Proximity Sensors Inductive
Namur Amplifier Relays
Types SD 110, SD 210, SD 170, SD 270

CARLO GAVAZZI

- **According to DIN 19 234**
- **SD 110/210: Amplifier with relay output**
- **SD 170/270: Set/reset amplifier with relay output for 2 proximity switches**
- **Power supply to proximity switch 8.2 VDC/1 kΩ**
- **Galvanically separated output relay**
- **Load: 10 A SPDT or 8 A DPDT relay**
- **LED-indication for output ON**
- **AC or DC power supply**

Product Description

Namur amplifier relay for inductive or capacitive Namur proximity switches. Single amplifier, set-reset functions. Short circuit and cable failure monitoring. Mounting socket type S 411.

Ordering Key

SD 110 024

Housing
Output type
Power supply

Type Selection

Plug	Supply	Namur Amplifier Relay 10 A SPDT relay	Namur Amplifier Relay 8 A DPDT relay	Set-reset Amplifier for 2 Namur Proximity Switches 10 A SPDT relay	Set-reset Amplifier for 2 Namur Proximity Switches 8 A DPDT relay
Circular	24 VAC	**SD 110 024**	**SD 210 024**	**SD 170 024**	**SD 270 024**
	115 VAC	**SD 110 115**	**SD 210 115**	**SD 170 115**	**SD 270 115**
	230 VAC	**SD 110 230**	**SD 210 230**	**SD 170 230**	**SD 270 230**
	24 VDC	**SD 110 724**	**SD 210 724**	**SD 170 724**	**SD 270 724**

Input Specifications

	SD110, SD210	SD170, SD270
Inputs	1	2
Proximity switch voltage	8.2 VDC	8.2 VDC
Proximity switch current		
- activated	≤ 1.2 mA	≤ 1.2 mA
- not activated	≥ 2.1 mA	≥ 2.1 mA
Internal resistance	1 kΩ	1 kΩ
Operating frequency	10 Hz	10 Hz
Pulse time	≥ 20 ms	≥ 20 ms
Connection cable	Unshielded	Unshielded
- max. resistance	50 Ω	50 Ω

Output Specifications

		SD110, SD170	SD210, SD270
Output		SPDT relay	DPDT relay
Rated insulation voltage		250 VAC (rms) (cont./elec.)	250 VAC (rms) (cont./elec., cont./cont.)
Contact ratings (AgCdO)		µ (micro gap)	µ (micro gap)
Resistive loads	AC1	10 A/250 VAC (2500 VA)	8 A/250 VAC (2000 VA)
	DC1	1 A/250 VDC (250 W)	0.4 A/250 VDC (100 W)
	or	10 A/25 VDC (250 W)	4 A/25 VDC (100 W)
Small inductive loads	AC15	2.5 A/230 VAC	2.5 A/230 VAC
	DC13	5 A/24 VDC	5 A/24 VDC
Mechanical life		≥ 30 x 10^6 op.	≥ 30 x 10^6 op.
Electrical life	AC 1	≥ 2.5 x 10^5 op. (at max. load)	≥ 2.5 x 10^5 op.
Operating frequency		≤ 7200 op./h	≤ 7200 op./h
Dielectric strength			
Dielectric voltage		2 kVAC (rms) (cont./elec.)	2 kVAC (rms) (cont./elec.)
Rated impulse withstand voltage		4 kV (1.2/50 µs) (cont./elec.) (IEC 60664)	4 kV (1.2/50 µs) (cont./elec.) (IEC 60664)

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Supply Specifications

Power supply AC types		Overvoltage cat. III (IEC 60664)
Rated operational volt.	230	230 VAC ± 15%, 50 to 60 Hz
Through pins 2 & 10	115	115 VAC ± 15%, 50 to 60 Hz
	024	24 VAC ± 15%, 50 to 60 Hz
Voltage interruption		≤ 40 ms
Dielectric voltage		≥ 2 kVAC (rms) (supply/elec.)
Rated impulse withstand volt.		2 kV (1.2/50 µs) (line/neutral)
Power supply DC types		Overvoltage cat. III (IEC 60664)
Rated operational volt.	724	24 VDC ± 15%
Dielectric voltage		None
Rated impulse withstand volt.		800 V (1.2/50 µs)
Rated operational power		
AC supply		2.5 VA
DC supply		1.5 W

Mode of Operation

SD x10
Example 1
The relay operates when the proximity switch is activated. The relay releases automatically in case of interruption or short-circuit of proximity switch or cable.

Example 2
The relay operates when the proximity switch is inactive or the cable is interrupted. The relay operates in case of short-circuit of proximity switch or cable.

SD x70
The set-reset relays SD 170/270 are used with 2 proximity switches in the following way:

The relay operates when proximity switch S1 is activated momentarily and subsequently remains on.

When proximity switch S2 is activated momentarily or the power supply is interrupted, the relay releases.

If both proximity switches are activated at the same time, S2 has priority and the relay therefore releases.

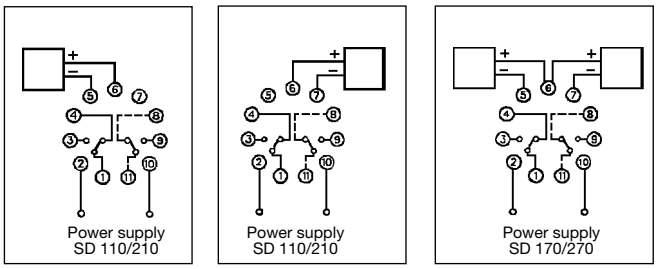
Accessories

Socket◊	S 411
Hold down spring◊	HF
Mounting rack	SM 13
Socket cover	BB 4
Front mounting bezel	FRS 2

General Specifications

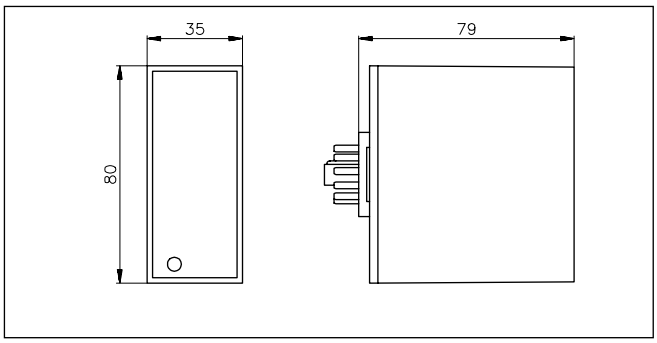
Indication for		
Output ON		LED, red
Environment		
Degree of protection		IP 20 B
Pollution degree		2 (IEC 60664)
Operating temperature		-20° to +50°C (-4° to +122°F)
Storage temperature		-50° to +85°C (-58° to +185°F)
Weight	AC types	200 g
	DC types	125 g

Wiring Diagrams



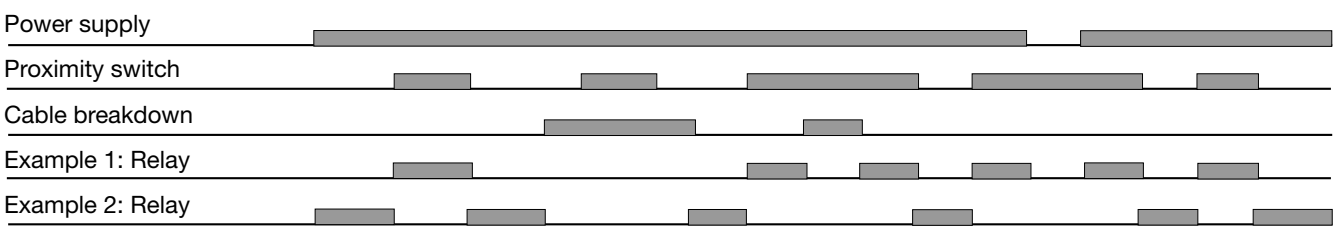
Example 1 **Example 2**

Dimensions



Operation Diagrams

SD x10



SD x70