INDUSTRIAL FLAME MONITORING
Engineered For The Toughest Environments
Form, function, and flame detection

Honeywell Industrial Flame Monitoring (IFM) offers reliable, durable, and flexible solutions for the most challenging applications and toughest environments. Tailor-made for the unique demands of industrial processes, Honeywell IFM products are designed for the highest level of function and flame discrimination. Remote configuration, monitoring, and diagnostics, as well as multiple sensor options, make Honeywell the ideal solution for a wide array of industrial processes and applications.

Honeywell IFM Technology

Honeywell Industrial Flame Monitoring systems use shutterless UV Tron with pulse technology. UV Tron based systems are not adversely affected by gamma and x-rays making them ideal for flame monitoring in the toughest environments. Multiple sensors operating independently provide monitoring of difficult flames and a high level of discrimination. In addition, adjustable flame on/off threshold, gain and flicker settings provide for ease of configuration. All industrial flame monitoring products meet reliability standards of a wide range of applications and are fit for use in SIL 3 operations.

Easy and Flexible Programming

Choose from three programming methods that all offer flexibility and fine-tuning:

- Automatic
- Manual
- Factory default
Reliable, Durable, and Flexible Flame Monitoring Solutions

Flexible Application
Honeywell IFM products are the ideal solution for a wide array of industrial processes and applications.
• Available in AC or DC with multiple inputs
• Multiple sensor options to meet application needs
• Independent configuration for each sensor
• Meets international safety standards*
  - Class I div 1 groups E, F, and G
  - Class I div 2 groups E, F, and G
  - Ex ia and Ex d
  - CSA/FM
  - Pending EN298 and KTL
  - SIL 3 capable
  - INMETRO
• User selectable scalable 0/4-20 mA flame signal output
• Viewing head temperature indication
• Multiple high-pass flicker frequency selection
* For complete list of approvals please visit customer.honeywell.com

Gamma and X-Ray Immune
Viewing heads are not affected by x-rays and gamma rays during pipe weld checks; ideal for industrial applications.

Key Application Attributes
• Multiple sensors enable reliable monitoring of all fuel flames
• Adjustable gain, inFlame Onin and inFlame Offin threshold settings
• Digital processing results in reduced field set-up time
• For ease of replacement, processor can be preconfigured
• Easy-to-replace processor plug-in connections
• Wide range of gain adjustment and multiple flicker frequency to monitor flame in all firing conditions

Burner Management System Interface
Each signal processor includes two or more SPDT flame relay contacts and one SPDT self-check relay contact, allowing for interlock, monitoring, and easy distinction between hardware, software, and flameout faults.
The U2S Series includes a normally open flame on contact and a normally open (failsafe) fault check relay contact.
S70X and S80X Series Viewing Heads

The perfect fit for single-fuel applications.
Model S70X/S80X viewing heads are used with 700, P531 or P532 signal processors and are ideal for single-fuel applications where a high level of discrimination is not required. The viewing heads contain UVTron with pulse technology making them optimal for low NOx gas burners where there are small and slow moving flames.

Features
- Multiple models (IR or UVTron) offer application flexibility.
- All models include electronic check (no mechanical shutter) for self-examination of the system.
- Quick disconnect cable includes two LEDs one for self-check indication and one for flame on flashing proportional to flame strength.

Specifications
- Input power: 22 to 26 VDC from the processor.
- Ambient temperature: -40°F to 185°F (-40°C to 85°C).
- NEMA 4X rated.
- Not adversely affected by x-ray and gamma rays.
- PF models have a factory installed cable.

Approvals
- FM, CSA
- IEC Ex, InMetro, KTL
- Class I div 2 groups A, B, C and D, T4A
- IEC:Ex nA IIC T4 Gc
- Fit for use in SIL 3 applications

<table>
<thead>
<tr>
<th>Model Part Number</th>
<th>Sensor Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>S702</td>
<td>IR</td>
<td>Quick disconnect cable. Suitable for oil.</td>
</tr>
<tr>
<td>S702PF</td>
<td>IR</td>
<td>Factory installed cable. Suitable for oil.</td>
</tr>
<tr>
<td>S706</td>
<td>UVTron</td>
<td>Quick disconnect cable. Suitable for clean gaseous fuel.</td>
</tr>
<tr>
<td>S706PF</td>
<td>UVTron</td>
<td>Factory installed cable. Suitable for clean gaseous fuel.</td>
</tr>
<tr>
<td>S802</td>
<td>IR</td>
<td>Quick disconnect cable. Suitable for oil.</td>
</tr>
<tr>
<td>S806</td>
<td>UVTron</td>
<td>Quick disconnect cable. Suitable for clean gaseous fuel.</td>
</tr>
</tbody>
</table>

S70X Approximate Dimensions:
9.4 in Length (230 mm), 1.48 in Barrel Diameter (36 mm).
Polished aluminum body.

S80X Approximate Dimensions:
8.9 in Length (226 mm), 1.14 in Barrel Diameter (29 mm).
Stainless steel body.

700 Series Signal Processors

Deliver reliable monitoring, day in and day out.
Model 700 signal processors are single-channel, fail-safe, self-checking flame monitoring systems when used in conjunction with the S70X/S80X series viewing heads. They offer easy setup, medium level discrimination, and high reliability.

Features
- Intuitive keypad for easy setup and configuration.
- Two-digit numeric display and four LED status indicators.
- Compact DIN rail mountable design.
- Plug-in terminal connectors allow for easy installation.
- Low power consumption.
- Environmentally sealed switches.
- Modbus RS422 communication for use with FlameTools-PC or FlameTools-HMI/U supports 32 loops.

Specifications
- Ambient temperature: 32°F to 140°F (0°C to 60°C).
- Flame relay: 2 form C contacts.
- Self-checking relay: 1 form C contact.
- Relay contact ratings: 5A at 125 VAC, 277 VAC, & 30 VDC;
  1/8 HP 125 & 250 VAC.
- Analog flame signal: Isolated 0-20 mA or 4-20 mA output for remote meters.
- Auto burner configuration for burner on/off.
- Adjustable flame relay on/off set point.
- Adjustable FFRT 1, 2, or 3 seconds.

Approvals
- FM, CSA
- Fit for use in SIL 3 applications

<table>
<thead>
<tr>
<th>Model Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>700ACSP</td>
<td>AC signal processor 85 to 264VAC, 50 or 60 Hz, 0.07A max with 24VDC backup power.</td>
</tr>
<tr>
<td>700DCSP</td>
<td>DC signal processor 22 to 26VDC, 250mA max with 24VDC backup power.</td>
</tr>
</tbody>
</table>

Approximate Dimensions:
5.5 in Height (140 mm) x 3 in Width (76 mm) x 3 in Depth (76 mm).

700 Series Signal Processors
P522 Series Signal Processors

Ideal for applications where a high level of discrimination is required.
Model P522 signal processors are fail-safe, self-checking signal processors that are used with two switched S55XBE series viewing heads. They offer independent gain adjustments for each sensor and multiple flicker set points for IR which makes them ideal for applications where a high level of discrimination is required.

Features
• 4-digit digital flame signal display, 4 LED status indicators and analog bar graph provide continuous system status.
• Panel mounted design and plug-in terminal connectors allow for easy installation.
• Adjustable Flame on/off threshold.
• Supports two switched viewing heads.
• Two configurable files for remote selection.
• Scalable mA output.
• Modbus RS422 communication for use with FlameTools-PC or FlameTools-HMI/U supports 64 loops.

Specifications
• Ambient temperature: 32°F to 122°F (0°C to 50°C).
• Flame relay: 2 form C contacts.
• Self-checking relay: 1 form C contact.
• Relay contact ratings: 5A at 30 VDC, 125 VAC and 277 VAC.
• Analog flame signal: scalable 0-20 mA or 4-20 mA output for remote meters, 360 ohms maximum resistance.
• Digital set points for flame on/off.
• 4 wire communication.
• Adjustable FFRT 1, 2, or 3 seconds.

Approvals
• FM, CSA
• Fit for use in SIL 3 applications

P531 and P532 Series Signal Processors

Monitor three viewing heads simultaneously.
Model P531 and P532 signal processors are fail-safe, self-checking signal processors capable of monitoring two S55XBE and one S70X series viewing heads simultaneously. Furthermore, they can display UV and IR flame count separately when used with the S550BE viewing head. P532 includes integrated programming and P531 uses the detachable P532UI user interface for programming. The processors offer independent gain adjustments, and for S552BE and S550BE, multiple frequency settings. Their design makes them ideally suited for tangentially fired boilers where two viewing heads are required for the main burner and S70X for side or horn igniters.

Features
• P532 includes a front panel display with large, bright, three color alphanumeric dot matrix displays with LEDs.
• The P531 + P532UI detachable user interface reduces cost when multiple units are required.
• Ability to monitor UV and IR separately from one S550BE viewing head.
• Automatic set-up functionality (auto gain, auto sequence, and auto filter).
• Marginal alarm relays can be configured to provide a secondary indication if flame count drops below set value.
• Modbus RS422 communication for use with FlameTools-PC or FlameTools-HMI/U supports 64 loops and 32 loops, respectively.

Specifications
• Ambient temperature: -40°F to 140°F (-40°C to 60°C) for FM or 32°F to 125°F (0°C to 52°C) for CSA.
• Flame relay: 3 channels of 2 form C contacts.
• Self-checking relay: 3 channels of 1 form C contact.
• Relay contact ratings: 5A at 32 VDC and 250 VAC.
• Analog flame signal: scalable 0 mA output for remote meters.
• Auto burner configuration for burner on/off.
• Adjustable FFRT and flame on/off threshold set point.

Approvals
• FM, CSA
• Fit for use in SIL 3 applications
S55XBE Series Viewing Heads

The ideal solution for monitoring all fuel types.

S55XBE series viewing heads are used with P522, P531, and P532 signal processors. Multiple sensor options of IR, UV Tron, and IR/UV offer flexibility to meet a wide array of applications. The system is not adversely affected by x-rays and gamma rays during operation making them ideal for monitoring all fuel flames and single or multiple burners firing multiple fuels.

Features

- Multiple models (IR/UV, IR only, and UV Tron only) offer application flexibility.
- All models include electronic check (no mechanical shutter) for self-check of the system.
- Numeric two-digit display for each sensor on the back of the viewing head provides UV and IR flame count.
- Quick disconnect cable (order separately) for non-PF models. PF models provided with factory installed cable.
- Mountable in any orientation.
- Includes imbedded temperature sensor.

Specifications

- Input power: 24 VDC supplied from the processor.
- Ambient temperature: -40°F to 158°F (-40°C to 70°C). NEMA 4X rated.
- 1 inch NPT mounting.
- Not adversely affected by x-rays and gamma rays.

Approvals

- FM, CSA, EAC
- IEC Ex, INMETRO, KTL
- Class I div 2 groups A, B, C and D, T5
- IEC Ex nA IIC T5 Gc

Features

- Electronic check (no mechanical shutter) for self-check of the system.
- Independent configuration and adjustable gain settings for each sensor.
- Ten selectable flicker frequency filters for solid state UV and IR sensor (model dependent).
- New updated, fully programmable touch screen interface, with an easy menu for an enhanced user experience.
- Modbus RS485 communication for use with FlameTools-PC or FlameTools-HMI/US supports 248 loops and 32 loops, respectively.
- Advanced safety features

Specifications

- Input power: 22-26 VDC, 120 mA max.
- Output relay contacts: Zone normally open flame relay and one normally open fault/self-check relay. 1A, 30 VDC.
- Ambient temperature: -40°F to 158°F (-40°C to 70°C).
- Analog flame signal: 0-20 mA or 4-20 mA output.
- Enclosure: IP66.
- Adjustable flame on/off threshold.
- Adjustable FFR7 1, 2, or 3 seconds.
- 1" NPT mounting.
- Not adversely affected by x-rays and gamma rays.

Approvals

- FM, CSA, EN298, EAC pending INMETRO & KTL
- PF version: Class I div 1 Gr A, B, C, D, E, F, G T6, ATEX/IECEEx Ex d IIC, Ex tb IIC
- Quick disconnect version: Class I div 2 Gr A, B, C, D, T5, ATEX/IECEEx Ex nA nC IIC, Ex tb IIC
- Quick disconnect version for use in SIL 3 applications

<table>
<thead>
<tr>
<th>Model Part Number</th>
<th>Sensor Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>S550BE</td>
<td>IR/UV</td>
<td>Quick disconnect cable. Suitable for all fuels.</td>
</tr>
<tr>
<td>S550BE-PF</td>
<td>IR/UV</td>
<td>Factory installed cable. Suitable for all fuels.</td>
</tr>
<tr>
<td>S552BE</td>
<td>IR</td>
<td>Quick disconnect cable. Suitable for oil and coal.</td>
</tr>
<tr>
<td>S552BE-PF</td>
<td>IR</td>
<td>Factory installed cable. Suitable for oil and coal.</td>
</tr>
<tr>
<td>S556BE</td>
<td>UV Tron</td>
<td>Quick disconnect cable. Suitable for clean gaseous fuel.</td>
</tr>
<tr>
<td>S556BE-PF</td>
<td>UV Tron</td>
<td>Factory installed cable. Suitable for clean gaseous fuel.</td>
</tr>
</tbody>
</table>

S70X Approximate Dimensions: 8.82 in Length (224 mm) x 4.05 in Diameter (103 mm). Powder coated aluminum body.

U2S Series

All-in-one integrated processor and viewing head solution.

The U2S Series is an all-in-one integrated processor and viewing head system which is uniquely suited for single or multi-burner, multi-fuel, and difficult flame detection applications. The all-in-one solution eliminates the need for a separate processor which saves on cabinets and wiring. Multiple models and sensor options meet difficult flame monitoring applications requiring a high level of discrimination.

Features

- Electronic check (no mechanical shutter) for self-check of the system.
- Independent configuration and adjustable gain settings for each sensor.
- Ten selectable flicker frequency filters for solid state UV and IR sensor (model dependent).
- New updated, fully programmable touch screen interface, with an easy menu for an enhanced user experience.
- Modbus RS485 communication for use with FlameTools-PC or FlameTools-HMI/US supports 248 loops and 32 loops, respectively.
- Advanced safety features

Specifications

- Input power: 22-26 VDC, 120 mA max.
- Output relay contacts: Zone normally open flame relay and one normally open fault/self-check relay. 1A, 30 VDC.
- Ambient temperature: -40°F to 158°F (-40°C to 70°C).
- Analog flame signal: 0-20 mA or 4-20 mA output.
- Enclosure: IP66.
- Adjustable flame on/off threshold.
- Adjustable FFR7 1, 2, or 3 seconds.
- 1" NPT mounting.
- Not adversely affected by x-rays and gamma rays.

Approvals

- FM, CSA, EN298, EAC pending INMETRO & KTL
- PF version: Class I div 1 Gr A, B, C, D, E, F, G T6, ATEX/IECEEx Ex d IIC, Ex tb IIC
- Quick disconnect version: Class I div 2 Gr A, B, C, D, T5, ATEX/IECEEx Ex nA nC IIC, Ex tb IIC
- Quick disconnect version for use in SIL 3 applications

<table>
<thead>
<tr>
<th>Model Part Number</th>
<th>Sensor Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>U2-1010S</td>
<td>IR/UV Tron/UVSS</td>
<td>Quick disconnect cable. Suitable for all fuels.</td>
</tr>
<tr>
<td>U2-1010S-PF</td>
<td>IR/UV Tron/UVSS</td>
<td>Factory installed 10 ft cable. Suitable for all fuels.</td>
</tr>
<tr>
<td>U2-1010S-PF-050</td>
<td>IR/UV Tron/UVSS</td>
<td>Factory installed 50 ft cable. Suitable for all fuels.</td>
</tr>
<tr>
<td>U2-1010S-PF-200</td>
<td>IR/UV Tron/UVSS</td>
<td>Factory installed 100 ft cable. Suitable for all fuels.</td>
</tr>
<tr>
<td>U2-1012S</td>
<td>IR</td>
<td>Quick disconnect cable. Suitable for oil and coal.</td>
</tr>
<tr>
<td>U2-1012S-PF</td>
<td>IR</td>
<td>Factory installed 10 ft cable. Suitable for oil and coal.</td>
</tr>
<tr>
<td>U2-1016S</td>
<td>UV Tron</td>
<td>Quick disconnect cable. Suitable for gaseous fuels.</td>
</tr>
<tr>
<td>U2-1016S-PF</td>
<td>UV Tron</td>
<td>Factory installed 10 ft cable. Suitable for gaseous fuels.</td>
</tr>
<tr>
<td>U2-1018S</td>
<td>IR/UV Tron</td>
<td>Quick disconnect cable. Suitable for all fuels.</td>
</tr>
<tr>
<td>U2-1018S-PF</td>
<td>IR/UV Tron</td>
<td>Factory installed 10 ft cable. Suitable for all fuels.</td>
</tr>
<tr>
<td>ASYU2S</td>
<td>Cable</td>
<td>50 ft cable assembly with connector</td>
</tr>
<tr>
<td>ASYU2S-100</td>
<td>Cable</td>
<td>100 ft cable assembly with connector</td>
</tr>
<tr>
<td>ASYU2S-200</td>
<td>Cable</td>
<td>200 ft cable assembly with connector</td>
</tr>
<tr>
<td>ASYU2S-300</td>
<td>Cable</td>
<td>300 ft cable assembly with connector</td>
</tr>
</tbody>
</table>

Approximate Dimensions: 6.1 in Length (155 mm) x 4.6 in Diameter (117 mm).
WatchdogIIIBE Flare Stack Monitoring System

Reliable flame monitoring in the toughest environments.

Built rugged to last, the WatchdogIIIBE Flare Stack monitoring system reliably monitors flames from remote locations under difficult conditions such as dust, fog, heavy rain, snow, and background sun rays. The ability to connect an existing ignition system and its ground mounted design make it easy to install and service without flare shut down, saving valuable time and money.

Features

- Not affected by the sun which allows viewing head to be located anywhere around the flare stack.
- Easy to set up with multiple LEDs and pushbuttons.
- Lightweight and low power consumption.
- No moving parts ensures reliability.
- Easy installation and service with no plant shut down or flare interruption required.
- S256BE ground mounted viewing head has a 1000 ft. line of sight range with 40 ft. diameter target (at 1,000 ft.).
- P222 signal processor can be remotely mounted.

Specifications

- AC power: 85 to 264 VAC (300 mA maximum with viewing head connected), 47-440 Hz with 24VDC backup power.
- DC power: 22 to 26 VDC (300 mA maximum with viewing head connected) with 24VDC backup power.
- Signal processor ambient temperature: 32°F to 140°F (0°C to 60°C).
- Viewing head ambient temperature: -40°F to 176°F (-40°C to 80°C).
- Viewing head housing: NEMA 4X.
- Analog flame signal: Scalable 0-20 mA or 4-20 mA output.
- Two time delay relays: one 0-60 seconds (R1), one 0-3600 seconds (R2).

Approvals

- QPS to CSA 22.2 (viewing head) for use in Class I div 2 groups C and D, T4.

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GHE1-3 and GHE2-5 Series Gas Igniters

Reliable, maintenance-free, non-fouling operation.

Designed for continuous operation, GHE igniters are non-fouling, inextinguishable, high-energy igniters. The self-cleaning igniter spark tip reliably ignites fuels regardless of accumulated hardened oil and debris on the tip. Three stage ignition and internal mix technology allow for consistent operation, which overcomes problems associated with external mix that are ambient temperature dependent. GHE igniters are the ideal choice for high energy output and reliable ignition.

Features

- GHE gas igniter system consists of a custom length igniter system, power pack and interconnecting HT cable.
- Multi stage ignition and stainless steel pilot nozzle.
- Self cleaning spark tip will work with accumulated hardened oil and other debris accumulated on tip.
- GHE1-3 has flanged connection and GHE2-5 has quick disconnect or flanged connection.
- Quick disconnect for HT line.
- Optional NEMA 12, 4, or 4X cabinet available for power pack.
- Power pack is available in 110 or 220 VAC input.
- Optional optical flame monitoring.

Specifications

- Power pack: 100 to 130 VAC and 210 - 250 VAC, 50-60 Hz, 80 VA.
- Output: 2,000 VDC, 12 joule pulses at 180-240 sparks per minute.
- Minimum insertion length 19in (483 mm).

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Model Part Number Description

WATCHDOGIIIBE Kit consisting of P222 signal processor, S256BE viewing head, and ASY55XBE 50' cable with overmolded and wired ends.

S256BE Replacement UV flare stack viewing head powered from P522 signal processor.

P222 Replacement Watchdog signal processor.

S256BE Approximate Dimensions:

Scope 20.25in (514 mm) x 3in diameter (76 mm)

P222 Approximate Dimensions:

7.25in Height (182 mm) x 4.25in Width (108 mm) x 6.4in Depth (163 mm)

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Model Part Number Description

GHE1-3 Igniter used with gas fuels, 1-3 MMBTU/HR capacity, 1-7/8 in diameter.

GHE2-5 Igniter used with gas fuels, 2-5 MMBTU/HR capacity, 2-7/8 in diameter.

Contact Honeywell sales representative for ordering.
FlameTools


The Honeywell FlameTools PC monitoring software and touchscreen display enable remote configuration, monitoring, and diagnostics for multiple signal processors, up to 32 loops for HMI and 248 loops for PC. FlameTools makes managing your system simpler and more convenient from anywhere, anytime.

Features

- Real time flame and temperature monitoring and logging for maximum efficiency.
- Configuration and monitoring modes.
- Remote access to system for increased flexibility.
- Touchscreen version allows for easy set up and operation.
- Multiple loops display.
- Password protected for system security.
- Save configuration on external memory device.
- Export and save data to Excel for analysis and trending.
- PC version allows exporting of graphical chart.
- HMI and PC versions are user configurable.
- Touchscreen version eliminates need for a converter (PC version includes RS232 converter cable).

Compatible with U2S and 700, P522, P531 and P532 signal processors.

Engineered To Order Group

Complete combustion solutions for a world of applications.

Honeywell Industrial Flame Monitoring can be incorporated into a combustion system designed by Honeywell Engineered Systems, saving engineering time and expense, while ensuring compliance to local codes and standards worldwide. Each standard or custom-built engineered system — encompassing a combination of control panels, burners, burner management systems, IFM, control valves, and safety systems — will provide a turn-key combustion solution for new or existing applications. The experts at Honeywell Engineered Systems are here to help you maximize your business opportunities.

Benefits

- Standard or custom-built turn-key combustion systems.
- End-to-end project management from specification and sizing to commissioning and start-up.
- Global codes and standards expertise with proven application experience in nearly every country around the world.
- Industry best brands and performance from the Honeywell Industrial & Commercial Thermal family of products.
- Unmatched engineering expertise, service and support.
- World-class network of worldwide support.

Combustion Solutions from Simple to Complex

- Fuel skids and pipe trains
- Control panels
- Low temperature burners
- High temperature burners
- Line and duct burners
- Control valves
- Safety shut-off valves
- Combustion chambers
- Flame controllers
- Flame safe-guard
- Flame monitoring
# Honeywell Industrial Flame Monitoring Compatibility Chart

<table>
<thead>
<tr>
<th>Sensor Type</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>S702</td>
<td>IR Suitable for oil</td>
</tr>
<tr>
<td>S702PF</td>
<td>IR Suitable for oil</td>
</tr>
<tr>
<td>S706</td>
<td>UVTron Suitable for clean gaseous fuel</td>
</tr>
<tr>
<td>S706PF</td>
<td>UVTron Suitable for clean gaseous fuel</td>
</tr>
<tr>
<td>S802</td>
<td>IR Suitable for oil</td>
</tr>
<tr>
<td>S806</td>
<td>UVTron Suitable for clean gaseous fuel</td>
</tr>
<tr>
<td>S550BE</td>
<td>IR+UV Suitable for all fuels</td>
</tr>
<tr>
<td>S550BE-PF</td>
<td>IR+UV Suitable for all fuels</td>
</tr>
<tr>
<td>S552BE</td>
<td>IR Suitable for oil and coal</td>
</tr>
<tr>
<td>S552BE-PF</td>
<td>IR Suitable for oil and coal</td>
</tr>
<tr>
<td>S556BE</td>
<td>UVTron Suitable for clean gaseous fuel</td>
</tr>
<tr>
<td>S556BE-PF</td>
<td>UVTron Suitable for clean gaseous fuel</td>
</tr>
<tr>
<td>WATCHDOGIIIBE</td>
<td>Flare stack monitoring system</td>
</tr>
<tr>
<td>Ionization Rod</td>
<td>Flame rod system for use with ignition transformer or coil</td>
</tr>
<tr>
<td>FlameTools-PC</td>
<td>PC software for remote configuration and monitoring</td>
</tr>
<tr>
<td>FlameTools-HMI/U</td>
<td>Touchscreen display for remote configuration and monitoring</td>
</tr>
</tbody>
</table>

1. For all AC models, voltage range is 85-264V, 50/60 Hz plus backup 24VDC input permitted.
2. For all DC models, input voltage 24VDC plus backup 24VDC input permitted.
3. For current approvals and additional models please visit customer.honeywell.com.
4. All models listed above, except WATCHDOGIIIBE and 600U, are fit for use in SIL 3 applications.

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**U2S**

The U2S Series is an all-in-one integrated processor and viewing head system which is uniquely suited for single or multi-burner, multi-fuel and difficult flame detection applications where a high level discrimination is required. Multiple sensor options provide a wider range of selection to meet difficult flame monitoring applications.
### Honeywell Industrial Flame Monitoring Accessories

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Product Details</th>
<th>Where to Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>700-1</td>
<td>1/2in NPT pipe mount</td>
<td>1/2in NPT pipe connection with swivel mount to 1/2in NPT viewing head connection. Swivel mount must be locked to prevent inadvertent movement. Use when burner is equipped with 1/2in NPTM pipe.</td>
<td></td>
</tr>
<tr>
<td>700-2</td>
<td>Swivel mount</td>
<td>Two-bolt base mounting with swivel mount. Viewing head connection is 1/2in NPTM. Use when line of sight adjustments are required.</td>
<td></td>
</tr>
<tr>
<td>700-3</td>
<td>1/2in NPT pipe mount</td>
<td>1/2in NPT pipe connection with swivel mount to 1/2in NPTM viewing head connection. Use with all S70X and S80X viewing heads.</td>
<td></td>
</tr>
<tr>
<td>700ACC</td>
<td>Cooling jacket</td>
<td>Cooling jacket for S70X and S80X-PF series viewing heads. Order with Vortex cooler M3204, M3208, or M3210. Use with 85°C (185°F). 90 PSIG air is required.</td>
<td></td>
</tr>
<tr>
<td>700DA</td>
<td>1/2in NPT adapter</td>
<td>1/2in NPT pipe mount with swivel mount to 1/2in NPT viewing head. Use for 1/2in NPT connection to swivel mount or threaded 1/2in pipe.</td>
<td></td>
</tr>
<tr>
<td>700DA-1</td>
<td>1/2in NPT adapter</td>
<td>1/2in NPT pipe mount with swivel mount to 1/2in NPTF viewing head. Use for 1/2in NPT connection to swivel mount or threaded 1/2in pipe.</td>
<td></td>
</tr>
<tr>
<td>700RAA</td>
<td>Right angle adapter</td>
<td>1/2in NPT right angle viewing head adapter to 1/2in NPTM viewing head. Use when space is limited (under the furnace).</td>
<td></td>
</tr>
<tr>
<td>700UA</td>
<td>1/2in NPT adapter</td>
<td>1/2in NPT adapter UL Therm heat insulator with 1/2in NPTF mount and one 1/4in purge connection. Use with S70X and S80X viewing heads.</td>
<td></td>
</tr>
<tr>
<td>800ACC</td>
<td>Cooling jacket</td>
<td>Cooling jacket for S80X and S80X-PF series viewing heads. Order with Vortex cooler M3204, M3208, or M3210. Use with 85°C (185°F). 90 PSIG air is required.</td>
<td></td>
</tr>
<tr>
<td>800ACC-RNHG</td>
<td>Adapter ring</td>
<td>Adapter ring to fit S80X viewing head to 700ACC cooling jacket. Use with S80X viewing heads.</td>
<td></td>
</tr>
<tr>
<td>800DA</td>
<td>1/2in NPT adapter</td>
<td>1/2in NPT connection with swivel mount used with S80X viewing heads. Use for 1/2in NPT connection to swivel mount or threaded 1/2in pipe.</td>
<td></td>
</tr>
<tr>
<td>ACC55XBE</td>
<td>Cooling jacket</td>
<td>Cooling jacket for S55X and S55X-PF series viewing heads. Order with Vortex cooler M3204, M3208, or M3210. Use with 85°C (185°F). 90 PSIG air is required.</td>
<td></td>
</tr>
<tr>
<td>ASY785BE-100</td>
<td>100 ft. cable assembly</td>
<td>Factory molded cable for S55XBE, 100 feet (30.5 m) long, 4 conductors, overall foil and shield wire. Use with S55XBE viewing heads.</td>
<td></td>
</tr>
<tr>
<td>ASY785BE-200</td>
<td>200 ft. cable assembly</td>
<td>Factory molded cable for S55XBE, 200 feet (60 m) long, 4 conductors, overall foil and shield wire. Use with S55XBE viewing heads.</td>
<td></td>
</tr>
<tr>
<td>ASY785S</td>
<td>50 ft. cable assembly</td>
<td>Factory molded cable with 50 feet (15 m) length without LEDs. Use with S80X and S80X-PF viewing heads.</td>
<td></td>
</tr>
<tr>
<td>ASY785T</td>
<td>200 ft. cable assembly</td>
<td>Factory molded cable with 200 feet (60 m) length without LEDs. Use with S80X and S80X-PF viewing heads.</td>
<td></td>
</tr>
<tr>
<td>ASY786C</td>
<td>Cable</td>
<td>Field cable with two LEDs for S70X and S80X viewing heads. Use with S70X and S80X viewing heads.</td>
<td></td>
</tr>
<tr>
<td>ASY786S</td>
<td>Cable</td>
<td>Factory molded cable with 15 feet (4.6 m) length with 12 conductors. Use with S70X and S80X all-in-one viewing head.</td>
<td></td>
</tr>
<tr>
<td>ASY786T</td>
<td>Cable</td>
<td>Factory molded cable with 10 feet (3 m) length with 12 conductors. Use with S70X all-in-one viewing head.</td>
<td></td>
</tr>
<tr>
<td>ASY786U</td>
<td>Cable</td>
<td>Factory molded cable with 25 feet (7.6 m) length with 12 conductors. Use with S80X all-in-one viewing head.</td>
<td></td>
</tr>
<tr>
<td>ASY787S</td>
<td>300 ft. cable assembly</td>
<td>Factory molded cable with 300 feet (90 m) length with 12 conductors. Use with S80X all-in-one viewing head.</td>
<td></td>
</tr>
<tr>
<td>C215</td>
<td>12 conductor cable</td>
<td>Field extension cable for U2S, 12 conductors, 10 foot. Use with U2S series all-in-one viewing head.</td>
<td></td>
</tr>
<tr>
<td>C3305</td>
<td>Scanning cable</td>
<td>4-conductor viewing head to processor interconnecting cable with foil and drain wire. Use with S70X, S80X, and S55XBE viewing heads.</td>
<td></td>
</tr>
<tr>
<td>D3993U</td>
<td>Digital demo kit</td>
<td>Digitally generated demonstration kit including PS320D, PS322D, S351BE, and cable with 24VDC converter. Use for sales demos.</td>
<td></td>
</tr>
<tr>
<td>D3993U/1</td>
<td>Watchdog demo kit</td>
<td>Digital demonstration kit including P3222DC, S351BE, and 24VDC converter for flame monitoring system - WATCHDOG351BE. Use for sales demos.</td>
<td></td>
</tr>
<tr>
<td>D3994U/1</td>
<td>U2S demo kit</td>
<td>U2S demo kit and cable with 24VDC converter. Use for sales demos.</td>
<td></td>
</tr>
<tr>
<td>D3995S/1</td>
<td>Accessory demo kit</td>
<td>Demonstration kit includes accessories ISO-5 unit and M702-2S5. Use for sales demos.</td>
<td></td>
</tr>
</tbody>
</table>

### Part Number | Description | Product Details | Where to Use |
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>FASA</td>
<td>Glass/Quartz fiber optics</td>
<td>Custom built to length and accessories. Suitable for oil and coal, focal lens assembly.</td>
<td>Contact your local sales representative to provide quotation for your application.</td>
</tr>
<tr>
<td>ISO-UNIT</td>
<td>Sealing union</td>
<td>Isothermal unit for low back pressure application. Black anodized aluminum body, quartz lens. 1in NPT connection at both ends with 1/2in NPT pipe for purge connection.</td>
<td></td>
</tr>
<tr>
<td>ISO-UNITSS</td>
<td>Sealing union</td>
<td>Isothermal unit for low back pressure application. Stainless steel body, quartz lens. 1in NPT connection at both ends with 1/2in NPTM pipe for purge connection.</td>
<td>Maximum back pressure 50PSI (345 kPa) and maximum temperature of 200°F (93°C).</td>
</tr>
<tr>
<td>ISO-UNITTHPT</td>
<td>Sealing union</td>
<td>Isothermal unit for high back pressure application. Stainless steel body, quartz lens. 1in NPT connection at both ends with 1/2in NPT pipe for purge connection.</td>
<td>Maximum back pressure 50PSI (345 kPa) and maximum temperature of 200°F (93°C).</td>
</tr>
<tr>
<td>M3204</td>
<td>Vortex air cooler</td>
<td>Use in conjunction with cooling jacket for S70X and S55XBE. 275Btu/hr (80 kcal/hr), 15 PSIG (1,118 kPa). Use with cooling jacket.</td>
<td></td>
</tr>
<tr>
<td>M3208</td>
<td>Vortex air cooler</td>
<td>Use in conjunction with cooling jacket for S70X and S55XBE. 550Btu/hr (164 kcal/hr), 10 SCFM (283 SLPM). Use with cooling jacket.</td>
<td></td>
</tr>
<tr>
<td>M3210</td>
<td>Vortex air cooler</td>
<td>Use in conjunction with cooling jacket for S70X and S55XBE. 650Btu/hr (181 kcal/hr), 1/2in NPT connection. Use with cooling jacket.</td>
<td></td>
</tr>
<tr>
<td>M701-2</td>
<td>2in NPT pipe mount</td>
<td>2in NPT pipe mount with swivel mount to 1in NPT connection. Use when burner is provided with 2in threaded pipe.</td>
<td></td>
</tr>
<tr>
<td>M701-2-FLG</td>
<td>2in flange mount</td>
<td>2in flange mount with multiple mounting holes to 1in NPT pipe. Use with cooling jacket.</td>
<td></td>
</tr>
<tr>
<td>M701-2-S5</td>
<td>2in NPT pipe mount</td>
<td>2in NPT stainless steel pipe swivel mount assembly to 1in NPT pipe. 2-3/8in deep. Use when burner is provided with 2in unthreaded pipe.</td>
<td></td>
</tr>
<tr>
<td>M701-3</td>
<td>3 bolt swivel mount</td>
<td>3 bolt swivel mount assembly. 3 mounting holes. 1in NPT connection to viewing head side. Use when burner is provided with 2in threaded pipe.</td>
<td></td>
</tr>
<tr>
<td>M701-3P</td>
<td>3in NPT pipe mount</td>
<td>3in NPT pipe connection with swivel mount to 1in NPT viewing head. Use when burner is provided with 3in threaded pipe.</td>
<td>Use commonly in coal-fired power plants.</td>
</tr>
</tbody>
</table>
For More Information

The Honeywell Thermal Solutions family of products includes Honeywell Combustion Safety, Honeywell Combustion Service, Eclipse, Exothermics, Hauck, Kromschröder and Maxon. To learn more about our products, visit ThermalSolutions.honeywell.com or contact your Honeywell Sales Engineer.

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