

Characteristics:

General Description:

The single channel DIN Rail Loop Powered Digital Output Isolator, D5280S, is suitable to drive a normally energized solenoid valve, or audible alarms, or other process control devices operating at 24 Vdc - 500 mA (12 W).

The Safety PLC or DCS driving signal powers the final element through the D5280S.

Typical applications include visual or audible alarms to alert a plant operator or drive a solenoid valve or other process control devices.

The unit isolates and transfers the signal to a normally energized final element, but at the same time, is capable of monitoring the conditions of the line and of the final element continuously (short and open circuit output line and load continuous diagnostic monitoring in both ON and OFF status with LED indication and NC transistor output signalling).

This is achieved by means of an independent diagnostic monitoring control circuit which is separately powered (24 Vdc supply line).

D5280S provides 3 port isolation (input/output/supply) between PLC and devices.

The unit can be installed in Zone 2, Division 2.

Technical Data:

Supply for diagnostic circuit: 24 Vdc nom (20 to 30 Vdc).

Reverse polarity protected, ripple within voltage limits ≤ 5 Vpp.

Isolation (Test Voltage):

Out/In 1.5 KV; Out/Supply 1.5 KV; Out/Fault 1.5 KV;

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

Input: loop powered control signal.

Loop supply: 24 Vdc nom (20 to 30 Vdc) reverse polarity protected.

Output:

$V_{out} = V_{in} \pm 2$ V up to 500 mA (12 W).

Response time: 20 ms.

Fault detection:

Short output detection: selectable from 5 to 20 Ω .

Open output detection: load resistance > 10 K Ω .

Fault signalling: voltage free NE SPST optocoupled open-collector transistor (output de-energized in fault condition).

Open-collector rating: 100 mA at 35 V (≤ 2 V voltage drop).

Leakage current: ≤ 50 μ A at 35 V.

Response time: 1 s typical.

Compatibility:

CE CE mark compliant, conforms to 94/9/EC Atex Directive and to 2004/108/CE EMC Directive.

Environmental conditions:

Operating: temperature limits -40 to $+60$ $^{\circ}$ C,

relative humidity max 90 % non condensing, up to 35 $^{\circ}$ C.

Storage: temperature limits -45 to $+80$ $^{\circ}$ C.

Safety Description:

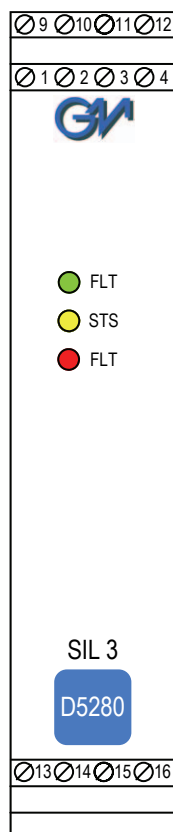
II 3G Ex nA II T4.

Mounting:

T35 DIN Rail according to EN50022.

Dimensions: Width 22 mm, Depth 120 mm, Height 120 mm.

Front Panel and Features:



- SIL 3 according to IEC 61508.
- Installation in Zone 2, Division 2.
- Loop powered for NE loads.
- Short and open circuit load line diagnostic monitoring with LED and transistor output.
Short output detection selectable from 5 to 20 Ω .
- Output short circuit proof and current limited.
- Three port isolation, Input/Output/Supply.
- EMC Compatibility to EN61000-6-2, EN61000-6-4, EN61326-1, EN61326-3-1 for safety system.
- ATEX, IECEx, UL & C-UL, FM & FM-C, Russian and Ukrainian Certifications.
- Simplified installation using standard DIN Rail and plug-in terminal blocks.

Ordering Information:

Model: D5280S

Image:



Function Diagram:

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

