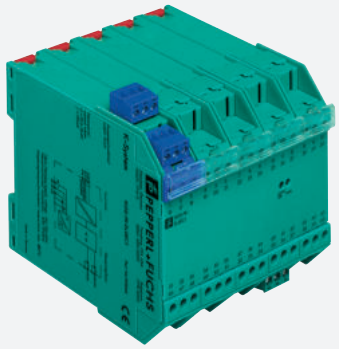

Fieldbus Power Repeater

KLD2-PR-Ex1.IEC

- Power supply of fieldbus segments according to IEC 61158-2
- Signal repeater for fieldbus topologies in accordance to Entity
- 70 mA supply of the field side
- Improves the fieldbus signal
- Extension of the transmission distance by means of opening a new fieldbus segment
- Integrated bus terminations
- Removable terminals and Power Rail connection for simple installation
- Supply via Power Rail

Function

The KLD2-PR-Ex1.IEC improves digital communication signals within a fieldbus system.
This fieldbus repeater separates an intrinsically safe field bus segment and a non-intrinsically safe field bus segment from each other galvanically; IEC 61158-2/ISA-S50.02 (i. e. FOUNDATION Fieldbus, PROFIBUS PA). It delivers a constant voltage for supplying the intrinsically safe field devices connected to the bus segment in the hazardous area regardless of the load. FOUNDATION Fieldbus field devices of type profiles 111 and 112 can be connected under FISCO conditions *, i. e. without having to carry out mathematical verification of the connection of intrinsically safe control circuits.
The repeater refreshes the signal course and the level of incoming digital communication signals. Up to 31 repeaters can be operated on the host. At the maximum output current, the repeater is able to extend the bus segment by at least 519 m with the use of an FF cable of type A, AWG 18 (0.8 mm^2). The repeater has a permanently integrated bus terminator on the field side. The bus terminator can be switched into the circuit on the host side.
The power rail connections eliminate the need to loop through power supply and fieldbus lines.

* **FISCO:F**ieldbus **I**ntrinsically **S**afe **C**oncept

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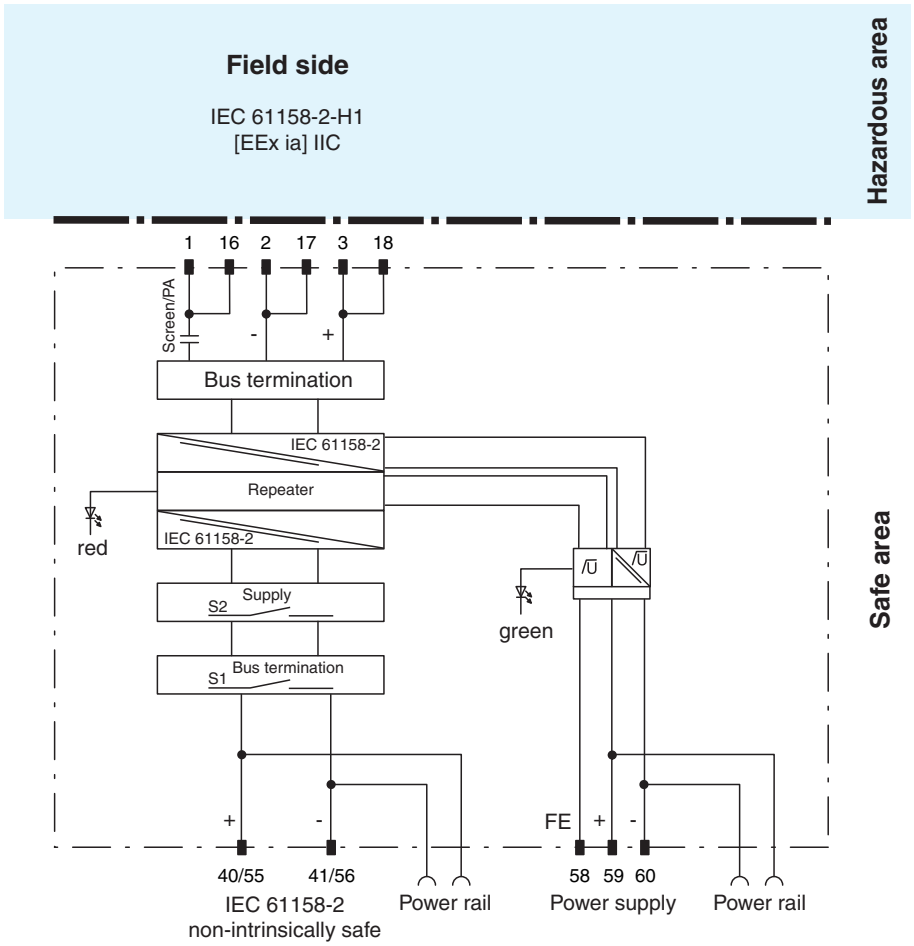
Connection



Technical Data

Supply		
Connection		Power Rail or terminals 59+, 60-
Rated voltage	U_r	20 ... 35 V DC
Ripple		≤ 10 %
Rated current	I_r	310 mA ... 125 mA
Fieldbus interface		
Field-side		
Connection		terminals 3, 18+; 2, 17-
Rated voltage		10.6 ... 10.9 V DC
Rated current		max. 70 mA
Terminating impedance		100 Ω , integrated
Host-side		
Connection		Power Rail or terminals 40, 55+, 41, 56-
Rated voltage		9 ... 32 V DC (supplied switch S2 in pos. I) 0 V DC (not supplied switch S2 in pos. II)
Terminating impedance		100 Ω switchable off and on via rotary switch S1: 1 -> on; 0 -> off
Galvanic isolation		
Field-side/Host-side		safe galvanic isolation acc. to EN 50020, voltage peak value 375 V
Host-side/Supply		functional insulation acc. to DIN EN 50178, rated insulation voltage 50 V_{eff}
Field-side/Supply		safe galvanic isolation acc. to EN 50020, voltage peak value 375 V
All circuits/FE		functional insulation acc. to DIN EN 50178, rated insulation voltage 253 V_{eff}
Directive conformity		

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Technical Data

Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013
Standard conformity		
Galvanic isolation		EN 50178, EN 50020
Electromagnetic compatibility		NAMUR NE 21
Degree of protection		IEC/EN 60529
Fieldbus standard		IEC 61158-2, ISA S 50.02 part 2
Climatic conditions		DIN IEC 721
Ambient conditions		
Classification		3K3
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
Storage temperature		-20 ... 85 °C (-4 ... 185 °F)
Relative humidity		< 75 %
Pollution degree		max. 2, according to IEC 60664
Mechanical specifications		
Connection type		Terminals
Core cross-section		up to 2.5 mm²
Housing		100 mm x 115 mm x 107 mm
Degree of protection		IP20
Mass		approx. 600 g
Mounting		DIN rail mounting
Data for application in connection with hazardous areas		
EU-type examination certificate		PTB 00 ATEX 2036
Marking		⟨Ex⟩ II (1) G [Ex ia] IIC Ga ⟨Ex⟩ II (1) D [Ex ia] IIIC Da
Supply		
Maximum safe voltage	U_m	253 V AC / 125 V DC (Attention! U_m is no rated voltage.)
Field-side		
Voltage U_o		15 V
Current I_o		141 mA
Power P_o		1.2 W
Maximum safe voltage U_m		60 V (Attention! The rated voltage can be lower.)
Certificate		PF 15 CERT 3527 X
Marking		⟨Ex⟩ II 3G Ex ec IIC T4 Gc
Directive conformity		
Directive 2014/34/EU		EN 60079-0:2012 , EN 60079-7:2015 , EN 60079-11:2012
International approvals		
FM approval		CoC 3008872
Control drawing		No. 116-0190
Approved for		Class I, Division 2, Groups A, B, C, D / Class I, Zone 2, Group IIC T4
General information		
Supplementary information		Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com.

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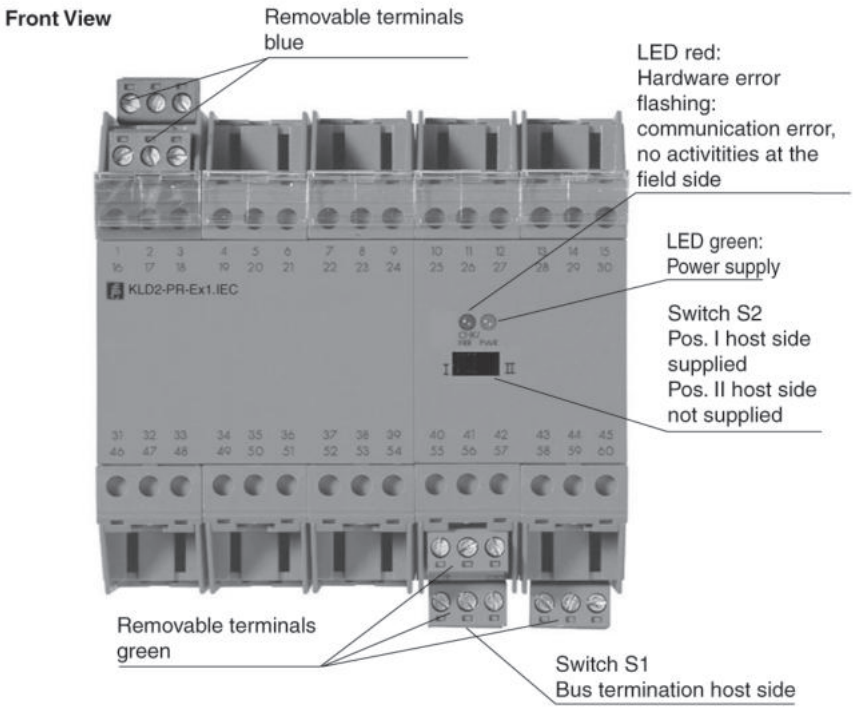
Assembly



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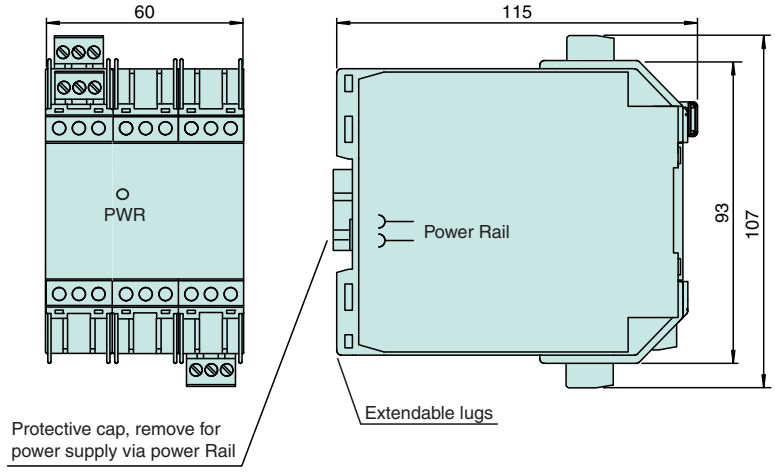
Additional Information

Accessories

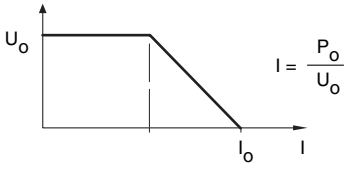
Type	Model number	Description
Power rail	PR 03	Insert component for DIN mounting rail in accordance with DIN EN 50022, standard length 500 mm
Power rail	UPR03	Insert component with no snap lock for the DIN rail in accordance with DIN EN 50022, standard length 2 m
Power supply - Component - Component	KFD2-EB.D2A.B	Supplies power to the power rail redundantly with 24 V DC at a maximum current of 2 A, with pick-up
	KFD2-EB.R2A.B	Supplies power to the power rail with 24 V DC at a maximum current of 2 A, with pick-up. To set up a redundant system, a second device can be used.
	KFD2-EB2.B	Supplies power to the power rail with 24 V DC at a maximum current of 4 A, with pick-up and error message signal on the power rail.
Fieldbus termination	KMD0-FT-Ex Fx-FT-Ex1.I.IEC Fx-FT-Ex1.D.IEC	Termination of the IEC line. The fieldbus terminating resistor is connection to the last IEC bus station.
Fieldbus repeater (Entity)	KLD2-PR-Ex1.IEC	Isolator module and intrinsically safe power supply with repeater functionality for devices in accordance with the FISCO/ Entity model.
Fieldbus repeater (FISCO)	KLD2-PR-Ex1.IEC1	Isolator module and intrinsically safe power supply with repeater functionality for devices in accordance with the FISCO.
Fieldbus repeater (non-intr. safe)	KLD2-PR-1.IEC	Non-intrinsically safe power supply with repeater function.
Fieldbus repeater (non-incendive)	KLD2-PR-NI1.IEC	Isolating power supply with repeater function for 'non incendive' design for field circuits.
Fieldbus power pack (non-incendive)	KLD2-STR-NI1...	Isolating power supply for 'non incendive' design of field circuits.

Dimensions



Characteristic Curve

Output characteristic



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