

**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)
- 4 relay outputs (NO)
- 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.

In addition to the current outputs, four form A normally open relay contacts are available and can be programmed to operate at trip values from the HART variables.

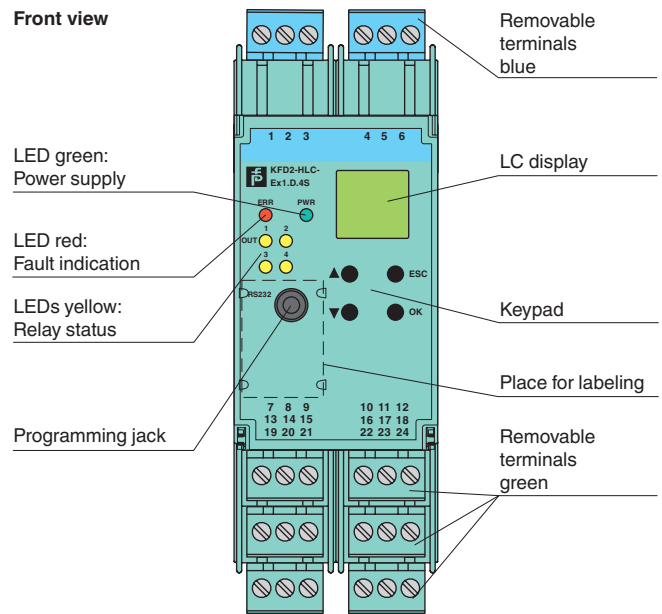
The unit is easily programmed by the use of a keypad located on the front of the unit or with the **PACTware™** configuration software.

For additional information, refer to the manual and [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com).

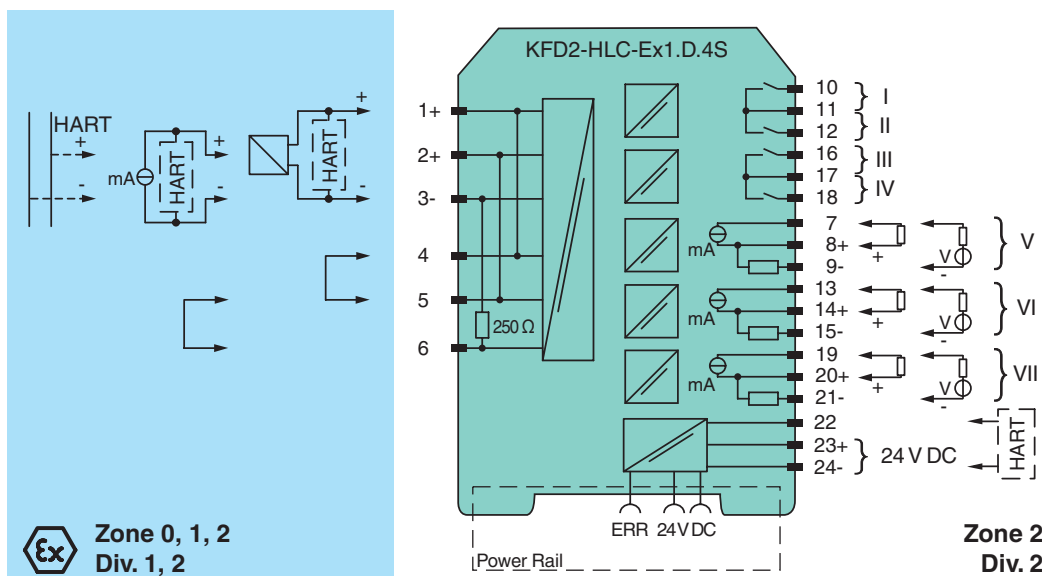
**Application**

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

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<b>General specifications</b>		
Signal type		Analog input
<b>Supply</b>		
Connection		Power Rail or terminals 23+, 24-
Rated voltage	$U_n$	19 ... 30 V
Rated current	$I_n$	approx. 140 mA at 24 V DC
Power dissipation		2.7 W
Power consumption		3.3 W
<b>HART signal channels (intrinsically safe)</b>		
Conformity		HART field device input (revision 5 to 7)
<b>Input</b>		
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 $\Omega$ , 5 % (terminals 2, 3 and with jumper on 5, 6)
Available voltage		$\geq 15.5$ V at 20 mA, short-circuit protected
<b>Output</b>		
Connection		output I: terminals 10, 11, output II: terminals 11, 12, output III: terminals 16, 17, output IV: terminals 17, 18 output V: terminals 7, 8, 9, output VI: terminals 13, 14, 15, output VII: terminals 19, 20, 21
Output I, II, III, IV		
Output signal		relay and LED yellow
Mechanical life		$10^7$ switching cycles
Energized/De-energized delay		approx. 20 ms / approx. 20 ms
Output V, VI, VII		
Output signal		analog
Current range		4 ... 20 mA , source or sink mode
Load		$\leq 650 \Omega$ , source mode
Voltage range		5 ... 30 V , sink mode from external supply
Fault signal		downscale $I \leq 2$ mA, upscale $I \geq 21.5$ mA (acc. NAMUR NE43) or hold measurement value
Other outputs		HART communicator on terminals 22, 24
Collective error message		Power Rail and LED red
<b>Transfer characteristics</b>		
Output V, VI, VII		
Resolution		$\leq 2 \mu\text{A}$
Accuracy		$< 20 \mu\text{A}$ , $10 \mu\text{A}$ typ.
Influence of ambient temperature		$< \pm 2 \mu\text{A/K}$
Duration of measurement/Response delay		HART message acquisition time plus 100 ms
Relay		programmable either for fault or trip value (with direction, hysteresis and delay)
<b>Electrical isolation</b>		
Output I, II/III, IV		functional insulation acc. to IEC 62103, rated insulation voltage 250 $V_{\text{eff}}$
Output I, II, III, IV/other circuits		reinforced insulation acc. to IEC 62103, rated insulation voltage 300 $V_{\text{rms}}$
Output V/VI/VII/power supply		functional insulation acc. to IEC 62103, rated insulation voltage 50 $V_{\text{eff}}$
<b>Directive conformity</b>		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013 (industrial locations)
Low voltage		
Directive 2014/35/EU		EN 61010-1:2010
<b>Conformity</b>		
Electromagnetic compatibility		NE 21:2006
Degree of protection		IEC 60529:2001
Protection against electrical shock		IEC 60664-1
<b>Ambient conditions</b>		
Ambient temperature		-20 ... 60 $^{\circ}\text{C}$ (-4 ... 140 $^{\circ}\text{F}$ )
<b>Mechanical specifications</b>		
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
<b>Data for application in connection with Ex-areas</b>		
EC-Type Examination Certificate		BASEEFA 07 ATEX 0174
Group, category, type of protection		 II (1)GD [Ex ia] IIC, [Ex iaD]
Input		Ex ia, Ex iaD

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
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Supply		
Maximum safe voltage	$U_m$	253 V AC (Attention! The rated voltage can be lower.)
Equipment		
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
Voltage	$U_o$	1.1 V
Current	$I_o$	11.9 mA
Power	$P_o$	4 mW
Output I, II, III, IV		
terminals 10, 11; 11, 12; 16, 17; 17, 18 , non-intrinsically safe		
Maximum safe voltage	$U_m$	253 V (Attention! $U_m$ is no rated voltage.)
Contact loading		
253 V AC/1 A/cos $\phi$ > 0.7; 30 V DC/1 A resistive load (BASEEFA 07 ATEX 0174) 50 V AC/1 A/cos $\phi$ > 0.7; 30 V DC/1 A resistive load (Pepperl+Fuchs self-declaration)		
Output V, VI, VII		
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 1141 X		
Group, category, type of protection, temperature class		
 II 3G Ex nA nC 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		
<b>General information</b>		
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 <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .		

## 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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