Features

- 1-channel isolated barrier
- 24 V DC supply (Power Rail)
- HART field device input (revision 5 to 7) with transmitter power supply
- Usable as signal splitter (1 input and multiple outputs)
- 3 analog outputs 4 mA ... 20 mA
- Sink and source mode output
- Configurable by keypad

Function

This isolated barrier is used for intrinsic safety applications. It is a HART loop converter that provides power to transmitters or can be connected to existing HART loops in parallel.

It is able to evaluate up to four HART variables (PV, SV, TV, QV). Of those four HART variables, the data contained in any three of them can be converted to three different 4 mA ... 20 mA current signals. These loop signals can be connected to display devices or analog inputs on the process control system/control system.

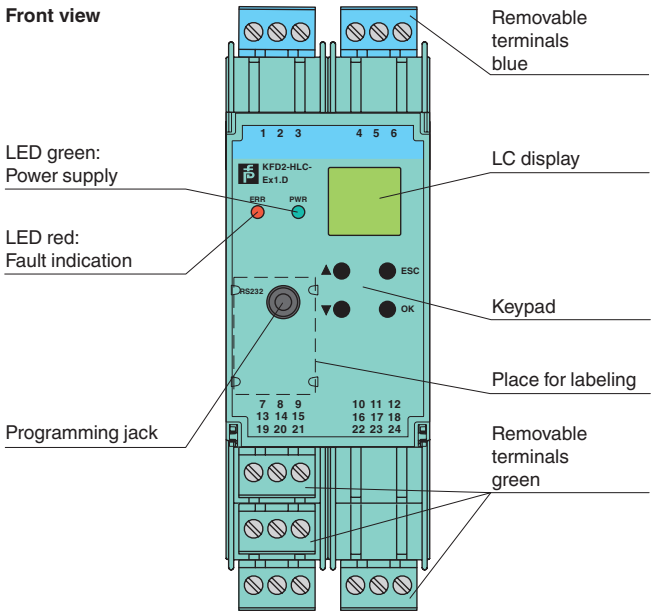
The unit is easily programmed by the use of a keypad located on the front of the unit or with the **PACT***ware*™ configuration software.

For additional information, refer to the manual and www.pepperl-fuchs.com.

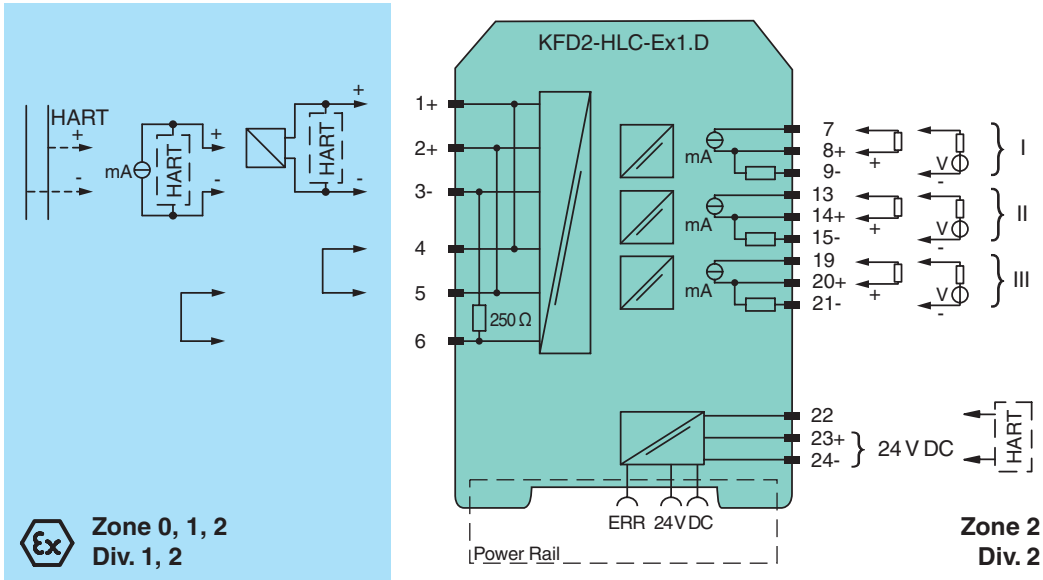
Application

- Configurable as primary or secondary master
- Automatic HART burst supported
- Support for a HART handheld device connected on safe area side
- Can be configured to assign the same input variable to multiple outputs (signal splitting)

Assembly



Connection



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General specifications		
Signal type		Analog input
Supply		
Connection		Power Rail or terminals 23+, 24-
Rated voltage	U_n	19 ... 30 V DC
Rated current	I_n	approx. 120 mA at 24 V DC
Power dissipation		2.3 W
Power consumption		2.9 W
HART signal channels (intrinsically safe)		
Conformity		HART field device input (revision 5 to 7)
Input		
Connection		terminals 1, 2, 3, 4, 5, 6
Input signal		HART communication, transmitter supply
Open circuit voltage/short-circuit current		typ. 24 V / 28 mA
Input resistance		250 Ω , 5 % (terminals 2, 3 and with jumper on 5, 6)
Available voltage		≥ 15.5 V at 20 mA, short-circuit protected
Output		
Connection		output I: terminals 7, 8, 9 , output II: terminals 13, 14, 15 , output III: terminals 19, 20, 21
Output signal		analog
Current range		4 ... 20 mA , source or sink mode
Load		≤ 650 Ω , source mode
Voltage range		5 ... 30 V , sink mode from external supply
Fault signal		downscale I ≤ 2 mA, upscale I ≥ 21.5 mA (acc. NAMUR NE43) or hold measurement value
Other outputs		HART communicator on terminals 22, 24
Collective error message		Power Rail and LED red
Transfer characteristics		
Output I, II, III		
Resolution		≤ 2 µA
Accuracy		< 20 µA, 10 µA typ.
Influence of ambient temperature		< ± 2 µA/K
Duration of measurement/Response delay		HART message acquisition time plus 100 ms
Electrical isolation		
Output I/II/III/power supply		functional insulation acc. to IEC 62103, rated insulation voltage 50 V_{eff}
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013 (industrial locations)
Low voltage		
Directive 2014/35/EU		EN 61010-1:2010
Conformity		
Electromagnetic compatibility		NE 21:2006
Degree of protection		IEC 60529:2001
Protection against electrical shock		IEC 60664-1
Ambient conditions		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		
Degree of protection		IP20
Mass		300 g
Dimensions		40 x 119 x 115 mm (1.6 x 4.7 x 4.5 in) , housing type C3
Mounting		on 35 mm DIN mounting rail acc. to EN 60715:2001
Data for application in connection with Ex-areas		
EC-Type Examination Certificate		BASEEFA 07 ATEX 0174
Group, category, type of protection		⟨Ex⟩ II (1)GD [Ex ia] IIC, [Ex iaD]
Input		Ex ia, Ex iaD
Supply		
Maximum safe voltage	U_m	253 V AC (Attention! The rated voltage can be lower.)
Equipment		terminals 1, 4/3 (with link between terminals 4 and 5)
Voltage	U_o	25.2 V
Current	I_o	104.9 mA
Power	P_o	0.661 W
Equipment		terminals 2, 5/3
Voltage	U_i	< 28 V
Power	P_i	< 1.33 W

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Voltage	U_o	1.1 V
Current	I_o	11.9 mA
Power	P_o	4 mW
Output I, II, III		terminals 7, 8, 9; 13, 14, 15; 19, 20, 21 non-intrinsically safe
Maximum safe voltage	U_m	253 V (Attention! U_m is no rated voltage.)
Statement of conformity		PF 07 CERT 1142 X
Group, category, type of protection, temperature class		Ⓔx II 3G Ex nA II T4 X
Electrical isolation		
Input/Other circuits		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Directive conformity		
Directive 2014/34/EU		EN 60079-0:2012+A11:2013 , EN 60079-11:2012 , EN 60079-15:2010
General information		
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.

Accessories

Power feed module KFD2-EB2

The power feed module is used to supply the devices with 24 V DC via the Power Rail. The fuse-protected power feed module can supply up to 150 individual devices depending on the power consumption of the devices. Collective error messages received from the Power Rail activate a galvanically-isolated mechanical contact.

Power Rail UPR-03

The Power Rail UPR-03 is a complete unit consisting of the electrical insert and an aluminium profile rail 35 mm x 15 mm. To make electrical contact, the devices are simply engaged.

Profile Rail K-DUCT with Power Rail

The profile rail K-DUCT is an aluminum profile rail with Power Rail insert and two integral cable ducts for system and field cables. Due to this assembly no additional cable guides are necessary.

Power Rail and Profile Rail must not be fed via the device terminals of the individual devices!

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