

# Type Y & Z purge and pressurization system

BEBCO EPS®

## 3003



- NFPA 496, ISA 12.4
- Optional alarm output indicates air lock failure
- Optional differential pressure switch for Class I, Group A-D, hazardous area locations
- Type Y system certified for Class I, Division 1 to Division 2
- Type Z system certified for Class I, Division 2 to nonhazardous area
- Enclosure volume up to 2.54 m<sup>3</sup> (90 ft<sup>3</sup>)

### 3003 Series purge and pressurization system



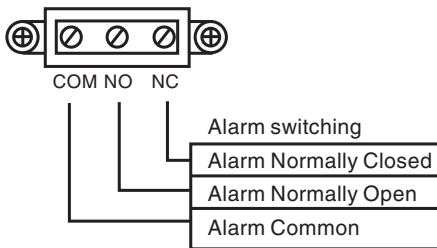
### Function

The model 3003 is a Rapid Exchange®- purging system that operates on a supply of compressed instrument air or inert gas. The system regulates and monitors pressure within sealed protected enclosure(s), in order to remove and prevent flammable gas or vapor accumulations. The system accomplishes the required volume exchanges and maintains a safe pressure. A Pepperl+Fuchs Model EPV-3 enclosure protection vent is required for proper operation. This process reduces the hazardous (classified) area rating within protected enclosure(s), in accordance with the NEC - NFPA 70, NFPA 496, ISA 12.4.

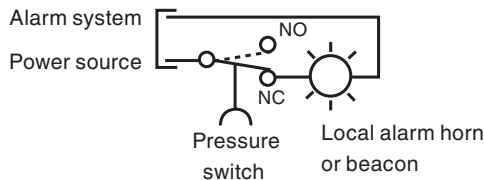
### Connection

#### WPS

Terminal block connections

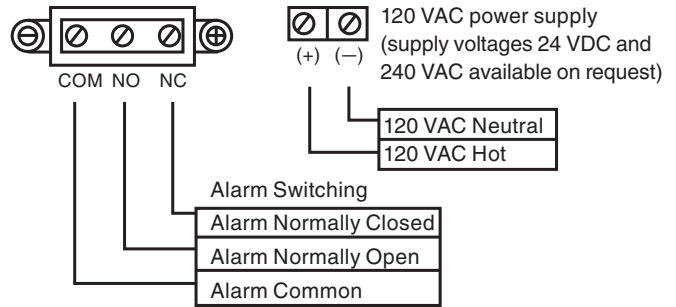


Wiring configuration

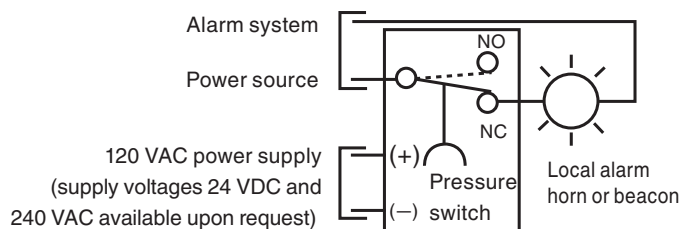


#### WPSA

Terminal block connections



Wiring configuration



### Technical Data

#### General specifications

Series	3003 Series
System	Type Y Purge , Type Z Purge

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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**Technical Data**

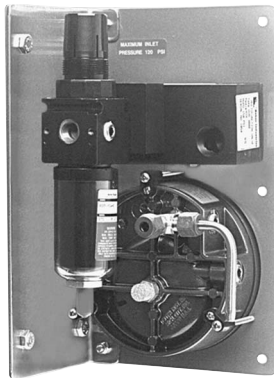
Hazardous environment	gas
<b>Electrical specifications</b>	
Connection	Terminal blocks
<b>Output</b>	
Output I	-WPS-
Output type	Switch contacts
Contact loading	120 VAC @ 15 A
Output II	-WPSA-
Output type	Switch contacts
Contact loading	120/220 VAC; 24 VDC @ 10 A; 125 VDC @ 50 mA power requirements: 24 / 120 / 240 VDC @ 3 / 4 / 11 watts
<b>Pneumatic parameters</b>	
Protective gas supply	instrument grade air or inert gas
Pressure requirement	80 - 120 psi (5.5 - 8.3 bar)
Safe pressure	Setpoint: 0.25" (6.35 mm) Flow rate: 0.1 - 3.5 SCFH (2.8 - 99 l/hr)
Purge flow and enclosure pressure rate	12 SCFM / 720 SCFH (340 l/m / 20390 l/hr) (With regulator set to 60 psi min. during exchange)
<b>Operating conditions</b>	
Process conditions	
Exchange time	4 volume exchange rate: 1 min / 3.0 ft <sup>3</sup> (85 l/min) 5 volume exchange rate: 1 min / 2.4 ft <sup>3</sup> (68 l/min)
<b>Ambient conditions</b>	
Ambient temperature	-29 ... 49 °C (-20.2 ... 120.2 °F)
<b>Mechanical specifications</b>	
Connection type	System supply port: 1/4" FPT Enclosure supply port: 1/2" FPT Enclosure reference fitting: 1/4" tube Switch conduit port size: 1/2" FPT
Material	Regulator body: zinc w/enamel finish Regulator handle & bowl: polycarbonate Enclosure pressure gauge: alum. w/enamel finish Rapid Exchange <sup>®</sup> gauge: poly & nickel plated Tube fitting: 316 SS forged body Tubing: 316 SS 1/4" .035 welded Fastener hardware: alum. & stainless steel System face plate: 316 14 ga #3 brush SS System mounting flange: 316 SS tumble finish Manifold body: anodized aluminum Manifold valves: 316 SS Mfr. ID nameplate: silkscreen Lexan <sup>®</sup>
Mass	3003-LPS* 4.5 kg (10 lb) 3003-WPS* 6.8 kg (15 lb)
<b>International approvals</b>	
FM approval	Type Y LPS: Class I, Division 1, Groups A, B, C, D WPS: Class 1, Division 1, Groups C, D WPSA: Class I, Division 1, Groups A, B, C, D Type Z LPS: Class I, Division 2, Groups A, B, C, D WPS: Class 1, Division 2, Groups C, D WPSA: Class I, Division 2, Groups A, B, C, D
UL approval	
cULus	Type Y LPS: Class I, Division 1, Groups A, B, C, D WPS: Class 1, Division 1, Groups C, D WPSA: Class I, Division 1, Groups A, B, C, D Type Z LPS: Class I, Division 2, Groups A, B, C, D WPS: Class 1, Division 2, Groups C, D WPSA: Class I, Division 2, Groups A, B, C, D

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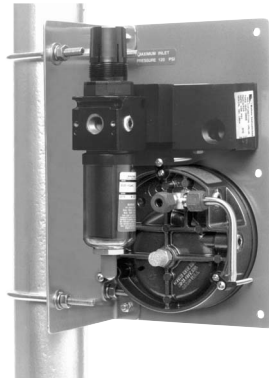
Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

**Mounting**

**VM configuration mounting options**



Model 3003-LPS-CI-YZ-VML  
Flange mounted to flat vertical surface with Model SMK-1 fastener kit

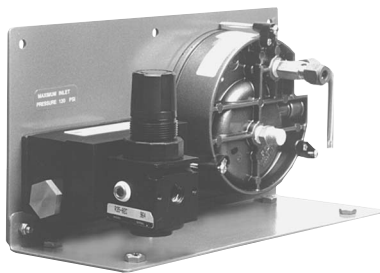


Model 3003-LPS-CI-YZ-VML  
Flange mounted to vertical 2" pipe stand with Model PMK-1 fastener kit



Model 3003-LPS-CI-YZ-VM  
Frame or panel\* mounted through cutout in suitable surface with Model SMK-6m

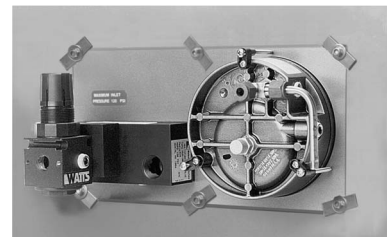
**HM configuration mounting options**



Model 3003-LPS-CI-YZ-HMT  
Flange mounted to flat horizontal surface with Model SMK-1 fastener kit



Model 3003-LPS-CI-YZ-HMB  
Flange mounted to horizontal 2" pipe stand with Model PMK-1 fastener kit

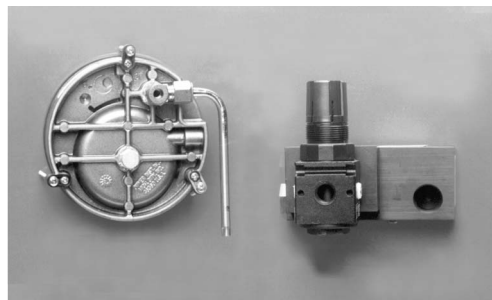


Model 3003-LPS-CI-YZ-HM  
Frame or panel\* mounted through cutout in suitable surface with Model SMK-6m fastener kit

**CK configuration mounting options**



Front view



Rear view

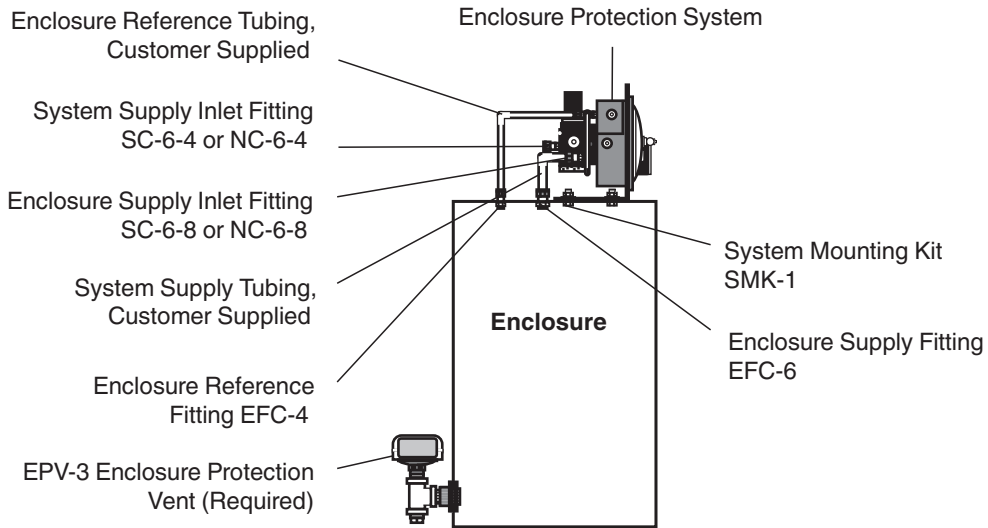
Model 3003-LPS-CI-YZ-CK  
Rear view of frame or panel\* mount through cutout in suitable surface with supplied fasteners

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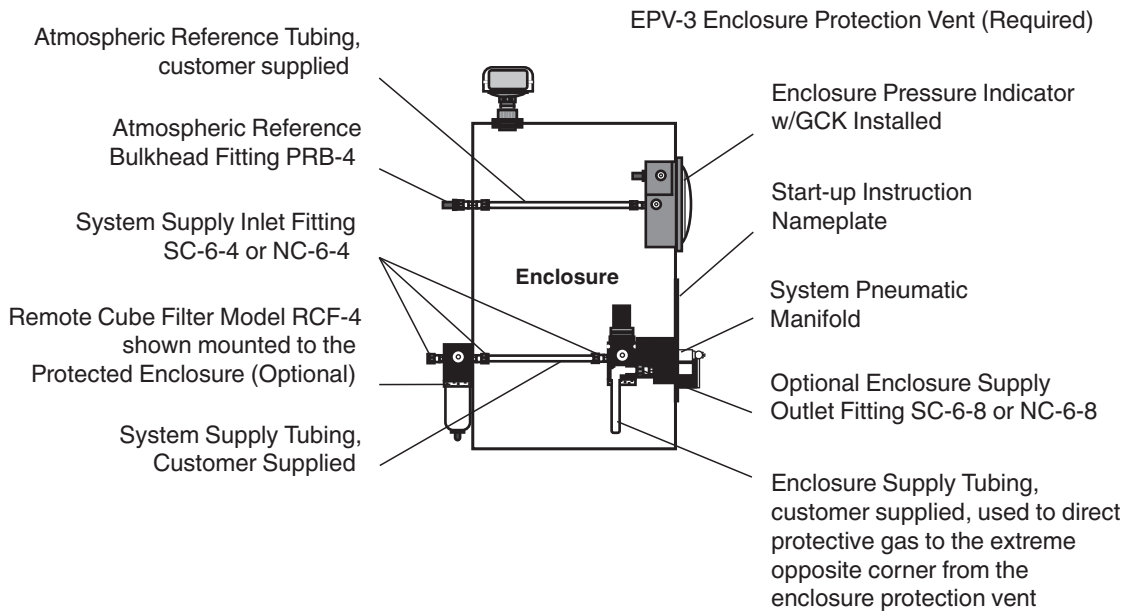
**Additional Information**

**Assembly**

**External Mount**



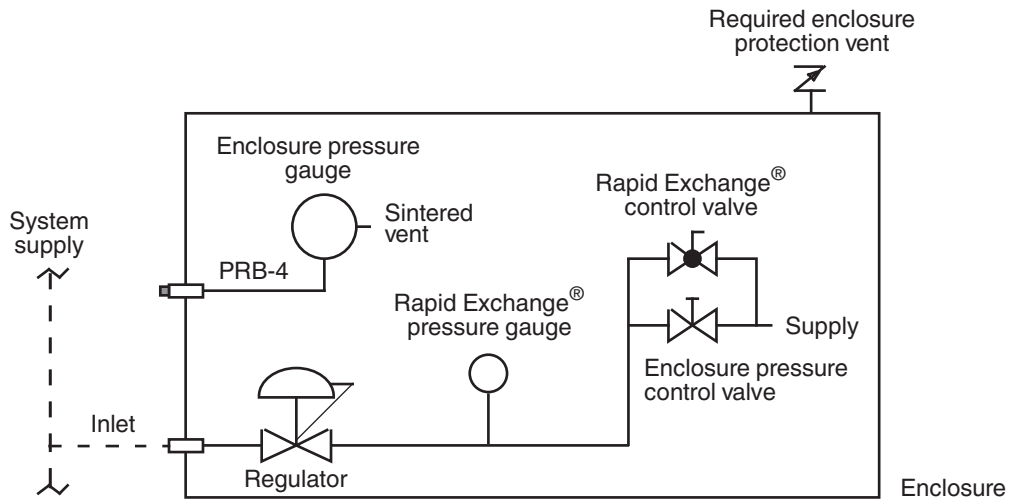
**Internal Mount**



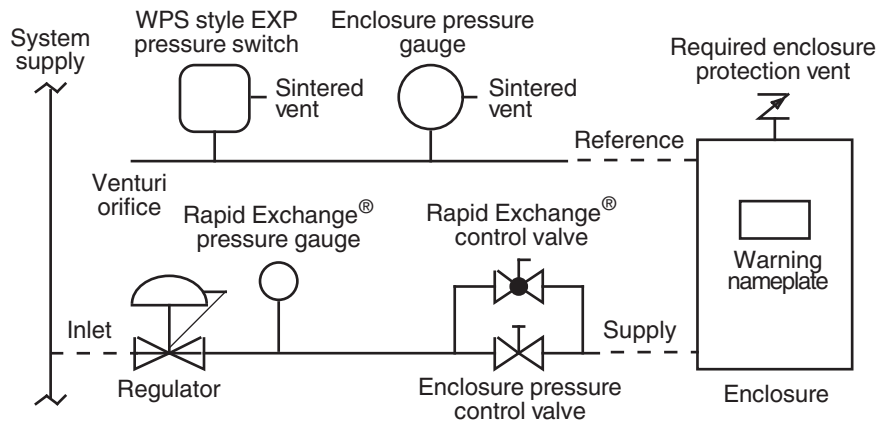
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Standard Pneumatic Installation Diagram



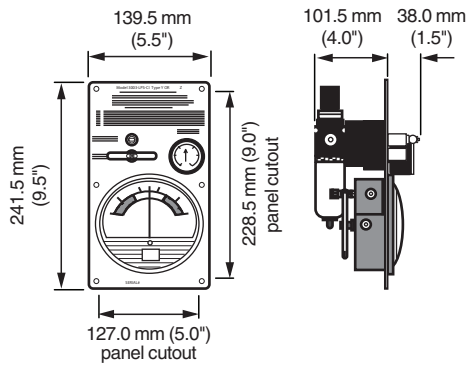
Panel Mount Installation Diagram



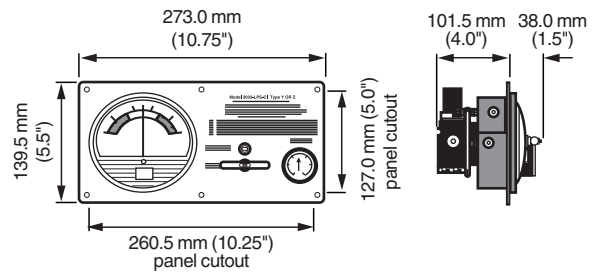
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Dimensions

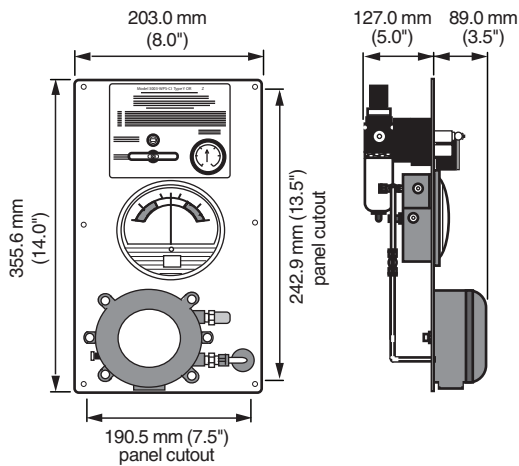
3003-LPS-CL-\*\*-VM\*\*-\*\_\*\_\*\_\*\_\*\_\*\_\*\_\*\_\*\_\*



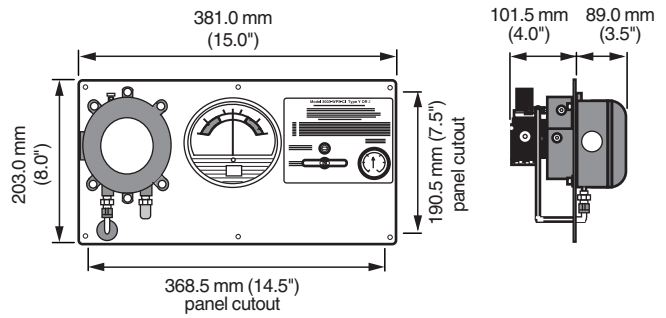
3003-LPS-CL-\*\*-HM\*\*-\*\_\*\_\*\_\*\_\*\_\*\_\*\_\*\_\*\_\*



3003-WPS\*-CL-\*\*-VM\*\*-\*\_\*\_\*\_\*\_\*\_\*\_\*\_\*\_\*\_\*

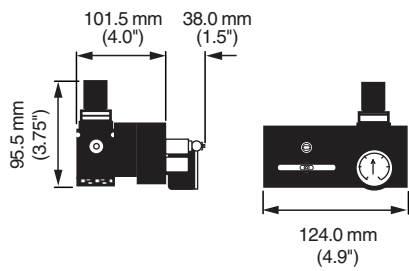


3003-WPS\*-CL-\*\*-HM\*\*-\*\_\*\_\*\_\*\_\*\_\*\_\*\_\*\_\*\_\*

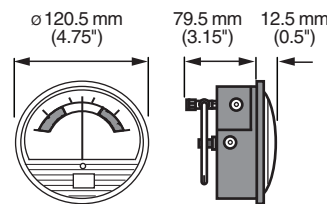


Component kit

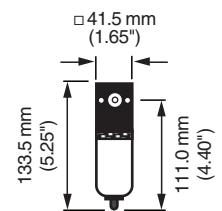
Pneumatic manifold



Enclosure pressure gauge



RCF-4



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**Accessories**

System Accessories	
Connection fittings	
Part	Description
NC-6-4	3/8" T x 1/4" P ninety connector
SC-6-4	3/8" T x 1/4" P straight connector
NC-6-8	3/8" T x 1/2" P ninety connector
SC-6-8	3/8" T x 1/2" P straight connector
EFC-4	1/4" flush connector
EBC-4	1/4" bulkhead connector
EFC-6	3/8" flush connector
EBC-6	3/8" bulkhead connector
EPC-13	1 - 1/4" pipe connector
Additional items	
Part	Description
SMK-1	Surface Mounting Kit - Flange
SMK-6m	Surface Mounting Kit - Frame/Panel
PMK-1	Pipe Mounting Kit
GCK	Gauge Conversion Kit
ILF-4	1/4" In-Line Filter Kit
RCF-4	1/4" Remote Cube Filter
EPSK-1	Explosion Proof Switch Kit (GRP C, D)
EPSK-1A	Explosion Proof Switch Kit (GRP A-D)
GPSK-1	General-purpose Switch Kit
RAH	Remote Alarm Horn
RAB-1	Div. 1 Remote Alarm Beacon
RAB-2	Div. 2 Remote Alarm Beacon
Warning nameplates	
Part	Description
EWN-1	Class I enclosure warning
ETW	Enclosure temperature warning
Installation & Operation Manual	
Part	Description
DOCT-1369	Installation and Operation Manual

**Type Code**

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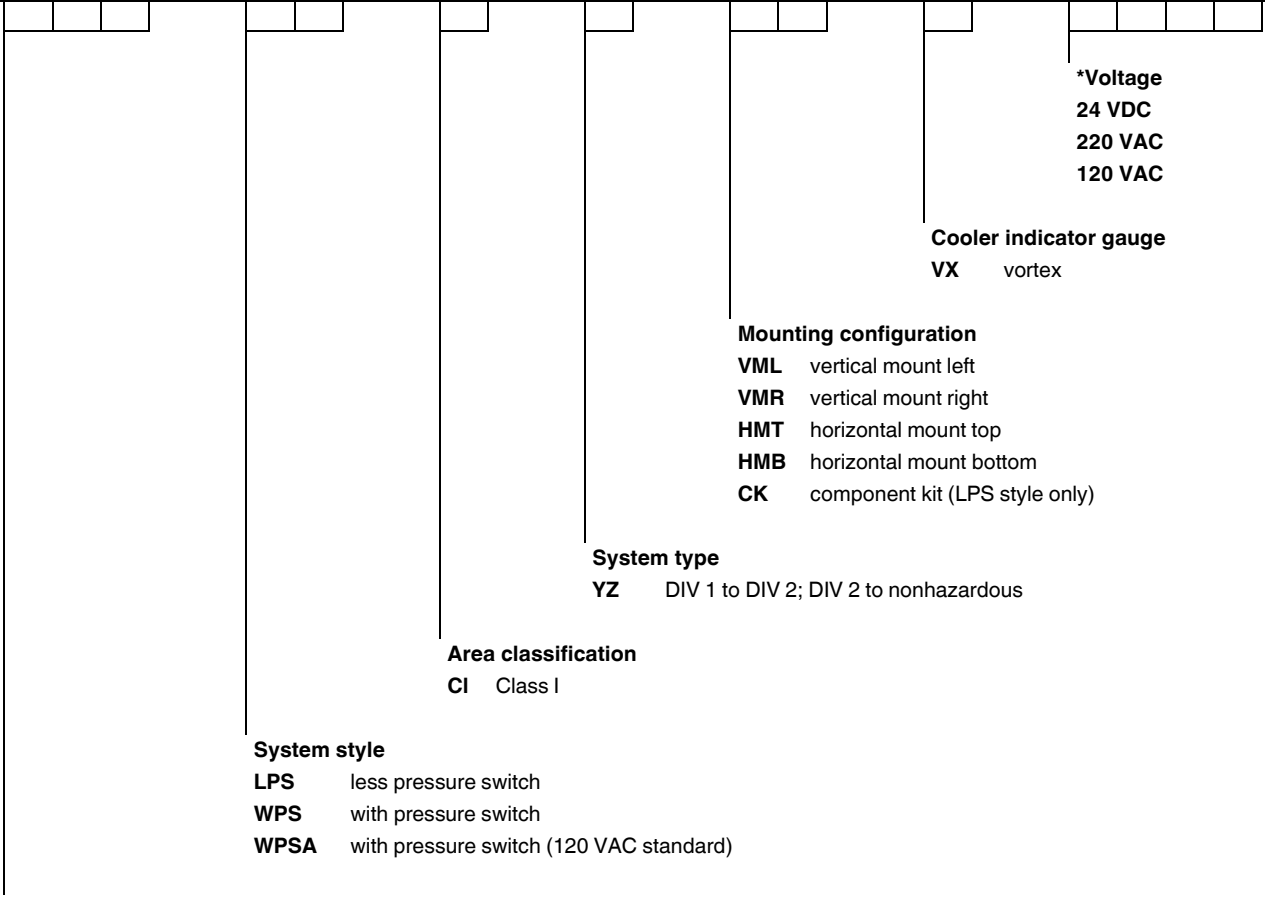
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**3 0 0 3 - L P S - C L - Y Z - V M L - V X - 2 4 V D C**



**\*Voltage**  
**24 VDC**  
**220 VAC**  
**120 VAC**

**Cooler indicator gauge**  
**VX** vortex

**Mounting configuration**

- VML** vertical mount left
- VMR** vertical mount right
- HMT** horizontal mount top
- HMB** horizontal mount bottom
- CK** component kit (LPS style only)

**System type**

**YZ** DIV 1 to DIV 2; DIV 2 to nonhazardous

**Area classification**

**CI** Class I

**System style**

- LPS** less pressure switch
- WPS** with pressure switch
- WPSA** with pressure switch (120 VAC standard)

**3003** series model number

\* only for WPSA option