

# 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. UVTron 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 nA 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](http://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.

# Industry Applications



## REFINERIES

- Petroleum
- Petrochemical
- Utility/power generation
- Pulp/paper
- Metals



## BOILERS

- Industrial process
- Black liquor recovery
- Co-generation
- Grate fired Cement or lime kilns
- Claus reactors (H<sub>2</sub>S)
- Thermal oxidizers
- Gas turbines



## BURNERS

- Single or multiple burners
- Combination fuel firing oil-gas and coal
- Low NO<sub>x</sub>
- Opposed fired
- Hydrogen
- Duct
- Register
- Exotic fuels
- Hostile environment

# 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



Model Part Number	Sensor Type	Description
S702	IR	Quick disconnect cable. Suitable for oil.
S702PF	IR	Factory installed cable. Suitable for oil.
S706	UVTron	Quick disconnect cable. Suitable for clean gaseous fuel.
S706PF	UVTron	Factory installed cable. Suitable for clean gaseous fuel.
S802	IR	Quick disconnect cable. Suitable for oil.
S806	UVTron	Quick disconnect cable. Suitable for clean gaseous fuel.

### S70X Approximate Dimensions:

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

### S80X Approximate Dimensions:

8.9in Length (226 mm), 1.14in 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



Model Part Number	Description
700ACSP	AC signal processor. 85 to 264VAC, 50 or 60 Hz, 0.07A max with 24VDC backup power.
700DCSP	DC signal processor. 22 to 26VDC, 250 mA max with 24 VDC backup power.

### Approximate Dimensions:

5.5in Height (140 mm) x 3in Width (76 mm) x 3in Depth (76 mm)

# 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:** scaleable 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



Model Part Number	Description
P522AC	AC signal processor. 85 to 264 VAC, 47 or 63 Hz with 24 VDC backup power.
P522DC	DC signal processor. 22 to 26 VDC with 24 VDC backup power.

### Approximate Dimensions:

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

# 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:** scaleable 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



Model Part Number	Description
P531AC	AC signal processor. 85 to 264 VAC, 47 or 63 Hz with 24 VDC backup power.
P531DC	DC signal processor. 24 VDC with 24 VDC backup power.
P532UI	Detachable user interface for P531 signal processors.
P532AC	AC signal processor. 85 to 264 VAC, 47 or 63 Hz with 24 VDC backup power.
P532DC	DC signal processor. 24 VDC with 24 VDC backup power.

### Approximate Dimensions:

6.7in Height (170 mm) x 4.3in Width (109 mm) x 6.4in Depth (162 mm)

# 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, UVTron, 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 UVTron 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.
- 1inch 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
- Fit for use in SIL 3 applications



Model Part Number	Sensor Type	Description
S550BE	IR/UV	Quick disconnect cable. Suitable for all fuels.
S550BE-PF	IR/UV	Factory installed cable. Suitable for all fuels.
S552BE	IR	Quick disconnect cable. Suitable for oil and coal.
S552BE-PF	IR	Factory installed cable. Suitable for oil and coal.
S556BE	UVTron	Quick disconnect cable. Suitable for clean gaseous fuel.
S556BE-PF	UVTron	Factory installed cable. Suitable for clean gaseous fuel.

### S70X Approximate Dimensions:

8.82in Length (224 mm) x 4.05in 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/U supports 248 loops and 32 loops, respectively.
- Advanced safety features

### Specifications

- **Input power:** 22-26 VDC, 120 mA max.
- **Output relay contacts:** 2one 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 FFRT 1, 2, or 3 seconds.
- 1in 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/IECEX Ex d IIC; Ex tb IIC
- **Quick disconnect version:** Class I div 2 Gr A, B, C, D T5, ATEX/IECEX Ex nA nC IIC; Ex tb IIC
- Fit for use in SIL 3 applications



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

### Approximate Dimensions:

6.1in Length (155 mm) x 4.6in 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, T4s



Model Part Number	Description
WATCHDOGIIBE	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)

# 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).



Model Part Number	Description
GHE1-3	Igniter used with gas fuels. 1-3 MMBTU/HR capacity. 1-7/8in diameter.
GHE2-5	Igniter used with gas fuels. 2-5 MMBTU/HR capacity. 2-7/8in diameter.

Contact Honeywell sales representative for ordering.

# FlameTools

## Remote configuration, monitoring, and diagnostics. Anywhere. Anytime.

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).



Model Part Number	Description
FlameTools-PC	PC monitoring software
FlameTools-HMI/U	Panel mount touchscreen display

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



	700DCSP	700DCSP	P522AC	P522DC	P531AC	P531DC	P532AC	P532DC	P222	600U	Fiber Optic System	700ACC	800ACC	ACC55XBE	Sensor Type	Application
S702	•	•			•	•	•	•			•	•			IR	Suitable for oil
S702PF	•	•			•	•	•	•			•	•			IR	Suitable for oil
S706	•	•			•	•	•	•			•	•			UVTron	Suitable for clean gaseous fuel
S706PF	•	•			•	•	•	•			•	•			UVTron	Suitable for clean gaseous fuel
S802	•	•			•	•	•	•			•		•		IR	Suitable for oil
S806	•	•			•	•	•	•			•		•		UVTron	Suitable for clean gaseous fuel
S550BE			•	•	•	•	•	•			•			•	IR+UV	Suitable for all fuels
S550BE-PF			•	•	•	•	•	•			•			•	IR+UV	Suitable for all fuels
S552BE			•	•	•	•	•	•			•			•	IR	Suitable for oil and coal
S552BE-PF			•	•	•	•	•	•			•			•	IR	Suitable for oil and coal
S556BE			•	•	•	•	•	•			•			•	UVTron	Suitable for clean gaseous fuel
S556BE-PF			•	•	•	•	•	•			•			•	UVTron	Suitable for clean gaseous fuel
WATCHDOGIIIBE									•							Flare stack monitoring system
Ionization Rod										•						Flame rod system for use with ignition transformer or coil
FlameTools-PC	•	•	•	•	•	•	•	•								PC software for remote configuration and monitoring
FlameTools-HMI/U	•	•	•	•	•	•	•	•								Touchscreen display for remote configuration and monitoring

**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.

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](http://customer.honeywell.com).
4. All models listed above, except WATCHDOGIIIBE and 600U, are fit for use in SIL 3 applications.

# Honeywell Industrial Flame Monitoring Accessories

Part Number	Description	Product Details	Where to Use
700-1	1in NPT pipe mount	1in 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 1inNPTM sight pipe.
700-2	Swivel mount	Two-bolt base mounting with swivel mount. Viewing head connection is 1/2in NPTM. Use where line of sight adjustments are required.	Use with all S70X and S80X viewing heads.
700-3	1/2in NPT pipe mount	1/2in NPT pipe connection with swivel mount to 1/2in NPTM viewing head connection. Use with all S70X and S80X viewing heads.	Use when burner is equipped with 1/2in NPTM sight pipe.
700ACC	Cooling jacket	Cooling air jacket for S70X and S70X-PF series viewing heads. Order with Vortex cooler M3204, M3028, or M3210.	Use when ambient temperature is higher than 85°C (185°F). 90 PSIG air is required.
700DA	1/2in NPT adapter	1/2in NPTF with 1/4in purge connection used with S70X viewing heads.	Use for 1/2in NPT connection to swivel mount or threaded 1/2in pipe.
700DA-1	1in NPT adapter	1in NPTF with 1/4in purge connection used with S70X viewing heads.	Use for 1in NPT connection to swivel mount or threaded 1in pipe.
700RAA	Right angle adapter	1/2in NPTF right angle viewing head adapter to 1/2in NPTM.	Use where space is limited (under the furnace).
700UA	1/2in NPT adapter	ULTherm heat insulator with 1/2in NPTF mounting and 1/4in purge connection.	Use when ambient temperature is higher than 85°C (185°F).
800ACC	Cooling jacket	Cooling air jacket for S80X and S80X-PF series viewing head. Order with Vortex cooler M3204, M3028, or M3210.	Use when ambient temperature is higher than 85°C (185°F). 90 PSIG air is required.
800ACC-RING	Adapter ring	Adapter ring to fit S80X viewing head to 700ACC cooling jacket.	Use with S80X viewing heads.
800DA	1/2in NPT adapter	1/2in NPTF with 1/4in purge connection used with S80X viewing heads.	Use for 1/2in NPT connection to swivel mount or threaded 1/2in pipe.
ACC55XBE	Cooling jacket	Cooling air jacket for S55X and S55X-PF series viewing head. Order with Vortex cooler M3204, M3028, or M3210.	Use when ambient temperature is higher than 85°C (185°F). 90 PSIG air is required.
ASY55XBE	50 ft. cable assembly	Factory molded cable for S55XBE; 50 feet (15 m) long, 4 conductors, overall foil shield and drain wire.	Use with S55XBE viewing heads.
ASY55XBE-100	100 ft. cable assembly	Factory molded cable for S55XBE; 100 feet (30.5 m) long, 4 conductors, overall foil shield and drain wire.	Use with S55XBE viewing heads.
ASY55XBE-200	200 ft. cable assembly	Factory molded cable for S55XBE; 200 feet (60 m) long, 4 conductors, overall foil shield and drain wire.	Use with S55XBE viewing heads.
ASY785	50 ft. cable assembly	Factory molded cable 50 feet (15 m) long without LEDs.	Use with S70X and S80X viewing heads.
ASY785-200	200 ft. cable assembly	Factory molded cable 200 feet (60 m) long without LEDs.	Use with S70X and S80X viewing heads.
ASY786	Cable	Field cable side connector with two LEDs for S70X and S80X.	Use with S70X and S80X viewing heads.
ASYU2S	Cable	Factory molded cable 50 feet (15 m) long with 12 conductors	Use with U2S series all-in-one viewing head.
ASYU2S-100	Cable	Factory molded cable 100 feet (30 m) long with 12 conductors	Use with U2S series all-in-one viewing head
ASYU2S-200	Cable	Factory molded cable 200 feet (60 m) long with 12 conductors	Use with U2S series all-in-one viewing head
ASYU2S-300	Cable	Factory molded cable 300 feet (90 m) long with 12 conductors	Use with U2S series all-in-one viewing head
C22S	12 conductor cable	Field extension cable for U2S; 12 conductors, 10 used.	Use with U2S series all-in-one viewing head/processor.
C330S	Scanner cable	4-conductor viewing head to processor interconnecting cable with foil and drain wire.	Use with S70X, S80X, and S55XBE viewing heads.
DSP3992/U	P5XX demo kit	Demonstration kit including P532DC, P522DC, S550BE, and cable with 24VDC converter.	Use for sales demo.
DSP3993/U	Watchdog demo kit	Demonstration kit including P222DC, S256BE, and cable with 24VDC converter for flare monitoring system - WATCHDOGIIIBE.	Use for sales demo.
DSP3994/U	U2S demo kit	U2S and cable with 24VDC converter.	Use for sales demo.
DSP3995/U	Accessory demo kit	Demonstration kit includes accessories ISO-unit and M701-2SS.	Use for sales demo.

Part Number	Description	Product Details	Where to Use
FASA	Glass/Quartz fiber optics	Custom built to length and accessories. Suitable for oil and coal, focal lens assembly.	Contact your local sales representative to provide quotation for your application.
ISO-UNIT	Sealing union	Isolation unit for low back pressure application. Black anodized aluminum body, quartz lens. 1in NPTF connection at both ends with 1/2in NPTF for purge connection.	Maximum back pressure 50 PSI (345 kPa) and maximum temperature of 400°F (204°C).
ISO-UNITSS	Sealing union	Isolation unit for low back pressure application. Stainless steel body, quartz lens. 1in NPTF connection at both ends with 1/2in NPTF for purge connection.	Maximum back pressure 50 PSI (345 kPa) and maximum temperature of 400°F (204°C).
ISO-UNITHPGT	Sealing union	Isolation unit for high back pressure application. Stainless steel body, quartz lens. 1in NPTF connection at both ends with 1/2in NPTF for purge connection.	Maximum back pressure 500 PSI (3450 KPA) and maximum temperature of 400°F (204°C).
M3204	Vortex air cooler	Use in conjunction with cooling jacket for S70X and S55XBE. 275Btu/hr (69 kcal/hr) 4 SCFM (113 SLPM).	Use with cooling jacket.
M3208	Vortex air cooler	Use in conjunction with cooling jacket for S70X and S55XBE. 550Btu/hr (139 kcal/hr) 8 SCFM (227 SLPM).	Use with cooling jacket.
M3210	Vortex air cooler	Use in conjunction with cooling jacket for S70X and S55XBE. 650Btu/hr (164 kcal/hr) 10 SCFM (283SLPM).	Use with cooling jacket.
M-701-1	2in NPT pipe mount	2in NPT pipe slip-on to 1in NPT connection.	Use when burner is provided with 2in slip-on pipe.
M-701-2	2in NPT pipe mount	2in NPTF pipe-mounted swivel mount assembly to 1in NPTF 3-1/2in diameter and 2-3/8in deep.	Use when burner is provided with 2in threaded pipe.
M-701-2-FLG	2in flange mount	2in flange mount with multiple mounting holes to 1in NPTF.	Windbox mounted.
M-701-2-SS	2in NPT pipe mount	2in NPTF stainless steel pipe swivel mount assembly to 1in NPTF 3-1/2in diameter and 2-3/8in deep.	Use when burner is provided with 2in unthreaded pipe.
M-701-3	3 bolt swivel mount	4-1/2in diameter, 3-bolt swivel mount assembly. 3 mounting holes. 1in NPTF connection to viewing head side.	Windbox mounted.
M-701-3P	3in NPT pipe mount	3in threaded pipe connection with swivel mount to 1in NPTF to viewing head.	Used commonly in coal-fired power plants.
M-701-4	2 bolt swivel mount	4in, 2-bolt windbox or burner front mounted swivel mount to 1in NPTF for viewing head connection.	Windbox mounted.
M-702-6	Orifice set	Set of orifices to reduce signal level.	Use with all viewing heads.
R-518-12	Insulating nipple	1in NPT M/M both side heat and electrical insulating nipple.	Use with all 1in NPT connection.
R-518-13	Insulating nipple	1/2in NPT M/M both side heat and electrical insulating nipple.	Use with all 1/2in NPT connection.
R-518-CL12-HTG	Locking coupler	1in NPT locking coupler for disconnect of viewing head for S55XBE and S70X with DA-1.	Use with R-518-PT12, R-518-PT12L.
R-518-CL12-PG	Locking coupler	1in NPT locking coupler with purge connection for use with all viewing heads with 1in NPT connection.	Use with R-518-PT12, R-518-PT12L.
R-518-CL13-HTG	Locking coupler	1/2in NPT locking coupler for disconnect of viewing heads with 1/2in connection.	Use with R-518-PT13, R-518-PT13L.
R-518-PT12	Locking coupler	1in NPT ULTEM insulating locking coupler adapter.	Use with R-518-CL12-HTG, R-518-CL12-PG.
R-518-PT12L	Locking coupler	1in NPT ULTEM insulating locking coupler adapter.	Use with R-518-CL12-HTG, R-518-CL12-PG.
R-518-PT13	Locking coupler	1/2in NPT ULTEM insulating locking coupler adapter.	Use with R-518-CL13-HTG.
R-518-PT13L	Locking coupler	1/2in NPT ULTEM insulating locking coupler adapter.	Use with R-518-CL13-HTG.
R-518-11	Cable connector	Cable side connector for S55XBE for use with C330S cable.	Use with S55XBE viewing heads and C330S cable.

**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](http://ThermalSolutions.honeywell.com) or contact your Honeywell Sales Engineer.

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