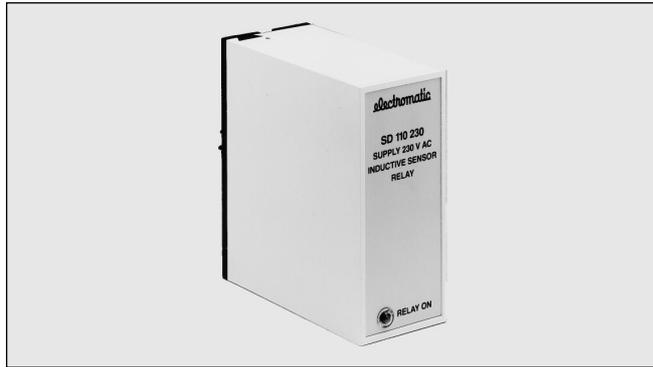


# Proximity Sensors Inductive Namur Amplifier Relays Types SD 110, SD 210, SD 170, SD 270



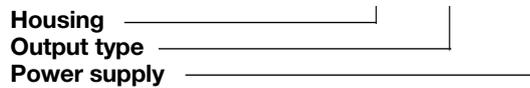
- According to DIN 19 234
- SD 110/210: Amplifier with relay output
- SD 170/270: Set/reset amplifier with relay output for 2 proximity switches
- Power supply to proximity switch 8.2 VDC/1 kΩ
- Galvanically separated output relay
- Load: 10 A SPDT or 8 A DPDT relay
- LED-indication for output ON
- AC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



## Type Selection

Plug	Supply	Namur Amplifier Relay		Set-reset Amplifier for 2 Namur Proximity Switches	
		10 A SPDT relay	8 A DPDT relay	10 A SPDT relay	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
<b>Inputs</b>	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
<b>Output</b>	SPDT relay	DPDT relay
<b>Rated insulation voltage</b>	250 VAC (rms) (cont./elec.)	250 VAC (rms) (cont./elec., cont./cont.)
<b>Contact ratings (AgCdO)</b>	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 DC13 5 A/24 VDC	2.5 A/230 VAC 5 A/24 VDC
<b>Mechanical life</b>	≥ 30 x 10 <sup>6</sup> op.	≥ 30 x 10 <sup>6</sup> op.
<b>Electrical life</b>	AC 1 ≥ 2.5 x 10 <sup>5</sup> op. (at max. load)	≥ 2.5 x 10 <sup>5</sup> op.
<b>Operating frequency</b>	≤ 7200 op./h	≤ 7200 op./h
<b>Dielectric strength</b>		
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)



## Supply Specifications

<b>Power supply AC types</b>	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)
<b>Power supply DC types</b>	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)

<b>Rated operational power</b>	
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.

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.

#### 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.

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

### SD x70

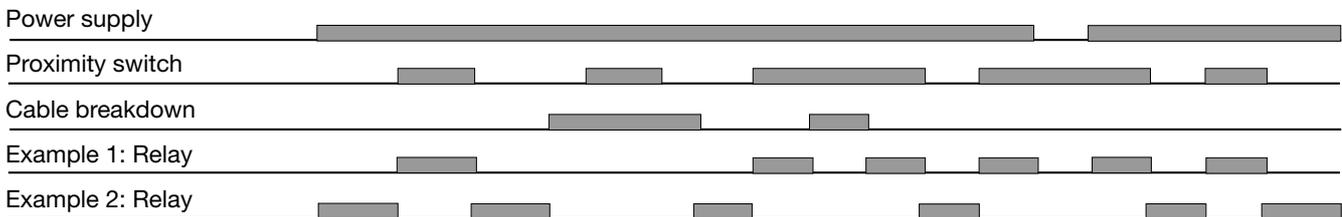
The set-reset relays SD 170/270 are used with 2 proximity switches in the following way:

## Accessories

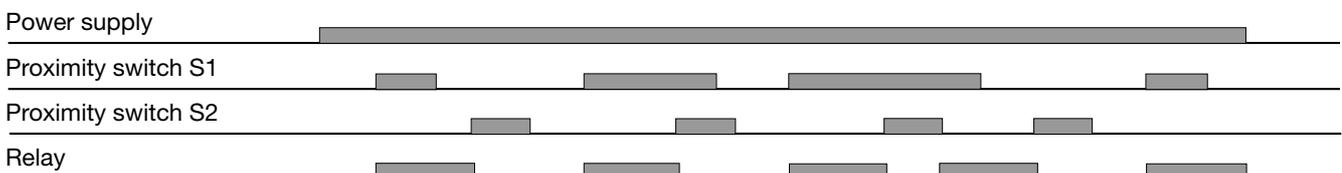
Socket <sup>◇</sup>	S 411
Hold down spring <sup>◇</sup>	HF
Mounting rack	SM 13
Socket cover	BB 4
Front mounting bezel	FRS 2

## Operation Diagrams

### SD x10



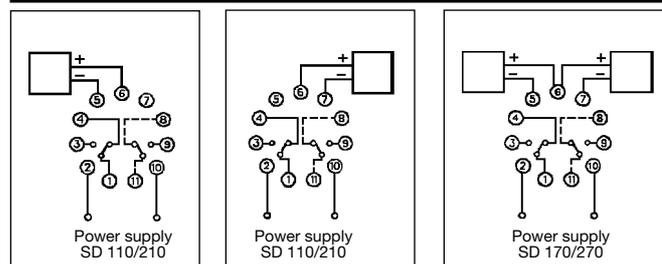
### SD x70



## General Specifications

<b>Indication for</b>	
Output ON	LED, red
<b>Environment</b>	
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)
<b>Weight</b>	
AC types	200 g
DC types	125 g

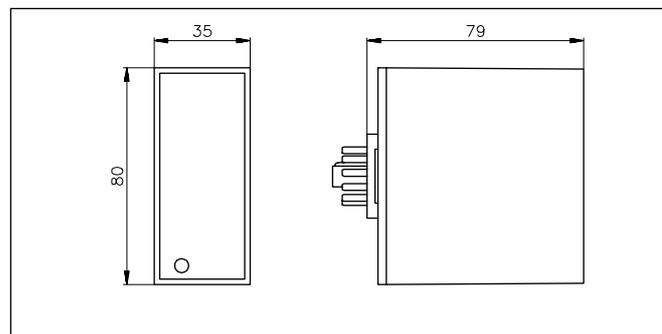
## Wiring Diagrams



Example 1

Example 2

## Dimensions



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