

Voltage Converter

LB5106A

- 1-channel
- Input Ex ia
- Mounting in Zone 2, Class I/Div.2 or in the safe area
- Input 0 V ... 10 V
- Simulation mode for service operations (forcing)
- Permanently self-monitoring
- Module can be exchanged under voltage

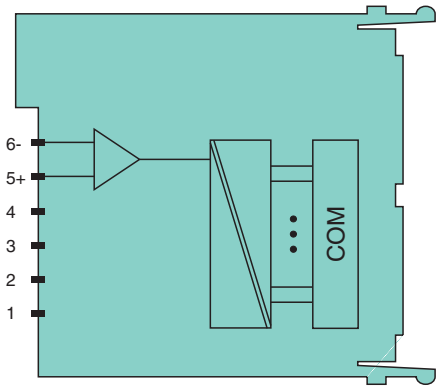
Function

The voltage converter accepts signals from the hazardous area.
The intrinsically safe input is galvanically isolated from the bus and the power supply (EN 60079-11).

Wiring Diagram



Zone 0, 20



Zone 2
Div. 2

Technical Data

Slots		
Occupied slots		1
Supply		
Connection		backplane bus
Rated voltage	U_r	12 V DC , only in connection with the power supplies LB9***
Power dissipation		0.4 W
Power consumption		0.4 W
Internal bus		
Connection		backplane bus
Interface		manufacturer-specific bus to standard com unit
Analog input		
Number of channels		1
Suitable field devices		

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Technical Data

Field device		voltage input
Connection		voltage input: 5+, 6-
Measuring range		0 ... 10 V
Smallest span		500 mV
Linearity error		0.1 %
Input resistance		100 kΩ
Conversion time		max. 100 ms
Transfer characteristics		
Deviation		
Influence of ambient temperature		max. 0,1 %/10 K
Indicators/settings		
LED indication		Power LED (P) green: supply Status LED (1) red: line fault
Coding		optional mechanical coding via front socket
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013
Conformity		
Electromagnetic compatibility		NE 21
Degree of protection		IEC 60529
Environmental test		EN 60068-2-14
Shock resistance		EN 60068-2-27
Vibration resistance		EN 60068-2-6
Damaging gas		EN 60068-2-42
Relative humidity		EN 60068-2-78
Ambient conditions		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Relative humidity		95 % non-condensing
Altitude		max. 2000 m
Shock resistance		shock type I, shock duration 11 ms, shock amplitude 15 g, number of shocks 18
Vibration resistance		frequency range 10 ... 150 Hz; transition frequency: 57.56 Hz, amplitude/acceleration ± 0.075 mm/1 g; 10 cycles frequency range 5 ... 100 Hz; transition frequency: 13.2 Hz amplitude/acceleration ± 1 mm/0.7 g; 90 minutes at each resonance
Damaging gas		designed for operation in environmental conditions acc. to ISA-S71.04-1985, severity level G3
Mechanical specifications		
Degree of protection		IP20 when mounted on backplane
Connection		removable front connector with screw flange (accessory) wiring connection via spring terminals (0.14 ... 1.5 mm²) or screw terminals (0.08 ... 1.5 mm²)
Mass		approx. 90 g
Dimensions		
Height		100 mm
Width		16 mm
Depth		102 mm
Data for application in connection with hazardous areas		
EU-type examination certificate		PTB 03 ATEX 2042 X
Marking		⟨Ex⟩ II (1)G [Ex ia Ga] IIC ⟨Ex⟩ II (1)D [Ex ia Da] IIIC ⟨Ex⟩ I (M1) [Ex ia Ma] I
Input		
Voltage	U_o	0.9 V
Current	I_o	0.2 mA
Power	P_o	0.2 mW (linear characteristic)

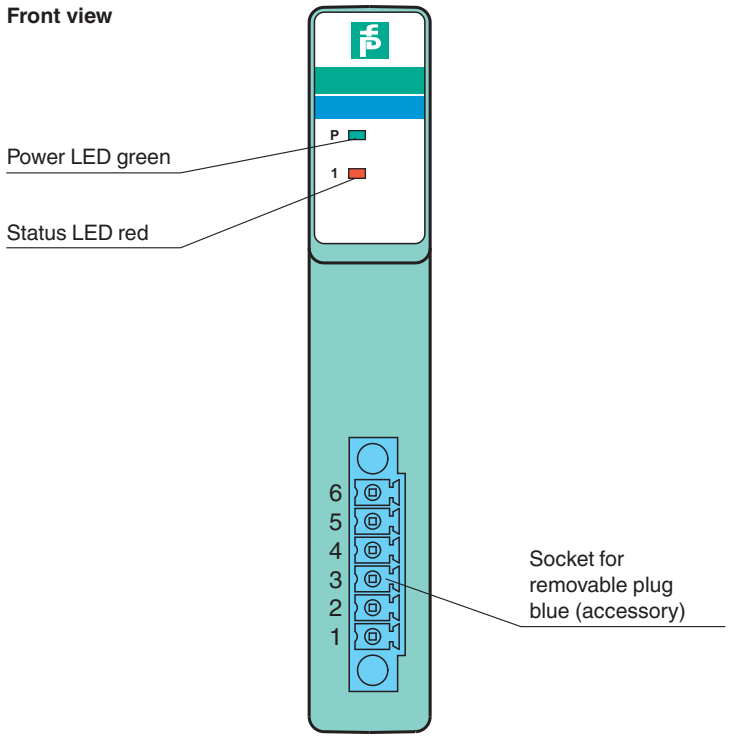
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Technical Data

Certificate		PF 08 CERT 1234 X
Marking		⟨Ex⟩ II 3 G Ex nA IIC T4 Gc
Galvanic isolation		
Input/power supply, internal bus		safe electrical isolation acc. to EN 60079-11, voltage peak value 375 V
Directive conformity		
Directive 2014/34/EU		EN IEC 60079-0:2018+AC:2020 EN 60079-11:2012 EN 60079-15:2010
International approvals		
ATEX approval		PTB 03 ATEX 2042 X
UL approval		E106378
Control drawing		116-0322
IECEx approval		
IECEx certificate		IECEx BVS 09.0037X
IECEx marking		Ex nA [ia Ga] IIC T4 Gc [Ex ia Da] IIIC [Ex ia Ma] I
General information		
System information		The module has to be mounted in appropriate backplanes (LB9***) in Zone 2 or outside hazardous areas. Here, observe the corresponding declaration of conformity. For use in hazardous areas (e. g. Zone 2, Zone 22 or Div. 2) the module must be installed in an appropriate enclosure.
Supplementary information		EC-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.

Assembly

Front view



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