

**Characteristics:**
**General Description:**

D9410S provides two-stage surge protection for floating I/O two wires 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 1.65Ω loop impedance, with disconnect knife on both signal paths for easy testing of the loop.

**Function:**

Surge protection for most I/O signals; AI, AO, DI, DO. Nominal 24V DC, maximum 30V DC. D9410S 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.
- Input from Zone 0 (Zone 20), installation in Zone 1 and 2.
- Disconnection of signal circuit by disconnect knife.
- Signaling without additional auxiliary power, thanks to the mechanical status indicator.
- High Density, 6.2 mm per channel.
- HART compatible.

**Ordering Information:**

Model: D9410S

**Technical Data:**

**IEC test classification:** C1 / C2 / C3 / D1

**Protection of signal types:** 0/4-20 mA HART, Digital I/O, World FIP, F&G

**Nominal system voltage  $U_n$ :** 24 V DC

**Max continuous operating voltage  $U_c$ :** 30 V DC

**Rated current:** 600 mA (40°C)

**Nominal discharge current ( $I_n$ ) (8/20) μs:** 5 kA (core-core)  
5 kA (core-ground)

**Impulse discharge current ( $I_{imp}$ ) (10/350) μs:** 0.5 kA (core-core)  
0.5 kA (core-ground)

**Total discharge current ( $I_{total}$ ) (8/20) μs:** 10kA


**Max. total discharge current ( $I_{max}$ ) (8/20) μs:** 20kA (for one time)

**Series resistance:** 1.65Ω ± 20%

**Voltage protection level ( $U_p$ ):** ≤ 55 V (C1 - 1 kV/500 A) core-core  
≤ 65 V (C2 - 10 kV/5 kA) core-core  
≤ 55 V (C3 - 100 A) core-core  
≤ 900 V (C1 - 1 kV/500 A) core-ground  
≤ 1.05 kV (C2 - 10 kV/5 kA) core-ground  
≤ 1.4 kV (C3 - 100 A) core-ground

**Response time  $t_A$ :** ≤ 1 ns (core-core)  
≤ 100 ns (core-ground)

**Compatibility:**

 CE mark compliant, conforms to Directives:  
2014/34/EU ATEX

**Environmental conditions:**

**Operating:** temperature limits -40 to + 85 °C.

**Safety Description:**


**ATEX:** II 2(1)G Ex ia [ia Ga] IIC T4...T6 Gb, II (1)D [Ex ia Da] IIIC

**IECEx:** Ex ia [ia Ga] IIC T4...T6 Gb, [Ex ia Da] IIIC

intrinsically safe apparatus

$U_i/V_{max}$  = 30 Vdc,  $I_i/I_{max}$  = 400 mA,  $C_i$  = 0 nF,  $L_i$  = 0 μH at terminals 1-2-3.

$U_o/V_{oc}$  = 30 Vdc,  $I_o/I_{sc}$  = 400 mA,  $C_i$  = 0 nF,  $L_i$  = 0 μH at terminals 4-5-6.

-40 °C ≤  $T_a$  ≤ 35 °C (T6), -40 °C ≤  $T_a$  ≤ 50 °C (T4).

**Approvals:**

BVS 18 ATEX E 018 X conforms to EN60079-0, EN60079-11.

IECEx BVS 18.0012X conforms to IEC60079-0, IEC60079-11.

EXIDA report no. GM 17/11-006 R007 SIL 3 conforms to IEC61508:2010 Ed.2.

**Mounting:**

EN/IEC60715 TH 35 DIN-Rail.

**Weight:** about 37 g.

**Connection:** screw terminal blocks to accommodate terminations up to 2.5 mm<sup>2</sup> flexible.

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

**Protection class:** IP20.

**Dimensions:** Width 6.2 mm, Depth 83.5 mm, Height 105.8 mm.

## Parameters Table:

### Safety Description

Terminals 1-2-3

$U_i = 30 \text{ Vdc}$

$I_i = 400 \text{ mA (T4), 350 mA (T6)}$

$C_i = 0 \text{ nF}$

$L_i = 0 \text{ }\mu\text{H}$

Terminals 4-5-6

$U_o = 30 \text{ Vdc}$

$I_o = 400 \text{ mA (T4), 350 mA (T6)}$

$C_i = 0 \text{ nF}$

$L_i = 0 \text{ }\mu\text{H}$

## Image:

image coming soon

## Function Diagram:

HAZARDOUS AREA ZONE 0 (ZONE 20) GROUP IIC

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

