of calibration gas and one humidifier

- One cylinder of Class 2.2 non-flammable, non-toxic compressed gas
- One humidifier
- A 1 liter/minute regulator and pressure indicator
- 3-foot tube
- GT3000 Calibration Cup

*GT3000 Calibration Gas Kits*

Part Number	Concentration	Gas	Balance	Cylinders	Humidifier	Ship Weight
010274-001	10 ppm	Hydrogen Sulfide	Nitrogen	2		11.5 lb (5.23 kg)
010274-002	25 ppm	Hydrogen Sulfide	Nitrogen	2		11.5 lb (5.23 kg)
010274-003*	50 ppm	Hydrogen Sulfide	Nitrogen	2		11.5 lb (5.23 kg)
010274-004	5 ppm	Chlorine	Nitrogen	2		11.5 lb (5.23 kg)
010274-005	50 ppm	Ammonia	Nitrogen	2		11.5 lb (5.23 kg)
010274-006	250 ppm	Ammonia	Nitrogen	2		11.5 lb (5.23 kg)
010274-008	500 ppm	Hydrogen	Air	2		11.5 lb (5.23 kg)
010274-009	20.90%	Oxygen	Nitrogen	2		11.5 lb (5.23 kg)
010274-010	50 ppm	Carbon Monoxide	Air	2		11.5 lb (5.23 kg)
010274-011	250 ppm	Carbon Monoxide	Air	2		11.5 lb (5.23 kg)
010274-013	10 ppm	Sulfur Dioxide	Nitrogen	2		11.5 lb (5.23 kg)
010274-014	50 ppm	Sulfur Dioxide	Nitrogen	2		11.5 lb (5.23 kg)
010274-016	10 ppm	Nitrogen Dioxide	Air	2		11.5 lb (5.23 kg)
014059-001	5 ppm	Chlorine	Nitrogen	1	1	11.5 lb (5.23 kg)

\*Do not use for NTMOS.

**NOTE:** Average lead time is 2-3 weeks.

*GT3000 Calibration Gas Kit Replacement Cylinders*

Part Number	Concentration	Gas	Balance	Ship Weight
227117-011	10 ppm	Hydrogen Sulfide	Nitrogen	1.5 lb (0.7 kg)
227117-012	25 ppm	Hydrogen Sulfide	Nitrogen	1.5 lb (0.7 kg)
227117-001*	50 ppm	Hydrogen Sulfide	Nitrogen	1.5 lb (0.7 kg)
227117-006	5 ppm	Chlorine	Nitrogen	1.5 lb (0.7 kg)
227117-013	50 ppm	Ammonia	Nitrogen	1.5 lb (0.7 kg)
227117-019	250 ppm	Ammonia	Nitrogen	1.5 lb (0.7 kg)
227117-018	500 ppm	Hydrogen	Air	1.5 lb (0.7 kg)
226166-006	20.90%	Oxygen	Nitrogen	1.5 lb (0.7 kg)
227117-003	50 ppm	Carbon Monoxide	Air	1.5 lb (0.7 kg)
227117-004	250 ppm	Carbon Monoxide	Air	1.5 lb (0.7 kg)
227117-016	10 ppm	Sulfur Dioxide	Nitrogen	1.5 lb (0.7 kg)
227117-008	50 ppm	Sulfur Dioxide	Nitrogen	1.5 lb (0.7 kg)
227117-010	10 ppm	Nitrogen Dioxide	Air	1.5 lb (0.7 kg)

\*Do not use for NTMOS.

**NOTE:** Average lead time is 2-3 weeks.

*GT3000 Calibration Kit Replacement Parts*

Part Number	Description	Ship Weight
009700-001	Magnetic Tool	<1 lb (0.45 kg)
009737-001	GT3000 Calibration Cup	8 oz (0.23 kg)
107427-059	O-ring for Calibration Cup	<1 lb (0.45 kg)
010780-003	GT3000 Remote Calibration Adaptor	<1 lb (0.45 kg)
101678-007	Tubing, 3 ft.	8 oz (0.23 kg)
101678-013	Tubing, 100 ft. spool	8 oz (0.23 kg)
162552-001	Regulator, 1 LPM	8 oz (0.23 kg)
162553-001	Carrying Case	8 oz (0.23 kg)

## TOXICS

### Model STB Sensor Termination Box / Separation Kit



**Model STB Sensor Termination Box / Separation Kit** includes a junction box, proper connector board required hardware.

- Enables remote installation of sensor for optimum gas detection while offering easy calibration access to transmitter
- One sensor separation kit per sensor is required
- Optional remote calibration cups must be ordered separately (see CGS Accessories)
- Transmitter Sensor separation wiring terminal block (part number 102883-001) is sold separately
- Temperature approved models from  $-55^{\circ}\text{C}$  to  $125^{\circ}\text{C}$  for process control applications

### STB Model Matrix

MODEL	DESCRIPTION																										
STB	Sensor Termination Box																										
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>COMPATIBILITY</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CGS for FlexVu Model UD10, UD30, or Model 505 Transmitter</td> </tr> <tr> <td>2</td> <td>CGS for U9500A Transmitter or DCUEX</td> </tr> <tr> <td>5</td> <td>12 terminal</td> </tr> </tbody> </table>	TYPE	COMPATIBILITY	1	CGS for FlexVu Model UD10, UD30, or Model 505 Transmitter	2	CGS for U9500A Transmitter or DCUEX	5	12 terminal																		
TYPE	COMPATIBILITY																										
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2	CGS for U9500A Transmitter or DCUEX																										
5	12 terminal																										
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TYPE	# OF PORTS, THREAD TYPE																										
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TYPE	APPROVALS																										
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## Model STB Sensor Termination Boxes / Separation Kits

Model	Part Number	Use With	Material	Ports*	Threads†	FM/CSA/ ATEX/IECEX	VNIIFTRI
STB1A2MW	226365-119	UD10/30/Model 505	AL	2 (L)	M20/M25	X	
STB1A2NW	226365-131	UD10/30/Model 505	AL	2 (L)	3/4 NPT	X	
STB1A2SW	226365-123	UD10/30/Model 505	AL	2 (ST)	M20	X	
STB1A2UW	226365-137	UD10/30/Model 505	AL	2 (ST)	3/4 NPT	X	
STB1S2NW	226365-140	UD10/30/Model 505	SS	2 (L)	3/4 NPT	X	
STB1S2XW	226365-121	UD10/30/Model 505	SS	2 (L)	M20	X	
N/A	102883-001	Spare terminal block for use with Model 505 (included with STB1)					
STB2A2MR	226365-927	U9500A/DCUEX	AL	2 (L)	M20/M25		X
STB2A2MW	226365-127	U9500A/DCUEX	AL	2 (L)	M20/M25	X	
STB2A2NW	226365-132	U9500A/DCUEX	AL	2 (L)	3/4 NPT	X	
S6B2A2UW	226365-136	U9500A/DCUEX	AL	2 (ST)	3/4 NPT	X	
STB2A5NW	226365-144	U9500A/DCUEX	AL	5	3/4 NPT	X	
STB2S2MW	226365-135	U9500A/DCUEX	SS	2 (L)	M20/M25	X	
STB2S2NW	226365-142	U9500A/DCUEX	SS	2 (L)	3/4 NPT	X	
N/A	006470-001	Harness for use with CGS and U9500A (included with STB2)					
STB5A6YR	226365-928	12 terminal	AL	6	M25		X
STB5S5YR	226365-929	12 terminal	SS	5	M25		X
STB5A2NW	226365-520	12 terminal	AL	2 (L)	3/4/NPT	X	
STB5A2YW	226365-510	12 terminal	AL	2 (L)	M25	X	
STB5A3NW	226365-521	12 terminal	AL	3 (T)	3/4 NPT	X	
STB5A3YW	226365-511	12 terminal	AL	3 (T)	M25	X	
STB5A5NW	226365-522	12 terminal	AL	5	3/4 NPT	X	
STB5A5YW	226365-512	12 terminal	AL	5	M25	X	
STB5A6NW	226365-523	12 terminal	AL	6	3/4 NPT	X	
STB5A2YW	226365-513	12 terminal	AL	6	M25	X	
STB5S2NW	226365-540	12 terminal	SS	2 (L)	3/4 NPT	X	
STB5S2YW	226365-530	12 terminal	SS	2 (L)	M25	X	
STB5S3NW	226365-541	12 terminal	SS	3 (T)	3/4 NPT	X	
STB5S3YW	226365-531	12 terminal	SS	3 (T)	M25	X	
STB5S5NW	226365-542	12 terminal	SS	5	3/4 NPT	X	
STB5S5YW	226365-532	12 terminal	SS	5	M25	X	
<b>Ship Weight: Aluminum = 2.2lb (1.0kg) Stainless Steel = 3lb (1.4kg)</b>							

\*\*L" designates 90 degree conduit entry orientation, "ST" designates straight-thru orientation, "T" designates 3-port orientation

†If two numbers are listed, the first number is for detector entry and the second number is for field cabling

**NOTE:** Compatibility Type 5 models approved from -55°C to +125°C for process control applications

## TOXICS

### PointWatch Eclipse® PIRECL Infrared Carbon Dioxide (CO<sub>2</sub>) Gas Detector



The **PointWatch Eclipse PIRECL Carbon Dioxide Detector** (Spec Sheet: 90-1207) is our rugged stainless steel, point infrared gas detector providing detection of carbon dioxide. Standard signal outputs include isolated 4-20 mA output, HART communication protocol, and RS-485 serial communication supporting Modbus. An optional 2-alarm and 1-fault relay package is available. A tri-color LED provides visual display of operating status. The weather baffle provides excellent optics protection with an easy twist-lock removal. Additional features include:

- Internal wiring compartment saves money and time
- Heated optics
- Non-intrusive calibration
- Handheld communicator capability
- Ex d, e, ib protection designs
- CSA, ATEX, CE, IECEx hazardous location certifications
- DNV type approval - maritime/offshore
- Remote calibration capability using PIRTB
- 0-2%/volume (0-20000) full scale range

PIRECL CO<sub>2</sub> Model Matrix

MODEL	DESCRIPTION										
PIRECL	PointWatch Eclipse Point Infrared CO <sub>2</sub> Gas Detector										
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>THREAD TYPE</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>3/4" NPT</td> </tr> <tr> <td>B</td> <td>Metric M25</td> </tr> </tbody> </table>	TYPE	THREAD TYPE	A	3/4" NPT	B	Metric M25				
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TYPE	CLASSIFICATION										
1	Division/Zone Ex d e										
2	Division/Zone Ex d										

## TOXICS

### PointWatch Eclipse PIRECL Infrared CO2 Gas Detector - CSA/IECEX

Model	Part Number	Entry thread type	Output	HART Port	Relays	Weather protection	Div/Zone Ex d e	Div/Zone Ex d	CSA/IECEX
PIRECLA3A1C1	011904-001	3/4 NPT	4-20 mA	X	No	w/ hydrophobic	X		X
PIRECLA3A1C2	011904-041	3/4 NPT	4-20 mA	X	No	w/ hydrophobic		X	X
PIRECLA3B1C2	011904-005	3/4 NPT	4-20 mA	X	Yes	w/ hydrophobic		X	X
PIRECLB3A1C1	011904-002	M25	4-20 mA	X	No	w/ hydrophobic	X		X
PIRECLB3A1C2	011904-045	M25	4-20 mA	X	No	w/ hydrophobic		X	X
PIRECLB3B1C2	011904-006	M25	4-20 mA	X	Yes	w/ hydrophobic		X	X
PIRECLA3D1C1	011906-001	3/4 NPT	4-20 mA		No	w/ hydrophobic	X		X
PIRECLA3D1C2	011906-041	3/4 NPT	4-20 mA		No	w/ hydrophobic		X	X
PIRECLA3E1C2	011906-005	3/4 NPT	4-20 mA		Yes	w/ hydrophobic		X	X
PIRECLB3D1C1	011906-002	M25	4-20 mA		No	w/ hydrophobic	X		X
PIRECLB3D1C2	011906-045	M25	4-20 mA		No	w/ hydrophobic		X	X
PIRECLB3E1C2	011906-006	M25	4-20 mA		Yes	w/ hydrophobic		X	X
<b>Ship Weight: 11.5 lb (5.2 kg)</b>									

### PointWatch Eclipse PIRECL Infrared CO2 Gas Detector - ATEX/IECEX

Model	Part Number	Entry thread type	Output	HART Port	Relays	Weather protection	Ex d e	Ex d	ATEX/IECEX
PIRECLA3A1E1	011904-501	3/4 NPT	4-20 mA	X	No	w/ hydrophobic	X		X
PIRECLA3A1E2	011904-541	3/4 NPT	4-20 mA	X	No	w/ hydrophobic		X	X
PIRECLA3B1E2	011904-505	3/4 NPT	4-20 mA	X	Yes	w/ hydrophobic		X	X
PIRECLB3A1E1	011904-502	M25	4-20 mA	X	No	w/ hydrophobic	X		X
PIRECLB3A1E2	011904-545	M25	4-20 mA	X	No	w/ hydrophobic		X	X
PIRECLB3B1E2	011904-506	M25	4-20 mA	X	Yes	w/ hydrophobic		X	X
PIRECLA3D1E1	011906-501	3/4 NPT	4-20 mA		No	w/ hydrophobic	X		X
PIRECLA3D1E2	011906-541	3/4 NPT	4-20 mA		No	w/ hydrophobic		X	X
PIRECLA3E1E2	011906-505	3/4 NPT	4-20 mA		Yes	w/ hydrophobic		X	X
PIRECLB3D1E1	011906-502	M25	4-20 mA		No	w/ hydrophobic	X		X
PIRECLB3D1E2	011906-545	M25	4-20 mA		No	w/ hydrophobic		X	X
PIRECLB3E1E2	011906-506	M25	4-20 mA		Yes	w/ hydrophobic		X	X
<b>Ship Weight: 11.5 lb (5.2 kg)</b>									

*PointWatch Eclipse PIRECL Infrared CO<sub>2</sub> Gas Detector - INMETRO (Brazil)*

Model	Part Number	Entry thread type	Output	HART Port	Relays	Weather protection	Ex d e	Ex d
PIRECLA3A1B2	011904-020	3/4 NPT	4-20 mA	X	No	w/ hydrophobic		X
PIRECLA3D1B2	011906-020	3/4 NPT	4-20 mA		No	w/ hydrophobic		X
PIRECLB3A1B1	011904-007	M25	4-20 mA	X	No	w/ hydrophobic	X	
<b>Ship Weight: 11.5 lb (5.2 kg)</b>								

*PointWatch Eclipse PIRECL Infrared CO<sub>2</sub> Gas Detector - VNIPO (Russian)*

Model	Part Number	Entry thread type	Output	HART Port	Relays	Weather protection	Ex d e	Ex d
PIRECLB3D1R2	011906-945	M25	4-20 mA		No	w/ hydrophobic		X
<b>Ship Weight: 11.5 lb (5.2 kg)</b>								

*PIRECL CO<sub>2</sub> Calibration Kit*

Part Number	Gas	Symbol	% Vol	PPM	Balance	Volume (liters)	Ship Weight
006468-017	Carbon Dioxide	CO2	1	10000	N2	103	11.5 lb (5.23 kg)
	Nitrogen	N2	100	Pure	N/A	103	

*PIRECL CO<sub>2</sub> Kit Replacement Cylinders*

Part Number	Gas	Symbol	% Vol	PPM	Balance	Volume (liters)	Ship Weight
227117-020	Carbon Dioxide	CO2	1	10000	N2	103	1 lb (0.45 kg)
227117-022	Nitrogen	N2	100	Pure	N/A	103	1 lb (0.45 kg)

## TOXICS

### FlexVu® UD10 Universal Display (for Toxics)



**FlexVu UD10 Universal Display** (Spec Sheet: 90-1200) is recommended for applications where a gas detector with digital read-out of detected gas levels are required. The FlexVu UD10 Universal Display Unit is designed for use with various Det-Tronics toxic gas sensor/transmitters such as GT3000, NTMOS or C706x. The display unit is designed and approved as a stand-alone controller and performs all the functions of a gas controller.

- Compliance to ISA-92.0.01 Part 1 performance standard, and EN50104 for oxygen depletion
- Division Approval Ratings: FM and CSA
- Zone Approval Ratings: FM, CSA, ATEX, and IECEx
- DNV type approval - maritime/offshore
- Eagle Quantum Premier model
- Universal design supports a variety of Det-Tronics sensors/detectors
- Non-intrusive menu allows device configuration and calibration without de-classifying the hazardous area
- **Continuously displays gas level, gas type, and units measured**
- Data logger for event time and date stamping
- Heated backlit display
- Relay, modbus, and linear isolated/non-isolated 4-20 mA output with HART, **configurable 4-20 mA output loop monitoring**
- IP66 rated

#### FlexVu UD10 Model Matrix

MODEL	DESCRIPTION												
UD10	Universal Display Unit												
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>MATERIAL</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Aluminum</td> </tr> <tr> <td>S</td> <td>Stainless Steel (316)</td> </tr> </tbody> </table>	TYPE	MATERIAL	A	Aluminum	S	Stainless Steel (316)						
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TYPE	CLASSIFICATION (Div/Zone)												
2	Ex d (Flameproof)												

\* Type Approvals can use one or more letters to designate the approvals of the product.

*FlexVu UD10 Universal Display - Toxics*

Model	Part Number	Material	Threads	Relay 4-20 RS485 HART	EQP-DCU Emulator	Cond. Board	FM/CSA/ATEX/IECEX	SIL 2
UD10A5M25T2	010765-001	AL	M25	X			X	X
UD10A5N25T2	010765-002	AL	3/4 NPT	X			X	X
UD10S5M25T2	010765-003	316 SS	M25	X			X	X
UD10S5N25T2	010765-004	316 SS	3/4 NPT	X			X	X
UD10A5M28W2	010765-005	AL	M25		X		X	
UD10A5N28W2	010765-006	AL	3/4 NPT		X		X	
UD10S5M28W2	010765-007	316 SS	M25		X		X	
UD10S5N28W2	010765-008	316 SS	3/4 NPT		X		X	
<b>Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 10.5lb (4.8kg)</b>								

*FlexVu UD10 Universal Display - Toxics - Brazil*

Model	Part Number	Material	Threads	Relay 4-20 RS485 HART	EQP-DCU Emulator	Cond. Board	INMETRO	SIL 2
UD10A5M25SB2	010765-081	AL	M25	X			X	X
UD10A5N25SB2	010765-082	AL	3/4 NPT	X			X	X
UD10S5M25SB2	010765-083	316 SS	M25	X			X	X
UD10S5N25SB2	010765-084	316 SS	3/4 NPT	X			X	X
UD10A5M28B2	010765-085	AL	M25		X		X	
UD10A5N28B2	010765-086	AL	3/4 NPT		X		X	
UD10S5M28B2	010765-087	316 SS	M25		X		X	
UD10S5N28B2	010765-088	316 SS	3/4 NPT		X		X	
<b>Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 10.5lb (4.8kg)</b>								

*FlexVu UD10 Universal Display - Toxics - Russia*

Model	Part Number	Material	Threads	Relay 4-20 RS485 HART	EQP-DCU Emulator	Cond. Board	VNIIFTRI
UD10A5M25R2	010765-901	AL	M25	X			X
UD10A5N25R2	010765-902	AL	3/4 NPT	X			X
UD10S5M25R2	010765-903	316 SS	M25	X			X
UD10S5N25R2	010765-904	316 SS	3/4 NPT	X			X
UD10A5M28R2	010765-905	AL	M25		X		X
UD10A5N28R2	010765-906	AL	3/4 NPT		X		X
UD10S5M28R2	010765-907	316 SS	M25		X		X
UD10S5N28R2	010765-908	316 SS	3/4 NPT		X		X
<b>Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 10.5lb (4.8kg)</b>							

## TOXICS

### FlexVu UD10 Spare Modules

Part Number	Description	Output	Ship Weight
010569-001	UD10 Display Module	Relay/4-20mA	1 lb (0.45 kg)
010535-001	UD10 Display Module	EQP-DCU	1 lb (0.45 kg)

### FlexVu UD10 Accessories

Part Number	Description	Ship Weight
009700-001	Magnetic Tool	<1 lb (0.45 kg)
014019-001	Gas Inspector 11 CD	<1 lb (0.45 kg)
014020-001	W6300G1006 Gas Inspector 11 Kit (includes CD)	1 lb (0.45 kg)
102988-002	Plug, 5.0mm, 6 Position - P2	<1 lb (0.45 kg)
102988-026	Plug, 5.0mm, 3 Position - P1 (J10, CGS)	<1 lb (0.45 kg)
102988-028	Plug, 5.0mm, 5 Position - (J3, CGS)	<1 lb (0.45 kg)
103726-002	Plug, 3.5mm, 3 Position - J2	<1 lb (0.45 kg)
103726-004	Plug, 3.5mm, 5 Position - J3	<1 lb (0.45 kg)
103726-011	Plug, 3.5mm, 12 Position - J4	<1 lb (0.45 kg)

### Stop Plugs and Reducers

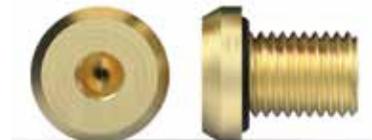
ITEM NUMBER	STYLE	MATERIAL	OVERALL LENGTH (mm)	THREAD TYPE	HEX SIZE
101197-001	TYPE A STOP PLUG	ALUMINUM	14.8	3/4 NPT	12
101197-002	TYPE A STOP PLUG	ALUMINUM	14.5	1/2 NPT	10
101197-003	DOME HEAD STOP PLUG	STAINLESS STEEL	21.5	M25	12
101197-004	TYPE A STOP PLUG	STAINLESS STEEL	14.8	3/4 NPT	12
101197-005	DOME HEAD STOP PLUG	ALUMINUM	21.5	M25	12
101197-006	DOME HEAD STOP PLUG	ALUMINUM	21.5	M20	10
101197-007	DOME HEAD STOP PLUG	STAINLESS STEEL	21.5	M20	10
101197-008	DOME HEAD STOP PLUG	NICKEL BRASS	21.5	M20	10
101197-009	DOME HEAD STOP PLUG	NICKEL BRASS	21.5	M25	12
101197-010	TYPE A STOP PLUG	NICKEL BRASS	14.8	3/4 NPT	12
101197-011	TYPE A STOP PLUG	NICKEL BRASS	14.5	1/2 NPT	10
101197-012	TYPE A STOP PLUG	STAINLESS STEEL	14.5	1/2 NPT	10
101197-501	IP WASHER	NYLON	-	M20	-
101197-502	IP WASHER	NYLON	-	M25	-
101197-503	IP WASHER	TEFLON PTFE	-	M20	-
101197-503	IP WASHER	TEFLON PTFE	-	M25	-
102804-001	REDUCER	ALUMINUM	-	M25 to M20	-
102804-003	REDUCER	STAINLESS STEEL	-	M25 to M20	-

**Ship Weight: 1/2 NPT = 0.07lb (0.030kg), 3/4 NPT = 0.11lb (0.05kg), M20 = 0.14lb (0.062kg), M25 = 0.28lb (0.125 kg)**  
**Available Stop Plug Approvals: ATEX, IECEx, CEC, NEC, EAC, INMETRO, SAC, UKRAINE, CCoE, ABS, LLOYD'S, RMRS**

\*NEMA/TYPE 4 and IP66 rating requires addition of Teflon tape

\*\*Metric threaded stop plugs are fitted with silicone O-Rings

\*\*\*For silicone sensitive applications the silicone O-Ring can be removed from Metric stop plugs and fitted with an IP washer



**Dome Head Stop Plug - Nickel Brass**



**Type A Stop Plug - Nickel Brass**



## TOXICS

### FlexVu® UD20 Universal Display



**FlexVu UD20 Universal Display** (Spec Sheet: 90-1201 - Explosion-proof Model, 90-1205 - Intrinsically Safe Model) supports the GT3000 Series toxic gas detectors.

- Compliance to ANSI/ISA-60079-11 and ISA-92.0.01 Part 1 performance standard
- Division Approval Ratings: FM and CSA
- Zone Approval Ratings: FM, CSA, ATEX, and IECEx
- LCD display
- Non-intrusive automatic calibration
- Non-intrusive menu system
- Linear 4-20 mA output with HART
- Explosion-proof design
- IP66 rated
- **2 wire loop powered**
- **Certified Non-Interfering with GT3000 SIL model**

### FlexVu UD20 Model Matrix

MODEL	DESCRIPTION								
UD20	Universal Display Unit								
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>MATERIAL</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Aluminum</td> </tr> <tr> <td>S</td> <td>Stainless Steel (316)</td> </tr> </tbody> </table>	TYPE	MATERIAL	A	Aluminum	S	Stainless Steel (316)		
TYPE	MATERIAL								
A	Aluminum								
S	Stainless Steel (316)								
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TYPE	THREAD TYPE								
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5N	5 Port, 3/4" NPT								
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TYPE	OUTPUTS								
26	Pass-Through 4-20mA, HART								
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TYPE	APPROVALS								
B	INMETRO (BRAZIL)								
R	VNIIFTRI (RUSSIA)								
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TYPE	CLASSIFICATION (Div/Zone)								
2	Ex d (Flameproof)								
4	Ex ia (intrinsically safe)								

### FlexVu UD20 Universal Display - FM/CSA/ATEX/IECEx

Model	Part Number	Material	Threads	Pass-Through 4-20 HART	Ex d	Ex ia	FM/CSA/ATEX/IECEx
UD20A5M26W2	009791-001	AL	M25	X	X		X
UD20A5N26W2	009791-002	AL	3/4 NPT	X	X		X
UD20S5M26W2	009791-003	316 SS	M25	X	X		X
UD20S5N26W2	009791-004	316 SS	3/4 NPT	X	X		X
UD20A5M26W4	009791-005*	AL	M25	X		X	X
UD20A5N26W4	009791-006*	AL	3/4 NPT	X		X	X
UD20S5M26W4	009791-007*	SS	M25	X		X	X
UD20S5N26W4	009791-008*	SS	3/4 NPT	X		X	X

**Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 10.5lb (4.8kg)**

\* Check with the factory for product availability

*FlexVu UD20 Universal Display - Brazil*

Model	Part Number	Material	Threads	Pass-Through 4-20 HART	Ex d	INMETRO
UD20A5M26B2	009791-081	AL	M25	X	X	X
UD20A5N26B2	009791-082	AL	3/4 NPT	X	X	X
UD20S5M26B2	009791-083	316 SS	M25	X	X	X
UD20S5N26B2	009791-084	316 SS	3/4 NPT	X	X	X
<b>Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 10.5lb (4.8kg)</b>						

*FlexVu UD20 Universal Display - Russia*

Model	Part Number	Material	Threads	Pass-Through 4-20 HART	Ex d	VNIIFTRI
UD20A5M26R2	009791-901	AL	M25	X	X	X
UD20A5N26R2	009791-902	AL	3/4 NPT	X	X	X
UD20S5M26R2	009791-903	316 SS	M25	X	X	X
UD20S5N26R2	009791-904	316 SS	3/4 NPT	X	X	X
<b>Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 10.5lb (4.8kg)</b>						

*FlexVu UD20 Spares*

Part Number	Description	Pass-Through 4-20 / HART	Ship Weight
009793-002	UD20 Display Module	X	1 lb (0.45 kg)

*FlexVu UD20 Accessories*

Part Number	Description	Ship Weight
009700-001	Magnetic Tool	<1 lb (0.45 kg)
010253-001	Kit, 250Ω Terminating Resistor	<1 lb (0.45 kg)

# TOXICS

## Stop Plugs and Reducers

ITEM NUMBER	STYLE	MATERIAL	OVERALL LENGTH (mm)	THREAD TYPE	HEX SIZE
101197-001	TYPE A STOP PLUG	ALUMINUM	14.8	3/4 NPT	12
101197-002	TYPE A STOP PLUG	ALUMINUM	14.5	1/2 NPT	10
101197-003	DOME HEAD STOP PLUG	STAINLESS STEEL	21.5	M25	12
101197-004	TYPE A STOP PLUG	STAINLESS STEEL	14.8	3/4 NPT	12
101197-005	DOME HEAD STOP PLUG	ALUMINUM	21.5	M25	12
101197-006	DOME HEAD STOP PLUG	ALUMINUM	21.5	M20	10
101197-007	DOME HEAD STOP PLUG	STAINLESS STEEL	21.5	M20	10
101197-008	DOME HEAD STOP PLUG	NICKEL BRASS	21.5	M20	10
101197-009	DOME HEAD STOP PLUG	NICKEL BRASS	21.5	M25	12
101197-010	TYPE A STOP PLUG	NICKEL BRASS	14.8	3/4 NPT	12
101197-011	TYPE A STOP PLUG	NICKEL BRASS	14.5	1/2 NPT	10
101197-012	TYPE A STOP PLUG	STAINLESS STEEL	14.5	1/2 NPT	10
101197-501	IP WASHER	NYLON	-	M20	-
101197-502	IP WASHER	NYLON	-	M25	-
101197-503	IP WASHER	TEFLON PTFE	-	M20	-
101197-503	IP WASHER	TEFLON PTFE	-	M25	-
102804-001	REDUCER	ALUMINUM	-	M25 to M20	-
102804-003	REDUCER	STAINLESS STEEL	-	M25 to M20	-

**Ship Weight: 1/2 NPT = 0.07lb (0.030kg), 3/4 NPT = 0.11lb (0.05kg), M20 = 0.14lb (0.062kg), M25 = 0.28lb (0.125 kg)**  
**Available Stop Plug Approvals: ATEX, IECEx, CEC, NEC, EAC, INMETRO, SAC, UKRAINE, CCoE, ABS, LLOYD'S, RMRS**

\*NEMA/TYPE 4 and IP66 rating requires addition of Teflon tape

\*\*Metric threaded stop plugs are fitted with silicone O-Rings

\*\*\*For silicone sensitive applications the silicone O-Ring can be removed from Metric stop plugs and fitted with an IP washer



**Dome Head Stop Plug - Nickel Brass**



**Type A Stop Plug - Nickel Brass**

Model STB Sensor Termination Box and Separation Kit



**Model STB Series Sensor Termination Box / Separation Kit** (Manual: 95-8655) includes a junction box, proper connector board, required hardware to enable proper mounting, and wiring of models GT3000, NTMOS, and C706x series detectors, or any 4-20 mA device.

- Enables remote installation of sensor for optimum gas detection while offering easy calibration access to FlexVu UD10, GDTB (NTMOS), or U9500 Ininiti
- One Sensor Termination Box per sensor is required

STB Model Matrix

MODEL	DESCRIPTION										
STB	Sensor Termination Box										
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>COMPATIBILITY</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>Model C706x electrochemical gas sensor/transmitter</td> </tr> <tr> <td>7</td> <td>6 Terminal (for use with GT3000)</td> </tr> </tbody> </table>	TYPE	COMPATIBILITY	3	Model C706x electrochemical gas sensor/transmitter	7	6 Terminal (for use with GT3000)				
TYPE	COMPATIBILITY										
3	Model C706x electrochemical gas sensor/transmitter										
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	<table border="1"> <thead> <tr> <th>TYPE</th> <th>MATERIAL</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Aluminum</td> </tr> <tr> <td>S</td> <td>Stainless Steel (316)</td> </tr> </tbody> </table>	TYPE	MATERIAL	A	Aluminum	S	Stainless Steel (316)				
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A	Aluminum										
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	<table border="1"> <thead> <tr> <th>TYPE</th> <th># OF PORTS, THREAD TYPE</th> </tr> </thead> <tbody> <tr> <td>2M</td> <td>2 PORT, M20/25 at 90 degree orientation</td> </tr> <tr> <td>2N</td> <td>2 PORT, 3/4" NPT at 90 degree orientation</td> </tr> <tr> <td>5Y</td> <td>5 PORT, M25</td> </tr> <tr> <td>5N</td> <td>5 PORT, 3/4" NPT</td> </tr> </tbody> </table>	TYPE	# OF PORTS, THREAD TYPE	2M	2 PORT, M20/25 at 90 degree orientation	2N	2 PORT, 3/4" NPT at 90 degree orientation	5Y	5 PORT, M25	5N	5 PORT, 3/4" NPT
TYPE	# OF PORTS, THREAD TYPE										
2M	2 PORT, M20/25 at 90 degree orientation										
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TYPE	APPROVALS										
B	INMETRO (BRAZIL)										
R	VNIIFTRI (RUSSIA)										
W	FM/CSA/ATEX/IECEX										

## TOXICS

### Model STB Sensor Termination Boxes / Separation Kits

Model	Part Number	Use With	Material	Ports*	Threads†	FM/CSA/ ATEX/ IECEX	VNIIFTRI	INMETRO
STB7A5YW	226365-601	GT3000/NTMOS	AL	5	M25	X		
STB7A5NW	226365-602	GT3000/NTMOS	AL	5	3/4 NPT	X		
STB7S5YW	226365-603	GT3000/NTMOS	SS	5	M25	X		
STB7S5NW	226365-604	GT3000/NTMOS	SS	5	3/4 NPT	X		
STB7A2NW	226365-605	GT3000/NTMOS	AL	2	3/4 NPT	X		
STB7A5NB	226365-606	GT3000/NTMOS	AL	5	3/4 NPT			X
STB7S5NB	226365-607	GT3000/NTMOS	SS	5	3/4 NPT			X
STB3A2NW	226365-133	C706x toxics	AL	2 (L)	3/4 NPT	X		
STB3S5YW	226365-143	C706x toxics	SS	5	M25	X		
STB3A2MW	226365-138	C706x toxics	AL	2 (L)	M20/M25	X		
STB3A2MR	226365-911	C706x toxics	AL	2 (L)	M20/M25		X	
<b>Ship Weight: Aluminum = 2.2lb (1.0kg) Stainless Steel = 3lb (1.4kg)</b>								

\*"L" designates 90 degree conduit entry orientation, "ST" designates straight-thru orientation, "T" designates 3-port orientation

†If two numbers are listed, the first number is for detector entry and the second number is for field cabling

## DISPLAYS AND CONTROLLERS

### FlexVu® UD10 Universal Display



**FlexVu UD10 Universal Display** (Spec Sheet: 90-1200) is recommended for applications that require a gas detector with digital read-out of detected gas levels. The FlexVu UD10 Universal Display Unit is designed for use with various Det-Tronics gas sensor/transmitters. The display unit is designed and approved as a stand-alone device and performs all the functions of a gas controller.

- Compliance to ANSI/ISA-12.13.01-2000 performance standard
- Compliance to ISA-92.0.01 Part 1 performance standard, and EN50104 for oxygen depletion
- Performance certified to FM 6310/6320, CSA 22.2 #152, ATEX EN60079-29-1, and IEC60079-29-1
- **Approved as a stand-alone combustible gas and low concentration toxic controller, when using the relay contacts**
- Division Approval Ratings: FM and CSA
- Zone Approval Ratings: FM, CSA, ATEX, and IECEx
- Eagle Quantum Premier model
- Universal design supports a variety of Det-Tronics sensors/detectors
- Non-intrusive menu allows device configuration and calibration without de-classifying the hazardous area
- Continuously displays gas level, gas type, and units measured
- Data logger for event time and date stamping
- Heated and backlit display
- Relay, modbus, and linear isolated/non-isolated 4-20 mA output with HART, **configurable 4-20 mA output loop monitoring**
- IP66 rated

FlexVu UD10 Model Matrix

MODEL	DESCRIPTION												
UD10	Universal Display Unit												
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>MATERIAL</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Aluminum</td> </tr> <tr> <td>S</td> <td>Stainless Steel (316)</td> </tr> </tbody> </table>	TYPE	MATERIAL	A	Aluminum	S	Stainless Steel (316)						
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TYPE	APPROVALS*												
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TYPE	OPTIONAL CONDITIONING BOARD												
(Blank)	None												
C	CGS												

\* Type Approvals can use one or more letters to designate the approvals of the product.

FlexVu UD10 Universal Display - FM/CSA/ATEX/IECEX

Model	Part Number	Material	Threads	Relay 4-20 RS485 HART	EQP/DCU Emulator	Cond. Board	FM/CSA/ ATEX/IECEX	SIL 2
UD10A5M25T2	010765-001	AL	M25	X			X	X
UD10A5N25T2	010765-002	AL	3/4 NPT	X			X	X
UD10S5M25T2	010765-003	316 SS	M25	X			X	X
UD10S5N25T2	010765-004	316 SS	3/4 NPT	X			X	X
UD10A5M28W2	010765-005	AL	M25		X		X	
UD10A5N28W2	010765-006	AL	3/4 NPT		X		X	
UD10S5M28W2	010765-007	316 SS	M25		X		X	
UD10S5N28W2	010765-008	316 SS	3/4 NPT		X		X	
UD10A5M25W2C	010254-001	AL	M25	X		CGS	X	
UD10A5N25W2C	010254-002	AL	3/4 NPT	X		CGS	X	
UD10S5M25W2C	010254-003	316 SS	M25	X		CGS	X	
UD10S5N25W2C	010254-004	316 SS	3/4 NPT	X		CGS	X	
UD10A5M28W2C	010254-005	AL	M25		X	CGS	X	
UD10A5N28W2C	010254-006	AL	3/4 NPT		X	CGS	X	
UD10S5M28W2C	010254-007	316 SS	M25		X	CGS	X	
UD10S5N28W2C	010254-008	316 SS	3/4 NPT		X	CGS	X	

**Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 10.5lb (4.8kg)**

## DISPLAYS AND CONTROLLERS

### *FlexVu UD10 Universal Display - Brazil*

Model	Part Number	Material	Threads	Relay 4-20 RS485 HART	EQP/DCU Emulator	Cond. Board	INMETRO	SIL 2
UD10A5M25SB2	010765-081	AL	M25	X			X	X
UD10A5N25SB2	010765-082	AL	3/4 NPT	X			X	X
UD10S5M25SB2	010765-083	316 SS	M25	X			X	X
UD10S5N25SB2	010765-084	316 SS	3/4 NPT	X			X	X
UD10A5N28B2	010765-086	AL	3/4 NPT		X		X	
UD10S5M28B2	010765-087	316 SS	M25		X		X	
UD10S5N28B2	010765-088	316 SS	3/4 NPT		X		X	
UD10A5M25B2C	010254-081	AL	M25	X		CGS	X	
UD10A5N25B2C	010254-082	AL	3/4 NPT	X		CGS	X	
UD10S5M25B2C	010254-083	316 SS	M25	X		CGS	X	
UD10S5N25B2C	010254-084	316 SS	3/4 NPT	X		CGS	X	
UD10A5M28B2C	010254-085	AL	M25		X	CGS	X	
UD10A5N28B2C	010254-086	AL	3/4 NPT		X	CGS	X	
UD10S5M28B2C	010254-087	316 SS	M25		X	CGS	X	
UD10S5N28B2C	010254-088	316 SS	3/4 NPT		X	CGS	X	
<b>Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 10.5lb (4.8kg)</b>								

### *FlexVu UD10 Universal Display - Russia*

Model	Part Number	Material	Threads	Relay 4-20 RS485 HART	EQP/DCU Emulator	Cond. Board	VNIIFTRI
UD10A5M25R2	010765-901	AL	M25	X			X
UD10S5M25R2	010765-903	316 SS	M25	X			X
UD10A5M28R2	010765-905	AL	M25		X		X
UD10A5N28R2	010765-906	AL	3/4 NPT		X		X
UD10S5M28R2	010765-907	316 SS	M25		X		X
UD10S5N28R2	010765-908	316 SS	3/4 NPT		X		X
UD10A5M28R2C	010254-905	AL	M25		X	CGS	X
UD10A5N28R2C	010254-906	AL	3/4 NPT		X	CGS	X
UD10S5M28R2C	010254-907	316 SS	M25		X	CGS	X
UD10S5N28R2C	010254-908	316 SS	3/4 NPT		X	CGS	X
<b>Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 10.5lb (4.8kg)</b>							

## DISPLAYS AND CONTROLLERS

### FlexVu UD10 Spare Modules

Part Number	Description	Output	Ship Weight
010569-001	UD10 Display Module	Relay/4-20mA	1 lb (0.45 kg)
010535-001	UD10 Display Module	EQP-DCU	1 lb (0.45 kg)

### FlexVu UD10 Accessories

Part Number	Description	Ship Weight
009700-001	Magnetic Tool	<1 lb (0.45 kg)
014019-001	Gas Inspector 11 CD	<1 lb (0.45 kg)
014020-001	W6300G1006 Gas Inspector 11 Kit (includes CD)	1 lb (0.45 kg)
102988-002	Plug, 5.0mm, 6 Position - P2	<1 lb (0.45 kg)
102988-026	Plug, 5.0mm, 3 Position - P1 (J10, CGS)	<1 lb (0.45 kg)
102988-028	Plug, 5.0mm, 5 Position - (J3, CGS)	<1 lb (0.45 kg)
103726-002	Plug, 3.5mm, 3 Position - J2	<1 lb (0.45 kg)
103726-004	Plug, 3.5mm, 5 Position - J3	<1 lb (0.45 kg)
103726-011	Plug, 3.5mm, 12 Position - J4	<1 lb (0.45 kg)

### Stop Plugs and Reducers

ITEM NUMBER	STYLE	MATERIAL	OVERALL LENGTH (mm)	THREAD TYPE	HEX SIZE
101197-001	TYPE A STOP PLUG	ALUMINUM	14.8	3/4 NPT	12
101197-002	TYPE A STOP PLUG	ALUMINUM	14.5	1/2 NPT	10
101197-003	DOME HEAD STOP PLUG	STAINLESS STEEL	21.5	M25	12
101197-004	TYPE A STOP PLUG	STAINLESS STEEL	14.8	3/4 NPT	12
101197-005	DOME HEAD STOP PLUG	ALUMINUM	21.5	M25	12
101197-006	DOME HEAD STOP PLUG	ALUMINUM	21.5	M20	10
101197-007	DOME HEAD STOP PLUG	STAINLESS STEEL	21.5	M20	10
101197-008	DOME HEAD STOP PLUG	NICKEL BRASS	21.5	M20	10
101197-009	DOME HEAD STOP PLUG	NICKEL BRASS	21.5	M25	12
101197-010	TYPE A STOP PLUG	NICKEL BRASS	14.8	3/4 NPT	12
101197-011	TYPE A STOP PLUG	NICKEL BRASS	14.5	1/2 NPT	10
101197-012	TYPE A STOP PLUG	STAINLESS STEEL	14.5	1/2 NPT	10
101197-501	IP WASHER	NYLON	-	M20	-
101197-502	IP WASHER	NYLON	-	M25	-
101197-503	IP WASHER	TEFLON PTFE	-	M20	-
101197-503	IP WASHER	TEFLON PTFE	-	M25	-
102804-001	REDUCER	ALUMINUM	-	M25 to M20	-
102804-003	REDUCER	STAINLESS STEEL	-	M25 to M20	-

**Ship Weight: 1/2 NPT = 0.07lb (0.030kg), 3/4 NPT = 0.11lb (0.05kg), M20 = 0.14lb (0.062kg), M25 = 0.28lb (0.125 kg)**  
**Available Stop Plug Approvals: ATEX, IECEx, CEC, NEC, EAC, INMETRO, SAC, UKRAINE, CCoE, ABS, LLOYD'S, RMRS**



**Dome Head Stop Plug - Nickel Brass**



**Type A Stop Plug - Nickel Brass**

\*NEMA/TYPE 4 and IP66 rating requires addition of Teflon tape

\*\*Metric threaded stop plugs are fitted with silicone O-Rings

\*\*\*For silicone sensitive applications the silicone O-Ring can be removed from Metric stop plugs and fitted with an IP washer

## DISPLAYS AND CONTROLLERS



### FlexVu® UD10 Universal Display Repair / Upgrade Kit

(Technical Bulletin: 76-1046) The UD10 Repair/Upgrade Kit allows field conversion of an existing U9500 Infiniti® Transmitter, Model 505 Transmitter, or Eagle Quantum Premier® Digital Communication Unit (DCU) to a FlexVu® UD10 Universal Display. The existing junction box base, along with the existing conduit and field wiring, can be left in place and do not need to be replaced.

#### FlexVu UD10 Upgrade Kit

Model	Part Number	Material	Threads	Relay 4-20 RS485 HART	EQP/ DCU Emulator	Cond. Board	FM/ CSA/ ATEX/ IECEX	SIL 2
UPGRADE KIT UD10A5M25T2	010970-001	AL	M25	X			X	X
UPGRADE KIT UD10A5N25T2	010970-002	AL	3/4 NPT	X			X	X
UPGRADE KIT UD10S5M25T2	010970-003	316 SS	M25	X			X	X
UPGRADE KIT UD10S5N25T2	010970-004	316 SS	3/4 NPT	X			X	X
UPGRADE KIT UD10A5M28W2	010970-005	AL	M25		X		X	
UPGRADE KIT UD10A5N28W2	010970-006	AL	3/4 NPT		X		X	
UPGRADE KIT UD10S5M28W2	010970-007	316 SS	M25		X		X	
UPGRADE KIT UD10S5N28W2	010970-008	316 SS	3/4 NPT		X		X	
UPGRADE KIT UD10S5N25W2C	010971-004	316 SS	3/4 NPT	X		CGS	X	
UPGRADE KIT UD10A5M28W2C	010971-005	AL	M25		X	CGS	X	
UPGRADE KIT UD10A5N28W2C	010971-006	AL	3/4 NPT		X	CGS	X	
UPGRADE KIT UD10S5M28W2C	010971-007	316 SS	M25		X	CGS	X	
UPGRADE KIT UD10S5N28W2C	010971-008	316 SS	3/4 NPT		X	CGS	X	
<b>Ship Weight: Aluminum = 3.5 lb (1.6 kg) Stainless Steel = 8.7 lb (3.9 kg)</b>								



## FlexVu® UD20 Universal Display



**FlexVu UD20 Universal Display** (Spec Sheet: 90-1201 - Explosion-proof Model, 90-1205 - Intrinsically Safe Model) supports the GT3000 Series toxic gas detectors, and the PIRECL series combustible gas detectors.

- Compliance to ANSI/ISA-60079-11 and ISA-92.0.01 Part 1 performance standard
- Division Approval Ratings: FM and CSA
- Zone Approval Ratings: FM, CSA, ATEX, and IECEx
- LCD display
- Non-intrusive automatic calibration
- Non-intrusive menu system
- Linear 4-20 mA output with HART
- Explosion-proof design
- IP66 rated
- **2 wire loop powered**
- **Certified Non-Interfering with GT3000 SIL model and PIRECL SIL models**

### FlexVu UD20 Model Matrix

MODEL	DESCRIPTION								
UD20	Universal Display Unit								
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>MATERIAL</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Aluminum</td> </tr> <tr> <td>S</td> <td>Stainless Steel (316)</td> </tr> </tbody> </table>	TYPE	MATERIAL	A	Aluminum	S	Stainless Steel (316)		
TYPE	MATERIAL								
A	Aluminum								
S	Stainless Steel (316)								
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>THREAD TYPE</th> </tr> </thead> <tbody> <tr> <td>5M</td> <td>5 Port, Metric M25</td> </tr> <tr> <td>5N</td> <td>5 Port, 3/4" NPT</td> </tr> </tbody> </table>	TYPE	THREAD TYPE	5M	5 Port, Metric M25	5N	5 Port, 3/4" NPT		
TYPE	THREAD TYPE								
5M	5 Port, Metric M25								
5N	5 Port, 3/4" NPT								
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>OUTPUTS</th> </tr> </thead> <tbody> <tr> <td>26</td> <td>Pass-Through 4-20mA, HART</td> </tr> </tbody> </table>	TYPE	OUTPUTS	26	Pass-Through 4-20mA, HART				
TYPE	OUTPUTS								
26	Pass-Through 4-20mA, HART								
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>APPROVALS</th> </tr> </thead> <tbody> <tr> <td>B</td> <td>INMETRO (BRAZIL)</td> </tr> <tr> <td>R</td> <td>VNIIFTRI (RUSSIA)</td> </tr> <tr> <td>W</td> <td>FM/CSA/ATEX/IECEx</td> </tr> </tbody> </table>	TYPE	APPROVALS	B	INMETRO (BRAZIL)	R	VNIIFTRI (RUSSIA)	W	FM/CSA/ATEX/IECEx
TYPE	APPROVALS								
B	INMETRO (BRAZIL)								
R	VNIIFTRI (RUSSIA)								
W	FM/CSA/ATEX/IECEx								
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>CLASSIFICATION (Div/Zone)</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>Ex d (Flameproof)</td> </tr> <tr> <td>4</td> <td>Ex ia (intrinsically safe)</td> </tr> </tbody> </table>	TYPE	CLASSIFICATION (Div/Zone)	2	Ex d (Flameproof)	4	Ex ia (intrinsically safe)		
TYPE	CLASSIFICATION (Div/Zone)								
2	Ex d (Flameproof)								
4	Ex ia (intrinsically safe)								

### FlexVu UD20 Universal Display - FM/CSA/ATEX/IECEx

Model	Part Number	Material	Threads	Pass-Through 4-20 HART	Ex d	Ex ia	FM/CSA/ATEX/IECEx
UD20A5M26W2	009791-001	AL	M25	X	X		X
UD20A5N26W2	009791-002	AL	3/4 NPT	X	X		X
UD20S5M26W2	009791-003	316 SS	M25	X	X		X
UD20S5N26W2	009791-004	316 SS	3/4 NPT	X	X		X
UD20A5M26W4	009791-005*	AL	M25	X		X	X
UD20A5N26W4	009791-006*	AL	3/4 NPT	X		X	X
UD20S5M26W4	009791-007*	SS	M25	X		X	X
UD20S5N26W4	009791-008*	SS	3/4 NPT	X		X	X

**Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 10.5lb (4.8kg)**

\* Check with the factory for product availability

## DISPLAYS AND CONTROLLERS

### *FlexVu UD20 Universal Display - Brazil*

Model	Part Number	Material	Threads	Pass-Through 4-20 HART	Ex d	INMETRO
UD20A5M26B2	009791-081	AL	M25	X	X	X
UD20A5N26B2	009791-082	AL	3/4 NPT	X	X	X
UD20S5M26B2	009791-083	316 SS	M25	X	X	X
UD20S5N26B2	009791-084	316 SS	3/4 NPT	X	X	X
<b>Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 10.5lb (4.8kg)</b>						

### *FlexVu UD20 Universal Display - Russia*

Model	Part Number	Material	Threads	Pass-Through 4-20 HART	Ex d	VNIIFTRI
UD20A5M26R2	009791-901	AL	M25	X	X	X
UD20A5N26R2	009791-902	AL	3/4 NPT	X	X	X
UD20S5M26R2	009791-903	316 SS	M25	X	X	X
UD20S5N26R2	009791-904	316 SS	3/4 NPT	X	X	X
<b>Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 10.5lb (4.8kg)</b>						

### *FlexVu UD20 Spares*

Part Number	Description	Pass-Through 4-20 / HART	Ship Weight
009793-002	UD20 Display Module	X	1 lb (0.45 kg)

### *FlexVu UD20 Accessories*

Part Number	Description	Ship Weight
009700-001	Magnetic Tool	<1 lb (0.45 kg)
010253-001	Kit, 250Ω Terminating Resistor	<1 lb (0.45 kg)

Stop Plugs and Reducers

ITEM NUMBER	STYLE	MATERIAL	OVERALL LENGTH (mm)	THREAD TYPE	HEX SIZE
101197-001	TYPE A STOP PLUG	ALUMINUM	14.8	3/4 NPT	12
101197-002	TYPE A STOP PLUG	ALUMINUM	14.5	1/2 NPT	10
101197-003	DOME HEAD STOP PLUG	STAINLESS STEEL	21.5	M25	12
101197-004	TYPE A STOP PLUG	STAINLESS STEEL	14.8	3/4 NPT	12
101197-005	DOME HEAD STOP PLUG	ALUMINUM	21.5	M25	12
101197-006	DOME HEAD STOP PLUG	ALUMINUM	21.5	M20	10
101197-007	DOME HEAD STOP PLUG	STAINLESS STEEL	21.5	M20	10
101197-008	DOME HEAD STOP PLUG	NICKEL BRASS	21.5	M20	10
101197-009	DOME HEAD STOP PLUG	NICKEL BRASS	21.5	M25	12
101197-010	TYPE A STOP PLUG	NICKEL BRASS	14.8	3/4 NPT	12
101197-011	TYPE A STOP PLUG	NICKEL BRASS	14.5	1/2 NPT	10
101197-012	TYPE A STOP PLUG	STAINLESS STEEL	14.5	1/2 NPT	10
101197-501	IP WASHER	NYLON	-	M20	-
101197-502	IP WASHER	NYLON	-	M25	-
101197-503	IP WASHER	TEFLON PTFE	-	M20	-
101197-503	IP WASHER	TEFLON PTFE	-	M25	-
102804-001	REDUCER	ALUMINUM	-	M25 to M20	-
102804-003	REDUCER	STAINLESS STEEL	-	M25 to M20	-

**Ship Weight: 1/2 NPT = 0.07lb (0.030kg), 3/4 NPT = 0.11lb (0.05kg), M20 = 0.14lb (0.062kg), M25 = 0.28lb (0.125 kg)**  
**Available Stop Plug Approvals: ATEX, IECEx, CEC, NEC, EAC, INMETRO, SAC, UKRAINE, CCoE, ABS, LLOYD'S, RMRS**

\*NEMA/TYP E 4 and IP66 rating requires addition of Teflon tape

\*\*Metric threaded stop plugs are fitted with silicone O-Rings

\*\*\*For silicone sensitive applications the silicone O-Ring can be removed from Metric stop plugs and fitted with an IP washer



**Dome Head Stop Plug - Nickel Brass**



**Type A Stop Plug - Nickel Brass**

# DISPLAYS AND CONTROLLERS

## FlexVu® UD30 Universal Display



**FlexVu UD30 Model** (90-1231-Specifications) is recommended for applications that require a gas detector with digital readout of detected gas levels as well as pass-through 0–20 mA and relay outputs. The UD30 is designed for use with Det-Tronics gas detectors such as the GT3000, PIRECL, PIR9400, CGS, ATX10, PIRDUCT, or LS2000, as well as generic linear 4–20 mA sensors. The display unit is designed and approved as a “stand alone” device and can perform functions of a gas controller.

Gas level (%), type and unit of measurement are indicated on the digital display. Access to the local event logs and other display capabilities, such as calibration, is accomplished through four (4) magnetic buttons around the display.

**Features:**

- Universal design supports multiple Det-Tronics sensors or generic linear 4–20 mA sensors
- Local digital LCD continuously indicates gas level, gas type and units measured
- Backlit and heated display
- Non-intrusive calibration
- Rugged construction approved for use in classified hazardous areas
- Available in 316 stainless steel (shown) and black epoxy aluminum
- Internal magnetic switches provide a non-intrusive user interface which allows device configuration without de-classifying hazardous areas
- SIL2 models certified to IEC61508 by exida®
- Logs provided for analysis and management include:
  - o Event: Include fault and alarm logs with runtime hours
  - o Calibration: With runtime hours
  - o Temperature: Two sets of minimum and maximum temperature logs with runtime hours

### UD30 Model Matrix

MODEL	DESCRIPTION						
UD30	FlexVu® UD30 Universal Display						
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>DETECTOR HOUSING MATERIAL</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>ALUMINUM (STANDARD)</td> </tr> <tr> <td>S</td> <td>STAINLESS STEEL</td> </tr> </tbody> </table>	TYPE	DETECTOR HOUSING MATERIAL	A	ALUMINUM (STANDARD)	S	STAINLESS STEEL
TYPE	DETECTOR HOUSING MATERIAL						
A	ALUMINUM (STANDARD)						
S	STAINLESS STEEL						
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>PORT</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>3 Port, T-Configuration (STANDARD)</td> </tr> </tbody> </table>	TYPE	PORT	3	3 Port, T-Configuration (STANDARD)		
TYPE	PORT						
3	3 Port, T-Configuration (STANDARD)						
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>THREAD</th> </tr> </thead> <tbody> <tr> <td>F</td> <td>Metric M20</td> </tr> <tr> <td>N</td> <td>3/4" NPT</td> </tr> </tbody> </table>	TYPE	THREAD	F	Metric M20	N	3/4" NPT
TYPE	THREAD						
F	Metric M20						
N	3/4" NPT						
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>OUTPUT</th> </tr> </thead> <tbody> <tr> <td>12</td> <td>4-20 mA Pass-Through* / HART Pass-Through*</td> </tr> <tr> <td>13</td> <td>Relay, 4-20 mA Pass-Through* / HART Pass-Through*</td> </tr> </tbody> </table>	TYPE	OUTPUT	12	4-20 mA Pass-Through* / HART Pass-Through*	13	Relay, 4-20 mA Pass-Through* / HART Pass-Through*
TYPE	OUTPUT						
12	4-20 mA Pass-Through* / HART Pass-Through*						
13	Relay, 4-20 mA Pass-Through* / HART Pass-Through*						
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>APPROVALS**</th> </tr> </thead> <tbody> <tr> <td>SA</td> <td>SIL/FM/CSA</td> </tr> <tr> <td>SE</td> <td>SIL/ATEX/IECEX</td> </tr> </tbody> </table>	TYPE	APPROVALS**	SA	SIL/FM/CSA	SE	SIL/ATEX/IECEX
TYPE	APPROVALS**						
SA	SIL/FM/CSA						
SE	SIL/ATEX/IECEX						
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>CLASSIFICATION</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>Division/Zone Ex d</td> </tr> </tbody> </table>	TYPE	CLASSIFICATION	2	Division/Zone Ex d		
TYPE	CLASSIFICATION						
2	Division/Zone Ex d						
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>OPTIONAL CONDITIONING BOARD</th> </tr> </thead> <tbody> <tr> <td>C</td> <td>CGS</td> </tr> </tbody> </table>	TYPE	OPTIONAL CONDITIONING BOARD	C	CGS		
TYPE	OPTIONAL CONDITIONING BOARD						
C	CGS						

\* The UD30 does not communicate via HART but will pass through, without interference, any HART signals present on the 4-20mA line. \*The UD30 also passes through the 4-20mA detector input to the UD30 4-20mA output terminals.

\*\* Type Approvals can use one or more letters to designate the approvals of the product.

## DISPLAYS AND CONTROLLERS

### *FlexVu UD30 Universal Display - 3 port*

Model	Part Number	Material	Threads	0-20mA	Relay, 0-20mA	FM/CSA	ATEX/IECEX	SIL 2
UD30A3N12SA2	014023-011	AL	3/4 NPT	X		X		X
UD30A3N12SE2	014023-012	AL	3/4 NPT	X			X	X
UD30A3N13SA2	014023-013	AL	3/4 NPT		X	X		X
UD30A3N13SE2	014023-014	AL	3/4 NPT		X		X	X
UD30A3F12SA2	014023-015	AL	M20	X		X		X
UD30A3F12SE2	014023-016	AL	M20	X			X	X
UD30A3F13SA2	014023-017	AL	M20		X	X		X
UD30A3F13SE2	014023-018	AL	M20		X		X	X
UD30S3N12SA2	014029-011	316 SS	3/4 NPT	X		X		X
UD30S3N12SE2	014029-012	316 SS	3/4 NPT	X			X	X
UD30S3N13SA2	014029-013	316 SS	3/4 NPT		X	X		X
UD30S3N13SE2	014029-014	316 SS	3/4 NPT		X		X	X
UD30S3F12SA2	014029-015	316 SS	M20	X		X		X
UD30S3F12SE2	014029-016	316 SS	M20	X			X	X
UD30S3F13SA2	014029-017	316 SS	M20		X	X		X
UD30S3F13SE2	014029-018	316 SS	M20		X		X	X
<b>Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 13lb (5.9kg)</b>								

### *FlexVu UD30 Universal Display - CGS - 3 port*

Model	Part Number	Material	Threads	0-20mA	Relay, 0-20mA	FM/CSA	ATEX/IECEX	SIL 2
UD30A3N12SA2C	014191-001	AL	3/4 NPT	X		X		X
UD30A3N12SE2C	014191-002	AL	3/4 NPT	X			X	X
UD30A3N13SA2C	014191-003	AL	3/4 NPT		X	X		X
UD30A3N13SE2C	014191-004	AL	3/4 NPT		X		X	X
UD30A3F12SA2C	014191-005	AL	M20	X		X		X
UD30A3F12SE2C	014191-006	AL	M20	X			X	X
UD30A3F13SA2C	014191-007	AL	M20		X	X		X
UD30A3F13SE2C	014191-008	AL	3/4 NPT		X		X	X
UD30S3N12SA2C	014192-001	316 SS	M25	X		X		X
UD30S3N12SE2C	014192-002	316 SS	3/4 NPT	X			X	X
UD30S3N13SA2C	014192-003	316 SS	M25		X	X		X
UD30S3N13SE2C	014192-004	316 SS	3/4 NPT		X		X	X
UD30S3F12SA2C	014192-005	316 SS	M25	X		X		X
UD30S3F12SE2C	014192-006	316 SS	3/4 NPT	X			X	X
UD30S3F13SA2C	014192-007	316 SS	M25		X	X		X
UD30S3F13SE2C	014192-008	316 SS	3/4 NPT		X		X	X
<b>Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 13lb (5.9kg)</b>								

## DISPLAYS AND CONTROLLERS

### FlexVu UD30 Universal Display - INMETRO - 3 port

Model	Part Number	Material	Threads	0-20mA	Relay, 0-20mA	Cond. Board	INMETRO	SIL2
UD30S3N12SB2	014029-211	Stainless Steel	3/4" NPT	X			X	X
UD30A3N12SB2	014023-211	Aluminum	3/4" NPT	X			X	X
UD30S3N13SB2	014029-213	Stainless Steel	3/4" NPT		X		X	X
UD30A3N13SB2	014023-213	Aluminum	3/4" NPT		X		X	X
UD30S3N12SB2C	014192-201	Stainless Steel	3/4" NPT	X		CGS	X	X
UD30A3N12SB2C	014191-201	Aluminum	3/4" NPT	X		CGS	X	X
UD30S3N13SB2C	014192-203	Stainless Steel	3/4" NPT		X	CGS	X	X
UD30A3N13SB2C	014191-203	Aluminum	3/4" NPT		X	CGS	X	X
<b>Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 13lb (5.9kg)</b>								

### FlexVu UD30 Spare Modules

Part Number	Description	Output	Ship Weight
014028-001	UD30 DISPLAY MODULE	0-20mA	1 lb (0.45 kg)
014028-002	UD30 DISPLAY MODULE WITH RELAYS	Relay/0-20mA	1 lb (0.45 kg)

### FlexVu UD30 CGS Replacement Parts

Part Number	Description	Ship Weight
014056-001	UD30 TO UD30CGS CONVERSION KIT	<1 lb (<0.45 kg)

### FlexVu UD30 Accessories

Part Number	Description	Ship Weight
014128-001	U-MOUNT FOR UD30 4" POLE	1 lb (0.45 kg)
014128-002	U-MOUNT FOR UD30 2" POLE	0.75 lb (0.3 kg)
014123-001	SUN SHADE, UD10, UD30	5 lbs (2.27 kg)
014064-001	KIT, UD30 TO U9500 ADAPTER PLT	1.75 lb (0.8 kg)

### FlexVu UD30 Spare Terminal Plugs

Part Number	Description	For Use With	Ship Weight (kg)	
104486-005	PLUG EURO 5MM RGHT ANG 5POS	UD30 Display J6 - Sensor Plug	<1 lb	(<0.45)
104486-007	PLUG EURO 5MM RGHT ANG 7POS	UD30 Display J5 - Main Plug	<1 lb	(<0.45)
104486-009	PLUG EURO 5MM RGHT ANG 9POS	UD30 Display J1 - Relay Board	<1 lb	(<0.45)
102988-028	PLUG,VERT.,W/CLIP,5.0MM, 5 POS	CTX / UD30 CGS Board - J1	<1 lb	(<0.45)
102988-026	PLUG,VERT.,W/CLIP,5.0MM, 3 POS	CTX / UD30 CGS Board - J3	<1 lb	(<0.45)
103725-002	HEADER VERT.,3.5MM,3-PIN	CTX / UD30 CGS Board - J2	<1 lb	(<0.45)

Stop Plugs and Reducers

ITEM NUMBER	STYLE	MATERIAL	OVERALL LENGTH (mm)	THREAD TYPE	HEX SIZE
101197-001	TYPE A STOP PLUG	ALUMINUM	14.8	3/4 NPT	12
101197-002	TYPE A STOP PLUG	ALUMINUM	14.5	1/2 NPT	10
101197-003	DOME HEAD STOP PLUG	STAINLESS STEEL	21.5	M25	12
101197-004	TYPE A STOP PLUG	STAINLESS STEEL	14.8	3/4 NPT	12
101197-005	DOME HEAD STOP PLUG	ALUMINUM	21.5	M25	12
101197-006	DOME HEAD STOP PLUG	ALUMINUM	21.5	M20	10
101197-007	DOME HEAD STOP PLUG	STAINLESS STEEL	21.5	M20	10
101197-008	DOME HEAD STOP PLUG	NICKEL BRASS	21.5	M20	10
101197-009	DOME HEAD STOP PLUG	NICKEL BRASS	21.5	M25	12
101197-010	TYPE A STOP PLUG	NICKEL BRASS	14.8	3/4 NPT	12
101197-011	TYPE A STOP PLUG	NICKEL BRASS	14.5	1/2 NPT	10
101197-012	TYPE A STOP PLUG	STAINLESS STEEL	14.5	1/2 NPT	10
101197-501	IP WASHER	NYLON	-	M20	-
101197-502	IP WASHER	NYLON	-	M25	-
101197-503	IP WASHER	TEFLON PTFE	-	M20	-
101197-503	IP WASHER	TEFLON PTFE	-	M25	-
102804-001	REDUCER	ALUMINUM	-	M25 to M20	-
102804-003	REDUCER	STAINLESS STEEL	-	M25 to M20	-

**Ship Weight: 1/2 NPT = 0.07lb (0.030kg), 3/4 NPT = 0.11lb (0.05kg), M20 = 0.14lb (0.062kg), M25 = 0.28lb (0.125 kg)**  
**Available Stop Plug Approvals: ATEX, IECEx, CEC, NEC, EAC, INMETRO, SAC, UKRAINE, CCoE, ABS, LLOYD'S, RMRS**

\*NEMA/TYPE 4 and IP66 rating requires addition of Teflon tape

\*\*Metric threaded stop plugs are fitted with silicone O-Rings

\*\*\*For silicone sensitive applications the silicone O-Ring can be removed from Metric stop plugs and fitted with an IP washer



**Dome Head Stop Plug - Nickel Brass**



**Type A Stop Plug - Nickel Brass**

## DISPLAYS AND CONTROLLERS

### Combustible Gas Transmitter

The **Model CTX10 Transmitter** (90-1234-Specifications) is used with one constant current catalytic gas sensor to provide a linear 4 to 20 mA output signal corresponding to a 0 to 100% LFL gas concentration. Non-intrusive calibration and sensor sensitivity checks are performed using a magnetic switch. The CTX10 is third-party performance approved for methane and propane gases.

#### Features:

- Onboard magnetic calibration/reset switch for non-intrusive calibration capability
- Compatible with constant current Det-Tronics catalytic sensors
- Direct field replacement for Det-Tronics Model 505 Transmitters
- Current level indicates fault condition and calibrate mode
- Sensor sensitivity check
- Suitable for use in a wide variety of combustible gas detection applications
- Available in 316 stainless steel and black epoxy aluminum (shown)
- Explosion-proof junction box available in aluminum or stainless steel



#### CTX10 Model Matrix

MODEL	DESCRIPTION								
CTX10	Catalytic Combustible Gas Transmitter								
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>ENCLOSURE MATERIAL</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Aluminum</td> </tr> <tr> <td>S</td> <td>Stainless Steel</td> </tr> </tbody> </table>	TYPE	ENCLOSURE MATERIAL	A	Aluminum	S	Stainless Steel		
TYPE	ENCLOSURE MATERIAL								
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S	Stainless Steel								
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N	3/4" NPT								
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TYPE	OUTPUT								
2	4-20 mA								
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TYPE	APPROVALS								
SA	SIL/FM/CSA								
SE	SIL/ATEX/IECEX								
T	SIL/FM/CSA/ATEX/IECEX								

*CTX10 Combustible Gas Transmitter - 3 Port*

Model	Part Number	Material	Threads	0-20mA	FM/CSA/ ATEX/IECEX/SIL
CTX10A3N2T	014394-001	Aluminum	3/4" NPT	X	X
CTX10A3F2T	014394-002	Aluminum	Metric M20	X	X
CTX10S3N2T	014395-001	Stainless Steel	3/4" NPT	X	X
CTX10S3F2T	014395-002	Stainless Steel	Metric M20	X	X
<b>Ship Weight: Aluminum = 3.8lb (1.7kg) Stainless Steel = 8.7lb (4.0kg)</b>					

*CTX10 Combustible Gas Transmitter - INMETRO - 3 port*

Model	Part Number	Material	Threads	0-20mA	INMETRO
CTX10A3N2SB	014394-201	Aluminum	3/4" NPT	X	X
CTX10S3N2SB	014395-201	Stainless Steel	3/4" NPT	X	X
<b>Ship Weight: Aluminum = 3.8lb (1.7kg) Stainless Steel = 8.7lb (4.0kg)</b>					

*Model CTX10 Transmitter Spare Terminal Plugs*

Part Number	Description	For Use With	Ship Weight
102988-028	PLUG, VERT., W/CLIP, 5.0MM, 5 POS	CTX / UD30 CGS Board - J1	<1 lb (<0.45 kg)
102988-026	PLUG, VERT., W/CLIP, 5.0MM, 3 POS	CTX / UD30 CGS Board - J3	<1 lb (<0.45 kg)
103725-002	HEADER VERT., 3.5MM, 3-PIN	CTX / UD30 CGS Board - J2	<1 lb (<0.45 kg)

*Model CTX10 Transmitter Spare Modules*

Part Number	Description	For Use With	Ship Weight
013993-001	SPARE CTX10 ELEC. MODULE	CTX10	<1 lb (<0.45 kg)

## DISPLAYS AND CONTROLLERS

### Stop Plugs and Reducers

ITEM NUMBER	STYLE	MATERIAL	OVERALL LENGTH (mm)	THREAD TYPE	HEX SIZE
101197-001	TYPE A STOP PLUG	ALUMINUM	14.8	3/4 NPT	12
101197-002	TYPE A STOP PLUG	ALUMINUM	14.5	1/2 NPT	10
101197-003	DOME HEAD STOP PLUG	STAINLESS STEEL	21.5	M25	12
101197-004	TYPE A STOP PLUG	STAINLESS STEEL	14.8	3/4 NPT	12
101197-005	DOME HEAD STOP PLUG	ALUMINUM	21.5	M25	12
101197-006	DOME HEAD STOP PLUG	ALUMINUM	21.5	M20	10
101197-007	DOME HEAD STOP PLUG	STAINLESS STEEL	21.5	M20	10
101197-008	DOME HEAD STOP PLUG	NICKEL BRASS	21.5	M20	10
101197-009	DOME HEAD STOP PLUG	NICKEL BRASS	21.5	M25	12
101197-010	TYPE A STOP PLUG	NICKEL BRASS	14.8	3/4 NPT	12
101197-011	TYPE A STOP PLUG	NICKEL BRASS	14.5	1/2 NPT	10
101197-012	TYPE A STOP PLUG	STAINLESS STEEL	14.5	1/2 NPT	10
101197-501	IP WASHER	NYLON	-	M20	-
101197-502	IP WASHER	NYLON	-	M25	-
101197-503	IP WASHER	TEFLON PTFE	-	M20	-
101197-503	IP WASHER	TEFLON PTFE	-	M25	-
102804-001	REDUCER	ALUMINUM	-	M25 to M20	-
102804-003	REDUCER	STAINLESS STEEL	-	M25 to M20	-

**Ship Weight: 1/2 NPT = 0.07lb (0.030kg), 3/4 NPT = 0.11lb (0.05kg), M20 = 0.14lb (0.062kg), M25 = 0.28lb (0.125 kg)**  
**Available Stop Plug Approvals: ATEX, IECEX, CEC, NEC, EAC, INMETRO, SAC, UKRAINE, CCoE, ABS, LLOYD'S, RMRS**

*\*NEMA/TYPE 4 and IP66 rating requires addition of Teflon tape*

*\*\*Metric threaded stop plugs are fitted with silicone O-Rings*

*\*\*\*For silicone sensitive applications the silicone O-Ring can be removed from Metric stop plugs and fitted with an IP washer*



**Dome Head Stop Plug - Nickel Brass**



**Type A Stop Plug - Nickel Brass**

Power Supplies



**EQP21XXPS Power Supplies** can be used as singular or duplex. The power supply is available in a DIN rail mount or panel mount configuration for ease of mounting. Power supplies should be sized to approximately 50% of the normal requirement or to local code requirements.

*EQP21XX Power Supply*

Model	Part Number	Description	Ship Weight
EQP2120PS-B	010988-001*	EQP2120PS-B 20A 120/220V PANEL	3.7 lb (1.7 kg)
EQP2120PS	010988-002	EQP2120PS 20A 120/220V DIN	3.7 lb (1.7 kg)
EQP2110PS-P	010985-001*	EQP2110PS-P 10A 120/220V, PANEL	2.9 lb (1.3 kg)
EQP2110PS	010985-002	EQP2110PS 10A 120/220V, DIN	2.9 lb (1.3 kg)

\*For FM/USCG approved system

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## OVERVIEW

### Eagle Quantum Premier® System

The **Eagle Quantum Premier System** (Spec Sheet for the EQP Controller: 90-1148) is a combined fire and gas safety system that is globally approved for hazardous locations. It is a distributed releasing system and is certified for annunciation and releasing per FM Approvals FM 3010, UL864 (10th Edition), and NFPA 72: 2013. The EQP System is also certified to IEC61508 as SIL 2-capable. The system is intended for use in hazardous locations and is designed to meet the requirements of approval agencies from around the world. The system is approved by FM Approvals to 6310/6320 and compliant to ANSI/ISA 12.13.1 and CSA 22.2 #154. It is also ATEX certified to EN60079-29-4, IEC 60079-29-4 as a combustible gas controller.

The system consists of a controller and a number of addressable microprocessor-based field devices. The controller coordinates system device configuration, monitoring, annunciation, and control, while the field devices communicate their status and alarm conditions to the controller.

The controller communicates with the field devices through a digital communications link referred to as the LON communications loop. As the name infers, the network topology is laid out as a loop that begins and ends at the controller. All of the field devices are connected into the communication loop. The communication loop is a specialized design to meet the requirements of a Signaling Line Circuit (SLC).

The LON communication loop offers several key advantages:

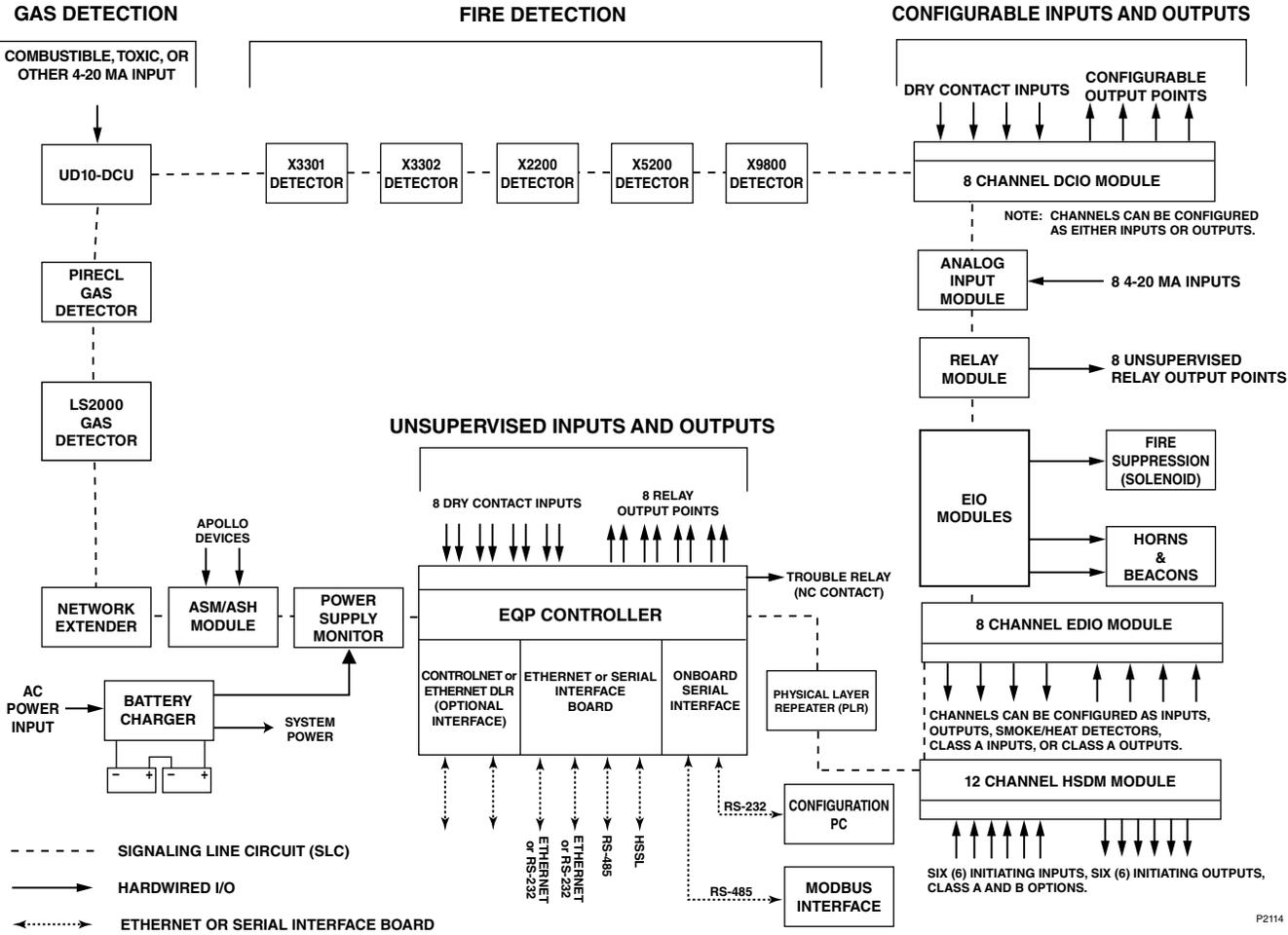
- SIL 2-certified communication protocol
- ANSI/NFPA 72 Class X performance of SLC
- Expandability

The controller continuously executes the user logic programs that are programmed into the controller. The user logic programs are set up in the same fashion as IEC 61131-3 programmable logic programmed into programmable logic controllers (PLCs). Function block diagram logic gates are tied together with inputs, outputs, and other logic gates to perform a specific task. A number of tasks can be tied together to perform a system function.

Typical programmed functions include flame/gas voting, timing delays, timing executions, latching conditions, alarm and trouble notification, suppression control, condition control, and process shutdown notification.

For complete system integration, the controller has the capability to communicate with other systems such as PLCs, distributed control systems (DCSs), and Supervisory Control and Data Acquisition (SCADA). Different communication protocols are supported, allowing the controller to communicate with other systems either directly or through communication gateways. The System Safety Software (S<sup>3</sup>) package supports an OPC server option that can publish system information to OPC clients.

- EQ3900 Series Cabinets offer a pre-engineered and listed solution
- Simplex and redundant operation
- Class 1 Div. 2 locations combined with Zone 2 rated devices Type N
- Deluge and pre-action release capability for fire suppression
- Agent release capability for fire suppression
- Supports up to 246 addressable field devices
- Fault-tolerant controller with redundancy setting
- Up to 32,800 feet (10,000 meters) of LON network communication wire
- Eagle Quantum Premier LON version for a variety of Det-Tronics flame and gas detectors
- Support for integrating third-party detectors (4-20 mA, "dry contact" type outputs or two wire smoke detectors) into EQP system
- Field devices have nonvolatile memory for alarm and calibration logging
- System and field device built-in system diagnostics
- IEC 61131-3 programmable logic
- Up to four Modbus RTU communication ports available
- ControlNet and DLR optional communication card (supports redundant communication channels)
- Compliance to FM 3010, NFPA 72, and NFPA 33
- Certified SIL 2 capable version available
- US Coast Guard type approval
- Addressable Protocol (Apollo)
- Ultra High-Speed Deluge Systems (NFPA 15)



P2114





# CONTROL ROOM

## Model EQ3900 Approved Fire and Gas Releasing Cabinets

### Eagle Quantum Premier Ordinary location and Hazardous Location Certified Fire and Gas Alarm Control Panel and Automatic Releasing for Pre-Action and Deluge Systems EQ3900

As part of providing a total systems solution to industrial clients around the world, Detector Electronics Corporation offers several certified systems enclosures for ordinary and hazardous locations. These enclosures can be configured to house various combinations of Eagle Quantum Premier® controllers and IO modules. Models are available for use in hazardous locations, with certifications that include Class 1 Division 2 per the National Electrical Code, and Zone 2 per EN/IEC 60079-15. Regulations require that the enclosure and its contents be certified.

System Cabinets can also be custom configured to provide for many applications, and may maintain certifications depending on the design.

- Flexible and scalable for most applications
- Multiple communication protocols
- Approved for use with flame, smoke, heat, combustible gas, toxic gas, and oxygen detectors
- Simple wire installation
- Configurable device selection for the enclosure
- Electronics and wiring tested at the factory

Both Det-Tronics devices and systems are listed—an official designation that means the Authority Having Jurisdiction (AHJ) recognizes the systems as acceptable and the installed systems when installed according to the instruction manual, will pass regular inspections.



### Eagle Quantum Premier Model Summary

Series/Model	Dimensions (HxWxD)	Inputs/Outputs	EQP Controllers	EDIO/AIM/Relay Modules
<b>2400</b> EQP EQ3900G	24 x 20 x 8 in. (610 x 508 x 203mm)	16**	1	Any combination of 2
<b>3600</b> EQP EQ3900G	36 x 24 x 8 in. (914 x 610 x 203mm)	32**	Up to 2	Any combination of 4
<b>4800</b> EQP EQ3900G	48 x 24 x 10 in. (1219 x 610 x 254mm)	48**	Up to 2	Any combination of 6
<b>8300</b> EQP EQ3900G	83 x 32 x 24 in. (2108 x 813 x 610mm)	144**	Up to 2	Any combination of 18
<b>2400 RIO</b> EQP EQ3900G	24 x 20 x 8 in. (610 x 508 x 203mm)	16**	0	Any combination of 2
<b>3600 RIO</b> EQP EQ3900G	36 x 24 x 8 in. (914 x 610 x 203mm)	32**	0	Any combination of 4
<b>4800 RIO</b> EQP EQ3900G	48 x 24 x 10 in. (1219 x 610 x 254mm)	48**	0	Any combination of 6

\*\*All EQP safety system controllers accept up to 246 addressable nodes (flame & gas detectors, input/output modules). The quantity indicated represents the built-in input/output capacity of each module.

## EQ3900 Series Systems

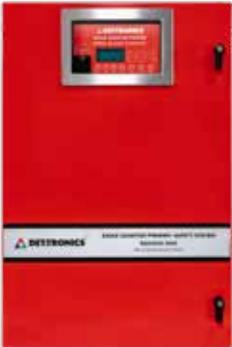
As part of providing a listed flame detection and gas releasing system, Detector Electronics Corporation offers several pre-engineered listed system options. Three standardized configurations are available to meet the needs of small, medium, and large applications. Each configuration can be customized to the needs of the application.

Each model includes an appropriately sized cabinet that houses an Eagle Quantum Premier Controller(s), Input Output Module(s), and field wiring termination terminals.



### EQ3900G, Series 2400

- Red Painted (RAL 3020) Steel Enclosure, locking key handle door, fixed window, mounting feet, Type 4
- 24"(H) x 20"(W) x 8"(D) (610mm x 508mm x 203mm)
- Includes one (1) Eagle Quantum Premier (EQP) Safety System Controller
- Includes two (2) EQ37XX Input / Output modules
- Interposing terminals to accommodate field wiring
- FM/CSA and SIL2 approved for indoor, non-hazardous areas
- Permits compliance with NFPA 72



### EQ3900G, Series 3600

- Red Painted (RAL 3020) Steel Enclosure, locking key handle door, fixed window, mounting feet, Type 4
- 36"(H) x 24"(W) x 8"(D) (914mm x 610mm x 203mm)
- Includes up to (2) Eagle Quantum Premier (EQP) Safety System Controllers
- Includes four (4) EQ37XX Input / Output modules
- Interposing terminals to accommodate field wiring
- FM/CSA and SIL2 approved for indoor, non-hazardous areas
- Permits compliance with NFPA 72



### EQ3900G, Series 4800

- Red Painted (RAL 3020) Steel Enclosure, locking key handle door, fixed window, mounting feet, Type 4
- 48"(H) x 24"(W) x 10"(D) (1219mm x 610mm x 254mm)
- Includes up to (2) Eagle Quantum Premier (EQP) Safety System Controllers
- Includes six (6) EQ37XX Input / Output modules
- Interposing terminals to accommodate field wiring
- FM/CSA and SIL2 approved for indoor, non-hazardous areas
- Permits compliance with NFPA 72



### EQ3900G, Series 8300 (Not pictured)

- Red Painted (RAL 3020) Steel Enclosure, locking key handle door, fixed window, floor standing, Type 4
- 83"(H) x 32"(W) x 32"(D) (2109mm x 813mm x 813mm)
- Includes up to (2) Eagle Quantum Premier (EQP) Safety System Controllers
- Accommodates up to eighteen (18) EQ37XX Input / Output modules
- Interposing terminals to accommodate field wiring
- FM/CSA and SIL2 approved for indoor, non-hazardous areas
- Permits compliance with NFPA 72
- Due to the increased size, capabilities and available options, these models typically require some level of customization

*EQ3900 EQP System Enclosure Solutions*

Model No.	Part No.	Enclosure Size	EQP Controller Quantity	Enhanced Discrete Input Output (EDIO) Module Quantity	Relay Module Quantity
EQ3900G, 2400	000392-1110	24"x20"x8" (610mm x 508mm x 203mm)	1	1	1
EQ3900G, 3600	000393-1310	36"x24"x8" (914mm x 610mm x 203mm)	1	3	1
EQ3900G, 3600	000393-2310	36"x24"x8" (914mm x 610mm x 203mm)	2	3	1
EQ3900G, 4800	000394-1510	48"x24"x10" (1219mm x 610mm x 254mm)	1	5	1
EQ3900G, 4800	000394-2510	48"x24"x10" (1219mm x 610mm x 254mm)	2	5	1
EQ3900G, 4800	000394-2600	48"x24"x10" (1219mm x 610mm x 254mm)	2	6	0
EQ3900G, 3600 RIO	000393-0310	36"x24"x8" (914mm x 610mm x 203mm)	0	3	1

\*Other EQ3900 configurations are available that include different enclosure and module types.

Part Number Suffix (Dash Number) denotes the hardware configuration of the EQ3900G. Refer to the following configuration example:

A = Quantity of EQP Controller(s)  
 B = Quantity of EQ3730 EDIO(s)  
 C = Quantity of EQ3710 AIM(s)  
 D = EQ3720 Quantity of Relay Module(s)

Example: **000394-1510 (EQ3900G, 4800)**

1 = One EQP Controller  
 5 = Five EQ3730 EDIOs  
 1 = One EQ3710 AIM Module  
 0 = Zero EQ3720 Relay Modules

Please note that the available hardware configuration is dependent upon the size of the cabinet.

Contact Det-Tronics for additional information on building a system that meets your requirements.

Det-Tronics EQ3900 systems are listed—an official designation that means the Authority Having Jurisdiction (AHJ) recognizes the systems as acceptable and the installed systems pass regular inspections.

Choose Det-Tronics with confidence to engineer, manufacture and test turnkey systems built to your requirements.

## CONTROL ROOM

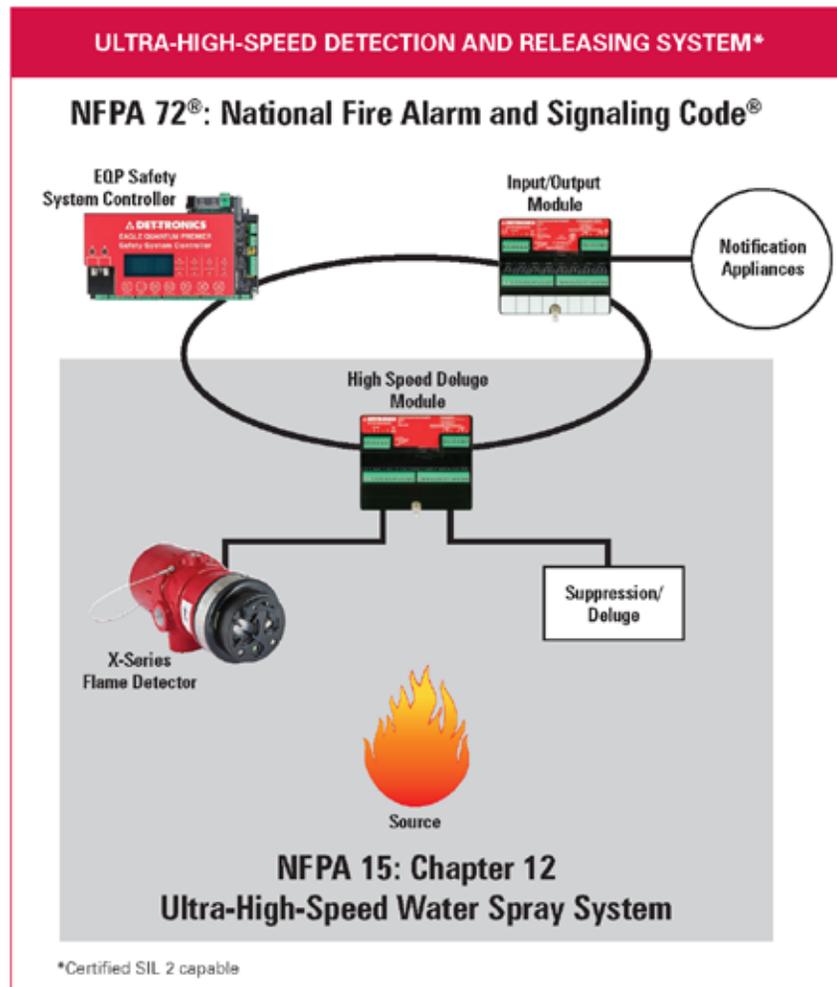
### Ultra-High-Speed Flame Detection and Releasing System (Ultra FDRS)



As part of providing a listed flame detection and releasing system to the ultra-high-speed market segment, Detector Electronics Corporation offers several pre-engineered certified system options. Three standardized models are available to meet the needs of the small, medium, and large ultra-high-speed system user. These models utilize the proven EQ3900 Approved Fire and Gas Releasing Cabinet solution.

The Det-Tronics Ultra-High-Speed Flame Detection and Releasing System (Ultra FDRS) is an Eagle Quantum Premier® (EQP) based safety solution certified SIL 2 capable to function in challenging, high-hazard applications.

Each model includes an appropriately sized cabinet that houses an Eagle Quantum Premier® Controller, High Speed Deluge Module(s), Enhanced Discreet Input Output Module(s), physical solenoid disconnect switches, and field wiring termination terminals.



## Ultra FDRS Models

**Ultra FDRS Model 2400**

- Red Painted (RAL 3020) Steel Enclosure, locking key handle door, fixed window, mounting feet, Type 4
- 24"(H) x 20"(W) x 8"(D) (610mm x 508mm x 203mm)
- Includes one (1) Eagle Quantum Premier Safety System Controller
- Accommodates up to six (6) inputs from flame detectors (Class B)
- Provides up to six (6) 24VDC ultra-high-speed outputs (Class B)
- Provides up to seven (7) non-high speed inputs or outputs
- Lockable Physical Solenoid Disconnect Switches
- Interposing terminals to accommodate field wiring
- FM/CSA and SIL2 approved for indoor, non-hazardous areas
- Permits compliance with NFPA 72 and NFPA 15 (Chapter 12)

**Ultra FDRS Model 3600**

- Red Painted (RAL 3020) Steel Enclosure, locking key handle door, fixed window, mounting feet, Type 4
- 36"(H) x 24"(W) x 8"(D) (914mm x 610mm x 203mm)
- Includes one (1) Eagle Quantum Premier Safety System Controller
- Accommodates up to eighteen (18) inputs from flame detectors (Class B)
- Provides up to eighteen (18) 24VDC ultra-high-speed outputs (Class B)
- Provides up to seven (7) non-high speed inputs or outputs
- Lockable Physical Solenoid Disconnect Switches
- Interposing terminals to accommodate field wiring
- FM/CSA and SIL2 approved for indoor, non-hazardous areas
- Permits compliance with NFPA 72 and NFPA 15 (Chapter 12)

**Ultra FDRS Model 4800**

- Red Painted (RAL 3020) Steel Enclosure, locking key handle door, fixed window, mounting feet, Type 4
- 48"(H) x 24"(W) x 10"(D)(1219mm x 610mm x 254mm)
- Includes one (1) Eagle Quantum Premier Safety System Controller
- Accommodates up to thirty (30) inputs from flame detectors (Class B)
- Provides up to thirty (30) 24VDC ultra-high-speed outputs (Class B)
- Provides up to seven (7) non-high speed inputs or outputs
- Lockable Physical Solenoid Disconnect Switches
- Interposing terminals to accommodate field wiring
- FM/CSA and SIL2 approved for indoor, non-hazardous areas
- Permits compliance with NFPA 72 and NFPA 15 (Chapter 12)

## CONTROL ROOM

### Ultra-High-Speed Flame Detection and Releasing System Remote Input Output

*(Ultra FDRS RIO)*



The Ultra FDRS RIO model allows for the remote installation of high speed deluge modules (HSDM) and enhanced discreet input output modules (EDIO). This concept allows for installation of the Ultra FDRS 2400, 3600, or 4800 models in a given area while the Ultra FDRS RIO is installed in a different area that is located physically closer to individual work areas. The Ultra FDRS RIO cabinet is ordered as needed in a quantity that is sized to the needs of the particular application.

#### **Ultra FDRS Model RIO**

- Red Painted (RAL 3020) Steel Enclosure, locking key handle door, mounting feet, Type 4
- 36"(H) x 24"(W) x 8"(D) (914mm x 610mm x 203mm)
- Accommodates up to eighteen (18) inputs from flame detectors (Class B)
- Provides up to eighteen (18) 24VDC ultra-high-speed outputs (Class B)
- Provides up to seven (7) non-high speed inputs or outputs
- Lockable Physical Solenoid Disconnect Switches
- Interposing terminals to accommodate field wiring
- FM/CSA and SIL2 approved for indoor, non-hazardous areas
- Permits compliance with NFPA 72 and NFPA 15 (Chapter 12)

*Ultra-High-Speed Flame Detection and Releasing System (Ultra FDRS)*

Model	Part No.	Enclosure Size (mm)	Door Window	EQP Controller Quantity	HSDM Quantity	EDIO Quantity	Physical Disconnect Switch Quantity	Flame Detector Inputs	Ultra-High-Speed 24VDC Outputs	Non-High Speed I/O
Ultra FDRS 2400	000852-011	24"x20"x8" (610mm x 508mm x 203mm)	Yes	1	1	1	2	6	6	7
Ultra FDRS 3600	000852-012	36"x24"x8" (914mm x 610mm x 203mm)	Yes	1	3	1	6	18	18	7
Ultra FDRS 4800	000852-013	48"x24"x10" (1219mm x 610mm x 254mm)	Yes	1	5	1	10	30	30	7
Ultra FDRS RIO	000852-022	36"x24"x8" (914mm x 610mm x 203mm)	No	0	3	1	6	18	18	7

\*Other non-standard Ultra FDRS options are available. These non-standard options may incur higher costs and longer lead times. Contact Det-Tronics for additional information on building a system that meets your requirements.

Det-Tronics Ultra FDRS systems are listed—an official designation that means the Authority Having Jurisdiction (AHJ) recognizes the systems as acceptable and the installed systems pass regular inspections.

## CONTROL ROOM

### EQ3900G Power Distribution / Monitoring Enclosure Solution



This wall-mounted enclosure accommodates the Power Supply Monitor, terminal blocks, relays, circuit breakers, and fuses as physical space allows.

- Red Painted (RAL 3020) Steel Enclosure
- 20"(H) x 20"(W) x 8"(D) (508mm x 508mm x 203mm)
- Front Access Door with Locking Key Handle
- Passive Venting
- Type 4, IP66
- No Viewing Window or Operators
- One EQ2100 PSM Power Supply Monitor installed
- Provides required isolation for high voltage circuitry



### Backup Battery Enclosure



This wall-mounted enclosure holds up to four 12 Volt, sealed lead acid, top-post, 100AH batteries.

- Red Painted (RAL 3020) Steel Enclosure
- 30" (H) x 30" (W) x 8" (D) (762mm x 762mm x 203mm)
- One shelf
- Latching front access door
- Filtered vents
- Type 1

Choose Det-Tronics with confidence to engineer, manufacture, and test turn-key systems that are built to your requirements.



## CONTROL ROOM

### Eagle Quantum Premier Controller - EQ30XX



**Eagle Quantum Premier Controller EQ30XX** (Spec Sheet: 90-1148) The Eagle Quantum Premier Controller is a microprocessor-based module that performs all the communication and control functions for the system. The controller can be configured in a simplex or redundant mode of operation. It includes all the required operator interface controls for a fire alarm and releasing system.

- Fire detection and alarm
- Fire suppression control
- Gas detection and alarm
- Available in certified enclosures
- Compliance to ANSI/ISA 60079-29-1 performance standard
- Performance certified to FM 6310/6320
- Performance certified to EN/IEC 60079-29-1
- Simplex or redundant operation
- Models with SIL 2 certification
- Programmable logic
- Optional Dual Ethernet Ports (Modbus TCP/IP)
- Multiple serial ports (three RS-232 and two RS-485)
- Transformer isolation of network ports
- Utilizes Modbus RTU, Modbus TCP/IP, or Allen Bradley protocols
- ControlNet Interface (Optional DRL Device level ring EtherNet DLR)
- Eight Programmable Relay Outputs
- Dedicated Fault Output
- Eight Digital Inputs
- Four-line, 20-character alphanumeric display
- LED status indicators
- Fault-tolerant communication loop
- Extensive built-in diagnostics
- Real-time clock
- Compact design
- U.S. Coast Guard type approval

EQ30XX Model Matrix

MODEL	DESCRIPTION	
EQ3001	Eagle Quantum Premier Controller - 246 Nodes	
EQ3016	Eagle Quantum Premier Controller - 16 Nodes	
	TYPE	MOUNTING OPTION
	D	Din Rail
	P	Panel
	TYPE	COM BOARD 1
	N	None
	C	ControlNet
	D	EtherNet DLR
	TYPE	COM BOARD 2
	N	None
	D	Ethernet IP with DLR
	E	Ethernet IP
	S	Serial Port Expansion
	TYPE	APPROVALS*
	R	VNIIP0/VNIIFTRI (RUSSIA)
	S	SIL
	T	SIL/FM/CSA/ATEX/IECEX
	W	FM/CSA/ATEX/IECEX

\*Type Approvals can use one or more letters to designate the approvals of the product.

**NOTE:** Contact Customer Service when ordering replacement EQ30XX controllers for redundant systems.

## CONTROL ROOM

### EQ3001 Controller - SIL 2

Model	Part Number	Mounting	ControlNet	Ethernet	Ethernet/ IP DLR	Serial Port Expansion/ Redundancy Port	SIL/FM/CSA/ ATEX/IECEX
EQ3001PNNT	007609-072	Panel					X
EQ3001DNNT	007609-073	DIN					X
EQ3001PCNT	007609-075	Panel	X				X
EQ3001DCNT	007609-076	DIN	X				X
EQ3001PNET	007609-086	Panel		X		X	X
EQ3001DNET	007609-087	DIN		X		X	X
EQ3001PCET	007609-088	Panel	X	X		X	X
EQ3001DCET	007609-089	DIN	X	X		X	X
EQ3001PNST	007609-077	Panel				X	X
EQ3001DNST	007609-078	DIN				X	X
EQ3001PCST	007609-079	Panel	X			X	X
EQ3001DCST	007609-080	DIN	X			X	X
EQ3001DDET	007609-189	DIN		X	X	X	X
<b>Ship Weight: 5.0 lb (2.3 kg)</b>							

### EQ3016 Controller - SIL 2

Model	Part Number	Mounting	ControlNet	Ethernet	Ethernet/ IP DLR	Serial Port Expansion/ Redundancy Port	SIL/FM/CSA/ ATEX/IECEX
EQ3016PNNT	007609-472	Panel					X
EQ3016DNNT	007609-473	DIN					X
EQ3016PCNT	007609-475	Panel	X				X
EQ3016DCNT	007609-476	DIN	X				X
EQ3016PNET	007609-486	Panel		X		X	X
EQ3016DNET	007609-487	DIN		X		X	X
EQ3016PCET	007609-488	Panel	X	X		X	X
EQ3016DCET	007609-489	DIN	X	X		X	X
EQ3016PNST	007609-477	Panel				X	X
EQ3016DNST	007609-478	DIN				X	X
EQ3016PCST	007609-479	Panel	X			X	X
EQ3016DCST	007609-480	DIN	X			X	X
EQ3016DDET	007609-689	DIN		X	X	X	X
<b>Ship Weight: 5.0 lb (2.3 kg)</b>							

*EQ3001 Controller*

Model	Part Number	Mounting	ControlNet	Ethernet	Ethernet/ IP DLR	Serial Port Expansion/ Redundancy Port	FM/CSA/ ATEX/IECEX
EQ3001PNNW	007609-062	Panel					X
EQ3001DNNW	007609-063	DIN					X
EQ3001PCNW	007609-065	Panel	X				X
EQ3001DCNW	007609-066	DIN	X				X
EQ3001PNEW	007609-082	Panel		X		X	X
EQ3001DNEW	007609-083	DIN		X		X	X
EQ3001PCEW	007609-084	Panel	X	X		X	X
EQ3001DCEW	007609-085	DIN	X	X		X	X
EQ3001PNSW	007609-067	Panel				X	X
EQ3001DNSW	007609-068	DIN				X	X
EQ3001PCSW	007609-069	Panel	X			X	X
EQ3001DCSW	007609-070	DIN	X			X	X
EQ3001PCSW-C*	007609-269	Panel	X			X	X
EQ3001DDEW	007609-185	DIN		X	X	X	X
<b>Ship Weight: 5.0 lb (2.3 kg)</b>							

\*US Coast Guard type approval under 46 CFR 161.002. For use with USCG approved system only.

*EQ3016 Controller*

Model	Part Number	Mounting	ControlNet	Ethernet	Ethernet/ IP DLR	Serial Port Expansion/ Redundancy Port	FM/CSA/ ATEX/IECEX
EQ3016PNNW	007609-462	Panel					X
EQ3016DNNW	007609-463	DIN					X
EQ3016PCNW	007609-465	Panel	X				X
EQ3016DCNW	007609-466	DIN	X				X
EQ3016PNEW	007609-482	Panel		X		X	X
EQ3016DNEW	007609-483	DIN		X		X	X
EQ3016PCEW	007609-484	Panel	X	X		X	X
EQ3016DCEW	007609-485	DIN	X	X		X	X
EQ3016PNSW	007609-467	Panel				X	X
EQ3016DNSW	007609-468	DIN				X	X
EQ3016PCSW	007609-469	Panel	X			X	X
EQ3016DCSW	007609-470	DIN	X			X	X
EQ3016PNNW-C*	007609-282	Panel					X
EQ3016DDEW	007609-685	DIN		X	X	X	X
<b>Ship Weight: 5.0 lb (2.3 kg)</b>							

\*US Coast Guard type approval under 46 CFR 161.002. For use with USCG approved system only.

## CONTROL ROOM

### EQ3001 Controller - SIL 2 Russia

Model	Part Number	Mounting	ControlNet	Ethernet	Ethernet/ IP DLR	Serial Port Expansion/ Redundancy Port	SIL/VNIPO/ VNIIFTRI
EQ3001PNNSR	007609-972	Panel					X
EQ3001PNSSR	007609-977	Panel				X	X
EQ3001DDESR	007609-921	DIN		X	X	X	X
<b>Ship Weight: 5.0 lb (2.3 kg)</b>							

Contact factory for availability.

### EQ3001 Controller - Russia

Model	Part Number	Mounting	ControlNet	Ethernet	Ethernet/ IP DLR	Serial Port Expansion/ Redundancy Port	VNIPO/ VNIIFTRI
EQ3001PNNR	007609-962	Panel					X
EQ3001DNNR	007609-963	DIN					X
EQ3001PCNR	007609-965	Panel	X				X
EQ3001DCNR	007609-966	DIN	X				X
EQ3001DNSR	007609-968	DIN				X	X
EQ3001PCSR	007609-969	Panel	X			X	X
EQ3001DCSR	007609-970	DIN	X			X	X
EQ3001DDER	007609-909	DIN		X	X	X	X
EQ3001PDER	007609-910	Panel		X	X	X	X
EQ3001PDESR	007609-922	Panel		X	X	X	X
<b>Ship Weight: 5.0 lb (2.3 kg)</b>							

Contact factory for availability.

### EQ3016 Controller - SIL 2 Russia

Model	Part Number	Mounting	ControlNet	Ethernet	Ethernet/ IP DLR	Serial Port Expansion/ Redundancy Port	SIL/VNIPO/ VNIIFTRI
EQ3016PNNSR	007609-942	Panel					X
EQ3016DNNSR	007609-943	DIN					X
EQ3016PCNSR	007609-945	Panel	X				X
EQ3016DCNSR	007609-946	DIN	X				X
EQ3016PNSSR	007609-947	Panel				X	X
EQ3016DNSSR	007609-948	DIN				X	X
EQ3016PCSSR	007609-949	Panel	X			X	X
EQ3016DCSSR	007609-950	DIN	X			X	X
<b>Ship Weight: 5.0 lb (2.3 kg)</b>							

Contact factory for availability.

*EQ3016 Controller - Russia*

Model	Part Number	Mounting	ControlNet	Ethernet	Ethernet/ IP DLR	Serial Port Expansion/ Redundancy Port	VNIPO/ VNIIFTRI
EQ3016PNNR	007609-932	Panel					X
EQ3016DNNR	007609-933	DIN					X
EQ3016PCNR	007609-935	Panel	X				X
EQ3016DNSR	007609-938	DIN				X	X
EQ3016PCSR	007609-939	Panel	X			X	X
EQ3016DCSR	007609-940	DIN	X			X	X
EQ3016PDER	007609-916	Panel		X	X	X	X
EQ3016DDER	007609-915	DIN		X	X	X	X
<b>Ship Weight: 5.0 lb (2.3 kg)</b>							

Contact factory for availability.

*Redundancy Parts*

Part Number*	Description	Ship Weight
008981-001	Controller to Controller High Speed Serial Cable (4 ft)	1.0 lb (0.45 kg)
008982-001	EQ3LTM LON Termination Module (2 required per LON)	1.0 lb (0.45 kg)

\*Parts can only be used with EQP Controllers with serial port expansion option.

*Controller Communication Cables*

Part Number	Description	Length			Ship Weight
		15 ft. (4.57 m)	30 ft. (9.14m)	50 ft. (15.24m)	
007633-001	Controller RS-232 Cable (DB9 Female PC Connection)	X			1.0 lb (0.45 kg)
007633-002	Controller RS-232 Cable (DB9 Female PC Connection)		X		1.0 lb (0.45 kg)
007633-003	Controller RS-232 Cable (DB9 Female PC Connection)			X	1.6 lb (0.7 kg)

*Typical Order for a Redundant System*

Qty	Part Number	Description
2	007609-078	EQ3001DNST Controller
1	008981-001	Controller to Controller redundancy High Speed Serial Cable (4 ft)
2	008982-001	EQ3LTM LON Termination Module (2 required per LON)

*Interface Hardware RS 485 and Hart*

Part Number	Description	Ship Weight
014008-001	EQ2230RSP Surge Protector RS485	1.0 lb (.45 kg)
008056-001	HIM, HART Interface Module, EQP	1.0 lb (.45 kg)

# CONTROL ROOM

## Power Supplies



**EQP21XXPS Power Supplies** are used in pairs where the primary source of input supply is connected to one and the secondary source is connected to the other. A maximum of eight power supplies operated in parallel can be connected to each input supply. Both the primary and secondary sets must be individually capable of operating the system without the other supply. The secondary source is required to be continuously powered.

### EQP21XX Power Supply

Model	Part Number	Description	Ship Weight
EQP2120PS-B	010988-001*	EQP2120PS-B 20A 120/220V PANEL	3.7 lb (1.7 kg)
EQP2120PS	010988-002	EQP2120PS 20A 120/220V DIN	3.7 lb (1.7 kg)

\*For FM/USCG approved system

**NOTE:** Requires a minimum of two supplies & one diode module per system. Also requires a GFM (below).



**EQP2410 Converter** serves as a DC voltage regulator for the secondary/back-up power supply source. It converts grounded DC input source into floating DC output power for ground fault monitoring capability.

### EQP2410 Converter

Model	Part Number	Description	Ship Weight
EQP2410PS-P	010892-001*	10A 24VDC CONVERTER, PANEL	2.7 lb (1.2 kg)
EQP2410PS	010892-002	10A 24VDC CONVERTER, DIN	2.7 lb (1.2 kg)

\*For FM/USCG approved system

**NOTE:** Converters can be used in conjunction with a power supply (above) but can only be used as a secondary supply.



### Diode Module

Model	Part Number	Description	Ship Weight
N/A	009934-003*	DIODE REDUNDANCY MOD W/MTG BKT	2.0 lb (0.90 kg)
N/A	009934-004	DIODE REDUNDANCY MOD DIN RAIL	2.0 lb (0.90 kg)

\*For FM/USCG approved system

**NOTE:** Required for use with power supplies/converters listed above.



**EQ2220GFM Ground Fault Monitor** (Spec Sheet: 90-1134) provides ground fault monitoring in a system that includes reliable dual isolated 24 Vdc power. The output from the ground fault monitor is a contact closure in the presence of a ground fault. The ground fault monitor is DIN rail mountable and is intended to be mounted in the same enclosure as the controller.

### Ground Fault Monitor (For use with power supplies above)

Model	Part Number	Description	Ship Weight
EQ2220GFM	007941-001	Ground Fault Monitor	0.5 lb (0.2 kg)
EQ2220GFMR	007941-901	Ground Fault Monitor	0.5 lb (0.2 kg)



**EQ3900RPS** (Manual: 95-8745) The EQ3900RPS Remote Power Supply is an industrial power supply that accepts two independent AC inputs and produces 24 Vdc with up to 18 amperes output current. The EQ3900RPS remote power supply can be configured with various numbers of 24 Vdc power outputs, fuse monitoring, and status indicators. There are two designs for the EQ3900RPS depending upon where they will be located. One model is intended for use in hazardous locations, with certification for Class I, Division 1 and Class I, Division 2 per the National Electrical Code, and one model for ordinary locations.

MODEL	DESCRIPTION	
EQ3900RPS	Remote LON-based Power Supply	
	TYPE	ENCLOSURE
	E	Explosion-proof (Class I, Division 1)
	G	Ordinary Location
	TYPE	24 VDC POWER OUTPUTS (Notes 1 & 2)
	1	1 24Vdc Power Output (18 Amp Fuses)
	2	2 24Vdc Power Outputs (9 Amp Fuses)
	3	3 24Vdc Power Outputs (6 Amp Fuses)
	TYPE	FUSE MONITORING (Notes 2 & 3)
	0	0 Fuse Monitoring
	1	1 Fuse Monitoring (Power Outputs: #1)
	2	2 Fuse Monitoring (Power Outputs: #1& #2)
	3	3 Fuse Monitoring (Power Outputs: #1,#2,& #3)
	TYPE	INDICATIONS (More than one can be chosen) (Notes 3 & 5)
	N	No Indicator or Operator
	A	Power Present Indicator
	B	Power Trouble Indicator
	C	Ground Fault Indicator
	D	Ground Fault Test Operator
	TYPE	WINDOW
	N	No Window
	W	Window

- NOTES:**
1. Maximum total current draw = 18 amperes. All power outputs have same fuse rating.
  2. Fuse monitoring by EQP only. No local indication.
  3. Consult factory if other configuration are desired.
  4. Consult factory for size and number of conduit entries.
  5. No ingress rating if operators are included.

*EQ3900 RPS Power Supply*

Description	Part Number	Material	Entries	Div 1 Class 1	FM/CSA
EQ3900RPS	REQUEST	AL	Up to 12	X	X
EQ3900RPS	REQUEST	SS	Up to 12		X



## CONTROL ROOM



**Power Supply** (Spec Sheet: 90-1134). Six approved power supply options are available:

- 10 Amp / 60HZ (EQ2110PS)\*
- 30 Amp / 60HZ (EQ2130PS)\*
- 75 Amp / 60HZ (EQ2175PS)\*
- 10 Amp / 50HZ (EQ2111PS)\*
- 30 Amp / 50HZ (EQ2131PS)\*
- 75 Amp / 50HZ (EQ2176PS)\*

Contact the factory for additional options and current certifications

\*Requires the use of the Det-Tronics Power Supply Monitor, detailed below.

### EQ21XX Power Supplies

Model*	Part Number	Description			Ship Weight
EQ2110PS	000604-013	10A	120VAC	60HZ	50 lb (25.0 kg)
EQ2130PS	000604-014	30A	120/208/220	60HZ	115 lb (57.5 kg)
EQ2175PS	000604-015	75A	120/208/220	60HZ	150 lb (75.0 kg)
EQ2111PS	000604-034	10A	220/240VAC	50HZ	50 lb (25.0 kg)
EQ2131PS	000604-035	30A	220/240VAC	50HZ	115 lb (57.5 kg)
EQ2176PS	000604-036	75A	220/240VAC	50HZ	150 lb (75.0 kg)

\*Requires use of EQ2100PSM Power Supply Monitor



**EQ2100PSM Power Supply Monitor** (Spec Sheet: 90-1134) is used in conjunction with any of the EQ21XX (p/n 000604-XXX) power supplies and backup batteries to provide an approved source of power for the Eagle Quantum Premier system. Since the power supply monitor resides on the communication loop (LON), any trouble condition related to system power will immediately be reported to the Operator Interface Station through the Local Control Unit. Status conditions being monitored include power supply failure, loss of AC power, loss of battery power, power ground fault, AC voltage, DC voltage, and battery changing current levels.

- Supports ANSI/NFPA 72 Class X communication
- Monitors primary AC supply and battery integrity
- Compatible with 10, 30 and 75 amp output power supplies
- Field addressable
- FM approved and CSA Certified for use in Eagle Quantum
- Feet for panel mounting

### Power Supply Monitor (For use with EQ21XX power supplies)

Model	Part Number	Description	Ship Weight
EQ2100PSM	006979-001	Power Supply Monitor	5 lb (2.3 kg)

\*Enclosure not included



The **EQ38XX Power Distribution Module** (Manual: 95-8558) integrates isolation, conditioning, ground fault monitoring, and distribution to five outputs that power the controller, cabinet devices, and field devices. The PDM is designed to provide continuous power to the outputs by relying upon two independent 24 Vdc input power sources. One power source must be derived from a line power source and the other source must be from a backed-up power source.

- Automatic Resetting Overload Protection for field devices (no fuses to replace)
- Ground Fault Monitoring
- Visual LED indicators for power and each power input
- Visual LED indicators for ground faults
- Anodized aluminum heat sink
- Panel mount

### Power Distribution Module

Model	Part Number	Description	Ship Weight
EQ3800PDM	007360-001	Power Distribution Module	4 lb (1.8 kg)

### Operator Interface Safety System Software



**Safety System Software (S<sup>3</sup>).** The Eagle Quantum Premier uses the safety system software to provide a user friendly, fully integrated, high performance package. The software provides convenient and accurate system configuration and status information including diagnostic and trouble shooting tools. An optional embedded OPC server provides additional flexibility.

The software database contains all of the information to easily configure the Eagle Quantum Premier system. All device information is presented in a series of user-friendly point configuration screens. Point display screens for each node are available to display detailed status information, recent alarms and calibration records.

In summary the software collects, tracks, displays, and distributes your safety system information while allowing intuitive operator input for command and control functions of these safety systems.

#### Operating System Requirements:

The S<sup>3</sup> software suite is designed to run on an Intel® based computer with at least a 800 MHz Pentium III processor. S<sup>3</sup> is compatible with Windows 7, Windows Vista, Windows XP Professional, and Windows 2000. Computers operating on a 64 bit platform are fully supported; as with many modern software programs, the faster the machine, the better the performance.

The Safety System Software has the following features:

- Configure field devices
- Program, simulate, monitor and document controller logic
- Review real time status through pre-built point displays
- An optional OPC Server license is available

# CONTROL ROOM

## Operating Interface Safety System Software

Part Number*	Description	Ship Weight
007800-011	Safety System Software configuration/runtime package 60 node version <b>no driver</b> , USB key.	0.5 lb (0.23 kg)
007800-013	Safety System Software configuration/runtime package 250 node version <b>no driver</b> , USB key.	0.5 lb (0.23 kg)
007800-012	Safety System Software configuration/runtime package 60 node version with <b>OPC driver</b> , USB key.	0.5 lb (0.23 kg)
007800-014	Safety System Software configuration/runtime package 250 node version with <b>OPC driver</b> , USB key.	0.5 lb (0.23 kg)

**NOTE:** The 60 node version of S3 is recommended for the 16 node controller.

\*It is strongly recommended that purchasers of S3 attend the appropriate training class:

Register at Det-Tronics University from the website: [www.det-tronics.com](http://www.det-tronics.com)

### Package Includes:

- S<sup>3</sup> Installation software
- 30 ft. serial cable with DB9 serial and EQP interface connectors
- 30 ft. Ethernet cable
- Licensed software key (resembles a USB drive)
- High speed USB serial adapter

## Course 102: Advanced EQP Training

### COURSE 102:

#### ADVANCED EQP (FOR CUSTOMERS AND DISTRIBUTORS)

This 3-day class is designed for System Integration Engineers, Designers, and Maintenance personnel. The curriculum will cover the Eagle Quantum Premier System hardware, software, configuration, logic programming, troubleshooting, maintenance, and design practices. This course does not apply to other standard flame and gas detection systems.

### EQP Training

Part Number	Description
TRAINING 102	DET-U Course 102, EQP System

Register at Det-Tronics University from the website: [www.det-tronics.com](http://www.det-tronics.com)

## DEVICES

### EQ3760 Addressable Smoke Module



The EQP **Addressable Smoke Module** (Spec Sheet: 90-1226) is designed to expand the input and output capability of the Det-Tronics EQP system.

The ASM is an interface device designed to provide continuous and automated fire protection. It ensures system operation through continuous supervision of system inputs/outputs and Local Operating Network/Signaling Line Circuit (LON/SLC) monitoring in the controller.

The ASM is located directly on the LON of the EQP system, with a loop of up to 100 addressable devices tied into the ASM. This allows the EQP controller to annunciate a fire alarm from either its own LON based I/O or from the ASM connected addressable smoke and heat detection loops.

System status can be determined using the troubleshooting procedures, Eagle Quantum Safety System Software (S<sup>3</sup>), and the status indicators on the module.

- Expands the capabilities of the Det-Tronics EQP system
- Class 1 Div. 2 locations combined with Zone 2 rated devices Type N
- SIL 2 Capable certification
- Provides power and communications to 100 addressable devices
- Uses Apollo Discovery and XP95 smoke and heat detectors
- ASM alarm and fault status are logged in the EQP controller
- LEDs for easy annunciation of power, faults and an active device on the loop
- Monitors single addressable devices
- Provides remote I/O capabilities via LON/SLC
- DIN rail or panel mounting
- Plug-in wiring connectors
- RFI and EMI hardened
- Smoke detectors are globally approved (see product data sheets)
- Option Intrinsically Safe detectors



*EQ3760 ASM Model Matrix*

MODEL	DESCRIPTION	
EQ3760	Addressable Smoke Module (ASM)	
	TYPE	MOUNTING OPTION
	D	DIN Rail
	P	Panel
	TYPE	APPROVALS
T	FM/CSA/ATEX/IECEX	

*EQ3760 ASM Module*

Model	Part Number	Material	FM/CSA/ATEX/IECEX	Ship Weight
EQ3760DT	014050-001	AL	X	3 lb (1.4 kg)
EQ3760PT	014050-002	AL	X	3 lb (1.4 kg)

*Devices for EQ3760 ASM Module*

Description	Part Number	Apollo Part #
APOLLO IONIZATION SMOKE, EU	000515-501	58000-500
APOLLO OPTICAL SMOKE, EU	000515-502	58000-600
APOLLO HEAT DETECTOR, EU	000515-503	58000-400
APOLLO MULTISENSOR, EU	000515-504	58000-700
APOLLO CO DETECTOR, EU	000515-505	58000-300
APOLLO INTELLIGENT MNT BASE,EU	000515-506	45681-210
APOLLO ISOLATING BASE	000515-507	45681-284
APOLLO INTELLIGENT ISOLATOR	000515-508	55000-720
APOLLO I/O UNIT W/ ISOLATOR	000515-509	55000-847
APOLLO SOUNDER CONTROL UNIT	000515-510	55000-852
APOLLO SWITCH MONITOR PLUS	000515-511	55000-841
APOLLO MANUAL CALL W/ISOLATOR	000515-512	58100-908
APOLLO MANUAL CALL, W/ISO,IP66	000515-513	58100-951
APOLLO MANUAL CALL COVER	000515-514	26729-152
APOLLO SOUNDER, 100DB, RED	000515-515	55000-278
APOLLO SOUNDER,100DB,RED,IP66	000515-516	55000-274
APOLLO BEACON,RED	000515-517	55000-877
APOLLO SOUNDER/BEACON, W/ISO	000515-518	55000-293
APOLLO INTELLIGENT ISOLATOR BA	000515-519	45681-211
APOLLO BLANK ADDRESS CARD	000515-521	38531-771
APOLLO IONIZATION SMOKE, NA	000515-551	58000-550
APOLLO OPTICAL SMOKE, NA	000515-552	58000-650
APOLLO HEAT DETECTOR, NA	000515-553	58000-450
APOLLO MULTISENSOR, NA	000515-554	58000-750
APOLLO MOUNTING BASE 4",NA	000515-555	45681-210USA
APOLLO MOUNTING BASE 6",NA	000515-556	45681-225USA
APOLLO ISOLATOR, NA	000515-557	55000-750
APOLLO ISOLATOR BASE, NA	000515-558	45681-211USA
APOLLO PRIORITY SWITCH MONITOR	000515-559	55000-806
APOLLO SOUNDER CONTROL MOD,NA	000515-560	55000-825
APOLLO I/O MODULE, NA	000515-561	55000-820
APOLLO MINI MONITOR MOD, NA	000515-562	55000-765
APOLLO INTELLIGENT DEEP BASE	000515-563	45681-209

EU = European Approvals

NA = North American Approvals

**NOTE:** Average lead time is 4 weeks. For additional options please consult the factory.

Compatibility list of products for ASM

Description	Part Number	Apollo Part #
Apollo Heat Detector	000515-XXX	5800-400
Apollo Heat Detector, EU Marine	000515-611	58000-400MAR
Apollo Heat, IS **	000515-585	55000-440
Apollo Heat Detector, SIL2	000515-XXX	58000-400SIL
Apollo Heat Detector, FM	000515-553	58000-450
Apollo Ionization Smoke, EU	000515-501	58000-500
Apollo Ionization Smoke, Marine	000515-XXX	58000-500MAR
Apollo Smoke, EU Marine Optical	000515-XXX	58000-600MAR
Apollo Smoke, SIL2 Optical	000515-645	58000-600SIL
Apollo Ionization Smoke, IS **	000515-XXX	58000-540
Apollo Smoke, IS Optical **	000515-XXX	58000-640
Apollo Ionization Smoke, FM	000515-551	58000-550
Apollo Optical Smoke Detector, FM	000515-552	58000-650
Apollo Duct Smoke Det. Base EU	000515-550	53546-022
Apollo Multisensor, EU Marine	000515-XXX	58000-700MAR
Apollo Multisensor, EU	000515-504	58000-700
Apollo Multisensor, SIL2	000515-637	58000-700SIL
Apollo Multisensor, FM	000515-554	58000-750
Apollo Carbon Monoxide Detector, EU	000515-505	58000-300
Apollo Input / Output Unit, with Isolator	000515-509	55000-847
Apollo Manual Call, with Isolator	000515-512	58100-908
Apollo Manual Call, with Isolator, IP66	000515-513	58100-951
Apollo Beacon, Red	000515-517	55000-877
Apollo Isolator, FM	000515-557	55000-750
Apollo XP95A Priority Switch Monitor, FM	000515-559	55000-806
Apollo XP95A Sounder Control Module, FM	000515-560	55000-825
Apollo XP95A Input / Output Module, FM	000515-561	55000-820
Apollo Mounting Base, Marine	000515-XXX	45681-210MAR
Apollo Mounting Base, IS	000515-586	45681-215
Apollo Isolator Base, Marine	000515-XXX	45681-211MAR
Apollo Relay Base, EU	000515-XXX	45681-242
Apollo Manual Call Point, Standard, Non-Isolated, Waterproof, IS **	000515-581	55000-940
Apollo Manual Call Point, Break Glass, Non-Isolated, Waterproof IS **	000515-677	55000-960
Apollo Manual Call Point, Push Button, Non-Isolated, Waterproof, IS **	000515-617	55000-970
Apollo Manual Call, Standard, Non-Isolated, Non-Waterproof, EU	000515-XXX	55200-910

The device type depends on the priority switch setting on the device.

\*\* Not FM approved as non-interfering

FM = FM Approved

EU = European Approvals

## DEVICES

Description	Part Number	Apollo Part #
Apollo Manual Call, Standard, Non-Isolated, Waterproof, EU	000515-XXX	55200-950
Apollo Manual Call, Standard, Isolated, Waterproof, Marine	000515-XXX	58200-971MAR
Apollo Manual Call, Standard, Isolated, Non-Waterproof, SIL2	000515-XXX	58200-908SIL
Apollo Remote Led 1 Gang Red	000116-180	53832-070
Apollo Sounder Control Unit	000515-510	55000-852
Apollo Sounder, 100dB, Red	000515-515	55000-278
Apollo Sounder / Beacon, with Isolator	000515-518	55000-293
Apollo Sounder, 100dB, Red, IP66	000515-516	55000-274
Apollo Sounder XP95a, Isolated, Non-Weatherproof, UL	000515-XXX	55000-041
Apollo Sounder Beacon Discovery, Non-Isolated, Non-Weatherproof, EU	000515-XXX	58000-005
Apollo Sounder Beacon XP95, Isolated, Waterproof, EU	000515-520	55000-298
Apollo Sounder Beacon Discovery, Non-Isolated, Weatherproof, Marine	000515-XXX	55000-374MAR
Apollo Sounder Beacon Discovery, Non-Isolated, Weatherproof, UL	000515-XXX	58000-011
Apollo Sounder Beacon Discovery, Isolated, Weatherproof, Marine	000515-XXX	55000-398MAR
Apollo Sounder Control, Din Rail, EU	000515-XXX	55000-182
Apollo Sounder Control, Din Rail, Marine	000515-XXX	55000-181MAR
Apollo I/O, Din Rail, EU	000515-576	55000-803
Apollo I/O, Din Rail, Marine	000515-XXX	55000-774MAR
Apollo 3 Channel I/O, Standard, EU	000515-XXX	55000-588
Apollo I/O, Standard, SIL2	000515-XXX	55000-847SIL
Apollo Relay Output, Din Rail, EU	000515-XXX	55000-804
Apollo Relay Output, Din Rail, Marine	000515-XXX	55000-771MAR
Apollo Switch Monitor Plus	000515-511	55000-841
Apollo Switch Monitor, Din Rail, EU	000515-675	55000-822
Apollo Switch Monitor Plus, Din Rail, Marine	000515-XXX	55000-772MAR
Apollo Mini Switch Monitor, Mini, Marine	000515-XXX	55000-775MAR
Apollo Zone Monitor, Standard, Eu	000515-XXX	55000-845
Apollo Zone Monitor, Din Rail, Eu	000515-575	55000-812
Apollo Zone Monitor, Din Rail, Marine	000515-XXX	55000-773MAR
Apollo Vac I/O, Standard, FM	000515-XXX	55000-859
Apollo Is Protocol Translator, Sgl **	000515-582	55000-855
Apollo Is Protocol Translator, Dbl **	000515-583	55000-856
Apollo Is Galvanic Barrier **	000515-XXX	29600-098
Apollo Isolator, Marine	000515-XXX	55000-721MAR
Apollo Mini Monitor Module, NA or Apollo Priority Mini Switch Monitor, FM	000515-562	55000-765*

The device type depends on the priority switch setting on the device.

\*\* Not FM approved as non-interfering

FM = FM Approved

EU = European Approvals

EQ3730 EDIO Enhanced Discrete Input/Output Module



**EQ3730 EDIO Enhanced Discrete Input/Output Module** (Spec Sheet: 90-1189)

The 8 Channel EDIO Module is specially designed to expand the input and output (I/O) capability of the Det-Tronics Eagle Quantum Premier System. The unit is designed to provide continuous and automated fire/gas protection while ensuring system operation through continuous supervision of system I/O and signaling line circuit (SLC). The EDIO module provides eight channels of configurable input or output points that can be configured as input/output, two-wire smoke/heat detector, Class A input, Class A output. Each input point can accept fire detection devices such as heat, smoke, or unitized flame detectors. Each output point can be configured for signaling or releasing output operation. Each channel on the module is provided with individual indicators for active and fault conditions.



- Monitors eight independent I/O channels
- IDC Class A or B wiring
- Class 1 Div. 2 locations combined with Zone 2 rated devices Type N
- Individual channels are configurable as an input/output/two-wire smoke/heat detectors/ Class A input/Class A output
- A smoke/heat channel can support up to 15 two-wire smoke and heat devices per channel
- For Class A input and output wiring two channels are required per Class A circuit
- Models with SIL 2 certification
- Individual point style is configurable as a supervised or an unsupervised point
- User configurable supervision for opens and/or shorts
- Individual point type is configurable for alarm/supervisory/other input styles, notification/releasing/dry contact output
- Exceeds the requirements of NFPA 72
- Panel or DIN rail mounting

*EQ3730 EDIO Model Matrix*

MODEL	DESCRIPTION										
EQ3730	8 Channel Enhanced Discrete Input/Output Module (EDIO)										
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>MOUNTING OPTION</th> </tr> </thead> <tbody> <tr> <td>D</td> <td>DIN Rail</td> </tr> <tr> <td>P</td> <td>Panel</td> </tr> </tbody> </table>	TYPE	MOUNTING OPTION	D	DIN Rail	P	Panel				
TYPE	MOUNTING OPTION										
D	DIN Rail										
P	Panel										
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TYPE	APPROVALS*										
R	VNIIP0/VNIIFTRI (RUSSIA)										
S	SIL										
T	SIL/FM/CSA/ATEX/IECEX										
W	FM/CSA/ATEX/IECEX										

\*Type Approvals can use one or more letters to designate the approvals of the product.

## DEVICES

### EQ3730 EDIO Module - SIL 2

Model	Part Number	Material	SIL/FM/CSA/ATEX/IECEX	Ship Weight
EQ3730PT	009174-012	AL	X	1.0 lb (0.45 kg)
EQ3730DT	009174-013	AL	X	2.0 lb (0.90 kg)

### EQ3730 EDIO Module - SIL 2 - Russia

Model	Part Number	Material	SIL/VNIIPO/VNIIFTRI	Ship Weight
EQ3730PSR	009174-912	AL	X	1.0 lb (0.45 kg)
EQ3730DSR	009174-913	AL	X	2.0 lb (0.90 kg)

Contact factory for availability.

### EQ3730 EDIO Module

Model	Part Number	Material	FM/CSA/ATEX/IECEX	Ship Weight
EQ3730PW	009174-002	AL	X	1.0 lb (0.45 kg)
EQ3730DW	009174-003	AL	X	2.0 lb (0.90 kg)

### EQ3730 EDIO Module - Russia

Model	Part Number	Material	VNIIPO/VNIIFTRI	Ship Weight
EQ3730PR	009174-902	AL	X	1.0 lb (0.45 kg)
EQ3730DR	009174-903	AL	X	2.0 lb (0.90 kg)

Contact factory for availability.

## Explosion-proof Input Output Module



**EQ3770EIO** (Manual: 95-8761) The Eagle Quantum Premier EQ3770 EIO Input/Output module for hazardous locations provides an economic solution for field mounted systems and devices. The EIO can be used with most EQ37XX devices, and can be combined with an onboard ground fault monitor.

The enclosure can be configured to house various Eagle Quantum Premier 8 channel IO modules. They are intended for use in hazardous locations, with certifications that include Class I, Division 1 per the National Electrical Code, and Zone 1 per EN/IEC60079-1.

### EQ3770 EIO

Discription	Part Number	Material	Treads	Window	Div/Zone Exd	FM/CSA	ATEX/IECex
EQ3770EIO	000520-051	AL	8-NPT		X	X	
EQ3770EIO	000520-052	AL	8-NPT	X	X	X	
EQ3770EIO	000520-053	AL	8-Metric		X		X
EQ3770EIO	000520-054	AL	8-Metric	X	X		X

EQ3780HSDM High Speed Deluge Module



**EQ3780HSDM High Speed Deluge Module (HSDM)** (Spec Sheet: 90-1233) is specifically designed to expand the capability of the Det-Tronics Eagle Quantum Premier® (EQP) System by providing the capability to activate ultra-high speed suppression systems for hazardous applications such as munitions manufacturing. The HSDM provides up to six (6) configurable input channels and up to six (6) configurable output channels that can be programmed for supervised or unsupervised operation. Typical initiating devices include optical flame detectors, heat detectors, and manual pull stations. Output channels are designed to activate Factory Mutual (FM) approved solenoids. Solenoids that are activated by the HSDM are typically used to initiate pilot-actuated deluge valves. A unique cascade output feature allows the output of the HSDM to be connected to the input of another HSDM, extending the systems capability to activate multiple solenoids with a single input.

- Typical 2 mS independent response time
- Available only as part of a EQ3900 Series Certified System (See Systems Section B.5 for further details)
- Uniquely programmable outputs - one-to-one, one-to-many, or many-to-one
- Cascade capability to activate multiple solenoids with a single input
- Internal independent logic capabilities
- RFI and EMI hardened (CE Marked and Maritime Compliant)
- Expands the capabilities of the Det-Tronics Eagle Quantum Premier® system
- Provides up to six (6) Class B Input Channels (Supports Class A wiring when two input channels are combined)
- Provides up to six (6) Class B Output Channels (Supports Class A wiring when two output channels are combined)
- Input and Output channels are configurable as supervised or unsupervised points
- Output Channels are capable of continuously driving 2A at 30Vdc, up to a maximum of 10A per module
- Individual channel LEDs indicate Normal, Active, and Fault status
- Provides remote I/O capabilities via LON/SLC
- Panel or DIN rail mounting
- Module level status LED indicator
- Plug-in wiring connectors
- Meets the requirements of NFPA 72
- Allows customer to meet requirements of NFPA 15, Chapter 12
- FM, CSA, ATEX, IECEx, Exida, and DNV-GL certified
- SIL 2 rated per IEC 61508 Series

*EQ3780 HSDM Model Matrix*

MODEL	DESCRIPTION	
EQ3780	High Speed Deluge Module	
	TYPE	INSTALLATION OPTION
	D	Din Rail
	P	Panel
	TYPE	APPROVALS
	T	SIL/FM/CSA/ATEX/IECEX

## DEVICES

### EQ3700 DCIO Discrete Input/Output Module



**EQ3700 DCIO Input/Output Module** (Spec Sheet: 90-1149) The 8 Channel DC I/O Module is specially designed to expand the Input and Output (I/O) capability of the Det-Tronics Eagle Quantum Premier System. The unit is designed to provide continuous and automated fire/gas protection while ensuring system operation through continuous supervision of system I/O and signaling line circuit (SLC). The DCIO module provides eight channels of configurable I/O points that can be programmed for supervised or unsupervised operation. Each input point can accept fire detection devices such as heat, smoke, or unitized flame detectors. Each output point can be configured for signaling or releasing output operation. Each channel on the module is provided with individual indicators for active and fault conditions.

- Monitors eight independent I/O channels
- IDC Class B wiring
- Class 1 Div. 2 locations combined with Zone 2 rated devices Type N
- Individual channels are configurable as an Input or Output
- Individual point Style is configurable as a supervised or an unsupervised point
- Individual point Type is configurable for alarm/supervisory/other input styles, notification/releasing/dry contact output
- Meets the requirements of NFPA 72
- Panel or DIN rail mounting

#### EQ3700 DCIO Model Matrix

MODEL	DESCRIPTION	
EQ3700	8 Channel Discrete Input/Output Module (DCIO)	
	TYPE	MOUNTING OPTION
	D	DIN Rail
	P	Panel
	TYPE	APPROVALS
	R	VNIIPO/VNIIFTRI (RUSSIA)
	W	FM/CSA/ATEX/IECEX

#### EQ3700 DCIO Module

Model	Part Number	Material	FM/CSA/ATEX/IECEX	Ship Weight
EQ3700PW	007371-002	AL	X	1.0 lb (0.45 kg)
EQ3700DW	007371-003	AL	X	2.0 lb (0.90 kg)

#### EQ3700 DCIO Module - Russia

Model	Part Number	Material	VNIIPO/VNIIFTRI (RUSSIA)	Ship Weight
EQ3700PR	007371-902	AL	X	1.0 lb (0.45 kg)
EQ3700DR	007371-903	AL	X	2.0 lb (0.90 kg)

Contact factory for availability.

EQ3710 AIM Analog Input Module



**EQ3710 AIM Analog Input Module** (Spec Sheet: 90-1183). The 8 Channel Analog Input Module expands the input capability of the Det-Tronics Eagle Quantum Premier System. The unit provides a means of connecting devices with a 4-20 mA output signal to the Eagle Quantum Premier System.

Each channel is fully configurable to provide device and alarm information. This information includes tag name, descriptor, engineering units, fault alarm, low/high alarm, and alarm threshold limits.

- Compliance to ANSI/ISA-12.13.01, for combustible gas
- Compliance to ANSI/ISA 92.0.01, CSA 22.2 #152, and EN60079-29-1
- NFPA 72 Approved 4-20 mA flame detector input
- Class 1 Div. 2 locations combined with Zone 2 rated devices Type N
- Models with SIL 2 certification
- Monitors eight independent channels
- Panel or DIN rail mounting
- Optional HART Interface module (HIM) available
- Supports 2 or 3 wire 4-20 mA transmitters

*EQ3710 AIM Model Matrix*

MODEL	DESCRIPTION										
EQ3710	8 Channel Analog Input Module (AIM)										
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>MOUNTING OPTION</th> </tr> </thead> <tbody> <tr> <td>D</td> <td>Din Rail</td> </tr> <tr> <td>P</td> <td>Panel</td> </tr> </tbody> </table>	TYPE	MOUNTING OPTION	D	Din Rail	P	Panel				
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TYPE	APPROVALS										
R	VNIIPO/VNIIFTRI (RUSSIA)										
S	SIL										
T	SIL/FM/CSA/ATEX/IECEX										
W	FM/CSA/ATEX/IECEX										

\*Type Approvals can use one or more letters to designate the approvals of the product.

## DEVICES

### EQ3710 AIM - SIL 2

Model	Part Number	Material	SIL/FM/CSA/ ATEX/IECEX	Ship Weight
EQ3710DT	007918-013	AL	X	2.0 lb (0.90 kg)
EQ3710PT	007918-012	AL	X	1.0 lb (0.45 kg)

### EQ3710 AIM

Model	Part Number	Material	FM/CSA/ ATEX/IECEX	Ship Weight
EQ3710DW	007918-003	AL	X	2.0 lb (0.90 kg)
EQ3710PW	007918-002	AL	X	1.0 lb (0.45 kg)

### EQ3710 AIM - SIL 2 Russia

Model	Part Number	Material	SIL/VNIPO VNIIFTRI	Ship Weight
EQ3710DSR	007918-913	AL	X	2.0 lb (0.90 kg)
EQ3710PSR	007918-912	AL	X	1.0 lb (0.45 kg)

Contact factory for availability.

### EQ3710 AIM - Russia

Model	Part Number	Material	VNIPO VNIIFTRI	Ship Weight
EQ3710DR	007918-903	AL	X	2.0 lb (0.90 kg)
EQ3710PR	007918-902	AL	X	1.0 lb (0.45 kg)

Contact factory for availability.

EQ3720 RM Relay Module



**EQ3720 RM Relay Module** (Spec Sheet: 90-1181) The 8 Channel Relay Module is specially designed to expand the output capability of the Det-Tronics Eagle Quantum Premier System. The Relay Module provides eight channels of relay output points that are programmed for unsupervised operation. The output relays are rated up to 2 amps per channel at 30 Vdc maximum or 0.5 amps per channel at 30 Vac.

- Class 1 Div. 2 locations combined with Zone 2 rated devices Type N
- Controls eight independent form “C” relay output channels
- Panel or DIN rail mounting
- “Hold last state” capable
- Recommended for use as an interface to normally energized (fail-safe) systems

EQ3720 RM Model Matrix

MODEL	DESCRIPTION						
EQ3720	8 Channel Relay Module (RM)						
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>MOUNTING OPTION</th> </tr> </thead> <tbody> <tr> <td>D</td> <td>Din Rail</td> </tr> <tr> <td>P</td> <td>Panel</td> </tr> </tbody> </table>	TYPE	MOUNTING OPTION	D	Din Rail	P	Panel
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TYPE	APPROVALS						
R	VNIIPO/VNIIFTRI (RUSSIA)						
W	FM/CSA/ATEX/IECEX						

EQ3720 Relay Module

Model	Part Number	Material	FM/CSA/ATEX/IECEX	Ship Weight
EQ3720DW	007792-003	AL	X	2.0 lb (0.90 kg)
EQ3720PW	007792-002	AL	X	1.0 lb (0.45 kg)

EQ3720 Relay Module - Russia

Model	Part Number	Material	VNIIPO VNIIFTRI	Ship Weight
EQ3720DR	007792-903	AL	X	2.0 lb (0.90 kg)
EQ3720PR	007792-902	AL	X	1.0 lb (0.45 kg)

Contact factory for availability.

## DEVICES

### FlexVu® UD10-DCU Universal Display



**FlexVu UD10-DCU Universal Display** (Spec Sheet 90-1200) is recommended for applications that require a gas detector with digital readout of detected gas levels. Its LON interface board makes the FlexVu UD10 compatible with Eagle Quantum Premier systems by digitizing the 4-20 mA analog signal from the attached sensor/transmitter and transmitting the value as a process variable over the LON to the EQP controller. The UD10 is designed for use with a variety of Det-Tronics gas sensors for combustible and toxic detection, GT3000 and C7064E. When used with the EQP controller, it meets all gas performance standards.

- Compliance to ISA-92.0.01 Part 1 performance standard, and EN50104 for oxygen depletion
- Performance certified to FM 6310/6320, CSA 22.2 #152, ATEX EN60079-29-1, ANSI/ISA 60079-29-1, and IEC60079-29-1
- Division Approval Ratings: FM and CSA
- Zone Approval Ratings: FM, CSA, ATEX, and IECEx
- Accepts 4-20 mA input from a variety of detection devices (gas, flame, pressure, flow, etc.)
- Compatible with FlexSonic Acoustic leak detector AC100/ATX10, providing spectrum display and configuration setup menus
- Non-intrusive menu allows device calibration without de-classifying the hazardous area
- Continuously displays gas level, gas type, and units measured
- Alarm setpoints adjustable via network
- Data logger for event time and date stamping
- Heated and backlit display
- IP66 rated
- Emulates the EQ22xxDCU for direct replacement
- Replaces EQ2200 DCUEx for direct replacement

#### FlexVu UD10 DCU Model Matrix

MODEL	DESCRIPTION								
UD10	Universal Display Unit								
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>MATERIAL</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Aluminum</td> </tr> <tr> <td>S</td> <td>Stainless Steel (316)</td> </tr> </tbody> </table>	TYPE	MATERIAL	A	Aluminum	S	Stainless Steel (316)		
TYPE	MATERIAL								
A	Aluminum								
S	Stainless Steel (316)								
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>THREAD TYPE</th> </tr> </thead> <tbody> <tr> <td>5M</td> <td>5 Port, Metric M25</td> </tr> <tr> <td>5N</td> <td>5 Port, 3/4" NPT</td> </tr> </tbody> </table>	TYPE	THREAD TYPE	5M	5 Port, Metric M25	5N	5 Port, 3/4" NPT		
TYPE	THREAD TYPE								
5M	5 Port, Metric M25								
5N	5 Port, 3/4" NPT								
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>OUTPUTS</th> </tr> </thead> <tbody> <tr> <td>28</td> <td>EQP - DCU Emulator</td> </tr> </tbody> </table>	TYPE	OUTPUTS	28	EQP - DCU Emulator				
TYPE	OUTPUTS								
28	EQP - DCU Emulator								
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TYPE	APPROVALS								
B	INMETRO (BRAZIL)								
R	VNIIFTRI (RUSSIA)								
W	FM/CSA/ATEX/IECEx								
	<table border="1"> <thead> <tr> <th>TYPE</th> <th>CLASSIFICATION (Div/Zone)</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>Ex d (Flameproof)</td> </tr> </tbody> </table>	TYPE	CLASSIFICATION (Div/Zone)	2	Ex d (Flameproof)				
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	<table border="1"> <thead> <tr> <th>TYPE</th> <th>OPTIONAL CONDITIONING BOARD</th> </tr> </thead> <tbody> <tr> <td>(Blank)</td> <td>None</td> </tr> <tr> <td>C</td> <td>CGS</td> </tr> </tbody> </table>	TYPE	OPTIONAL CONDITIONING BOARD	(Blank)	None	C	CGS		
TYPE	OPTIONAL CONDITIONING BOARD								
(Blank)	None								
C	CGS								

*FlexVu UD10-DCU Universal Display*

Model	Part Number	Material	Threads	EQP-DCU Emulator	Cond. Board	FM/CSA/ATEX/IECEX
UD10A5M28W2	010765-005	AL	M25	X		X
UD10A5N28W2	010765-006	AL	3/4 NPT	X		X
UD10S5M28W2	010765-007	316 SS	M25	X		X
UD10S5N28W2	010765-008	316 SS	3/4 NPT	X		X
<b>Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 10.5lb (4.8kg)</b>						

*FlexVu UD10-DCU Universal Display - CGS*

Model	Part Number	Material	Threads	EQP-DCU Emulator	Cond. Board	FM/CSA/ATEX/IECEX
UD10A5M28W2C	010254-005	AL	M25	X	CGS	X
UD10A5N28W2C	010254-006	AL	3/4 NPT	X	CGS	X
UD10S5M28W2C	010254-007	316 SS	M25	X	CGS	X
UD10S5N28W2C	010254-008	316 SS	3/4 NPT	X	CGS	X
<b>Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 10.5lb (4.8kg)</b>						

*FlexVu UD10-DCU Universal Display - Brazil*

Model	Part Number	Material	Threads	EQP-DCU Emulator	Cond. Board	INMETRO
UD10A5M28B2	010765-085	AL	M25	X		X
UD10A5N28B2	010765-086	AL	3/4 NPT	X		X
UD10S5M28B2	010765-087	316 SS	M25	X		X
UD10S5N28B2	010765-088	316 SS	3/4 NPT	X		X
UD10A5M28B2C	010254-085	AL	M25	X	CGS	X
UD10A5N28B2C	010254-086	AL	3/4 NPT	X	CGS	X
UD10S5M28B2C	010254-087	316 SS	M25	X	CGS	X
UD10S5N28B2C	010254-088	316 SS	3/4 NPT	X	CGS	X
<b>Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 10.5lb (4.8kg)</b>						

## DEVICES

### *FlexVu UD10-DCU Universal Display - Russia*

Model	Part Number*	Material	Threads	EQP-DCU Emulator	Cond. Board	VNIIFTRI
UD10A5M28R2	010765-905	AL	M25	X		X
UD10A5N28R2	010765-906	AL	3/4 NPT	X		X
UD10S5M28R2	010765-907	316 SS	M25	X		X
UD10S5N28R2	010765-908	316 SS	3/4 NPT	X		X
UD10A5M28R2C	010254-905	AL	M25	X	CGS	X
UD10A5N28R2C	010254-906	AL	3/4 NPT	X	CGS	X
UD10S5M28R2C	010254-907	316 SS	M25	X	CGS	X
UD10S5N28R2C	010254-908	316 SS	3/4 NPT	X	CGS	X
<b>Ship Weight: Aluminum = 4.2lb (1.9kg) Stainless Steel = 10.5lb (4.8kg)</b>						

\*Check with the factory for product availability.

### *FlexVu UD10 Spare Module*

Part Number	Description	Output	Ship Weight
010535-001	UD10 Display Module	EQP-DCU	1 lb (0.45 kg)

### *FlexVu UD10 Accessories*

Part Number	Description	Ship Weight
009700-001	Magnetic Tool	<1 lb (0.45 kg)
014019-001	Gas Inspector 11 CD	<1 lb (0.45 kg)
014020-001	W6300G1006 Gas Inspector 11 Kit (includes CD)	1 lb (0.45 kg)
102988-002	Plug, 5.0mm, 6 Position - P2	<1 lb (0.45 kg)
102988-026	Plug, 5.0mm, 3 Position - P1 (J10, CGS)	<1 lb (0.45 kg)
102988-028	Plug, 5.0mm, 5 Position - (J3, CGS)	<1 lb (0.45 kg)
103726-002	Plug, 3.5mm, 3 Position - J2	<1 lb (0.45 kg)
103726-004	Plug, 3.5mm, 5 Position - J3	<1 lb (0.45 kg)
103726-011	Plug, 3.5mm, 12 Position - J4	<1 lb (0.45 kg)



## DEVICES

### EQ2400NE Network Extender



**EQ2400NE Network Extender** (Spec Sheet: 90-1132) expands the capabilities of the Eagle Quantum Premier system by allowing additional nodes as well as additional wiring to be added to the LON communication loop. Without a network extender, the communication network is limited to 60 nodes on a 2,000 meter loop. Each network extender increases the capacity of the loop by 40 nodes and an additional 2,000 meters of wiring. The maximum system size is 246 field nodes and 10,000 meters of wiring. To ensure optimum performance, it is important to distribute the network extenders along the loop so that no more than 40 nodes or 2,000 meters of wiring are on either side of a network extender.

Network extender circuitry supports communication in both directions. If a network fault should occur, uninterrupted communication can continue in the opposite direction.

- Increases network capacity by 40 nodes per unit (system maximum = 246)
- Each extender increases wiring length by 2,000 meters
- Visual indication of network traffic
- Up to 6 extenders can be added per system

### EQ24xxNE - Network Extender

Model	Part Number	Material	Thread	Ports	FM/CSA/ATEX	Ship Weight
EQ2453NE	006941-009	AL	3/4 NPT	5	X	6 lb (2.7 kg)
EQ2408NE	006941-007	AL	3/4 NPT	6	X	6 lb (2.7 kg)
EQ2407NE	006941-003	AL	M25/M20	5	X	6 lb (2.7 kg)
EQ2409NE	006941-008	AL	M25/M20	6	X	6 lb (2.7 kg)
EQ2463NE	006941-010	SS	3/4 NPT	5	X	10 lb (4.5 kg)
EQ2417NE	006941-006	SS	M25/M20	5	X	10 lb (4.5 kg)

EQ2400PLR Physical Layer Repeater



**EQ2400PLR** Physical Layer Repeater (spec sheet 90-XXXX) is a repeater module that is connected between two network segments. A network segment is defined as the segment between two network extenders or the segment between an EQP controller and a network extender. The purpose of the physical layer repeater is to eliminate communication interference resulting from network wiring opens caused by a break in the wire or a bad connection. An open wire will result in the reflection of the network signal back along the network wiring segment. This interference has the potential to cause a network device to fault isolate. This will occur at a device located at a certain distance from the network open. Typically the distance lies between 350 and 500 meters and is dependent upon the electrical characteristics of the network cable.

- Suppresses reflection
- Amplifies signal

*EQ24XX PLR Physical Layer Repeater*

Model	Part Number	Material	Thread	Ports	FM/CSA/ATEX	Ship Weight
EQ2453PLR	009183-001	AL	3/4 NPT	5	X	6 lb (2.7 kg)
EQ2457PLR	009183-002	AL	M25/M20	6	X	6 lb (2.7 kg)
EQ2463PLR	009183-003	SS	3/4 NPT	5	X	10 lb (4.5 kg)
EQ2467PLR	009183-004	SS	M25/M20	5	X	10 lb (4.5 kg)
EQ24EMPLR	009183-005	-	-	-	-	1 lb (0.46 kg)

## DEVICES

### Risk Area Heat Detector Model HD



The **Risk Area Heat Detector** (Spec Sheet: 90-1211) accurately senses the surrounding air temperature and actuates an electrical contact output at a pre-determined temperature.

The SIL 2 certified heat detector can be used as an alarm device to sense excessive heat or fire and warn personnel, or it can be used as a signaling device to sense fire and send a signal to an alarm panel for actuation of a fire suppression system.

The design of the heat detector utilizes Rate Compensation, which provides enhanced performance when compared to fixed-temperature or rate-of-rise detectors. The Model HD Detector senses the surrounding air temperature and actuates its output when the temperature reaches the pre-determined level, regardless of the fire growth rate. The unique properties of the alloy outer shell allow the Model HD to respond more quickly as the fire growth rate increases; i.e. the faster the fire grows, the sooner the unit will react.

The device is furnished with an explosion-proof junction box. The detector's electrical contact is factory wired to a screw terminal block located within the junction box. All external wiring to the device is also connected to this terminal block. The screw terminals accept wiring from 12 to 24 AWG. The junction box is available in aluminum or stainless steel, with two or four conduit entries, and either 3/4 inch NPT or 25 mm threads.

The Model HD is ideally suited for use in hazardous (classified) locations.

- SIL 2 certified repeatable - resets itself, nothing to replace, testable
- Rugged - withstands shock and vibration
- Versatile - various temperature settings available
- Economical - wide spacings reduce installation costs
- Factory set internal contact area is hermetically sealed in stainless steel
- Ease of wiring and installation
- Aluminum or stainless steel junction box, stainless steel heat detector
- Approved and certified to FM, CSA, and ATEX Hazardous Location standards
- Compatible with EDIO and DCIO LON devices

#### APPLICATIONS

- Turbine enclosures
- Confined spaces and dirty environments
- Fuel cells
- Gas compressors
- Hydraulic or lube pump locations
- Power generation
- Gas station islands
- Miscellaneous industrial processes
- Anywhere fire can occur

HD Model Matrix

MODEL	DESCRIPTION	
HD	Risk Area Heat Detector	
	TYPE	SETTING
	140	140° F (60° C)
	160	160° F (71° C)
	190	190° F (88° C)
	210	210° F (99° C)
	225	225° F (107° C)
	275	275° F (135° C)
	325	325° F (163° C)
	360	360° F (182° C)
	450	450° F (232° C)
	500	500° F (260° C)
	600	600° F (316° C)
	725	725° F (385° C)
	TYPE	MATERIAL
	A	Aluminum
	S	Stainless Steel (316)
	TYPE	THREAD TYPE
	2M	2 Port, Metric M25
	2N	2 Port, 3/4" NPT
	4M	4 Port, Metric M25
	4N	4 Port, 3/4" NPT
	TYPE	OUTPUT
	11	Contact Closure
	TYPE	APPROVALS
	A	FM/CSA
	B	INMETRO (Brazil)
	S	SIL
	T	SIL/FM/CSA/ATEX/IECEX
	TYPE	CLASSIFICATION
	1	Div/Zone Ex de
	2	Div/Zone Ex d

## DEVICES

### Risk Area Heat Detector Model HD 140-190 Degrees

Part Number	Model	°F Setting	Material	# of Ports	Threads	Ex de	Ex d	FM/CSA/ ATEX/SIL
010935-001	HD140A2N11T1	140	AL	2	3/4 NPT	X		X
010935-002	HD140A2M11T1	140	AL	2	M25	X		X
010935-005	HD140A2N11T2	140	AL	2	3/4 NPT		X	X
010935-006	HD140A2M11T2	140	AL	2	M25		X	X
010935-003	HD140S2N11T1	140	SS	2	3/4 NPT	X		X
010935-004	HD140S2M11T1	140	SS	2	M25	X		X
010935-007	HD140S2N11T2	140	SS	2	3/4 NPT		X	X
010935-008	HD140S2M11T2	140	SS	2	M25		X	X
010935-017	HD160A2N11T1	160	AL	2	3/4 NPT	X		X
010935-018	HD160A2M11T1	160	AL	2	M25	X		X
010935-021	HD160A2N11T2	160	AL	2	3/4 NPT		X	X
010935-022	HD160A2M11T2	160	AL	2	M25		X	X
010935-030	HD160A4M11T2	160	AL	4	M25		X	X
010935-019	HD160S2N11T1	160	SS	2	3/4 NPT	X		X
010935-020	HD160S2M11T1	160	SS	2	M25	X		X
010935-023	HD160S2N11T2	160	SS	2	3/4 NPT		X	X
010935-024	HD160S2M11T2	160	SS	2	M25		X	X
010935-033	HD190A2N11T1	190	AL	2	3/4 NPT	X		X
010935-034	HD190A2M11T1	190	AL	2	M25	X		X
010935-037	HD190A2N11T2	190	AL	2	3/4 NPT		X	X
010935-038	HD190A2M11T2	190	AL	2	M25		X	X
010935-035	HD190S2N11T1	190	SS	2	3/4 NPT	X		X
010935-036	HD190S2M11T1	190	SS	2	M25	X		X
010935-039	HD190S2N11T2	190	SS	2	3/4 NPT		X	X
010935-040	HD190S2M11T2	190	SS	2	M25		X	X
<b>Ship Weight: Aluminum = 4.5 lb (2.0 kg) Stainless Steel = 9.70 lb (4.4 kg)</b>								

\*For "xxx", Insert required temperature from model matrix.

(Seed number reference 010935-000)

*Risk Area Heat Detector Model HD 210-275 Degrees*

Part Number	Model	°F Setting	Material	# of Ports	Threads	Ex de	Ex d	FM/CSA/ATEX
010935-049	HD210A2N11T1	210	AL	2	3/4 NPT	X		X
010935-050	HD210A2M11T1	210	AL	2	M25	X		X
010935-053	HD210A2N11T2	210	AL	2	3/4 NPT		X	X
010935-054	HD210A2M11T2	210	AL	2	M25		X	X
010935-051	HD210S2N11T1	210	SS	2	3/4 NPT	X		X
010935-052	HD210S2M11T1	210	SS	2	M25	X		X
010935-055	HD210S2N11T2	210	SS	2	3/4 NPT		X	X
010935-056	HD210S2M11T2	210	SS	2	M25		X	X
010935-065	HD225A2N11T1	225	AL	2	3/4 NPT	X		X
010935-066	HD225A2M11T1	225	AL	2	M25	X		X
010935-069	HD225A2N11T2	225	AL	2	3/4 NPT		X	X
010935-070	HD225A2M11T2	225	AL	2	M25		X	X
010935-067	HD225S2N11T1	225	SS	2	3/4 NPT	X		X
010935-068	HD225S2M11T1	225	SS	2	M25	X		X
010935-071	HD225S2N11T2	225	SS	2	3/4 NPT		X	X
010935-072	HD225SM11T2	225	SS	2	M25		X	X
010935-081	HD275A2N11T1	275	AL	2	3/4 NPT	X		X
010935-082	HD275A2M11T1	275	AL	2	M25	X		X
010935-085	HD275A2N11T2	275	AL	2	3/4 NPT		X	X
010935-086	HD275A2M11T2	275	AL	2	M25		X	X
010935-083	HD275S2N11T1	275	SS	2	3/4 NPT	X		X
010935-084	HD275S2M11T1	275	SS	2	M25	X		X
010935-087	HD275S2N11T2	275	SS	2	3/4 NPT		X	X
010935-088	HD275S2M11T2	275	SS	2	M25		X	X
<b>Ship Weight: Aluminum = 4.5 lb (2.0 kg) Stainless Steel = 9.70 lb (4.4 kg)</b>								

## DEVICES

### Risk Area Heat Detector Model HD 325-360 Degrees

Part Number	Model	°F Setting	Material	# of Ports	Threads	Ex de	Ex d	FM/CSA/ ATEX
010935-097	HD325A2N11T1	325	AL	2	3/4 NPT	X		X
010935-098	HD325A2M11T1	325	AL	2	M25	X		X
010935-101	HD325A2N11T2	325	AL	2	3/4 NPT		X	X
010935-102	HD325I2M11T2	325	AL	2	M25		X	X
010935-099	HD325S2N11T1	325	SS	2	3/4 NPT	X		X
010935-100	HD325S2M11T1	325	SS	2	M25	X		X
010935-103	HD325S2N11T2	325	SS	2	3/4 NPT		X	X
010935-104	HD325S2M11T2	325	SS	2	M25		X	X
010935-113	HD360A2N11T1	360	AL	2	3/4 NPT	X		X
010935-114	HD360A2M11T1	360	AL	2	M25	X		X
010935-117	HD360A2N11T2	360	AL	2	3/4 NPT		X	X
010935-118	HD360A2M11T2	360	AL	2	M25		X	X
010935-115	HD360S2N11T1	360	SS	2	3/4 NPT	X		X
010935-116	HD360S2M11T1	360	SS	2	M25	X		X
010935-119	HD360S2N11T2	360	SS	2	3/4 NPT		X	X
010935-120	HD360S2M11T2	360	SS	2	M25		X	X
<b>Ship Weight: Aluminum = 4.5 lb (2.0 kg) Stainless Steel = 9.70 lb (4.4 kg)</b>								

### Risk Area Heat Detector Model HD 450 - 725 Degrees

Part Number	Model	°F Setting	Material	# of Ports	Threads	Ex de	Ex d	SIL/FM/CSA/ ATEX/IECEx
012456-005	HD450A2N11T2	450	AL	2	3/4 NPT		X	X
012456-006	HD450A2M11T2	450	AL	2	M25		X	X
012456-037	HD600A2N11T2	600	AL	2	3/4 NPT		X	X
012456-038	HD600A2M11T2	600	AL	2	M25		X	X
012456-039	HD600S2N11T2	600	SS	2	3/4 NPT		X	X
012456-040	HD600S2M11T2	600	SS	2	M25		X	X
<b>Ship Weight: Aluminum = 4.5 lb (2.0 kg) Stainless Steel = 9.70 lb (4.4 kg)</b>								

Risk Area Heat Detector Model HD Russian SIL 140-190 Degrees

Part Number	Model	°F Setting	Material	# of Ports	Threads	Ex d e	Ex d	Russian SIL
010935-901	HD140A2N11SR1	140	AL	2	3/4"	X		X
010935-902	HD140A2M11SR1	140	AL	2	M25	X		X
010935-903	HD140S2N11SR1	140	SS	2	3/4"	X		X
010935-904	HD140S2M11SR1	140	SS	2	M25	X		X
010935-905	HD140A2N11SR2	140	AL	2	3/4"		X	X
010935-906	HD140A2M11SR2	140	AL	2	M25		X	X
010935-907	HD140S2N11SR2	140	SS	2	3/4"		X	X
010935-908	HD140S2M11SR2	140	SS	2	M25		X	X
010935-917	HD160A2N11SR1	160	AL	2	3/4"	X		X
010935-918	HD160A2M11SR1	160	AL	2	M25	X		X
010935-919	HD160S2N11SR1	160	SS	2	3/4"	X		X
010935-920	HD160S2M11SR1	160	SS	2	M25	X		X
010935-921	HD160A2N11SR2	160	AL	2	3/4"		X	X
010935-922	HD160A2M11SR2	160	AL	2	M25		X	X
010935-923	HD160S2N11SR2	160	SS	2	3/4"		X	X
010935-924	HD160S2M11SR2	160	SS	2	M25		X	X
010935-933	HD190A2N11SR1	190	AL	2	3/4"	X		X
010935-934	HD190A2M11SR1	190	AL	2	M25	X		X
010935-935	HD190S2N11SR1	190	SS	2	3/4"	X		X
010935-936	HD190S2M11SR1	190	SS	2	M25	X		X
010935-937	HD190A2N11SR2	190	AL	2	3/4"		X	X
010935-938	HD190A2M11SR2	190	AL	2	M25		X	X
010935-939	HD190S2N11SR2	190	SS	2	3/4"		X	X
010935-940	HD190S2M11SR2	190	SS	2	M25		X	X
<b>Ship Weight: Aluminum = 4.5 lb (2.0 kg) Stainless Steel = 9.70 lb (4.4 kg)</b>								

## DEVICES

### Risk Area Heat Detector Model HD Russian SIL 210-275 Degrees

Part Number	Model	°F Setting	Material	# of Ports	Threads	Ex d e	Ex d	Russian SIL
010935-949	HD210A2N11SR1	210	AL	2	3/4"	X		X
010935-950	HD210A2M11SR1	210	AL	2	M25	X		X
010935-951	HD210S2N11SR1	210	SS	2	3/4"	X		X
010935-952	HD210S2M11SR1	210	SS	2	M25	X		X
010935-953	HD210A2N11SR2	210	AL	2	3/4"		X	X
010935-954	HD210A2M11SR2	210	AL	2	M25		X	X
010935-955	HD210S2N11SR2	210	SS	2	3/4"		X	X
010935-956	HD210S2M11SR2	210	SS	2	M25		X	X
010935-967	HD225S2N11SR1	225	SS	2	3/4"	X		X
010935-968	HD225S2M11SR1	225	SS	2	M25	X		X
010935-971	HD225S2N11SR2	225	SS	2	3/4"		X	X
010935-972	HD225S2M11SR2	225	SS	2	M25		X	X
010935-983	HD275S2N11SR1	275	SS	2	3/4"	X		X
010935-984	HD275S2M11SR1	275	SS	2	M25	X		X
010935-987	HD275S2N11SR2	275	SS	2	3/4"		X	X
010935-988	HD275S2M11SR2	275	SS	2	M25		X	X
<b>Ship Weight: Aluminum = 4.5 lb (2.0 kg) Stainless Steel = 9.70 lb (4.4 kg)</b>								

### Risk Area Heat Detector Model HD Russian SIL 325-360 Degrees

Part Number	Model	°F Setting	Material	# of Ports	Threads	Ex d e	Ex d	Russian SIL
010935-999	HD325S2N11SR1	325	SS	2	3/4"	X		X
010935-900	HD325S2M11SR1	325	SS	2	M25	X		X
010936-903	HD325S2N11SR2	325	SS	2	3/4"		X	X
010936-904	HD325S2M11SR2	325	SS	2	M25		X	X
010936-915	HD360S2N11SR1	360	SS	2	3/4"	X		X
010936-916	HD360S2M11SR1	360	SS	2	M25	X		X
010936-919	HD360S2N11SR2	360	SS	2	3/4"		X	X
010936-920	HD360S2M11SR2	360	SS	2	M25		X	X
<b>Ship Weight: Aluminum = 4.5 lb (2.0 kg) Stainless Steel = 9.70 lb (4.4 kg)</b>								

### Model HD Accessories

Part Number	Description
104106-001	End of Line Resistor, 10KΩ ±1%, 5W wirewound
101118-009	Short Circuit Monitoring Resistor, 3.3KΩ, 1%, wirewound
005003-001	Lubriplate Grease, 1 oz.

Stop Plugs and Reducers

ITEM NUMBER	STYLE	MATERIAL	OVERALL LENGTH (mm)	THREAD TYPE	HEX SIZE
101197-001	TYPE A STOP PLUG	ALUMINUM	14.8	3/4 NPT	12
101197-002	TYPE A STOP PLUG	ALUMINUM	14.5	1/2 NPT	10
101197-003	DOME HEAD STOP PLUG	STAINLESS STEEL	21.5	M25	12
101197-004	TYPE A STOP PLUG	STAINLESS STEEL	14.8	3/4 NPT	12
101197-005	DOME HEAD STOP PLUG	ALUMINUM	21.5	M25	12
101197-006	DOME HEAD STOP PLUG	ALUMINUM	21.5	M20	10
101197-007	DOME HEAD STOP PLUG	STAINLESS STEEL	21.5	M20	10
101197-008	DOME HEAD STOP PLUG	NICKEL BRASS	21.5	M20	10
101197-009	DOME HEAD STOP PLUG	NICKEL BRASS	21.5	M25	12
101197-010	TYPE A STOP PLUG	NICKEL BRASS	14.8	3/4 NPT	12
101197-011	TYPE A STOP PLUG	NICKEL BRASS	14.5	1/2 NPT	10
101197-012	TYPE A STOP PLUG	STAINLESS STEEL	14.5	1/2 NPT	10
101197-501	IP WASHER	NYLON	-	M20	-
101197-502	IP WASHER	NYLON	-	M25	-
101197-503	IP WASHER	TEFLON PTFE	-	M20	-
101197-503	IP WASHER	TEFLON PTFE	-	M25	-
102804-001	REDUCER	ALUMINUM	-	M25 to M20	-
102804-003	REDUCER	STAINLESS STEEL	-	M25 to M20	-
<b>Ship Weight: 1/2 NPT = 0.07lb (0.030kg), 3/4 NPT = 0.11lb (0.05kg), M20 = 0.14lb (0.062kg), M25 = 0.28lb (0.125 kg)</b> <b>Available Stop Plug Approvals: ATEX, IECEx, CEC, NEC, EAC, INMETRO, SAC, UKRAINE, CCoE, ABS, LLOYD'S, RMRS</b>					



**Dome Head Stop Plug - Nickel Brass**



**Type A Stop Plug - Nickel Brass**

\*Type/TYPER 4 and IP66 rating requires addition of Teflon tape

\*\*Metric threaded stop plugs are fitted with silicone O-Rings

\*\*\*For silicone sensitive applications the silicone O-Ring can be removed from Metric stop plugs and fitted with an IP washer

## DEVICES

### Manual Call Stations (non-addressable)



#### Class 1, Division 1

Part Number	Description	Ship Weight
000115-316	MCP, PB, 3XM20, Red, Duty 3.3K Series, 10K EOL	5.5 lb (2.5 kg)
000115-317	MCP, PB, 3XM20, Red, Duty 1.5K Series, 2.4K EOL	5.5 lb (2.5 kg)
000115-333	MCP, BG, ATEX, IECEx, Tag, Red 10K EOL, 1K Series, DP	5.5 lb (2.5 kg)
000115-195	Manual Pull Station, push button with lift flap (dual action), SPST contact, surface mount, alloy housing painted red, key for reset, 1/2" NPT bottom, includes "FIRE-PUSH BUTTON" label, Class 1, Division 1, Groups C-D, Type 4X, UL	5.5 lb (2.5 kg)
000115-003	Manual Pull station, Dual Action Lift and Pull Ring, 3/4" Entry, Class 1, Division 1, SPDT Contacts, Groups C & D, Aluminum material, UL, ULC, CSA, CSFM Listed, Red Finish	5.5 lb (2.5 kg)
000115-040	Manual Pull Station, pull ring with lift flap (dual action), SPDT contact, surface mount, Aluminum housing, two 3/4" NPT (F) entries, Class 1, Division 1, Groups B, C, & D, Type 4/7/9, ULC, Red Finish	5.5 lb (2.5 kg)
000115-010	Manual Pull Station, Single Action (Dual if used with Lift Flap), DPDT Contacts, Aluminum material, Class 1, Division 1, Groups B, C, & D, Type 4X, UL Listed, Red Finish, Model B-9	3.5 lb (1.6 kg)
000210-709	Lift Flap for B-9, "CO2 Release" label	0.5 lb (.23 kg)
000115-011	Lift Flap for B-9, "FIRE ALARM" label	0.5 lb (.23 kg)
000115-012	Lift Flap for B-9, "FIRE SYSTEM RELEASE" label	0.5 lb (.23 kg)
000115-027	Lift Flap for B-9, "FM-200 Release" label	0.5 lb (.23 kg)

**NOTE:** Average lead time is 4-6 weeks. For additional options, please consult the factory.



#### Class 1, Division 2

Part Number	Description	Ship Weight
000115-006	MCP Push Button, 24V, Red, IECEx Call Point	2.7 lb (1.3 kg)
000115-278	MCP, PB, Single Switch, Red, ATEX Call Point	2.7 lb (1.3 kg)
000115-279	MCP, PB, Single Switch, YEL, ATEX Call Point	2.7 lb (1.3 kg)
000115-053	Manual Pull Station, pushbutton type with lift flap (dual action), Class 1, Division 2, Groups A, B, C, & D, Type 4X, SPST contact, surface mount, GRP housing painted red, key for reset, two 1/2" NPT (F) entries, includes "FIRE ALARM" label and 10K EOL resistor, UL	2.7 lb (1.3 kg)
000115-054	Manual Call Station, break glass type, SPST contact, Class 1, Division 2, Groups A, B, C, & D, Type 4X, SPST contact, surface mount, GRP housing painted red, key for test, two 1/2" NPT (F) entries, includes "FIRE BREAK GLASS" label, no EOL resistor, UL	2.7 lb (1.3 kg)

**NOTE:** Average lead time is 4-6 weeks. For additional options please consult the factory.

*General Purpose*

Part Number	Description	Ship Weight
000515-012	Manual Pull Station, Dual Action w/ Labels, DPST Contacts, Red Finish, Model 3300	1.2 (.6 kg)
000115-051	Manual Pull Station, Dual Action w/ Labels, SPST Contacts, Red Finish, Model 3300	1.2 (.6 kg)
000515-013	Weatherproof Backbox for 3300 Pull Station	1 lb (.45 kg)
000515-014	Indoor Backbox for 3300 Pull Station	0.5 lb (.23 kg)

**NOTE:** Average lead time is 4-6 weeks. For additional options please consult the factory.

*Accessories*

Part Number	Description	Ship Weight
000115-028	Glass Breakrods for B-9 (10 Pk)	0.5 lb (.23 kg)
000515-015	Glass Breakrods for 3300 Pull Station (12 Pk)	0.5 lb (.23 kg)
000515-016	Spare Key for 3300 Pull Station	0.5 lb (.23 kg)
000106-108	EOL Resistor, 10K Ohm	<1 lb (<.45 kg)
000115-334	Spare Break Glass, E2S 50=1 EA Pack of 50	2 lb (.9 kg)

**NOTE:** Average lead time is 4-6 weeks. For additional options please consult the factory.

# DEVICES

## Horns (non-addressable)

### Class 1, Division 1



Part Number	Description	Ship Weight
000121-408	Sounder/Beacon Combo, E2X, 24 Vdc, 1/2" NPT, Lens Clear	10.3 lb (4.7 kg)
000122-135	Sounder, 24 Vdc, 110 dB @ 1M, ATEX Z1&2, 250mA, Blue Housing, 2-M20	10.3 lb (4.7 kg)
000122-186	Sounder, 24 Vdc, Red Housing, IP66 4XM20, 32 Tones, 104 dB(A)	10.3 lb (4.7 kg)
000122-240	Sounder, ATEX, IECEx, Tag, Red 2XM20, 3.3K EOL, Plug	10.3 lb (4.7 kg)
000122-241	Horn, 24 Vdc, 2XM20, Blk Body SS Bracket, UL, IECEx, ATEX	10.3 lb (4.7 kg)
000122-254	Sounder, 117 dB, C1D1, Red 24 Vdc, 1X1/2"NPT, 2XM20, ATEX, UL	10.3 lb (4.7 kg)
000122-144	Horn, 27 Tones, marine grade alloy, Up to 100+/-3 dB, UL Class 1, Division 1, Groups C & D, Type 4x, Voltage: 24 Vdc, Cable Entries: 1x3/4" NPT LHS, 1x3/4" NPT RHS, Duty Label: None, Tag Label: None, Other Features: None, Finish: Red Finish	12.3 lb (5.6 kg)
000122-098	Horn, Alloy, Up to 100+/-3dB, UL Class 1, Div 1, Groups C & D, Type 4x, 24VDC, 3/4" NPT bottom entry, No duty or tag label, Fitted with 10K EOL Resistor), Red finish	12.3 lb (5.6 kg)
000122-024	Horn, Explosion-Proof, Class 1, Division 1, 24 Vdc, 3/4" Entry, 100 dB @ 10 ft., UL, cUL, CSFM	10.3 lb (4.7 kg)
000122-036	Siren, Explosion-Proof, Class 1, Division 1, Groups B, C, & D, 4 Selectable Tones, 24 Vdc, 108 dB @ 10 ft., Type 4X, UL, cUL	23 (10.5 kg)

**NOTE:** Average lead time is 5-6 weeks. For additional options please consult the factory.

### Class 1, Division 2



Part Number	Description	Ship Weight
000122-079	Horn, up to 115 dB, UL Class 1 Division 2, Class 1 Zones 1 & 2, Type 4X & 6, GRP material, 24 Vdc, no labels, one (1) 1/2" NPT entry, no special features, red finish	13.2 lb (6 kg)
000122-074	Horn, up to 118dB(A), GRP, UL Class 1 Division 2, Class 1 Zones 1 & 2, Class II Div 2, Groups F & G, Type 4x & 6, Voltage: 12V-48V d.c, Labels: None, Entries: 2x1/2" NPT, Options: None, Color: Painted Red	13.2 lb (6 kg)
000122-099	Horn, up to 118dB, GRP material, Certified EExd IIC T5, ATEX approved Ex II 2GD, IP66 & 67, 24 Vdc, No labels, two M20 entries, Natural Black finish	13.2 lb (6 kg)
000122-031	Alarm Horn, Class 1, Division 2, Groups A, B, C, & D, 24 Vdc, 0-110 dB @ 10 ft., Type 4X, UL, ULC, CSFM (requires tone module)	6.1 lb (2.7 kg)
000122-052	Universal Tone Module, 32 switchable Tones, UL, ULC, CSA, CSFM	0.5 lb (.23 kg)
000106-108	End of Line (EOL) Resistor, for supervision of end devices, 10K Ohm	<1 lb (<.45 kg)

**NOTE:** Average lead time is 5-6 weeks. For additional options please consult the factory.

*General Purpose*



Part Number	Description	Ship Weight
000122-039	Horn, 80 to 92 dB @ 10 ft, surface mount, diode polarized, UL Listed	1 lb (.45 kg)
000122-037	Indoor backbox, general purpose	0.5 lb (.23 kg)
000122-033	Horn, 24 Vdc, Non-Polarized, general purpose, Model 450	1.5 lb (.68 kg)
000122-034	Panel Mount Gasket Kit, 350/450	0.5 lb (.23 kg)
000122-035	Back Box for 450 Horn	1 lb (.45 kg)
000122-245	Sounder, IS, 105 dB, ATEX, FM, IP66 25mA, 16-28 Vdc, Red	1.5 lb (.68 kg)

**NOTE:** Average lead time is 5-6 weeks. For additional options please consult the factory.

*Accessories*

Part Number	Description	Ship Weight
000106-108	EOL Resistor, 10K Ohm	<1 lb (<.45 kg)

**NOTE:** For additional options please consult the factory.

# DEVICES

## Strobes (non-addressable)

### Class 1, Division 1



Part Number	Description	Ship Weight
000121-458	Beacon, ATEX, IECEX, Tag, Red 2XM20, 3.3K EOL, Plug, Red Body	7.1 lb (3.2 kg)
000121-459	Beacon, ATEX, IECEX, Tag, Yellow 2XM20, 3.3K EOL, Plug, Red Body	7.1 lb (3.2 kg)
000121-460	Beacon, 5J, Red, Black Body, 2XM20 UL, IECEX, ATEX, 24 Vdc	7.1 lb (3.2 kg)
000121-510	Beacon, Xexon, Class 1 Div 1, Red/Red 5 Joule, 2X3/4 NPT, 2XM20, ATEX, UL	7.1 lb (3.2 kg)
000121-513	Strobe, 10 Joule, Blue Lens, Red Body, Class 1 Div 2, Z2, 24 Vdc	7.1 lb (3.2 kg)
000121-514	Strobe, 10 Joule, Amber Lens, Red Body, Class 1 Div 2, Z2, 24 Vdc	7.1 lb (3.2 kg)
000121-515	Strobe, 10 Joule, Clear Lens, Red Body, Class 1 Div 2, Z2, 24 Vdc	7.1 lb (3.2 kg)
000121-516	Strobe, 10 Joule, Red Lens, Red Body, Class 1 Div 2, Z2, 24 Vdc	7.1 lb (3.2 kg)
000121-121*	Xenon Strobe (5 Joule), Type 4X & 6, Alloy, UL Class 1, Division 1, Groups C & D, 24 Vdc, Red lens with no guard, 1/2" entries, No duty or Tag labels, Red finish	4.5 lb (2 kg)
000121-116*	Xenon Strobe 21 Joule, Type 4X & 6, UL Class 1, Division 1, Groups C & D, 24 Vdc, 3/4" NPT Entry, 60 flash per minute, Clear Lens with no lens guard, no duty or tag label, Alloy material, Red finish	14.5 lb (6.6 kg)
000121-028**	Strobe, Amber Lens, Class 1, Division 1, Groups C & D, 24 Vdc, 80 flash per minute, 3/4" Type 4X, UL, ULC, CSA, CSFM	18 lb (8.2 kg)
000121-029**	Strobe, Red Lens Class 1, Division 1, Groups C & D, 24 Vdc, 80 flash per minute, 3/4" Type 4X, UL, ULC, CSA, CSFM	18 lb (8.2 kg)
000121-030**	Strobe, Blue Lens Class 1, Division 1, Groups C & D, 24 Vdc, 80 flash per minute, 3/4" Type 4X, UL, ULC, CSA, CSFM	18 lb (8.2 kg)

**NOTE:** Average lead time is 5-6 weeks. For additional options please consult the factory.

\*Stand-alone device

\*\*Mounting accessory required

Class 1, Division 2



Part Number	Description	Ship Weight
000121-155	Strobe, Xenon type, 15 Joule, 24 Vdc, Pipe mount, 3/4" NPT (F) entry, natural black GRP housing, 60 flashes per minute, diode polarized, red lens with wire guard, Class 1, Division 2, Groups A-D, Type 4X, cULus	5.8 lb (2.6 kg)
000121-166	Strobe, Xenon type, 15 Joule, 24 Vdc, Pipe mount, 3/4" NPT (F) entry, natural black GRP housing, 60 flashes per minute, diode polarized, blue lens with wire guard, Class 1, Division 2, Groups A-D, Type 4X, cULus	5.8 lb (2.6 kg)
000121-156	Strobe, Xenon type, 15 Joule, 24 Vdc, Pipe mount, 3/4" NPT (F) entry, natural black GRP housing, 60 flashes per minute, diode polarized, amber lens with wire guard, Class 1, Division 2, Groups A-D, Type 4X, cULus	5.8 lb (2.6 kg)
000121-163	Strobe, Xenon type, 15 Joule, 24 Vdc, pipe mount, 3/4" NPT (F) entry, natural black GRP housing, 60 flashes per minute, diode polarized, clear lens with wire guard, Class 1, Division 2, Groups A-D, Type 4X, cULus	5.8 lb (2.6 kg)
000121-133	Strobe, Clear Lens, Class I, Division 2, 4-wire with supervisory diode, Type 4X, 24 Vdc, 80 flash/per minute, 1/2" Pipe Mount, UL, ULC, CSA, CSFM	2 lb (.9 kg)
000121-122	Xenon Strobe 5 Joule, ATEX Approved Ex II 2GD, EExd IIB T5, IP66 & 67 GRP Material, two M20 entries, 24 Vdc, 60 flash per munite, Red Lens with guard, Backstrap mounting, No duty or tag labels, Red finish	5.5 lb (2.5 kg)
000121-031	Strobe, Red Lens, 24 Vdc, 4X, Class 1, Division 2, Groups, A, B, C, & D, UL, cUL CSA, non-polarized	1.5 lb (.68 kg)
000121-035	Strobe, Amber Lens, 24 Vdc, 4X, Class 1, Division 2, Groups, A, B, C, & D, UL, cUL CSA, non-polarized	1.5 lb (.68 kg)
000121-037	Strobe, Blue Lens, 24 Vdc, 4X, Class 1, Division 2, Groups, A, B, C, & D, UL, cUL CSA, non-polarized	1.5 lb (.68 kg)
000121-478	Beacon, LED Warning, Red, 24DC 2-1/2" NPT, Brass Plug, Guard	3.3 lb (1.5 kg)
000121-499	Beacon/Horn Combo, Class 1, Div 2, E2S Auto-Sync	10 lb (4.5 kg)
000121-501	Beacon, Xenon, Class 1, Div 2, Red/Red 5 Joule, Guard, CSFM	3.3 lb (1.5 kg)
000121-502	Beacon, Xenon, Class 1, Div 2, Red/Amber 5 Joule, Guard, CSFM	3.3 lb (1.5 kg)
000121-503	Beacon, Xenon, Class 1, Div 2, Red/Clear 5 Joule, Guard, CSFM	3.3 lb (1.5 kg)

NOTE: Average lead time is 5-6 weeks. For additional options please consult the factory.

## DEVICES

### General Purpose

Part Number	Description	Ship Weight
000121-073	Strobe, Type 4X, Xenon type, 2.2 Joule, 1/2" pipe mount, 24 Vdc, red lens, UL/ULc/CSA, non-polarized	<1 lb (<.45 kg)
000121-115	Strobe, Type 4X, Xenon type, 2.2 Joule, 1/2" pipe mount, 24 Vdc, blue lens, UL/ULc/CSA, non-polarized	<1 lb (<.45 kg)
000505-005	End of Line / Polarizing Assembly, 10k Ohm	<1 lb (<.45 kg)
000121-038	Strobe, White Lens, 24 Vdc, 1/2" Pipe Mount, 300 Candlepower, Type 4X, UL, cUL, CSA, non-polarized	2 lb (.9 kg)
102778-003	Strobe, Blue Lens, 24 Vdc, 1/2" Pipe Mount, 300 Candlepower, Type 4X, UL, cUL, CSA, non-polarized	2 lb (.9 kg)
102778-004	Strobe, Red Lens, 24 Vdc, 1/2" Pipe Mount, 300 Candlepower, Type 4X, UL, cUL, CSA, non-polarized	2 lb (.9 kg)
000121-069	Strobe, Amber Lens, 24 Vdc, 1/2" Pipe Mount, 300 Candlepower, Type 4X, UL, cUL, CSA, non-polarized	2 lb (.9 kg)
000121-506	Beacon, 3 Way, G/A/R, UL, 3/4 NPT, M20, SS Guard	10 lb (4.5 kg)

**NOTE:** Average lead time is 5-6 weeks. For additional options please consult the factory.

### Accessories

Part Number	Description	Ship Weight
000121-054	Ceiling Mount for 27XST, Federal CMXC	1.5 lb (.68 kg)
000121-331	Wall Mount for 27XST, Federal WMXC-SB	1.5 lb (.68 kg)
000121-318	Pendant Mount for 27XST, Federal PMXC-S8	1.5 lb (.68 kg)
000121-319	Dome Guard for 27XST, Federal DGXC-SB	<1 lb (<.45 kg)

**NOTE:** Average lead time is 5-6 weeks. For additional options please consult the factory.

Combination Horn/Strobe

*Class 1, Division 2*

Part Number	Description	Ship Weight
000121-075	Horn/Strobe Combination Unit Consisting of the following: Xenon Strobe, 5 Joule, Class 1, Division 2, Type 4X & 6, GRP Material, two (2) 1/2" NPT entries, 24 Vdc, 60 flash/minute, red lens with guard, no labels, red finish Sounder, up to 115 dB, Class 1 Division 2, Class 1 Zones 1 & 2, Type 4X & 6, GRP material, 24 Vdc, no Labels, one (1) 1/2" NPT entry, no special features, red finish 2-Way Baseplate	23 lb (10.5 kg)
000121-079	Horn/Strobe Combination Unit Consisting of the following: Xenon Strobe, 5 Joule, ATEX Approved Ex II 2G, EExd IIB T5, IP66 & 67, GRP Material, 24 Vdc, 60 flash/minute, red lens with guard, two (2) 20 mm entries, no labels Sounder, Up to 115 dB, ATEX Certified EExd IIC T5, IP66 & 67, GRP material, 24 Vdc, no labels, one (1) 20 mm entry, no special features, red finish 2-Way Baseplate	23 lb (10.5 kg)

**NOTE:** Average lead time is 5-6 weeks. For additional options please consult the factory.

*General Purpose*

Part Number	Description	Ship Weight
000122-078	Horn/Strobe, outdoor general purpose, clear lens labeled "FIRE", requires outdoor backbox	1.5 lb (.68 kg)
000121-120	Horn/Strobe, indoor general purpose, clear lens labeled "FIRE", requires indoor backbox	1.5 lb (.68 kg)
000122-037	Indoor/outdoor backbox (use with 000122-078 or 000121-120)	<1 lb (<.45 kg)
000122-251	A141, DC24G-P, Siren, 140 dB, IP65, 24 vdc, 45 Tones, w/Control Unit	
000122-253	Sounder, 116 dB, Class 1, Div 2, Red, 2 x 1/2" NPT, CSFM	

**NOTE:** Average lead time is 5-6 weeks. For additional options please consult the factory.

*Accessories*

Part Number	Description	Ship Weight
000106-108	000106-108 End of Line (EOL) Resistor, for supervision of end devices, 10K Ohm	<1 lb (<.45 kg)

**NOTE:** For additional options please consult the factory.



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Availability and specifications are subject to change without notice.  
Company Confidential Content – Do Not Distribute without Permission

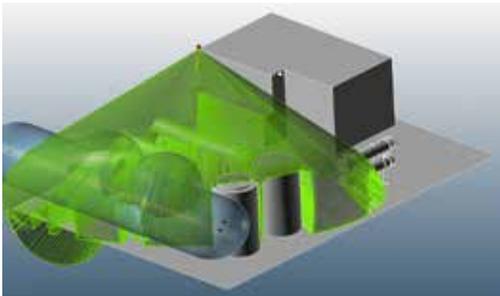
## SERVICES

### 3D Flame and Gas Mapping

#### DESCRIPTION OF SERVICE

The **3D Flame and Gas Mapping** service combines Det-Tronics expertise and proven detection technologies along with 3D mapping software to provide quantitative coverage analysis to ensure optimized detector placement. The 3D Flame and Gas Mapping service can help identify undetected hazards which may lead to a compromise in safety. The hazards include:

- Blind spots with zero coverage
- Lack of adequate coverage in high risk areas
- Obstructions in a detector's field of view



#### DELIVERABLES

A statistical analysis assessment report and a comprehensive flame and gas detector placement guide are provided upon completion of the analysis.

#### PROCESS

The 3D Flame and Gas Mapping solution requires Det-Tronics in-house experts to:

1. Consult and gather customer process data and requirements
2. Conduct safety analysis of requirements and process data using a 3D software mapping tool to determine detector placement
3. Identify zero coverage areas
4. Define coverage per detector

Information required from the customer includes:

- 3D model of process being mapped
- Hazard assessment
- Environmental attributes
- AHJ requirements

#### PRICING

Please contact the local Regional Sales Manager for a 3D Flame and Gas Mapping quotation.

If a 3D model of the process does not exist, Det-Tronics in-house expertise can convert 2D drawings into 3D models. Engineering labor rates will apply. Consult the local Regional Sales Manager for details.

## 2023 Det-Tronics University Field Training Rate Schedule

### TRAINING DELIVERABLES

All courses provide verbal presentation, practical hands-on with applicable equipment or software, course material handouts, and respective product documentation for each participant. Certificates of Completion are issued on request.

### FACTORY-CERTIFIED TECHNICAL TRAINER RATES

On-Site Per Day Rate (not to exceed 4 students and 8 hours).....	\$2,500.00
Day Rate for Each Additional student (not to exceed 10 total students) .....	\$450.00
Webinar/Phone Training Hourly Rate.....	\$550.00
Custom Course Development Hourly Rate .....	\$300.00
Custom Demonstration Setup (Requiring Project Engineering) Day Rate .....	\$2,750.00
On-Site Hourly Rate .....	\$275.00
Time and One-Half .....	\$405.00
Double Time .....	\$550.00
Travel Per Hour Rate.....	\$180.00

- NOTES:**
- Prices are effective January 1, 2023 and subject to change without notice.
  - Customer cancellations received 1 to 2 weeks from the scheduled delivery date will be charged 50% of the estimated cost of Field Service that is scheduled. If the cancellation is received less than one week from the scheduled delivery date, 100% will be charged.

### TRAVEL, SHIPPING AND LIVING EXPENSES

Airfare, Auto Rental, Parking, Tolls, Hotel, Meals, etc. ....Cost +15%  
 Mileage.....Based on the IRS rate for the year incurred +15%  
 Shipping (each 2-person training demo kit weight can reach 100 lb).....Cost +15%  
 Det-Tronics will supply receipts and documentation for the substantiation of reasonable travel and living expenses. These shall include air travel, hotel receipt, meals, car rental if used and misc expenses.

### JANUARY 1, 2023

The above charges are for a normal eight-hour working day with time and one-half charged for Saturdays, and time over eight (8) hours for a weekday; Sundays and holidays and work after twelve (12) continuous hours will be charged at double time.

**NOTES**

- Det-Tronics personnel are not required to work more than 12 hours in any 24-hour period.
- Double time applies to all work/travel performed on Sundays, holidays, and work after 12 continuous hours.
- Det-Tronics personnel are not required to work more than 12 hours in any 24-hour period.
- All weekday or weekend travel time is chargeable per the above notes.
- Eight-hour minimum charge for all one-day sessions with four-hour minimum per day thereafter.
- Hazardous Duties, Offshore or other duties defined as hazardous (offshore platforms, chemical exposure, etc.) are subject to an additional charge of \$200 per day above the standard daily rate.
- Requests for training at locations deemed to be hazardous by Det-Tronics/Carrier (offshore platforms, dangerous chemical exposure, political unrest, etc.) or to be performed in a Travel Warning/Travel Alert location may be subject to additional charges, subcontracted, delayed, or cancelled.

### DET-TRONICS FACTORY HOLIDAYS\*

New Years Day	Memorial Day	Christmas + 2*
Martin Luther King Day	Independence Day	New Year's Eve
Presidents' Day	Labor Day	
Good Friday	Thanksgiving + 1	

\*Christmas Holidays are subject to change depending upon the specific days on which Christmas Eve and Day occur.

### TRAINING EVENT SCHEDULING

Typically scheduled within 8-12 weeks of receiving purchase order; dependent on trainer and equipment availability.

### TERMS OF PAYMENT

Purchase Orders must be received prior to shipping equipment and conducting training sessions. Fax to 952-829-8750 or email: [orders.det-tronics@carrier.com](mailto:orders.det-tronics@carrier.com)  
 Training Invoices are due and payable upon receipt. International Training Support is by Letter of Credit or Prepaid (estimated amount).

# SERVICES

## 2023 Field Services Rate Schedule

### FIELD SERVICE ENGINEER AND PROJECT/SOFTWARE ENGINEER

Rates	Field Service Engineer	Project/Software Engineer	Specialist
On Site Per Hour Rate	\$250.00	\$275.00	\$300.00
Time and One-Half	\$330.00	\$370.50	\$429.00
Double Time	\$440.00	\$495.00	\$572.00
Travel Per Hour Rate	\$195.00	\$195.00	\$195.00

1. Time and one-half applies to all work / travel performed after 8 hours per day or on Saturday.
2. Double time applies to all work/travel performed on Sundays, holidays, and work after 12 continuous hours.
3. Det-Tronics personnel are not required to work more than 12 hours in any 24-hour period.
4. All weekday or weekend travel time is chargeable per the above notes.
5. Eight-hour minimum charge for all one-day service calls with four-hour minimum per day thereafter.
6. Requests for service work at locations deemed to be hazardous by Det-Tronics/Carrier (offshore platforms, dangerous chemical exposure, political unrest, etc.) or to be performed in a Travel Warning/Travel Alert location may be subject to additional charges, subcontracted, delayed, or cancelled.

### DET-TRONICS FACTORY HOLIDAYS\*

New Years Day	Memorial Day	Christmas + 2*
Martin Luther King Day	Independence Day	New Year's Eve
Presidents' Day	Labor Day	
Good Friday	Thanksgiving + 1	

\*Christmas Holidays are subject to change depending upon the specific days on which Christmas Eve and Day occur.

### WORKDAY DEFINED

The above charges are for a normal eight-hour working day with time and one-half charged for Saturdays, and time over eight (8) hours for a weekday; Sundays and holidays and work after twelve (12) continuous hours will be charged at double time. In addition, the travel and living expenses will be billed at cost, plus 10%. Det-Tronics will supply receipts and documentation for the substantiation of reasonable travel and living expenses. These shall include (1) air travel receipt if used, (2) hotel receipt if used, and (3) car rental receipt if used. No other receipts for living expenses will be furnished unless specifically requested by the purchaser in writing prior to the start of the assignment.

### TIME SHEETS

Before the work commences, satisfactory arrangements must be made with Det-Tronics to review and sign Daily Time Sheets. It is suggested that the customer submits a written document to Det-Tronics, stating whether the customer or their authorized representative will be signing the time sheets. Disputes of any nature should be immediately reported, in writing, to Det-Tronics. Approval and acceptance of the work will be assumed if no arrangements have been made to sign the time sheets and invoicing will be submitted accordingly. Once signed, the time card is considered as acceptance of the work performed.

### EXPENSES

Expense	Rates
Travel	At Cost +15%
Shipping	At Cost +15%
Living Expenses	At Cost +15%
Mileage	Based on the IRS rate for the year incurred +15%

### TERMS OF PAYMENT

Purchase Orders must be received prior to shipping equipment and/or scheduling service. Fax to 952-829-8750 or email: [orders.det-tronics@carrier.com](mailto:orders.det-tronics@carrier.com). Invoices are due and payable upon receipt. International Field Service Support is by Letter of Credit or Prepaid (estimated amount).

**CANCELLATION OR CHANGE IN SCHEDULING REQUEST**

If Buyer cancels scheduled Field Services less than two (2) weeks but more than one (1) week prior to the scheduled date for those Field Services, Det-Tronics will bill Buyer a fee equivalent to fifty percent (50%) of the estimated cost of the scheduled Field Services. If Buyer cancels scheduled Field Services one (1) week or less prior to the scheduled date for those Field Services, Det-Tronics will bill Buyer a fee equivalent to one hundred percent (100%) of the estimated cost of the scheduled Field Services (each, a "Cancellation Fee"). Cancellation Fees are exclusive of and in addition to any charges to Buyer for the actual performance of the Field Services when performed. Buyer agrees that the Cancellation Fees are not a penalty, but rather a reasonable measure of damages, based upon potential inability to reschedule service technicians and rearrange travel schedules on short notice and other inefficiencies and additional work that may result to Det-Tronics from the cancellation. Det-Tronics may immediately cancel an order previously accepted if Buyer commits a material breach of these Field Service Terms and fails to remedy the breach within ten (10) business days following written notification thereof, if Buyer misuses Det-Tronics confidential information or commits a violation of the Carrier Code of Ethics, or if Buyer becomes insolvent or a petition is filed or proceedings commenced by or against Buyer relating to bankruptcy, receivership, reorganization or assignment for the benefit of creditors.

**Repair Center Services**

Refer to Customer Care/Technical Support & Repairs official web page ([www.det-tronics.com](http://www.det-tronics.com)) for RMA Services process forms, policies, terms, and repairable/non-repairable products list.

**Repairs**

**REPAIR CENTER**

Available only for active models listed in this price schedule. Before returning equipment for repair, contact Detector Electronics Customer Service Department to obtain a Return Material Authorization (RMA) number that will be reserved for your specific return order, and referenced in all documentation. Pack the return shipment carefully to avoid damage in transit. Place the RMA number, with your name and address as sender, plainly on the outside of the package.

**CLASS 1**

**Repair Charge \$605**  
**Test Fee \$385**

ATX10	FlexSonic Acoustic Transmitter
U9500 Infiniti	Gas Transmitter
UD10/UD20/UD30	Universal Display

**CLASS 2**

**Repair Charge \$1100**  
**Test Fee \$495**

EQ2100PSM	Power Supply Monitor
EQ24xxNE	EQP Component
EQ3700 DCIO	EQP Component
EQ3710 AIM	EQP Component
EQ3720 RM	EQP Component
EQ3730 EDIO	EQP Component
LS2000	Line-of-Sight Infrared Gas Detector
PIR9400	IR Detector
PIRECL	IR Gas Detector
X-Series Heads	Sensor Module
EQ37xx ASM/ASH	EQP Component

**CLASS 3**

**Repair Charge \$1980**  
**Test Fee \$660**

EQ3016	Eagle Quantum Premier (16 Node)
PIRDUCT	IR Detector
U5015	Smoke Detector
W867	(Battery Replacement) \$1705
X2200	UV Flame Detector
X3301	MIR Flame Detector
X3302	Hydrogen Flame Detector
X5200	UVIR Flame Detector
X9800	IR Flame Detector

**CLASS 4**

**Repair Charge \$3300**  
**Test Fee \$770**

AC100	FlexSonic Acoustic Sensor
EQ3001	Eagle Quantum Premier (246 Node)
R7094	IR Controller

**CLASS 5**

Gas Sensor Test Fee (all)	\$385
IR Sensor Module Test Fee	\$385
UV Sensor Module Test Fee	\$385
W8067S Bulb Replacement	\$385

## SERVICES

### NON-REPAIRABLE ITEMS

006148-002 Network Extender	1100 Gas Controller	DE6000-001 IR Module	PM-6 Flame Detector	TXL Gas Detector
006605-xxx U7602 E-Pkg	2000 Gas Controller	EA 2000 CG Gateway	PM-6M, MX Flame Detector	U7099 Flame Detector
006598-001 E-Mod	2100 Gas Controller	EAGLE 2000	PM-9 Flame Detector	U7600 A/B/C Flame Det.
30-2056B IR Detector	8000 Gas Controller	EQ2101MR Gen. Assy. Cage	PSS Test Lamps	U7602 Flame Det/Controller
30-3003/D Smoke Det.	8100 Gas Controller	EQ2220GFM	PW9200 PathWatch	U7652 Flame Detector
400 Gas TX	Air Dilution Kit	GTS Gas Module	R5010 Controller	U7698 A-D Flame Det./Controller
405 Gas TX	C7050 Flame Detector	GTX Gas Transmitter	R6001 Zone Unit	U7698 Flame Det./Controller
410 Gas TX	C7052 Flame Detector	K-Series TX	R6003 Zone Unit	U5005/6 Smoke Detector
415 Gas TX	C7061C Gas Detector	Laser Aimer	R7300 Flame Detector	U8700 Gas Detector
500 Gas TX	C7064E Sensor/Transmitter	MIR1 Gas Detector	R730X Flame Controller	U8800 Gas Detector
700 Transmitter	C7065 Sensor/Transmitter	MIR2 Gas Detector	EQ22XX DCU, IDC	U8810 Gas TX
704 Transmitter	C7093D & E Flame Detector	MIR3 Gas Transmitter	EQ25XX SAM, ARM	U-Series Flame Detector DExxxx IR modules
710 Gas Controller	C7098B Flame Detector	Model HD Heat Detector	R73XX Controller Brd	UD10 NTMOS Interface Bd.
740 Gas Controller	CGS	NTMOS Gas Detector	R74XX Flame Controller	UV Tube Module
800 Transmitter	DE2020 Camera	NTMOS H2S Gas Sensor	R1425 Detonator Module	W866 Test Lamp
808 Transmitter	DE4161-001 Electronic Mod	OPECL (RX/TX modules only)	R6006 Relay Module	W868 Test Lamp
810 Gas Controller	DE4960-001 Electronic Mod	PIRVOL IR Gas Detector	R8460 Gas Controller	W1212 Battery
820 Gas Controller	DE5203 Circuit Brd. Rpl.	PM-5CX Flame Detector	R8466 Gas Controller	W8066 UV Lamp
880 Gas Controller	DE5500-001 E-Mod	PM-5CXJ Flame Det.	SW9200 SlickWatch	W8067B Test Lamp
1000 Gas Controller	DE5994-003 E-Mod	PM-5MP, MPX Flame Det.	THZ Gas Detector	X3300/Pulse Flame Det

### FACTORY REPAIR PRICING POLICY

Det-tronics Factory Repair Center utilizes standardized repair service pricing that characterizes product repair and testing fees by product class (groupings of similar products) for approved Repair Material Authorization (RMA) returns.

An authorized purchase order for the amount of the standard product class pricing is required prior to the Repair Center issuing an RMA identification number. All equipment returned within an approved RMA is to be shipped freight pre-paid to the Repair Center, and equipment return freight costs and any required sales tax will be added to invoice when applicable at actual cost.

Testing fees apply to non-warranty products tested and not repaired, or products subsequently found compliant with factory manufacturing quality & test parameters, eg no problem found. Testing fees will be waived if the customer property is repaired or a replacement item is purchased as part of the same transaction. All equipment requiring major component/assembly replacement such as pc boards or sensor modules will be invoiced at actual time and material cost as required to repair the product.

Typical equipment repair turn-around time ranges from one to four weeks after receipt at Repair Center, contingent upon prior RMA approval and provision of an accurate, concise description of the product problems or symptoms observed by the customer

Customer property returned to the Repair Center without an RMA identification number, authorized purchase order, or without any description of the product problem or symptoms will be handled on a case by case basis and special handling charges may apply.

Customer approval will be sought before proceeding if the repair costs fall out of our standard product class repair cost guidelines. Products returned for repair that do not fall into one of the defined product classes will be charged at 40 percent of the current list price for that item.



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## REFERENCES

### Acronyms

°C	Celsius
°F	Fahrenheit
Ω	Ohm
AFE	Analog Front End
AGC/TE	Automatic Gain Control/Thermoelectric Cooler
AGLD	Acoustic Gas Leak Detection
AIC	Acoustic Integrity Check
AIM	Analog Input Module
AL	Aluminum
amp(s)	Ampere/Amperes
AMPR	Acoustic Multi-Spectral Pattern Recognition
ANSI	American National Standards Institute
Arc	Arc Rejection – an algorithm that prevents false alarms from transient UV sources
ARM	Agent Release Module
ASH	Addressable Smoke & Heat
ASM	Addressable Smoke Module
assy	Assembly
ATEX	Standard for products used in explosive atmospheres
Aux	Auxiliary
AWG	American Wire Gauge
bd(s)	Boards
BNC	Bayonet Neill-Concelman Connector
cal	Calibration
CCTV	Closed Circuit Television
CD	Compact Disc
CE	'Conformité Européenne', French for 'European Conformity'
CFR	Code of Federal Regulations
COMM	Communication
config	Configuration
COV	Cone of Vision
cps	Counts per second
Ctrlr	Controller
CSA	Canadian Standards Association Certification
dB	Decibels
dBA	Decibels adjusted
DCIO	Discrete Input/Output
DCS	Distributed Control System
DCU	Digital Communication Unit
DDL	Device Description Language
DSP	Digital Signal Processing
DNV	Det Norske Veritas (Norway) approved
DVR	Digital Video Recorder
e	Increased Safety
ea	Each
EC	Electrochemical
EDIO	Enhanced Discrete Input/Output
EMC	Electro-Magnetic Compatibility
EMI	Electro-Magnetic Interference
Encl	Enclosure
EOL	End of Line
EQ	Eagle Quantum
EQP	Eagle Quantum Premier®
EVF	External Voltage Fluctuation
Ex d	Flame Proof
Ex e	Increased Safety
Ex db*	Flame Proof
Ex eb*	Increased Safety

\*New alternative markings

## REFERENCES

Exp	Explosion-proof
FAT	Factory Acceptance Test
FCA	Free Carrier
FF	Foundation™ Fieldbus
FOV	Field of View
FM	FM Approvals
ft	Foot or feet
GUI	Graphic User Interface
HART	Highway Addressable Remote Transducer
HMI	Human Machine Interface
Ht	Height
Hz	Hertz
GB	Gigabyte
GFM	Ground Fault Monitor
ia	Intrinsic Safety (Class 1, Zone 0)
ib	Intrinsic Safety (Class 1, Zone 1)
IEC	International Electrotechnical Commission
ID	Inside diameter
IDC	Initiating Device Circuits
IDCGF	Initiating Device Circuits Ground Fault
IECEX	Standard for explosive equipment for explosive atmosphere
Ind	Independent
IP	Ingress Protection
IR	Infrared
IS	Intrinsically Safe
ISA	The Instrumentation, Systems, and Automation Society
J-box	Junction box
kg	kilogram
kHz	kiloHertz
lb	Pound
LCD	Liquid Crystal Display
LED	Light Emitting Diode
LFL-m	Lower Flammable Limit, meters
LON	Local Operating Network
LOS	Line-of-Sight
LPM	Liter(s) Per Minute
m	Meter(s)
mA	Milliampere(s)
MIR	Multispectrum Infrared
MOS	Metal-Oxide Semiconductor
mm	Millimeter(s)
mt	Mount
mtg	Mounting
N/A	Non-Applicable
N/C	No Charge
NE	Network Extender
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
No.	Number
N.C.	Normally Closed contacts
NPT	National Pipe Thread
N.O.	Normally Open contacts
NT	Nanotechnology
NTSC	National Television System Committee
NVM	Nonvolatile Memory

## REFERENCES

O <sub>i</sub>	Optical Integrity
OD	Outside diameter
OEM	Original Equipment Manufacturer
OPC	Open for Process Control
oz	Ounce
p/n	Part number
PAL	Phase Alternating Line
PB	Pushbutton
PC	Personal Computer
PIRTB	Point-type Infrared Termination Box
pkg	Package
PLC	Programmable Logic Controller
PM	Power Monitor
ppb	Parts per billion
ppm	Parts per million
PSD	Power Spectral Density
PSM	Power Supply Monitor
PVC	Polyvinyl Chloride
R	Russian approved
Repl	Teplacement
RFI	Radio frequency interference
RH	Relative humidity
rly(s)	Relay/relays
RM	Relay Module
RTC	Real Time Clock
RTU	Remote Terminal Unit
RUS	Russian approved
Rx	Receiver
S <sup>3</sup>	Safety System Software
SAM	Signal Audible Module
SCADA	Supervisory Control and Data Acquisition
SD	Secure Digital
sec	Seconds
sep	Separation
SIL	Safety Integrity Level
sgl	Single
SPL	Sound Pressure Level
SS	Stainless Steel
STAR	Selectable Transient Arc Rejection
surv	Surveillance
Tx	Transmitter
TAR	Transient Arc Rejection
TDSA	Time Domain Signal Analysis
temp	Temperature
UCR	Upper Count Rate
UEL	Upper Explosive Limit
UL	Underwriter Laboratories
ULC	Underwriter Laboratories of Canada Listed
Um	Maximum voltage
USB	Universal Serial Bus
UV	Ultraviolet
UVIR	Ultraviolet/Infrared
Vac	Volts alternating current
Vdc	Volts direct current
VDS	Verband der Sachversicherer (German approval)
Vol	Volume
w/	With
w/o	Without
WDT	Watch Dog Timer

### **Product Life Cycle Information**

Contact your Det-Tronics Representative.

### **Terms and Conditions and Warranty**

All sales are subject to Det-Tronics' "Terms and Conditions of Sale" found at [www.det-tronics.com](http://www.det-tronics.com).

Please visit the website frequently. Det-Tronics reserves the right to make changes to Terms and Conditions of Sale without notice.

## REFERENCES

### Ordering Information

Pricing and availability:

**Det-Tronics**  
**6901 West 110th Street**  
**Minneapolis, Minnesota 55438 USA**  
**+952-946-6491 or 1-800-765-3473**  
**det-tronics@carrier.com**

Order placement:

**Send Purchase Orders to:**  
**orders.det-tronics@carrier.com**  
**or**  
**Fax: +952-829-8750**

**Det-Tronics reserves the right to make substitutions or changes to products, prices, or terms and conditions without notice.**

Pricing and payments are payable in U.S. Dollars. Delivery is FCA, Minneapolis, Minnesota, USA. Risk of loss and title shall transfer to Buyer at delivery to the first carrier. Prices shown do not include V.A.T., federal, state or local taxes, or customs duty. Custom export crating will be quoted upon request.

### Expedited Shipments

Any order received and accepted before 11:00 AM CST, requesting same day shipment, will be treated as an “expedited shipment”. Additionally, any order received and accepted after 11:00 AM CST, requesting next day shipment, will be treated as an “expedited shipment”. There will be a minimum charge for “expedited shipments” of \$350. Detector Electronics cannot guarantee same day shipment for orders placed after 11:00 AM CST or non-domestic delivery addresses.

### DISCLAIMER

***Any technical assistance, recommendations or suggestions provided by Detector Electronics Corporation (Det-Tronics) as to the number or placement of any devices in any particular installation are provided for informational purposes only and are dependent upon there having been full, complete and accurate information provided to Det-Tronics. The end user (Owner) and the installer are the ultimate decision makers and are responsible to ensure that the actual installation is fully compliant with all local codes, rules and regulation, is fully approved by the authority having jurisdiction, and achieves the desired performance. Det-Tronics recommendations do not account for the unreported presence of disturbing elements (e.g., walls, partitions, solid objects, obstacles, wind, etc.) and cannot account for future changes to site conditions.***

**Document Charges**

**Certificates**

	<u>Each</u>
Approval Certificates (i.e. FM, CSA, ATEX, IECEX)	No Charge
Certificate of Origin	No Charge
Calibration Certificate	No Charge
Certificate of Guarantee/Warranty	No Charge
Certificate of Quality	No Charge
Compliance/Conformance Certificate	No Charge
Test and Inspection Certificate	No Charge
Consularized Documents	Consult Factory
Dossiers/Binders - Consisting of:	
Index	
Test Data	
Product Specification Sheet	\$900.00 per set
Product Manual	
Product Catalog	
Any additions to above	Consult Factory
Drawings:	
Product Detail Drawing per product	Consult Factory
Spare Parts List per product	Consult Factory
Custom Drawings	Consult Factory
Any additions to above	Consult Factory
Product Manuals - Additional	\$3.00
Test Data	\$170.00
Courier of Documents (Letter Envelope only):	
Domestic (within U.S.)	\$55.00
International	\$85.00

Note: The above prices are not discountable.

**Miscellaneous Charges**

	<u>Each</u>
Assembly of product with another product Example: Transmitter and Sensor	\$300.00 per set
Paper Tags	Refer to Price List / Price Catalog
Stainless Steel Tags	Refer to Price List / Price Catalog
Stainless Steel Tags Attached	Refer to Price List / Price Catalog
Stainless Steel Tags Attached & Dip Switch	Refer to Price List / Price Catalog
Inspection at factory	Add \$2000 to orders up to \$250,000. Please consult the factory for Inspections of orders greater than \$250,000 (This is based on a local inspector.)
Engineering testing for gas curves (must pre-qualify)	Consult Factory

Det-Tronics may not accept some items for testing, such as hazardous, toxic, carcinogenic, pyrophoric, or hypergolic materials. In this case, an estimated gas curve may be provided based upon the Safety Data Sheet (S.D.S.), previous test data and engineering judgement. All requests for testing must be accompanied with an S.D.S for that material before any shipment of the material is made. Recent Minnesota State law also may preclude Det-Tronics from accepting or handling certain hazardous materials. Following is the recommended procedure for requests gas curve testing:

1. The request for gas curve testing, complete with appropriate S.D.S., should be issued to Det-Tronics Customer Service Dept. A purchase order issued to Det-Tronics for testing services will be required upon request approval.
2. A one-ounce sample of liquids or 7.5 liters of gaseous materials shall be packaged and shipped in the appropriate container to the attention of: Gas Sensor Gas Curve Test Lab.
3. A Material Safety Data Sheet must accompany each sample to be tested.
4. Technical information typically required for each compound includes: specific gravity, molecular weight, vapor density, flashpoint, and lower and upper flammability limit.
5. All sample materials will be returned to the customer after test completion for proper disposal.

