



**PRODUCT SPECIFICATION**

**PCB Power  
Relays**

**290**

**Series**

# 290 Series PCB Power Relays

WERNER

## Features



- 30A Switching Capability
- 2.5kV Dielectric strength
- Class F Insulation available
- Open type and sealed type available
- Environmental friendly(RoHS complaint)
- Outline Dimintions (32.4 x 27.5 x 20)mm

## Contact Data

| Contact Arrangement     | 1A                         | 1B          | 1C(NO)      | 1C(NC)      |
|-------------------------|----------------------------|-------------|-------------|-------------|
| Contact Resistance      | 50mΩ(1A 24VDC)             |             |             |             |
| Contact Material        | AgSnO <sub>2</sub> , AgCdo |             |             |             |
| Max. switching capacity | 7200VA/900W                | 4800VA/600W | 7200VA/900W | 4800VA/600W |
| Max. switching voltage  | 250VAC/30VDC               |             |             |             |
| Max. switching current  | 30A                        | 20A         | 30A         | 20A         |
| Rating                  | 30A 240VAC                 | 20A 240VAC  | 30A 240VAC  | 20A 240VAC  |
| Mechanical endurance    | 1 x 10 <sup>7</sup>        |             |             |             |
| Electrical endurance    | 1 x 10 <sup>9</sup>        |             |             |             |

## Characteristics

|                                 |                             |
|---------------------------------|-----------------------------|
| Insulation Resistance           | 1000MΩ (500VDC)             |
| Between coil & contacts         | 2500 1min                   |
| Between open contacts           | 1500VAC 1min                |
| Operate time (at rated voltage) | ≤15ms                       |
| Release time (at rated voltage) | ≤10ms                       |
| Storage temperature range       | -40° C-105° C               |
| Functional                      | 100m/s <sup>2</sup> (10g)   |
| Destructive                     | 1000m/s <sup>2</sup> (100g) |
| Vibration resistance            | 10Hz-55Hz 1.5mm             |
| Humidity                        | 5%-85% RH                   |
| Termination                     | PCB                         |
| Unit weight                     | Approx 36g                  |

## Coil Data DC Type

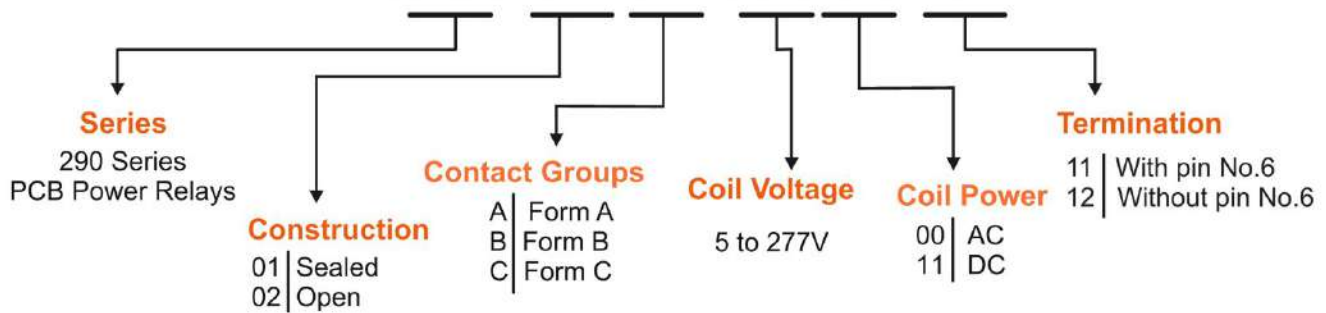
| Coil Voltage VDC | Pick-up Voltage VDC | Drop-out Voltage VDC | Max. Allowable Voltage VDC | Coil Resistance Ω |
|------------------|---------------------|----------------------|----------------------------|-------------------|
| 5                | 3.75                | 0.5                  | 6.5                        | 27 x (1±10%)      |
| 6                | 4.70                | 0.6                  | 7.8                        | 40 x (1±10%)      |
| 9                | 6.75                | 0.9                  | 11.7                       | 97x (1±10%)       |
| 12               | 9.00                | 1.2                  | 15.6                       | 155x (1±10%)      |
| 15               | 11.25               | 1.5                  | 19.5                       | 256x (1±10%)      |
| 18               | 13.50               | 1.8                  | 23.4                       | 380x (1±10%)      |
| 24               | 18.00               | 2.4                  | 31.2                       | 660x (1±10%)      |
| 48               | 36.00               | 4.8                  | 62.4                       | 2560x (1±10%)     |
| 70               | 52.50               | 7.0                  | 91                         | 5500x (1±10%)     |
| 110              | 82.50               | 11                   | 143                        | 13450x (1±10%)    |

## Coil Data AC Type

| Coil Voltage VAC | Pick-up Voltage VAC | Drop-out Voltage VAC | Max. Allowable Voltage VAC | Coil Resistance $\Omega$ |
|------------------|---------------------|----------------------|----------------------------|--------------------------|
| 12               | 9.6                 | 2.4                  | 15.6                       | 25x (1±10%)              |
| 24               | 19.2                | 4.8                  | 31.2                       | 100x (1±10%)             |
| 120              | 96.0                | 24.0                 | 156                        | 2500x (1±10%)            |
| 208              | 166.4               | 41                   | 270.4                      | 11000x (1±10%)           |
| 220/240          | 192                 | 48                   | 286                        | 13490x (1±10%)           |
| 277              | 220                 | 54                   | 360.1                      | 15000x (1±10%)           |

## ORDERING TABLE

# 290.01.A.12.11.11



## Dimension & Wiring Diagram

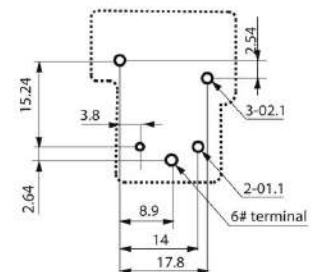
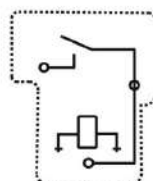
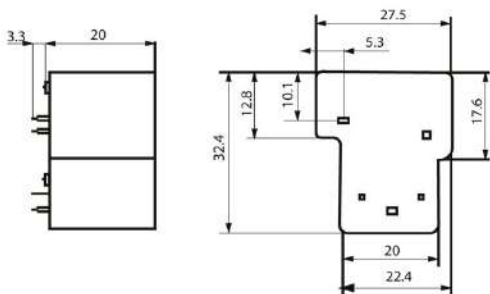
### Outline Dimension

### Wiring Diagram (Bottom view)

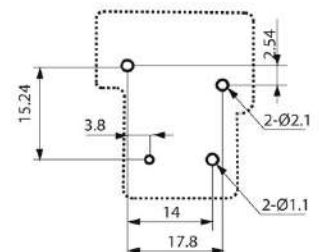
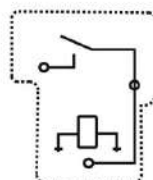
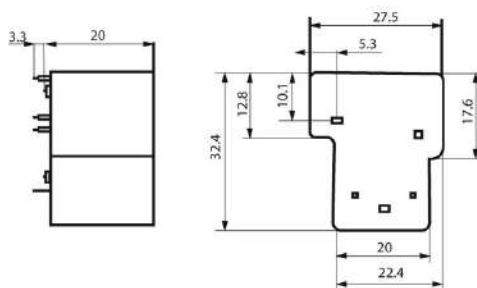
### PCB Layout (Bottom view)

#### With 6# terminal

#### (1 Form A)



#### Without 6# terminal



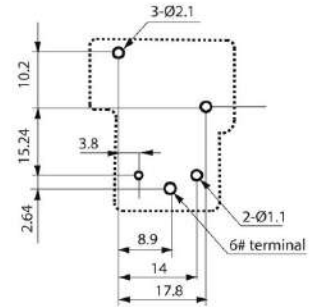
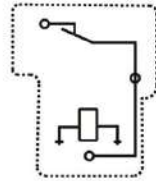
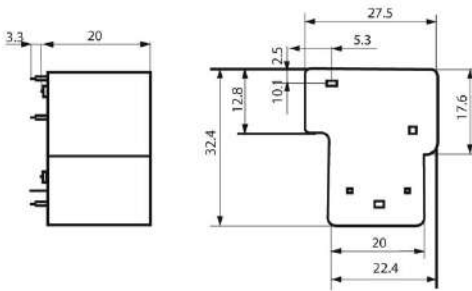
## Dimension & Wiring Diagram

### Outline Dimension

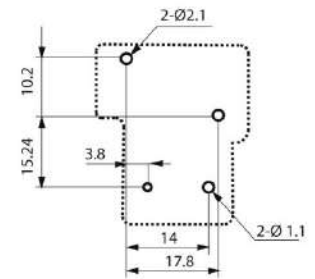
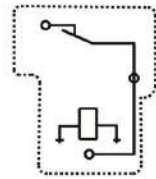
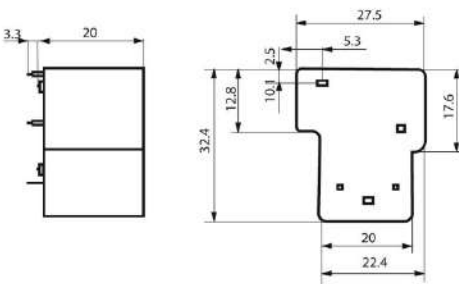
### Wiring Diagram (Bottom view)

### PCB Layout (Bottom view)

#### With 6# terminal

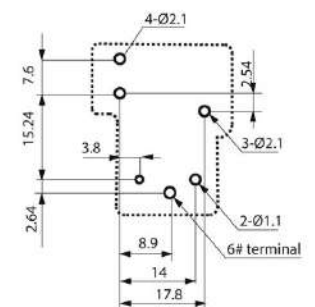
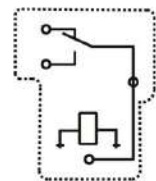
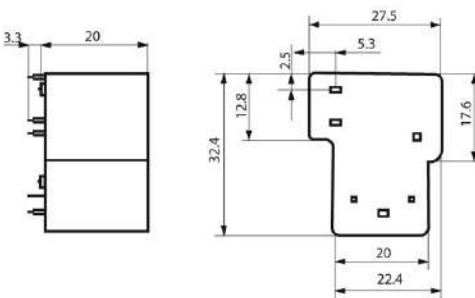


#### Without 6# terminal

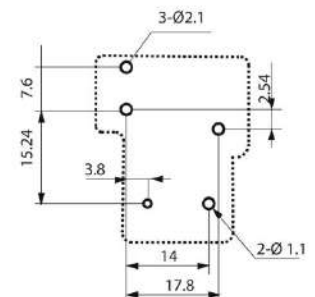
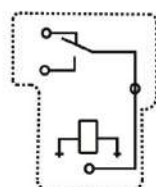
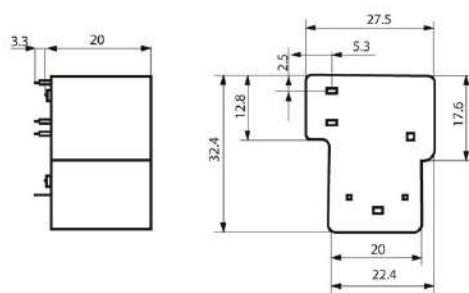


### (1 Form C)

#### With 6# terminal



#### Without 6# terminal



## Dimension & Wiring Diagram

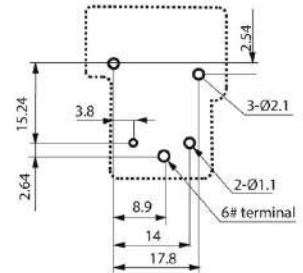
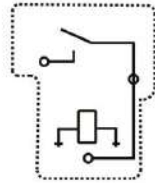
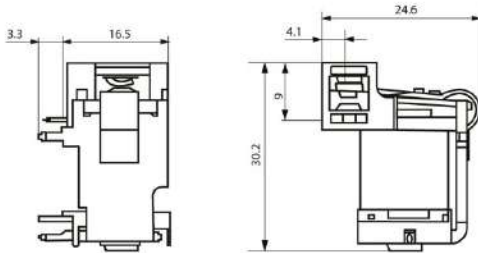
### Outline Dimension

### Wiring Diagram (Bottom view)

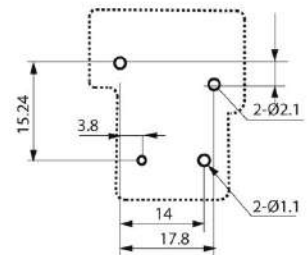
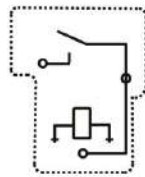
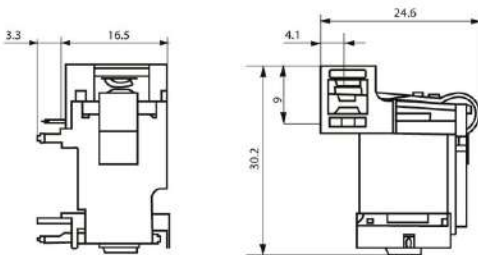
### PCB Layout (Bottom view)

#### (1 Form C Open type)

##### With 6# terminal

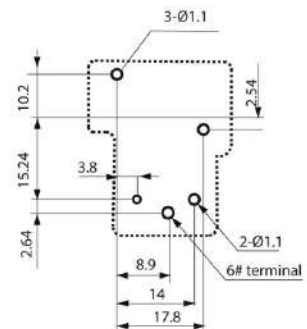
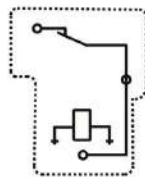
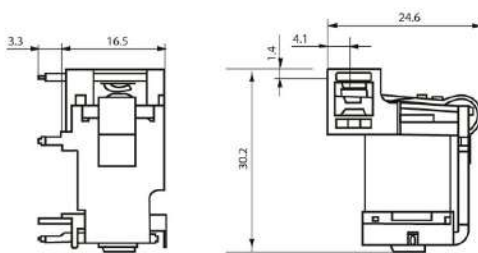


##### Without 6# terminal

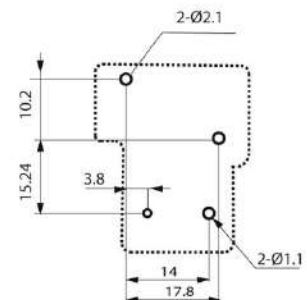
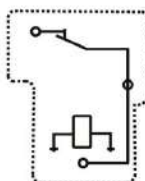
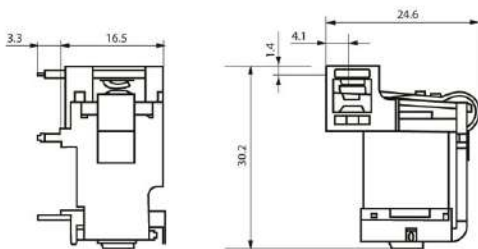


#### (1 Form B Open type)

##### With 6# terminal



##### Without 6# terminal



## Dimension & Wiring Diagram

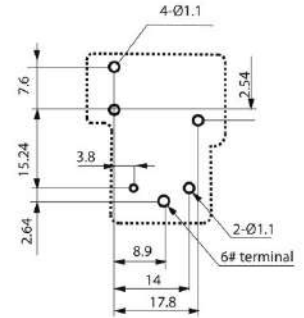
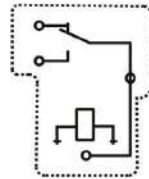
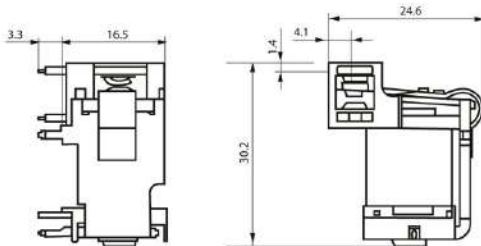
### Outline Dimension

### Wiring Diagram (Bottom view)

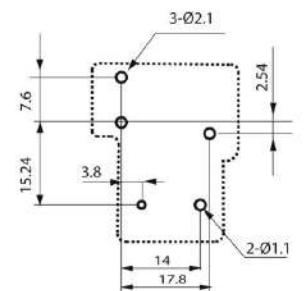
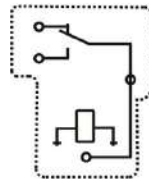
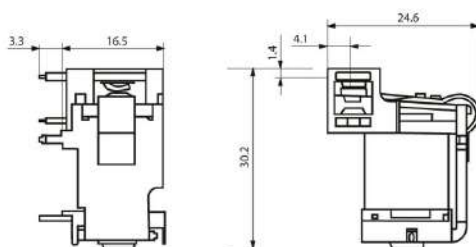
### PCB Layout (Bottom view)

#### With 6# terminal

(1 Form C Open type)



#### Without 6# terminal



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