GM INTERNATIONAL
TECHNOLOGY FOR SAFETY

D1034

SIL 2 / SIL 3 Contact/Proximity Detector Interface DIN-Rail Models D1034S, D1034D

Characteristics:

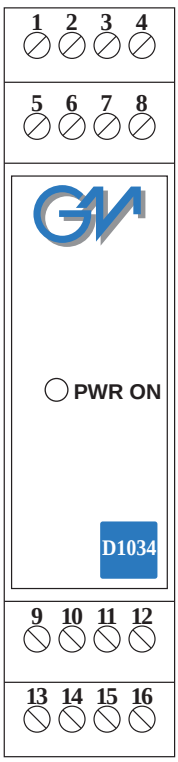
General Description:
D1034 is a single (D1034S) or double (D1034D) channel Intrinsically Safe interface with galvanic isolation, designed to interface contacts or proximity detectors maintaining a high level of loop integrity (safety integrity level SIL 2 according to EN61508). Field loop integrity and status (line plus contact or proximitor) are continuosly monitored directly, in a transparent mode, into the PLC, ESD, DCS using their existing input line, without requiring an additional channel for failure detection. This solution results in 100% input channel saving with evident space cost and failure risk benefits.

Function:
1 or 2 totally independent and isolated channels I.S. for contact or EN60947-5-6 Proximity switches. Provides 3 port isolation (input/output/supply).

Signalling LED:
Power supply indication (green).

EMC:
Fully compliant with CE marking applicable requirements.

Front Panel and Features:



- SIL 2 / SIL 3 according to EN61508.
- Contact/Proximity Detector Input.
- Two independent Output Signals.
- Short and open circuit fault detection.
- Three port isolation, Input/Output/Supply.
- EMC Compatibility to EN61000-6-2, EN61000-6-4.
- ATEX Certification.
- High Reliability, SMD components.
- High Density, two channels per unit.
- Simplified installation using standard DIN Rail plug-in terminal blocks.
- 250 Vrms (Um) max. voltage applied to the instruments associated with barrier.

Technical Data:

Supply:
12-24 V nom (10 to 30 V) reverse polarity protected
ripple within voltage limits ≤ 5 Vpp.
Current consumption @ 24 V: 60 mA for 2 channels D1034D,
35 mA for 1 channel D1034S.
Current consumption @ 12 V: 130 mA for 2 channels D1034D,
80 mA for 1 channel D1034S.
Max. power consumption: 1.90 W for 2 channels, 1.20 W for 1 channel with 30 V supply voltage and short circuit input.

Isolation (Test Voltage):
I.S. In/Out 1.5 KV; I.S. In/Supply 1.5 KV;
Out/Supply 500 V, Out/Out 500 V.

Input:
Current levels: ≥ 0.1 mA, ≤ 7.0 mA
Input equivalent source: 8 V 1 KΩ typical
(8 V no load 8 mA short circuit).

Output:
Repeats input current level.
Response time: 5 ms (10 to 90 % step change).

Compatibility:
CE mark compliant, conforms to 94/9/EC Atex Directive and to 89/336/CEE EMC Directive.

Environmental conditions:
Operating: Temperature limits -20 to + 60 °C,
relative humidity max 90 % non condensing, up to 35 °C.
Storage: Temperature limits – 40 to + 80 °C.

Safety Description:
II (1) G D [EEx ia] IIC or I M2 [EEx ia] I associated electrical apparatus.
Uo/Voc = 9.6 V, Io/Isc = 11 mA, Po/Po = 25 mW at terminals 14-15, 10-11.
Um = 250 Vrms, -20 °C ≤ Ta ≤ 60°C.
Approvals: DMT 01 ATEX E 042 X conforms to EN50014, EN50020, EXIDA Report No. GM03/07-24 R001, SIL 2 / SIL 3 according to EN61508. Please refer to Functional Safety Manual for SIL applications.

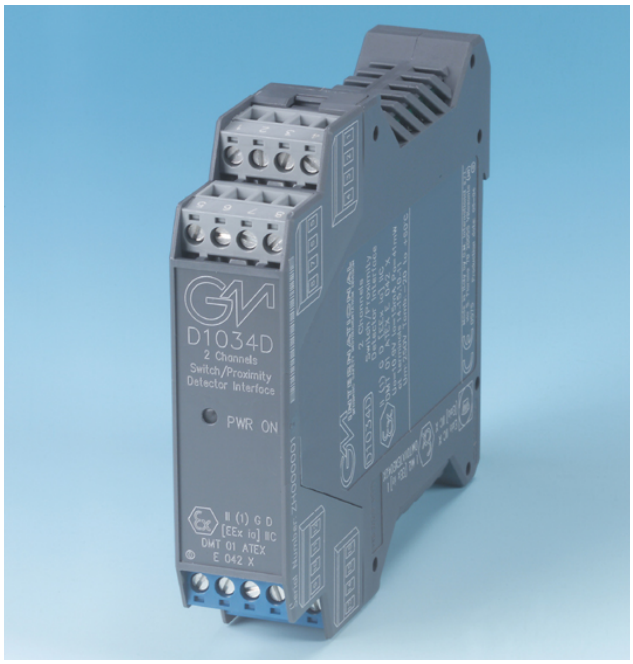
Mounting:
T35 DIN Rail according to EN50022.
Weight: about 140 g D1034D, 130 g D1034S.
Connection: By polarized plug-in disconnect screw terminal blocks to accomodate terminations up to 2.5 mm^2.
Location: Safe Area.
Protection class: IP 20.
Dimensions: Width 22.5 mm, Depth 99 mm, Height 114.5 mm.

Ordering Information:

Model:	**D1034**		
1 channel		S	
2 channels		D	
Power Bus enclosure			/B

Parameters Table:

Safety Description	Maximum External Parameters			
	Group Cenelec	Co/Ca (µF)	Lo/La (mH)	L/R / La/Ra (µH/Ω)
Terminals 14-15, 10-11				
Uo/Voc = 9.6 V	II C	3.60	336	1490
Io/Isc = 11 mA	II B	26.00	1345	5790
Po/Po = 25 mW	II A	210.00	2690	11580



Function Diagram:

HAZARDOUS AREA | SAFE AREA