

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/EN 61508

HART Multiplexer Master



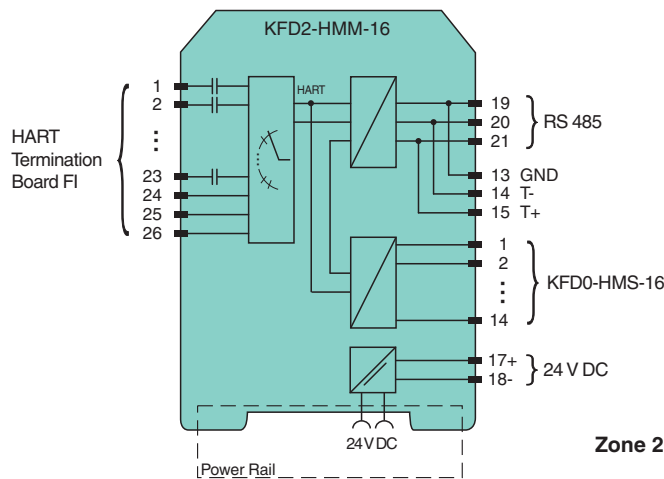
Function

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.

Application

The KFD2-HMM-16 is a HART Multiplexer. The built-in secondary unit can operate 16 analog transmitters. Up to 15 KFD0-HMS-16 secondary devices can be connected to each KFD2-HMM-16 HART Multiplexer. The secondary devices 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.

Connection



Technical Data

Functional safety related parameters	
Safety Integrity Level (SIL)	SIL 3
Supply	
Connection	terminals 17+, 18-

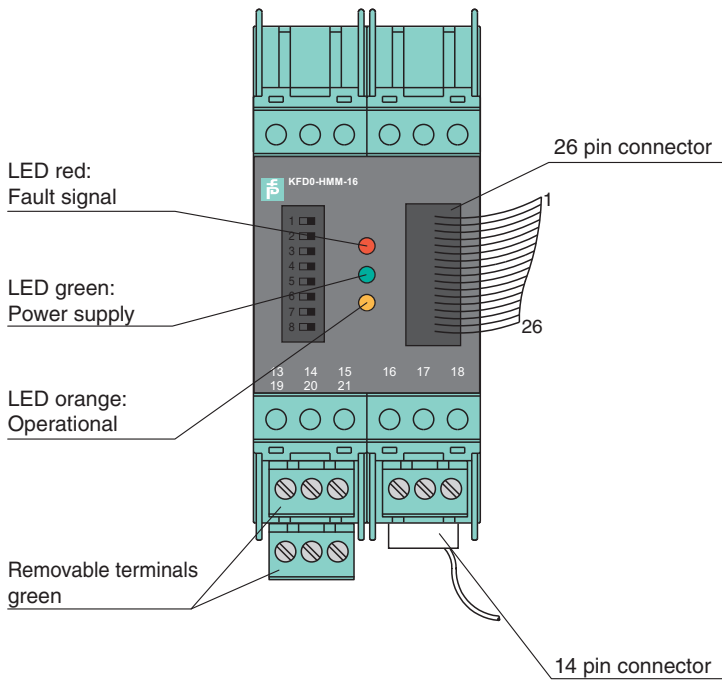
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Technical Data

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)
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 μ A at -20 ... 85 °C (-4 ... 185 °F)
Terminating resistor		external 230 ... 500 Ω standard (up to 1000 Ω possible)
Output voltage		\geq 400 mV _{ss} (with the terminator resistance specified above)
Output resistance		100 Ω or smaller, capacitive coupling
Input impedance		according to HART specification
Input voltage range		0.08 ... 4 V _{ss} ; typ. \pm 5.2 V as local reference
Interface		
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)
Indicators/settings		
Control elements		DIP switch
Configuration		via DIP switches
Labeling		space for labeling at the front
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013 (industrial locations)
Conformity		
Degree of protection		IEC 60529:2001
Ambient conditions		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		
Degree of protection		IP20
Connection		screw terminals
Mass		approx. 250 g
Dimensions		40 x 107 x 115 mm (1.6 x 4.2 x 4.5 inch) (W x H x D), housing type C1
Mounting		on 35 mm DIN mounting rail acc. to EN 60715:2001
Data for application in connection with hazardous areas		
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
General information		
Supplementary information		Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .

Assembly

Front view



Configuration

Switch Settings

The device has 8 switches located on the top of the device. The switch 1 is used by the manufacturer for testing the device and **must therefore always be set to OFF**.

Switch	1	Meaning
Position	OFF	Normal status

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

Switch	2	3	Meaning
Position	OFF	OFF	9600 Baud
	OFF	ON	19200 Baud
	ON	OFF	38400 Baud
	ON	ON	not permitted

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

Switch	4	5	6	7	8	Meaning
Position	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





Matching System Components

	PACTware 5.0	FDT Framework
	DTM Generic HART	Device type manager (DTM) for HART communication
	DTM HART Comm	Device type manager (DTM) for HART communication



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

Matching System Components

	DTM HART Multiplexer	Device type manager (DTM) for HART communication
	K-HM14	HART connection cable for master - slave connection
	K-HM26-114025	HART connection cable for master/slave - termination board connection
	ICDM-RX/TCP-ST/RJ45-DIN	Serial Device Server 1-port DIN Rail Screw Terminal

Accessories

	KF-ST-5GN	Terminal block for KF modules, 3-pin screw terminal, green
	KF-CP	Red coding pins, packaging unit: 20 x 6