

# Solid State Relays PCB, 1-Phase DCS Type RP 530 ...-0

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- DC Solid State Relay for PCB mounting
- Rated operational current: 1 and 3 ADC
- Operational voltage range: Up to 350 VDC
- Input range: 3 to 32 VDC
- Insulation: OPTO (input-output) 4000 VACrms

## Product Description

The DC switching relay for PCB mounting is used in applications where there is a need for fast switching of small DC loads with a high input/output insulation of more than 4000 VACrms. The DC switching transistor relay always switches on and off in accordance with the applied control voltage.

## Ordering Key

**RP 530 060-3-0**

Solid State Relay (PCB) \_\_\_\_\_  
Switching mode \_\_\_\_\_  
Rated operational voltage \_\_\_\_\_  
Rated operational current \_\_\_\_\_  
Control voltage \_\_\_\_\_

## Type Selection

| Switching mode    | Rated operational voltage                   | Rated operational current | Control voltage |
|-------------------|---------------------------------------------|---------------------------|-----------------|
| 530: DC switching | 060: 60 VDC<br>200: 200 VDC<br>350: 350 VDC | 1: 1 ADC<br>3: 3 ADC      | 0: 3 to 32 VDC  |

## Selection Guide

| Rated operational voltage | Control voltage | Rated operational current |                |
|---------------------------|-----------------|---------------------------|----------------|
|                           |                 | 1 ADC                     | 3 ADC          |
| 60 VDC                    | 3 to 32 VDC     |                           | RP 530 060-3-0 |
| 200 VDC                   | 3 to 32 VDC     | RP 530 200-1-0            |                |
| 350 VDC                   | 3 to 32 VDC     | RP 530 350-1-0            |                |

## General Specifications

|                            | RP 530 060-3-0 | RP 530 200-1-0 | RP 530 350-1-0 |
|----------------------------|----------------|----------------|----------------|
| Operational voltage range  | 3 to 60 VDC    | 3 to 200 VDC   | 3 to 350 VDC   |
| Off-state blocking voltage | ≥ 60 VDC       | ≥ 200 VDC      | ≥ 350 VDC      |
| Approval                   | CSA            | CSA            | CSA            |



Input Specifications

|                                       | RP 530 060-3-0 | RP 530 200-1-0<br>RP 530 350-1-0 |
|---------------------------------------|----------------|----------------------------------|
| Control voltage range                 | 3 to 32 VDC    | 3 to 32 VDC                      |
| Pick-up voltage                       | ≤ 3 VDC        | ≤ 3 VDC                          |
| Drop-out voltage                      | ≥ 1 VDC        | ≥ 1 VDC                          |
| Reverse voltage                       | ≤ 6 VDC        | ≤ 6 VDC                          |
| Activating frequency                  | ≤ 100 Hz       | ≤ 100 Hz                         |
| Input impedance                       | 1 kΩ           | 1 kΩ                             |
| Response time pick-up<br>@ V in ≥ 5 V | ≤ 100 μs       | ≤ 100 μs                         |
| Response time drop-out                | ≤ 1 ms         | ≤ 1 ms                           |
| Control voltage<br>rise and fall time | no limit       | ≤ 100 μs                         |

Output Specifications

|                                              | RP 530 060-3-0                    | RP 530 200-1-0      | RP 530 350-1-0      |
|----------------------------------------------|-----------------------------------|---------------------|---------------------|
| Rated operational current                    | DC 1 3 A<br>DC 5 2 A<br>DC 13 3 A | 1 A<br>0.5 A<br>1 A | 1 A<br>0.5 A<br>1 A |
| Minimum operational current                  | 1 mA                              | 1 mA                | 1 mA                |
| Rep. overload current t=1 s                  | 5 A                               | 2 A                 | 2 A                 |
| Off-state leakage current<br>@ rated voltage | ≤ 1 mA                            | ≤ 1 mA              | ≤ 1 mA              |
| On-state voltage drop<br>@ rated current     | ≤ 1.5 V                           | ≤ 1.5 V             | ≤ 1.5 V             |

Thermal Specifications

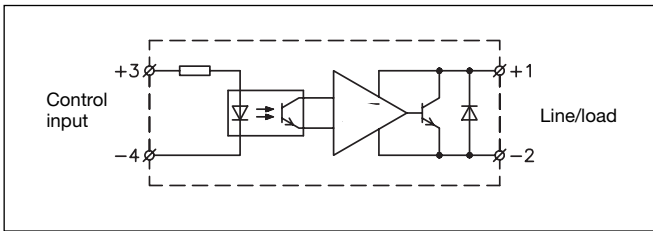
|                                     |                               |
|-------------------------------------|-------------------------------|
| Operating temperature               | -40 to +60°C (-40 to +140°F)  |
| Storage temperature                 | -40 to +100°C (-40 to +212°F) |
| Junction temperature                | ≤ 125°C (≤ 257°F)             |
| R <sub>th</sub> junction-case       | ≤ 15 K/W                      |
| R <sub>th</sub> junction to ambient | ≤ 22.5 K/W                    |

Insulation Input - Output

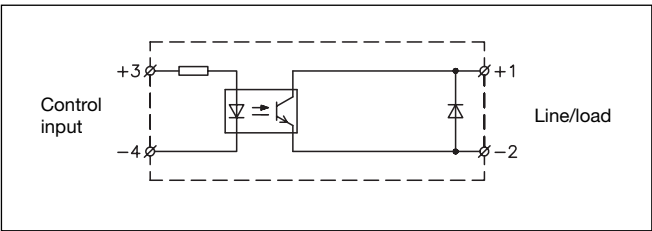
|                          |                      |
|--------------------------|----------------------|
| Rated insulation voltage | ≥ 4000 VACrms        |
| Insulation resistance    | ≥ 10 <sup>10</sup> Ω |
| Insulation capacitance   | ≤ 8 pF               |

Wiring Diagrams

RP 530 060-3-0

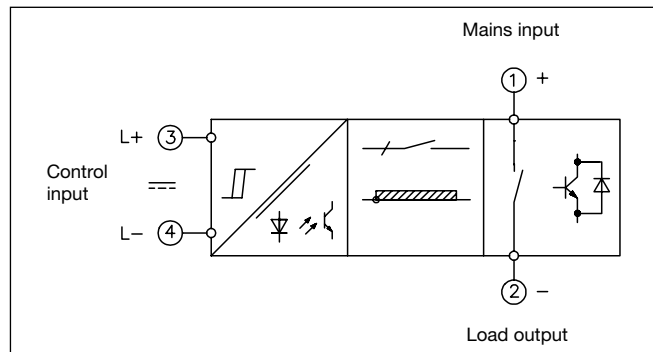


RP 530 200-1-0  
RP 530 350-1-0

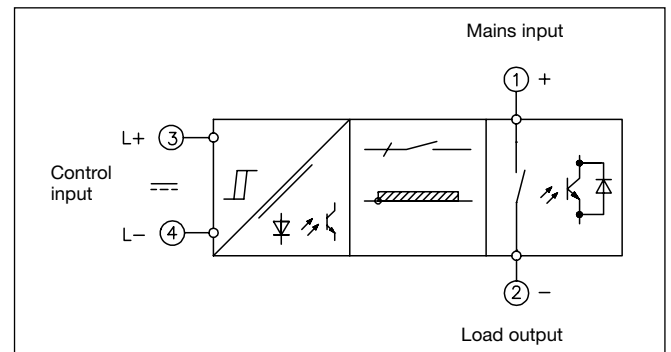


## Functional Diagrams

RP 530 060-3-0



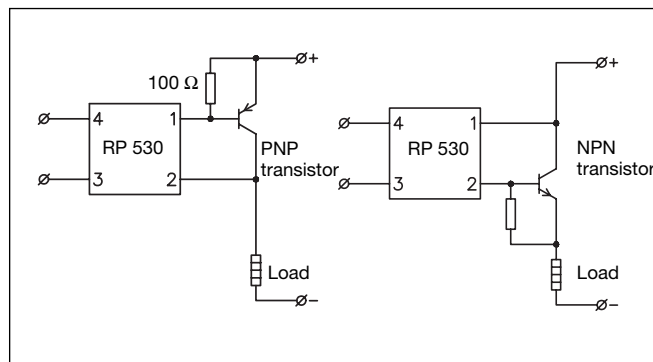
RP 530 200-1-0    RP 530 350-1-0



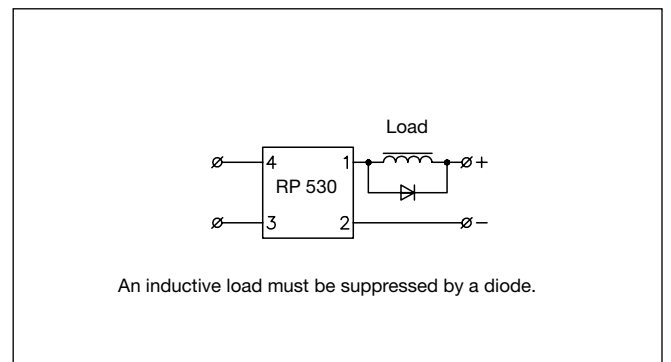
## Applications

### Wiring examples:

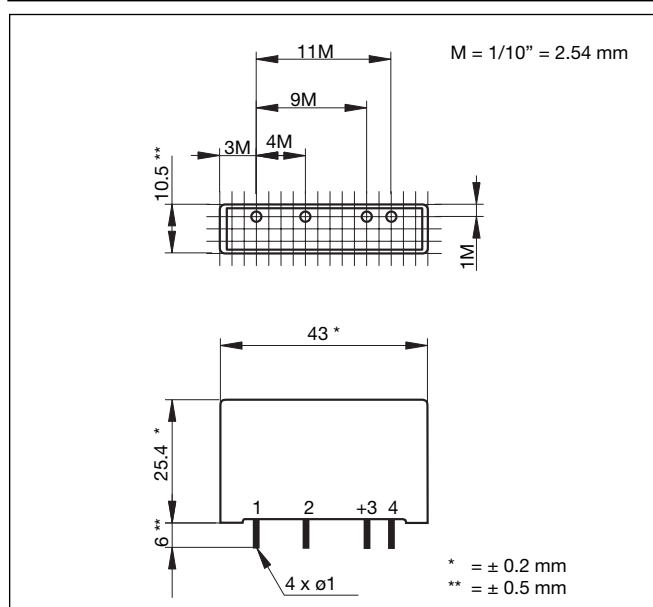
#### High power switching



#### Inductive load



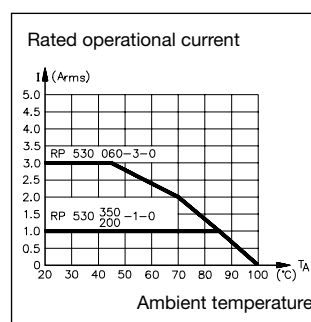
## Dimensions



## Housing Specifications

|                  |                          |
|------------------|--------------------------|
| Weight           | Approx. 20 g             |
| Housing material | Noryl GFN 1, black       |
| Terminals        | Phos. bronze, tin-plated |
| Potting compound | Polyurethane             |

## Derating Curve



## Accessories

Fuses  
For further information refer to "General Accessories".