

**Features**

- 1-channel isolated barrier
- 24 V DC supply (Power Rail)
- HART field device input (revision 5 to 7) with transmitter power supply
- 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.

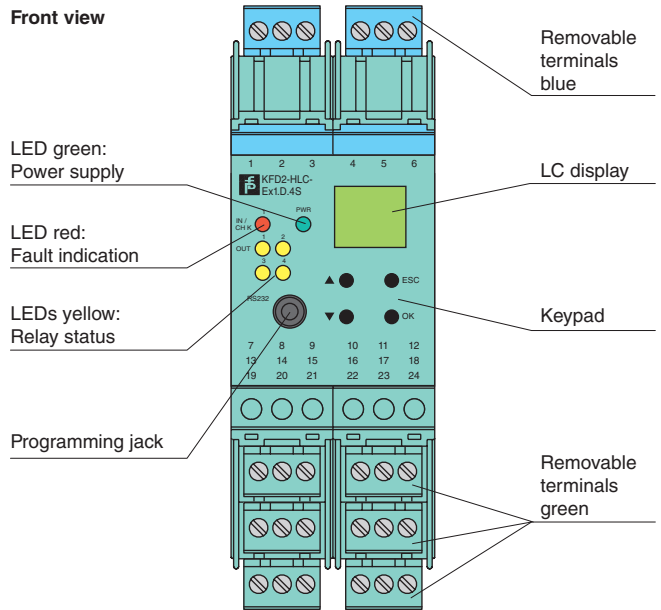
The unit is easily programmed by the use of a keypad located on the front of the unit or with the **PACTware™** configuration software.

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

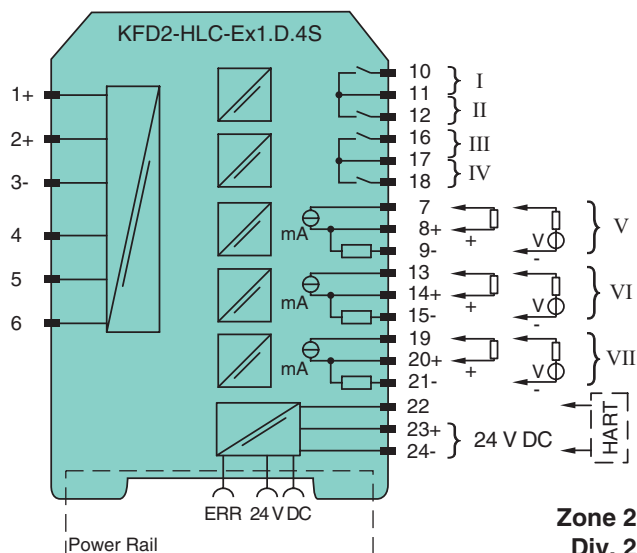
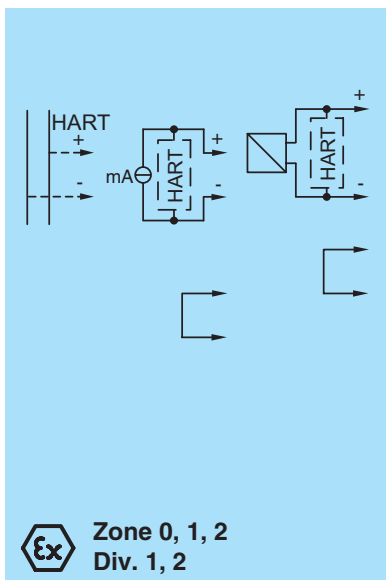
**Application**

- 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**



Zone 2  
Div. 2

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<b>General specifications</b>	
Signal type	Analog input
<b>Supply</b>	
Connection	Power Rail or terminals 23+, 24-
Rated voltage	19 ... 30 V
Rated current	approx. 140 mA at 24 V DC
Power loss	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 Ω , 5 % (terminals 2, 3 and with jumper on 5, 6)
Available voltage	≥ 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
Collective error message	Power Rail and LED red
Output I, II, III, IV	
Output signal	relay and LED yellow
Mechanical life	10 <sup>7</sup> 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	≤ 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
<b>Transfer characteristics</b>	
Output V, VI, VII	
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
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 <sub>eff</sub>
Output I, II, III, IV/other circuits	reinforced insulation acc. to IEC 62103, rated insulation voltage 300 V <sub>rms</sub>
Output V/VI/VII/power supply	functional insulation acc. to IEC 62103, rated insulation voltage 50 V <sub>eff</sub>
<b>Directive conformity</b>	
Electromagnetic compatibility	
Directive 2004/108/EC	EN 61326-1:2006
Low voltage	
Directive 2006/95/EC	EN 50178:1997
<b>Conformity</b>	
Electromagnetic compatibility	NE 21
Protection degree	IEC 60529
Protection against electric shock	IEC 60664-1
<b>Ambient conditions</b>	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
<b>Mechanical specifications</b>	
Protection degree	IP20
Mass	300 g
Dimensions	40 x 119 x 115 mm (1.6 x 4.7 x 4.5 in) , housing type C3
<b>Data for application in connection with Ex-areas</b>	
EC-Type Examination Certificate	BASEEFA 07 ATEX 0174 , for additional certificates see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a>
Group, category, type of protection	⊕ II (1)GD [Ex ia] IIC, [Ex iaD]
Input	Ex ia, Ex iaD
Supply	

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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
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	Pepperl+Fuchs
Group, category, type of protection, temperature classification	⊕ 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 94/9/EC	EN 60079-0, EN 60079-11, EN 61241-0, EN 61241-11
<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 100 individual devices depending on the power consumption of the devices. A galvanically isolated mechanical contact uses the Power Rail to transmit collective error messages.

### Power Rail UPR-03

The Power Rail UPR-03 is a complete unit consisting of the electrical inset 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!*