Introduction

Your Single Source for Purge/Pressurization Equipment

Pepperl+Fuchs is your single source supplier for your entire purge and pressurization system. We have all of the accessories you'll need to get your system up and running quickly and efficiently. P+F accessories simplify installation. The right part at the right time increases uptime, productivity and profitability. Don't jeopardize the integrity of your purge and pressurization system. Get the parts you need at Pepperl+Fuchs.

Features

- **Provides easy installation for Purge/Pressurization systems**
- **Provides equipment for specific applications**
- **Quality equipment to provide reliable performance**

System Accessories

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Indicator Gauge

Cooler Indicator Gauge

Description

The cooler indicator gauge, sometimes called the Vortex indicator gauge, is used on systems were there is cooling required after purging. Normally after the purging cycle, there is a small flow of protective gas required to compensate for leakages, and to keep a constant pressure within the enclosure so that the ingress of hazardous atmosphere cannot get inside the enclosure. This is known as pressurization. If the equipment inside the pressurized enclosure requires cooling, either a higher flow rate of protective gas is required through the pressurization valve, or a second source of cooling gas is introduced into the enclosure. The standard differential pressure gauge will indicate pressurization only up to 0.5 inches (13 mm) water, which may not be enough for cooling indication. The cooler indicator gauge is installed onto the pressurization/purge panel, and allows monitoring of the system during normal operation of the purge/pressurization system.

Cooler Indicator Gauge
(Vortex Indicator Gauge)

Special Note

TO ORDER PURGE/PRESSURIZATION UNITS EQUIPPED WITH A COOLER INDICATION GAUGE, SPECIFY 'VX' IN THE MODEL NUMBER DESIGNATION.

Specifications

OPERATING RANGE

Full range:	0 to 5 " (0 to 127 mm) water
Low range red:	0 to 0.5 " (0 to 13 mm) water
Safe range green:	0.5 to 1.5 " (13 to 38 mm) water
Cooler/Rapid exchange range yellow:	1.5 to 4.5 " (38 to 114 mm) water
High range red:	4.5 to 5 " (114 to 127 mm) water

BODY COMPONENTS

Cover:	acrylic
Housing:	die cast aluminum coated to withstand 168 hour salt spray corrosion test

TECHNICAL DATA

Maximum overload pressure:	15 psig
Accuracy:	± 2% of full scale
Weight:	1.2 lb (510 g)
Process connection:	1/8" Female NPT duplicate high and low pressure taps, one pair side, one pair back

Enclosure Protection Vents

Model EPV

Model EPV-1-SA-00
(Top Mount Configuration)

Model EPV-3-SA-90
(Side mount Configuration)

Vent Specifications

Vent Dimensions:		See Page 115	
Shipping Weights (lb):		-00	-90
	EPV-1:	3	4
-00: Top Mount	EPV-2:	3	4
-90: Side Mount	EPV-3:	4	5
	EPV-4:	7	9
	EPV-5:	10	12
Temp. Range:		-20 °F to +120 °F (-29 °C to +49 °C)	
Normal Operating Pressure:		* 2" to 5" (50.8 mm to 127 mm) of Water	
Maximum Operating Pressure:		** 5" to 7" (127 mm to 177 mm) of Water	

* Normal operating pressure indicates average enclosure pressure when vent is used with a compatible Rapid Exchange® purging system.

** Maximum operating pressure indicates enclosure pressure when vent is used with compatible enclosure protection systems during simulated failure of all pressure control devices.

Material Specifications

BODY COMPONENTS	
Vent Body Cap:	0.032" 3003 Drawn Alum.
Vent Base:	A.S.E. 306, 308 Cast Alum.
Vent Mounting Hub:	Zinc Plated Steel
Vent Pipe Fittings:	Schedule 40 3003 Alum.
Vent Nameplates:	Lexan®
Fastener Hardware:	316 SS
EXHAUST ELEMENTS	
Spark Arrestor (SA):	0.1" 100 Micron 316 SS
Element Cap:	0.25" 6061 Alum.
VALVE ASSEMBLY	
Valve Base:	14 Ga. Machined 316 SS
Valve Seat Disc:	14 Ga. Machined 316 SS
Valve Hinge:	Zytel® 8018 - 14% Glass Fill
Valve Pin & Rivets:	316 SS
Disc Adhesive:	Urethane Epoxy

Lexan® is a registered trademark of the General Electric Company

Zytel® is a registered trademark of the DuPont Corporation

Description

Model EPV enclosure protection vents are self-seating gravity controlled, low pressure relief valves designed to ventilate excessive enclosure pressures that are created by the Rapid Exchange® process, or the failure of the enclosure pressure control devices. Each vent features a seamless cap, a spark arresting (SA) style exhaust element, a friction-free valve assembly, a base and a mounting hub. The mounting hub, along with associated pipe fittings, permits direct mounting through a round cutout on the top or side of a protected enclosure. This device functions in conjunction with Pepperl+Fuchs enclosure protection systems, to reduce the hazardous (classified) area rating within protected enclosure(s), in accordance with the NEC - NFPA 70, Article 500, NFPA 496 and ISA 12.4. In addition, this device protects enclosures from all limited sources of pressure relief, regardless of source - i.e. unrelated pneumatic equipment, such as analyzers or other process control or measurement instrumentation.

Operation

Pepperl+Fuchs enclosure protection vents operate in a manner similar to a self-closing swing-check valve, and must, therefore, be installed in a true vertical position. They begin operation when pressure within the protected enclosure exceeds 0.65 inches (16.5 mm) of water ± 0.1 inch (2.5 mm). When the valve seat cracks, pressure is immediately released, and the effects of gravity begin yielding to the forces of enclosure back-pressure. Each vent is designed to operate in specific conjunction with a cross-section of Pepperl+Fuchs Rapid Exchange and pressurization/purging systems that exhibit similar flow characteristics, in order to ventilate their maximum (total failure condition) flow rate, while maintaining no more than 5 to 7 inches (127 mm to 177 mm) of water pressure within the protected enclosure(s).*

* Vent, Enclosure Protection System and protective gas supply must be sized, installed and operated in strict accordance with all related start-up instructions on the system, and with all related directives of the Installation and Operation Manual provided with the Enclosure Protection System.

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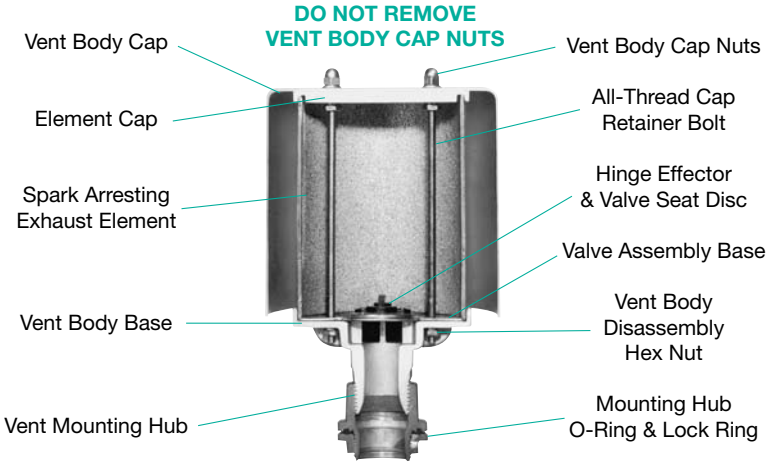


Model EPV-3-SA-00
Cut-Away

Model Number Designations

EPV - 1 - SA - 90

Series Model Number

Vent Size *
- **1** - 1/2"
- **2** - 3/4"
- **3** - 1 1/4"
- **4** - 1 1/2"
- **5** - 2"

Element Style
- **SA** - Spark Arresting

Mounting Configuration
- **00** - Top Mount — top of enclosure
- **90** - Side Mount — side of enclosure

* Vent Size indicates standard trade conduit size.
See Overall Vent Dimensions for actual hub diameter

FRICTION-FREE VALVE ASSEMBLY

Pepperl+Fuchs Enclosure Protection Vent Valve Assemblies are constructed from three major parts: the valve base, valve hinge and valve seat disc. The valve base is a machine ported flat plate which rests between the vent body base and exhaust element. The valve hinge is rivet fastened to the base and its effector extends over the valve port. The valve seat disc is screw fastened to the effector, under controlled, hand-fitted conditions, to obtain optimum valve seating characteristics.

Special Note

CUSTOM FINISHES ARE AVAILABLE FOR ALL ALUMINUM PARTS UPON REQUEST & INCLUDE, BUT ARE NOT LIMITED TO, EPOXY OR POWDER COATING & CLEAR ANODIZE FINISHES.

REQUIRED USE INDICATES RAPID EXCHANGE® SYSTEMS THAT REQUIRE A VENT FOR PROPER OPERATION

OPTIONAL USE INDICATES SYSTEMS THAT REQUIRE A VENT OR REDUNDANT SUPPLY REGULATOR

Classification Notes

UL CLASSIFICATION & FM CERTIFIED APPLIES TO SPARK ARRESTING VENTS FOR USE IN CLASS I, DIVISION 1, GROUP A-D LOCATIONS, AS SPARK ARRESTING DEVICES.

FM CERTIFIED APPLIES TO SA STYLE VENTS FOR USE AS ENCLOSURE OVER PRESSURIZATION PROTECTION DEVICES.

UL CLASSIFICATION & FM CERTIFIED APPLIES TO SPARK ARRESTING VENTS, WITHOUT VENT VALVE ASSEMBLIES, FOR USE IN DILUTION APPLICATIONS.

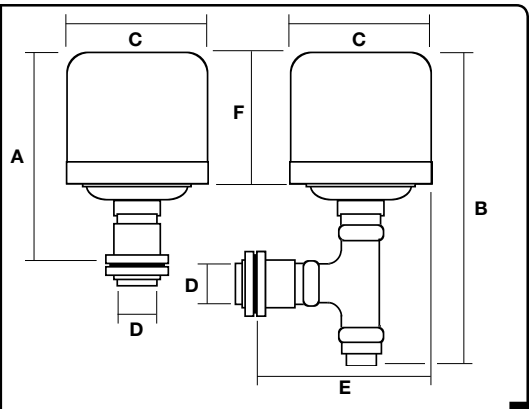
Vent Compatibility & Flow Rate Chart

Vent Model	Required Use	Optional Use	SCFH (*l*)/hr @ 3" (76.2 mm)	SCFH (*l*)/hr @ 7" (177.8 mm)
EPV-1-SA		11, 1011, 1001A & 2001A	568 (16086)	1044 (29566)
EPV-2-SA	1012, 1002 & 2002		685 (19399)	1202 (16086)
EPV-3-SA	1003,2003 3003 & 4003	1001B & 2001B	1143 (32370)	1971 (55819)
EPV-4-SA	1004,2004 3004 & 4004	1001C & 2001C	2510 (71083)	4387 (124240)
EPV-5-SA	1005 & 2005		4280	4479

Normal SCFH measured with enclosure pressure @ 3" (76.2 mm) of water
Max SCFH measured @ 7" (177.8 mm)

Overall Vent Dimensions

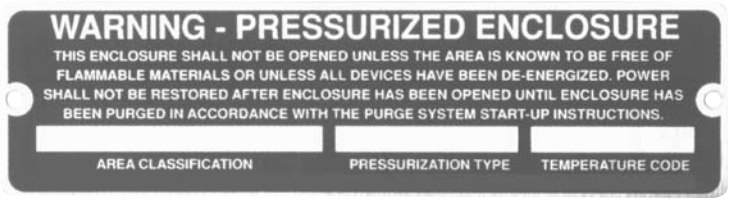
Vent Model	EPV-1	EPV-2	EPV-3	EPV-4	EPV-5
Hub Size	1/2"	3/4"	1 1/4"	1 1/2"	2"
A - Top Mnt. Hgt.	4.75 (120.7)	4.88 (123.8)	5.25 (133.4)	7 (177.8)	7 (177.8)
B - Side Mnt. Hgt.	7 (177.8)	7.36 (187.3)	8 (203.2)	11 (279.4)	11.5 (292.1)
C - Cap Diameter	4 (101.6)	4.63 (117.5)	5 (127)	8 (203.2)	8 (203.2)
D - Hub Diameter	0.88 (22.2)	1.13 (28.6)	1.75 (44.5)	2 (50.8)	2.5 (63.5)
E - Overall Width	4.25 (108)	5.25 (133.4)	5.5 (139.7)	9 (228.6)	9 (228.6)
F - Cap Length	2.75 (69.9)	2.75 (69.9)	2.75 (69.9)	3.75 (95.3)	3.75 (95.3)



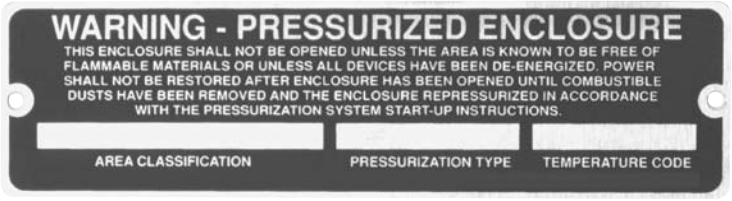
Hub Size indicates standard trade conduit size. All other dimensions indicated in inches (mm). All vents require 4" to 7" (101.6 mm to 177.8 mm) underside clearance for testing.

Enclosure Warning & Temperature Nameplates

Model EWN & ETW



Model EWN-1



Model EWN-2

Model ETW-15

NAMEPLATES ARE SHOWN SMALLER THAN ACTUAL SIZE

Description

Model EWN Warning Nameplates are attached to enclosures that utilize Pepperl+Fuchs Enclosure Protection Systems. Model EWN-1, for use in Class I areas, warns against opening the enclosure unless the area is free of flammable vapors or unless all devices within the enclosure have been deenergized. It also warns against energizing devices within the enclosure until it is purged in accordance with protection system instructions. Model EWN-2, for Class II areas, provides the same warnings indicated above. In addition, it requires removal of hazardous dusts within the enclosure, before it is repressurized. Both nameplates provide locations for Pepperl+Fuchs or user inscribed markings. The markings indicate the area classification (Class, Division & Group), the pressurization type (X, Y or Z) and the temperature code of the protected enclosure. At time of order, the user may specify or decline the marking inscriptions. These nameplates function in conjunction with Pepperl+Fuchs Enclosure Protection Systems, to reduce the hazardous (classified) area rating within protected enclosure(s), in accordance with the NEC - NFPA 70, Article 500, NFPA 496 and ISA 12.4.

ETW Description

Model ETW warning nameplates are attached to enclosures that contain devices with a surface temperature that exceeds 80% of the auto-ignition temperature for the hazardous substance in the surrounding atmosphere. The wording clearly warns personnel against opening the protected enclosure until all devices within the enclosure have been deenergized for a specific time period to permit necessary cooling of all hot devices. The time period appears as a Pepperl+Fuchs or user inscribed marking. At time of order, user may specify or decline a time period marking inscription.

Important Note

IN ACCORDANCE WITH NFPA 496 REQUIREMENTS, MODEL EWN & ETW NAMEPLATES MUST BE PLACED PROMINENTLY NEAR ANY DOOR OR COVER THAT MAY BE OPENED TO EXPOSE THE PROTECTED DEVICES WITHIN AN ENCLOSURE TO THE SURROUNDING ATMOSPHERE.

Specifications

EWN-1 & -2 Dimensions:	5.5" W x 1.5" H
ETW Dimensions:	4.5" W x 2" H
Mounting Hole:	0.125"
Adhesive Backing:	3M
Material:	Polished 316 SS
Finish:	Red Silkscreen
EWN Inscriptions:	Class, Group & Div.
EWN-__-XX	Pressurization Type
ETW Inscriptions:	Temperature Code
ETW-XX-X	Time in Minutes

Special Note

ONE (1) PLATE IS FURNISHED WITH EACH P+F ENCLOSURE PROTECTION SYSTEM.

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

REQUIRED ACCESSORIES For Protected Enclosure

In-Line Filter

Model ILF

Description

Model ILF In-Line Filters are loose shipped accessories that enhance Enclosure Protection System Models 11 and 1011, Models 1001A, B & C and Models 2001A, B & C. The filters ensure that the protective gas supply to the above listed models is essentially free of moisture and dirt particles, and should be located in a prominent location where they will receive normal maintenance considerations. As indicated below, these filters can be adapted with fittings to be attached directly to the above listed models, in a proper, vertical position.

ILFK Description

Model ILFK In-Line Filter Kits are ready to be installed filters that are shipped as part of the above listed Enclosure Protection System Models. The filter can be mounted directly to the enclosure protection system regulator using a male tube stub adaptor fitting, and can be positioned "inboard" (concealed behind the system) or "outboard" (exposed beside the system).

The filter will accept a model SC straight connector or NC ninety connector to accommodate standard 1/4", 3/8" or 1/2" diameter, 0.035" seamless or welded wall stainless steel tubing.

NOTE: *For shipping purposes, filters are shipped loose with the purge panel.*

Model ILF-4

Model ILF-6

Model ILF-8

Model ILFK-4 SHOWN IN "OUTBOARD" POSITION

Model ILFK-4 SHOWN IN "INBOARD" POSITION

Filter & Filter Kit Specifications

General Specifications	
Max. Supply Pressure:	120 psi
Temp. Range:	-20 °F to +120 °F
Bowl Material:	Clear Polycarbonate
Drain Valve:	Brass Pet Cock w/Cap
ILFK Tube Fittings:	316 SS
Models ILF-4 & ILFK-4	
Connection Size:	1/4" FPT
Compatible Models:	11, 1011, 1001A & 2001A
Capacity & Filtration:	1 oz. @ 20 Micron
Body Material:	Anodized Alum.
ILF-4 Shipping Weight:	2 lb
ILF-4 Dimensions:	4.159 H x 1.625 Diam.
Models ILF-6 & ILFK-6	
Connection Size:	3/8" FPT
Compatible Models:	1001B & 2001B
Capacity & Filtration:	5 oz. @ 40 Micron
Body Material:	Alum. w/Enamel Finish
Bowl Guard:	Black ABS
ILF-6 Shipping Weight:	3 lb
ILF-6 Dimensions:	6.316 H x 2.875 Diam.
Models ILF-8 & ILFK-8	
Connection Size:	1/2 " FPT
Compatible Models:	1001C & 2001C
Capacity & Filtration:	8 oz. @ 40 Micron
Body Material:	Alum. w/Enamel Finish
Bowl Guard:	Black ABS
ILF-8 Shipping Weight:	4 lb
ILF-8 Dimensions:	6.875 H x 3.750 Diam.

Important Note

ILFK FILTERS CAN BE INSTALLED SO THAT A TIGHTENING MOTION OF THE REGULATOR INLET FITTING ACHIEVES THE ALTERNATE FILTER POSITION (INBOARD OR OUTBOARD).

FOR EXAMPLE, A LEFT HAND CONFIGURED ENCLOSURE PROTECTION SYSTEM WOULD BE FITTED WITH THE ILFK IN THE OUTBOARD POSITION. THE USER COULD THEN TIGHTEN THE REGULATOR FITTING TO OBTAIN THE INBOARD FILTER POSITION IF DESIRED, WITHOUT BEING FORCED TO REMOVE THE REGULATOR FROM THE MOUNTING PLATE (SEE PHOTOS ABOVE).

THIS FEATURE IS INCORPORATED TO PREVENT THE INLET FITTING FROM BEING LOOSENED DURING INSTALLATION.

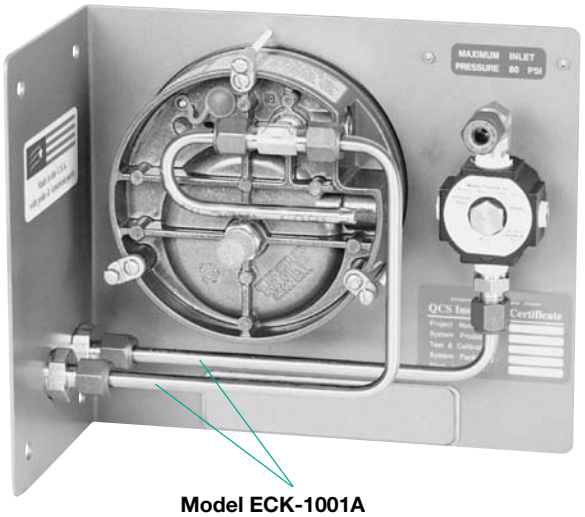
Special Note

MODEL ILF FILTERS ARE ALSO IDEAL PRE-FILTERS FOR RAPID EXCHANGE® PURGING SYSTEMS. PLEASE CONSULT A FACTORY SALES REPRESENTATIVE FOR MORE INFORMATION.

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

Enclosure Connection Kits & Tamper Proof Regulator

Model ECK & TR



Model ECK-1001A
ENCLOSURE CONNECTION KIT
FITTED ON MODEL 1001A-LPS SYSTEM

Model TR-10/TR-30
TAMPER PROOF
REGULATOR

Model TR-10G/TR-30G
TAMPER PROOF REGULATOR
WITH GAUGE

Specifications

Model ECK-11 & ECK-1001A

Tube Fittings:	316 SS
Lock Nuts:	316 SS
O Ring:	Neoprene
Mounting Hole:	0.453"

Model TR-10 & TR-10G

Supply Pressure:	120 psi max.
Supply Connection:	1/4" FPT
Gauge Connection:	1/8" FPT
Range:	0-30 psi
Body:	Zinc w/Enamel Finish
Handle:	Polycarbonate
Hex Key Size:	5/64"
Gauge:	Steel Case & Brass Tube

Model TR-30 & TR-30G

Supply Pressure:	120 psi max.
Supply Connection:	1/2" FPT
Gauge Connection:	1/4" FPT
Range:	0-30 psi
Body:	Zinc w/Enamel Finish
Handle:	Polycarbonate
Hex Key Size:	5/64"
Gauge:	Steel Case & Brass Tube

Model ECK Description

Model ECK-11 & ECK-1001A enclosure connection kits are factory installed tubing kits that enhance enclosure protection system Models 11 and 1001A in flange mounted (LH, RH, TM & BM) configurations. Model ECK eliminates the requirement for tubing skills, thus allowing OEM installers to quickly and effortlessly adapt a Model 11 or 1001A to their existing product, utilizing only basic hand tools and drills. The kit terminates at flush connector fittings which penetrate the system's mounting flange, for a tight, compact installation. This feature is limited to Model 11 & 1001A systems, because they cover broad application ranges and are intended for a single, small enclosure, where this connection method is considered practical and safe under all conditions. Installation of systems equipped with this kit requires the addition of two holes to the normal mounting hole pattern.

Model TR Description

The tamper proof regulators feature a mounting ring, removable cap and hex key adjustment stem. These regulators have a 0-30 psi gauge, and are intended for use as a redundant, tamper proof regulator for enclosure protection system models, Class I, < 2 ft^3 and Class II systems, when the systems are installed without an enclosure protection vent. The tamper proof regulator can be substituted at time of order, upon request, to replace the hand operated enclosure pressure control regulator on the same models listed above. The tamper proof regulator is intended to prevent tampering, while allowing a more stable setpoint to be achieved. This substitution is generally necessary for small, tightly sealed enclosures where protective gas flow is critically low and, therefore, more difficult to stabilize. As an enhancement, it is designed to offset the possible need for more costly, precision low flow regulators (please consult factory for more information).

Special Note

A 5/64" HEX KEY OR ALLEN WRENCH
IS REQUIRED TO OPERATE.
THE TAMPER PROOF REGULATOR

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Explosion Proof & General-Purpose Switch Kits

Model EPSK & GPSK

Model EPSK

Model GPSK

EPSK Description

Model EPSK-1 and EPSK-2 explosion proof switch kits are loose accessories that provide electrical contacts for audible or visual alarm devices that signal a loss of protected enclosure pressure. Model EPSK-1 is calibrated to alarm at 0.15" for Class I applications. Model EPSK-2 is calibrated to 0.50" for Class II applications. The kits consist of a pre-fitted explosion proof differential pressure switch, an enclosure pressure reference bulkhead union w/vent and mounting bolts for the switch. The switches feature an atmospheric reference vent in the low port and an enclosure pressure reference tube fitting in the high port. The switches are, therefore, intended to mount outside the protected enclosure and are suitable for hazardous (classified) outdoor locations. The installer must first mount the pressure switch and bulkhead union, then install tubing between the switch's enclosure pressure reference tube fitting and the bulkhead union. Wiring must be installed with a seal and conduit fittings that are suitable for the location. Alarm circuit power may be derived from the protected enclosure power source or an intrinsically safe alarm signal source. However, all associated alarm devices must be protected by suitable means (explosion proof, purged or intrinsically safe).

GPSK Description

Model GPSK-1 and GPSK-2 general-purpose switch kits are similar to Model EPSK-1 and EPSK-2 above, but are not rated for hazardous outdoor locations and are intended for mounting inside the protected enclosure. Therefore, the switch connections are reversed so that the high port references enclosure pressure with a vent, and the low port references atmospheric pressure with tubing to the bulkhead union. The switches must be wired with an intrinsically safe alarm signal circuit, or be considered as protected devices that can be deenergized along with all similar devices before the protected enclosure is opened. Alarm devices may be protected by other suitable means (such as an explosion proof beacon or horn, mounted externally, with a conduit seal).

Material Specifications

Model EPSK	
Body:	Anodized Cast Alum.
Diaphragm:	Fluorosilicone Rubber
Calibration Spring:	Stainless Steel
Fasteners & Fittings:	316 SS
Model GPSK	
Body:	Zinc Plated Steel
Diaphragm:	Molded Silicone Rubber
Diaphragm Plate:	Aluminum
Calibration Spring:	Stainless Steel
Fasteners & Fittings:	316 SS

EPSK Specifications

CALIBRATION & OPERATING RANGE	
Model EPSK-1:	(Decr) 0.15" ± 0.02"
Model EPSK-1A:	(Decr) 0.15" ± 0.02"
Model EPSK-2:	(Decr) 0.50" ± 0.02"
GENERAL INFORMATION	
Switch Dimensions:	3.50" H x 4.25" Diam.
Shipping Weight:	5 lb
Temp. Range:	-40 °F to +140 °F
Maximum Surge Pressure:	10 psi
Reference Tube Fitting Size:	1/4"
Switch Conduit Port Size:	1/2" FPT
Switch Contact Type:	Form C
Switch Contact Rating:	
WPS Style:	120 VAC, 15 A
WPSA Style:	*** 120/220 VAC, 24 VDC @ 10 A; 125 VDC @ 50 mA
Switch (WPSA) Power Requirement:	24 / 120 / 240 VDC @ 3 /4 /11 watts
UL Listing	
Model EPSK-1:	Cl. I & II, Div. 1, Gr. C-G
Model EPSK-1A:	Cl. I & II, Div. 1, Gr. A-G
Installation Position:	Diaphragm Vertical
Life of Contacts:	6000 Cycles

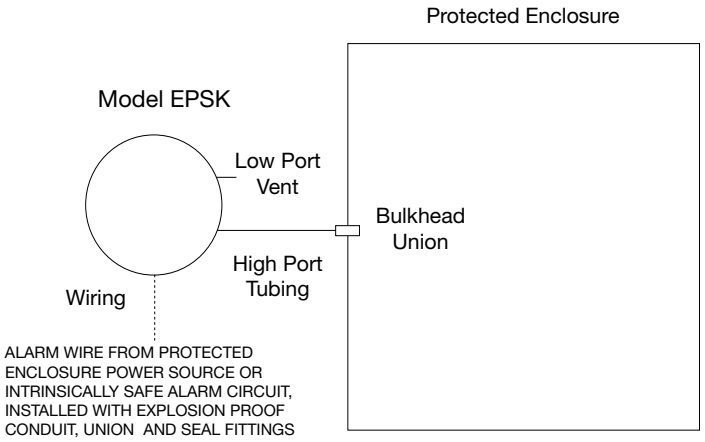
* Supply voltages 24 VDC and 240 VAC available upon request.

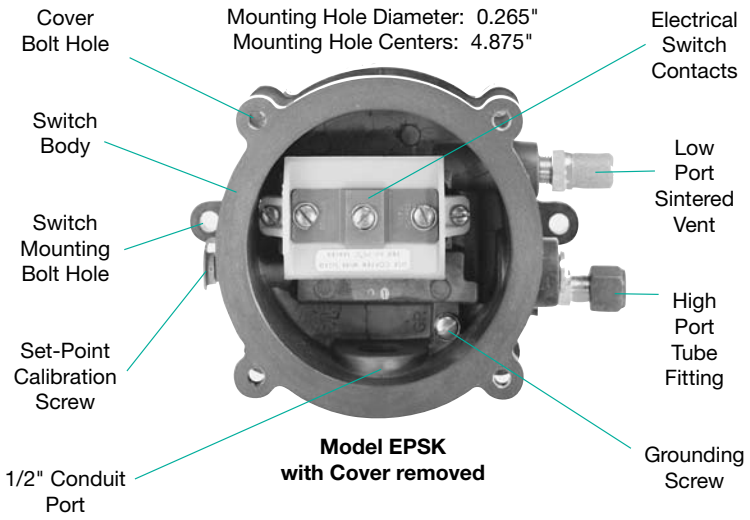
GPSK Specifications

CALIBRATION & OPERATING RANGE	
Model GPSK-1:	(Decr) 0.15" ± 0.02"
Operating Range (for Class I applications):	0.07" - 0.15"
Model GPSK-2:	(Decr) 0.50" ± 0.02"
Operating Range (for Class II applications):	0.40" - 1.60"
GENERAL INFORMATION	
Switch Dimensions:	2.50" H x 3.50" Diam.
Shipping Weight:	3 lb
Temp. Range:	-30 °F to +180 °F
Maximum Surge Pressure:	10 psi
Reference Tube Fitting Size:	1/4"
Switch Conduit Port Size:	1/2" Knockout
Switch Contact Type:	Form C
Switch Contact Rating:	120 VAC, 15 A
U.L. Listing:	Gen. Purpose / Type 1
Installation Position:	Diaphragm Vertical

Explosion Proof & General-Purpose Switch Kits

Typical EPSK Installation



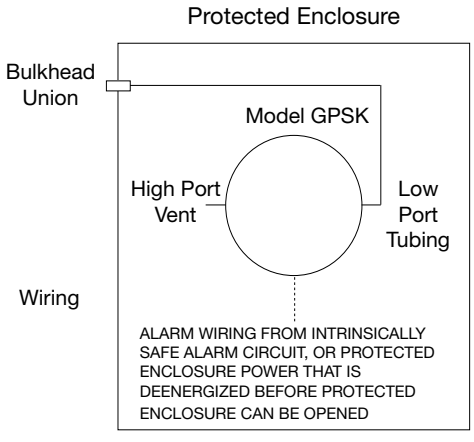


Model EPSK with Cover removed

Bulkhead Union Mounting Hole: 0.4531" (29/64")
EPSK Screws: 1/4-20 x 3/4" GPSK Screws: 8/32 x 1/2"

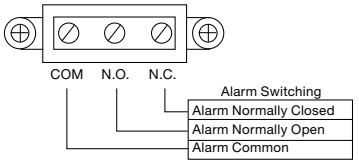
Model GPSK with Cover removed

Typical GPSK Installation

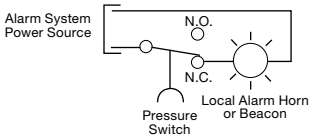


Terminal Block Connections

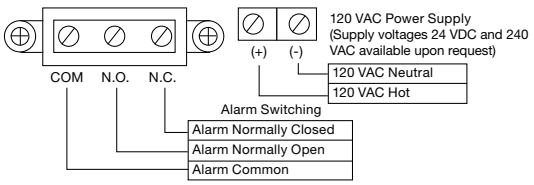
GPSK, EPSK & WPS Terminal Block Connections



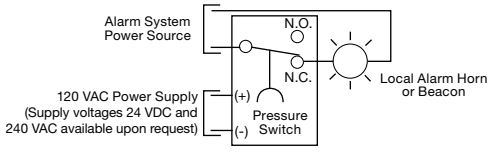
GPSK, EPSK & WPS "Normally Closed" Wiring Configuration



EPSK-1A & WPSA Terminal Block Connections



EPSK-1A & WPSA "Normally Closed" Wiring Configuration



Important Note

MODEL EPSK AND GPSK KITS FUNCTION IN CONJUNCTION WITH P+F LPS STYLE TYPE Y & Z ENCLOSURE PROTECTION SYSTEMS, TO PROVIDE AN ALARM TO INDICATE LOSS OF PROTECTED ENCLOSURE PRESSURE, IN ACCORDANCE WITH THE NEC - NFPA 70, ARTICLE 500, NFPA 496 AND ISA 12.4.

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

WARRANTY & LIABILITY POLICIES AVAILABLE UPON REQUEST.

"L" & "T" Style Conduit Fitting Kits

Model LCK & TCK

LCK Description

Model LCK is a kit of loosely shipped conduit fittings that initiate the basic conduit installation between an enclosure protection system and the protected enclosure, for power and/or alarm wiring connections. The kit consists of a conduit union, two close nipples, a conduit seal, an elbow or "L" conduit fitting, and an enclosure mounting hub. When utilized with WPS style Type Y or Z systems, the kit is used to carry alarm signal wiring to the protected enclosure. The wire is then routed to its final destination, such as a remote annunciator, or a beacon on top of the enclosure. When utilized with Type X systems, the kit is normally used to carry power wiring to the protected enclosure. In both cases, basic installation requires punching a 1/2" conduit knockout in the enclosure, cutting one (1) 1/2" pipe nipple to length, and installing the kit between the system and protected enclosure.

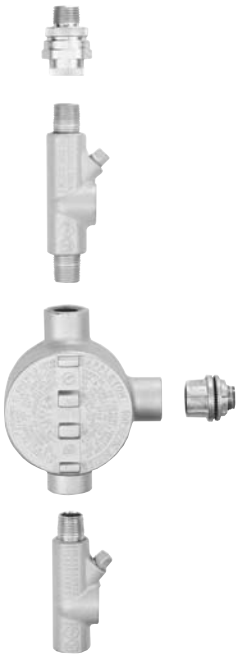
TCK Description

Model TCK is a kit of loose shipped fittings that accomplishes the same function as Model LCK above, but includes a tee or "T" fitting for a third connection point, along with an additional seal and close nipple. This kit, therefore, not only initiates the basic conduit installation between an enclosure protection system and the protected enclosure, but also provides for a third wiring connection path to another device, such as a power switch or local alarm.

Custom Conduit Kits

In addition to the kits above, Pepperl+Fuchs can produce any conduit assembly for repeat OEM orders. These custom assemblies can include, but are not limited to, pre-fitted conduit and pigtail wiring or MI cable assemblies. Customer must provide a detailed installation drawing with precise dimensions to receive an accurate quotation. Please consult a factory sales representative for more information.

Model LCK



Model TCK

Kit Specifications

Shipping Weight:	LCK - 5 lb / TCK - 6 lb
UL Listing:	Cl. I & II, Div. 1, Gr. B-G
Connection Size:	1/2" Trade Conduit
Union Fitting:	Anodized Alum.
Pipe Nipples:	150# Galvanized Pipe
Seal, L & T Fittings:	Cast Alum.
Enclosure Hub:	Zinc Plated Steel
Hub O Ring:	Neoprene
Wire Guard Insert:	G.E. Lexan®

Lexan® is a registered trademark of the General Electric Company

Important Note

MODEL LCK & TCK ARE OFFERED PRIMARILY TO OEMS ATTEMPTING TO ACHIEVE A "FIELD-READY" INSTALLATION. IN ALL CASES, LIMITED PIPE FITTING SKILLS WILL BE REQUIRED. PRE-CUT 150# GALVANIZED STEEL PIPE NIPPLES CAN BE ACQUIRED FROM LOCAL PLUMBING SHOPS, BUT A HOLE SAW OR PUNCH AND WRENCHES ARE REQUIRED TO INSTALL KITS.

Special Note

ALL SEALS MUST BE POURED UPON FINAL INSTALLATION WITH AN APPROVED COMPOUND FROM THE SEAL MANUFACTURER. A TWO (2.0) OUNCE PACKET OF APPROVED SEALING COMPOUND AND A ONE-FIFTH (0.2) OUNCE PACKET OF SEAL PACKING FIBER ARE PROVIDED WITH EACH KIT, AND MUST BE FORWARDED TO THE FINAL INSTALLATION SITE IF NOT UTILIZED DURING KIT INSTALLATION.

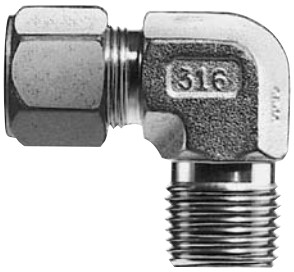
ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

OPTIONAL ACCESSORIES For All Type X Systems & WPS Style Y & Z Systems

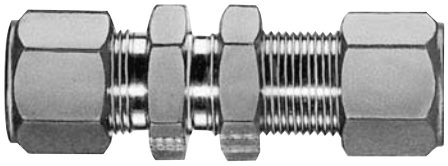
Tubing & Pipe Connection Fitting

Model SC, NC, EBC, EFC & EPC

Model SC
STRAIGHT CONNECTOR



Model NC
NINETY CONNECTOR



Model EBC
ENCLOSURE BULKHEAD CONNECTOR

Model EFC
ENCLOSURE FLUSH CONNECTOR

Model EPC
ENCLOSURE PIPE CONNECTOR

SC & NC Fittings

Model SC Straight Connector and NC Ninety Connector fittings provide a standard tubing connection for the female regulator port of most Rapid Exchange® Purging Systems. When these systems are outfitted with Model SC or NC fittings, they can be connected to the protective gas supply with standard 1/4", 3/8" or 1/2" diameter, 0.035" wall stainless steel tubing. Model 1005 & 2005 systems are not accommodated because they require a direct 1/2" pipe connection to the protective gas supply for proper operation.

EFC Fittings

Model EFC enclosure flush connector fittings provide a standard tubing connection on the protected enclosure(s). Because these fittings feature a neoprene O ring and short body, they form an exceptional seal, requiring the smallest possible amount of interior clearance. They are intended for the tubing supply connection on the first enclosure of any installation, and are compatible with all systems, except Models 1005 & 2005. In addition, Model EFC-4 fittings provide the enclosure pressure reference connection on any enclosure for any Pepperl+Fuchs enclosure protection system, because all Pepperl+Fuchs systems feature a 1/4" tube fitting on the enclosure pressure reference port.

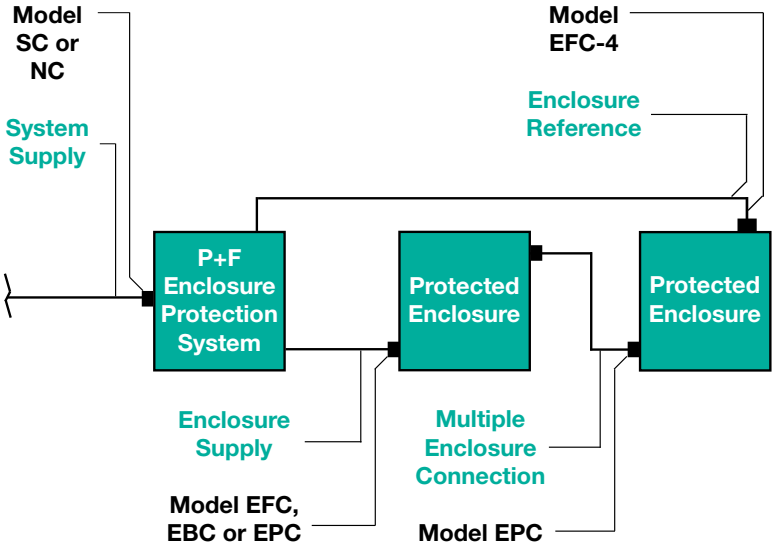
EBC Fittings

Model EBC enclosure bulkhead connector fittings provide a standard bulkhead tubing connection on a protected enclosure. The fitting features tubing nuts on both ends, to permit tubing to continue through the surface of an enclosure. They are suitable for the enclosure supply connection on any system, with exception to Models 1005 & 2005. These fittings are often used to increase the outward aesthetic appearance of an installation, because they can be mounted directly behind a system and be connected by a short piece of tubing. Then, another piece of tubing can be routed inside the enclosure to the desired point of supply discharge. This method of installation conceals the supply tube, and leaves the outside surface of the enclosure free of obstructions.

EPC Fittings

Model EPC (Enclosure Pipe Connector) fittings provide a standard female pipe connection on a protected enclosure to terminate pipe connections between multiple enclosures. The pipe connections may be used solely to transfer protective gas, but may also be used as "pressurized raceways" if adequate precautions are taken to insure an unrestricted flow of protective gas. Model EPC-10 is suitable for the supply connection between an enclosure and a Model 1005 or 2005 system. While these fittings are normally associated with the use of electrical conduits, their strong construction makes them ideally suited for low pressure applications; but they are by no means intended for high pressure pneumatic service.

Typical System Installation & Fitting Use



Fitting Specification, Compatibility & Use Chart

Model	Connections	Compatible Systems	Intended Use	Cutout
NC-4	1/4" T x 1/4" MPT	1012, 1002 & 2002	System Supply	n/a
NC-6-4	3/8" T x 1/4" MPT	3003 & 4003	System Supply	n/a
NC-6	3/8" T x 3/8" MPT	1003 & 2003	System Supply	n/a
SC-6-8	3/8" T x 1/2" MPT	3003 & 4003	Encl. Supply	n/a
NC-8	1/2" T x 1/2" MPT	1004 & 2004	System Supply	n/a
SC-4	1/4" T x 1/4" MPT	1012, 1002 & 2002	System Supply	n/a
SC-6-4	3/8" T x 1/4" MPT	3003 & 4003	System Supply	n/a
SC-6	3/8" T x 3/8" MPT	1003 & 2003	System Supply	n/a
SC-8	1/2" T x 1/2" MPT	1004, 2004, 3004 & 4004	System Supply	n/a
SC-6-8	3/8" T x 1/2" MPT	3003 & 4003	Encl. Supply	n/a
EFC-4	1/4" T	ALL SYSTEMS	Encl. Reference	0.453"
EFC-4	1/4" T	11, 1011 & 1001A	Encl. Supply	0.453"
EFC-4	1/4" T	1012, 1002 & 2002	Encl. Supply	0.453"
EFC-6	3/8" T	1003, 2003, 3004 & 4004	Encl. Supply	0.578"
EFC-8	1/2" T	1004, 2004, 3004 & 4004	Encl. Supply	0.765"
EBC-4	1/4" T x 1/4" T	11, 1011 & 1001A	Encl. Supply	0.453"
EBC-4	1/4" T x 1/4" T	1012, 1002 & 2002	Encl. Supply	0.453"
EBC-6	3/8" T x 3/8" T	1001B, 1003, 2001B, 2003, 3004 & 4004	Encl. Supply	0.578"
EBC-8	1/2" T x 1/2" T	1001C, 1004, 2001C, 2004, 3004 & 4004	Encl. Supply	0.765"
EPC-10	1/2" FPT	1005 & 2005	Encl. Supply	0.750"
EPC-10	1/2" FPT	11, 1011 & 1001A	Mlt. Encl. Conn.	0.750"
EPC-12	3/4" FPT	1012, 1002 & 2002	Mlt. Encl. Conn.	1.125"
EPC-13	1" FPT	1001B, 1003, 2001B, 2003, 3004 & 4004	Mlt. Encl. Conn.	1.375"
EPC-14	1 1/2" FPT	1001C, 1004, 2001C, 2004, 3004 & 4004	Mlt. Encl. Conn.	2.000"
EPC-15	2" FPT	1005 & 2005	Mlt. Encl. Conn.	2.500"

"T" indicates Tubing Nut & Ferrule Assembly
"MPT" indicates Male Pipe Thread "FPT" indicates Female Pipe Thread

Model Number Designations

EFC - 4

Fitting Style

- **SC** - Straight Male Tubing Connector
- **NC** - Ninety Male Tubing Connector
- **EFC** - Enclosure Tubing Flush Connector w/O Ring & Lock Nut
- **EBC** - Enclosure Tubing Bulkhead Connector w/Lock Nut
- **EPC** - Enclosure Pipe Connector w/O Ring & Lock Ring

Fitting Connection Size

- **4** - 1/4" Tubing / 1/4" Male Pipe Thread
- **6** - 3/8" Tubing / 1/4" Male Pipe Thread
- **8** - 1/2" Tubing / 1/4" Male Pipe Thread
- **10** - 1/2" Female Pipe Thread
- **12** - 3/4" Female Pipe Thread
- **13** - 1" Female Pipe Thread
- **14** - 1 1/2" Female Pipe Thread
- **15** - 2" Female Pipe Thread

Sizes 4-8 apply to SC, NC, EFC & EBC Style Fittings
Sizes 10-15 apply to EPC Style Fittings only

Material Specifications

Model SC, NC & EBC

Body:	316 SS
Finish:	Bright Annealed

Model EFC

Body:	316 SS
Finish:	Bright Annealed
O Ring:	Neoprene

Model EPC

Body:	Steel
Finish:	Zinc Plated
O Ring:	Neoprene
Wire Guard Insert:	G. E. Lexan®

Lexan® is a registered trademark of the General Electric Company

Special Note

THE DIAGRAM AND CHART SHOWN HERE DO NOT APPLY TO PANEL MOUNT CONFIGURATION SYSTEMS.

PLEASE CONSULT FACTORY FOR SPECIFIC INFORMATION.

Important Notes

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

ALL FITTINGS SOLD AT OR BELOW MANUFACTURER'S LIST PRICE.

WARRANTY & LIABILITY POLICIES AVAILABLE UPON REQUEST.

Surface Mounting Kits & Pipe Mounting Kits

Model SMK & PMK

SMK-1

SMK-2

SMK-3

SMK-4

SMK-6
SMK-6m

SMK-8
SMK-8m

SMK-10

PMK-1

PMK-2

PMK-3

SMK-1, 2, & 3

Models SMK-1, 2, & 3 Surface Mounting Kits are fasteners that permit the attachment of Pepperl+Fuchs Systems featuring LH (left-hand), RH (right-hand), TM (top mount), BM (bottom mount) or WM (wall mount) plate configurations to flat surfaces. These kits include 316 stainless steel, hex-head bolts with flat washers, lock washers, and hex nuts, in quantities and sizes as follows:

SMK-1	four	1/4"
SMK-2	four	3/8"
SMK-3	six	3/8"

SMK-4, 6, 8, & 10

Models SMK-4, 6, 8, & 10 Surface Mounting Kits are fasteners that permit the attachment of Pepperl+Fuchs Systems featuring FM (frame mount) or PM (panel mount) plate configurations through a surface cutout. These kits include 316 stainless steel, phillips-head screws, 14 gauge retainer clips, flat washers, lock washers, and hex nuts, in quantities and sizes as follows:

SMK-4	four	1/4"
SMK-6 (m)	six	1/4"
SMK-8 (m)	eight	1/4"
SMK-10	ten	1/4"

PMK-1, 2, & 3

Models PMK-1, 2, & 3 are fasteners that permit the attachment of Pepperl+Fuchs Systems featuring LH (left-hand), RH (right-hand), TM (top mount), or BM (bottom mount) plate configurations to 2" schedule 40 pipe. These kits include 316 stainless steel U-bolts with flat washers, lock washers, and hex nuts, in quantities and sizes as follows:

PMK-1	two	1/4"
PMK-2	two	3/8"
PMK-3	three	3/8"

OPTIONAL ACCESSORIES
For All Pepperl+Fuchs
Enclosure Protection Systems

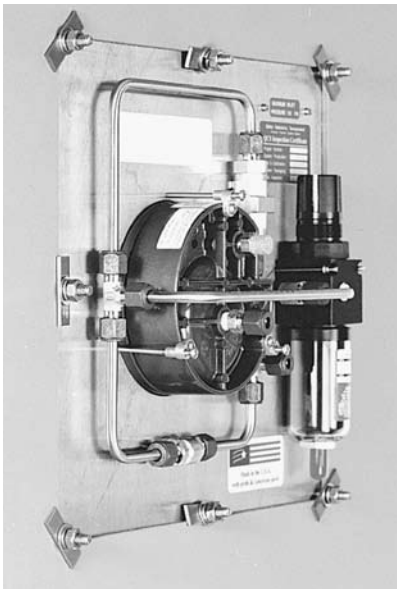
SMK 1, 2 & 3 Application

PMK 1, 2 & 3 Application

System/Mounting Kit Compatibility

	LH, RH, TM, BM, VM & HM		WM	FM & PM
MODEL	SURFACE	PIPE	SURFACE	CUTOUT
1011	SMK-1	N/A	N/A	SMK-4
1012	SMK-1	N/A	N/A	SMK-4
11 LPS	SMK-1	PMK-1	SMK-1	SMK-4
11 WPS	SMK-1	PMK-1	SMK-1	SMK-4
1001A LPS	SMK-1	PMK-1	SMK-1	SMK-4
1001A WPS	SMK-1	PMK-1	SMK-1	SMK-6
1001B LPS	SMK-1	PMK-1	SMK-1	SMK-4
1001B WPS	SMK-1	PMK-1	SMK-1	SMK-6
1001C LPS	SMK-1	PMK-1	SMK-1	SMK-4
1001C WPS	SMK-1	PMK-1	SMK-1	SMK-6
1002 LPS	SMK-2	PMK-2	SMK-2	SMK-8
1002 WPS	SMK-2	PMK-2	SMK-2	SMK-8
1003 LPS	SMK-2	PMK-2	SMK-2	SMK-8
1003 WPS	SMK-2	PMK-2	SMK-2	SMK-8
1004 LPS	SMK-2	PMK-2	SMK-2	SMK-8
1004WPS	SMK-2	PMK-2	SMK-2	SMK-8
1005 LPS	SMK-2	PMK-2	SMK-2	SMK-8
1005 WPS	SMK-2	PMK-2	SMK-2	SMK-8
2001A	SMK-3	PMK-3	SMK-2	SMK-10
2001B	SMK-3	PMK-3	SMK-2	SMK-10
2001C	SMK-3	PMK-3	SMK-2	SMK-10
2002	SMK-3	PMK-3	SMK-2	SMK-10
2003	SMK-3	PMK-3	SMK-2	SMK-10
2004	SMK-3	PMK-3	SMK-2	SMK-10
2005	SMK-3	PMK-3	SMK-2	SMK-10
3000	SMK-1	PMK-1	SMK-1	SMK-6m
4000	SMK-3	PMK-1	SMK-3	SMK-8m

SMK 4, 6, 8 & 10 Application



Important Notes

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

WARRANTY & LIABILITY POLICIES AVAILABLE UPON REQUEST.

For Type Y & Z LPS Style System

Universal Mounting Plates

Face Plate

Universal Flange

Optional Wall Flanges

Permits the field selection of multiple mounting configurations for our most popular Type Y & Z Systems

FM APPROVED

CLASSIFIED C UL US

Description

The Universal Mounting Plate is an alternative to the standard LPS style mounting plates listed on the specification bulletins for Pepperl+Fuchs Model 1001A, 1002, 1003, 1004 & 1005 Type Y & Z enclosure protection systems. The Universal Mounting (UM) Plate is furnished as one (1) face plate containing all system components and one (1) universal flange. The universal flange is furnished with fasteners for attachment to any side of the face plate, allowing the installer to select a left hand (LH), right hand (RH), top mount (TM) or bottom mount (BM) configuration. The face plate for all models is also suitable for a frame mount (FM) configuration. In addition, the face plate for Model 1001A and 1002 Systems is also suitable for a panel mount (PM) configuration, with minor modifications to the enclosure pressure gauge connections. The Universal Mounting Plate is specified by designating the initials "UM" as the Protection System model number's mounting configuration suffix, as shown in the following example:

Example: 1002-LPS-CI-Z-**UM**

Optional wall flanges are also available for all models, to allow the installer to mount a UM face plate parallel to a flat surface in a wall mount (WM) configuration. The wall flanges include required fasteners for the UM face plate, and can be ordered as a separate line item by designating the initials "WF", followed by the system model number, as shown in the following example:

Example: **WF**-1002

Specifications

Dimensions:	See Page 127
Material:	Brushed 14 Gauge 316 SS
Fasteners:	1/4" SS Hex Bolts & Nuts
Shipping Weight:	See System Bulletin

Refer to each individual system specification bulletin for material and performance information on selected enclosure protection systems.

UNIVERSAL MOUNTING For Model 1001A, 1002, 1003, 1004 & 1005 LPS Systems

Universal & Optional Wall Flange Configurations & Mounting Dimensions

FACE PLATES WITH UNIVERSAL FLANGE

Left Hand (LH)

Right Hand (RH)

Top Mount (TM)

Bottom Mount (BM)

FACE PLATE WITHOUT UNIVERSAL FLANGE

* Frame Mount (FM)

FACE PLATE WITH WALL FLANGES

Wall Mount (WM)

* Suitable for Panel Mount (PM) on Models 1001A & 1002 only

PEPPERL+FUCHS
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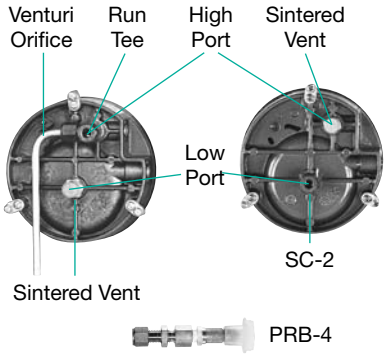
Model 1001A &1002 Panel Mount Conversion



Standard Configuration (prior to conversion)

Panel Mount Configuration (after conversion)

Perform the following procedure to convert Model 1001A or 1002 Enclosure Pressure Gauge for Panel Mount (PM) configuration.

1. Secure one Model GCK Conversion Kit, including SC-2 Fitting & PRB-4 Vent.
2. Remove venturi orifice and run tee from the high port of the gauge and discard.
3. Remove sintered vent from low port.
4. Reinstall sintered vent into PRB-4 high port.
5. Install Model SC-2 fitting into low port.
6. Install Model PRB-4 vent through enclosure surface (vent end out) and connect tubing (customer supplied) between SC-2 & PRB-4.

Special Note

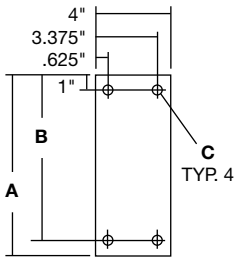
MOUNTING HARDWARE SUCH AS P+F MODEL SMK-1 OR SMK-2 IS REQUIRED TO SECURE THE UNIVERSAL OR WALL FLANGES TO THE PROTECTED ENCLOSURE FOR LH, RH, TM, BM AND WM CONFIGURATIONS. MOUNTING HARDWARE SUCH AS P+F MODEL SMK-4 OR SMK-8 IS REQUIRED TO SECURE THE FACE PLATE TO THE PROTECTED ENCLOSURE FOR FM AND PM CONFIGURATIONS. REFER TO THE LISTING OF UNIVERSAL MOUNTING PLATE ACCESSORIES ON THE REAR COVER FOR MORE INFORMATION.
A P+F MODEL NC NINETY CONNECTOR OR AN EQUIVALENT FITTING IS REQUIRE FOR THE SUPPLY INLET ON MODEL 1002, 1003, 1004 & 1005 PURGING SYSTEMS THAT ARE MOUNTED IN A RIGHT HAND (RH) CONFIGURATION.

Important Notes

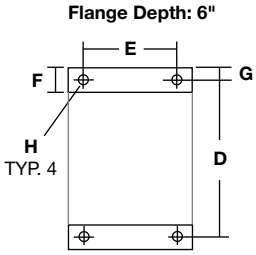
ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.
WARRANTY & LIABILITY POLICIES AVAILABLE UPON REQUEST.

Universal Flange

Model #	A	B	C
1001A	9"	8"	0.25"
1002	11"	10"	0.375"
1003	13"	12"	0.375"
1004	14"	13"	0.375"
1005	14"	13"	0.375"



Universal Flange Footprint



Wall Flange Footprint

Wall Flange

Model #	D	E	F	G	H
1001A	8"	8"	1"	.5"	0.25"
1002	9"	9"	2"	1"	0.375"
1003	11"	11"	2"	1"	0.375"
1004	12"	12"	2"	1"	0.375"
1005	12"	12"	2"	1"	0.375"

Universal Mounting Plate Accessories

SUPPLY CONNECTION FITTINGS

NC-4	1/4" Ninety Connector-1002
NC-6	3/8" Ninety Connector-1003
NC-8	1/2" Ninety Connector-1004 & 1005

1001A & 1002 PANEL MOUNT CONVERSION

GCK	Gauge Conversion Kit

WALL MOUNTING FLANGES

WF-1001A	Wall Flanges
WF-1002	Wall Flanges
WF-1003	Wall Flanges
WF-1004	Wall Flanges
WF-1005	Wall Flanges

SYSTEM MOUNTING HARDWARE

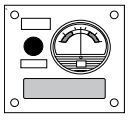
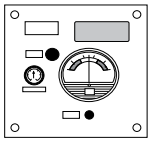
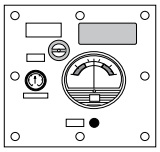
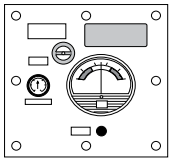
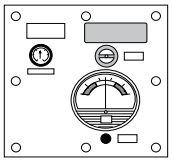
SMK-1	1001A LH, RH, TM, BM & WM configs.
SMK-2	1002-1005 LH, RH, TM, BM & WM configs.
SMK-4	1001A & 1002 for FM or PM configs.
SMK-8	1003-1005 for FM configs.

PRESSURE LOSS ALARM SWITCHES

EPSK-1	Cl. I System Explosion Proof Switch Kit
EPSK-1A	Cl. I System Explosion Proof Switch Kit
GPSK-1	Cl. I System General-purpose Switch Kit
EPSK-2	Cl. II System Explosion Proof Switch Kit
GPSK-2	Cl. II System General-purpose Switch Kit

SEE SYSTEM SPECIFICATION BULLETINS FOR ADDITIONAL ACCESSORIES SUCH AS ENCLOSURE CONNECTION FITTINGS, PIPE MOUNTING KITS AND PURGE LOSS ALARM HORNS & BEACONS

Face Plate Dimensions

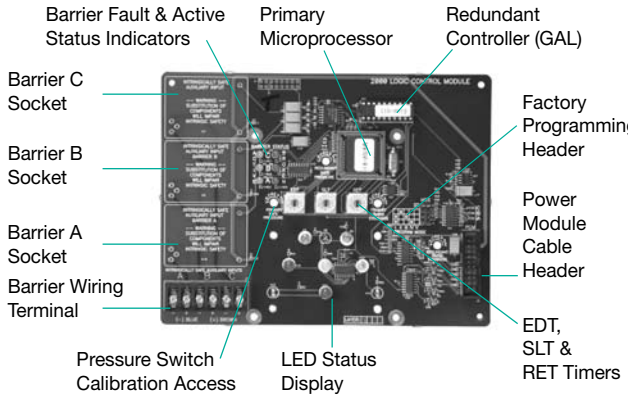






Model Number	1001A	1002	1003	1004	1005
Height	9	11	13	14	14
Width	9	11	13	14	14
Depth	5	5	5.75	6.75	5

Dimensions shown in inches. For FM & PM panel cutout dimensions, subtract three quarters (0.75") of an inch from overall system height & width. Height & width dimensions reflect face plate measurements. Depth dimension reflects overall depth of all front and rear mounted components.

Type X EPCU Accessories

Model: ISB, SRM, NJ..., L, RP1 & RP2



Typical EPCU Logic Module (2000 Series Only)

Model SRM-6000
Switch Resistor Module

Model NJ...
NAMUR Proximity Sensor

MODEL ISB
Intrinsic Safety Barrier

Model ISB Operation

Barrier A (ISB-1) - when customer's switch opens
Disables start-up & Rapid Exchange cycle, deenergizes enclosure power and alarm relays, Functions parallel to safe pressure switch

Typical Interface Devices
Door contact switch, remote pressure switch, emergency shutdown switch, gas detector

Barrier B (ISB-2) - when customer's switch opens
Disables Rapid Exchange cycle, Functions parallel to Rapid Exchange switch

Typical Interface Devices
Enclosure protection vent flow switch, remote pressure switch

Barrier C (ISB-3) - when customer's switch closes
Energizes Rapid Exchange solenoid valve

Typical Interface Devices
Purgeable instrument access door switch, gas detector, temperature switch

Model ISB Description

Model ISB intrinsic safety barriers are factory installed and programmed galvanically isolated transformers that receive remote control signals to operate the EPCU (electrical power control unit) on Type X Systems. The EPCU logic module can accommodate up to three model ISB transformers, known as ISB-1, 2 and 3, located along the left side. The transformers are designed to function in conjunction with a customer furnished switch and Pepperl+Fuchs Model SRM-4000 switch resistor module, or a Pepperl+Fuchs model NJ... Proximity Detector. Each transformer develops an isolated low power signal, to create a two wire closed loop circuit. Operational status of each barrier is indicated by a pair of LEDs positioned to the left of ISB. The green LEDs show active (closed switch) status, and the red LEDs show barrier or wiring fault status. Isolated conduit entries, a solid body wireway with snap cover and Lexan® wiring partitions, provide a fully isolated customer wiring path to a six point terminal strip which provides input and output connections to each barrier. All barriers can be reprogrammed by the factory to duplicate other barrier functions, upon request.

Model SRM Description

Model SRM-4000 switch resistor module is an interface device that must be fitted between a customer's switch and Pepperl+Fuchs ISB barrier, to activate or deactivate the intended barrier. The Module consists of a ten-foot cable, a small plastic case and a 6" two-wire lead that is intended for the switch. When installed correctly, the module allows the ISB transformer to detect three distinct conditions as follows: (1) the switch is open, (2) the switch is closed and (3) the wire is broken. The long cable end of the module is typically installed through a dedicated entry on the side of the EPCU, and is routed to the customer's switch. The cable can be installed in free air tray or conduit, and must be isolated from all other power sources. The switch or relay contact that provides the switch signal must be fully isolated from all other power sources.

Model NJ... Sensor Description

The model NJ… NAMUR proximity sensor is offered as an alternative to using the model SRM-400 switch resistor module and a customer furnished switch. It is an interface sensor that fits directly to the Pepperl+Fuchs ISB barrier and activates and deactivates the intended barrier. When placed within 1/16'' of a metallic surface, the sensor closes and activates the intended barrier. As the detector moves away from the metallic surface, the detector opens and the barrier is deactivated.
NOTE: It is necessary to reprogram the EPCU when using the NJ…NAMUR proximity sensor.

OPTIONAL ACCESSORIES For Pepperl+Fuchs Type X Enclosure Power Control Units

Type X EPCU Accessories

Model L

Model L Description

Model L (keyed alike) key lock assemblies are factory installed anodized key lock operators that modify the power control switch on a Type X System EPCU. The assemblies feature a zinc body locking cam, with a stainless spring cover cap and spring loaded lockout plunger, a precision machined body, mounting base and two keys. The assemblies are most commonly used on an EPCU programmed to operate in CB (conditional bypass) power control modes (see Type X System power control options).

Model L Operation

Design features require the operator to insert the key to travel between the "Off" and "On" positions. When the "On" position is attained, the spring loaded plunger engages and drops to the body surface. In order to travel to the "Off" or "Bypass" positions, the operator must pull the plunger upward with their free hand, before the key will turn. This design performs two very important functions. First, it prevents the EPCU from being placed in bypass unintentionally, while attempting to turn the unit on. Second, it prevents the EPCU from being turned off unintentionally, while attempting to disengage bypass. The key is only removable in the "Off" and "On" positions to prevent or limit the unattended or unauthorized use of the bypass feature. Model L assemblies can also be utilized with EPCUs programmed for NR (Normal Running). In these applications, the bypass position is disabled and the key is removable in the on or off position.

Model RP1 & RP2

Model RP1 redundant safe pressure switches and Model RP2 redundant Rapid Exchange® switches are factory installed differential pressure switches that are wired to operate in series with the switches included with standard EPCUs. In these applications, the primary and redundant switch must be satisfied before the EPCU will initiate or execute start-up functions (see Type X bulletins EPCU operation).

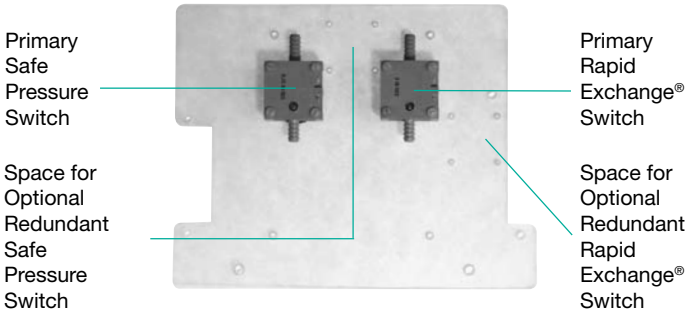
In special applications the redundant switches can be wired parallel to create a dual channel purging or pressurization system, capable of protecting two enclosures separately and simultaneously. Please consult with a factory sales representative for more information.

Ordering Information

Models ISB, L, RP1 & RP2 are factory installed and must be ordered with a system. Please check with model nomenclature for correct order information.

Model L
Key Lock Assembly

Typical Model L Installation



Typical EPCU Pressure Switch Module

Model RP1 & RP2 Redundant Pressure Switches

Important Note

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.
WARRANTY & LIABILITY POLICIES AVAILABLE UPON REQUEST.

Remote Alarm Horn & Beacon Devices

Model RAH, RAB-1 & RAB-2

MODEL RAH
Division 1 rated alarm horn

MODEL RAB-1
Division 1 rated flashing alarm beacon

MODEL RAB-2
Division 2 rated flashing alarm beacon

RAH Horn Description

Model RAH horns provide an electrically generated audible alarm to indicate the loss of pressure in the protected enclosure. It is formed from cast aluminum, is corrosion resistant and features a vibrating stainless steel diaphragm. The horn should be located in a prominent location where it can attract immediate attention, and is rated for Class I or II, Division 1 or 2, Group C-G hazardous areas. The Model RAH horn requires 120 VAC power and can be controlled by the normally closed pressure loss alarm contacts of "WPS" style Type Y and Z Systems, Model EPSK and GPSK switches and all Type X Systems. The horn can be pendant or surface mounted and features a 3/4" female conduit port. Installation requires the use of seal-flex (Div. 2) or rigid (Div. 1) conduit and a conduit seal. The horn has a 100 decibel output and features an internally mounted volume control for field adjustment.

RAB-2 Description

Model RAB-2 beacons provide an electrically generated flashing visual alarm to indicate loss of protected enclosure pressure. The beacon is formed from cast aluminum, is corrosion resistant and features a flash tube bulb rated for 1,000 hours. It should be located in a prominent location where it can attract immediate attention, and is rated for Class I or II, Division 2, Group A-G hazardous areas. The model RAB-@ beacon requires 120 VAC power and can be controlled by the normally closed pressure loss alarm contacts of "WPS" style Type Y and Z Systems and all Type X Systems. The beacon is pendant mountable and features a 3/4" female conduit port. Installation requires the use of rigid conduit and a conduit seal. The light flashes at 80 pulses per minute, it has a 520,000 peak candle power rating and a 165 effective (visible) candle power rating and features a red shatterproof globe.

RAB-1 Description

Model RAB-1 is identical to RAB-2 with exception to the following details: The flash tube bulb's rated for 2,000 hours. The beacon is rated for Class I or II, Division 1, Group C-G hazardous areas. The beacon has a 2,000,000 peak candle power rating and a 850 effective (visible) candle power rating and features a red fresnel lens and clear shatterproof globe.

CLASSIFIED C UL US

OPTIONAL ACCESSORIES For Pepperl+Fuchs Enclosure Power Control Units

Pepperl+Fuchs Group www.pepperl-fuchs.com
Germany: +49 621 776 2222 pa-info@de.pepperl-fuchs.com
USA: 330 486 0002 pa-info@us.pepperl-fuchs.com
Singapore: +65 67799091 pa-info@sg.pepperl-fuchs.com

Remote Alarm Horn & Beacon Devices

Device Specifications

COMMON SPECIFICATIONS

Power Requirements:	120 VAC @ 50/60 Hz
Conduit Connections:	3/4" FPT
Construction Rating:	RAH - Not Rated
	RAB-1 & RAB-2 - NEMA 4X

MODEL RAH

Dimensions:	7.625" H x 6.875" Diam. x 6.5" D
Mounting Hole Centers:	6.5" on 45°angle
Wiring Method:	8" 2-Wire Pigtail
Shipping Weight:	12 lb
Temp. Range:	-31 °F to +150 °F
Power Consumption:	0.2 A
Maximum Sound Level:	100 Decibels at 10 ft.
U.L. Listing:	Class I, Div. 1, Group C-G

MODEL RAB-1

Dimensions:	15.5" H x 8.75" Diam.
Wiring Method:	Screw Terminals
Shipping Weight:	35 lb
Temp. Range:	-35 °F to +104 °F
Power Consumption:	0.6 A
Flash Rate:	80/minute
PCp / ECp:	*2,000,000 / **850
U.L. Listing:	Class I, Div. 1, Group C-G

MODEL RAB-2

Dimensions:	8.75" H x 5.5" Diam.
Wiring Method:	24" 2-Wire Pigtail
Shipping Weight:	15 lb
Temp. Range:	-40 °F to +149 °F
Power Consumption:	0.35 A
Flash Rate:	80/minute
PCp / ECp:	*520,000 / **165
UL Listing:	Class I, Div. 2, Group A-G

* PCp - Peak (instrument measured) Candle power
** ECp - Effective (visually observed) Candle power

Material Specifications

MODEL RAH

Body:	Copper-Free Cast Aluminum
Finish:	Grey Enamel
Grill:	Die Cast Zinc
Diaphragm:	304 Stainless Steel

MODEL RAB-1 & RAB-2

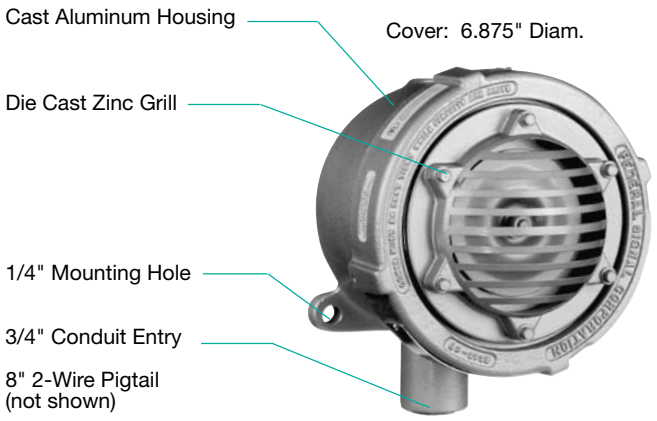
Body:	Copper-Free Cast Aluminum
Finish:	RAB-1 Tan Powder Epoxy
	RAB-2 Black Epoxy
Exposed Fasteners:	Stainless Steel
Globe:	Shatterproof Glass
Fresnel Lens (RAB-1):	Lexan®

Lexan® is a registered trademark of the General Electric Company

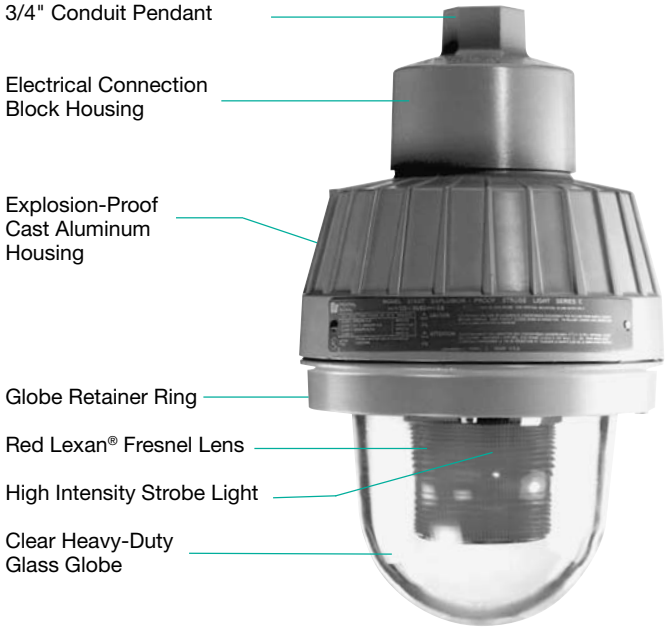
Special Note

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

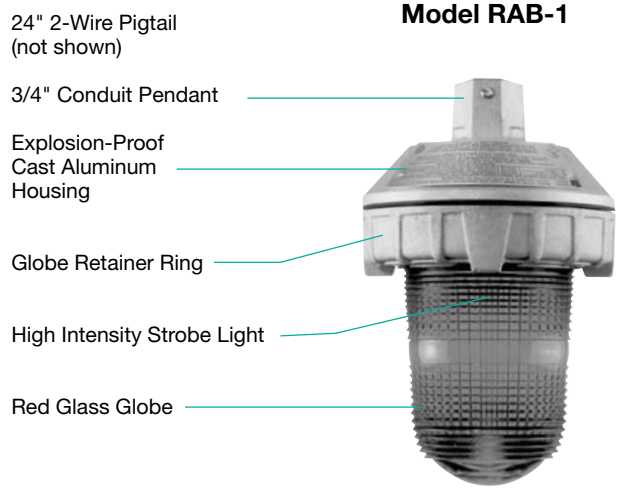
WARRANTY & LIABILITY POLICIES AVAILABLE UPON REQUEST.



Model RAH



Model RAB-1



Model RAB-2