

D5244

I.S. SIL2/3 Loop-Powered Digital Relay Output

The Loop-Powered Digital Relay Output D5244 is a loop powered digital output module enabling a Safe Area loop voltage signal, to control a device in Hazardous Area, providing 2 port isolation (input/output). Outputs are galvanically isolated. Typical applications include switching of Hazardous Area circuits, changing of polarities and sounder tones, calibrating of strain gauge bridges, resetting of field devices, testing of fire detectors. Each output channel provides a SPDT relay, with two contacts defined NO (Normally Open) and NC (Normally Close) when the output relay is de-energized. Considering each channel NE (Normally Energized), the output relay is energized, so that NO contact is closed (useful for NE loads or Hazardous Area circuits) and NC contact is open (useful for ND loads or Hazardous Area circuits). The safe state is reached when the channel and the output relay are de-energized, so that NO contact is open (de-energizing loads or Hazardous Area circuits) and NC contact is closed (energizing loads or Hazardous Area circuits).

FEATURES

- SIL 2 / SC 3
- Output to Zone 0
- Installation in Zone 2
- 2 fully independent channels
- Voltage level input
- Two SPDT Relay Output Signals
- Two port isolation, Input/Output/Supply
- High Reliability, SMD components
- High Density, two channels per unit

TECHNICAL DATA

Input

24 Vdc nom (18 to 30 Vdc), reverse polarity protected.

Current consumption: 20 mA/channel @ 24 Vdc with relay energized, typical.

Power dissipation: 0.4 W/channel @ 24 Vdc with loop voltage and relays energized, typical.

Voltage range: 0 V ≤ OFF ≤ 5 V, 18 V ≤ ON ≤ 30 V.

Output

Voltage free SPDT relay contact.

Contact material: AgNi90/10.

Contact rating: 40 Vdc, 2 A for use in Intrinsic Safety applications, 2 A 250 Vac 500 VA, 2 A 250 Vdc 80 W (resistive load) for non Intrinsic Safety applications.

DC and AC load breaking capacity: refer to Instruction Manual.

Mechanical / electrical life: 15 * 10⁶ / 10 * 10⁴ operations, typical.

Operate / release time: 50 ms, typical.

Isolation

I.S. Out/In 1.5 kV; I.S. Out/I.S. Out 1.5 kV; In/In 500 V.

Environmental conditions

Operating temperature: temperature limits -40 to +70 °C.

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

Safety description

Associated apparatus and non-sparking electrical equipment.

U_o = 0 V, I_o = 0 mA, P_o = 0 mW at terminals 13-14-15/16, 17-18-19/20 (U_o, I_o, P_o equal to the connected Intrinsic Safety circuit).

U_i = 40 V, I_i = 2 A, C_i = 0 nF, L_i = 0 nH at term. 13-14-15/16, 17-18-19/20. U_m = 250 Vrms or Vdc, -40 °C ≤ T_a ≤ 70 °C.

Mounting

DIN-Rail 35 mm, or on custom Term. Board.

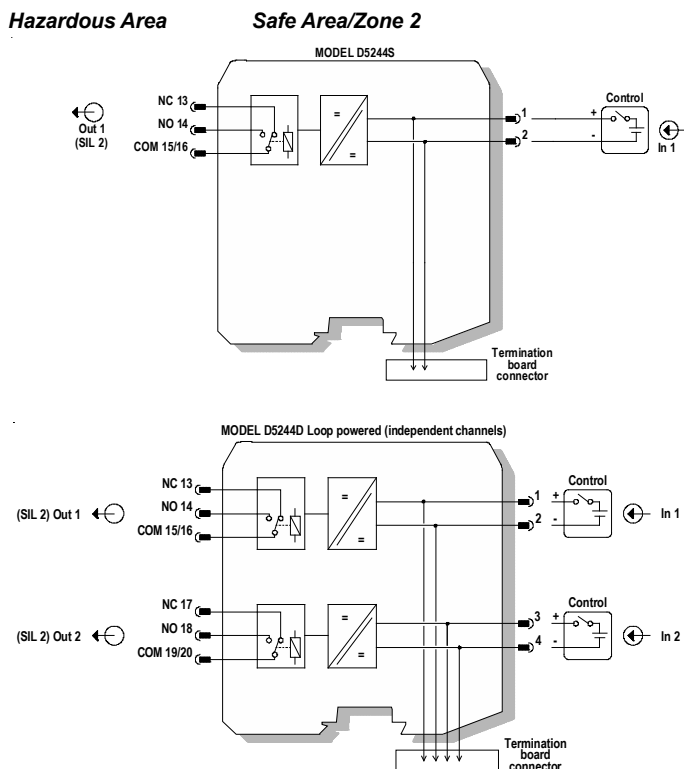
Weight: about 175 g (D5244D), 165 g (D5244S).

Connection: by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm² (13 AWG).

Dimensions: Width 22.5 mm, Depth 123 mm, Height 120 mm.

FUNCTION DIAGRAM

Additional installation diagrams may be found in Instruction Manual.



ORDERING INFORMATION

D5244S: 1 channel

D5244D: 2 channels

Accessories

DIN-Rail stopper MCHP196.