Industrial Fixed Flame Detection

Issue: 1V0
# Table Of Contents

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><strong>FSX Detectors: Quick Reference Chart</strong></td>
<td>3</td>
</tr>
<tr>
<td>2.</td>
<td><strong>FSX Detectors Applications Chart</strong></td>
<td>4</td>
</tr>
<tr>
<td>3.</td>
<td>Model FS24X</td>
<td>5</td>
</tr>
<tr>
<td>4.</td>
<td>Model FS20X</td>
<td>10</td>
</tr>
<tr>
<td>5.</td>
<td>FS10 Fire Detection Systems</td>
<td>13</td>
</tr>
<tr>
<td>6.</td>
<td>FS7 Flame Detector</td>
<td>16</td>
</tr>
<tr>
<td>7.</td>
<td><strong>SS Series Flame Detectors: Quick Reference Chart</strong></td>
<td>18</td>
</tr>
<tr>
<td>8.</td>
<td>SS4-A2, AS, &amp; ALV Series</td>
<td>19</td>
</tr>
<tr>
<td>9.</td>
<td>SS2-AM Series</td>
<td>24</td>
</tr>
<tr>
<td>10.</td>
<td>FSL100 Flame Detector</td>
<td>25</td>
</tr>
<tr>
<td>11.</td>
<td>Honeywell Analytics Service</td>
<td>26</td>
</tr>
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# 1. FSX Detectors

## Quick Reference Chart

<table>
<thead>
<tr>
<th>Spectral Sensitivity</th>
<th>FS24X-2</th>
<th>FS24X-9</th>
<th>FS20X</th>
<th>FS10</th>
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<tbody>
<tr>
<td>Ultraviolet Band (0.18 – 0.26 µ)</td>
<td>✓</td>
<td>✓</td>
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<td>Visible Band (0.4 – 0.7 µ)</td>
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<td>✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓</td>
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<tr>
<td>NearBand IR (0.7 µ – 1.1 µ)</td>
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<td>✓ ✓ ✓ ✓</td>
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<td>✓ ✓ ✓ ✓</td>
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<td>WideBand IR2 (3.0 – 5.0 µ)</td>
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<td>✓ ✓ ✓ ✓</td>
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<td>Very High</td>
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<td>Response</td>
<td>Fireball / Quick Response Option (&lt; 500 mS)</td>
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<td>Others</td>
<td>Field of View (conical)</td>
<td>110°</td>
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<td>HART Option</td>
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<td>Mount</td>
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*Detection distance for a one sq. ft. reference heptane pan fire*
## 2. FSX Detectors

### Applications Chart

<table>
<thead>
<tr>
<th>Category</th>
<th>FS24X-2</th>
<th>FS24X-9</th>
<th>FS20X</th>
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<td><strong>FINISHING</strong></td>
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<tr>
<td>Rail and Truck Loading/Unloading</td>
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<td>Refineries</td>
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<td>IPA Stations</td>
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<td>Silane Gas Cabinets</td>
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<td>Silane Gas Storage</td>
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</table>

- **Recommended**: ○
- **Suitable**: ●
- **Not Recommended**: ○
Model F24X QuadBand™
Triple IR Fire and Flame Detector (IR/IR/IR/Visible)

The FS24X is the latest generation high technology Multi-Spectrum Triple IR (IR/IR/IR/Visible) Fire and Flame Detector, which is part of our FSX family of advanced technology Electro-Optical fire detectors. Using our patented* WideBand IR™, WideBand 4.3 micron IR™, and Visible detection technology, the FS24X is a quantum leap in flame and fire detection. Sophisticated software algorithms and dual microprocessors ensure that the FS24X has the highest fire detection performance combined with optimal false alarm rejection.

110° field of view with a detection range greater than 200 ft.

Features
- Patented* WideBand IR™ Technology
- Patented* Electronic Frequency Analysis™
- Visible Sensor for optimum false alarm rejection
- Selectable detection sensitivities
- Field-of-View: 110° cone-of-vision (90° cone-of-vision model also available)
- Dual microprocessors for reliable performance
- Real-time clock for accurate time dating of events
- FirePic™ — pre-fire event data storage
- Event log with date and time stamp
- RS-485 Modbus communication
- Non-Isolated 4-20 mA Analog output (sink or source)
- Alarm, Fault and Fire Verification relays
- Automatic optical path and electronic selftest
- Widest operating temperature range
- Patented* Electronics Module for components protection with easy plug-in terminations and field installation
- Two 3/4 in. NPT OR 25 mm conduit entries
- Low Power Consumption
- High RFI and EMI immunity

Benefits
- Detects hydrocarbon and non-hydrocarbon fires in all environmental conditions
- User selectable outputs
- Optimal false alarm rejection for all environmental conditions
- Minimal maintenance for trouble-free operation
- PC software and Interface Module (FSIM) for fault diagnostics, real-time graphics (RTGs), and downloading of FirePics™ and event log
- Suitable for a wide variety of applications
- Easy electronics module replacement
- Test lamps for manual testing

Certifications
- FM:
  - Class I, Div. 1 & 2, Groups B, C, & D
  - Class II, Div. 1 & 2, Groups E, F, & G
  - Class III
- ATEX: II 2 G D Ex d IIC T4 (Ta: -60 to +110ºC), T5 (Ta: -60 to +90ºC), T6 (Ta: -60 to +75ºC)
- CE:
  - Complies with EN6000-6-4, EN50130-4, & EN54-10:2002 + A1:2005
- SIL Rating:
  - FMEDA meets IEC 61508 safety requirements
### 3. Model F24X QuadBand™
Triple IR Fire and Flame Detector (IR/IR/IR/Visible)

#### 3.1 FS24X-211 Series with 110° Field of View, Standard Temp Range -40° to 85°C

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>FS24X-211-21-1</td>
<td>QuadBand™ IR3+ Detector, Copper-Free Aluminum Encl., (2) ¾” NPT entries FM, cFM, IECEx &amp; ATEX approved</td>
</tr>
<tr>
<td>FS24X-211-22-1</td>
<td>QuadBand™ IR3+ Detector, 316 Stainless Steel Encl., (2) ¼” NPT entries FM, cFM, IECEx &amp; ATEX approved</td>
</tr>
<tr>
<td>FS24X-211-23-1</td>
<td>QuadBand™ IR3+ Detector, Copper-Free Aluminum Encl., (2) M25 entries FM, cFM, IECEx &amp; ATEX approved</td>
</tr>
<tr>
<td>FS24X-211-24-1</td>
<td>QuadBand™ IR3+ Detector, 316 Stainless Steel Encl. (2) M25 entries FM, cFM, IECEx &amp; ATEX approved</td>
</tr>
<tr>
<td>FS24X-211-21-4</td>
<td>QuadBand™ IR3+ detector, 110° field of view, copper-free aluminum encl., (2) 3/4 in. NPT entries INMETRO approved</td>
</tr>
<tr>
<td>FS24X-211-22-4</td>
<td>QuadBand™ IR3+ detector, 110° field of view, 316 stainless steel encl., (2) 3/4 in. NPT entries INMETRO approved</td>
</tr>
<tr>
<td>FS24X-211-23-4</td>
<td>QuadBand™ IR3+ Detector, Copper-Free Aluminum Encl., (2) M25 entries INMETRO approved</td>
</tr>
<tr>
<td>FS24X-211-24-4</td>
<td>QuadBand™ IR3+ Detector, 316 Stainless Steel Encl. (2) M25 entries INMETRO approved</td>
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#### 3.2 FS24X-212 Series

<table>
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<th>Part Number</th>
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<tbody>
<tr>
<td>FS24X-212-21-1</td>
<td>QuadBand™ IR3+ Detector, Copper-Free Aluminum Encl., (2) ¾” NPT entries FM, cFM, IECEx &amp; ATEX approved with FSX-A014R Optional Registered HART Module for FS24X Detectors Factory installed.</td>
</tr>
<tr>
<td>FS24X-212-22-1</td>
<td>QuadBand™ IR3+ Detector, 316 Stainless Steel Encl., (2) ¼” NPT entries FM, cFM, IECEx &amp; ATEX approved with FSX-A014R Optional Registered HART Module for FS24X Detectors Factory installed.</td>
</tr>
<tr>
<td>FS24X-212-23-1</td>
<td>QuadBand™ IR3+ Detector, Copper-Free Aluminum Encl., (2) M25 entries FM, cFM, IECEx &amp; ATEX approved with FSX-A014R Optional Registered HART Module for FS24X Detectors Factory installed.</td>
</tr>
<tr>
<td>FS24X-212-24-1</td>
<td>QuadBand™ IR3+ Detector, 316 Stainless Steel Encl. (2) M25 entries FM, cFM, IECEx &amp; ATEX approved with FSX-A014R Optional Registered HART Module for FS24X Detectors Factory installed.</td>
</tr>
<tr>
<td>FS24X-212-21-4</td>
<td>QuadBand™ IR3+ Detector, 316 Stainless Steel Encl. (2) M25 entries INMETRO approved with FSX-A014R Optional Registered HART Module for FS24X Detectors Factory installed.</td>
</tr>
<tr>
<td>FS24X-212-22-4</td>
<td>QuadBand™ IR3+ Detector, 316 Stainless Steel Encl. (2) M25 entries INMETRO approved with FSX-A014R Optional Registered HART Module for FS24X Detectors Factory installed.</td>
</tr>
<tr>
<td>FS24X-212-23-4</td>
<td>QuadBand™ IR3+ Detector, Copper-Free Aluminum Encl., (2) M25 entries INMETRO approved with FSX-A014R Optional Registered HART Module for FS24X Detectors Factory installed.</td>
</tr>
<tr>
<td>FS24X-212-24-4</td>
<td>QuadBand™ IR3+ Detector, 316 Stainless Steel Encl. (2) M25 entries INMETRO approved with FSX-A014R Optional Registered HART Module for FS24X Detectors Factory installed.</td>
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</table>
3. Model F24X QuadBand™
Triple IR Fire and Flame Detector (IR/IR/IR/Visible)

3.3 FS24X-911 Series with 90° field of view, standard temp range -60° to 85°C

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
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<tr>
<td>FS24X-911-21-1</td>
<td>QuadBand™ IR3+ Detector, Copper-Free Aluminum Encl., (2) 꽃” NPT entries FM, cFM, IECEx &amp; ATEX approved</td>
</tr>
<tr>
<td>FS24X-911-22-1</td>
<td>QuadBand™ IR3+ Detector, 316 Stainless Steel Encl., (2) 꽃” NPT entries FM, cFM, IECEx &amp; ATEX approved</td>
</tr>
<tr>
<td>FS24X-911-23-1</td>
<td>QuadBand™ IR3+ Detector, Copper-Free Aluminum Encl., (2) M25 entries FM, cFM, IECEx &amp; ATEX approved</td>
</tr>
<tr>
<td>FS24X-911-24-1</td>
<td>QuadBand™ IR3+ Detector, 316 Stainless Steel Encl. (2) M25 entries FM, cFM, IECEx &amp; ATEX approved</td>
</tr>
<tr>
<td>FS24X-911-21-5</td>
<td>QuadBand™ IR3+ Detector, Copper-Free Aluminum Encl., (2) 꽃” NPT entries FM, for High Background IR Applications</td>
</tr>
<tr>
<td>FS24X-911-22-5</td>
<td>QuadBand™ IR3+ Detector, 316 Stainless Steel Encl. (2) 3/4 in. NPT entries FM, for High Background IR Applications</td>
</tr>
<tr>
<td>FS24X-911-23-5</td>
<td>QuadBand™ IR3+ Detector, Copper-Free Aluminum Encl., (2) M25 entries FM, for High Background IR Applications</td>
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<tr>
<td>FS24X-911-24-5</td>
<td>QuadBand™ IR3+ Detector, 316 Stainless Steel Encl., (2) M25 entries FM, for High Background IR Applications</td>
</tr>
<tr>
<td>FS24X-911-21-6</td>
<td>QuadBand™ IR3+ Detector, Copper-Free Aluminum Encl., (2) 꽃” NPT entries FM, cFM, IECEx &amp; ATEX and EN54-10 approved</td>
</tr>
<tr>
<td>FS24X-911-22-6</td>
<td>QuadBand™ IR3+ Detector, 316 Stainless Steel Encl., (2) 꽃” NPT entries FM, cFM, IECEx &amp; ATEX and EN54-10 approved</td>
</tr>
<tr>
<td>FS24X-911-23-6</td>
<td>QuadBand™ IR3+ Detector, Copper-Free Aluminum Encl., (2) M25 entries FM, cFM, IECEx, ATEX and EN54-10 approved</td>
</tr>
<tr>
<td>FS24X-911-24-6</td>
<td>QuadBand™ IR3+ Detector, 316 Stainless Steel Encl. (2) M25 entries FM, cFM, IECEx &amp; ATEX and EN54-10 approved</td>
</tr>
</tbody>
</table>
### 3. Model F24X QuadBand™

**Triple IR Fire and Flame Detector (IR/IR/IR/Visible)**

#### 3.4 FS24X-912 Series (HART)

<table>
<thead>
<tr>
<th>FS24X-912 Series</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part Number</td>
<td>Description</td>
</tr>
<tr>
<td>FS24X-912-21-1</td>
<td>QuadBand™ IR3+ Detector, Copper-Free Aluminum Encl., (2) ¾” NPT entries FM, cFM, IECEx &amp; ATEX approved with FSX-A014R Optional Registered HART Module for FS24X Detectors Factory installed.</td>
</tr>
<tr>
<td>FS24X-912-22-1</td>
<td>QuadBand™ IR3+ Detector, 316 Stainless Steel Encl., (2) ¾” NPT entries FM, cFM, IECEx &amp; ATEX approved with FSX-A014R Optional Registered HART Module for FS24X Detectors Factory installed.</td>
</tr>
<tr>
<td>FS24X-912-21-4</td>
<td>QuadBand™ IR3+ detector, 90° field of view, copper-free aluminum encl., (2) 3/4 in. NPT entries INMETRO approved with FSX-A014R Optional Registered HART Module for FS24X Detectors Factory installed.</td>
</tr>
<tr>
<td>FS24X-912-22-4</td>
<td>QuadBand™ IR3+ detector, 90° field of view, 316 stainless steel encl., (2) 3/4 in. NPT entries INMETRO approved with FSX-A014R Optional Registered HART Module for FS24X Detectors Factory installed.</td>
</tr>
<tr>
<td>FS24X-912-23-4</td>
<td>QuadBand™ IR3+ Detector, Copper-Free Aluminum Encl., (2) M25 entries INMETRO approved with FSX-A014R Optional Registered HART Module for FS24X Detectors Factory installed.</td>
</tr>
</tbody>
</table>

#### 3.5 Replacement Detector Modules FS24X

<table>
<thead>
<tr>
<th>Replacement Detector Modules FS24X</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part Number</td>
<td>Description</td>
</tr>
<tr>
<td>FS24X-911-10</td>
<td>FS24X Replacement Module - standard temp range</td>
</tr>
<tr>
<td>FS24X-912-10</td>
<td>FS24X Replacement Module w/HART - standard temp range</td>
</tr>
</tbody>
</table>

#### 3.6 Accessories FS24X

<table>
<thead>
<tr>
<th>Accessories</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part Number</td>
<td>Description</td>
</tr>
<tr>
<td>SM4</td>
<td>Stainless Steel Swivel mounting assembly for FS24X, FS20X, SS4, SS2 detectors</td>
</tr>
<tr>
<td>PSU-12</td>
<td>Universal charger for Fire Sentry Test Lamps and Interface Kits. For 110-240 VAC with international plugs</td>
</tr>
<tr>
<td>TL-2055</td>
<td>IR Test lamp for testing FSX detectors, explosion proof version. Incl universal charger</td>
</tr>
<tr>
<td>TL-1055</td>
<td>IR Test lamp for testing FSX detectors, non-explosion proof version. Incl universal charger</td>
</tr>
<tr>
<td>SH-001</td>
<td>Sunshield for SS2, SS4 &amp; FS24X Detectors, 316 Stainless Steel</td>
</tr>
<tr>
<td>FSX-A014R</td>
<td>Optional Registered HART Module for FS24X Detectors</td>
</tr>
</tbody>
</table>
## 20.7 Spare Parts FS24X

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSX-A009</td>
<td>Stainless Steel Grill Kit for FS24X-2 Detectors, for -5 version only</td>
</tr>
<tr>
<td>FSX-A010</td>
<td>Stainless Steel Grill Kit for FS24X-9 Detectors, for -5 version only</td>
</tr>
<tr>
<td>FSX-A006</td>
<td>Replacement IR Bulb TL1055/TL2055</td>
</tr>
</tbody>
</table>
The FS20X is the latest generation high technology Multi-Spectrum (UV/Dual IR/VIS) Fire and Flame Detector, which is part of the FSX family of advanced technology Electro-Optical Flame Detectors. Based on the foundation of the highly successful and reliable SS4 detector, the FS20X detector represents a quantum leap in integrating Infrared and Ultraviolet sensing technologies. The FS20X is a fire and flame detector with a proven UV solar-blind Sensor. The FS20X exhibits faster false-alarm free response to fires over a wider temperature range and with a much longer detection range compared to conventional UV/IR detectors.

**Features**
- Patented* WideBand IR™ Infrared combined with Ultraviolet
- Detection range greater than 200 ft. to 1 sq. ft. heptane fire
- Patented* Electronic Frequency Analysis
- Visible Sensor for optimum false alarm rejection
- Selectable detection sensitivities
- Solar blind 90° cone-of-vision
- Dual Microprocessors for reliable performance
- Real-time clock for accurate time dating of events
- FirePic™ — Up to 6 pre-fire event data storage
- Event log — Up to 200 events with date and time stamp
- Built-in RS-485 Modbus Communication
- Built-in non-isolated 4-20 mA analog output (sink or source)
- Alarm, Fault and Fire Verification relays
- Automatic Optical Path and Electronic Self-Test
- Widest operating temperature range
- Patented* Electronics Module for components protection with plug-in terminations for easy field installation
- Two 3/4 in. NPT or 25 mm conduit entries
- Low Power Consumption
- High RFI and EMI immunity
- FM, ATEX, CE mark approvals
- Meets SIL 2 requirements

**Benefits**
- Detects hydrocarbon and non-hydrocarbon fuel fires in all environmental conditions
- Arc welding immunity
- False alarm rejection for all environmental conditions
- Minimal maintenance for trouble-free operation
- PC software and Interface Module (FSIM) for fault diagnostics real-time graphs (RTGs), and downloading of FirePics™ and event log
- Suitable for a wide variety of applications

**Solar blind 90° field of view and detection range greater than 200 ft.**

**Certifications**
- FM: Class I, Div. 1 & 2, Groups B, C, & D; Class II, Div. 1 & 2, Groups E, F, & G; Class III
- ATEX: II 2 G D; Ex d IIC T4 (Ta: -40 to +110°C), T5 (Ta: -40 to +75°C), T6 (Ta: -40 to +60°C)
- CE: Complies with EN6100-6-4 & EN50130-4, EN54-10:2002 + A1:2005
4. Model FS20X
Multi-Spectrum Fire and Flame Detector UV/Dual IR/VIS

4.1 FS20X-211 Series, standard temp range -40° to 85°C

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS20X-211-21-2</td>
<td>DUAL IR/UV Detector Copper-Free Aluminum Encl. with (2) ¾” NPT entries, FM, cFM for Class I, Division 1, Groups A, B, C, D; Class II, Division 1, Groups E, F, G; Class III</td>
</tr>
<tr>
<td>FS20X-211-22-2</td>
<td>DUAL IR/UV Detector 316 Stainless Steel Encl. with (2) ¾” NPT entries, FM, cFM for Class I, Division 1, Groups A, B, C, D; Class II, Division 1, Groups E, F, G; Class III</td>
</tr>
<tr>
<td>FS20X-211-23-3</td>
<td>DUAL IR/UV Detector Copper-Free Aluminum Encl. with (2) M25 entries, FM, cFM, ATEX, IECEx for Class I, Zone 1</td>
</tr>
<tr>
<td>FS20X-211-24-3</td>
<td>DUAL IR/UV Detector 316 Stainless Steel Encl. with (2) M25 entries, FM, cFM, ATEX, IECEx for Class I, Zone 1</td>
</tr>
<tr>
<td>FS20X-211-21-4</td>
<td>Dual IR/UV Detector Copper-Free Aluminum Encl. with (2) 3/4 in. NPT entries, INMETRO</td>
</tr>
<tr>
<td>FS20X-211-22-4</td>
<td>Dual IR/UV Detector 316 Stainless Steel Encl. with (2) 3/4 in. NPT entries, INMETRO</td>
</tr>
<tr>
<td>FS20X-211-23-4</td>
<td>Dual IR/UV Detector Copper-Free Aluminum Encl. with (2) M25 entries, INMETRO</td>
</tr>
<tr>
<td>FS20X-211-24-4</td>
<td>Dual IR/UV Detector 316 Stainless Steel Encl. with (2) M25 entries, INMETRO</td>
</tr>
</tbody>
</table>

4.2 FS20X-212 Series w/HART, standard temp range -40° to 85°C

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS20X-212-21-2</td>
<td>Dual IR/UV copper-free aluminum encl. with (2) 3/4 in. entries, FM/cFM, HART module factory installed</td>
</tr>
<tr>
<td>FS20X-212-22-2</td>
<td>Dual IR/UV 316 stainless steel encl. with (2) 3/4 in. entries, FM/cFM, HART module factory installed</td>
</tr>
<tr>
<td>FS20X-212-23-3</td>
<td>Dual IR/UV copper-free aluminum encl. with (2) M25 entries, ATEX/IECEx, HART module factory installed</td>
</tr>
<tr>
<td>FS20X-212-24-3</td>
<td>Dual IR/UV 316 stainless steel encl. with (2) M25 entries, ATEX/IECEx, HART module factory installed</td>
</tr>
<tr>
<td>FS20X-212-21-4</td>
<td>Dual IR/UV copper-free aluminum encl. with (2) 3/4 in. NPT entries, INMETRO. HART Module factory installed</td>
</tr>
<tr>
<td>FS20X-212-22-4</td>
<td>Dual IR/UV stainless steel encl. with (2) 3/4 in. NPT entries, INMETRO. HART Module factory installed</td>
</tr>
<tr>
<td>FS20X-212-23-4</td>
<td>Dual IR/UV copper-free aluminum encl. with (2) M25 entries, INMETRO, HART module factory installed</td>
</tr>
<tr>
<td>FS20X-212-24-4</td>
<td>Dual IR/UV 316 stainless steel encl. with (2) M25 entries, INMETRO, HART module factory installed</td>
</tr>
</tbody>
</table>

4.3 Accessories FS20X

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSX-A014</td>
<td>Optional HART Module for FS20X Detectors</td>
</tr>
<tr>
<td>FVR-01</td>
<td>Field of View Restrictor</td>
</tr>
<tr>
<td>PSU-12</td>
<td>Universal charger for Fire Sentry Test Lamps and Interface Kits. For 110-240 VAC with international plugs</td>
</tr>
<tr>
<td>SH-001</td>
<td>Sunshield for SS2, SS4 &amp; FS24X Detectors, 316 Stainless Steel</td>
</tr>
<tr>
<td>SM4</td>
<td>Stainless Steel Swivel mounting assembly for FS24X, FS20X, SS4, SS2 detectors</td>
</tr>
<tr>
<td>TL-1055</td>
<td>IR Test lamp for testing FSX detectors, non-explosion proof version. Incl universal charger</td>
</tr>
<tr>
<td>TL-2055</td>
<td>IR Test lamp for testing FSX detectors, explosion proof version. Incl universal charger</td>
</tr>
</tbody>
</table>
4. Model FS20X
Multi-Spectrum Fire and Flame Detector UV/Dual IR/VIS

4.4 Replacement Detector Module for FS20X

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS20X-211-10</td>
<td>FS20X Replacement Detector Module</td>
</tr>
<tr>
<td>FS20X-212-10</td>
<td>FS20X Replacement Detector Module w/HART</td>
</tr>
</tbody>
</table>

4.5 Spare Parts FS20X

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSX-A006</td>
<td>Replacement IR Bulb for TL1055 and TL2055</td>
</tr>
<tr>
<td>FSX-A011</td>
<td>Grill Kit for the FS20X</td>
</tr>
</tbody>
</table>
A high-speed microprocessor based fire detection and process control system specially designed for liquid and powder coating applications, the FS System 10 quickly detects the presence of a flame, reacts by initiating a shutdown of the electrostatic finishing process in a matter of milliseconds; and effectively interrupts the fire before residues and wet paint films can ignite.

The FS System 10 is the only system that provides a two-stage response: an ALERT for spray gun "fireball" type fires and if the fire continues, a FIRE ALARM is declared in 4-5 seconds.

90° field of view and detection range of 15 ft.

Features
- Multi-Spectral digital electro-optical infrared fire Detector
- Meets requirements of NFPA 33
- Unique two-stage ALERT and FIRE ALARM response
- Immune to false alarms caused by arcs or corona discharges
- Built-in automatic “through the lens” self-test
- Not sensitive to background radiant energy sources such as paint heaters
- Not affected by absorbing smoke or paint solvent mist in liquid pant spray booths
- Sees through paint, powder or oil residue on Detector’s lens
- Digital communications with RS-485 interface

Certifications
- Explosion-Proof; Class I, Div. 1 & 2, Groups B, C, & D Class II, Div. 1 & 2, Groups E, F, & G, Class III
- FM, CE

5.1 Card Controller with FS10 Electro-Optical Fire Detector
FS10 fire Detector with card controller. Incl PC software and manual.
Note: Requires backplane card and 24 Vdc.

<table>
<thead>
<tr>
<th>Card Controller with FS10 Electro-Optical Fire Detector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part Number</td>
</tr>
<tr>
<td>-------------</td>
</tr>
<tr>
<td>Option-2FL</td>
</tr>
<tr>
<td>Option-2GF</td>
</tr>
<tr>
<td>Option-2WE</td>
</tr>
<tr>
<td>Option-2WL</td>
</tr>
<tr>
<td>Option-2GE</td>
</tr>
<tr>
<td>BP-1</td>
</tr>
<tr>
<td>BP-2</td>
</tr>
<tr>
<td>BP-4-L9</td>
</tr>
</tbody>
</table>
5. FS10 Fire Detection Systems
For Liquid Paint Spray and Electrostatic Powder Coating

5.2 Spare Parts - FS10 Wall Mount Controller and Card Controller

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW-5143-001</td>
<td>Replacement keypad for FS10 wallmount</td>
</tr>
<tr>
<td>FS10-CARD-2FL</td>
<td>Liquid paint spray line applications with two (2) fire signal relay levels</td>
</tr>
<tr>
<td>FS10-CARD-2GE</td>
<td>Powder coating and paint spray line applications with two (2) fire signal relay levels</td>
</tr>
<tr>
<td>FS10-CARD-2GF</td>
<td>General finishing applications with process control and fire alarm signal relays</td>
</tr>
<tr>
<td>FS10-CARD-2WL</td>
<td>Paint spray line applications with three (3) fire signal relay levels</td>
</tr>
<tr>
<td>FS10-Detector</td>
<td>Model FS10 fire Detector for use with wall mount controller or card controller</td>
</tr>
<tr>
<td>FS10-DET-MODULE</td>
<td>Replacement electronics module for fire detector for the above systems</td>
</tr>
</tbody>
</table>

5.3 Detector Cables

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAB-50</td>
<td>50 ft. card controller cable. Connects fire detector to controller</td>
</tr>
<tr>
<td>CAB-100</td>
<td>100 ft. card controller cable. Connects fire detector to controller</td>
</tr>
</tbody>
</table>

5.4 FS10 Stand Alone (Unitized) Electro-Optical Fire Detectors

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS10-R30</td>
<td>Copper-free aluminum housing incl ALERT / FIRE EARLY WARNING relay, 30 ft. sensitivity (latching alert and alarm relays)</td>
</tr>
<tr>
<td>FS10-R30-SS</td>
<td>316 stainless steel housing incl ALERT / FIRE EARLY WARNING relay, 30 ft. sensitivity (latching alert and alarm relays)</td>
</tr>
<tr>
<td>FS10-R30-EC</td>
<td>Copper-free aluminum housing incl ALERT / FIRE EARLY WARNING relay, 30 ft. sensitivity (latching alert and alarm relays), Normally Energized with Normally Closed Contacts</td>
</tr>
<tr>
<td>FS10-R45</td>
<td>Copper-free aluminum housing 45 ft. sensitivity (latching alarm relays)</td>
</tr>
<tr>
<td>FS10-R45-SS</td>
<td>316 stainless steel housing 45 ft. sensitivity (latching alarm relays)</td>
</tr>
<tr>
<td>FS10-RN30</td>
<td>Copper-free aluminum housing incl ALERT / FIRE EARLY WARNING relay, 30 ft. sensitivity (non-latching alert and alarm relays)</td>
</tr>
<tr>
<td>FS10-RN30-SS</td>
<td>316 stainless steel housing incl ALERT / FIRE EARLY WARNING relay, 30 ft. sensitivity (non-latching alert and alarm relays)</td>
</tr>
<tr>
<td>FS10-RN45</td>
<td>Copper-free aluminum hsg 45 ft. sensitivity (non-latching alarm relays)</td>
</tr>
<tr>
<td>FS10-RN45-SS</td>
<td>316 Stainless steel housing 45 ft. sensitivity (non-latching alarm relays)</td>
</tr>
</tbody>
</table>
5. FS10 Fire Detection Systems
For Liquid Paint Spray and Electrostatic Powder Coating

5.5 Spare Parts - FS10 Stand Alone (Unitized) Electro-Optical Fire Detectors

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS10-R30-MOD</td>
<td>Replacement electronics module for Model FS10-R30 stand alone fire Detector (latching alert and alarm relays)</td>
</tr>
<tr>
<td>FS10-R30-EC-MOD</td>
<td>Replacement electronics module for Model FS10-R30 stand alone fire Detector (latching alert and alarm relays), Normally Energized with Normally Closed Contacts</td>
</tr>
<tr>
<td>FS10-R45-MOD</td>
<td>Replacement electronics module for Model FS10-R45 stand alone fire Detector (latching alarm relay)</td>
</tr>
<tr>
<td>FS10-RN30-MOD</td>
<td>Replacement electronics module for Model FS10-RN30 stand alone fire Detector (non-latching alert and alarm relays)</td>
</tr>
<tr>
<td>FS10-RN45-MOD</td>
<td>Replacement electronics module for Model FS10-RN45 stand alone fire Detector (non-latching alarm relay)</td>
</tr>
</tbody>
</table>

5.6 Spare Parts - FS10 Stand Alone (Unitized) Electro-Optical Fire Detectors

Card Controller with FS10 Electro-Optical Fire Detector

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS10R-GR-Kit</td>
<td>Stainless steel grill Kit for FS10-R and FS10-CS Detectors (Killark housing) Kit includes: (1) SS grill, (2) SS brackets, and (2) SS screws</td>
</tr>
<tr>
<td>RS-232 Cable</td>
<td>RS232 computer Cable for connection from FS7-130-SX, S7-2175, option-1 or option-2 controllers or interface box to PC</td>
</tr>
<tr>
<td>PSU-12</td>
<td>110/220 Vac, 50-60 HZ input /15 Vdc output : universal Charger for interface box or DD Series, FT Series and TL Series test lamps</td>
</tr>
</tbody>
</table>

5.7 Accessories - FS10 Stand Alone (Unitized) and Controller Based Electro-Optical Fire Detectors

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM4</td>
<td>Stainless steel swivel mount allows Detector to be pointed in any direction</td>
</tr>
<tr>
<td>FS-846-B</td>
<td>Test lamp Battery operated for testing FS10 fire Detectors up to 10 ft.</td>
</tr>
<tr>
<td>EXPL-1</td>
<td>EXTENSION POLE FOR DPC-12 Extension Pole for placing and removing Disposable Protective Covers on FS10 Detectors</td>
</tr>
<tr>
<td>DPC-12</td>
<td>Disposable protective covers keeps powder or paint off the window lens of the FS10 fire Detector (12 per bag) (for use with FS10 only)</td>
</tr>
<tr>
<td>DASA1-P</td>
<td>Air shield for powder applications protects FS10 fire Detector window lens from powder build-up. Supplied with fitting for 1/4 in. tubing (can also be used with FS24X, FS20X, SS4, and SS2)</td>
</tr>
<tr>
<td>DASA6-N</td>
<td>Air shield for powder applications protects FS10 Fire Detector window lens from powder build-up. Supplied with fitting for 6 mm tubing</td>
</tr>
</tbody>
</table>
The Fire Sentry FS7 Flame Detector provides an intelligent two-stage response to semiconductor wet bench fires:

Stage 1: Alert. This is the first-stage response to a small fire with a heat energy output of 3 kW (the equivalent of a 4-inch diameter polypropylene pool fire). This fire may self-extinguish.

Stage 2: Alarm. If the fire does not self-extinguish, and grows to the Factory Mutual specified heat energy threshold of 13 kW (the equivalent of an 8-inch diameter polypropylene pool fire), the second stage response is activated.

The Fire Sentry FS7-2173 is used with Fire Sentry FS7-130-SX Controller. Controller supplies power to detectors monitors the status of all detectors and communicates with the detectors via the digital RS-485 communication channel. Fire Sentry FS7-2173 is supplied with a standard 20 ft. cable connector. Detectors are connected to the controller using the self-locking connectors and Fire Sentry junction boxes. This allows for fast and easy connections eliminating wiring problems. Each detector can store up to six time and date stamped FirePics™ (pre-event multi-spectral sensor array data) in non-volatile memory. Controller can also store event history table in the non-volatile memory, which contains the time and date stamped alert, alarm and fault histories. FirePics™ and event histories can be retrieved from the controller.

**Additional Features and Benefits**

- Multi-Spectral digital electro-optical radiant energy infrared fire detector
- Unique two-stage fire detection response
- Immune to false alarm sources
- NOT affected by absorbing smoke, gasses or chemical vapors
- NOT sensitive to background radiant energy from electric heaters and ovens
- Detects hydrocarbon and non-hydrocarbon fires
- Rugged leak-proof, heat-sealed, acid-resistant, injection-molded polypropylene housing
- Wide 120° field-of-view
- Digital communication with RS-485 interface
- FirePic™; time and date-stamped digital fire signatures
- Built-in detector automatic self test
- Unitized model design for stand-alone operation

### 6.1 Detectors

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS7-2173</td>
<td>Viton O-ring. For use with FS7-130-SX Controller</td>
</tr>
<tr>
<td>FS7-2173-KALO</td>
<td>Kal-rez O-ring. For use with FS7-130-SX Controller</td>
</tr>
</tbody>
</table>
### 6.2 Controller Systems

**Controller Systems FS7**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS7-130-SX</td>
<td>Multi-Zone Compact Controller, designed to be installed in Fire Panels, which monitors up to 12 Model FS7-2173 Fire Detectors. Programmable for up to 4 zones with relay outputs for ALERT and ALARM. Requires 24 VDC. Approvals: FM &amp; CSFM</td>
</tr>
</tbody>
</table>

### 6.3 Accessories

**FS7 - Accessories Part**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS-746-B</td>
<td>Test Lamp. Battery operated for testing FS7 Fire Detectors up to 10 ft. distance.</td>
</tr>
<tr>
<td>FT-S7</td>
<td>Test Lamp. Battery operated for testing FS7 Fire Detectors up to 2 ft. distance.</td>
</tr>
<tr>
<td>FS7-2179</td>
<td>Junction Box for connecting Model FS7-2173 Fire Detectors in a daisy chain or star configuration. Complete with (4) Lemo female connectors. Required for Model FS7-130-SX applications.</td>
</tr>
</tbody>
</table>

### 6.4 Interconnection Cables

**FS7 - Interconnection Cables**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBMM-5</td>
<td>5 ft. cable with Male/Male Lemo connectors, (Junction Box to Junction Box).</td>
</tr>
<tr>
<td>CBMM-10</td>
<td>10 ft. cable with Male/Male Lemo connectors, (Junction Box to Junction Box).</td>
</tr>
<tr>
<td>CBMO-20</td>
<td>20 ft. cable with Male Lemo connector/open pigtail, (Junction Box to Model FS7-130-SX Controller or Model S7-2175 Control Panel).</td>
</tr>
<tr>
<td>CBMO-50</td>
<td>50 ft. cable with Male Lemo connector/open pigtail, (Junction Box to Model FS7-130-SX Controller or Model S7-2175 Control Panel).</td>
</tr>
</tbody>
</table>

### 6.5 Spare Parts

**Spare Parts**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSU-12</td>
<td>110/220 VAC, 50-60 HZ Input /15 VDC Output : Universal Charger for Interface Box or DD Series, FT Series and TL Series Test Lamps</td>
</tr>
<tr>
<td>PW-3123-0002</td>
<td>Replacement Battery for FT-S7 Tester (1 required)</td>
</tr>
</tbody>
</table>
### 7. SS Series of UV and UV/IR Fire and Flame Detectors

#### Quick Reference Chart

<table>
<thead>
<tr>
<th>Spectral Sensitivity</th>
<th>Ultraviolet Band (0.18 - 0.26 µ)</th>
<th>Visible Band (0.4 - 0.7 µ)</th>
<th>WideBand IR (0.7 - 3.5 µ)</th>
<th>SSD-A</th>
<th>SS2-AS</th>
<th>SS4-AUV</th>
<th>SS2-AM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>√</td>
<td>√</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sensitivity (feet)</th>
<th>Very High</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
<th>SSD-A</th>
<th>SS2-AS</th>
<th>SS4-AUV</th>
<th>SS2-AM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>60</td>
<td>45</td>
<td>30</td>
<td>15</td>
<td>60</td>
<td>45</td>
<td>30</td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Response</th>
<th>Ultra High-Speed Response (Munitions)</th>
<th>Optimized Response (H4Si, H2, Alcohols, CH4)</th>
<th>Standard Response</th>
<th>SSD-A</th>
<th>SS2-AS</th>
<th>SS4-AUV</th>
<th>SS2-AM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>√</td>
<td></td>
<td></td>
<td>√</td>
<td>√</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other</th>
<th>Field of View</th>
<th>HART Option</th>
<th>Modbus Option</th>
<th>4-20 mA Option</th>
<th>SSD-A</th>
<th>SS2-AS</th>
<th>SS4-AUV</th>
<th>SS2-AM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>120°</td>
<td></td>
<td></td>
<td></td>
<td>120°</td>
<td>120°</td>
<td>120°</td>
<td>120°</td>
</tr>
</tbody>
</table>

| Enclosures           | Aluminum Class I, Div. 1            | 316 Stainless Steel Class I, Div. 1           | SSD-A             | SS2-AS | SS4-AUV | SSD-A | SS2-AS | SS4-AUV |
|----------------------|-------------------------------------|-----------------------------------------------|-------------------|-------|--------|-------|-------|
|                      | √                                  |                                               |                   | √     | √      | √     | √     |

<table>
<thead>
<tr>
<th>Approvals</th>
<th>FM</th>
<th>cFM</th>
<th>ATEX</th>
<th>IECEx</th>
<th>INMETRO</th>
<th>GOST-R</th>
<th>SIL 2 Compliant</th>
<th>SSD-A</th>
<th>SS2-AS</th>
<th>SS4-AUV</th>
<th>SS2-AM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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<td>√</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test Lamps/Mounts</th>
<th>FT-2145 (Explosion Proof)</th>
<th>DD85001 (Short Range) - Discontinued</th>
<th>85001 - Discontinued</th>
<th>TS2 - Discontinued</th>
<th>SSD-A</th>
<th>SS2-AS</th>
<th>SS4-AUV</th>
<th>SSD-A</th>
<th>SS2-AS</th>
<th>SS4-AUV</th>
<th>SSD-A</th>
<th>SS2-AS</th>
<th>SS4-AUV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>√</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mount</th>
<th>SM4</th>
<th>188424</th>
<th>SSD-A</th>
<th>SS2-AS</th>
<th>SS4-AUV</th>
<th>SSD-A</th>
<th>SS2-AS</th>
<th>SS4-AUV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>√</td>
<td></td>
<td></td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
</tbody>
</table>

*Detection distance for a one sq. ft. reference heptane pan fire*
SS4-A2 / AS2

The SS4 is a hazardous area certified flame detector for the detection of hydrocarbon (SS4-A2) and non-hydrocarbon fires (SS4-AS2). This multispectrum detector senses radiant energy in the ultraviolet (UV), visible and wideband infrared (IR) spectrum. The radiant energy from all types of flaming fires will alert the detector to their presence. The field of view is the widest in the industry with 120° field of view with a range of 60 ft. This means more hazard can be covered by each detector.

120° field of view with range up to 60 ft.

Features
- Multi-Spectrum™: senses ultraviolet, visible and Wide Band Infrared™
- Built-in test for optical “through the lens” testing
- False alarm immunity
- Detects hydrocarbon and non-hydrocarbon based fires
- Wide field-of-view and solar-blind
- Adjustable detector sensitivity
- Microprocessor based algorithms: FirePic™, Snapshot™ and Tri-Mode Plot™
- Wide temperature range of operation
- Compatible with standard approved fire alarm panels
- Explosion-proof housing
- Time programmable alarm verification
- FM, ATEX mark approvals

SS4-AUV2

While retaining all the features of the standard SS4-A2, the SS4-AS2 is optimized for the detection of ethanol, methanol, hydrogen and natural gas with a range up to 60 ft. range and a field of view of 120°, the UV only Version, SS4-AUV2, is for indoor applications where UV sources such as welding are not present.

120° field of view with range up to 60 ft.

Features
- Senses solar-blind ultraviolet band
- Built-in test for optical “through the lens” testing
- Utilizes long-life, ruggedized UV Sensors
- Detects hydrocarbon and non-hydrocarbon based fires
- Wide field-of-view and solar-blind
- Adjustable Detector sensitivity
- Microcomputer based algorithms: FirePic™, Snapshot™ and UV Plot
- Wide temperature range of operation
- Compatible with standard approved fire alarm panels
- Explosion-proof housing
- Time programmable alarm verification
- FM, ATEX mark approvals

Certifications
- Explosion-proof
- Class I, Div. 1 & 2, Groups B, C and D
- Class II, Div. 1 & 2, Groups E, F and G
- Class III
## 8. SS4 Series

### Multi-Spectrum™ Electro-Optical Digital Fire & Flame Detector (UV/IR & UV)

#### 8.1 SS4 Series

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS4-A2</td>
<td>Aluminum UV/IR, FM, Hydrocarbon Fires, Non Latching Alarm LED, FM, cFM, CSFM for Class I, Div.1 groups B, C &amp; D (2) 3/4 NPT</td>
</tr>
<tr>
<td>SS4-A2-SS</td>
<td>Stainless Steel UV/IR, FM, Hydrocarbon Fires, Non Latching Alarm LED, FM, cFM, CSFM for Class I, Div.1 groups B, C &amp; D (2) 3/4 NPT</td>
</tr>
<tr>
<td>SS4-AS2</td>
<td>Aluminum UV/IR, FM, optimised for Non-Hydrocarbons and Silane, Ethanol, Methanol, Hydrogen &amp; Natural Gas Fires, Non-latching Alarm LED, FM, cFM, CSFM for Class I, Div.1 groups B, C &amp; D (2) 3/4 NPT</td>
</tr>
<tr>
<td>SS4-AS2-SS</td>
<td>Stainless Steel UV/IR, FM, optimised for Non-Hydrocarbons and Silane, Ethanol, Methanol, Hydrogen &amp; Natural Gas Fires, Non-latching Alarm LED, FM, cFM, CSFM for Class I, Div.1 groups B, C &amp; D (2) 3/4 NPT</td>
</tr>
<tr>
<td>SS4-A2-M</td>
<td>SS4-A2 Aluminum UV/IR, FM, Hydrocarbon Fires, Non Latching Alarm LED, FM, cFM, CSFM for Class I, Div.1 groups B, C &amp; D (2) 3/4 NPT with MA420-4 4-20 mA Module for SS4 Detectors New version Factory installed.</td>
</tr>
<tr>
<td>SS4-A2-SS-M</td>
<td>SS4-A2-SS Stainless Steel UV/IR, FM, Hydrocarbon Fires, Non Latching Alarm LED, FM, cFM, CSFM for Class I, Div.1 groups B, C &amp; D (2) 3/4 NPT with MA420-4 4-20 mA Module for SS4 Detectors New version Factory installed.</td>
</tr>
</tbody>
</table>
### 8. SS4 Series
**Multi-Spectrum™ Electro-Optical Digital Fire & Flame Detector (UV/IR & UV)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS4-AUV2-M</td>
<td>SS4-AUV2 Aluminum UV, FM, Hydrocarbon &amp; Non-Hydrocarbon Fires, indoor applications, Non-latching Alarm LED, FM, cFM, CSFM for C1, D1, Groups B,C,D (2) 3/4 NPT with MA420-4 4-20 mA Module for SS4 Detectors New version Factory installed.</td>
</tr>
<tr>
<td>SS4-AUV2-SS-M</td>
<td>SS4-AUV2-SS Stainless Steel UV, FM Hydrocarbon &amp; Non-Hydrocarbon Fires, indoor applications, Non-latching Alarm LED, FM, cFM, CSFM for C1, D1, Groups B,C,D (2) 3/4 NPT with MA420-4 4-20 mA Module for SS4 Detectors New version Factory installed.</td>
</tr>
<tr>
<td>SS4-A2-H</td>
<td>SS4-A2 Aluminum UV/IR, FM, Hydrocarbon Fires, Non Latching Alarm LED, FM, cFM, CSFM for Class I, Div.1 groups B,C &amp; D (2) 3/4 NPT with SS4-FSCHCOM SS4 Module HART Factory installed.</td>
</tr>
<tr>
<td>SS4-A2-SS-H</td>
<td>SS4-A2-SS Stainless Steel UV/IR, FM, Hydrocarbon Fires, Non Latching Alarm LED, FM, cFM, CSFM for Class I, Div.1 groups B,C &amp; D (2) 3/4 NPT with SS4-FSCHCOM SS4 Module HART Factory installed.</td>
</tr>
<tr>
<td>SS4-AUV2-H</td>
<td>SS4-AUV2 Aluminum UV, FM, Hydrocarbon &amp; Non-Hydrocarbon Fires, indoor applications, Non-latching Alarm LED, FM, cFM, CSFM for C1, D1, Groups B,C,D (2) 3/4 NPT with SS4-FSCHCOM SS4 Module HART Factory installed.</td>
</tr>
<tr>
<td>SS4-AUV2-SS-H</td>
<td>SS4-AUV2-SS Stainless Steel UV, FM Hydrocarbon &amp; Non-Hydrocarbon Fires, indoor applications, Non-latching Alarm LED, FM, cFM, CSFM for C1, D1, Groups B,C,D (2) 3/4 NPT with SS4-FSCHCOM SS4 Module HART Factory installed.</td>
</tr>
</tbody>
</table>

### SS4-A2, SS4-AS2, & SS4-AUV2 ATEX Certification

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS4-A2-C-E</td>
<td>Aluminum UV/IR, ATEX, Hydrocarbon Fires, Non Latching Alarm LED, FM, cFM, ATEX, IECEx FOR Zone 1 (2) M25</td>
</tr>
<tr>
<td>SS4-A2-CSS-E</td>
<td>Stainless Steel UV/IR, ATEX, Hydrocarbon Fires, Non Latching Alarm LED, FM, cFM, ATEX, IECEx FOR Zone 1 (2) M25</td>
</tr>
<tr>
<td>SS4-AS2-C-E</td>
<td>Aluminum UV/IR, ATEX, optimised for Non-Hydrocarbons and Silane, Ethanol, Methanol, Hydrogen &amp; Natural Gas Fires, Non Latching Alarm LED, FM, cFM, CSFM for Class I, Div.1 groups B,C &amp; D (2) M25</td>
</tr>
<tr>
<td>SS4-AS2-CSS-E</td>
<td>Stainless Steel UV/IR, ATEX, optimised for Non-Hydrocarbons and Silane, Ethanol, Methanol, Hydrogen &amp; Natural Gas Fires, Non Latching Alarm LED, FM, cFM, ATEX, IECEx for Zone 1 (2) M25</td>
</tr>
<tr>
<td>SS4-A2-C-E-M</td>
<td>SS4-A2-C-E Aluminum UV/IR, ATEX, Hydrocarbon Fires, Non Latching Alarm LED, FM, cFM, ATEX, IECEx FOR Zone 1 (2) M25 with MA420-4 4-20 mA Module for SS4 Detectors New version Factory installed.</td>
</tr>
<tr>
<td>SS4-A2-CSS-E-M</td>
<td>SS4-A2-CSS-E Stainless Steel UV/IR, ATEX, Hydrocarbon Fires, Non Latching Alarm LED, FM, cFM, ATEX, IECEx FOR Zone 1 (2) M25 with MA420-4 4-20 mA Module for SS4 Detectors New version Factory installed.</td>
</tr>
</tbody>
</table>
8. SS4 Series
Multi-Spectrum™ Electro-Optical Digital Fire & Flame Detector (UV/IR & UV)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FT-2145</td>
<td>UV/IR Test Lamp with universal charger (FM &amp; ATEX approval)</td>
</tr>
<tr>
<td>FVR-01</td>
<td>Field of view restrictor</td>
</tr>
<tr>
<td>MA420-4</td>
<td>4-20 mA Module for SS4 Detectors New version</td>
</tr>
<tr>
<td>SH-001</td>
<td>Sunshield for SS2, SS4 &amp; FS24X Detectors, 316 Stainless Steel</td>
</tr>
<tr>
<td>SM4</td>
<td>Stainless Steel Swivel mounting assembly for FS24X, FS20X and SS4 detectors</td>
</tr>
<tr>
<td>SS4-FSCHCOM</td>
<td>SS4 Module HART</td>
</tr>
</tbody>
</table>

8.2 Accessories SS4-AS, SS4-AS2, & SS4-AUV2

SS4-AS2-C-E-M

SS4-AS2-CSS-E-M

SS4-AUV2-C-E-M
SS4-AUV2-C-E Aluminum UV, FM, ATEX, Hydrocarbon & Non-Hydrocarbon Fires, indoor applications, Non-latching Alarm LED FM, cFM, ATEX, IECEx Zone 1 (2) M25 with MA420-4 4-20 mA Module for SS4 Detectors New version Factory installed.

SS4-AUV2-CSS-E-M
SS4-AUV2-CSS-E Stainless Steel UV, FM, ATEX, Hydrocarbon & Non-Hydrocarbon Fires, indoor applications, Non-latching Alarm LED FM, cFM, ATEX, IECEx FOR Zone 1 (2) M25 with SS4-FSCHCOM SS4 Module HART Factory installed.

SS4-A2-C-E-H
SS4-A2-C-E Aluminum UV/IR, ATEX, Hydrocarbon Fires, Non Latching Alarm LED FM, cFM, ATEX, IECEx FOR Zone 1 (2) M25 with SS4-FSCHCOM SS4 Module HART Factory installed.

SS4-A2-CSS-E-H
SS4-A2-CSS-E Stainless Steel UV/IR, ATEX, Hydrocarbon Fires, Non Latching Alarm LED FM, cFM, IECEx FOR Zone 1 (2) M25 with SS4-FSCHCOM SS4 Module HART Factory installed.

SS4-AS2-C-E

SS4-AS2-CSS-E

SS4-A2-C-E
SS4-A2-C-E Aluminum UV/IR, ATEX, Hydrocarbon Fires, Non Latching Alarm LED FM, cFM, ATEX, IECEx FOR Zone 1 (2) M25 with SS4-FSCHCOM SS4 Module HART Factory installed.

SS4-A2-CSS-E
SS4-A2-CSS-E Stainless Steel UV/IR, ATEX, Hydrocarbon Fires, Non Latching Alarm LED FM, cFM, ATEX, IECEx FOR Zone 1 (2) M25 with SS4-FSCHCOM SS4 Module HART Factory installed.

SS4-AUV2-C-E
SS4-AUV2-C-E Aluminum UV, FM, ATEX, Hydrocarbon & Non-Hydrocarbon Fires, indoor applications, Non-latching Alarm LED FM, cFM, ATEX, IECEx Zone 1 (2) M25 with SS4-FSCHCOM SS4 Module HART Factory installed.
8. SS4 Series

Multi-Spectrum™ Electro-Optical Digital Fire & Flame Detector (UV/IR & UV)

8.3 Spares SS4-A, SS4-A, & SS4-AUV2

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS4-MOD-A2</td>
<td>Replacement Electronics Module for SS4-A2 (UV/IR) Detectors. Module only, non-latching LED</td>
</tr>
<tr>
<td>SS4-MOD-AS2</td>
<td>Replacement Electronics Module for SS4-AS2 (UV/IR) Detectors. Module only, non-latching LED</td>
</tr>
<tr>
<td>SS4-MOD-AUV2</td>
<td>Replacement Electronics Module for SS4-AUV2 (UV) Detectors. Module only, non-latching LED</td>
</tr>
<tr>
<td>SS4-MOD-A2-M</td>
<td>Replacement Electronics Module for SS4-A2 (UV/IR) Detectors. Module only, non-latching LED with 4-20mA Output</td>
</tr>
<tr>
<td>SS4-MOD-AS2-M</td>
<td>Replacement Electronics Module for SS4-AS2 (UV/IR) Detectors. Module only, non-latching LED with 4-20mA Output</td>
</tr>
<tr>
<td>SS4-MOD-AUV2-M</td>
<td>Replacement Electronics Module for SS4-AUV2 (UV) Detectors. Module only, non-latching LED with 4-20mA Output</td>
</tr>
<tr>
<td>SS4-MOD-A2-H</td>
<td>Replacement Electronics Module for SS4-A2 (UV/IR) Detectors. Module only, non-latching LED with HART Output</td>
</tr>
<tr>
<td>SS4-MOD-AS2-H</td>
<td>Replacement Electronics Module for SS4-AS2 (UV/IR) Detectors. Module only, non-latching LED with HART Output</td>
</tr>
<tr>
<td>SS4-MOD-AUV2-H</td>
<td>Replacement Electronics Module for SS4-AUV2 (UV) Detectors. Module only, non-latching LED with HART Output</td>
</tr>
<tr>
<td>H200</td>
<td>UV Test Source Module for SS4 Detectors</td>
</tr>
<tr>
<td>LAMP-3135-0002</td>
<td>IR Test Lamp Bulb (FT-2145)</td>
</tr>
<tr>
<td>LAMP-3125-0002</td>
<td>Replacement lamp for FT-2145</td>
</tr>
<tr>
<td>TN2-MOD-PIL</td>
<td>UV Test Lamp Bulb (FT-2145) + Fixture</td>
</tr>
<tr>
<td>PW-3123-0005</td>
<td>Battery Pack for Model FT-2145/TI-1055/TI-2055 Test Lamps</td>
</tr>
<tr>
<td>PSU-12</td>
<td>Power supply for use with FT-2145 and FT-2145-2; PSU-12 is a Universal Charger for Fire Sentry test lamps and interface Kits. For 110-240 Vac with international plugs</td>
</tr>
</tbody>
</table>
The Model SS2-AM, (non-latching Fire Alarm relay), and SS2-AML (latching Fire Alarm relay), represent the world’s pre-eminent Ultra-High Speed UV/IR technology for Electro-Optical Fire and Flame Detectors, with thousands successfully operating in a multitude of installations worldwide.

This detector senses radiant energy in the Ultraviolet (UV), Visible and WideBand Infrared™ (IR) spectrum. The radiant energy from all types of flaming fires will alert the detector to their presence. 120° field of view with range up to 60 ft.

### 120° field of view with range up to 60 ft.

### Features
- Multi-Spectrum senses energy in the UV, Vis and WideBand IR™
- False alarm immunity
- Detects hydrocarbon and non-hydrocarbon fires
- Microprocessor based algorithms: FirePic™ and Tri-Mode Plot™
- Wide field of view and solar blind
- Wide temperature range of operation
- Explosion-proof housing
- FS2000™ System compatible or stand-alone operation
- Compatible with approved fire alarm panels
- FM, ATEX mark approvals

## 9. SS2-AM Series
### Ultra-High Speed Digital Fire and Flame Detector (UV/IR)

### 9.1 SS2-AM Series

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS2-AM</td>
<td>Copper-Free Aluminum Housing UV/IR/VIS High-Speed Electro-Optical Flame Detector, Non-Latching Alarm Relay, ALARM &amp; FAULT Relays, Class I, Division 1, Groups B, C, &amp; D, FM, CSFM, &amp; cFM Approved, 3/4 NPT</td>
</tr>
<tr>
<td>SS2-AML</td>
<td>Copper-Free Aluminum Housing UV/IR/VIS High-Speed Electro-Optical Flame Detector, Latching Alarm Relay, ALARM &amp; FAULT Relays, Class I, Division 1, Groups B, C, &amp; D, FM, CSFM, &amp; cFM Approved, 3/4 NPT</td>
</tr>
</tbody>
</table>

### 9.2 Accessories SS2-AM

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM4</td>
<td>Stainless Steel Swivel mounting assembly for FS24X, FS20X, SS4, SS2 detectors</td>
</tr>
<tr>
<td>FT-2145</td>
<td>UV/IR Test Lamp with universal charger, (FM &amp; ATEX approval)</td>
</tr>
<tr>
<td>SH-001</td>
<td>Sunshield for SS2, SS4 &amp; FS24X Detectors, 316 Stainless Steel</td>
</tr>
<tr>
<td>FVR-01</td>
<td>Field of View Restrictor</td>
</tr>
</tbody>
</table>

### 9.3 Spares SS2-AM

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS2-MOD-AM</td>
<td>SS2-AM Replacement Electronics Module</td>
</tr>
<tr>
<td>SS2-MOD-AML</td>
<td>SS2-AML Replacement Electronics Module</td>
</tr>
<tr>
<td>LAMP-3135-0002</td>
<td>IR Test Lamp Bulb (FT-2145)</td>
</tr>
<tr>
<td>TN2-MOD-PIL</td>
<td>UV Test Lamp Bulb (FT-2145) + Fixture</td>
</tr>
<tr>
<td>PW-3123-0005</td>
<td>Battery Pack for Model FT-2145/TL-1055/TL-2055 Test Lamps</td>
</tr>
</tbody>
</table>
# 10. Series FSL100 Flame Detectors

The new FSL100 series is the latest generation range of Mid market Flame Detectors from Honeywell Analytics. The range consists of UV, UVIR and IR3 flame detectors. All utilize sophisticated sensing and signal analysis to detect fires quickly while also rejecting false alarms. The FSL100 may be small and lightweight for easy installation but they are designed to work in tough environments both in and out of doors as well as potentially explosive atmospheres. With a large field of view they can detect a range of different types of fire including hydrocarbon and non hydrocarbon sources.

*Note: A swivel mount should be ordered with each Flame Detector.

## 10.1 UV (Ultraviolet) Flame Detector

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSL100-UV</td>
<td>UV flame detector. Suitable for ATEX zone 2/22; FM 3611 Class 1,2&amp;3 Div2 EN54-10 (HIGH sensitivity) certificate. FM3260 approval. Red Housing</td>
</tr>
<tr>
<td>FSL100-UV-W</td>
<td>UV flame detector. Suitable for ATEX zone 2/22; FM 3611 Class 1,2&amp;3 Div2 EN54-10 (HIGH sensitivity) certificate FM3260 approval. White Housing.</td>
</tr>
</tbody>
</table>

## 10.2 UVIR (Ultraviolet & Infrared) Flame Detector

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSL100-UVIR</td>
<td>UV/IR flame detector. Suitable for ATEX zone 2/22; FM 3611 Class 1,2&amp;3 Div2 EN54-10 (HIGH sensitivity) certificate. FM3260 approval. Red Housing.</td>
</tr>
<tr>
<td>FSL100-UVIR-W</td>
<td>UV/IR flame detector. Suitable for ATEX zone 2/22; FM 3611 Class 1,2&amp;3 Div2 EN54-10 (HIGH sensitivity) certificate FM3260 approval. White Housing.</td>
</tr>
</tbody>
</table>

## 10.3 IR3 (3 Infrared bands) Flame Detector

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSL100-IR3</td>
<td>Triple IR flame detector. Suitable for ATEX zone 2/22; FM 3611 Class 1,2&amp;3 Div2 EN54-10 (HIGH sensitivity) certificate. FM3260 approval. Red Housing.</td>
</tr>
<tr>
<td>FSL100-IR3-W</td>
<td>Triple IR flame detector. Suitable for ATEX zone 2/22; FM 3611 Class 1,2&amp;3 Div2 EN54-10 (HIGH sensitivity) certificate. FM3260 approval. White Housing.</td>
</tr>
</tbody>
</table>

## 10.4 Accessories

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSL100-SM21</td>
<td>FSL100 Optional swivel mount</td>
</tr>
<tr>
<td>FSL100-TL</td>
<td>FSL100 test lamp, incl. universal charger and carrying case; non EX</td>
</tr>
<tr>
<td>FSL100-TLX</td>
<td>FSL100 test lamp, incl. carrying case; intrinsically safe (Pending *)</td>
</tr>
</tbody>
</table>

* Please contact Honeywell representative

## 10.5 Spare Parts

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSL100-TLBT</td>
<td>12 Vdc battery for FSL-TL test lamp</td>
</tr>
<tr>
<td>FSL100-TLBU</td>
<td>H3 light bulb for FSL-TL test lamp</td>
</tr>
<tr>
<td>FSL100–TLCH</td>
<td>Universal charger kit for FSL-TL test lamp</td>
</tr>
</tbody>
</table>
11. Honeywell Analytics Service

Honeywell Analytics’ global standing for portable, fixed and low level toxic gas detection is backed up with a dedicated team of professionals that takes service and support to a whole new level.

It’s your choice...
Whatever industry you’re in, we have the levels of support that are right for your business.

It’s your business. It’s your industry.
And no matter whether you’re managing personnel for confined space entry, or securing your plant against gas risks, the process has to keep moving.
The alternative is downtime, or even total shutdown, and then the risks to your business are far greater.

Honeywell provides service levels that make it easy to choose the right kind of support to keep your plant and people safe; to keep your business up and running - because that’s our job!

Choose from:

**Installation and Commissioning**
- Installation, configuration and commissioning
- Functional tests
- Start-up
- Staff training
- Bump testing

**Calibration and Surveys**
- Instrument calibration equipment certified to national/regional standards
- Site surveys
- Stock surveys

**Contract Maintenance**

**Service and Repair**
- On-site/workshop repair and calibration
- Modification and conVersion

---

**Honeywell Analytics Service contact information:**

USA Service Workshop
Honeywell Analytics
405 Barclay Blvd.
Lincolnshire, IL 60069
USA
Tel: 800-538-0363 (option #5)
E-mail: ha.us.service@honeywell.com

Calgary Service Department
Honeywell Analytics
Suite 110, 4411 – 6 Street SE
Calgary AB T2G 4E8
Canada
Tel: 1-800-563-2967
Email: haservice.canada@honeywell.com
11. Honeywell Analytics Service

Field Service:
We have a global network of fully qualified and highly skilled Technical Support Resources and Field Service Specialists ready to support your business. Honeywell Analytics is ready to support you 24 hours a day / 7 days a week in the United States & Canada.

For Monday thru Friday Daytime support please contact Honeywell Analytics and follow the voice prompts. In the US please dial 1-800-538-0363. Technical Support is currently Option 4 then Option 3. In Canada please dial 1-800-563-2967 Option 1 English, Option 2 French. Tech Support is currently Option 2.

For Afterhours and weekend support please contact Honeywell Analytics at 1-847-634-2842. Phone support rates will apply.
Find out more - www.honeywellanalytics.com

USA
Honeywell Analytics, Inc.
405 Barclay Blvd.
Lincolnshire, IL 60069
USA
analytics.industrial.sales@Honeywell.com

USA Technical Services
Tel: 888-955-2585
haservice.workshop.us@honeywell.com

Canada
2840 2nd Ave SE
Calgary, Alberta, Canada
T2A 7X9
3580 Rue Isabelle Unit 100
Brossard, Quebec, Canada
J4Y 2R3

Industrial Fixed
Toll free: 1-800-538-0363
Fax: 1-847-955-8210
HA_CustomerService@honeywell.com
is.gas.techsupport@honeywell.com

Canada Technical Services
Tel: 800-538-0363 (Pre-Sales: Option 2, Post-Sales: Option 3)
ha.us.service@honeywell.com

Europe, Middle East, Africa
Life Safety Distribution AG
Javastrasse 2
8604 Hegnau
Switzerland
Tel: +41 (0) 44 943 4300
Fax: +41 (0) 44 943 4398
gasdetection@honeywell.com

Asia Pacific
Honeywell Analytics, Asia Pacific
#701 Kolon Science Valley (1)
43 Digital-Ro 34-Gil, Guro-Gu
Seoul 152-729
Korea
Tel: +82 2 6909 0300
Fax:+82 2 2025 0388
analytics.ap@honeywell.com

www.honeywell.com

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