Type Z & Ex pzc purge and pressurization system

5500 Control Unit

BEBCO EPS®

- 100% automatic purge and pressurization system including purging, temperature and leakage control, alarming and system power
- Third party approvals for Class I, II, Div. 2 and Zone 2/22
- Universal mounting
- RTD inputs for temperature alarm and control
- Five standard purge programs

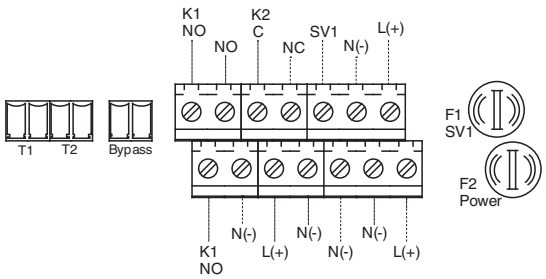
Bebco EPS 5500 series Type Z & Ex pzc purge and pressurization control unit

Function

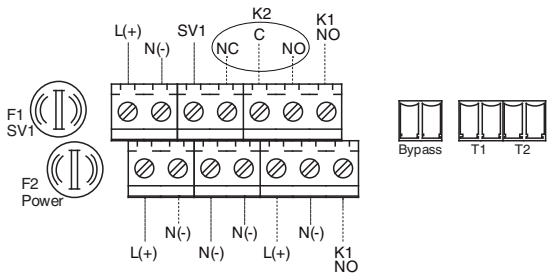
The 5500 series purge/pressurization system consists of the control unit with a user interface in a 316 stainless steel enclosure that works in conjunction with the EPV vents and pneumatic solenoid valves or manual valves form a certified purge and pressurization system for enclosures. The user interface is menu driven and easily guides users through custom programing for their applications. (2) RTD's can be connected to inputs and the user can select temperature ranges for controlling and alarming critical temperatures through a set of contacts and energizing a solenoid valve for displacing air within the enclosure or operate cooling or heating functions. Enclosure pressure and leakage can be monitored. In the event of a loss in pressure a solenoid valve can engage to restore the defined pressure settings and/or alarm for pressure loss.
The 5500 series purge and pressurization system has NEC, CEC, CCC, ATEX and IECEx third-party certifications for Class I, II/Div. 2 and Zone 2/22

Connection

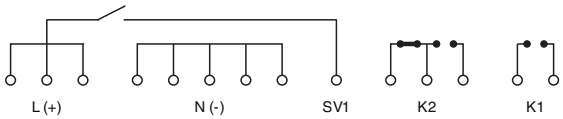
External Mount Terminal Block



Internal Mount Terminal Block



Terminal Block Connections



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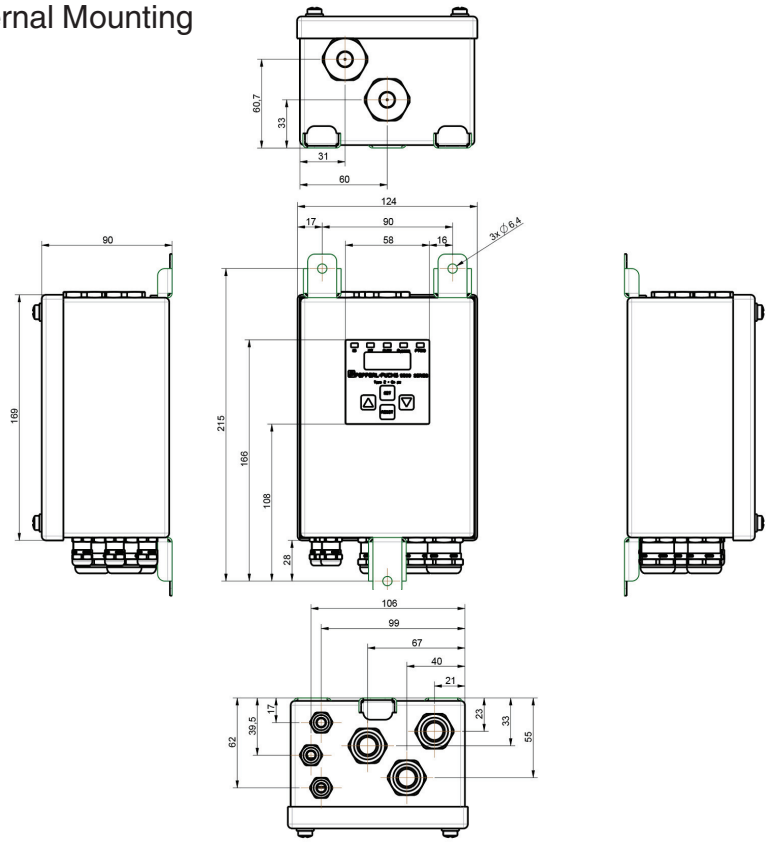
Dimensions

Internal Mounting



1. Low-pressure port (atmospheric pressure)
2. High-pressure port (enclosure pressure)

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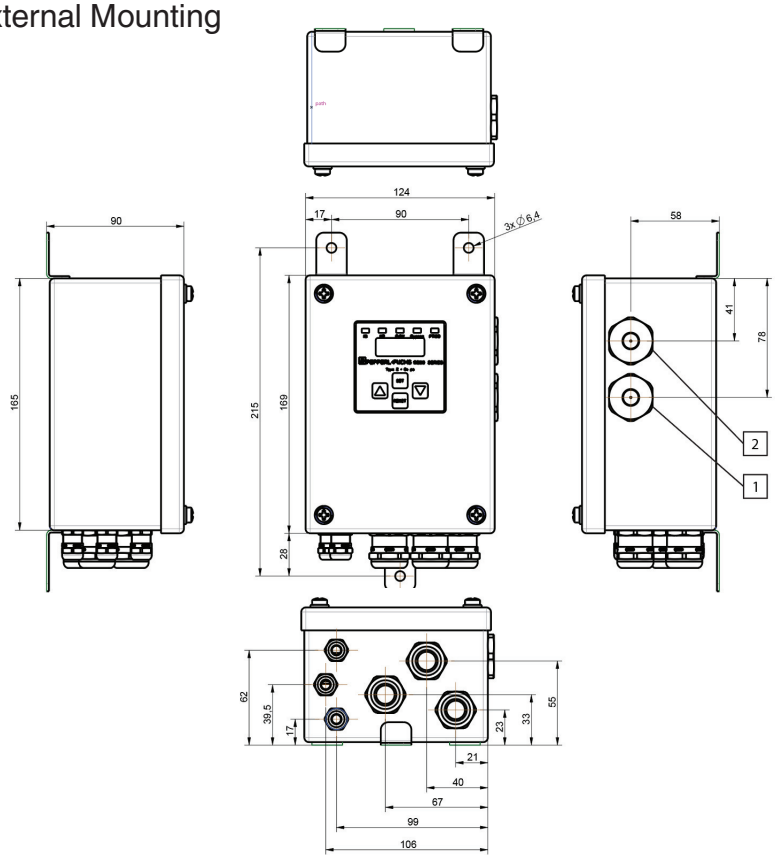
Dimensions

External Mounting



1. Low-pressure port (atmospheric pressure)
2. High-pressure port (enclosure pressure)

Technical Data

General specifications		
Operating mode		fully automatic (FA)
Series		5500
System		Type Z Purge ; Ex pzc Purge
Number of volume exchanges		4 ... 19
Hazardous environment		gas or dust
Supply		
Rated voltage	U_r	100 ... 240 V AC, 0.05 A, 50 ... 60 Hz 20 ... 30 V DC, 0.2 A
Power consumption		100 ... 240 V AC - 2.3 VA (without digital valve) 20 ... 30 V DC - 2.5 W (without digital valve)
Electrical specifications		
Fuse rating		**F2:** AC: max. 2 A DC: max. 3.15 A **F1:** AC: max. 0.08 A DC: max. 0.5 A
Input		
Input I		Temperature, up to 2 RTDs per unit
Connection		Pt100, 2-wire-connection
Input type		temperature input Input accuracy: 2.5% of the measurement value + PT100 error
Input II		1 Bypass
Connection		passive contact (switch)

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Technical Data

Input type	mechanical contact
Output	
Output I	
Connection	K1, terminals: K1/N0, K1/N0
Output type	enclosure power, (1) SPST
Inrush current	6 A
Contact loading	6 A at 250 V AC , 30 V DC resistive load, 6 A at 30 V DC
Output II	
Connection	K2, terminals: K2 (NO, C, NC)
Output type	alarm, (1) SPDT
Inrush current	3 A
Contact loading	3 A at 250 V AC , 30 V DC resistive load, 3 A at 30 V DC
Output III	
Connection	digital valve, terminals SV
Output type	(1) SPST, powered contacts from supply 5.0 A at 250 VAC or 30 VDC
Inrush current	5 A
Indicators/settings	
LED indication	Membrane Pad K1: Green - Contact K1 is energized K2: Amber - Contact K2 is energized SV/encl press.: Blue for safe pressure, Amber for valve on Bypass: Amber when bypass is active PT100 error: Red when fault in PT100 sensor
Pneumatic parameters	
Protective gas supply	instrument grade air or inert gas
Safe pressure	- gas 0.7 mbar (0.3 in w.c.) - dust 1.6 mbar (0.65 in w.c.)
Directive conformity	
Electromagnetic compatibility	
Directive 2014/30/EU	EN 61326-1:2013
RoHS	
Directive 2011/65/EU (RoHS)	EN IEC 63000:2018
Conformity	
Degree of protection	EN 60529
Shock resistance	EN 60068-2
Ambient conditions	
Ambient temperature	-20 ... 40 °C (-4 ... 104 °F) at T6 -20 ... 60 °C (-4 ... 140 °F) at T4
Relative humidity	5 ... 95 %, non-condensing
Vibration resistance	5 ... 100 Hz , 1 g, 12 m/s², all axes
Impact resistance	30 g, 11 ms, all axes
Mechanical specifications	
Connection type	High pressure port: 1/8" NPTF Low pressure port: 1/8" NPTF
Cable gland	**Cable size** M12 diameter 3 - 6.5 mm M20 diameter 10 - 12 mm **RTD/Bypass**: (3) M12x1.5 **K1, K2, SV**: 'P_C' (3) M20x1.5
Degree of protection	Type 4X, IP66
Material	**Housing**: 316 stainless steel **Cable Gland**: 316 stainless steel or Nickel Plated Brass **Pressure Ports**: 316 stainless steel **Membrane Pad**: Autotex F200XE **O-ring:** EPDM
Mass	approx. 2.7 kg (6 lb)
Dimensions	165 x 124 x 90 mm (6.5 x 4.9 x 3.5 in)
Height	203 mm

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Technical Data

Width	165 mm
Depth	105 mm
Data for application in connection with hazardous areas	
Certificate	DEMKO 14 ATEX 1282X
Marking	Ⓔx II 3 (3) G Ex ic ec nC [ic Gc] [pzc Gc] IIC T4 Gc (-20 °C ≤ Ta ≤ 60 °C) Ⓔx II 3 (3) G Ex ic ec nC [ic Gc] [pzc Gc] IIC T6 Gc (-20 °C ≤ Ta ≤ 40 °C) Ⓔx II 3 (3) D Ex ic tc [ic IIIC Dc] [pzc Dc] IIIB T80 °C Dc (-20 °C ≤ Ta ≤ 60 °C) (external version) Ⓔx II 3 (3) D Ex ic tc [ic IIIC Dc] [pzc Dc] IIIB T60 °C Dc (-20 °C ≤ Ta ≤ 40 °C) (external version) Ⓔx II 3 (3) D Ex ic tc [ic Dc] [pzc Dc] IIIC T80 °C Dc (-20 °C ≤ Ta ≤ 60 °C) (internal version) Ⓔx II 3 (3) D Ex ic tc [ic Dc] [pzc Dc] IIIC T60 °C Dc (-20 °C ≤ Ta ≤ 40 °C) (internal version)
Directive conformity	
Directive 2014/34/EU	EN IEC 60079-0:2018 , EN 60079-11:2012 , EN 60079-15:2019 , EN 60079-2:2014 , EN 60079-7:2015+A1:2018 , EN 60079-31:2014
International approvals	
UL approval	
cULus	UL File E184741 Class I, Division 2, Groups A, B, C, D T4 (-20 °C ≤ Ta ≤ 60 °C) Class II, Division 2, Groups F, G, T4 (-20 °C ≤ Ta ≤ 60 °C) Class I, Division 2, Groups A, B, C, D T6 (-20 °C ≤ Ta ≤ 40 °C) Class II, Division 2, Groups F, G T6 (-20 °C ≤ Ta ≤ 40 °C)
IECEx approval	IECEx UL 14.0019X Ex ic ec nC [ic Gc] [pzc Gc] IIC T4 Gc (-20 °C ≤ Ta ≤ 60 °C) Ex ic ec nC [ic Gc] [pzc Gc] IIC T6 Gc (-20 °C ≤ Ta ≤ 40 °C) Ex ic tc [ic IIIC Dc] [pzc Dc] IIIB T80 °C Dc (-20 °C ≤ Ta ≤ 60 °C) (external version) Ex ic tc [ic IIIC Dc] [pzc Dc] IIIB T60 °C Dc (-20 °C ≤ Ta ≤ 40 °C) (external version) Ex ic tc [ic Dc] [pzc Dc] IIIC T80 °C Dc (-20 °C ≤ Ta ≤ 60 °C) (internal version) Ex ic tc [ic Dc] [pzc Dc] IIIC T60 °C Dc (-20 °C ≤ Ta ≤ 40 °C) (internal version)
General information	
Supplementary information	Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com.

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Type Code

5	5	0	0	-	S	S	-	I	-	V	A	C	-	P	S	C	-	L	S	C

Wiring entrance for low voltage connection

LSC (3) M12 Stainless low power cable glands

LBC (3) M12 Nickel plated low power cable glands

LNO No cable glands

Wiring entrance for power connection

PSC (3) M20 stainless power cable gland

PBC (3) M20 Nickel plated power cable gland

PSH (3) ½"NPTF Stainless steel conduit entrance

PNO No fittings or cable gland

Voltage requirement

VAC 100 to 240 VAC

VDC 20 to 30 VDC

Mounting Configuration

E External mounting

I Internal Mounting

Housing Material

SS 316 stainless steel

Type of System

Type Z & Ex pz, Zone 2 or 22, NEC Class I or II / Division 2

Typical Configuration Guide

Certification	Control Unit	Vent	Manifold
UL	5500-SS-*-**- **PSH** [a]- LSC LBC	EPV-5500-**-***	5500-MAN-**CDUL**-*
ATEX/IECEx	5500-SS-*-**- **PSC**- LSC LBC **PBC**- LSC LBC	EPV-5500-**-***	5500-MAN-**EX01**-*

a. A complete system consists of a control unit, a manifold and a vent.

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