

ECC or Buildings Branch | Flame Safeguard part 3

Servo Regulated Gas Valves

Dimensions in inches (millimeters)

M22414

6-1/8 (156)

1-27/32

(48)

4-7/32

(107)

5-1/4 (133)

7-5/16

(240)

2 (51)

2-1/32

(52)

1-11/16 3-7/8 (98)

(43)

PRESSURE

SWITCH

OPTIONAL

VALVE

POSITION

INDICATOR

LAMPS

M22415

6-1/8 (156)

1-27/32

(48)

4-7/32

(107)

5-1/4 (133)

6-1/2

(166)

2 (51)

2-1/32

(52)

1-11/16 3-7/8 (98)

(43)

OPTIONAL

PRESSURE

SWITCH

VALVE

POSITION

INDICATOR

LAMPS

M16865

6-9/16 (166)

1-27/32

(48)

4-7/32

(107)

5-1/4 (133)

7-5/16

(190)

2 (51)

2-1/32

(52)

1-11/16 3-7/8 (98)

(43)

OPTIONAL

PRESSURE

SWITCH

VALVE

POSITION

INDICATOR

LAMPS

M16864

6-9/16 (166)

1-7/8

(48)

4-5/16

(109)

5-11/32 (136)

8-15/32

(215)

2-1/4 (57)

3

(76)

1-3/4 4-1/32 (102)

(44)

OPTIONAL

PRESSURE

SWITCH

V4730C; V4734C; V8730C Accessories and Parts

Material Number Description

50002653-001/U Manual Shut-Off Valve Kit (1 in. NPT or smaller valves)

854 70-6910

Venturi Mixing Unit

Venturi Mixing Unit

Dimensions in inches (millimeters)

M22417D

8-19/32 (218)

7-7/8 (200) LG

5-1/2 (140) SM

9-9/32 DIA.

(236 DIA.)

LG

6-1/4 DIA.

(159 DIA.)

SM

1

2

1

2

1 LG (LARGE) IS VENTURI MIXING UNIT VMU500.

2 SM (SMALL) ARE VENTURI MIXING UNITS VMU150/300/335.

The venturi mixing unit (VMU), combined with the V4730C/V8730C gas valves and specific direct current (dc) fan, has been developed for modulating premix appliances like gas burners and gas boilers.

- All adjustment and test points are accessible from one side.
- Has a wide modulation band (14 to 100% of the boiler load).
- Flexible mounting positions of gas control to venturi manifold and venturi manifold to fan.
- Two stainless steel sensing tubes are provided for use with or without manual safety shutoff valve.

Materials: Housing: Aluminum, Venturi: Statically dissipative statcon PF, Seals: Rubber (NBR).

Ambient Temperature Range: 32°F to 212°F (0°C to 100°C)

Approvals, Underwriters Laboratories Inc.: File No. MH18476

Approvals, CSA: File: Certificate No: 158158-1227192

Pipe Connection: Four M5 screws and a rubber O-ring are provided with the venturi to assemble it to the V4730C/V8730C gas valve. The stainless steel tube provided with the venturi has to be connected between the venturi inlet (connection provided) and the gas valve regulator. Longer sensing tube for use with manual safety shutoff valve (KTTBA002). Shorter sensing tube for use without manual safety shutoff valve (KTTBA001).

Current Ratings: V1 Current Rating - 0.16A; V2 Current Rating - 0.16A; V1 + V2 Current Rating - 0.32A

Material Number Body Pattern Maximum Safe Operating Pressure (psi)

Maximum Operating

Pressure (mbar)

Comments Reference Load

VMU150A1011 Straight flange 2.9 psi (UL approved),
1/2 psi (CSA approved)
200 mbar (UL approved),
35 mbar (CSA approved)

Pressure Drop: Approximately 3.2 in. wc (800 Pa)
across the venturi at reference load. The minimum
load for which the system can be used is 14-17%
of the reference load, which equals a minimum
pressure differential of 0.2 in. wc (50 Pa) of the
1:1 venturi/servo regulator gas control.

150 kW (512,000 Btuh)

VMU185A1084 1/2 psi (CSA approved);
2.9 psi (UL approved)
35 mbar (CSA approved),
200 mbar (UL approved)

Pressure Drop: Approximately 3.2 in. wc (800 Pa)
across the venturi at reference load. The minimum
load for which the system can be used is 14-17%
of the reference load, which equals a minimum
pressure differential of 0.2 in. wc (50 Pa) of the
1:1 venturi/servo regulator gas control.

185 kW (632,000 Btuh)

VMU300A1046 Straight flange 2.9 psi (UL approved),
1/2 psi (CSA approved)
200 mbar (UL approved),
35 mbar (CSA approved)

Pressure Drop: Approximately 3.2 in. wc (800 Pa)
across the venturi at reference load. The minimum
load for which the system can be used is 14-17%
of the reference load, which equals a minimum
pressure differential of 0.2 in. wc (50 Pa) of the
1:1 venturi/servo regulator gas control.

300 kW (1,024,000 Btuh)

VMU335A1018 Straight flange 2.9 psi (UL approved),
1/2 psi (CSA approved)
200 mbar (UL approved),
35 mbar (CSA approved)

Pressure Drop: Approximately 3.2 in. wc (800 Pa)
across the venturi at reference load. The minimum
load for which the system can be used is 14-17%
of the reference load, which equals a minimum
pressure differential of 0.2 in. wc (50 Pa) of the
1:1 venturi/servo regulator gas control.

335 kW (1,143,000 Btuh)

70-6910 855

Commercial/Industrial

Combustion Controls

Pressure Switches

C437D, E 2000 Series Gas Pressure Switches

Dimensions in inches (millimeters)

1-5/16

(33.3)

1

(25.4)

6-1/2

(165.1)

7-3/4

(196.9)

2 (50.8)

45 45

7-3/8 (187.3)

1/8-27 NPT 1/2-14 NPT TAPPED FOR

1/2 IN. CONDUIT

1

2

137755 MOUNTING BRACKET (2), IN 4074BWK BAG ASSEMBLY - OPTIONAL.

VENT TAPPING. REMOVE DUST-SEAL LABEL BEFORE MOUNTING. M27582

6-1/4 (159)

5/16 (8) (4)

5/8

(15.9)

(4)

7-11/16

DIA.

(195.3)

1/8

(3.2)

3-7/16 (87.3)

1

2

C437D, E Series 2000 Gas Pressure Switches are pressureactuated devices used in industrial gas systems for safety

shutoff. Series 2000 models have snap acting MicroSwitch™ snap switches to open a circuit on pressure rise or drop.

- C437 models have direct- and reverse-acting SPST (non-mercury) switching.

- Models intended for lockout applications must be manually reset before resuming operation.

- Models with pressure range of 1 to 26 in. wc (0.25 to 6.5 kPa) compensate for momentary surges in gas pressure with a restrictive orifice in inlet pressure channel.

- Impede tampering and provide dust-resistant operation with enclosed setting.

- Increase strength of control diaphragm with Buna N fiber-reinforced material.
- Two Buna-N fiber-reinforced seal-off diaphragms for added reliability.
- Clear glass cover allows observation of interior mechanism to aid in setting and checkout.

Application: Industrial gas system applications for safety shutoff, pressure control, or differential-pressure control.

Switch Operation: Manual Reset

Sensor Element: BUNA N Diaphragm

Materials: Case: Die-cast aluminum

Approximate, Dimensions: 7 3/4 in. high x 6 1/4 in. wide x 3 7/16 in. deep (197 mm high x 159 mm wide x 87 mm deep)

Operating Temperature Range: 32°F to 125°F (0°C to 52°C)

Temperature Ratings: 125°F - Maximum Ambient (52°C - Maximum Ambient)

Electrical Connections: Screw terminals

Contact Ratings: 120 Vac Switch Contact – 8.0 AFL, 48.0 ALR, 10.0 A resistive; 240 Vac Switch Contact – 5.1 AFL, 30.6 ALR, 5.0 A resistive

Pipe Connection: Main or High Pressure – 1/2 in. NPT internal thread;

Vent or Low pressure – 1/8 in. NPT internal thread

Approvals, Underwriters Laboratories Inc.: Listed: File No. MP2168, Guide No. MFHX

Approvals, CSA: Certified: File No. LR1620, Guide No. 380-W-1.16

Approvals, Factory Mutual: Approved: Report No. 22018, 24127, J.I.IF4A3.AF

Approvals, Swiss RE: Acceptable

Material Number Operating Range (psi) Operating Range (kPa) Differential Pressure Range (psi)

Differential Pressure

Range (kPa)

Differential Type Switching Action

C437D2003/U 1 to 26 in. wc; 5.0 psi -

Maximum Sustained

0.5 to 7.0 kPa; 34.5 kPa

- Maximum Sustained

1 3/4 in. wc 0.44 kPa Subtractive SPST, break on rise, non-mercury

C437D2011/U 1/2 to 5 psi; 15.0 psi -

Maximum Sustained

3.0 to 35 kPa; 103.4 kPa

- Maximum Sustained

1/2 psi 3.45 kPa Subtractive SPST, break on rise, non-mercury

C437D2029/U 1 to 10 psi; 30.0 psi -

Maximum Sustained

5.0 to 70.0 kPa;

206.8 kPa - Maximum

Sustained

1 psi 6.89 kPa Subtractive SPST, break on rise,
non-mercury

C437E2002/U 1 to 26 in. wc; 5.0 psi -

Maximum Sustained

0.5 to 7.0 kPa; 34.5 kPa

- Maximum Sustained

1 3/4 in. wc 0.44 kPa Additive SPST, Break on Fall,
non-mercury

C437E2010/U 1/2 to 5 psi; 15.0 psi -

Maximum Sustained

3.0 to 35 kPa; 103.4 kPa

- Maximum Sustained

1/2 psi 3.45 kPa Additive SPST, Break on Fall,
non-mercury

C437E2028/U 1 to 10 psi; 30.0 psi -

Maximum Sustained

5.0 to 70.0 kPa;

206.8 kPa - Maximum

Sustained

1 psi 6.89 kPa Additive SPST, Break on Fall,
non-mercury

C437E2036/U 0.5 to 5.5 in. wc; 3.0 psi

- Maximum Sustained

0.1 to 1.4 kPa; 20.7 kPa

- Maximum Sustained

0.25 in. wc 0.06 kPa Additive SPST, Break on Fall,
non-mercury

856 70-6910

Pressure Switches

C6097 Pressure Switch

Dimensions in inches (millimeters)

27/32

(22)

HOLE

HOUSING

GAS CONNECTION

1/4 NPT WITH DUST SEAL

2-1/4

(57)

3-3/16

(81)

1-17/32

(90)

2-21/32 (68) 2-21/32 (68)

31/32

(25)

25/32

(21)

1-3/32 (28) 15/32 (12)

13/32

(11)

2-23/32 (69) 2-23/32 (69)

1-3/4 (45)

2-13/32

(61)

ATMOSPHERIC

PRESSURE

REFERENCE PORT

OR DIFFERENTIAL

CONNECTION

1/8 NPT

INDICATOR

M29773

1 2 3

P

NO

NC

COM

TERMINAL DIAGRAM

Pressure Switches are safety devices used in positive-pressure or differential-pressure systems to sense gas or air pressure systems.

- For use with natural gas, liquid propane (LP) gas, or air.
- Diaphragm-actuated safety-limit switch.
- Switch can be wired to turn on alarm.
- C6097A models break control circuit at setpoint on pressure fall.
- C6097B models break control circuit at setpoint on pressure rise.
- Lockout with manual reset and recycle options.
- Lockout models have external manual reset button.
- Removable transparent cover protects scaleplate and adjusting knob.
- Pipe tappings allow selection of positive pressure (air only) or venting connections (NPT mount only).
- 1/4 in. NPT or flange mount models for direct mounting to Honeywell Integrated Valve Train.
- Optional switch position indicator lamp available.
- IP54 enclosure standard.
- Ranges: 0.4 to 5 in. wc, 3 to 21 in. wc, 12 to 60 in. wc or 1.5 to 7 psi.
- Surge orifice.
- Integral vent limiter on all models.

Application: Safety devices used in positive-pressure or differential pressure systems to sense gas or air pressure changes

Operating Temperature Range: -40°F to +140°F (-40°C to +60°C)

Electrical Connections: Screw terminals

Electrical Ratings: Ignition Transformer: 540 VA, Pilot Valve: 50 VA.
Main Valve: 400 VA with 2-1/2 times inrush
Contact Ratings: 120 Vac Switch Contact - 3.0 AFL, 18.0 ALR, 5.0 A
resistive; 240 Vac Switch Contact - 3.0 AFL, 18.0 ALR, 5.0 A resistive
Approvals, Underwriters Laboratories Inc.: Component Listed, MP
2168-8-1

Approvals, CSA: File # 95329 Certificate 2632-01

Approvals, Factory Mutual: JI 2D4A1.AF

Approvals, Swiss RE: Acceptable

Approvals, Others: CSD-1 AFB: Acceptable

Material

Number

Operating

Range (psi)

Operating

Range (kPa)

Differential

Pressure Range

(psi)

Differential

Pressure Range

(kPa)

Differential

Type

Switch

Operation

Switching

Action

Approximate,

Dimensions

Pipe

Connection

Mounting

C6097A1004/U 0.4 to 5 in. wc 0.10 to 1.25 kPa 0.16 in. wc

Nominal;

0.24 in. wc

Maximum

0.04 kPa

Nominal;

0.06 kPa

Maximum

Additive Auto

recycle

Break on

pressure

fall

3 3/16 in. high x

2 23/32 in. wide x
2 23/32 in. deep
(81 mm high x
69 mm wide x
69 mm deep)

Vent

or Low

pressure -

1/8 in. NPT

internal

thread

1/4 in. NPT

internal

thread

C6097A1012/U 3 to 21 in. wc 0.7 to 5.2 kPa max. 2.4 in. wc

@ min. setpoint;

max. 4.2 in. wc

@ max. setpoint

max. 0.60 kPa

@ min. setpoint;

max. 1.05 kPa

@ max. setpoint

Additive Manual

Reset

Break on

pressure

fall

3 17/32 in. high x

2 23/32 in. wide x

2 23/32 in. deep

(90 mm high x

69 mm wide x

69 mm deep)

Vent

or Low

pressure -

1/8 in. NPT

internal

thread

1/4 in. NPT

internal

thread

C6097A1020/U 3 to 21 in. wc 0.7 to 5.2 kPa max. 2.4 in. wc

@ min. setpoint;

max. 4.2 in. wc

@ max. setpoint

max. 0.60 kPa

@ min. setpoint;

max. 1.05 kPa

@ max. setpoint

Additive Manual

Reset

Break on

pressure

fall

2 19/32 in. high x

2 23/32 in. wide x

2 23/32 in. deep

(66 mm high x

69 mm wide x

69 mm deep)

Flange

Mount

C6097A1038/U 12 to 60 in. wc 3.0 to 15 kPa max. 10 in. wc

@ min. setpoint;

max. 12 in. wc

@ max. setpoint

max. 2.5 kPa @

min. setpoint;

max. 3.0 kPa @

max. setpoint

Additive Manual

Reset

Break on

pressure

fall

3 17/32 in. high x

2 23/32 in. wide x

2 23/32 in. deep

(90 mm high x

69 mm wide x

69 mm deep)

Vent

or Low

pressure -

1/8 in. NPT

internal

thread

1/4 in. NPT

internal

thread

70-6910 857

Commercial/Industrial

Combustion Controls

Pressure Switches

Material

Number

Operating

Range (psi)

Operating

Range (kPa)

Differential

Pressure Range

(psi)

Differential

Pressure Range

(kPa)

Differential

Type

Switch

Operation

Switching

Action

Approximate,

Dimensions

Pipe

Connection

Mounting

C6097A1046/U 12 to 60 in. wc 3.0 to 15 kPa max. 10 in. wc

@ min. setpoint;

max. 12 in. wc

@ max. setpoint

max. 2.5 kPa @

min. setpoint;

max. 3.0 kPa @

max. setpoint:

Additive Manual

Reset

Break on

pressure

fall

2 19/32 in. high x

2 23/32 in. wide x

2 23/32 in. deep

(66 mm high x

69 mm wide x

69 mm deep)

Flange

Mount

C6097A1053/U 3 to 21 in. wc 0.7 to 5.2 kPa 0.24 in. wc

Nominal;

0.48 in. wc
Maximum
0.06 kPa
Nominal;
0.12 kPa
Maximum
Additive Auto
recycle
Break on
pressure
fall
3 3/16 in. high x
2 23/32 in. wide x
2 23/32 in. deep
(81 mm high x
69 mm wide x
69 mm deep)
Vent
or Low
pressure -
1/8 in. NPT
internal
thread
1/4 in. NPT
internal
thread
C6097A1061/U 3 to 21 in. wc 0.7 to 5.2 kPa 0.24 in. wc
Nominal;
0.48 in. wc
Maximum
0.06 kPa
Nominal;
0.12 kPa
Maximum
Additive Auto
recycle
Break on
pressure
fall
2 1/4 in. high x
2 23/32 in. wide x
2 23/32 in. deep
(57 mm high x
69 mm wide x
69 mm deep)
Flange
Mount

C6097A1079/U 12 to 60 in. wc 3.0 to 15 kPa 1.1 in. wc
Nominal; 2.4 in.
wc Maximum
0.27 kPa
Nominal;
0.60 kPa
Maximum
Additive Auto
recycle
Break on
pressure
fall
3 3/16 in. high x
2 23/32 in. wide x
2 23/32 in. deep
(81 mm high x
69 mm wide x
69 mm deep)
Vent
or Low
pressure -
1/8 in. NPT
internal
thread
1/4 in. NPT
internal
thread

C6097A1087/U 12 to 60 in. wc 3.0 to 15 kPa 1.1 in. wc
Nominal; 2.4 in.
wc Maximum
0.27 kPa
Nominal;
0.60 kPa
Maximum
Additive Auto
recycle
Break on
pressure
fall
2 1/4 in. high x
2 23/32 in. wide x
2 23/32 in. deep
(57 mm high x
69 mm wide x
69 mm deep)
Flange
Mount

C6097A1095/U 0.4 to 5 in. wc 0.10 to 1.25 kPa max. 0.6 in. wc

@ min. setpoint;

max. 0.25 in. wc

@ max. setpoint

max. 0.15 kPa

@ min. setpoint;

max. 0.25 kPa

@ max. setpoint

Additive Manual

Reset

Break on

pressure

fall

3 17/32 in. high x

2 23/32 in. wide x

2 23/32 in. deep

(90 mm high x

69 mm wide x

69 mm deep)

Vent

or Low

pressure -

1/8 in. NPT

internal

thread

1/4 in. NPT

internal

thread

C6097A1103/U 1.5 to 7 psi 10.3 to 48 kPa max. 1.1 psi @

min. setpoint;

max. 1.4 psi @

max. setpoint

max. 7.6 kPa @

min. setpoint;

max. 9.6 kPa @

max. setpoint

Additive Manual

Reset

Break on

pressure

fall

2 19/32 in. high x

2 23/32 in. wide x

2 23/32 in. deep

(66 mm high x

69 mm wide x

69 mm deep)

Flange

Mount

C6097A1111/U 1.5 to 7 psi 10.3 to 48 kPa max. 1.1 psi @

min. setpoint;

max. 1.4 psi @

max. setpoint

max. 7.6 kPa @

min. setpoint;

max. 9.6 kPa @

max. setpoint

Additive Manual

Reset

Break on

pressure

fall

3 17/32 in. high x

2 23/32 in. wide x

2 23/32 in. deep

(90 mm high x

69 mm wide x

69 mm deep)

Vent

or Low

pressure -

1/8 in. NPT

internal

thread

1/4 in. NPT

internal

thread

C6097A1129/U 1.5 to 7 psi 10.3 to 48 kPa 0.1 psi Nominal;

0.3 psi

Maximum

0.69 kPa

Nominal;

2.07 kPa

Maximum

Additive Auto

recycle

Break on

pressure

fall

2 1/4 in. high x

2 23/32 in. wide x

2 23/32 in. deep

(57 mm high x

69 mm wide x

69 mm deep)

Flange

Mount

C6097A1137/U 1.5 to 7 psi 10.3 to 48 kPa 0.1 psi Nominal;

0.3 psi

Maximum

0.69 kPa

Nominal;

2.07 kPa

Maximum

Additive Auto

recycle

Break on

pressure

fall

3 3/16 in. high x

2 23/32 in. wide x

2 23/32 in. deep

(81 mm high x

69 mm wide x

69 mm deep)

Vent

or Low

pressure -

1/8 in. NPT

internal

thread

1/4 in. NPT

internal

thread

C6097A1210/U 0.4 to 5 in. wc 0.10 to 1.25 kPa 0.16 in. wc

Nominal;

0.24 in. wc

Maximum

0.04 kPa

Nominal;

0.06 kPa

Maximum

Additive Auto

recycle

Break on

pressure

fall

2 1/4 in. high x

2 23/32 in. wide x

2 23/32 in. deep

(57 mm high x

69 mm wide x
69 mm deep)

Flange

Mount

C6097A1228/U 0.4 to 5 in. wc 0.10 to 1.25 kPa max. 0.6 in. wc

@ min. setpoint;

max. 0.25 in. wc

@ max. setpoint

max. 0.15 kPa

@ min. setpoint;

max. 0.25 kPa

@ max. setpoint

Additive Manual

Reset

Break on

pressure

fall

3 17/32 in. high x

2 23/32 in. wide x

2 23/32 in. deep

(90 mm high x

69 mm wide x

69 mm deep)

Vent

or Low

pressure -

1/8 in. NPT

internal

thread

Flange

Mount

858 70-6910

Pressure Switches

Material

Number

Operating

Range (psi)

Operating

Range (kPa)

Differential

Pressure Range

(psi)

Differential

Pressure Range

(kPa)

Differential

Type

Switch

Operation

Switching

Action

Approximate,

Dimensions

Pipe

Connection

Mounting

C6097B1002/U 12 to 60 in. wc 3.0 to 15 kPa max. 10 in. wc

@ min. setpoint;

max. 12 in. wc

@ max. setpoint

max. 2.5 kPa @

min. setpoint;

max. 3.0 kPa @

max. setpoint

Subtractive Manual

Reset

Break on

pressure

rise

3 17/32 in. high x

2 23/32 in. wide x

2 23/32 in. deep

(90 mm high x

69 mm wide x

69 mm deep)

Vent

or Low

pressure -

1/8 in. NPT

internal

thread

1/4 in. NPT

internal

thread

C6097B1010/U 12 to 60 in. wc 3.0 to 15 kPa max. 10 in. wc

@ min. setpoint;

max. 12 in. wc

@ max. setpoint

max. 2.5 kPa @

min. setpoint;

max. 3.0 kPa @

max. setpoint

Subtractive Manual

Reset

Break on
pressure
rise

2 19/32 in. high x
2 23/32 in. wide x
2 23/32 in. deep
(66 mm high x
69 mm wide x
69 mm deep)

Flange

Mount

C6097B1028/U 3 to 21 in. wc 0.7 to 5.2 kPa max. 2.4 in. wc

@ min. setpoint;

max. 4.2 in. wc

@ max. setpoint

max. 0.60 kPa

@ min. setpoint;

max. 1.05 kPa

@ max. setpoint

Subtractive Manual

Reset

Break on
pressure
rise

3 17/32 in. high x
2 23/32 in. wide x
2 23/32 in. deep
(90 mm high x
69 mm wide x
69 mm deep)

Vent

or Low

pressure -

1/8 in. NPT

internal

thread

1/4 in. NPT

internal

thread

C6097B1036/U 3 to 21 in. wc 0.7 to 5.2 kPa max. 2.4 in. wc

@ min. setpoint;

max. 4.2 in. wc

@ max. setpoint

max. 0.60 kPa

@ min. setpoint;

max. 1.05 kPa

@ max. setpoint

Subtractive Manual

Reset

Break on

pressure

rise

2 19/32 in. high x

2 23/32 in. wide x

2 23/32 in. deep

(66 mm high x

69 mm wide x

69 mm deep)

Flange

Mount

C6097B1044/U 1.5 to 7 psi 10.3 to 48 kPa max. 1.1 in. wc

@ min. setpoint;

max. 1.4 in. wc

@ max. setpoint

max. 7.6 kPa @

min. setpoint;

max. 9.6 kPa @

max. setpoint

Subtractive Manual

Reset

Break on

pressure

rise

2 19/32 in. high x

2 23/32 in. wide x

2 23/32 in. deep

(66 mm high x

69 mm wide x

69 mm deep)

Flange

Mount

C6097B1051/U 1.5 to 7 psi 10.3 to 48 kPa max. 1.1 in. wc

@ min. setpoint;

max. 1.4 in. wc

@ max. setpoint

max. 7.6 kPa @

min. setpoint;

max. 9.6 kPa @

max. setpoint

Subtractive Manual

Reset

Break on

pressure

rise

3 3/16 in. high x
2 23/32 in. wide x
2 23/32 in. deep
(81 mm high x
69 mm wide x
69 mm deep)

Vent

or Low

pressure -

1/8 in. NPT

internal

thread

1/4 in. NPT

internal

thread

C6097B1069/U 3 to 21 in. wc 0.7 to 5.2 kPa 0.24 in. wc

Nominal;

0.48 in. wc

Maximum

0.06 kPa

Nominal;

0.12 kPa

Maximum

Subtractive Auto

recycle

Break on

pressure

rise

2 1/4 in. high x

2 23/32 in. wide x

2 23/32 in. deep

(57 mm high x

69 mm wide x

69 mm deep)

Flange

Mount

C6097B1077/U 12 to 60 in. wc 3.0 to 15 kPa 1.1 in. wc

Nominal; 2.4 in.

wc Maximum

0.27 kPa

Nominal;

0.60 kPa

Maximum

Subtractive Auto

recycle

Break on

pressure

rise

2 1/4 in. high x

2 23/32 in. wide x

2 23/32 in. deep

(57 mm high x

69 mm wide x

69 mm deep)

Flange

Mount

C6097B1085/U 12 to 60 in. wc 3.0 to 15 kPa 1.1 in. wc

Nominal; 2.4 in.

wc Maximum

0.27 kPa

Nominal;

0.60 kPa

Maximum

Subtractive Auto

recycle

Break on

pressure

rise

3 3/16 in. high x

2 23/32 in. wide x

2 23/32 in. deep

(81 mm high x

69 mm wide x

69 mm deep)

Vent

or Low

pressure -

1/8 in. NPT

internal

thread

1/4 in. NPT

internal

thread

C6097B1093/U 1.5 to 7 psi 10.3 to 48 kPa 0.1 psi Nominal;

0.3 psi

Maximum

0.69 kPa

Nominal;

2.07 kPa

Maximum

Subtractive Auto

recycle

Break on

pressure

rise

2 1/4 in. high x

2 23/32 in. wide x

2 23/32 in. deep

(57 mm high x

69 mm wide x

69 mm deep)

Flange

Mount

C6097B1101/U 1.5 to 7 psi 10.3 to 48 kPa 0.1 psi Nominal;

0.3 psi

Maximum

0.69 kPa

Nominal;

2.07 kPa

Maximum

Subtractive Auto

recycle

Break on

pressure

rise

3 3/16 in. high x

2 23/32 in. wide x

2 23/32 in. deep

(81 mm high x

69 mm wide x

69 mm deep)

Vent

or Low

pressure -

1/8 in. NPT

internal

thread

1/4 in. NPT

internal

thread

C6097B1119/U 3 to 21 in. wc 0.7 to 5.2 kPa 0.24 in. wc

Nominal;

0.48 in. wc

Maximum

0.06 kPa

Nominal;

0.12 kPa

Maximum

Subtractive Auto

recycle

Break on

pressure

rise

3 3/16 in. high x

2 23/32 in. wide x

2 23/32 in. deep

(81 mm high x

69 mm wide x

69 mm deep)

Vent

or Low

pressure -

1/8 in. NPT

internal

thread

1/4 in. NPT

internal

thread

70-6910 859

Commercial/Industrial

Combustion Controls

Pressure and Limit Controllers

L404F Pressuretrol® Controllers

Provide operating control with automatic limit protection for

pressure systems up to 300 psi (2068 kPa).

- Use with steam, air, noncombustible gases, or fluids non-corrosive to pressure sensing element.
- Models have snap-acting switching to open or close a circuit on pressure rise.
- Have adjustable differentials.
- Adjustments are made by screws on top of case.
- Mount using 1/4 inch -18 NPT internal pipe threads or surface mount through base of case.
- Ground screw terminal.

Application: Provide control of steam, air, non-combustible gases or non-corrosive fluids

Differential Type: Subtractive

Mounting: 1/4 inch-18 NPT internal thread connection on diaphragm assembly, 1/4 -19 BSPT internal thread on models with BSPT ground screw; or surface mount through back of case

Switch Operation: Auto recycle

Sensor Element: Stainless steel diaphragm standard; Brass Bellows on models with 20 to 300 psi

Operating Temperature Range: -35°F to +150°F (-37°C to +66°C)

Electrical Connections: Screw terminals

Contact Ratings: 120 Vac Switch Contact - 8.0 AFL, 48.0 ALR, 10.0 A resistive; 240 Vac Switch Contact - 5.1 AFL, 30.6 ALR, 5.0 A resistive

Pipe Connection - Main or High Pressure: 1/4 inch-18 NPT internal

thread standard; 1/4 -19 BSPT internal thread on models with BSPT ground screw

Approvals, Underwriters Laboratories Inc.: Listed: File No. MP466, Guide No. MBPR

Approvals, CSA: Certified: File No. LR1620, Guide No. 400-E-O; or Certified: File No. LR95329 for Miss-wiring Compliant models

Approvals, Swiss RE: Acceptable

Material

Number

Operating

Range (psi)

Operating

Range (kPa)

Maximum

Sustained

Pressure (psi)

Maximum

Sustained

Pressure (kPa)

Differential

Pressure

Range (psi)

Differential

Pressure

Range (kPa)

Switching Action Includes Comments

L404F1060/U 2 to 15 psi 14 to 103 kPa 25 psi 172 kPa 2 to 6 psi 14 to 41 kPa SPDT snap action, make R-W, break R-B on pressure rise

L404F1078/U 5 to 50 psi 35 to 345 kPa 85 psi 586 kPa 6 to 14 psi 41 to 97 kPa SPDT snap action, make R-W, break R-B on pressure rise

L404F1094/U 20 to 300 psi 138 to 2068 kPa 350 psi 2413 kPa 20 to 50 psi 138 to 345 kPa SPDT snap action, make R-W, break R-B on pressure rise

L404F1102/U 10 to 150 psi 69 to 1034 kPa 225 psi 1151 kPa 10 to 22 psi 60 to 152 kPa SPDT snap action, make R-W, break R-B on pressure rise

L404F1219/U 2 to 15 psi 14 to 103 kPa 25 psi 172 kPa 2 to 6 psi 14 to 41 kPa SPDT snap action, make R-W, break R-B on pressure rise

BSPT ground

screw and

European

Enclosure

L404F1227/U 10 to 150 psi 69 to 1034 kPa 225 psi 1151 kPa 10 to 22 psi 60 to 152 kPa SPDT snap action,
make R-W, break R-B
on pressure rise
BSPT ground
screw and
European
Enclosure

L404F1235/U 20 to 300 psi 138 to 2068 kPa 350 psi 2413 kPa 20 to 50 psi 138 to 345 kPa SPDT snap action,
make R-W, break R-B
on pressure rise
BSPT ground
screw and
European
Enclosure

L404F1243/U 5 to 50 psi 35 to 345 kPa 85 psi 586 kPa 6 to 14 psi 41 to 97 kPa SPDT snap action,
make R-W, break R-B
on pressure rise
BSPT ground
screw and
European
Enclosure

L404F1367/U 1 to 8 psi 7 to 55 kPa 25 psi 172 kPa 0.75 to 2 psi 5 to 14 kPa Snap switch breaks R-B (closes R-W)
on pressure rise.
Make-on devices omit terminal B.
Range Stop installed at 8 PSI

L404F1375/U 5 to 50 psi 35 to 350 kPa 85 psi 586 kPa 6 to 14 psi 40 to 100 kPa Snap switch makes R-W on pressure rise
Miss-wiring
Compliant (less B terminal)

L404F1383/U 10 to 150 psi 70 to 1035 kPa 225 psi 1151 kPa 10 to 22 psi 70 to 150 kPa Snap switch makes R-W on pressure rise
Miss-wiring
Compliant (less B terminal)

L404F1391/U 20 to 300 psi 140 to 2070 kPa 350 psi 2413 kPa 20 to 50 psi 140 to 345 kPa Snap switch makes R-W on pressure rise
Miss-wiring
Compliant (less

B terminal)

L404F1409/U 2 to 15 psi 14 to 103 kPa 25 psi 172 kPa 2 to 6 psi 15 to 40 kPa Snap switch makes R-W on pressure rise

Miss-wiring

Compliant (less

B terminal)

860 70-6910

Pressure and Limit Controllers

Dimensions in inches (millimeters)

3-3/4

(95)

1-1/16 (27)

13/16 (21)

1-3/16

(30)

HOLE FOR

1/2 INCH

CONDUIT

DIFFERENTIAL

ADJUSTMENT

SCREW

1-1/2 (38)

2-1/8 (54)

M19635B

1-13/16

(46)

4-1/2 (115)

4-11/32 (111)

1-61/64 (50) 1-15/16 (49)

3/16 X 11/32

(5 X 9)

KNOCKOUT

MAIN SCALE

ADJUSTMENT

SCREW

1/4 -18 NPT

CLEAR

PLASTIC

COVER

3-7/8

(99)

2-3/4 (70)

3-1/4 (83)

DIMENSION

"A"

(SEE TAB)

1

1

1 15 TO 100 kPa (2 TO 15 PSI) SCALE MODELS ONLY.

PSI

RANGE

2 TO 15

5 TO 50

10 TO 150

20 TO 300

DIMENSION

"A"

123

126

126

146

70-6910 861

Commercial/Industrial

Combustion Controls

Pressure and Limit Controllers

L404T, V Oil Pressuretrol® Limit Controllers

Oil pressure sensing devices for use on oil burner systems using any type of fuel oil, including heavy pretreated oils.

- Clear plastic cover allows observation of the pressure settings.
- Models have snap-acting switching to open or close a circuit on pressure rise.
- L404T High pressure limit, break a circuit on oil pressure rise above setpoint.
- L404V Low Pressure limit, makes a circuit on oil pressure rise above setpoint.
- Adjustments are made by screws on top of case.
- Mount using 1/4 inch -18 NPT internal pipe threads or surface mount through base of case.
- Ground screw terminal.

Application: Oil pressure limit switch for fuel oil, including heavy oil applications

Differential Type: Subtractive

Mounting: 1/4 in. NPT internal thread or surface mount through back of case

Switch Operation: Auto recycle

Sensor Element: Stainless Steel diaphragm

Approximate, Dimensions: 4 31/32 in. high x 4 1/2 in. wide x 2 3/4 in. deep (126 mm high x 114 mm wide x 70 mm deep)

Operating Temperature Range: -35°F to +150°F (-37°C to +66°C)

Electrical Connections: Screw terminals

Contact Ratings: 120 Vac Switch Contact - 8.0 AFL, 48.0 ALR, 10.0 A resistive; 240 Vac Switch Contact - 5.1 AFL, 30.6 ALR, 5.0 A resistive;

Pipe Connection: Main or High Pressure - 1/4 in. NPT internal thread

Approvals, Underwriters Laboratories Inc.: Listed: File No. MP2168,

Guide No. MFHX

Approvals, CSA: Certified: File No. LR95329

Dimensions in inches (millimeters)

3-3/4

(95)

1-1/16 (27)

13/16 (21)

1-3/16

(30)

HOLE FOR

1/2 INCH

CONDUIT

DIFFERENTIAL

ADJUSTMENT

SCREW

1-1/2 (38)

2-1/8 (54)

M19635B

1-13/16

(46)

4-1/2 (115)

4-11/32 (111)

1-61/64 (50) 1-15/16 (49)

3/16 X 11/32

(5 X 9)

KNOCKOUT

MAIN SCALE

ADJUSTMENT

SCREW

1/4 -18 NPT

CLEAR

PLASTIC

COVER

3-7/8

(99)

2-3/4 (70)

3-1/4 (83)

DIMENSION

"A"

(SEE TAB)

1

1

1 15 TO 100 kPa (2 TO 15 PSI) SCALE MODELS ONLY.

PSI

RANGE

2 TO 15

5 TO 50

10 TO 150

20 TO 300

DIMENSION

"A"

123

126

126

146

Material Number Operating Range (psi) Operating Range (kPa) Differential Pressure Range (psi)

Differential Pressure

Range (kPa)

Switching Action Includes

L404T1055/U 5 to 50 psi; 85 psi -

Maximum Sustained

35 to 350 kPa; 586 kPa -

Maximum Sustained

6 to 14 psi 40 to 100 kPa SPST snap-acting

break on pressure rise

L404T1063/U 10 to 150 psi; 225 psi -

Maximum Sustained

70 to 1035 kPa; 1151 kPa

- Maximum Sustained

10 to 22 psi 70 to 150 kPa SPST snap-acting

break on pressure rise

L404V1087/U 10 to 150 psi; 225 psi -

Maximum Sustained

70 to 1035 kPa; 1151 kPa

- Maximum Sustained

10 to 22 psi 70 to 150 kPa Snap switch makes

R-W on pressure rise

Miss-wiring Compliant

(less B terminal)

L404V1095/U 5 to 50 psi; 85 psi -

Maximum Sustained

35 to 350 kPa; 586 kPa -

Maximum Sustained

6 to 14 psi 40 to 100 kPa Snap switch makes

R-W on pressure rise

Miss-wiring Compliant

(less B terminal)

862 70-6910

Pressure and Limit Controllers

L4079 Pressuretrol® Limit Controllers

Dimensions in inches (millimeters)

3-7/8

(98)

1/4
(6)
(2-15 PSI ONLY)
KNOCKOUT
FOR 1/2 INCH
CONDUIT (2)
6
(1/4)
4-15/16
(125)
KNOCKOUT
(2) FOR NO.
10 SCREW
1/4 - 18 NPT
1-1/16
(27)
M22435
2-1/8
(54)
1-13/16
(46)
1-13/16
(46)
13/16
(21)
13/16
(21)
3-1/2 (89)
1-1/2 (38)
3/16 (5)
1-13/16
(46)
4-1/2 (114) (COVER)
4-3/8 (111) (CASE)
1-15/16
(49)
1-15/16
(49)

High pressure limit switches.

- Stainless steel diaphragm for use with steam, air, noncombustible gases and fluids non-corrosive to stainless steel.
- L4079W is for Oil Applications.
- Micro Switch™ snap-acting switches open automatically on pressure rise; must be manually reset.
- Mount using 1/4 in. NPT female fitting on diaphragm assembly or surface mount through back of case.

Mounting: 1/4 in. NPT internal thread or surface mount through back

of case

Sensor Element: Stainless Steel diaphragm

Approximate, Dimensions: 5 in. high x 4 1/2 in. wide x 3 1/2 in. deep.
(127 mm high x 114 mm wide x 89 mm deep.)

Temperature Ratings: 150°F - Maximum Ambient (66°C - Maximum Ambient)

Electrical Connections: Screw terminals

Contact Ratings: 120 Vac Switch Contact - 9.8 AFL, 58.8 ALR; 240 Vac Switch Contact - 4.9 AFL, 29.4 ALR

Pipe Connection: Main or High Pressure - 1/4 in. NPT internal thread

Approvals, Underwriters Laboratories Inc.: Listed: File No. MP466, Guide No. MBPR

Approvals, Swiss RE: Acceptable

Material Number Application Operating Range (psi) Operating Range (kPa) Switch Operation Switching Action

L4079A1035/U Provide limit control of steam,

air, non-combustible gases or

non-corrosive fluids

2 to 15 psi; 25 psi -

Maximum Sustained

14 to 103 kPa; 172 kPa -

Maximum Sustained

Manual Reset SPST (two) break

simultaneously on pressure rise

L4079A1050/U Provide limit control of steam,

air, non-combustible gases or

non-corrosive fluids

10 to 150 psi; 225 psi -

Maximum Sustained

69 to 1034 kPa; 1151 kPa -

Maximum Sustained

Manual Reset SPST (two) break

simultaneously on pressure rise

L4079B1033/U Provide limit control of steam,

air, non-combustible gases or

non-corrosive fluids

2 to 15 psi; 25 psi -

Maximum Sustained

14 to 103 kPa; 172 kPa -

Maximum Sustained

Manual Reset SPST break on pressure rise

L4079B1041/U Provide limit control of steam,

air, non-combustible gases or

non-corrosive fluids

10 to 150 psi; 225 psi -

Maximum Sustained

70 to 1035 kPa; 1151 kPa -

Maximum Sustained

Manual Reset SPST break on pressure rise

L4079B1058/U Provide limit control of steam,
air, non-combustible gases or
non-corrosive fluids

5 to 50 psi; 85 psi -

Maximum Sustained

35 to 350 kPa; 586 kPa -

Maximum Sustained

Manual Reset SPST break on pressure rise

L4079B1066/U Provide limit control of steam,
air, non-combustible gases or
non-corrosive fluids

20 to 300 psi; 350 psi -

Maximum Sustained

140 to 2070 kPa; 2413 kPa -

Maximum Sustained

Manual Reset SPST break on pressure rise

L4079W1000/U High oil pressure limit switch for
heavy oil applications.

10 to 150 psi; 225 psi -

Maximum Sustained

35 to 350 kPa; 1151 kPa -

Maximum Sustained

Manual Reset SPST break on pressure rise -

Oil Applications

70-6910 863

Commercial/Industrial

Combustion Controls

Pressure and Limit Controllers

L408J Vaporstat® Controllers

Provide operating control and automatic high limit protection
for vapor heating systems with pressures up to 4 psi (8 kPa). All
models have Microswitch snap switches to open or close a circuit
on a pressure rise.

- Stainless steel diaphragm for use with liquids, air, noncombustible gases, ammonia, oxygen, distilled water and similar media.
- Provide SPDT switching.
- Clear plastic cover allows observation of the pressure settings.
- Mount using hexagonal fitting with 1/4 in. NPT internal threads for direct mounting to the 14026 (steel) or 50024585-001 (brass) Steam Trap (siphon loop).
- Ground Screw terminal.

Application: Provide operating control and automatic limit protection
for pressure systems with pressures up to 4 psi (8 kPa)

Differential Type: Subtractive

Mounting: 1/4 in. NPT internal thread or surface mount through back

of case

Sensor Element: Stainless Steel diaphragm

Approximate, Dimensions: 5 1/8 in. high x 4 1/2 in. wide x 4 1/2 in. deep. (130 mm high x 114 mm wide x 114 mm deep.)

Operating Temperature Range: -35°F to +150°F (-37°C to +66°C)

Electrical Connections: Screw terminals

Contact Ratings: 120 Vac Switch Contact - 8.0 AFL, 48.0 ALR, 10.0 A resistive; 240 Vac Switch Contact - 5.1 AFL, 30.6 ALR, 5.0 A resistive

Pipe Connection: Main or High Pressure - 1/4 in. NPT internal thread

Approvals, Underwriters Laboratories Inc.: Listed: File No. MP466, Guide No. MBPR

Approvals, CSA: Certified: File No. LR1620, Guide No. 400-E-O

Approvals, Swiss RE: Acceptable

Dimensions in inches (millimeters)

1-5/32

(29)

2-1/8 (54) 1/4 - 18 NPT

2-1/4 (57)

1-13/16

(46)

1-15/16

(49)

1-61/64

(50)

4-11/32 (110)

CASE

4-1/2 (114)

COVER

3-7/8

(98)

2-3/4 (70)

1-1/16 (27)

13/16

(21)

5-1/8

(130)

3-23/32

(95)

1-1/16

(27)

7/8

(22) DIA.

1-3/16 (30)

2-1/4 (57)

4-1/2 (114)

M19770

3/16 (9) x 21/64 (8) KNOCKOUT (2)

Material

Number

Operating Range

(psi)

Operating Range

(kPa)

Differential Pressure

Range (psi)

Differential Pressure

Range (kPa)

Switch Operation Switching Action Comments

L408J1009/U 0 to 16 oz/in² 0 to 6.9 kPa 2 to 16 oz/in² 0.9 to 6.9 kPa Auto recycle SPDT make R-W,

break R-B on

pressure rise

L408J1017/U 0 to 4 psi 0 to 28 kPa 2 to 16 oz/in² 0.9 to 6.9 kPa Auto recycle SPDT make R-W,

break R-B on

pressure rise

L408J1025/U 0 to 16 oz/in² 0 to 6.9 kPa 2 to 16 oz/in² 0.9 to 6.9 kPa Auto recycle SPST make on

pressure rise Only

Miss-wiring

Compliant

L408J1033/U 0 to 4 psi 0 to 28 kPa 2 to 16 oz/in² 0.9 to 6.9 kPa Auto recycle SPST make on

pressure rise Only

Miss-wiring

Compliant

864 70-6910

Pressure and Limit Controllers

L91 Proportional Pressuretrol® Controllers

W R B W R B W R B

PRESSURE RISE PRESSURE RISE

L91A,B L91D M16597

Modulating pressure operating control for regulation of liquid or

air and other non-corrosive gases.

- Use with steam, air, noncombustible gases, or other fluids noncorrosive to the brass or phos-bronze (300 psi models) bellows.

- Do NOT use with combustible mediums or any medium chemically harmful to phos-bronze bellows (10-300 psi models) or brass bellows (all other pressure range models).

Application: Modulating pressure control for regulation of liquid, air, or other non-corrosive gases.

Switch Operation: Modulating

Operating Temperature Range: 32°F to 150°F (0°C to 66°C)

Electrical Connections: Screw terminals

Pipe Connection: Main or High Pressure - 1/4 in. NPT external thread

Material

Number

Operating Range

(psi)
Operating Range
(kPa)

Differential
Pressure
Range (psi)

Differential
Pressure
Range (kPa)

Mounting Sensor
Element

Approximate, Dimensions Modulation
Output

L91A1037/U 0 to 15 psi;
25 psi - Maximum

Sustained
0 to 103 kPa;
172 kPa -

Maximum
Sustained

0.5 psi 3.4 kPa optional surface
mount through
back of case

Brass bellows 6 7/8 in. high x 4 1/2 in. wide x
2 7/8 in. deep (175 mm high x
114 mm wide x 73 mm deep)

Single
potentiometer,
140 ohms

L91A1052/U 5 to 150 psi;
225 psi -

Maximum
Sustained

34 to 1034 kPa;
1151 kPa -

Maximum
Sustained

5 psi 34 kPa optional surface
mount through
back of case

Brass bellows 5 3/4 in. high x 4 1/2 in. wide x
2 3/4 in. deep (146 mm high x
114 mm wide x 70 mm deep)

Single
potentiometer,
140 ohms

L91A1078/U 10 to 300 psi;

325 psi -
Maximum
Sustained
69 to 2068 kPa;
2241 kPa -
Maximum
Sustained
12 psi 83 kPa optional surface
mount through
back of case
Phos-bronze
bellows
6 1/16 in. high x 4 1/2 in. wide
x 2 3/4 in. deep (154 mm high x
114 mm wide x 70 mm deep)
Single
potentiometer,
140 ohms
L91A1136/U 10 to 300 psi;
325 psi -
Maximum
Sustained
69 to 2068 kPa;
2241 kPa -
Maximum
Sustained
12 psi 83 kPa optional surface
mount through
back of case
Phos-bronze
bellows
6 1/16 in. high x 4 1/2 in. wide
x 2 3/4 in. deep (154 mm high x
114 mm wide x 70 mm deep)
Single
potentiometer,
140 ohms
L91B1035/U 0 to 15 psi;
25 psi - Maximum
Sustained
0 to 103 kPa;
172 kPa -
Maximum
Sustained
1.5 to 12 psi 10 to 83 kPa optional surface
mount through
back of case

Brass bellows 6 7/8 in. high x 4 1/2 in. wide x
2 7/8 in. deep (175 mm high x
114 mm wide x 73 mm deep)

Single

potentiometer,

140 ohms

L91B1050/U 5 to 150 psi;

225 psi -

Maximum

Sustained

34 to 1034 kPa;

1151 kPa -

Maximum

Sustained

5 to 23 psi 35 to 160 kPa optional surface

mount through

back of case

Brass bellows 5 3/4 in. high x 4 1/2 in. wide x

2 3/4 in. deep (146 mm high x

114 mm wide x 70 mm deep)

Single

potentiometer,

140 ohms

L91B1068/U 10 to 300 psi;

325 psi -

Maximum

Sustained

69 to 2068 kPa;

2241 kPa -

Maximum

Sustained

28 to 110 psi 193 to 758 kPa optional surface

mount through

back of case

Phos-bronze

bellows

6 1/16 in. high x 4 1/2 in. wide

x 2 3/4 in. deep (154 mm high x

114 mm wide x 70 mm deep)

Single

potentiometer,

140 ohms

L91B1100/U 5 to 150 psi;

225 psi -

Maximum

Sustained

0 - 1 MPa;

1151 kPa -
Maximum
Sustained
5 to 23 psi 35 to 160 kPa 1/4 in BSP-TR
thread Mounting
Brass bellows 5 3/4 in. high x 4 1/2 in. wide x
2 3/4 in. deep (146 mm high x
114 mm wide x 70 mm deep)
Single
potentiometer,
135 ohms
L91B1118/U 10 to 300 psi;
325 psi -
Maximum
Sustained
0 - 2 MPa;
2241 kPa -
Maximum
Sustained
28 to 110 psi 193 to 758 kPa 1/4 in BSP-TR
thread Mounting
Phos-bronze
bellows
6 1/16 in. high x 4 1/2 in. wide
x 2 3/4 in. deep (154 mm high x
114 mm wide x 70 mm deep)
Single
potentiometer,
140 ohms
L91B1241/U 10 to 300 psi;
325 psi -
Maximum
Sustained
69 to 2068 kPa;
2241 kPa -
Maximum
Sustained
12 to 48 psi 85 to 330 kPa optional surface
mount through
back of case
Phos-bronze
bellows
6 1/16 in. high x 4 1/2 in. wide
x 2 3/4 in. deep (154 mm high x
114 mm wide x 70 mm deep)
Single
potentiometer,

140 ohms

L91D1015/U 0 to 15 psi;

25 psi - Maximum

Sustained

0 to 103 kPa;

172 kPa -

Maximum

Sustained

1.5 to 12 psi 10 to 83 kPa optional surface

mount through

back of case

Brass bellows 6 7/8 in. high x 4 1/2 in. wide x

2 7/8 in. deep (175 mm high x

114 mm wide x 73 mm deep)

Dual

potentiometer,

140 ohms

L91D1031/U 5 to 150 psi;

225 psi -

Maximum

Sustained

34 to 1034 kPa;

1151 kPa -

Maximum

Sustained

11 to 52 psi 76 to 359 kPa optional surface

mount through

back of case

Brass bellows 5 3/4 in. high x 4 1/2 in. wide x

2 3/4 in. deep (146 mm high x

114 mm wide x 70 mm deep)

Dual

potentiometer,

140 ohms

70-6910 865

Commercial/Industrial

Combustion Controls

Pressure and Limit Controllers

Dimensions in inches (millimeters)

M29781

L91A,B,D

ALL OTHER

MODELS

10 TO 300 PSI

0 TO 15 PSI

0 TO 16 OZ/IN 2

1/4-18 NPT

DIM A (SEE TABULATION TABLE) DIM B (SEE
TABULATION
TABLE)
DIM C (SEE
TABULATION
TABLE)

1

2

2

3 4

1

2

3

4

4-1/2 (114.3) (COVER)

(110.3) (CASE)

3-57/64 (98.8)

3-13/32 (86.5)

(29.4)

(27.8)

(46.0)

(53.5)

(69.9)

(30.2)

1-1/16

1-3/16

(27.0)

(98.4)

(22.2)

4-11/32

(52.8)

(94.5)

(2)

EXTERNAL THREADS ON 0 TO 15 PSI MODELS; INTERNAL THREADS ON ALL OTHER MODELS.

SOME MODELS ARE ALSO AVAILABLE WITH 1/4-19 BSP-TR INTERNAL THREADS; SEE TABLE 1.

PROPORTIONING RANGE ADJUSTING SCREW ON L91B,D MODELS ONLY.

33312B KNURLED ADJUSTMENT SCREW KNOB, 7/8 IN. [22.2 MM] DIAMETER,. KNOB IS INCLUDED

WITH 10 TO 300 PSI [0.07 TO .07 MPa] MODELS;

OPTIONAL ACCESSORY FOR OTHER MODELS.

FOR 10 TO 300 PSI [0.07 TO 2.07 MPa] MODELS. DIM C INCLUDES THE KNURLED ADJUSTMENT
KNOB.

TABULATION OF DIMENSIONS A, B, AND C

OPERATING RANGE DIM A DIM B DIM C

CUSTOMARY UNITS METRIC UNITS IN. MM IN. MM IN. MM

0 TO 15 PSI

5 TO 150 PSI

10 TO 300 PSI

0 TO 103 kPa
0.03 TO 1.03 MPa
0.07 to 2.07 MPa
2-7/16
1-5/8
1-1/4
61.9
41.3
31.8
1-7/32
13/16
5/8
31.0
20.6
15.9
6-7/8
5-3/4
6-1/16
174.6
146.1
154.0
1-5/32
1-3/32
1-13/16
2-1/8
3-7/8
2-3/4
7/8
2-5/64
3-23/32
13/16
(20.1)
1-1/16
(27.0)
4 4
866 70-6910

Pressure and Limit Controllers

P7810 Pressure Control

Line voltage pressure controller that provides automatic operating control, automatic limit protection, manual reset limit protection, and 4-20 mA modulating firing rate control for pressure systems up to 300 psi.

- May be used with steam, air, non-combustible gases or fluids that will not corrode the pressure sensing element.
- Models available in 15, 150, 300 psi maximum setpoints.
- LED indicators show limit function/lockout.
- Reset function easily accessible under cover.

- Clear cover allows setpoint and differentials to be read (but not adjusted) without opening the cover.

Application: On-off, Modulate and Limit Control

Sensor Element: Stainless Steel, solid state sensor

Materials: Case: Plastic

Approximate, Dimensions: 5 1/4 in. high x 4 21/32 in. wide x 3 3/8 in. deep (133 mm high x 119 mm wide x 86 mm deep)

Voltage: 120 Vac

Frequency: 50 Hz; 60 Hz

Power Consumption: 3.6 W, 4.7 VA @ 50Hz; 3.3 W, 4.0 VA @ 60 Hz

Operating Temperature Range: 32°F to 140°F (0°C to +60°C)

Operating Humidity Range (% RH): 5 to 95% RH, non-condensing

Electrical Connections: Screw terminals

Contact Ratings: 120 Vac Switch Contact - 9.8 AFL, 58.8 ALR, 10.0 A resistive

Pipe Connection: Main or High Pressure - 1/2 in. NPT internal thread

Approvals, Underwriters Laboratories Inc.: Listed: File No. MP268, Guide No. MCCZ

Approvals, CSA: Certified: File No. LR95329-6

Approvals, Factory Mutual: Approved: Report No. J.I.2D3A6AF

Modulation Output: 4 mA to 20 mA

Dimensions in inches (millimeters)

RESET

PRESSURETROL™

1/4 (6)

2x1-5/8

(41)

1-5/8

(41) 2-5/8 (67)

3-7/32 2x5-1/4 (133)

(82)

2-17/32

(64)

3-3/8 (86)

5-1/4

(133)

2x

3-3/16

(81)

2-1/8

(55)

4-23/32

(120)

2x27/32 (22)

DIAMETER

5-29/32 (150)

4-21/32

(119)

2-5/8

(67)

4

(102)

4-3/4

(120)

3/8

(10) 7/8

(22)

1

1

1

DIMENSIONS WITH DOOR IN OPEN POSITION.

M23225

2

2

PIPE THREAD IS 1/4 INCH NATIONAL PIPE THREAD FOR P7810A,B; 1/2 INCH NATIONAL PIPE THREAD FOR P7810C,D.

3

3

3 WIRING COMPARTMENT ACCESS COVER.

Material Number Operating Range (psi) Operating Range (kPa) Differential Pressure

Range (psi)

Differential Pressure

Range (kPa)

Switching Action

P7810C1000/U 0 to 15 psi; 22.5 psi - Maximum

Sustained

0 to 103 kPa; 155 kPa - Maximum

Sustained

2 to 10 psi 14 to 69 kPa Break on pressure rise

P7810C1018/U 0 to 150 psi; 225 psi - Maximum

Sustained

0 to 1034 kPa; 1151 kPa - Maximum

Sustained

5 to 20 psi 35 to 135 kPa Break on pressure rise

P7810C1026/U 0 to 300 psi; 450 psi - Maximum

Sustained

0 to 2068 kPa; 3103 kPa - Maximum

Sustained

15 to 50 psi 103 to 340 kPa Break on pressure rise

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Commercial/Industrial

Combustion Controls

Pressure and Limit Controllers

Pressure Controls and Limits Accessories

Material Number Description Used With

106729/U C437, C637 Glass Lens, 6" diameter C437, C637

129178E/U Cover Assembly L404, L604

137632/U C437, C637 Paper Lens Gasket C437, C637

139870/U C437, C637 Lens Gasket for Rainproof Models C437, C637

139870A/U Glass lens with rubber gasket for NEMA 3 C437 and C637. C437, C637

14026/U Steam Trap "Black Iron Siphon Loop" for L404, L408, L91 or P7810A, B L404, L91, L604

209731A/U 1/2 in. NPT Brass Siphon Loop for P7810C, D P7810C, P7810D

23176CB/U L91 Potentiometer - 135 ohm L91

23176CF/U L91 Potentiometer - 135 ohm L91

32003039-001/U C6097 Lamp Kit, Position Indication C6097

32003040-001/U C6097 Cover, Recycle Model C6097

32003041-001/U C6097 Cover, Manual Reset Model C6097

4074BWJ/U Pressure Control/Limits, Limit Stop Assembly - to limit setpoint. Includes 129564 Range Stop, 107194 Range Stop

Screw and 23466 Wrench.

L404, L604, L91, L4079

50024585-001/U Steam Trap "1/4 in. NPT Brass Siphon Loop" for L404, L408, or L91 L404, L91, L604

868 70-6910

Modernization and Replacement

RM7895 On-Off Primary Control with Prepurge

Microprocessor-based integrated primary burner control for automatically fired gas, oil, or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and troubleshooting
- Subbase, amplifier, and prepurge timer are required for operation
- Options include PC interface using ModBus™, keyboard display module, Data ControlBus™ Module, remote display module and firstout expanded annunciator
- Five LEDs provide sequence information
- Interchangeable plug-in flame amplifiers
- Optional local or remote annunciation of operation and fault information
- Nonvolatile memory retains history files and sequencing status after power loss
- Optional remote reset capability
- Optional report generation using Modbus™
- Selectable relight or lockout on loss of flame
- Airflow switch check

Honeywell RA890, R4795, R7795 All 120 V models.

Fireye M-Series

IMPORTANT: For on-off, gas-fired systems, some authorities having jurisdiction prohibit the wiring of any limit or operating contacts in

series with the main fuel valve(s).

DIRECTIONS:

1. Disconnect all power to programmer.
2. Remove old programmer from subbase (trade-in to Honeywell Authorized Flame Safeguard Distributor).
3. Mark all wires on subbase; i.e., wires connected to terminal "1" should be marked "1." Disconnect wires as they are marked.
4. Remove old subbase.
5. Mount Q7800A Subbase.
6. Connect wires to subbase per attached cross reference. Pay close attention to footnotes. For example: to convert a Fireye UVM-2 to a RM7895, the wire marked "A" would connect to terminal #9 on the Q7800. The wire marked "8" would connect to Q7800 terminal #8.
7. A superscript letter, such as "a" designates a footnote. Study these footnotes carefully.
8. Plug in the RM7895. Make sure you select the proper ST7800A Purge Timer and Detector for the application.
9. There are 2 wires on the amplifier section of the RM7895, which are used to select the desired trial for ignition timing and mode (lock-out or recycle). Refer to the RM7895 instruction sheet (form 66-1090) for assistance with proper selection.
10. If a low voltage controller is used on the RA890 or UVM-1, remove it and replace it with a line voltage controller. The line voltage controller should be connected in series with the limits.
11. If a low voltage airflow switch is used on the RM7895, it must be replaced with a line voltage airflow switch.
12. The following models are recommended for replacements:

Honeywell Device to be Replaced Replace With Amplifier

RA890E, F RM7895A R7847A

RA890G RM7895A R7849A

R4795A, D/W-R7290 AMP RM7895A

R4795A, D/W-R7289 AMP RM7895B R7847A

R7795A RM7895A R7849

R7795B RM7895A R7847

R7795C RM7895C R7849

R7796D RM7895C R7847

R4140P RM7895C R7847A or R7849A

R4140Y RM7895A

Fireye Device to be Replaced Replace With Amplifier

TFM1, 2, 3H RM7895A R7847A

UVM1, 2, 3, 3H R7849A

UVM5 RM7895C R7849A

CONVERSION CHART FOR RM7895 120 VOLT ONLY

Q7800 TERMINAL L1 L2 3 4 6 7 8 9 10 21 F G

Programmer to be Converted

RA890 (All) 1a 2 c b, d 6 b 3d 5 4 — F G

R4795 (All) a 2 c 8, 7 1 6b 3 5 4 — F G

R7795A, B L1 L2 9 8 16 3 5 6 18 — F G

R7795C, D L1 L2 9 8 16 3 5 6 18 7 F G

R4140P L1 L2 A M 3 P 5 7 — 6 S1 S2

R4140Y L1 L2 9 8 4 3 6 7 5 — Fe G

Fireye: UVM/TFM (All models)/MII 1 1 A 8 7 6 3 5 4 — S2f S1

UVM-1 (Prior to 1968) a 2 A b, d 1 b 3 5 4 — Sf S

UVM-2 (Prior to 1968), All others a 2 A 8 1 6 3 5 4 — Sf S

a Connect power to terminal L1.

b If no airflow switch is used, jumper Q7800 terminal 6 to 7.

c Replace low voltage alarm (if used) with line voltage alarm. Connect alarm directly to Q7800 terminal 3.

d On power burners, identify burner motor wire on terminal 3 and connect it to Q7800 terminal 4.

e Select amplifier to match detector being used.

f On UVM models, the detector must be changed to a Honeywell C7027 or C7035.

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Commercial/Industrial

Combustion Controls

Electromechanical Burner Controls

RA890F Protectorelay™ Primary Control

Primary control provides solid state, electronic flame safeguard protection for industrial and commercial single or dual fuel burners for rectification type flame detection.

- Uses rectification principle of electronic flame detection.
- Replaces RA890E in most applications and mounts on same Q270A1024 Subbase.
- Recycles if flame signal lost while in Run. Failure to establish pilot results in a lockout.
- Safe-start check prevents start-up if flame-simulating failure occurs in flame detector circuit.
- Includes built-in protection against ignition crossover in flame rod systems.
- Includes SPDT alarm contacts.
- Solid state circuitry.
- Mounts and removes easily through use of captive mounting screws.
- Mounting base is made of strong thermoplastic.

Application: Primary control for rectification application (Flame Rod for example)

Frequency: 50 Hz; 60 Hz

Temperature Range: 60 Hz models -20°F to +115°F, 50 Hz models -20°F to +105°F (50 Hz Models -29°C to +41°C, 60 Hz Models -29°C to +46°C)

Approximate, Dimensions: 5 in. high x 5 in. wide x 4 3/4 in. deep (including subbase) (127 mm high x 127 mm wide x 121 mm deep (including subbase))

Approvals, Underwriters Laboratories Inc.: UL Listed: 120V models only; File No. MP268, Guide No. MCCZ

Approvals, CSA: CSA Certified: 120V models only; File No. LR1620

Approvals, Factory Mutual: Approved: Report No. 17678, 19417, 19784

Material Number Voltage Flame Failure

Response Time (sec)

Alarm Relay

Switching

Safety Switch Timing Description

RA890F1270/U 120 Vac 0.8 sec SPDT 15 seconds Rectification, with alarm contacts
RA890F1288/U 120 Vac 3.0 sec SPDT 15 seconds Rectification, with alarm contacts
RA890F1296/U 208 Vac 3.0 sec SPDT 15 seconds Rectification, with alarm contacts
RA890F1304/U 220 Vac 0.8 sec SPDT 15 seconds Rectification, with alarm contacts
RA890F1338/U 120 Vac 0.8 sec SPDT 30 seconds Rectification, with alarm contacts
RA890F1346/U 120 Vac 3.0 sec SPDT 30 seconds Rectification, with alarm contacts
RA890F1387/U 240 Vac 3.0 sec SPDT 15 seconds Rectification, with alarm contacts
RA890F1478/U 120 Vac 0.8 sec SPDT 15 seconds Rectification, with alarm contacts, fast safe start check.

RA890G Protectorelay™ Primary Control

Primary control provides solid state, electronic flame safeguard protection for industrial and commercial single or dual fuel burners applications using Ultraviolet flame detectors.

- Design for interrupted ignition with intermittent pilot on gas burners, and interrupted or intermittent ignition on oil burners.
- Use with a C7027, C7035 or C7044 Minipeeper Ultraviolet Flame Detector for flame sensing.
- Recycles if flame signal lost while in Run. Failure to establish pilot results in a lockout.
- Safe-start check prevents start-up if flame-simulating failure occurs in flame detector circuit.
- Includes SPDT alarm contacts.
- Solid state circuitry, eliminates warm-up and increases resistance to vibration.
- Mounts and removes easily through use of captive mounting screws.
- Mounting base is made of strong thermoplastic.

Application: Either a line or low voltage controller can be used

Frequency: 50 Hz; 60 Hz

Temperature Range: 60 Hz models -20°F to +115°F, 50 Hz models -20°F to +105°F (50 Hz Models -29°C to +41°C, 60 Hz Models -29°C to +46°C)

Approximate, Dimensions: 5 in. high x 5 in. wide x 4 3/4 in. deep (including subbase) (127 mm high x 127 mm wide x 121 mm deep (including subbase))

Approvals, Underwriters Laboratories Inc.: UL Listed: 120V models only; File No. MP268, Guide No. MCCZ

Approvals, CSA: CSA Certified: 120V models only; File No. LR9S329

Approvals, Factory Mutual: Approved: Report No. 22013

Material Number Voltage Flame Failure

Response Time (sec)

Alarm Relay

Switching

Safety Switch Timing Description

RA890G1229/U 120 Vac 0.8 sec SPDT 15 seconds Ultraviolet, with alarm contacts

RA890G1245/U 220 Vac 0.8 sec SPDT 15 seconds Ultraviolet, with alarm contacts

RA890G1260/U 120 Vac 3.0 sec SPDT 15 seconds Ultraviolet, with alarm contacts

RA890G1286/U 240 Vac 3.0 sec SPDT 15 seconds Ultraviolet, with alarm contacts

Q270 Wiring Mount Base

Application: Wiring Mounting Base for RA890, R4795

Material Number Description Used With

Q270A1024/U Wiring Mounting Base for RA890, R4795 RA890, R4795

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Testers and Demonstrators

A7800 Tester

Provides quick operational check of the 7800 SERIES System components.

- Allows testing different 7800 SERIES devices using configuration plugs and functional switches to simulate interlocks and control functions.

- Indicator lamps represent outputs as activated.

Application: Tester

Voltage: 120 Vac

Frequency: 50 Hz; 60 Hz

Temperature Range: -30°F to +150°F (-34.5°C to +65°C)

Material Number Required Components Includes Used With

A7800A1010/U Configuration Plugs, Included Configuration Plugs 7800 SERIES Relay Modules with Valve Proving System or New Optical Detector Amplifiers

A7800 and DSP2672 Replacement Parts

Material Number Application Used With Comments

203579A/U Tester; DSP2672 RM7800/40/45 (non VPS side) Configuration Plug RM7800; RM7840 Configures A7800 and DSP2672

203579B/U Tester; DSP2672 RM7838A Configuration Plug Configures A7800 and DSP2672

203579C/U Tester; DSP2672 RM7838B, C Configuration Plug Configures A7800 and DSP2672

203579D/U Tester; DSP2672 RM7885A Configuration Plug Configures A7800 and DSP2672

203579E/U Tester; DSP2672 RM7890 (non VPS models) Configuration Plug Configures A7800 and DSP2672

203579F/U Tester; DSP2672 RM7895, 96, 97, 98 (non VPS side) Configuration Plug Configures A7800 and DSP2672

203579G/U Tester; DSP2672 RM7823 Configuration Plug Configures A7800 and DSP2672

203579H Tester; DSP2672 RM7865 Configuration Plug Configures A7800 and DSP2672

203579J/U Tester; DSP2672 RM7838B, C (VPS) Configuration Plug A7800A1010 Tester Configures A7800 and DSP2672

203579K/U Tester; DSP2672 RM7890 (VPS) Configuration Plug A7800A1010 Tester

203579L/U Tester; DSP2672 RM7800/40G,L (VPS side) Configuration Plug A7800A1010 Tester

203579M/U Tester; DSP2672 RM7898 (VPS Side) Configuration Plug A7800A1010 Tester

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Commercial/Industrial

Combustion Controls

Testers and Demonstrators

Demonstrators or Trainers

DSP3452

DSP3981

DSP3956

DSP3564U

The DSP3452 is designed for training and demonstration of Honeywell Burner and Boiler Controls with auxiliary devices that are typically used with commercial and industrial burners. It demonstrates the wiring and operation of primary safety controls.

- The trainer can be used with Honeywell primary controls or programming controls (not included with the trainer).
- The nine trouble switches simulate a range of faults from a burned out pilot valve to a faulty flame detector to an inoperative firing rate motor.
- The trainer measures 20 1/2 in. x 32 in. x 12 1/2 in. It weighs approximately 30 lbs.

Color: Black

Material

Number

Application Voltage Frequency Approximate,

Dimensions

Required

Components

Includes Used With Comments

DSP3452/U Primaries,

Programmers or 7800

Series Trainer

120 Vac 50 Hz; 60 Hz 20 1/2 in. x 32 in.

x 12 1/2 in.

Devices for

wiring and

training

jumper wires, propane gas

hose with regulator, detector

mounting adapters

Primaries,

Programmers

and 7800 SERIES

Relay Modules

Complete Flame

Safeguard Training

Package

DSP3564/U Controllink FAR

Trainer/Demonstrator

120 Vac 50 Hz; 60 Hz Relay Module, R7999 Control

and 3 ML Motors; Relay Module,
R7999 Control and 4 ML Motors
ControLinks Fuel
Air Ratio controls
DSP3956/U ControLink FAR
Configuration Toolkit
ZM Software; USB-485
Converter with cable and
Connector for Controlinks
ControLinks Fuel
Air Ratio controls
DSP3981/U For Controlinks
Configuration and
Monitoring
120 Vac 50 Hz; 60 Hz ControLinks Fuel
Air Ratio controls
With S7999D
Touchscreen for
FAR Monitoring or
Programming
SOLA Demonstrators

The DSP3943 is used as a SOLA commissioning or monitoring tool when a System or Local Operator Interface is not required for operation. The DSP contains the S7999B1026 touchscreen display which uses a wizardlike process to assist you through the commissioning process.

The DSP3980 contains an S7999D1006 Touchscreen Display to commission or monitor the SOLA system when a System or Local Operator Interface is not required for operation. The DSP3980 includes the power supply for operation and cable with connector for the SOLA system. A USB storage drive is provided to save display screen snapshots or trending information.

Voltage: 120 Vac

Color: Black

Material Number Application Frequency Includes Used With Comments

DSP3943/U Demonstrator, SOLA 60 Hz S7910A1001 SOLA HC; S7999 Touchscreen Display;
S7910 Keyboard display, system switches and ports

DSP3980/U Demonstrator 50 Hz; 60 Hz SOLA Controls Touchscreen for R7910/R7911
SOLA Monitoring or Programming

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Testers and Demonstrators

Flame Simulator

Flame simulators simplify the troubleshooting of flame safeguard controls by providing a quick method to check the flame detection function.

Material Number Application Color Comments Used With

123514A/U Flame Simulator, Rectification Flame Amplifiers Brown Applications with test jack in G

circuit R4075B; R4181A; R4138A, B; R7253A;
R8169B; R7257A; R7247A; R7847A

203659/U Simulates C7027, C7035, C7044 Flame Simulators for
7800 SERIES

Purple Simulates Minipeeper Flame Detectors 7800 SERIES Relay modules
FSP1535 Tester

Provides quick operational check of Honeywell RA890 or R4795
nonprogramming primary controls.

- Includes indicator lights that visually represent functions of ignition, pilot and main valve as unit simulates system operation.
- Eliminates need to operate entire system.
- Tests units with rated voltage from 100 to 240, 50/60 Hz by connecting line cord to the rated voltage.

Voltage: 120 Vac or 240 Vac

Frequency: 50 Hz; 60 Hz

Material Number Application Used With
FSP1535/U Tester RA890; R4795

FSP5004 Tester

A Tester that provides quick operational check of most Honeywell
BC7000, R4140, R7140 and R4150 programmers and R7795
primary controls (order 198355A adapter separately).

- Includes indicator lights that visually represent control functions of programmer as unit simulates system operation.
- Works with 120 Vac, 60 Hz controls.
- Use to test some Gordon-Piatt programmers.
- Cannot be used to test some R4140 and R4150 models due to design or wiring differences. Reference the list at right to see if you have one of the controls that CANNOT be tested. If you do, check these out using the instructions provided in their respective instruction manuals.
- R4150/R4140/BC7000/R7795/R7140 Tester (120V only). Provides a quick operational check.

Voltage: 120 Vac

Frequency: 50 Hz; 60 Hz

Material Number Application Comments Used With

FSP5004/U Tester DO NOT USE WITH: BC7000L1018, BC7000L1034, BC7000L1063; R4140D1004,
R4140E1001,

R4140M1079, or non-120 Vac R4140 models

BC7000; R4140; R7795;

R7140

70-6910 873

Industrial Flame

Monitoring

Signal Processors

P531; P532 3-channel, Signal Processors

The P532/P531 supports three separate viewing heads, two
S55XBE and one S70X. Independent 2 x SPDT Flame On relay

contacts are provided for each viewing head (6 total). 0-20 or 4-20mA scalable analog output also provided for each viewing head. SIL 3 capable.

- 3 channels.
- Two SPDT flame relay outputs, one SPDT self-check relay output and one N.O. alarm relay output per channel.
- FM and CSA approved.
- Monitor the UV and IR flame component simultaneously or separately when using the S550B/BE.
- Monitor 3 viewing heads simultaneously.
- Independent configuration for each viewing head.
- 2 sets of configuration data per viewing head.
- Viewing head temperature indication.
- Automatic set-up functionality.
- Automatic viewing head detection.
- Modbus and RS422 protocol compatible.
- NEMA 1 Enclosure Rated.

Output: 4-20mA

Communications: ModBus and RS422 Compatible

Mounting: Cabinet mounting tabs

Connection Type: Removable terminals

Dimensions: 4.3 in. wide x 5.8 in. deep x 5.5 in. high (109 mm wide x 147 mm deep x 117 mm high)

Approvals, CSA: Approved (Temperature Range -40 to 158°F; -40 to 70°C)

Approvals, Factory Mutual: Approved (Temperature Range -40 to 158°F; -40 to 70°C)

Used With: S550BE, S552BE, S556BE, S70X, S80X viewing heads

Material Number Description Application Keypad Status

Monitoring

Electrical

Ratings

Frequency Required Components

P531AC AC Signal Processor Signal Processor with 3 channels without keypad

Use KP532U

keypad

LEDs 85-264 Vac +

24 Vdc backup

50 Hz; 60 Hz Appropriate Flame

Detector

P531DC DC Signal Processor Signal Processor with 3 channels without keypad

Use KP532U

keypad

LEDs 22-26 Vdc+

24 Vdc backup

Appropriate Flame

Detector

P532AC AC Signal Processor Signal Processor with 3 channels and keypad

Integrated tri-color display 85-264 Vac + 24 Vdc backup

50 Hz; 60 Hz Appropriate Flame

Detector

P532DC DC Signal Processor Signal Processor with 3 channels and keypad

Integrated tri-color display 22-26 Vdc+ 24 Vdc backup

Appropriate Flame

Detector

P532UI Program module/keypad

used with the P531

Program module/keypad

used with the P531

600U Flame Rod Signal Processor

Model 600 Ultra Flame Rod is a reliable Flame Detecting system based on the proven principle of measuring rectified current flow through a flame rod when a flame touches it. The Model 600 Flame Detector measures the rectified current and closes the flame relay if the current exceeds the value for the flame-on set-point.

Output: 175 Vac for flame rod

Mounting: DIN rail, 35mm

Connection Type: Removable terminals

Dimensions: 2-63/64 in. wide x 3-1/4 in. deep x 5-31/64 in. high (76 mm wide x 83 mm deep x 139 mm high)

Used With: Flame Rod

Material Number Description Application Keypad Status Monitoring Electrical Ratings Frequency

600U Flame rod signal processor with DPDT

flame relay contacts, DPST ignition

transformer relay or ignition coil drive

Flame rod signal

processor

Integrated LEDs 85 to 132Vac or 170 to 264Vac

50 Hz; 60 Hz

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Signal Processors

P522 Signal Processor with 2 Channels and Keypad

The P522 supports two switched (not simultaneously) S55XBE viewing heads. 2 x SPDT Flame On relay contacts and 0-20 or 4-20mA scalable analog output is also provided. SIL 3 capable.

- 2 channels.
- Integrated keypad.

- Two SPDT flame relay outputs and one SPDT self-check relay output.
- FM and CSA approved.
- Flame failure response and time delay on set-up.
- Connect 2 viewing heads, monitoring 1 at a time.
- Independent configuration for each viewing head.
- 2 sets of configuration data per viewing head.
- Viewing head temperature indication.
- Modbus and RS422 protocol compatible.
- NEMA 1 Enclosure Rating.

Application: Signal Processor with 2 channels and keypad

Keypad: Integrated

Status Monitoring: LEDs

Output: 4-20mA

Communications: ModBus and RS422 Compatible

Mounting: Cabinet mounting tabs

Connection Type: Removable terminals

Dimensions: 4.3 in. wide x 6.4 in. deep x 6.7 in. high (109 mm wide x 162 mm deep x 170 mm high)

Approvals, CSA: Approved

Approvals, Factory Mutual: Approved (Temperature Range -32 to +122°F; 0 to +50°C)

Material Number Description Electrical Ratings Frequency Used With Required Components

P522AC AC Signal Processor 85-264 Vac + 24 Vdc
backup

50 Hz; 60 Hz S550B/BE, S552B/BE, S556B/
BE viewing heads

Appropriate Flame Detector

P522DC DC Signal Processor 22-26 Vdc+ 24 Vdc
backup

S550B/BE, S552B/BE, S556B/
BE viewing heads

Appropriate Flame Detector

WATCHDOGIII Flare Stack Signal Processor

The P222 is used with S256 viewing head for remote monitoring of flare flame. 2 x SPDT Flame On relay contacts for T1 timer and 1 x SPDT for T2 timer. 0-20 or 4-20mA scalable analog output is also provided. Two timers are included for flame delay off settings one 0 to 60 seconds (T1) and one 0 to 3600 seconds (T2).

Application: Flare Stack signal processor with 1 channel and keypad

Keypad: Integrated

Status Monitoring: LEDs

Output: 0/4-20mA

Communications: ModBus and RS422 Compatible

Mounting: Cabinet mounting tabs

Connection Type: Removable terminals

Dimensions: 4.3 in. wide x 6.4 in. deep x 6.7 in. high (109 mm wide x

162 mm deep x 170 mm high)

Approvals, QPS: Approved

Material Number Description Electrical Ratings Frequency Used With Required Components

P222 Watchdog Signal Processor 85-264 Vac + 24 VDC

backup

50 Hz; 60 Hz S256 WATCHDOGIII flare stack

viewing head

Appropriate Flame Detector

WATCHDOGIII Kit consisting of P222 processor,

S256B Viewing Head, 10-ft. C328

cable, quick disconnect plug.

85-264 Vac 50 Hz; 60 Hz

70-6910 875

Industrial Flame

Monitoring

Signal Processors

S256B Flare Stack Viewing Head

S256B is a UV flare stack viewing head/flame detector, that detects the presence or absence of flame at the flare stack tip. Used for continuous UV flare stack monitoring to ensure no unburned toxic or waste gas releases into the atmosphere.

- Not adversely affected by Gamma Rays or X-Rays.
- Solar blind.
- Ground mounted, up to 1000 feet away from flare stack tip.
- UV gain selection of 0-99.
- Digital display.
- Quick disconnect plug.
- Easy to install with no plant shutdown.
- NEMA 4X / IP67 enclosure rating.
- Ambient temperature: -40°F to +140°F (-40°C to +70°C).
- 22-26 VDC supplied by signal processor.
- Used with P222 signal processor.

Application: Flame Detector for use with P222 processor

NEMA Rating: 4X

Electrical Connections: Quick disconnect plug

Mounting: 2" Pipe mount

Electrical Ratings: 22 to 26Vdc from signal processor

Dimensions: 3.7 in. wide x 20.3 in. deep x 13.7 in. high (94 mm wide x 516 mm deep x 348 mm deep)

Ambient Temperature Range: -40 to 140°F (-40 to 60°C)

Approvals, QPS: QPS to CSA 22.2

Environmental, Electrical, or Ingress Protection Rating: IP67

Comments: One color monitoring

Used With: P222 Processor

Material Number UV Gain Adjustment IR Gain Adjustment Digital Displays Description

S256B 0-99 Yes (1) UV viewing head for use with P222

700 Signal Processor with 1 Channel

The 700 supports one UV or IR viewing head model S70X or S80X. 2 x SPDT Flame On relay contacts and 0-20 or 4-20mA scalable analog output is also provided. SIL 3 capable.

- 1 channel.
- Two SPDT flame relay outputs and one SPDT self-check relay output.
- FM and CSA approved.
- Status LEDs.
- DIN rail mounting.
- Modbus and RS422 protocol compatible.
- NEMA 1 Enclosure Rating.

Application: Signal processor with 1 channel and keypad

Status Monitoring: LEDs

Output: 4-20mA

Communications: ModBus and RS422 Compatible

Mounting: DIN rail

Connection Type: Removable terminals

Dimensions: 2.9 in. wide x 3.3 in. deep x 5.5 in. high (74 mm wide x 84 mm deep x 140 mm high)

Approvals, CSA: Approved

Approvals, Factory Mutual: Approved (Temperature Range 32 to 140°F; 0 to 60°C)

Material Number Description Keypad Electrical Ratings Frequency Used With Required Components
700ACSP AC Signal Processor Integrated 85-264 Vac 50 Hz; 60 Hz All models of S702, S706, S802, S806 viewing heads

Appropriate Flame

Detector

700DCSP DC Signal Processor Integrated 22-26 Vdc All models of S702, S706, S802, S806 viewing heads

Appropriate Flame

Detector

876 70-6910

All-in-One Viewing Head and Processor

All-in-One Viewing Head and Processor

U2-101x and U2-101x PF are integrated viewing head and processor (All in One) with integral touch screen for operator interface. One Normally Open Flame relay contact and one Normally Open Fault relay contact is provided for interlock. 0-20 or 4-20 mA scalable analog output is also provided. Power input is 24 VDC @120 mA. Temperature sensor is included that provides display in degree F and C. System is self checking (no mechanical shutter) fit for use in SIL3 application. Approvals include (IP66), Class I Div 1 (IEC Ex d-ATEX Zone 1) for PF version and Class I, Div 2 (IEC Ex nA) for quick disconnect type models. For remote monitoring and configuration, FLAMETOOL -HMI (support 32 loops) or FLAMETOOL-PC (Supports 248 loops) is available.

Available models are UVtron only (clean gases), IR only (oil and

coal), UVtron plus IR (for all fuels- all applications including SRU, Kiln etc.). (UVSS is currently disabled).

Application: Combination DC signal processor and dual UV/IR

Viewing head

Keypad: Integrated

Electrical Ratings: 22-26 Vdc

Output: 4-20mA

Communications: ModBus and RS422 Compatible

Dimensions: 4.3 in. wide x 5.8 in. deep x 5.5 in. high (109 mm wide x 147 mm deep x 117 mm high)

Approvals, CSA: Approved (Temperature Range -40 to 158°F; -40 to 70°C)

Approvals, Factory Mutual: Approved (Temperature Range -40 to 158°F; -40 to 70°C)

Approvals, Others: SIL3 (Temperature Range -40 to 158°F; -40 to 70°C)

Material Number Description Status Monitoring Mounting Connection Type Used With Required Components

Combination DC signal processor and dual UV/IR Viewing head

U2-1010 Combination DC signal

processor and dual UV/IR

Viewing head.

LED for each sensor, flame relay, and self check.

1" NPT process

connection

12 pin connector Cable and connector, PT

adapter and purge air

coupler sold separately.

U2-1010-PF Combination DC signal

processor and dual UV/IR

Viewing head with 10-ft

pigtail.

LED for each sensor, flame relay, and self check.

1" NPT process

connection

pigtail, 10-ft (3m) PT adapter and purge air

coupler sold separately.

U2-1010-PF-050 Combination DC signal

processor and dual UV/IR

Viewing head with 50-ft

(15m) pigtail.

LED for each sensor, flame relay, and self check.

1" NPT process

connection

pigtail, 50-ft (15m) PT adapter and purge air coupler sold separately.

U2-1010-PF-100 Combination DC signal processor and dual UV/IR Viewing head with 100-ft (30m) pigtail.

LED for each sensor, flame relay, and self check.

1" NPT process connection

pigtail, 100-ft (30m) PT adapter and purge air coupler sold separately.

U2-1018-PF Combination DC signal processor and dual UV/IR Viewing head with 10-ft pigtail. Pipe fitting connection.

LED for each sensor, flame relay, and self check.

1" NPT process connection

pigtail, 10-ft (3m) PT adapter and purge air coupler sold separately.

Combination DC signal processor and IR Viewing head

U2-1012 Combination DC signal processor and IR Viewing head.

LED for each sensor, flame relay, and self check.

1" NPT process connection

12 pin connector Cable and connector, PT adapter and purge air coupler sold separately.

U2-1012-PF Combination DC signal processor and IR Viewing head with 10-ft pigtail.

Pipe fitting connection.

LED for each sensor, flame relay, and self check.

1" NPT process connection

pigtail, 10-ft (3m) PT adapter and purge air coupler sold separately.

Combination DC signal processor and UV Viewing head

U2-1016 Combination DC signal processor and UV

Viewing head.

LED for each sensor, flame relay, and self check.

1" NPT process connection

12 pin connector Cable and connector, PT adapter and purge air coupler sold separately.

U2-1016-PF Combination DC signal processor and UV

Viewing head with 10-ft pigtail. Pipe fitting connection.

LED for each sensor, flame relay, and self check.

1" NPT process connection

pigtail, 10-ft (3m) PT adapter and purge air coupler sold separately.

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Industrial Flame

Monitoring

IFM Accessories

ISO UNIT

Material Number Application Description Used With

ISO-OR Replacement O-ring Replacement O-ring for ISO-UNIT and ISO-UNITSS ISO-UNIT and ISO-UNITSS

ISO-QW Replacement quartz window Replacement quartz window for ISO-Unit and ISO-UnitSS

ISO-UNIT and ISO-UNITSS

ISO-RR Replacement retainer ring Replacement retainer ring for ISO-UNIT ISO-UNIT

ISO-RRSS Replacement retainer ring Replacement retainer ring for ISO-UNITSS ISO-UNITSS

ISO-UNIT Sealing union with quartz window

1 in. NPTF sealing union with quartz window and 1/2 in. NPTF purge port.

ISO-UNITHPGT Sealing Union - Stainless Steel

1" NPTF w/1/2" purge port

Sealing Union - Stainless Steel 1" NPTF w/1/2" purge port

ISO-UNITSS Sealing union with quartz window

1 in. NPTF stainless steel sealing union with quartz window and 1/2 in. NPTF purge port.

Flame Tool

Material Number Application Description Used With Comments

FLAMETOOLS-HMI/U For all series 700, 500 and U2 Remote programming and logging using

touchscreen

system. Uses Honeywell S7999 display

All 700, 500 and U2 family Supports multiple loops

FLAMETOOLS-PC For all series 700, 500 and U2 Remote programming and logging using user PC.

Supports Windows 7 and 8, includes RS232 converter

cable and manual

All 700, 500 and U2 family Supports multiple loops

878 70-6910

IFM Accessories

Industrial Flame Monitoring Accessories

Material Number Application Description Used With

700-1 Swivel Mount Swivel Mount, 1" NPT to 1/2" NPT S700 and S800 Viewing heads

700-2 Swivel Mount Swivel mount for S700 and S800 series viewing heads.

Flanged connection to 1/2 in. NPTM connection.

S700 and S800 series

viewing heads

700-3 Swivel Mount Swivel mount for S700 and S800 series viewing heads.

1/2 in. NPTF to 1/2 in. NPTM connection.

S700 and S800 series

viewing heads

700ACC Model S700 viewing head

cooling jacket

Model S700 viewing head cooling jacket. Use with vortex coolers.

Vortex coolers

700CRLT Liquid tight cable restraint Liquid tight cable restraint for S700 and S800 series viewing heads. For S800 viewing head, purchase S800 adapter ring, part 800-ACC-RING, separately.

S700 and S800 series

viewing heads. For S800

viewing head, purchase

S800 adapter ring, part

800-ACC-RING, separately.

700DA Delrin adapter replacement Delrin adapter replacement for S700 series viewing heads. 1/2 in. NPTF process and 1/4 in. NPTF purge connections.

S700 series viewing heads

700DA-1 Delrin adapter replacement Delrin adapter replacement for S700 series viewing heads. 1 in. NPTF process and 1/4 in. NPTF purge connections.

S700 series viewing heads

700LTA Liquid tight viewing head cable adapter

Liquid tight viewing head cable adapter for S700/S800 series viewing heads.

S700 and S800 series

viewing heads

700RAA Model S700/S800 viewing

head right angle adapter

Model S700/S800 viewing head right angle adapter.

1/2 in. NPTF to 1/2 in. NPTM connection.

700UA Ultem heat insulating adapter Ultem heat insulating adapter for S700 series viewing heads. 1/2 in. NPTF process and 1/4 in. NPTF purge connections.

S700 series viewing heads

800ACC Model S800 viewing head

cooling jacket

Model S800 viewing head cooling jacket. Use with vortex coolers.

Vortex coolers

800ACC-RING Adapter ring Adapter ring to fit 800 viewing head to 700ACC cooling jacket and 700CRLT cable restraint.

800 viewing head to

700ACC cooling jacket and

700CRLT cable restraint

800DA Delrin adapter replacement Delrin adapter replacement for S800 series viewing heads. 1/2 in. NPTF process and 1/4 in. NPTF purge connections.

S800 series viewing heads

800UA Ultem heat insulating adapter Ultem heat insulating adapter for S800 series viewing heads. 1/2 in. NPTF process and 1/4 in. NPTF purge connections.

S800 series viewing heads

ACC55XBE Air cooling canister for Model

S55XBE viewing heads

Air cooling canister for Model S55XBE viewing heads.

1/4 inch air inlet port. Use with vortex coolers.

Model S55XBE viewing

heads; Vortex coolers

ACC5XX Air cooling canister for Model

5XX viewing heads

Air cooling canister for Model 5XX viewing heads.

1/4 inch air inlet port. Use with vortex coolers.

Model 5XX viewing heads;

Vortex coolers

ASY55XBE Model S55xBE viewing head installation.

Cable Assembly, 50 foot C330S with overmolded S55xBE connector. Includes 50 foot 4 conductor cable with foil/braid shield and coupling nut tied to shield.

Use with Model S55xBE Viewing Heads

Model S55xBE Viewing

Heads

ASY55XBE-50 Model S55xBE viewing head installation.

Cable Assembly, 50 foot C330S with overmolded S55xBE connector. Includes 50 foot 4 conductor cable with foil/braid shield and coupling nut tied to shield.

Use with Model S55xBE Viewing Heads

Model S55xBE Viewing Heads

ASY55XBE-100 Model S55xBE viewing head installation

Cable Assembly, 100 foot C330S with overmolded S55xBE connector. Includes 200 foot 4 conductor cable with foil/braid shield and coupling nut tied to shield. Use with Model S55xBE Viewing Heads

Model S55xBE Viewing Heads

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Industrial Flame

Monitoring

IFM Accessories

Material Number Application Description Used With ASY55XBE-200 Model S55xBE viewing head installation.

Cable Assembly, 200 foot C330S with overmolded S55xBE connector. Includes 200 foot 4 conductor cable with foil/braid shield and coupling nut tied to shield. Use with Model S55xBE Viewing Heads

Model S55xBE Viewing Heads

ASY55XBE-300 Model S55xBE viewing head installation

Cable Assembly, 300 foot C330S with overmolded S55xBE connector. Includes 300 foot 4 conductor cable with foil/braid shield and coupling nut tied to shield. Use with Model S55xBE Viewing Heads

Model S55xBE Viewing Heads

ASY785 Model S70x/S80x viewing head installation.

Cable Assembly, 50 foot C330S with pre-wired S70x/S80x connector. Includes 50 foot 4 conductor, 22g cable with drain, foil/braid shield and connector housing tied to shield. Use with Model S70x/S80x Viewing Heads

Model S70x/S80x Viewing Heads

Heads

ASY785-200 Model S70x/S80x viewing

head installation.

Cable Assembly, 200 foot C330S with pre-wired S70x/S80x connector. Includes 50 foot 4 conductor, 22g cable with drain, foil/braid shield and connector housing tied to shield. Used with Model S70x/S80x Viewing Heads

Model S70x/S80x Viewing Heads

ASY786 Model S70x/S80x viewing head installation.

Field Wireable Shielded Connector for S70x/S80x Viewing Heads. Used with Model S70x/S80x Viewing Heads

Model S70x/S80x Viewing Heads

ASY964 15-ft cable with quick disconnect

15-ft cable (12 conductor) with quick disconnect for all U2 non-pipe fitting models.

U2-1010, U2-1012,

U2-1016, U2-1018 models

only.

C12S 12 conductor cable with braided shield

12 conductor cable with braided shield for use with all U2 combination DC signal processor and viewing heads. Sold per foot.

U2-1010, U2-1012,

U2-1016, U2-1018,

U2-1010-pf, U2-1012-pf,

U2-1016-pf, U2-1018-pf

models only. Used with

-pf models for cable

extension.

C330S 4 Conductor Cable with braided shield for S70x, S80x and S55xBE Viewing heads

4 Conductor Cable with braided shield for all Iris viewing heads

S55xBE, S70x/S80x

viewing heads, P522, and

P53x signal processors.

M3204 Vortex air cooler, model 3204. Vortex air cooler, model 3204 -4SCFM (113SLPM) for maximum refrigeration 275 BTU/HR (69 Kcal/hr)

All cooling jackets

M3208 Vortex air cooler, model 3208. Vortex air cooler, model 3208 -8SCFM (227 SLPM) for maximum refrigeration 550 BTU/HR (139 Kcal/hr)

All cooling jackets

M3210 Vortex air cooler, model 3210. Vortex air cooler, model 3210 -10 SCFM (283SLPM) for maximum refrigeration 650 BTU/HR (164 Kcal/hr)

All cooling jackets

M4025 Vortex air cooler, model 4025. Vortex air cooler, for cabinet model 4025 - maximum refrigeration 1700 BTU/HR (428 Kcal/hr)

For processor cabinet cooling

M-701-1 Swivel Mount Swivel mount, 2 in. pipe slip-on to 1 in. NPT connection.

All viewing heads- S70x with DA-1

M-701-2 Swivel Mount Swivel Mount, 2" NPT to 1" NPT All viewing heads- S70X with DA-1

M-701-2-FLG Flanged swivel mount Flanged swivel mount, 2 in. flanged to 1 in. NPTF. All viewing heads- S70X with DA-1

M-701-2-SS Swivel Mount Swivel mount, 2 in. NPT female to 1 in. NPT female, Stainless steel construction.

All viewing heads- S70X with DA-1

M-701-3 Flanged swivel mount Flanged swivel mount, 3-bolt, 4.5 in. flanged to 1 in. NPTF.

All viewing heads- S70X with DA-1

M-701-3P Swivel Mount Swivel mount, 3 in. NPTF to 1 in. NPTF connection. All viewing heads- S70X with DA-1

M-701-4 Swivel Mount Swivel mount, 2-bolt to 1 in. NPTF connection. All viewing heads- S70X with DA-1

M-702-6 Orifice and retaining ring set. Orifice and retaining ring set. Used for all viewing heads.

Used for all viewing heads.

PT-GA1 High temperature gasket for 1 in. locking coupler.

High temperature gasket for 1 in. locking coupler. 1 in. locking coupler

PT-QL1 Quartz lens for 1 in. locking coupler.

Quartz lens for 1 in. locking coupler. 1 in. locking coupler

R-518-08 Viewing Head S256 Quick

Disconnect Plug

Viewing Head S256 Quick Disconnect Plug WDIII S256 viewing head 880 70-6910

IFM Accessories

Material Number Application Description Used With

R-518-11 Model S55xBE viewing head installation.

S55xBE Field Wireable Cable with 6-8mm cable

bushing for use with C330S cable. Includes Field wireable with proper bushing size to provide IP seal with C330S cable. No shield at connector, less robust version. Used with Model S55xBE Viewing Heads Model S55xBE viewing head, and C330S cable.

R-518-12 Heat Block-1" NPT All viewing heads with 1" NPTF connection All viewing heads with 1" NPTF connection

R-518-13 Heat insulating nipple for S70X/S80X series viewing heads.

1/2 in. NPT Ultem heat insulating nipple for S70X/S80X series viewing heads.

S70X/S80X series viewing heads

R-518-CL12-HTG Locking coupler 1 in. NPT locking coupler with high temperature gasket. Must be used with R-518-PT12 or R-518-PT12L

All viewing head that has 1" NPTF

R-518-CL12-PG Locking quick disconnect/cam and groove coupler adapter

1 in. NPT aluminum locking quick disconnect/cam and groove coupler adapter with 1/2 in. NPT purge. Must be used with R-518-PT12 and R-518-PT12L

All viewing head that has 1" NPTF

R-518-CL13-HTG Locking coupler 1/2 in. NPT locking coupler with high temperature gasket. Must be used with R-518-PT13 or R-518-PT13L

All viewing heads that have 1/2" NPTF connection

R-518-PT12 Insulating locking coupler adapter

1 in. NPT Ultem insulating locking coupler adapter. Used with U2 processor/viewing head.

1 in. NPT Ultem insulating locking coupler adapter use with R-518-CL12-HTG and R-518-CL12PG

R-518-PT12L Locking coupler adapter with quartz lens.

1 in. NPT Ultem locking coupler adapter with quartz lens.

1 in. NPT Ultem insulating locking coupler adapter with quartz lens for use

with R-518-CL12-HTG and
R-518-CL12PG

R-518-PT13 Locking coupler adapter only. 1/2 in. NPT Ultem insulating locking coupler adapter
use with R-518-CL13-HTG and R-518-CL13HTG

R-518-PT13L Locking coupler adapter with
quartz lens.

1/2 in. NPT Ultem locking coupler adapter with quartz
lens.

UVSOURCE Testing any UV based system Ultraviolet light source battery operated Test for any UV
tube based
system

70-6910 881

Industrial Flame

Monitoring

IFM Accessories

Fiberoptic System

Material Number Application Description Used With

FASA-GLASS Glass fiber optics assembly for
IR flame detection

Glass fiber optics complete assembly for IR flame
detection with guide pipes and flex connection.

Standard assembly length 5-feet. Standard 5-ft fiber
optic cable. Use FASA-GLASS-FT to add additional fiber
optic cable length and inner/outer assemblies

FASA-GLASS-FT Glass fiber optics assembly for
IR flame detection

Glass fiber optics complete assembly per foot adder
for FASA-GLASS, for IR flame detection. Includes
fiber optic cable and inner/outer assemblies in 1-ft
segments.

FASA-GLASS

FASA-INT-GLASS Glass fiber optics assembly for
IR flame detection

Glass fiber optics inner tube assembly for IR flame
detection with flex connector. No guide pipes. Standard
assembly length 5-ft. Use FASA-INT-GLS-FT to add
additional fiber optic cable length and inner assembly
in 1-ft length

FASA-INT-GLS-FT Glass fiber optics assembly for
IR flame detection

Glass fiber optics inner assembly per foot adder for
FASA-INT-GLASS, for IR flame detection. Includes fiber
optic cable and inner assembly in 1-ft increment.

FASA-INT-GLASS

FASA-INT-QTZ-FT Quartz fiber optics assembly
for UV/IR flame detection

Quartz fiber optics inner tube assembly per foot adder

for FASA-INT-QUARTZ, for UV/IR flame detection.
Includes fiber optic cable and inner assembly in 1-ft segments.

FASA-INT-QUARTZ

FASA-INT-QUARTZ Quartz fiber optics assembly
for UV/IR flame detection

Quartz fiber optics inner tube assembly for UV/IR flame
detection with flex connector. No guide pipes. Standard
assembly length 5-ft. Use FASA-INT-QTZ-FT to add for
longer than 5'

FASA-QUARTZ Quartz fiber optics assembly
for UV/IR flame detection

Quartz fiber optics complete assembly for UV/IR
flame detection with guide pipes and flex connection.
Standard assembly length 5. Use FASA-QUARTZ-FT for
longer than 5' by 1' increment

FASA-QUARTZ-FT Quartz fiber optics assembly
for UV/IR flame detection

Quartz fiber optics complete assembly per foot adder
for FASA-QUARTZ, for UV/IR flame detection. Includes
fiber optic cable and inner/outer assemblies in 1-ft
increment

FASA-QUARTZ

FLEX-HOSE Hose for fiber optics assembly. 1/2 in. NPT x 36 in. long flex hose for fiber optics
assembly.

FOC-GLASS 5-ft Glass Fiber optic cable for
IR viewing heads.

5-ft Glass Fiber optic cable, for IR viewing heads. Use
FOC-GLASS-FT adder for each additional foot in length
required.

IR viewing heads

FOC-GLASS-FT Glass fiber optic cable per foot
adder for FOC-GLASS, for IR
flame detection.

Glass fiber optic cable per foot adder for FOC-GLASS,
for IR flame detection.

FOC-GLASS, for IR flame
detection

FOC-QUARTZ 5-ft Fiber optic cable, quartz
bundle for UV/IR viewing
heads with high temperature
epoxy

5-ft Fiber optic cable, quartz bundle for UV/IR
viewing heads with high temperature epoxy. Use
FOC-QUARTZ-FT adder for each additional foot in
length required.

FOC-QUARTZ-FT

FOC-QUARTZ-FT Quartz fiber optic cable for UV/
IR flame detection

Quartz fiber optic cable per foot adder for
FOC-QUARTZ, for UV/IR flame detection.

FOC-QUARTZ

FOLC-9C Fiber optic lens cartridge and
coupler

Fiber optic lens cartridge and coupler - 9 degree
viewing angle

FASA and FASA-INT

FOLC-HS Replacement fiber optic lens
cartridge mounting hood/lens
housing

Replacement fiber optic lens cartridge mounting hood/
lens housing with 1/2 inch NPT connection.

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IFM Accessories

Material Number Application Description Used With

FOLC-SC Fiber optic lens cartridge and
coupler

Fiber optic lens cartridge and coupler - straight
connection.

S550FOAD Fiber optics adapter viewing
head side

Fiber optics adapter for S55XB/S55XBE viewing head
and U2 models.

S55XB/S55XBE viewing
heads, U2

S550FOADY-FT Fiber optics adapter Fiber optics adapter with air purge connection for all
viewing heads with 1" NPT connection

S55XB/S55XBE viewing
heads, U2

S550FOADY-FT-AL Fiber optics adapter Fiber optics adapter with air purge connection for all
viewing heads with 1" NPT connection

S55XB/S55XBE viewing
heads, U2

S592-OR Spare Parts for FOLC-SC and
FOLC-9C

Metal O-Ring Spare Parts for FOLC-SC and FOLC-9C FOLC-SC and FOLC-9C

S592-PC Spare Parts for FOLC-SC and
FOLC-9C

Fiber assembly quartz lens (plano/convex) for FOLC-SC
and FOLC-9C

FOLC-SC and FOLC-9C

S592-PP Spare Parts for FOLC-SC and
FOLC-9C

Plano/Plano window For FOLC-SC and FOLC-9C FOLC-SC and FOLC-9C

S592-RR Spare Parts for FOLC-SC and FOLC-9C

Retainer clip for FOLC-SC and FOLC-9C FOLC-SC and FOLC-9C

S700FOAD Fiber optics adapter Fiber optics adapter for S70X viewing heads. Any 1/2" viewing head/

FASA

S800FOAD Fiber optics adapter Fiber optics adapter for S80X viewing heads. S80X viewing heads 70-6910 883

Industrial Flame

Monitoring

IFM Accessories

GHE Igniter System

The GHE High Energy Ignitor is a non fouling high energy device, designed to directly ignite all liquid and gaseous fuels. The GE High Tension Ignitor is designed to provide reliable ignition and or warm up when and where required. It can be applied to boiler applications from industrial to utility lime and cement kiln heaters, etc.

Material Number Application Description Used With Comments

GHE1-3 Gas high energy pilot igniter

assembly used with gaseous

fuels

Gas high energy pilot igniter assembly

used with liquid and gaseous fuels,

1-3 MBH capacity, 1-7/8 inch OD with

36 inch SS flex hose, 36 inch SS air

hose, burner mounting tube, high

energy probe, igniter tip 12 in. long x

1/2 in OD.

Gaseous fuels 1-3 MMBTU/HR capacity, 1-7/8 inch OD with

36 inch SS flex hose, 36 inch SS air hose, burner

mounting tube, high energy probe, igniter tip 12 in.

long x 1/2 in OD. Standard assembly length 2-feet.

Use IGADD for each 1-ft assembly length addition.

Order Powerpack-12-CS, IGN-CPC-10 HT cable,

IGN-CPC-ADD for longer than 10' cable and Power

pack cabinet. Integral optical flame scanner option

is available.

GHE2-5 Gas high energy pilot igniter

assembly used with gaseous

fuels

Gas high energy pilot igniter assembly

used with liquid and gaseous fuels,

1-3 MBH capacity, 1-7/8 inch OD with

36 inch SS flex hose, 36 inch SS air

hose, burner mounting tube, high

energy probe, igniter tip 12 in. long x

1/2 in OD.

Gaseous fuels 2-5 MMBTU/HR capacity, 2-7/8 inch OD with 36 inch SS flex hose, 36 inch SS air hose, burner mounting tube, high energy probe, igniter tip 12 in. long x 1/2 in OD. Standard assembly length 2-feet.

Use IGADD for each 1-ft assembly length addition.

Order Powerpack-12-CS, IGN-CPC-10 HT cable, IGN-CPC-ADD for longer than 10' cable and Power pack cabinet. Integral optical flame scanner and quick disconnect options are available.

GT-LITE Ignitor Spark tip / probe Ignitor Spark tip / probe, 12 inch long x 1/2 inch OD.

12 inch long x 1/2 inch OD.

HEPADD High energy probe High energy probe per foot adder for lengths over 2-feet. Use to add length to IPASS, gas high energy replacement pilot igniter probe assembly, in 1-foot increments.

IPASS Use to add length to IPASS, gas high energy replacement igniter probe assembly, in 1-foot increments.

HV-HT Replacement internal GHE ignitor cable with contact

Replacement internal GHE ignitor cable with contact, 2-feet length standard. Internal cable from igniter tip to junction box. Use HV-HT-FT cable adder for each additional foot in length required.

GHE ignitor cable Internal cable from igniter tip to junction box. Use HV-HT-FT cable adder for each additional foot in length required.

HV-HT-FT Replacement internal GHE ignitor cable

Replacement internal GHE ignitor cable per foot adder for lengths over 2-feet. Use to add length to HV-HT in 1-foot increments.

GHE ignitor cable Use to add length to HV-HT in 1-foot increments.

IGADD Ignitor assembly per foot adder

Ignitor assembly per foot adder for igniter length over 2-ft. Use to add length to GHE1-3 or GHE2-5, gas high energy pilot igniter assembly in 1-foot increments.

Add length to GHE1-3

or GHE2-5, gas high energy pilot igniter assembly in 1-foot increments

Foot adder for igniter length over 2-ft
IGN-CPC-10 Ignitor cable 10 ft with canon plug

Ignitor cable 10 ft with canon plug for POWERPACK-12-CS. From power pack to igniter. To add length, use IGN-CPC-ADD.

POWERPACK-12-CS From power pack to igniter. To add length, use IGN-CPC-ADD.

IGN-CPC-ADD Cannon plug cable Cannon plug cable adder for length over 10-ft. Per foot adder for IGNCPC-10.

IGN-CPC-10. For length over 10-ft

IGN-CPC-LB Replacement ignitor probe junction box with canon plug receptacle

Replacement ignitor probe junction box with canon plug receptacle for GHE ignitors.

GHE ignitors

IPASS GHE pilot igniter probe assembly without burner mounting tube, flange, gas insert or air/gas flex hoses.

GHE pilot igniter probe assembly includes igniter tip, junction box.

Standard assembly is 2'. Use HEPADD for longer length. Order 12- Joule PowerPack,-12-CS and IGN-CPC-10/
IGN-CPC-ADD

Gaseous fuels Includes high energy probe, igniter tip 12 in. long x 1/2 in OD and junction box with receptacle.

Standard assembly length 2-feet. Use HEPADD for each 1-ft assembly length addition. Order 12-Joule POWERPACK-12-CS and associated cabling with canon plug

NEMA-12-ADD NEMA 12 enclosure for igniter powerpack.

NEMA 12 enclosure for igniter powerpack.

Igniter powerpack

884 70-6910

IFM Accessories

Material Number Application Description Used With Comments

NEMA-4-ADD NEMA 4 enclosure for igniter powerpack.

NEMA 4 enclosure for igniter powerpack.

Igniter powerpack

NEMA-4X-ADD NEMA 4X enclosure for igniter powerpack.

NEMA 4X enclosure for igniter powerpack.

Igniter powerpack

POWERPACK-12-CS Ignitor 12 Joule Power pack for GHE and IPASS

Ignitor 12 Joule Power Pack GHE and IPASS 120V/220V/50-60Hz, output energy 2,500Vdc, 12 Joule pulses @ 6 sparks/second.

QDADD Quick disconnect/cam and groove coupler

Add quick disconnect/cam and groove coupler on GHE2-5 in place of the standard flange connection to the burner mounting tube.

GHE2-5

70-6910 885

Industrial Flame Monitoring

Viewing Heads

700 and 800 System

Available in single sensor only, UVTron or IR. Options include quick disconnect with two LEDs or factory installed cable.

Application: Flame Detector for Oil Fired burners

Mounting: 1/2" NPTF or 1" NPTF with 1/4" NPT Purge connection

Electrical Ratings: 22 to 26Vdc from signal processor

Sight Pipe (NPT): 1/2 in.

Purge Air Pipe (NPT): 1/4 in.

Ambient Temperature Range: -40 to 149°F (-40 to 65°C)

Approvals, CSA: Approved CSA, FM IEC, SIL3 (Temp rating -40 to 149°F/-40 to 65°C)

Approvals, Factory Mutual: Approved

Environmental, Electrical, or Ingress Protection Rating: IP64

Required Components: Order ASY785 (50foot) or ASY785-200 (200ft) for molded, shielded cable assemblies. ASY785 or ASY785-200 are recommended for new installations.

Material

Number

Type Electrical Connections Shutter UV Gain

Adjustment

IR Gain

Adjustment

Dimensions Comments Used With

S702 IR Compact

viewing head

with 15-foot

cable

Quick disconnect plug Electronic 1-9 2.0 in. wide x 9.7 in. deep

x 2.0 in. high (51 mm wide

x 246 mm deep x 51 mm

high)

Removable connector

cover for diagnostic LED

viewing during installation.

Use with 700 AC SP

or 700DC SP

S702PF IR Compact

viewing head

with 10-foot

cable

Quick disconnect plug Electronic 1-9 2.0 in. wide x 9.7 in. deep

x 2.0 in. high (51 mm wide

x 246 mm deep x 51 mm

high)

S706 UV Compact

viewing head

with 15-foot

cable

Quick disconnect plug Electronic 1-9 2.0 in. wide x 9.7 in. deep

x 2.0 in. high (51 mm wide

x 246 mm deep x 51 mm

high)

Removable connector

cover for diagnostic LED

viewing during installation.

Use with 700 AC SP

or 700DC SP

S706PF UV Compact

viewing head

with 15-foot

cable

Quick disconnect plug Electronic 1-9 2.0 in. wide x 9.7 in. deep

x 2.0 in. high (51 mm wide

x 246 mm deep x 51 mm

high)

Use with 700 AC SP

or 700DC SP

S802 IR Compact

viewing head

with 15-foot

cable

Quick disconnect plug Electronic 1-9 1.8 in. wide x 9.2 in. deep x 1.8 in. high (46 mm wide x 234 mm deep x 46 mm high)

Removable connector

cover for diagnostic LED

viewing during installation.

Use with 700 AC SP

or 700DC SP

S806 UV Compact

viewing head

with 15-foot

cable

Quick disconnect plug Electronic 1-9 1.8 in. wide x 9.2 in. deep x 1.8 in. high (46 mm wide x 234 mm deep x 46 mm high)

Removable connector

cover for diagnostic LED

viewing during installation.

Use with 700 AC SP

or 700DC SP

886 70-6910

Viewing Heads

S55xBE Viewing head

The S550BE is provided with UVTron and IR sensors. System is self checking, no mechanical shutters, not adversely affected by X or Gamma rays generated by pipe check welding. Suitable for all fuel flames, single or multiple fuels. Optional pipe fitting (PF) versions provided with factory installed cable. Suitable for hazardous location duty. SIL 3 capable.

- Not adversely affected by Gamma Rays or X-Rays.
- Mount in any orientation.
- IR gain selection of 0-699.
- UV gain selection of 0-99.
- 2 digital displays.
- Quick disconnect plug.
- Parameters stored in signal processor EEPROM.
- Ultraviolet and infrared with electronic shutter.
- Ambient Temperature: -40°F to +149°F (-40°C to +65°C)
- 22-26 VDC supplied by signal processor.
- CSA Rated IP64 Enclosure.
- Used with P532, P532, P531, P531, P522, P522 signal processors.

Application: Flame Detector for All fuels multiple burners

Mounting: 1" NPTF burner front with 1/2" purge connection
Electrical Ratings: 22 to 26Vdc from signal processor
Sight Pipe (NPT): 1 in.
Purge Air Pipe (NPT): 1/2 in.
Dimensions: 4.1 in. wide x 8.1 in. deep x 5.4 in. high (104 mm wide x 206 mm deep x 137 mm high)
Ambient Temperature Range: -40 to 158°F (-40 to 70°C)
Approvals, CSA: Approved CSA
Approvals, Others: SIL3 (Temp rating -40 to 149°F/ -40 to 65°C)
IECEX IEC: Approved
Approvals, Factory Mutual: Approved
Environmental, Electrical, or Ingress Protection Rating: IP64
Used With: P522, P531 and P532 Processors
Material Number Type Electrical
Connections
Shutter UV Gain
Adjustment
IR Gain
Adjustment
Digital
Displays
Comments Required Components
Flame Detector for All fuels multiple burners
S550BE Quick disconnect
plug
Electronic
of IR only
0-99 0-699 Yes (2) 2 digit display
for UV and IR
Use with molded cable
ASY55XBE or ASY55XBE-200.
P522 or P532 signal
processor.
S550BE-PF UV/IR Viewing Head 10 foot pigtail Electronic
of IR only
0-99 0-699 Yes (2) 2 digit display
for UV and IR
Factory installed 10' cable.
P522 or P532 signal
processor.
Flame Detector for Gas multiple Burners
S556BE UV Viewing Head with
Digital Display
Quick disconnect
plug
0-99 Yes (1) 2 digit display
for UV

Use with molded cable
ASY55XBE or ASY55XBE-200.
P522 or P532 signal
processor.
S556BE-PF UV Viewing Head with
Digital Display
10 foot pigtail 0-99 Yes (1) 2 digit display
for UV and IR
P522 or P532 signal
processor.
Flame Detector for Oil and Coal multiple burners
S552BE Quick disconnect
plug
Electronic 0-699 Yes (1) 2 digit display
for IR
Use with molded cable
ASY55XBE or ASY55XBE-200.
P522 or P532 signal
processor.
S552BE-PF IR Viewing Head 10 foot pigtail Electronic 0-699 Yes (1) 2 digit display
for IR
P522 or P532 signal
processor.

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