

Алматы (7273)495-231  
Ангарск (3955)42-70-56  
Архангельск (8182)63-90-72  
Астрахань (8512)99-46-04  
Барнаул (3852)73-04-42  
Белгород (4735)40-23-142  
Благовещенск (4162)35-142-07  
Брянск (4232)59-03-52  
Владивосток (423)249-42-31  
Владикавказ (8672)42-90-42  
Владимир (4935) 49-43-18  
Волгоград (844)278-03-42  
Вологда (8172)26-41-59  
Воронеж (473)204-51-73  
Екатеринбург (343)384-55-142

Ижевск (3412)26-03-58  
Иваново (4932)77-34-06  
Иркутск (395)279-98-46  
Казань (843)206-01-42  
Калининград (4012)72-03-81  
Калуга (4242)92-23-67  
Кемерово (3842)65-04-62  
Киров (8332)68-02-04  
Коломна (4966)23-41-49  
Кострома (4942)77-07-42  
Краснодар (861)203-40-90  
Красноярск (391)204-63-61  
Курск (4712)77-13-04  
Курган (4352)50-90-47  
Липецк (4742)52-20-81

Магнитогорск (4219)55-03-13  
Москва (495)268-04-70  
Мурманск (8152)59-142-93  
Набережные Челны (8552)20-53-41  
Нижний Новгород (831)429-08-12  
Новокузнецк (3843)20-46-81  
Ноябрьск (3496)41-32-12  
Новосибирск (383)357-86-73  
Ноябрьск (3496)41-32-12  
Омск (3812)21-46-40  
Орел (4262)44-53-42  
Оренбург (4232)37-68-04  
Пенза (8412)35-31-16  
Петрозаводск (8142)55-98-37  
Псков (8112)59-10-37

Пермь (342)205-81-47  
Ростов-на-Дону (863)308-18-15  
Рязань (4912)46-61-142  
Самара (846)206-03-16  
Саранск (8342)35-96-24  
Санкт-Петербург (812)309-46-40  
Саратов (845)249-38-78  
Севастополь (8692)35-31-93  
Симферополь (3652)67-13-56  
Смоленск (4212)29-41-42  
Сочи (862)242-72-31  
Ставрополь (8652)20-65-13  
Сыктывкар (8212)42-95-17  
Сургут (3462)77-98-42  
Тамбов (4752)50-40-97

Тверь (4352)63-31-42  
Тольяти (8435)63-91-07  
Томск (3835)98-41-53  
Тула (4272)33-79-87  
Тюмень (3452)66-21-18  
Улан-Удэ (3012)59-97-51  
Ульяновск (8435)24-23-59  
Уфа (347)359-42-12  
Хабаровск (4212)92-98-04  
Чебоксары (8435)42-53-07  
Челябинск (421)202-03-61  
Череповец (8202)49-02-142  
Чита (3035)38-34-83  
Якутск (4112)23-90-97  
Ярославль (4422)69-52-93

Киргизия (996)312-96-26-47

Россия (495)268-04-70

Казахстан (772)734-952-31

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# Модули релейного выхода серии D5290.

## Технические характеристики

# D5290/SA

## SIL3 Relay Out Module for 10 A NE Loads

The D5290/SA is a relay module suitable for switching safety related circuits, up to SIL 3 level, for high risk industries. It provides isolation between input and output contacts. It makes available two NO contacts for Normally Energized (NE) loads, in order to disconnect the load on both supply lines, and a NC contact for service purpose. Compatibility with specific DO cards with pulse testing needs to be verified. This relay module is not suitable for low-current consumption applications (system-to-system signalling, driving LEDs, etc.).

### FEATURES

- SIL 3 / SC 3 for NE loads with NE driver
- Up to 10 A functional / 16 A inrush current
- Load disconnection on both supply lines available
- Service contact available
- Input/Output isolation

### ORDERING INFORMATION

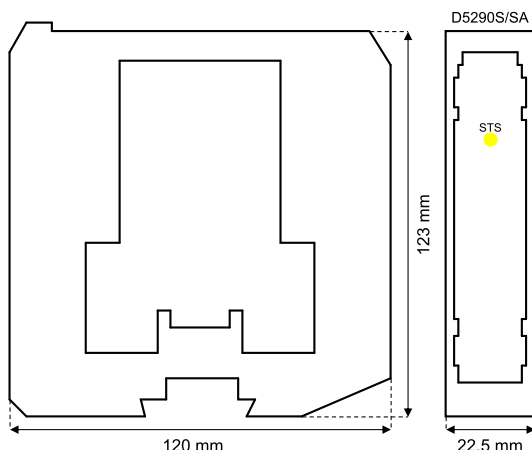
#### Ordering codes

D5290S/SA: 1 channel

#### Accessories

DIN-Rail stopper MCHP196.

### OVERALL DIMENSIONS



### TECHNICAL DATA

#### Input

24 Vdc nom (21.6 to 27.6 Vdc), reverse polarity protected. Relay coils are internally protected with suppressor diodes.

**Current consumption:** 40 mA @ 24 Vdc, typical.

**Power dissipation:** 1.0 W @ 24 Vdc, typical.

#### Output

1 voltage free SPDT relay contact identified with outputs: Out 1 (NO contact) terminals 13-21 and Service Load Out (NC contact) terminals 13-15; 1 voltage free SPST relay contact identified with output Out 2 (NO contact) terminals 14-22. Terminals 13-21 (Out 1) and 14-22 (Out 2) are open when relay is de-energized, closed in energized relay condition. Service load output (not SIL) at terminals 13-15 is normally close when relay is de-energized, open in energized relay condition.

**Contact material:** Ag Alloy (Cd free) or AgSnO2.

**Contact rating:** 10 A 250 Vac 2500 VA, 10 A 250 Vdc 300 W (resistive load).

**Contact inrush current:** 16 A @ 24 Vdc, 250 Vac.

**Contact min. switching current:** 100 mA.

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

**Mechanical / electrical life:** 10 \* 10<sup>6</sup> / 5 \* 10<sup>4</sup> operation, typical.

**Operate / release time:** 8 ms / 8 ms, typical.

#### Isolation

Input/All Outs 2.5 kV; Out 1/Out 2 500 V.

#### Environmental conditions

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

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

#### Mounting

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

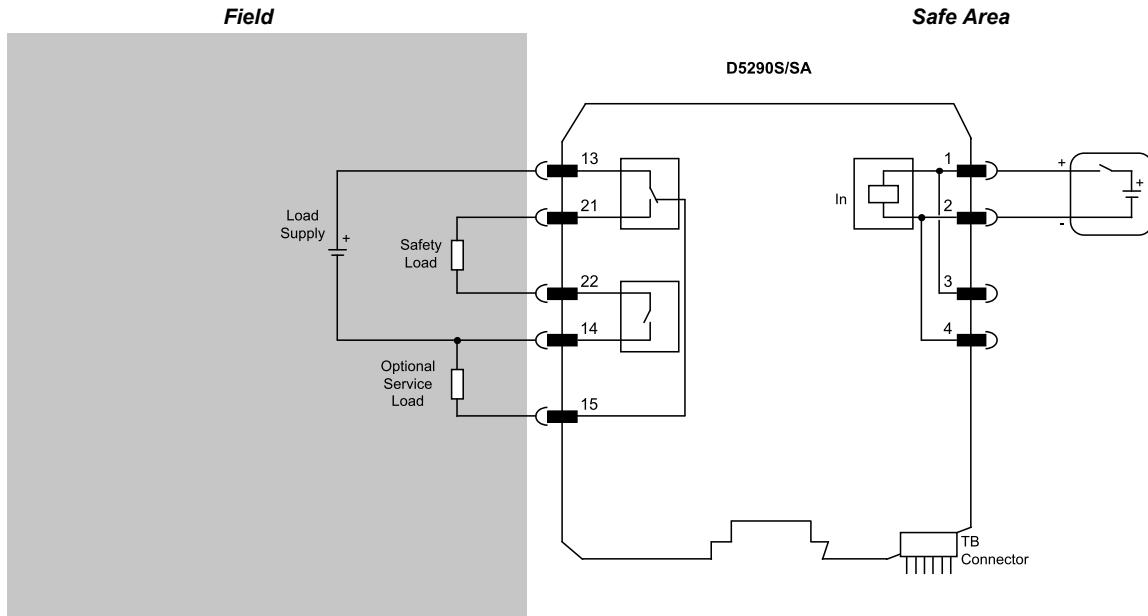
**Weight:** about 150 g.

**Connection:** by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm<sup>2</sup> (13 AWG).

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

## FUNCTION DIAGRAM

Additional installation diagrams may be found in Instruction Manual.



# D5290

## SIL3 Relay Out Module for 10 A NE Loads

The D5290 is a relay module suitable for switching safety related circuits, up to SIL 3 level, for high risk industries. It provides isolation between input and output contacts. It makes available two NO contacts for Normally Energized (NE) loads, in order to disconnect the load on both supply lines, and a NC contact for service purpose. A wide compatibility towards different DCS/PLC is guaranteed: driving pulse testing is permitted by a dedicated internal circuit, which prevents contact and LED flickering. This relay module is not suitable for low-current consumption applications (system-to-system signalling, driving LEDs, etc.).

### FEATURES

- SIL 3 / SC 3 for NE loads with NE driver
- Installation in Zone 2/Div. 2
- Up to 10 A functional / 16 A inrush current
- Load disconnection on both supply lines available
- Compatible with DCS/PLC pulse testing
- Service contact available
- Input/Output isolation

### ORDERING INFORMATION

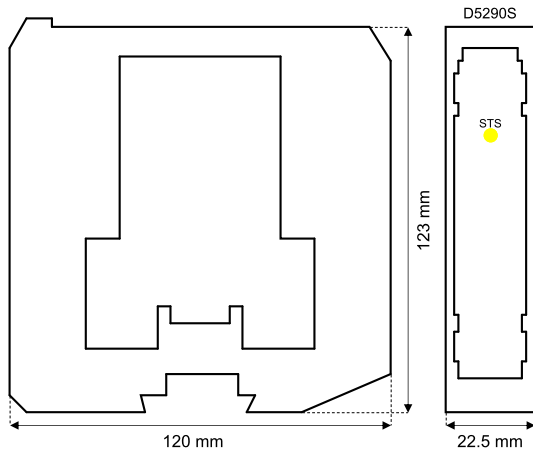
#### Ordering codes

D5290S: 1 channel

#### Accessories

DIN-Rail stopper MCHP196.

### OVERALL DIMENSIONS



### TECHNICAL DATA

#### Input

24 Vdc nom (21.6 to 27.6 Vdc), reverse polarity protected. Relay coils are internally protected with suppressor diodes.

**Current consumption:** 60 mA @ 24 Vdc, typical.

**Power dissipation:** 1.5 W @ 24 Vdc, typical.

#### Output

1 voltage free SPDT relay contact identified with outputs: Out 1 (NO contact) terminals 13-21 and Service Load Out (NC contact) terminals 13-15; 1 voltage free SPST relay contact identified with output Out 2 (NO contact) terminals 14-22. Terminals 13-21 (Out 1) and 14-22 (Out 2) are open when relay is de-energized, closed in energized relay condition. Service load output (not SIL) at terminals 13-15 is normally close when relay is de-energized, open in energized relay condition.

**Contact material:** Ag Alloy (Cd free) or AgSnO<sub>2</sub>.

**Contact rating:** 10 A 250 Vac 2500 VA, 10 A 250 Vdc 300 W (resistive load).

**Contact inrush current:** 16 A @ 24 Vdc, 250 Vac.

**Contact min. switching current:** 100 mA.

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

**Mechanical / electrical life:** 10 \* 10<sup>6</sup> / 5 \* 10<sup>4</sup> operation, typical.

**Operate / release time:** 50 / 15 ms, typical.

#### Isolation

Input/All Outs 2.5 kV; Out 1/Out 2 500V.

#### Environmental conditions

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

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

#### Mounting

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

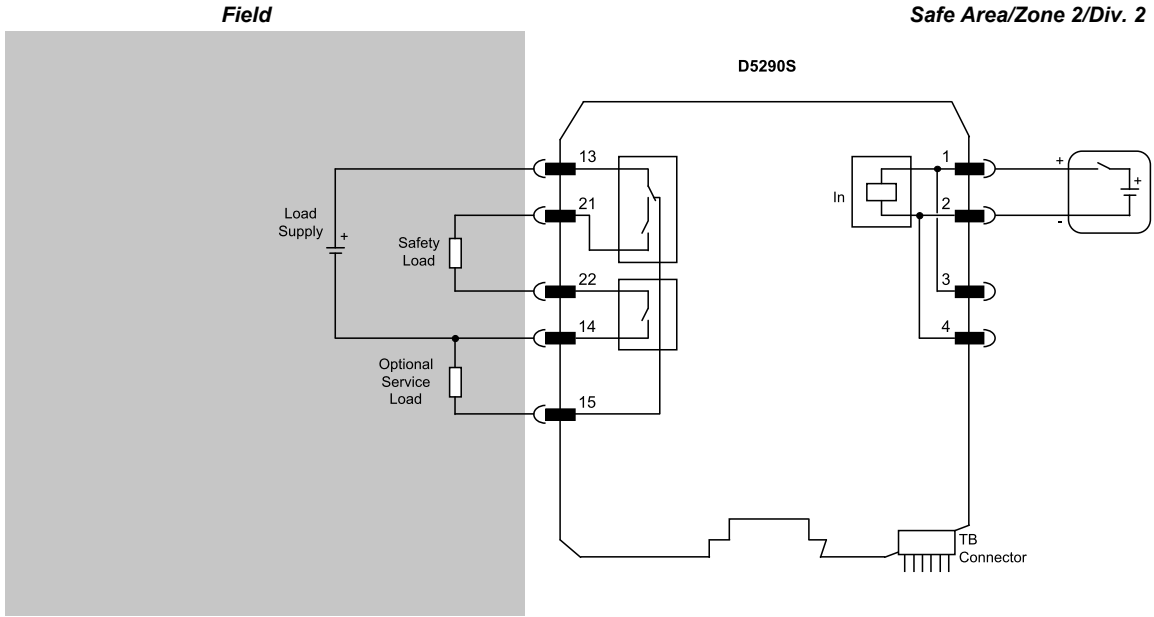
**Weight:** about 165 g.

**Connection:** by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm<sup>2</sup> (13 AWG).

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

# FUNCTION DIAGRAM

Additional installation diagrams may be found in Instruction Manual.



# D5290-078/SA

## SIL3 Relay Out Module for 5 A NE/ND Loads

The D5290-078/SA is a relay module suitable for switching safety related circuits, up to SIL 3 level, for high risk industries. It provides isolation between input and output contacts. It makes available up to four NO contacts and two NC contacts, which can be externally connected for multiple Normally Energized (NE) or Normally De-energized (ND) loads, with single or both supply lines disconnection, and additional service loads. Compatibility with specific DO cards with pulse testing needs to be verified. This relay module is not suitable for low-current consumption applications (system-to-system signalling, driving LEDs, etc.).

### FEATURES

- SIL 3 / SC 3 for NE/ND loads with NE driver
- Up to 5 A functional / 8 A inrush current
- Load disconnection on both supply lines available
- Service contact available
- Multiple contacts (up to 3 NE loads)
- Input/Output isolation

### ORDERING INFORMATION

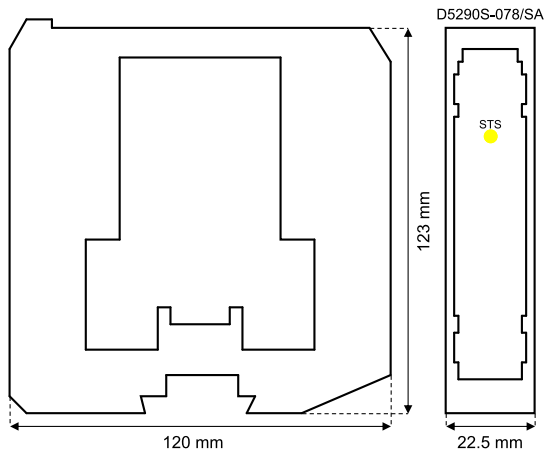
#### Ordering codes

D5290S-078/SA: 1 channel

#### Accessories

DIN-Rail stopper MCHP196.

### OVERALL DIMENSIONS



### TECHNICAL DATA

#### Input

24 Vdc nom (21.6 to 27.6 Vdc), reverse polarity protected. Relay coils are internally protected with suppressor diodes.

**Current consumption:** 40 mA @ 24 Vdc, typical.

**Power dissipation:** 1.0 W @ 24 Vdc, typical.

#### Output

2 voltage free SPDT (= NO contact + 1 or 2 parallel NC contacts) relay contacts identified with outputs: Out S\_1 & Out P\_1 (1NC) and Out S\_3 & Out P\_2 (2 NC); 1 voltage free SPST (NO) relay contacts identified with: Out S\_2. Terminals 13-14 (Out S\_1), 15-16 (Out S\_2) and 23-24 (Out S\_3) are: open when relay is de-energized, closed in energized relay condition. Terminals 17-18 (Out P\_1) and 19-20 (Out P\_2) are: closed when relay is de-energized, open in energized relay condition.

**Contact material:** Ag Alloy (Cd free).

**Contact rating:** 5 A 250 Vac 1250 VA, 5 A 250 Vdc 175 W (resistive load).

**Contact inrush current:** 8 A @ 30 Vdc, 250 Vac.

**Contact min. switching current:** 100 mA.

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

**Mechanical / electrical life:**  $10 * 10^6 / 5 * 10^4$  operation, typical.

**Operate / release time:** 7 ms / 8 ms, typical.

#### Isolation

Input/All Outs 2.5 kV; Out S\_1 & Out P\_1/Out S\_3 & Out P\_2, Out S\_2 500 V; Out S\_3 & Out P\_2/Out S\_2 500 V.

#### Environmental conditions

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

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

#### Mounting

DIN-Rail 35 mm.

**Weight:** about 145 g.

**Connection:** by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm<sup>2</sup> (13 AWG).

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

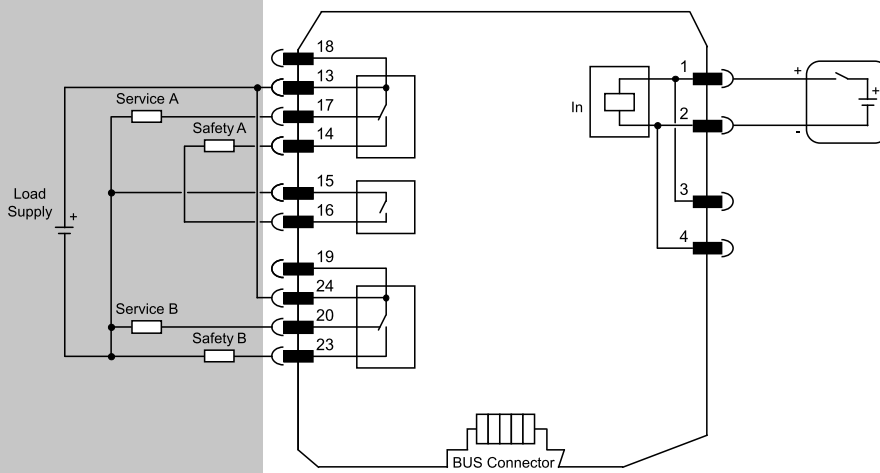
# FUNCTION DIAGRAM

Additional installation diagrams may be found in Instruction Manual.

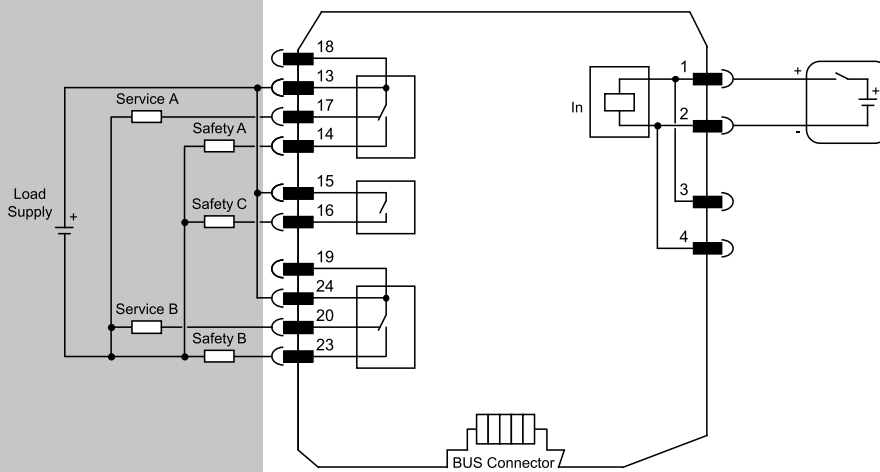
**Field**

**Safe Area**

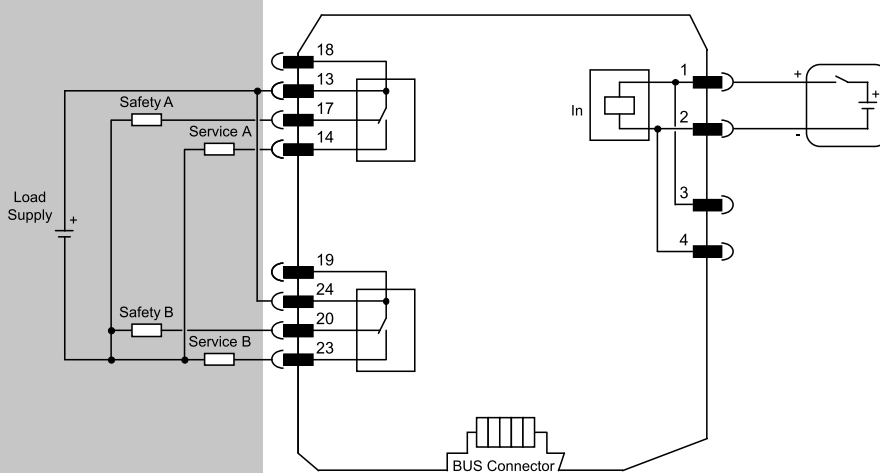
D5290S-078/SA 2 NE Loads / 1 NE Driver



D5290S-078/SA 3 NE Loads / 1 NE Driver



D5290S-078/SA 2 ND Loads / 1 NE Driver



# D5290-078

## SIL3 Relay Out Module for 5 A NE/ND Loads

The D5290-078 is a relay module suitable for switching safety related circuits, up to SIL 3 level, for high risk industries. It provides isolation between input and output contacts. It makes available up to four NO contacts and two NC contacts, which can be externally connected for multiple Normally Energized (NE) or Normally De-energized (ND) loads, with single or both supply lines disconnection, and additional service loads. A wide compatibility towards different DCS/PLC is guaranteed: driving pulse testing is permitted by a dedicated internal circuit, which prevents contact and LED flickering. This relay module is not suitable for low-current consumption applications (system-to-system signalling, driving LEDs, etc.).

### FEATURES

- SIL 3 / SC 3 for NE/ND loads with NE/ND driver
- Installation in Zone 2/Div. 2
- Up to 5 A functional / 8 A inrush current
- Load disconnection on both supply lines available
- Compatible with DCS/PLC pulse testing
- Service contact available
- Multiple contacts (up to 4 NE or 2 ND loads)
- Input/Output isolation

### ORDERING INFORMATION

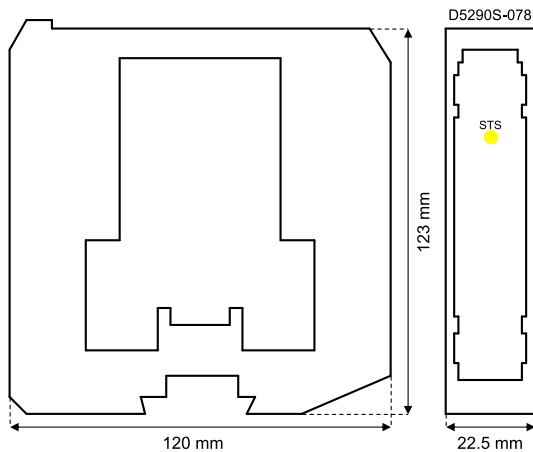
#### Ordering codes

D5290S-078: 1 channel

#### Accessories

DIN-Rail stopper MCHP196.

### OVERALL DIMENSIONS



### TECHNICAL DATA

#### Input

24 Vdc nom (21.6 to 27.6 Vdc), reverse polarity protected. Relay coils are internally protected with suppressor diodes.

**Current consumption:** 60 mA @ 24 Vdc, typical.

**Power dissipation:** 1.5 W @ 24 Vdc, typical.

#### Output

2 voltage free SPDT (= NO contact + parallel of 2 NC contacts) relay contacts identified with outputs: Out S\_1 & Out P\_1 and Out S\_3 & Out P\_2; 2 voltage free SPST (NO) relay contacts identified with: Out S\_2 and Out S\_4. Terminals 13-14 (Out S\_1), 15-16 (Out S\_2), 21-22 (Out S\_4) and 23-24 (Out S\_3) are: open when relay is de-energized, closed in energized relay condition. Terminals 17-18 (Out P\_1) and 19-20 (Out P\_2) are: closed when relay is de-energized, open in energized relay condition.

**Contact material:** Ag Alloy (Cd free) or AgSnO<sub>2</sub>.

**Contact rating:** 5 A 250 Vac 1250 VA, 5 A 250 Vdc 175 W (resistive load).

**Contact inrush current:** 8 A @ 30 Vdc, 250 Vac.

**Contact min. switching current:** 100 mA.

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

**Mechanical / electrical life:** 10 \* 10<sup>6</sup> / 5 \* 10<sup>4</sup> operation, typical.

**Operate / release time:** 55 ms / 25 ms, typical.

#### Isolation

Input/All Outs 2.5 kV; Out S\_1 & Out P\_1/Out S\_3 & Out P\_2, Out S\_2, Out S\_4 500 V; Out S\_3 & Out P\_2/Out S\_2, Out S\_4 500 V; Out S\_2/Out S\_4 500 V.

#### Environmental conditions

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

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

#### Mounting

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

**Weight:** about 145 g.

**Connection:** by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm<sup>2</sup> (13 AWG).

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

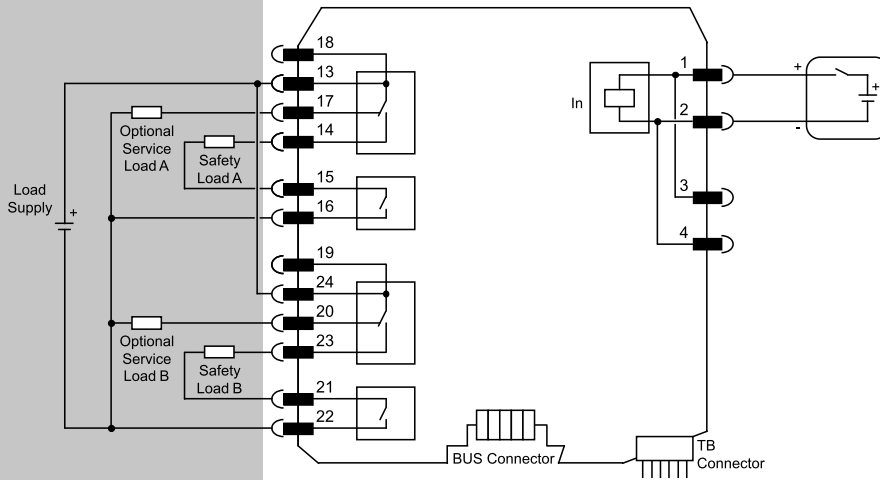
# FUNCTION DIAGRAM

Additional installation diagrams may be found in Instruction Manual.

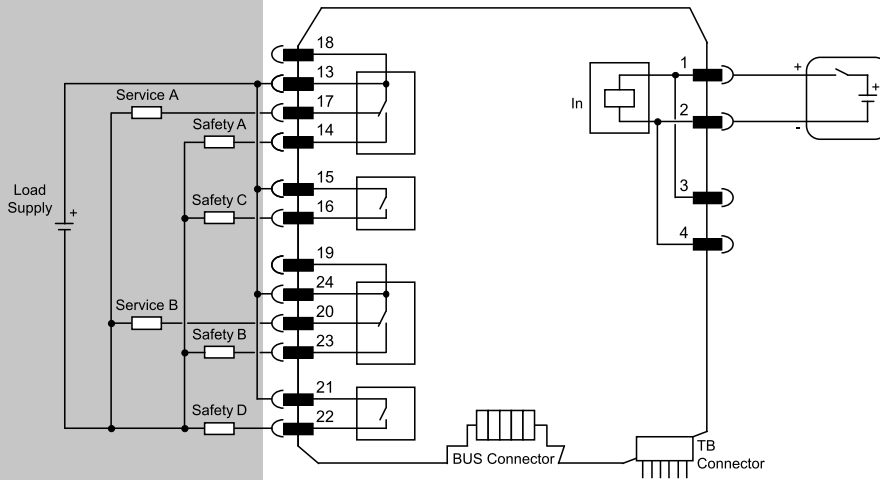
**Field**

**Safe Area/Zone 2/Div. 2**

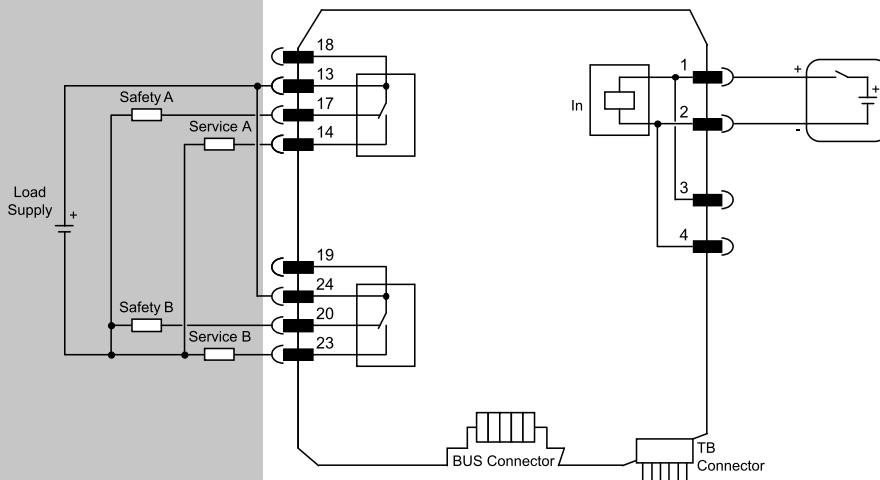
**D5290S-078 2 NE Loads / 1 NE Driver**



**D5290S-078 4 NE Loads / 1 NE Driver**



**D5290S-078 2 ND Loads / 1 NE Driver**





# D5290-079

## SIL3 115 Vac Relay Out Module for 5 A NE/ND Loads

The D5290-079 is a relay module suitable for switching safety related circuits, up to SIL 3 level, for high risk industries. It provides isolation between input and output contacts. It makes available up to four NO contacts and two NC contacts, which can be externally connected for multiple Normally Energized (NE) or Normally De-energized (ND) loads, with single or both supply lines disconnection, and additional service loads. Compatibility with specific DO cards with pulse testing needs to be verified. This relay module is not suitable for low-current consumption applications (system-to-system signalling, driving LEDs, etc.).

### FEATURES

- SIL 3 / SC 3 for NE/ND loads with NE driver
- Up to 5 A functional / 8 A inrush current
- Load disconnection on both supply lines available
- Service contact available
- Multiple contacts (up to 4 NE or 2 ND loads)
- Input/Output isolation

### ORDERING INFORMATION

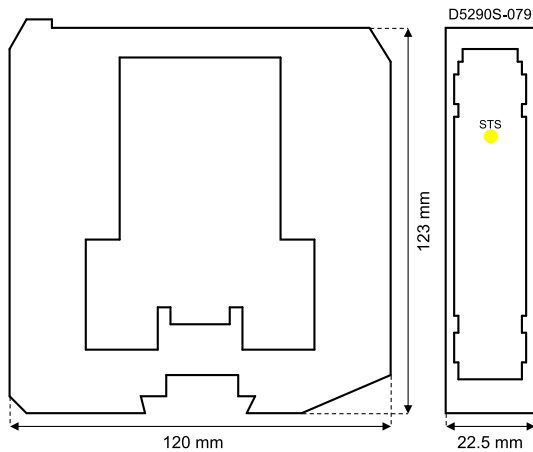
#### Ordering codes

D5290S-079: 1 channel

#### Accessories

DIN-Rail stopper MCHP196.

### OVERALL DIMENSIONS



### TECHNICAL DATA

#### Input

115 Vac nom (95 to 130 Vac).

**Current consumption:** 25 mA @ 115 Vac, typical.

**Power dissipation:** 2.5 W @ 115 Vac, typical.

#### Output

2 voltage free SPDT (= NO contact + parallel of 2 NC contacts) relay contacts identified with outputs: Out S\_1 & Out P\_1 and Out S\_3 & Out P\_2; 2 voltage free SPST (NO) relay contacts identified with: Out S\_2 and Out S\_4. Terminals 13-14 (Out S\_1), 15-16 (Out S\_2), 21-22 (Out S\_4) and 23-24 (Out S\_3) are: open when relay is de-energized, closed in energized relay condition. Terminals 17-18 (Out P\_1) and 19-20 (Out P\_2) are: closed when relay is de-energized, open in energized relay condition.

**Contact material:** Ag Alloy (Cd free).

**Contact rating:** 5 A 250 Vac 1250 VA, 5 A 250 Vdc 175 W (resistive load).

**Contact inrush current:** 8 A @ 30 Vdc, 250 Vac.

**Contact min. switching current:** 100 mA.

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

**Mechanical / electrical life:** 10 \* 10<sup>6</sup> / 5 \* 10<sup>4</sup> operation, typical.

**Operate / release time:** 12 ms / 4 ms, typical.

#### Isolation

Input/All Outs 2.5 kV; Out S\_1 & Out P\_1/Out S\_3 & Out P\_2, Out S\_2, Out S\_4 500 V; Out S\_3 & Out P\_2/Out S\_2, Out S\_4 500 V; Out S\_2/Out S\_4 500 V.

#### Environmental conditions

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

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

#### Mounting

DIN-Rail 35 mm.

**Weight:** about 170 g.

**Connection:** by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm<sup>2</sup> (13 AWG).

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

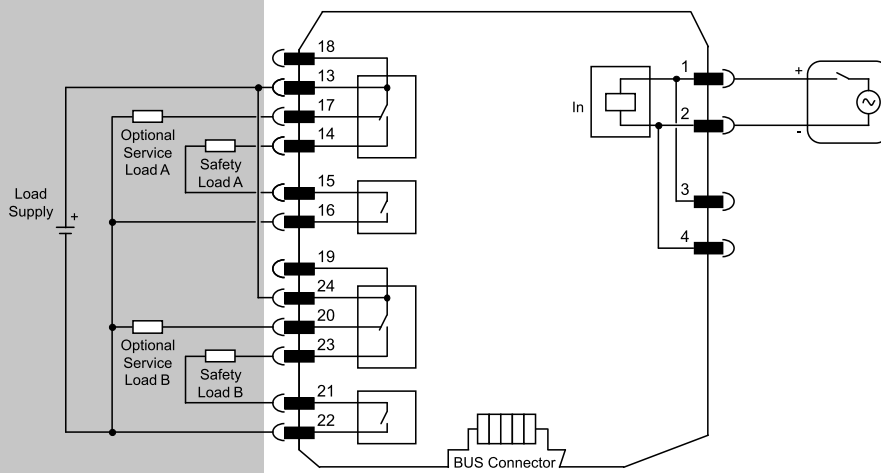
# FUNCTION DIAGRAM

Additional installation diagrams may be found in Instruction Manual.

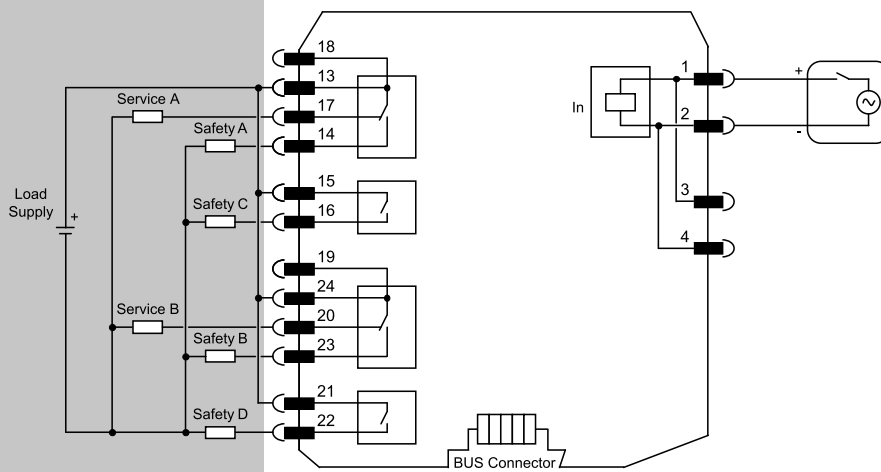
**Field**

**Safe Area**

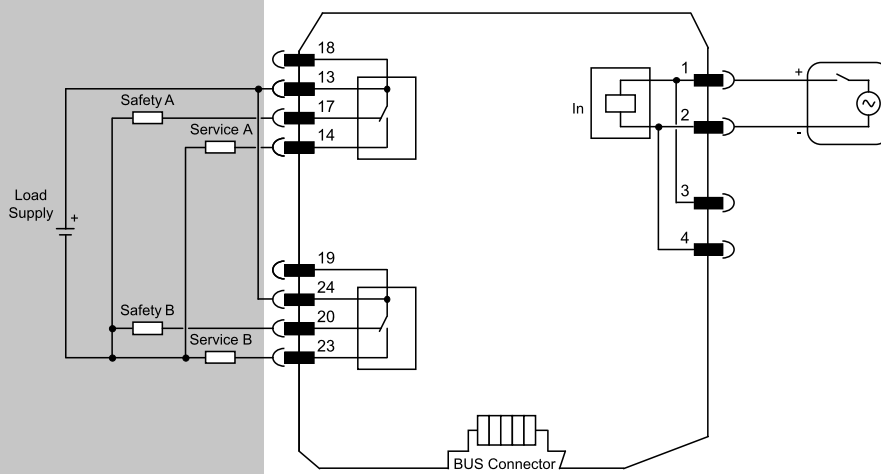
**D5290S-079 2 NE Loads / 1 NE Driver**



**D5290S-079 4 NE Loads / 1 NE Driver**



**D5290S-079 2 ND Loads / 1 NE Driver**



# D5290-080

## SIL3 115 Vac Relay Out Module for 10 A NE Loads

The D5290-080 is a relay module suitable for switching safety related circuits, up to SIL 3 level, for high risk industries. It provides isolation between input and output contacts. It makes available two NO contacts for Normally Energized (NE) loads, in order to disconnect the load on both supply lines, and a NC contact for service purpose. Compatibility with specific DO cards with pulse testing needs to be verified. This relay module is not suitable for low-current consumption applications (system-to-system signalling, driving LEDs, etc.).

### FEATURES

- SIL 3 / SC 3 for NE loads with NE driver
- Up to 10 A functional / 16 A inrush current
- Load disconnection on both supply lines available
- Service contact available
- Input/Output isolation

### ORDERING INFORMATION

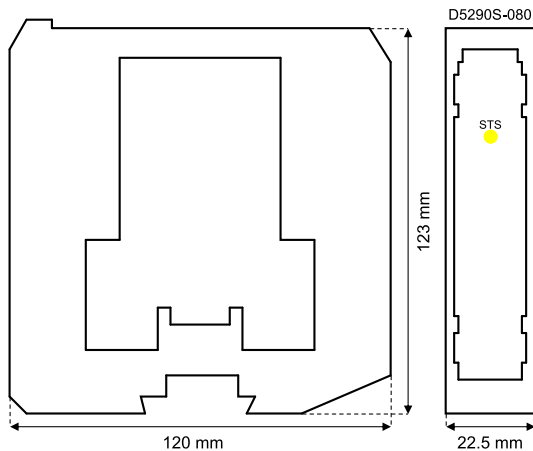
#### Ordering codes

D5290S-080: 1 channel

#### Accessories

DIN-Rail stopper MCHP196.

### OVERALL DIMENSIONS



### TECHNICAL DATA

#### Input

115 Vac nom (95 to 130 Vac).

**Current consumption:** 25 mA @ 115 Vac, typical.

**Power dissipation:** 2.5 W @ 115 Vac, typical.

#### Output

1 voltage free SPDT relay contact identified with outputs: Out 1 (NO contact) terminals 13-21 and Service Load Out (NC contact) terminals 13-15; 1 voltage free SPST relay contact identified with output Out 2 (NO contact) terminals 14-22. Terminals 13-21 (Out 1) and 14-22 (Out 2) are open when relay is de-energized, closed in energized relay condition. Service load output (not SIL) at terminals 13-15 is normally close when relay is de-energized, open in energized relay condition.

**Contact material:** Ag Alloy (Cd free).

**Contact rating:** 10 A 250 Vac 2500 VA, 10 A 250 Vdc 300 W (resistive load).

**Contact inrush current:** 16 A @ 24 Vdc, 250 Vac.

**Contact min. switching current:** 100 mA.

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

**Mechanical / electrical life:**  $5 * 10^6 / 5 * 10^4$  operation, typical.

**Operate / release time:** 12 ms / 4 ms, typical.

#### Isolation

Input/All Outs 2.5 kV; Out 1/Out 2 500 V.

#### Environmental conditions

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

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

#### Mounting

DIN-Rail 35 mm.

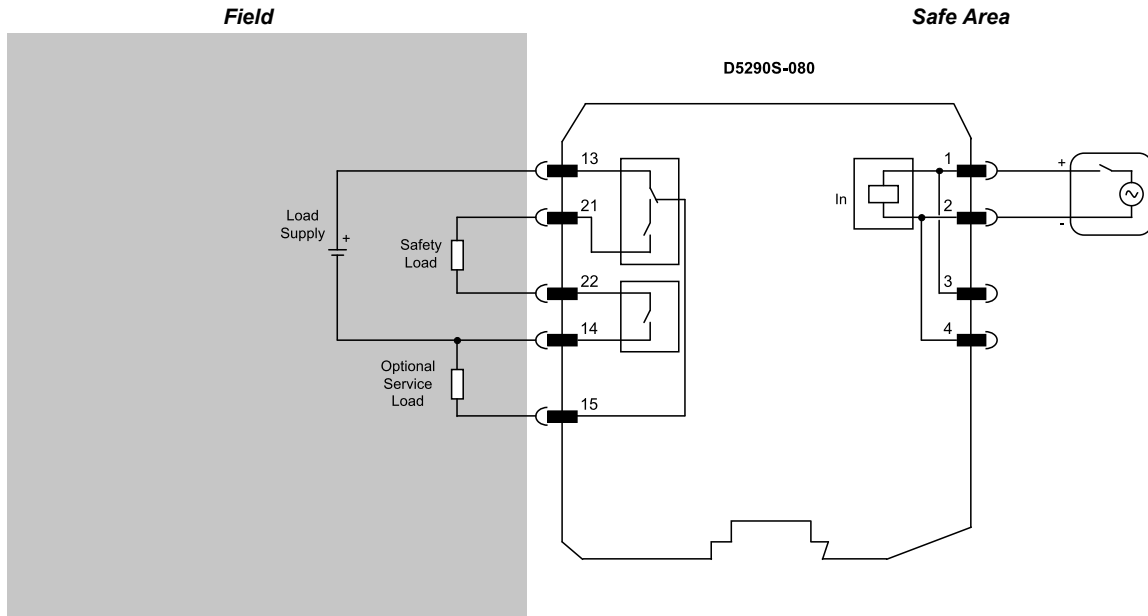
**Weight:** about 165 g.

**Connection:** by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm<sup>2</sup> (13 AWG).

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

## FUNCTION DIAGRAM

Additional installation diagrams may be found in Instruction Manual.



# D5290-084

## SIL3 110 Vdc Relay Out Module for 5 A NE/ND Loads

The D5290-084 is a relay module suitable for switching safety related circuits, up to SIL 3 level, for high risk industries. It provides isolation between input and output contacts. It makes available up to four NO contacts and two NC contacts, which can be externally connected for multiple Normally Energized (NE) or Normally De-energized (ND) loads, with single or both supply lines disconnection, and additional service loads. Compatibility with specific DO cards with pulse testing needs to be verified. This relay module is not suitable for low-current consumption applications (system-to-system signalling, driving LEDs, etc.).

### FEATURES

- SIL 3 / SC 3 for NE/ND loads with NE driver
- Up to 5 A functional / 8 A inrush current
- Load disconnection on both supply lines available
- Service contact available
- Multiple contacts (up to 4 NE or 2 ND loads)
- Input/Output isolation

### ORDERING INFORMATION

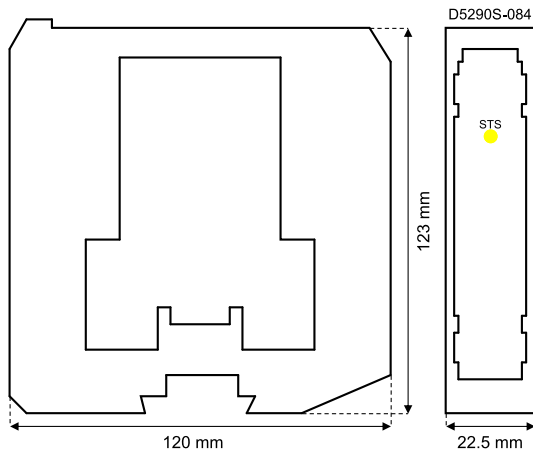
#### Ordering codes

D5290S-084: 1 channel

#### Accessories

DIN-Rail stopper MCHP196.

### OVERALL DIMENSIONS



### TECHNICAL DATA

#### Input

110 Vdc nom (100 to 125 Vdc), reverse polarity protected. Relay coils are internally protected with suppressor diodes.

**Current consumption:** 15 mA @ 110 Vdc, typical.

**Power dissipation:** 1.7 W @ 110 Vdc, typical.

#### Output

2 voltage free SPDT (= NO contact + parallel of 2 NC contacts) relay contacts identified with outputs: Out S\_1 & Out P\_1 and Out S\_3 & Out P\_2; 2 voltage free SPST (NO) relay contacts identified with: Out S\_2 and Out S\_4. Terminals 13-14 (Out S\_1), 15-16 (Out S\_2), 21-22 (Out S\_4) and 23-24 (Out S\_3) are: open when relay is de-energized, closed in energized relay condition. Terminals 17-18 (Out P\_1) and 19-20 (Out P\_2) are: closed when relay is de-energized, open in energized relay condition.

**Contact material:** Ag Alloy (Cd free).

**Contact rating:** 5 A 250 Vac 1250 VA, 5 A 250 Vdc 175 W (resistive load).

**Contact inrush current:** 8 A @ 30 Vdc, 250 Vac.

**Contact min. switching current:** 100 mA.

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

**Mechanical / electrical life:**  $10 * 10^6 / 5 * 10^4$  operation, typical.

**Operate / release time:** 12 ms / 8 ms, typical.

#### Isolation

Input/All Outs 2.5 kV; Out S\_1 & Out P\_1/Out S\_3 & Out P\_2, Out S\_2, Out S\_4 500 V; Out S\_3 & Out P\_2/Out S\_2, Out S\_4 500 V; Out S\_2/Out S\_4 500 V.

#### Environmental conditions

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

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

#### Mounting

DIN-Rail 35 mm.

**Weight:** about 145 g.

**Connection:** by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm<sup>2</sup> (13 AWG).

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

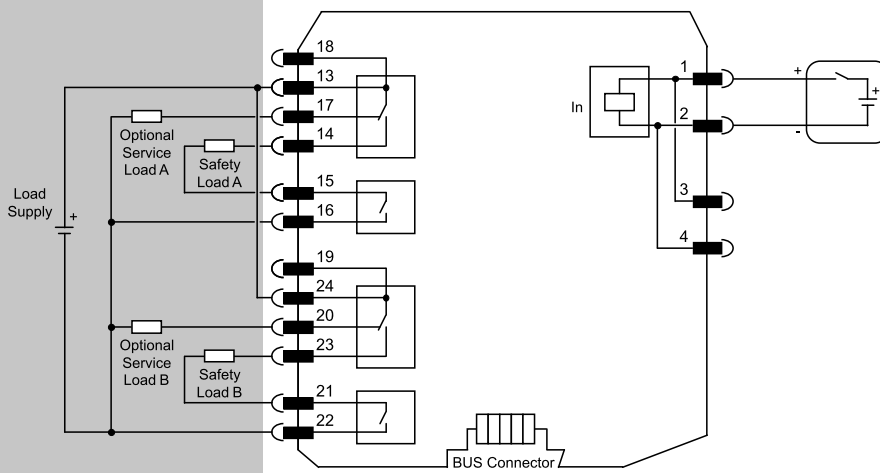
# FUNCTION DIAGRAM

Additional installation diagrams may be found in Instruction Manual.

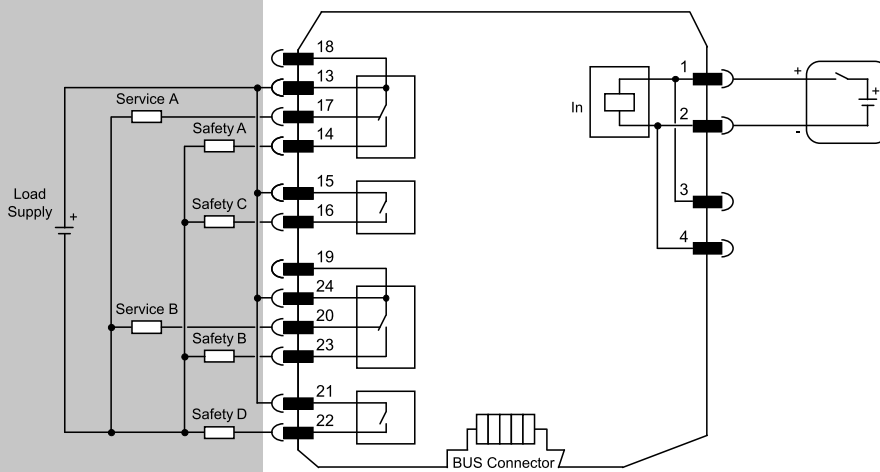
**Field**

**Safe Area**

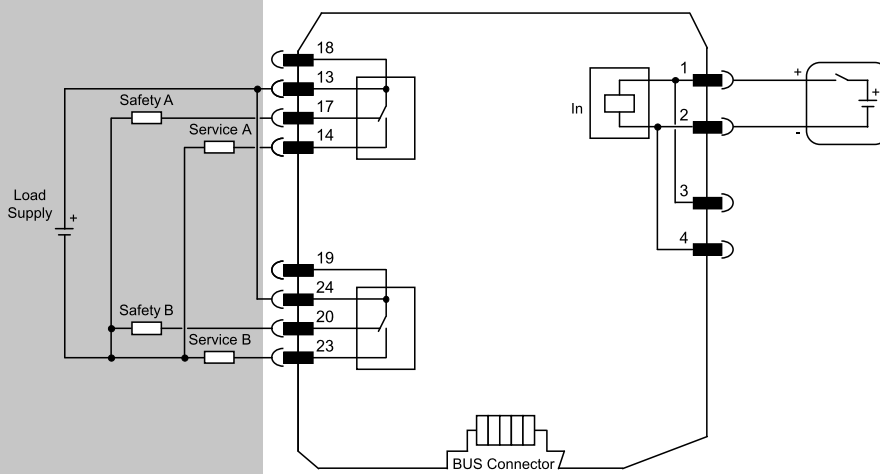
**D5290S-084 2 NE Loads / 1 NE Driver**



**D5290S-084 4 NE Loads / 1 NE Driver**



**D5290S-084 2 ND Loads / 1 NE Driver**



# SIL3 230 Vac Relay Out Module for 10 A NE Loads

The D5290-091 is a relay module suitable for switching safety related circuits, up to SIL 3 level, for high risk industries. It provides isolation between input and output contacts. It makes available two NO contacts for Normally Energized (NE) loads, in order to disconnect the load on both supply lines, and a NC contact for service purpose. Compatibility with specific DO cards with pulse testing needs to be verified. This relay module is not suitable for low-current consumption applications (system-to-system signalling, driving LEDs, etc.).

## FEATURES

- SIL 3 / SC 3 for NE loads with NE driver
- Up to 10 A functional / 16 A inrush current
- Load disconnection on both supply lines available
- Service contact available
- Input/Output isolation

## ORDERING INFORMATION

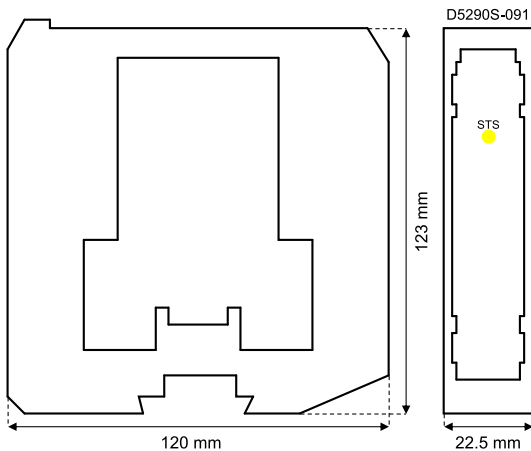
### Ordering codes

D5290S-091: 1 channel

### Accessories

DIN-Rail stopper MCHP196.

## OVERALL DIMENSIONS



## TECHNICAL DATA

### Input

230 Vac nom. (195 to 250 Vac).

**Current consumption:** 10 mA @ 230 Vac, typical.

**Power dissipation:** 2 W @ 230 Vac, typical.

### Output

1 voltage free SPDT relay contact identified with outputs: Out 1 (NO contact) terminals 13-21 and Service Load Out (NC contact) terminals 13-15; 1 voltage free SPST relay contact identified with output Out 2 (NO contact) terminals 14-22. Terminals 13-21 (Out 1) and 14-22 (Out 2) are open when relay is de-energized, closed in energized relay condition.

Service load output (not SIL) at terminals 13-15 is normally close when relay is de-energized, open in energized relay condition.

**Contact material:** Ag Alloy (Cd free).

**Contact rating:** 10 A 250 Vac 2500 VA, 10 A 250 Vdc 300 W (resistive load).

**Contact inrush current:** 16 A @ 24 Vdc, 250 Vac.

**Contact min. switching current:** 100 mA.

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

**Mechanical / electrical life:**  $5 * 10^6$  /  $5 * 10^4$  operation, typical.

**Operate / release time:** 8 ms / 4 ms, typical.

### Isolation

Input/All Outs 2.5 kV; Out 1/Out 2 500 V.

### Environmental conditions

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

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

### Mounting

DIN-Rail 35 mm.

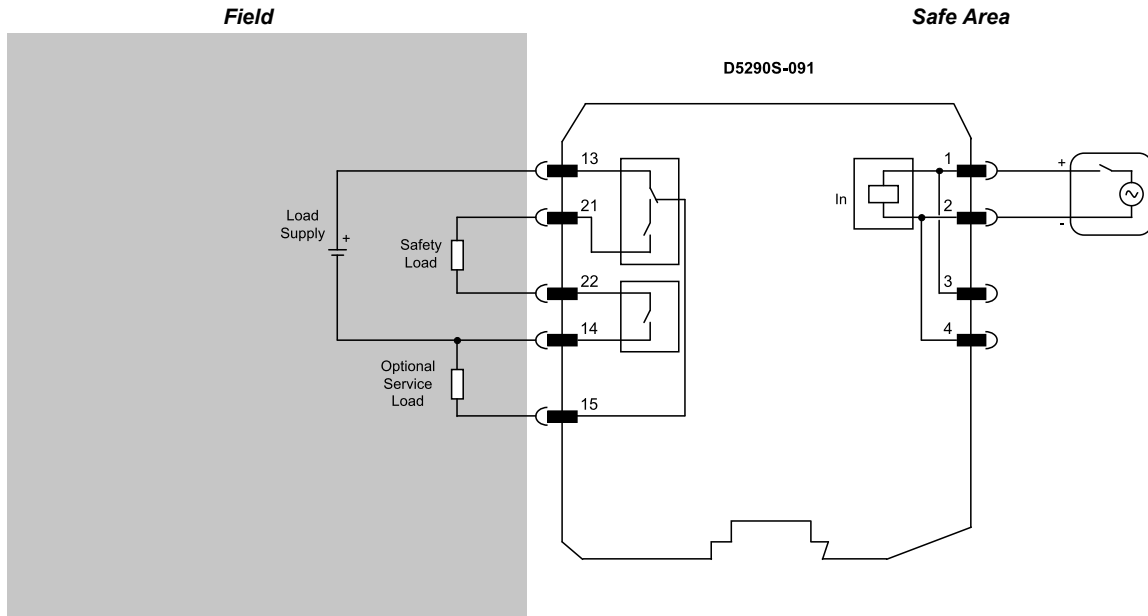
**Weight:** about 165 g.

**Connection:** by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm<sup>2</sup> (13 AWG).

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

## FUNCTION DIAGRAM

Additional installation diagrams may be found in Instruction Manual.





# D5290-092

## SIL3 48 Vdc Relay Out Module for 10 A NE Loads

The D5290-092 is a relay module suitable for switching safety related circuits, up to SIL 3 level, for high risk industries. It provides isolation between input and output contacts. It makes available two NO contacts for Normally Energized (NE) loads, in order to disconnect the load on both supply lines, and a NC contact for service purpose. Compatibility with specific DO cards with pulse testing needs to be verified. This relay module is not suitable for low-current consumption applications (system-to-system signalling, driving LEDs, etc.).

### FEATURES

- SIL 3 / SC 3 for NE loads with NE driver
- Up to 10 A functional / 16 A inrush current
- Load disconnection on both supply lines available
- Service contact available
- Input/Output isolation

### ORDERING INFORMATION

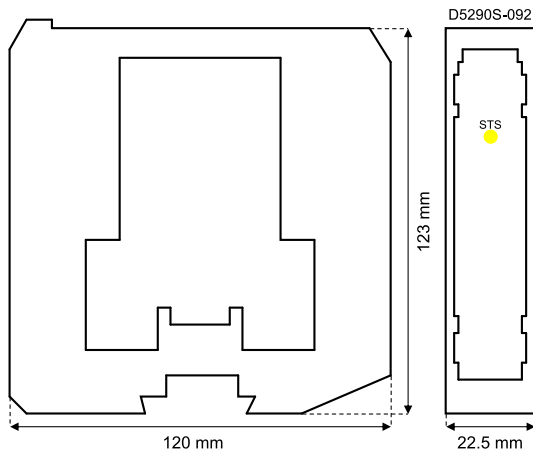
#### Ordering codes

D5290S-092: 1 channel

#### Accessories

DIN-Rail stopper MCHP196.

### OVERALL DIMENSIONS



### TECHNICAL DATA

#### Input

48 Vdc nom (42 to 54 Vdc), reverse polarity protected. Relay coils are internally protected with suppressor diodes.

**Current consumption:** 30 mA @ 48 Vdc, typical.

**Power dissipation:** 1.5 W @ 48 Vdc, typical.

#### Output

1 voltage free SPDT relay contact identified with outputs: Out 1 (NO contact) terminals 13-21 and Service Load Out (NC contact) terminals 13-15; 1 voltage free SPST relay contact identified with output Out 2 (NO contact) terminals 14-22. Terminals 13-21 (Out 1) and 14-22 (Out 2) are open when relay is de-energized, closed in energized relay condition. Service load output (not SIL) at terminals 13-15 is normally close when relay is de-energized, open in energized relay condition.

**Contact material:** Ag Alloy (Cd free) or AgSnO<sub>2</sub>.

**Contact rating:** 10 A 250 Vac 2500 VA, 10 A 250 Vdc 300 W (resistive load).

**Contact inrush current:** 16 A @ 24 Vdc, 250 Vac.

**Contact min. switching current:** 100 mA.

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

**Mechanical / electrical life:** 10 \* 10<sup>6</sup> / 5 \* 10<sup>4</sup> operation, typical.

**Operate / release time:** 10 ms / 10 ms, typical.

#### Isolation

Input/All Outs 2.5 kV; Out 1/Out 2 500 V.

#### Environmental conditions

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

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

#### Mounting

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

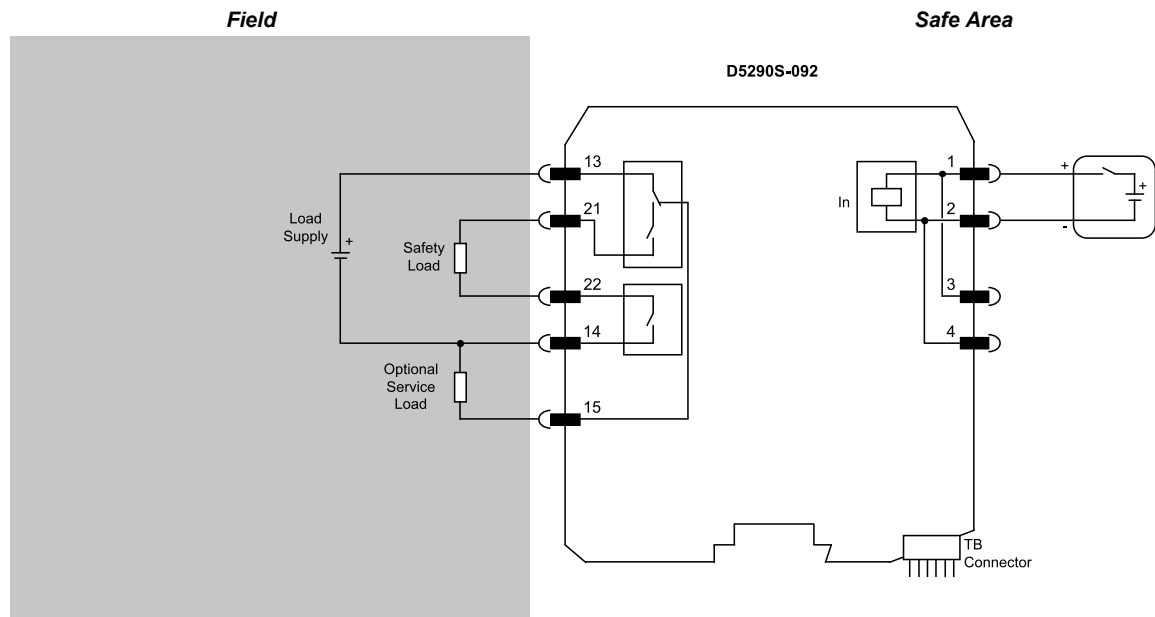
**Weight:** about 165 g.

**Connection:** by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm<sup>2</sup> (13 AWG).

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

## FUNCTION DIAGRAM

Additional installation diagrams may be found in Instruction Manual.



Алматы (7273)495-231  
 Ангарск (3955)42-70-56  
 Архангельск (8182)63-90-72  
 Астрахань (8512)99-46-04  
 Барнаул (3852)73-04-42  
 Белгород (4735)40-23-142  
 Благовещенск (4162)35-142-07  
 Брянск (4232)59-03-52  
 Владивосток (423)249-42-31  
 Владикавказ (8672)42-90-42  
 Владимир (4935) 49-43-18  
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 Екатеринбург (343)384-55-142

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 Кострома (4942)77-07-42  
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 Омск (3812)21-46-40  
 Орел (4262)44-53-42  
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 Псков (8112)59-10-37

Россия (495)268-04-70

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