

Features

- 2-channel isolated barrier
- 24 V DC supply (bus powered)
- Current output up to 750 Ω load
- SMART I/P and valve positioners
- Suitable for Yokogawa PCS system
- Line fault detection (LFD)
- Up to SIL 2 acc. to IEC 61508

Function

This isolated barrier is used for intrinsic safety applications. It repeats a 4 mA ... 20 mA input signal from a control system to drive SMART I/P converters, valve actuators, and displays located in a hazardous area.

Digital signals may be superimposed on the analog values in the hazardous or safe area, which are transferred bi-directionally.

An open field circuit presents a high impedance to the control side to allow alarm conditions to be monitored by control systems.

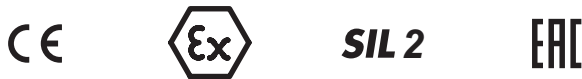
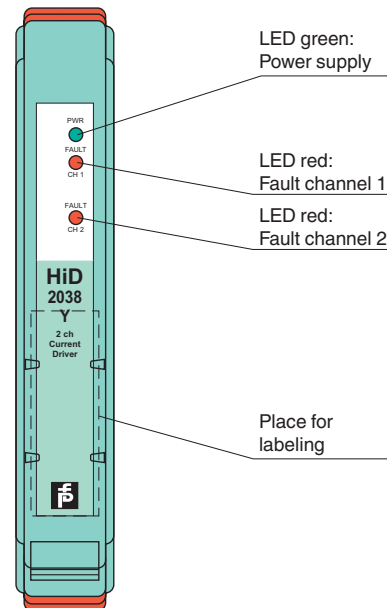
Line fault detection of the field circuit is indicated by a red LED. This module mounts on a HiD Termination Board.

Application

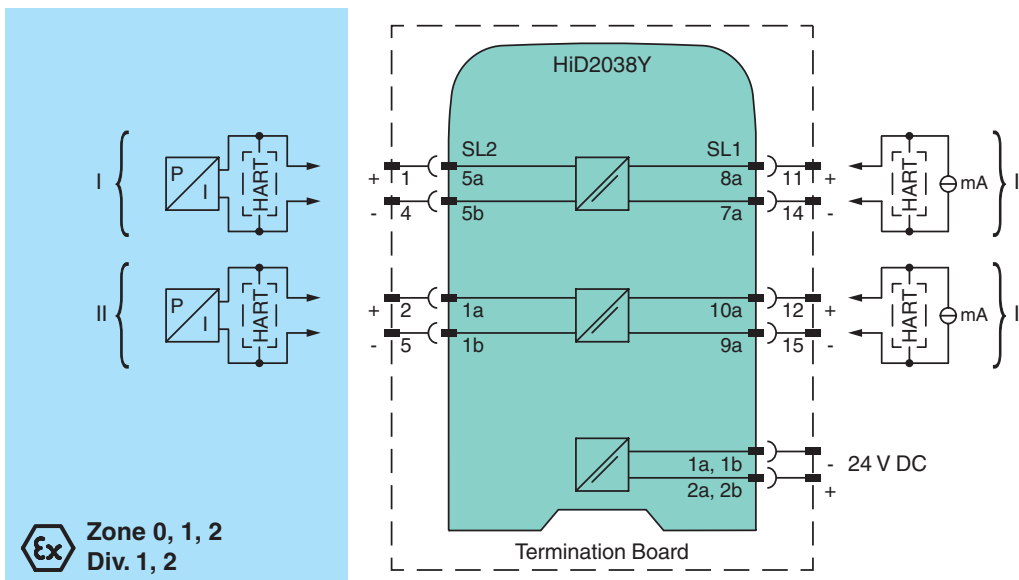
This device is suitable for Yokogawa DCS system. It has reduced current on lead breakage and no fault bus signal.

Assembly

Front view



Connection



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

General specifications		
Signal type		Analog output
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
Supply		
Connection		SL1: 1a(-), 1b(-); 2a(+), 2b(+)
Rated voltage	U_r	20.4 ... 30 V DC bus powered via Termination Board
Rated current	I_r	40 mA at 24 V, 20 mA output (per channel)
Power dissipation		0.85 W at 24 V (per channel)
Input		
Connection side		control side
Connection		SL1: 8a(+), 7a(-); 10a(+), 9a(-)
Input current		4 ... 20 mA , reverse polarity protected
Signal level		input voltage drop < 4 V with field wiring intact input current < 0.6 mA (47 k Ω) with field wiring open
Output		
Connection side		field side
Connection		SL2: 5a(+), 5b(-); 1a(+), 1b(-)
Load		0 ... 750 Ω
Output signal		4 ... 20 mA
Ripple		15 mV _{eff}
Response time		50 ms , 10 ... 90 % step change
Line fault detection		breakage, load > 100 k Ω
Transfer characteristics		
Accuracy		< \pm 0.1 % of full-scale value
Influence of temperature		< \pm 0.01 %/K
Frequency range		0.5 ... 40 kHz within 3 db, (-6 db at 100 kHz) for use with SMART positioners using HART protocol
Influence of load		< \pm 0.1 % of full-scale value from 0 ... 750 Ω
Linearity		< \pm 0.1 % of full-scale value
Galvanic isolation		
Input/power supply		functional insulation acc. to DIN EN 50178, rated insulation voltage 50 V _{eff}
Input/input		functional insulation acc. to DIN EN 50178, rated insulation voltage 50 V _{eff}
Indicators/settings		
Display elements		LEDs
Labeling		space for labeling at the front
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013 (industrial locations)
Conformity		
Electromagnetic compatibility		NE 21:2006 For further information see system description.
Degree of protection		IEC 60529
Ambient conditions		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
Relative humidity		5 ... 90 % , non-condensing up to 35 °C (95 °F)
Mechanical specifications		
Degree of protection		IP20
Mass		approx. 140 g
Dimensions		18 x 106 x 128 mm (0.7 x 4.2 x 5 inch)
Mounting		on Termination Board
Coding		pin 1 and 3 trimmed For further information see system description.
Data for application in connection with hazardous areas		
EU-Type Examination Certificate		CESI 02 ATEX 086
Marking		⊕ II (1)G [Ex ia Ga] IIC , ⊕ II (1)D [Ex ia Da] IIIC
Output		Ex ia, Ex iaD
Voltage	U_o	26 V
Current	I_o	93 mA
Power	P_o	605 mW
Supply		
Maximum safe voltage	U_m	250 V AC (Attention! U_m is no rated voltage.)
Certificate		PF 11 CERT 2109 X
Marking		⊕ II 3G Ex nA IIC T4 Gc [device in zone 2]
Galvanic isolation		

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Input/Output	safe electrical isolation acc. to EN 60079-11: 2007, voltage peak value 375 V
Output/power supply	safe electrical isolation acc. to EN 60079-11: 2007, voltage peak value 375 V
Output/Output	safe electrical isolation acc. to EN 60079-11:2007, voltage peak value 60 V
Directive conformity	
Directive 2014/34/EU	EN 60079-0:2012+A11:2013 , EN 60079-11:2012 , EN 60079-15:2010
International approvals	
CSA approval	
Control drawing	366-005CS-12B (cCSAus)
IECEX approval	IECEX TUN 04.0012
Approved for	[Ex ia] IIC
General information	
Supplementary information	Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .

Configuration

No user configuration available for this device.



*The pins for this device are trimmed to polarize it according to its safety parameter. Do not change!
For further information see system description.*