

# HART Multiplexer Master

## KFD2-HMM-16

- 16-channel
- 24 V DC supply (Power Rail)
- HART field device input (revision 5 to 7)
- Up to 15 KFD0-HMS-16 slave units can be connected
- Up to SIL 3 acc. to IEC 61508

### HART Multiplexer Master



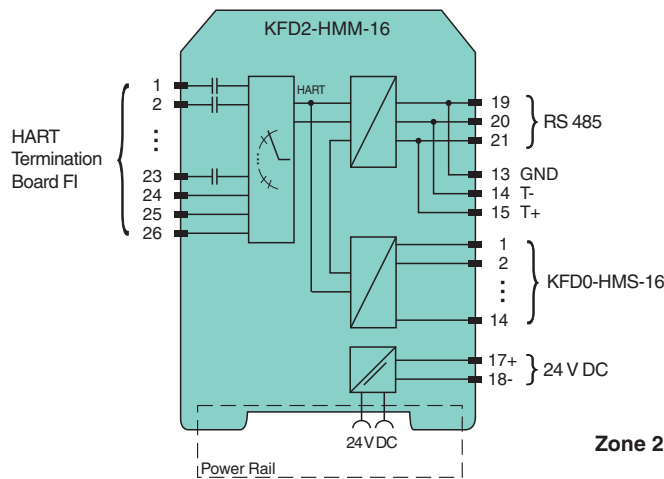
SIL 3



### Function

This HART Multiplexer Master operates up to 256 analog field instruments. The built-in slave unit in the HART master operates the first 16 field instruments. If more than 16 field instruments are required, up to 15 additional HART Multiplexer Slaves KFD0-HMS-16 can be connected. The slave units are connected to the master with a 14-pin flat cable. The connector for the ribbon cable is found on the same housing side as the connectors for the interface and the power supply. The analog signals are separately linked to a termination board via a 26-pin flat cable for each unit. Sixteen leads are reserved for the HART signal of the analog measurement circuits. The remaining 10 leads are sent to ground. This unit is designed with removable terminals and can be connected to the Power Rail.

### Connection



### Technical Data

#### Functional safety related parameters

Safety Integrity Level (SIL) SIL 3

#### Supply

Connection terminals 17+, 18-  
 Rated voltage  $U_r$  20 ... 32 V DC typical at 100 mA  
 Power consumption max. 3 W

#### HART signal channels (non-intrinsically safe)

Conformity HART field device input (revision 5 to 7)

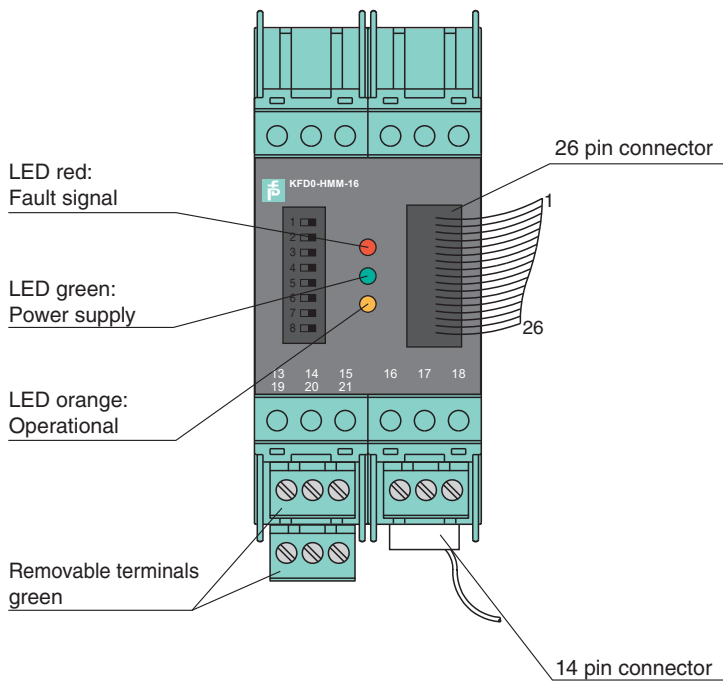
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## Technical Data








Connection	26-pin flat cable for analog connections 14-pin flat cable for master-slave connection between KFD2-HMM-16 and KFD0-HMS-16
Leakage current	< 3 $\mu$ A at -20 ... 85 °C (-4 ... 185 °F)
Terminating resistor	external 230 ... 500 $\Omega$ standard (up to 1000 $\Omega$ possible)
Output voltage	$\geq$ 400 mV <sub>ss</sub> (with the terminator resistance specified above)
Output resistance	100 $\Omega$ or smaller, capacitive coupling
Input impedance	according to HART specification
Input voltage range	0.08 ... 4 V <sub>ss</sub> ; typ. $\pm$ 5.2 V as local reference
<b>Interface</b>	
Transfer rate	9600, 19200, or 38400 Bit/s (selectable with DIL switch (2 and 3) by the user)
Type	RS-485, 2-wire multidrop
Address selection	One of 31 possible addresses selectable per DIL switch (4 ... 8)
<b>Indicators/settings</b>	
Control elements	DIP-switch
Configuration	via DIP switches
Labeling	space for labeling at the front
<b>Directive conformity</b>	
Electromagnetic compatibility	
Directive 2014/30/EU	EN 61326-1:2013 (industrial locations)
<b>Conformity</b>	
Degree of protection	IEC 60529:2001
<b>Ambient conditions</b>	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
<b>Mechanical specifications</b>	
Degree of protection	IP20
Mass	approx. 250 g
Dimensions	40 x 107 x 115 mm (1.6 x 4.2 x 4.5 inch), housing type C1
Mounting	on 35 mm DIN mounting rail acc. to EN 60715:2001
<b>Data for application in connection with hazardous areas</b>	
Certificate	PF 07 CERT 1143 X
Marking	Ⓜ II 3G Ex nA IIC T4 Gc
Directive conformity	
Directive 2014/34/EU	EN 60079-0:2012+A11:2013, EN 60079-15:2010
<b>General information</b>	
Supplementary information	Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .

**Assembly**

Front view



**Matching System Components**

	<b>PACTware 5.X</b>	FDT Framework
	<b>DTM Generic HART</b>	Device type manager (DTM) for HART communication
	<b>DTM HART Comm</b>	Device type manager (DTM) for HART communication
	<b>DTM HART Multiplexer</b>	Device type manager (DTM) for HART communication
	<b>K-HM14</b>	HART connection cable for master - slave connection
	<b>KFD0-HMS-16</b>	HART Multiplexer Slave
	<b>FI-PFH-NS0137-R</b>	HART termination board for K-System HART Multiplexer

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

**Additional Information**

The KFD2-HMM-16 is a HART Multiplexer. The built-in slave unit can operate 16 analog transmitters. Up to 15 KFD0-HMS-16 slave units can be connected to each KFD2-HMM-16 HART Multiplexer. The slave units are linked to the KFD2-HMM-16 HART Multiplexer via a 14-pin bus cable.

The data of the individual transmitters is sent to a PC through an RS 485 interface. Via PC with a software such as **PACTware™** or AMS, a configuration of the HART compatible transmitter, as well as the registration of the processes with regard to a maintenance system can be carried out.

**DIP switch settings**

8 DIP switches are located on the top of the device.

DIP switch 1 is used by the manufacturer for testing the device and **must therefore always be set to "OFF"**.

DIP switch	1	Meaning
Setting	OFF	normal status

DIP switches 2 and 3 determine the baud rate of the RS 485 interface.

DIP switch	2	3	Meaning
Setting	OFF	OFF	9600 Baud
	OFF	ON	19200 Baud
	ON	OFF	38400 Baud
	ON	ON	not permitted

DIP switches 4 to 8 determine the RS 485 address. A value is assigned to each of the individual DIP switches for this purpose. The resulting address is given by the addition of the set values.

DIP switch	4	5	6	7	8	Meaning
Setting	ON					value 16
		ON				value 8
			ON			value 4
				ON		value 2
					ON	value 1
Example:	OFF	ON	ON	OFF	ON	address = 8 + 4 + 1 = 13

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