

Characteristics:

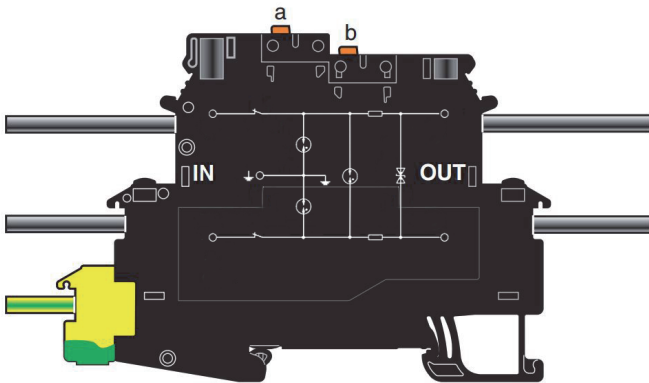
General Description:

D9024S provides two-stage surge protection for floating I/O signals of measurement and control and safety systems. With width of 6mm, it can be easily fitted into any marshalling cabinets or distribution cabinets.
The SPD provides surge protection with 6 MHz bandwidth 4.7Ω Loop impedance.
With disconnect knife on both signal paths features for easy testing of the loop.

Function:

Surge protection for most I/O signals; AI, AO, DI, DO. Nominal 24V DC, maximum 36V DC. D9024S provides surge protection for all kinds of applications in different industries such as Oil&Gas, Petrochemical, Steel etc. Avoiding signal interruption and protecting control room equipment.

Features:



- SIL 3 according to IEC 61508:2010 Ed.2 for Tproof = 12 yrs (5% of total SIF).
- Input from Zone 0 (Zone 20), installation in Zone 1 and 2
- Disconnection of signal circuit by disconnect knife
- Protection of a floating double wire in intrinsically safe circuits
- High Density, 6.2 mm per channel.
- HART compatible

Ordering Information:

Model: D9024S

Technical Data:

IEC test classification/EN type: C1 / C2 / C3 / D1
 Nominal system Voltage U_n : 24 V DC
 Max Cont. Operating voltage U_c : 30V DC, 21 VAC
 Protection of signal types: 4-20 mA HART, Digital I/O, World FIP, F&G
 Load current insertion: 250 mA (40°C)
 Series resistance: $4.7\Omega \pm 20\%$
 Impulse discharge current I_{imp} (10/350) μ s: 500 A
 Nominal Discharge Current (In) (8/20) μ s: 5 kA
 Total surge current (8/20) μ s: 10kA or 20kA for one time
 Voltage Protection Level: < 70V (C2 - 10 kV/5 kA (core to core))
 < 1.5 KV (C2 - 10 kV/5 kA (core to ground))

Explosion-proof Certification: Exia IIC T4...T6

Rated load current I_i : 250 mA

Rated operating voltage U_i : 30 V DC

Max continuous DC operating voltage U_c : 30 V DC

Response time: 1 ns (core-core); 100 ns (core-earth)

Compatibility:

CE CE mark compliant, conforms to Directives:
 2014/34/EU ATEX, 2014/35/EU LVD, 2011/65/EU RoHS

Environmental conditions:

Operating: temperature limits -40 to + 70 °C, relative humidity max 95 %.

Safety Description:



ATEX: II 1G Ex ia IIC T4...T6 Ga, II 1D Ex ia IIIC T135°C...T85°C Da

IECEx: Ex ia IIC T4...T6 Ga, Ex ia IIIC T135°C...T85°C Da

intrinsically safe apparatus

$U_i/V_{max} = 30$ Vdc, $I_i/I_{max} = 250$ mA, $P_i/P_{max} = 750$ mW, $C_i = 2$ nF, $L_i = 1$ μ H at terminals 1-2.

-40 °C \leq Ta \leq 80 °C.

Approvals:

DEKRA 16ATEX0025X conforms to EN60079-0, EN60079-11, EN60079-26.

IECEx DEK 16.0015X conforms to IEC60079-0, IEC60079-11, IEC60079-26.

EXIDA report no. GM 16/02-055 R006 SIL 3 conforms to IEC61508:2010 Ed.2.

Mounting:

T35 DIN Rail according to EN50022.

Connection: screw terminal blocks to accommodate terminations up to 2.5 mm² flexible.

Location: installation in Safe Area or Zone 2 or Zone 1, Group IIC T4...T6.

Protection class: IP 20.

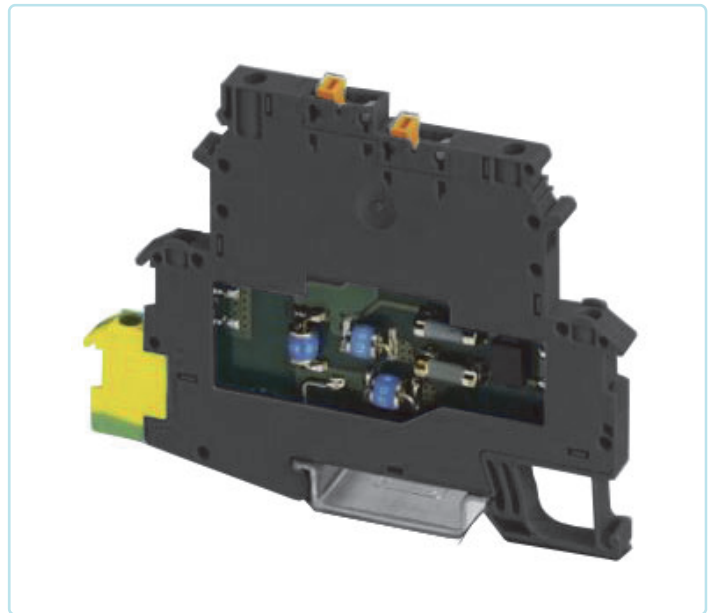
Dimensions: Width 6.2 mm, Depth 69.1 mm, Height 94.8 mm.

Parameters Table:

Safety Description

Terminals 1-2
 $U_i = 30 \text{ Vdc}$
 $I_i = 250 \text{ mA}$ ($T_A < 40^\circ\text{C}$)
 $P_i = 750 \text{ mW}$
 $C_i = 2 \text{ nF}$
 $L_i = 1 \text{ }\mu\text{H}$

Image:



Function Diagram:

HAZARDOUS AREA ZONE 0 (ZONE 20) GROUP IIC

SAFE AREA, ZONE 2 GROUP IIC T4, ZONE 1 GROUP IIC T4

