

Level Sensors Amplifier, Capacitive Types SV 150/250, SV 160/260

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SV 150/250



SV 160/260

- Level control for solid, fluid, or granulated substances
- SV 150/250: Max./min. control of DISCHARGING
- SV 160/260: Max./min. control of CHARGING
- Factory-set sensitivity
- For capacitive sensors VR.. and VRY..
- 10 A SPDT or 8 A DPDT output relay
- LED-indication: SV 150/250: Power supply and relay ON
- SV 160/260: Relay ON
- AC or DC power supply

Product Description

Level control relays for capacitive sensors, types VR and VRY. The relays can control one or two levels of charging (SV 160/260) or discharging (SV 150/250).

Ordering Key

SV 150 024

Housing _____
Output _____
Power supply _____

Type Selection

Plug	Output	Function	Supply: 24 VAC	Supply: 115 VAC	Supply: 230 VAC	Supply: 24 VDC
Circular	SPDT	Discharging	SV 150 024	SV 150 115	SV 150 230	SV 150 724
	DPDT	Discharging	SV 250 024	SV 250 115	SV 250 230	SV 250 724
	SPDT	Charging	SV 160 024	SV 160 115	SV 160 230	SV 160 724
	DPDT	Charging	SV 260 024	SV 260 115	SV 260 230	SV 260 724

Input Specifications

Sensitivity	Depends on sensor type and material
Sensor voltage	Max. 24 VDC Terminal 6 is negative
Sensor current	Activated: Min. 15 mA, max. 20 mA Not activated: Max. < 5 mA
Sensor short-circuit current	Max. 45 mA

General Specifications

Indication for	
Output ON	LED, red
Power supply	LED, green (only SV 150/250)
Environment	
Degree of protection	IP 20 B
Pollution degree	3 (IEC 60664)
Operating temperature	-20° to +50°C (-4° to +122°F)
Storage temperature	-50° to +85°C (-58° to +185°F)
Approvals	UL, CSA
CE-marking	Yes

Supply Specifications

Power supply AC-types	Overvoltage cat. II (IEC 60664)
Rated operational voltage through pin 2 & 10	230 VAC ± 15%
115	115 VAC ± 15%
024	24 VAC ± 15%
Rated insulation voltage	≥ 2.0 kVAC (rms)
Rated impulse withstand voltage	4 kV (1.2/50 μs) (line/neutral)
Power supply DC-types	Installation cat. II (IEC 60664)
Rated operational voltage	24 VDC ± 15% (pin 2 pos.)
Rated insulation voltage	None
Rated transient protection volt.	800 V (1.2/50 μs)

Output Specifications

		SV150/SV160	SV250/SV260
Output		SPDT relay	DPDT relay
Rated insulation voltage		250 VAC (rms) (cont./elec.)	250 VAC (rms) (Cont./elec., cont./cont.)
Contact ratings (Ag-CdO)		μ (micro gap)	μ (micro gap)
Resistive loads	AC 1 DC 1 or	10 A/250 VAC (2500 VAC) 1 A/250 VAC (250 W) 10 A/25 VDC (250 W)	8 A/250 VAC (200 VA) 0,4 A/250 VDC (100 W) 4 A/25 VDC (100 W)
Small inductive loads	AC 15 DC 13	2.5 A/230 VAC 5 A/24 VDC	2.5 A/230 VAC 5 A/24 VDC
Mechanical life		$\geq 5 \times 10^7$ operations	$\geq 5 \times 10^7$ operations
Electrical life		$\geq 10^5$ operations	$\geq 10^5$ operations
Operation frequency		≤ 7200 operations/h	≤ 7200 operations/h
Insulation voltages			
Rated insulation voltage	AC	≥ 2.0 kVAC (rms) (cont./elect.)	≥ 2.0 kVAC (rms) (cont./elect.)
Rated impulse withstand voltage	DC	None	None
	AC	4 kV (1.2/50 μ s) (cont./elect.) (IEC 60664)	4 kV (1.2/50 μ s) (cont./elect.) (IEC 60664)
	DC	800 V	800 V

Mode of Operation

Max. and/or min. control of solid, fluid or granulated substances, e.g. sand, gravel, sugar or chemicals.

SV 150/250: Relay control of DISCHARGING

SV 160/260: Relay control of CHARGING

Example 1

The diagram shows the level control connected as max. and min. control, i.e. registration of 2 levels during charging (discharging).

The relay releases (operates) when the max. sensor is in contact with the substance,

provided that the min. sensor is immersed. The relay operates (releases) when the min. sensor is no longer in contact with the substance.

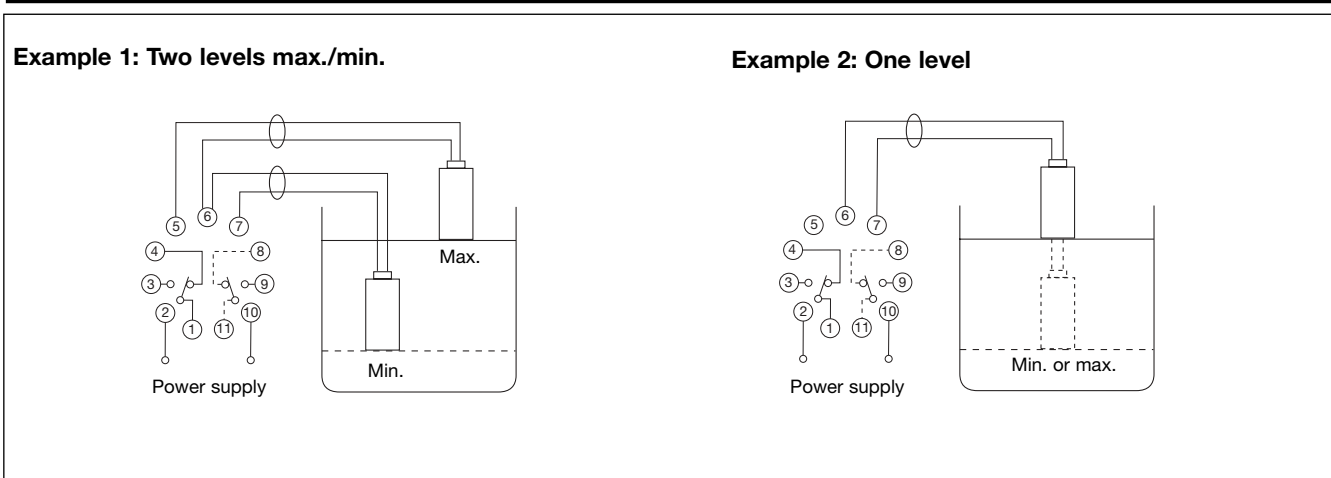
Example 1

The diagram shows the level control connected as max. or min. control, i.e. registration

of 1 level during charging (discharging).

The relay releases (operates) when the sensor is in contact with the substance.

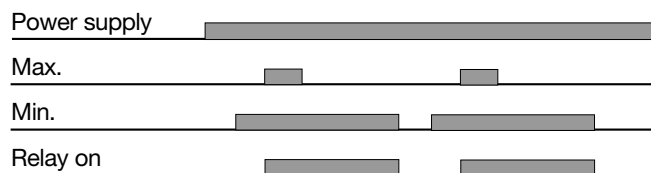
Wiring Diagrams



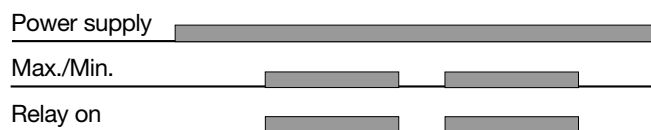
Operation Diagrams

SV 150/250 DISCHARGING

Example 1

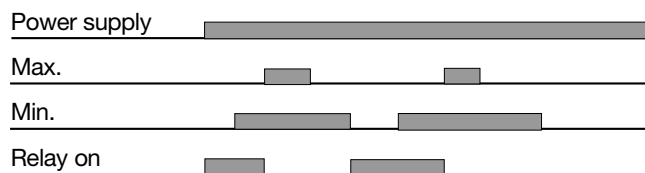


Example 2



SV 160/260 CHARGING

Example 1



Example 2



Accessories

Sensors: Types VR and VRY

Bases
 Hold down spring
 Base covers
 Front mounting bezel
 Optical: VP
 Capacitive: DR, EC