

# Level Sensors Amplifier, Conductive Types SV 120/220, SV 125/225 (Charging)

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SV 120/220



SV 125/225

- Level control for conductive liquids
- Max.-min. control of CHARGING
- SV 120/220: Fixed sensitivity
- SV 125/225: Adjustable sensitivity
- 10 A SPDT or 8 A DPDT output relay
- LED-indications: Power supply and relay on
- AC or DC power supply

## Product Description

Level control relay for conductive liquids which can control two levels of charging.

Usable for one level detection with pin 5 and 7 short-circuited.

## Ordering Key

**SV 120 230**

Housing \_\_\_\_\_  
Output \_\_\_\_\_  
Power supply \_\_\_\_\_

## Type Selection

| Plug     | Output | Supply: 24 VAC | Supply: 115 VAC | Supply: 230 VAC | Supply: 24 VDC |
|----------|--------|----------------|-----------------|-----------------|----------------|
| Circular | SPDT   | SV 120 024     | SV 120 115      | SV 120 230      | SV 120 724     |
|          | DP DT  | SV 220 024     | SV 220 115      | SV 220 230      | SV 220 724     |
|          | SPDT   | SV 125 024     | SV 125 115      | SV 125 230      | SV 125 724     |
|          | DPDT   | SV 225 024     | SV 225 115      | SV 225 230      | SV 225 724     |

## Input Specifications

|                            |     |                              |
|----------------------------|-----|------------------------------|
| <b>Level probe supply</b>  |     | Max. 24 VAC                  |
| <b>Level probe current</b> |     | Max. 2.5 mA                  |
| <b>Sensitivity</b>         |     |                              |
| SV120/SV220                | ON  | From 25 to 50 kΩ             |
|                            | OFF | From 15 to 37 kΩ             |
| SV125/SV225                | ON  | From 3-11 to 35-55 kΩ (adj.) |
|                            | OFF | From 1-5 to 20-30 kΩ (adj.)  |

## General Specifications

|                       |                              |         |
|-----------------------|------------------------------|---------|
| <b>Indication for</b> |                              |         |
| Power supply ON       | LED, green                   |         |
| Output ON             | LED, red (724 only red)      |         |
| <b>Environment</b>    |                              |         |
| 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) |         |
| <b>Approvals</b>      |                              | UL, CSA |
| <b>CE-marking</b>     |                              | Yes     |

## Supply Specifications

|                                                 |     |                           |                                 |
|-------------------------------------------------|-----|---------------------------|---------------------------------|
| <b>Power supply</b>                             |     | AC types                  | Overvoltage cat. II (IEC 60664) |
| Rated operational voltage through pins 2 and 10 | 230 | 230 VAC ± 15%             | 50/60 Hz, -5/+5 Hz              |
|                                                 | 115 | 115 VAC ± 15%             | 50/60 Hz, -5/+5 Hz              |
|                                                 | 024 | 24 VAC ± 15%              | 50/60 Hz, -5/+5 Hz              |
|                                                 | 724 | 250 VAC (rms)             | 4 kV (1.2/50 μs) (line/neutral) |
| Rated insulation voltage                        |     |                           |                                 |
| Rated impulse withstand volt.                   |     |                           |                                 |
| <b>Power supply</b>                             |     | DC types                  | Overvoltage cat. II (IEC 60664) |
| Rated operational voltage                       | 724 | 24 VDC ± 15% (pin 2 pos.) |                                 |
|                                                 |     | None                      |                                 |
|                                                 |     | 800 V (1.2/50 μs)         |                                 |
|                                                 |     |                           |                                 |
| Rated insulation voltage                        |     |                           |                                 |
| Rated impulse withstand volt.                   |     |                           |                                 |



Output Specifications

|                                 |       |    | SV120/SV125                                    | SV220/SV225                                    |
|---------------------------------|-------|----|------------------------------------------------|------------------------------------------------|
| <b>Output</b>                   |       |    | SPDT relay                                     | DPDT relay                                     |
| Rated insulation voltage        |       |    | 250 VAC (rms)<br>(cont./elec.)                 | 250 VAC (rms)<br>(cont./elec., cont./cont.)    |
| <b>Contact ratings</b> (Ag-CdO) |       |    | μ (micro gap)                                  | μ (micro gap)                                  |
| Resistive loads                 | AC 1  |    | 10 A/250 VAC (2500 VAC)                        | 8 A/250 VAC (200 VA)                           |
|                                 | DC 1  |    | 1 A/250 VAC (250 W)                            | 0,4 A/250 VDC (100 W)                          |
| Small inductive loads           |       | or | 10 A/25 VDC (250 W)                            | 4 A/25 VDC (100 W)                             |
|                                 | AC 15 |    | 2.5 A/230 VAC                                  | 2.5 A/230 VAC                                  |
|                                 | DC 13 |    | 5 A/24 VDC                                     | 5 A/24 VDC                                     |
| <b>Mechanical life</b>          |       |    | ≥ 5 x 10 <sup>7</sup> operations               | ≥ 5 x 10 <sup>7</sup> operations               |
| <b>Electrical life</b>          |       |    | ≥10 <sup>5</sup> operations                    | ≥10 <sup>5</sup> operations                    |
| <b>Operation frequency</b>      |       |    | ≤ 7200 operations/h                            | ≤ 7200 operations/h                            |
| <b>Insulation voltages</b>      |       |    |                                                |                                                |
| Rated insulation voltage        | AC    |    | ≥ 2.0 kVAC (rms)<br>(cont./elect.)             | ≥ 2.0 kVAC (rms)<br>(cont./elect.)             |
|                                 | DC    |    | None                                           | None                                           |
| Rated impulse withstand voltage | AC    |    | 4 kV (1.2/50 μs)<br>(cont./elect.) (IEC 60664) | 4 kV (1.2/50 μs)<br>(cont./elect.) (IEC 60664) |
|                                 | DC    |    | 800 V                                          | 800 V                                          |

Mode of Operation

Max. and min. control of charging.

Example 1

The diagram shows the level control connected as max. and min. control, i.e. detec-

tion of 2 levels. The relay releases until the max. electrode is in contact with the liquid. The relay operates when the min. electrode is no longer in contact with the liquid. By use of a container of

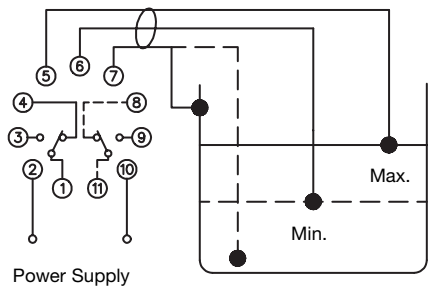
a conductive material (pin 7) can be connected to the container. If the container is made of a non-conductive material, an additional electrode is needed, indicated by the dotted line in the diagram.

Example 2

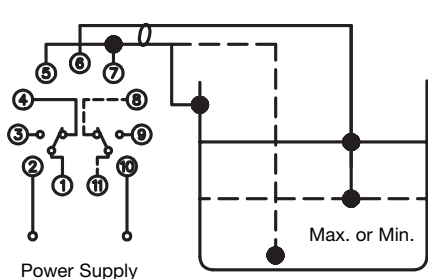
If only one level is required, pins 5 and 7 must be interconnected to select either max. or min. control.

Wiring Diagrams

SV 1xx/SV 2xx, two levels  
Example 1



SV 1xx/SV 2xx, one level  
Example 2



Operation Diagram



Accessories

Conductive level probe: 1 or 2 electrodes  
VH..., VPC..., VPP...  
VN..., VNY..., VNI...  
VT..., VTI..., VS...