**General Description:**
The single-channel DIN-Rail Loop Powered Digital Output Isolator, D1048S, is suitable for driving solenoid valves, visual or audible alarms to alert a plant operator, or other process control devices in Hazardous Area from a driving signal in Safe Area. It can also be used as a controllable supply to power measuring or process control equipment. Its use is allowed in applications requiring up to SIL 3 level (according to IEC 61508:2010 Ed. 2) in safety related systems for high risk industries. The Safety PLC or DCS driving signal powers the field device through the D1048S, which provides isolation and is capable of monitoring the conditions of the line.

**Function:**
- 1 channel I.S. digital output to operate Hazardous Area normally energized loads from PLC or DCS drive logics in Safe Area, providing 3 port isolation (input/output/fault).
- Override input power is present, provides LED indication and NC transistor output signaling.
- Fault detection: field device controlled by input, reverse polarity protected.
- Line short and open circuit line diagnostic monitoring, dip-switch selectable and active when input power is present, provides LED indication and NC transistor output signaling.
- Output to Zone 0 (Zone 20), Division 1, Class I, Division 2, Groups A, B, C, D Temperature Code T4 and location -20 to + 60 °C, relative humidity max 95 % non condensing.
- Loop Powered for NE loads.

**Field Configurability:**
- Fully compliant with CE marking applicable requirements.
- EN61326-1.
- Simplified installation using standard DIN-Rail according to EN50022.
- Type Approval Certificate DNV for maritime applications.
- Component IEC61508:2010 Ed.2, SIL 3 according to IEC 61508:2010 Ed.2 in safety related systems up to and included SIL3.
- Certification G.M. International is certified by TUV to conform to IEC61508:2010 part 1 clauses 5-6 for safety related systems up to and included SIL3.

**Technical Data:**
- Loop Input: loop powered control signal.
- Loop Supply: 24 Vdc nom (20 to 30 Vdc) reverse polarity protected.
- A 2 A time lag fuse internally protected. Supplies also diagnostic monitoring control circuit.
- Current consumption @ 24 V: 65 mA with 45 mA output typical in normal operation, ≤ 10 mA when fault enabled and fault condition detected.
- Power dissipation: 1.1 W with 24 V supply, output energized at 45 mA nominal load.
- max. power consumption: 200 mV supply voltage, 1.8 W.
- Override Input: override control signal de-energizes output when enabled by dip-switch.
- Override range: 24 Vdc nom (20 to 30 Vdc) to disable (field device controlled by input), 0 to 5 Vdc to de-energize field device, reverse polarity protected.
- Current consumption @ 24 V: 5 mA.
- Isolation (Test Voltage): I.S. Out/In 1.5 KV, I.S. Out/Override 1.5 KV, I.S. Out/Fault 1.5 KV, In/Fault 500 V; In/Override 500 V; Fault/Override 500 V.

**Output:**
- 45 mA at 13.0 V (21.0 V no load, 174 Q series resistance) at terminals 13-16 Out A.
- 45 mA at 10.2 V (21.0 V no load, 230 Q series resistance) at terminals 14-16 Out B.
- 45 mA at 8.5 V (21.0 V no load, 276 Q series resistance) at terminals 15-16 Out C.

**Response time:**
- 75 ms.
- 50 mA (55 mA typical).
- ≤ 5 ms.
- ≤ 5 ms.

**Environmental conditions:**
- Operating: temperature limits -20 to + 60 °C, relative humidity max 95 % non condensing.
- Storage: temperature limits -45 to + 80 °C.

**Safety Description:**

**Mounting:**
- T35 DIN Rail according to EN50022.

**Ordering Information:**
- Model: D1048S

**Specifications:**
- DIN-Rail accessories: DIN rail stopper MOR016

**Dimensions:**
- Width: 22.5 mm, Depth 99 mm, Height 114.5 mm.

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**DIN Rail Stopper MOR016**
### Parameters Table:

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<thead>
<tr>
<th>Safety Description</th>
<th>Maximum External Parameters</th>
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**NOTE for USA and Canada:**

IIC equal to Gas Groups A, B, C, D, E, F and G  
IIB equal to Gas Groups C, D, E, F and G  
IIA equal to Gas Groups D, E, F and G

### Function Diagram:

HAZARDOUS AREA ZONE 0 (ZONE 20) GROUP IIC,  
HAZARDOUS LOCATIONS CLASS I, DIVISION 1, GROUPS A, B, C, D,  
CLASS II, DIVISION 1, GROUPS E, F, G, CLASS III, DIVISION 1,  
CLASS I, ZONE 0, GROUP IIC  
SAFE AREA, ZONE 2 GROUP IIC T4,  
NON HAZARDOUS LOCATIONS, CLASS I, DIVISION 2,  
GROUPS A, B, C, D T-Code T4, CLASS I, ZONE 2, GROUP IIC T4

Use only one output at a time  
(Out A or Out B or Out C)