

**Characteristics:**
**General description:**

D2000M series Intrinsically Safe Multiplexing System consists of one to four Analog-Temperature Multiplexer units model D2010M, up to twelve Expander units model D2011M, or up to four Digital Multiplexer units model D2030M, mounted in Hazardous Area/Hazardous Locations Zone 1-2, Gas Group IIC-IIB-IIA T4 or Class I, Division 1-2, Group A, B, C, D T4 and connected via a single/redundant 2 wires data communication/supply line to a Modbus Gateway unit model D2050M, mounted in Safe Area/Non Hazardous Locations and connected to a PLC, DCS or PC. The D2053M unit is primarily intended for replication of proximity sensor or voltage free contact status of devices located in Hazardous Area/Hazardous Locations in the Safe Area/Non Hazardous Locations. When connected to D2050M unit, it repeats the status of each D2030M digital input multiplexer unit. The unit is driven by the Gateway D2050M via a dedicated bus. Application of this devices allows the reduction in cabling complexity where digital status are to be repeated in discrete form, in addition to the capability of analyzing them via Modbus. The D2053M unit is equipped with 32 optocoupled transistor output. The repeaters have the same channel capability as the digital field devices, so that every input unit can be repeated on an output unit. The assignment between input (field) and output (Safe Area/Non Hazardous Locations) devices is managed by the software of the D2050M and corresponding internal settings.

**Features:**

- Output Repeater for D2030M Digital Multiplexer.
- Opto isolated voltage free Transistor Output Signals.
- High density, 32 channels per unit, 128 channels per system.
- EMC Compatibility to EN61000-6-2, EN61000-6-4.
- Simplified installation using standard DIN Rail mounting units.

**Technical Data:**
**Supply:**

24 Vdc nom (20 to 30 Vdc) reverse polarity protected, ripple within voltage limits  $\leq 5$  Vpp.

**Current consumption @ 24 V:** 240 mA with transistors energized.

**Power dissipation:** 5.8 W with 24 V supply voltage and transistors energized.

**Max. power consumption:** at 30 V supply voltage and transistors energized 6.5 W.

**Isolation (Test Voltage):**

Out/In 500 V; Out/Supply 500 V; Out/Out 500 V.

**Input:**

via D2050M dedicated bus.

**Output:**

voltage free SPST optocoupled open-collector transistor.

**Open-collector rating:** 100 mA at 35 V ( $\leq 1.0$  V voltage drop).

**Leakage current:**  $\leq 50$   $\mu$ A at 35 V.

**Response time:** 20 ms.

**Frequency response:** 10 Hz maximum.

**Compatibility:**

 CE mark compliant, conforms to 2004/108/CE EMC Directive.

**Environmental conditions:**

**Operating:** temperature limits - 40 to + 60 °C,

relative humidity max 90 % non condensing, up to 35 °C.

**Storage:** temperature limits - 45 to + 80 °C.

**Mounting:**

T35 DIN Rail according to EN50022.

**Weight:** about 540 g.

**Connection:** by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm<sup>2</sup>.

**Location:** Safe Area/Non Hazardous Locations installation.

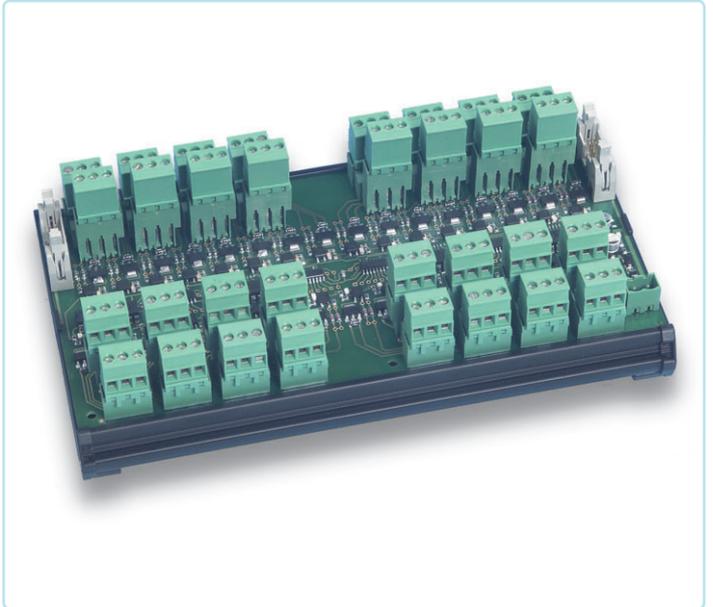
**Protection class:** IP 20.

**Dimensions:** Width 127 mm, Length 220 mm, Depth 78 mm.

**Ordering Information:**

Model: D2053M

Image:



Function Diagram:

SAFE AREA/NON HAZARDOUS LOCATIONS

