

Now available  
Class 1  
Div 2

# 6mm Hazardous Location Interface Relays - RV8H Series

## Screw Terminals



Top view with Marking Plate

← Only 70mm from DIN rail!

## Spring Clamp Terminals



Top view without Marking Plate

← Only 70mm from DIN rail!

## Key Features

- Class 1, Division 2 and Class 1, Zone 2 hazardous locations models available
- Space-saving 6mm width
- Only 70mm in height from DIN rail
- Gold-plated contacts
- Pre-assembled relay and DIN mount socket
- Universal screw terminals (flat and Phillips) or Spring clamp terminals
- Universal AC/DC socket with built-in surge suppression and green LED
- 6A contact rating
- Lever for easy locking and removal of relay
- Wide input voltage range: 6 to 240V
- High dielectric strength and impulse withstand voltages
- Reverse Polarity protected
- 400V AC maximum switching voltage
- 1500VA maximum switching power
- RoHS compliant

## Specifications

|                                |                          |  |
|--------------------------------|--------------------------|--|
| Hazardous Location Rating      |                          | Class 1, Division2, Groups A, B, C, D T5<br>Class 1, Zone 2, AEx nA nC IIC T4<br>Class 1, Zone 2, Ex nA nC IIC T4 X Gc<br>UL/c-UL Listed |
| Number of Poles                |                          | 1 pole   |
| Contact Configuration          |                          | 1 form C (SPDT)  |
| Contact material               |                          | AgNi (Au plating)  |
| Degree of Protection           |                          | IP20   |
| Dielectric strength            | Between contact and coil | 4,000V AC for 1min   |
|                                | Between pole             | 1,000V AC for 1min   |
| Vibration Resistance           | Operating extremes       | NO: Frequency 10 to 55Hz, Amplitude 0.5mm<br>NC: Frequency 10 to 55Hz, Amplitude 0.2mm   |
|                                | Damage limits            |  |
| Shock Resistance               | Operating extremes       | NO: 49m/s <sup>2</sup> (5G)<br>NC: 29.4m/s <sup>2</sup> (3G)   |
|                                | Damage limits            | 980m/s <sup>2</sup> (10G)  |
| Mechanical Life (without load) |                          | Over 10,000,000 operations   |
| Operating Temperature          |                          | -25 to +55°C without freezing  |
| Operating Humidity             |                          | 5 to 85% (without condensation)  |
| Weight (approx.)               |                          | 30g (RV8H-L), 26g (RV8H-S)   |



(when using combination of RV relay and SV socket)

## Part Numbers

### Complete Part Numbers (Relay & Socket)

| Screw Terminal  |              |                                    | Spring Clamp Terminal   |                                    |                   |
|---|--------------|------------------------------------|---|------------------------------------|-------------------|
|  |              |                                    |  |                                    |                   |
| <b>New</b>  |              |                                    | <b>New</b>  |                                    |                   |
| Coil voltage  | Standard     | Hazardous Location (Class 1 Div 2) | Standard  | Hazardous Location (Class 1 Div 2) |                   |
| DC  | 6V           | RV8H-L-D6                          | RV8H-L-D6-C1D2  | RV8H-S-D6                          | RV8H-S-D6-C1D2    |
|   | 9V           | RV8H-L-D9                          | RV8H-L-D9-C1D2  | RV8H-S-D9                          | RV8H-S-D9-C1D2    |
|   | 12V          | RV8H-L-D12                         | RV8H-L-D12-C1D2   | RV8H-S-D12                         | RV8H-S-D12-C1D2   |
|   | 18V          | RV8H-L-D18                         | RV8H-L-D18-C1D2   | RV8H-S-D18                         | RV8H-S-D18-C1D2   |
|   | 24V          | RV8H-L-D24                         | RV8H-L-D24-C1D2   | RV8H-S-D24                         | RV8H-S-D24-C1D2   |
| AC/DC   | 12V          | RV8H-L-AD12                        | RV8H-L-AD12-C1D2  | RV8H-S-AD12                        | RV8H-S-AD12-C1D2  |
|   | 18V          | RV8H-L-AD18                        | RV8H-L-AD18-C1D2  | RV8H-S-AD18                        | RV8H-S-AD18-C1D2  |
|   | 24V          | RV8H-L-AD24                        | RV8H-L-AD24-C1D2  | RV8H-S-AD24                        | RV8H-S-AD24-C1D2  |
|   | 48V          | RV8H-L-AD48                        | RV8H-L-AD48-C1D2  | RV8H-S-AD48                        | RV8H-S-AD48-C1D2  |
|   | 60V          | RV8H-L-AD60                        | RV8H-L-AD60-C1D2  | RV8H-S-AD60                        | RV8H-S-AD60-C1D2  |
|   | 110V - 125V  | RV8H-L-AD110                       | RV8H-L-AD110-C1D2   | RV8H-S-AD110                       | RV8H-S-AD110-C1D2 |
| 220V - 240V   | RV8H-L-AD220 | RV8H-L-AD220-C1D2                  | RV8H-S-AD220  | RV8H-S-AD220-C1D2                  |                   |

### Accessories



| Description                  | Color | Part Number |
|------------------------------|-------|-------------|
| Jumper (20 combs*)           | Black | SV9Z-J20B   |
|                              | Gray  | SV9Z-J20W   |
|                              | Blue  | SV9Z-J20S   |
| Spacer (circuit separator)** | -     | SV9Z-SA2W   |
| Screwdriver                  | -     | BC1S-SD0    |

\*Jumper combs come with 20 points, if shorter lengths are needed simply cut off the excess points.


\*\*Width of spacer: 2mm

Note: When using a cut jumper, please use a spacer on the cut side. For additional information see instruction sheet.

### Replacement Parts

| Screw Terminals   |                  |                                    |                  | Spring Clamp Terminals   |                  |                                    |                  |
|---|------------------|------------------------------------|------------------|--|------------------|------------------------------------|------------------|
|  |                  |                                    |                  |  |                  |                                    |                  |
| <b>New</b>  |                  |                                    |                  | <b>New</b>   |                  |                                    |                  |
| Standard  |                  | Hazardous Location (Class 1 Div 2) |                  | Standard   |                  | Hazardous Location (Class 1 Div 2) |                  |
| Complete Part Number  | Applicable Relay | Complete Part Number               | Applicable Relay | Complete Part Number   | Applicable Relay | Complete Part Number               | Applicable Relay |
| RV8H-L-D6   | RV1H-G-D5        | RV8H-L-D6-C1D2                     | RV1H-G-D5-C1D2   | RV8H-S-D6  | RV1H-G-D5        | RV8H-S-D6-C1D2                     | RV1H-G-D5-C1D2   |
| RV8H-L-D9   | RV1H-G-D9        | RV8H-L-D9-C1D2                     | RV1H-G-D9-C1D2   | RV8H-S-D9  | RV1H-G-D9        | RV8H-S-D9-C1D2                     | RV1H-G-D9-C1D2   |
| RV8H-L-D12  | RV1H-G-D12       | RV8H-L-D12-C1D2                    | RV1H-G-D12-C1D2  | RV8H-S-D12   | RV1H-G-D12       | RV8H-S-D12-C1D2                    | RV1H-G-D12-C1D2  |
| RV8H-L-D18  | RV1H-G-D18       | RV8H-L-D18-C1D2                    | RV1H-G-D18-C1D2  | RV8H-S-D18   | RV1H-G-D18       | RV8H-S-D18-C1D2                    | RV1H-G-D18-C1D2  |
| RV8H-L-D24  | RV1H-G-D24       | RV8H-L-D24-C1D2                    | RV1H-G-D24-C1D2  | RV8H-S-D24   | RV1H-G-D24       | RV8H-S-D24-C1D2                    | RV1H-G-D24-C1D2  |
| RV8H-L-AD12   | RV1H-G-D12       | RV8H-L-AD12-C1D2                   | RV1H-G-D12-C1D2  | RV8H-S-AD12  | RV1H-G-D12       | RV8H-S-AD12-C1D2                   | RV1H-G-D12-C1D2  |
| RV8H-L-AD18   | RV1H-G-D18       | RV8H-L-AD18-C1D2                   | RV1H-G-D18-C1D2  | RV8H-S-AD18  | RV1H-G-D18       | RV8H-S-AD18-C1D2                   | RV1H-G-D18-C1D2  |
| RV8H-L-AD24   | RV1H-G-D24       | RV8H-L-AD24-C1D2                   | RV1H-G-D24-C1D2  | RV8H-S-AD24  | RV1H-G-D24       | RV8H-S-AD24-C1D2                   | RV1H-G-D24-C1D2  |
| RV8H-L-AD48   | RV1H-G-D48       | RV8H-L-AD48-C1D2                   | RV1H-G-D48-C1D2  | RV8H-S-AD48  | RV1H-G-D48       | RV8H-S-AD48-C1D2                   | RV1H-G-D48-C1D2  |
| RV8H-L-AD60   | RV1H-G-D60       | RV8H-L-AD60-C1D2                   | RV1H-G-D60-C1D2  | RV8H-S-AD60  | RV1H-G-D60       | RV8H-S-AD60-C1D2                   | RV1H-G-D60-C1D2  |
| RV8H-L-AD110  | RV1H-G-D60       | RV8H-L-AD110-C1D2                  | RV1H-G-D60-C1D2  | RV8H-S-AD110   | RV1H-G-D60       | RV8H-S-AD110-C1D2                  | RV1H-G-D60-C1D2  |
| RV8H-L-AD220  | RV1H-G-D60       | RV8H-L-AD220-C1D2                  | RV1H-G-D60-C1D2  | RV8H-S-AD220   | RV1H-G-D60       | RV8H-S-AD220-C1D2                  | RV1H-G-D60-C1D2  |

## Marking Plates

| Item  | Part Number      | Engraving | Part Number       | Engraving |
|---|------------------|-----------|-------------------|-----------|
| <br>Vertical Orientation | SV9Z-PW10        | blank     | SV9Z-PW10-⊙A-J    | A-J       |
|   | SV9Z-PW10-⊙1-10  | 1-10      | SV9Z-PW10-⊙K-T    | K-T       |
|   | SV9Z-PW10-⊙11-20 | 11-20     | SV9Z-PW10-⊙U-Z    | U-Z       |
|   | SV9Z-PW10-⊙21-30 | 21-30     | SV9Z-PW10-⊙GROUND | GROUND    |
|   | SV9Z-PW10-⊙31-40 | 31-40     | SV9Z-PW10-⊙AC     | AC        |
|   | SV9Z-PW10-⊙41-50 | 41-50     |                   |           |
|   | SV9Z-PW10-⊙51-60 | 51-60     |                   |           |
|   | SV9Z-PW10-⊙61-70 | 61-70     |                   |           |
|   | SV9Z-PW10-⊙71-80 | 71-80     |                   |           |
|   | SV9Z-PW10-⊙81-90 | 81-90     |                   |           |
| SV9Z-PW10-⊙91-100   | 91-100           |           |                   |           |

1. In place of ⊙ insert orientation code:  
V=Vertical, H=Horizontal
2. Each unit has 10 pieces (marking plates).

## Coil Ratings

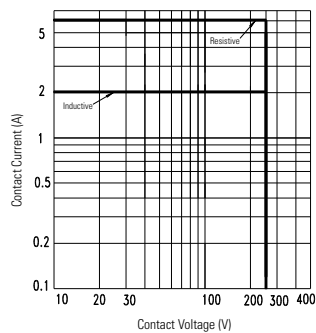
| Rated Voltage | Rated Current<br>+15% (mA) | Circuit<br>AC Resistance<br>+10% (Ω) | Circuit<br>DC Resistance<br>+10% (Ω) | Operating Characteristics |                    |                              | Power<br>Consumption |       |
|---------------|----------------------------|--------------------------------------|--------------------------------------|---------------------------|--------------------|------------------------------|----------------------|-------|
|               |                            |                                      |                                      | Pickup<br>Voltage         | Dropout<br>Voltage | Maximum<br>Allowable voltage |                      |       |
| DC            | 6V                         | 35                                   | -                                    | 170                       | 90% max            | 7% min                       | 110%                 | 0.21W |
|               | 9V                         | 18.6                                 | -                                    | 485                       |                    |                              |                      | 0.2W  |
|               | 12V                        | 14.6                                 | -                                    | 820                       |                    |                              |                      | 0.2W  |
|               | 18V                        | 11.6                                 | -                                    | 1550                      |                    |                              |                      | 0.2W  |
|               | 24V                        | 10.6                                 | -                                    | 2270                      |                    |                              |                      | 0.25W |
| AC/DC         | 12V                        | 15.5                                 | 755                                  | 800                       |                    |                              | 110%                 | 0.2W  |
|               | 18V                        | 13.3                                 | 1365                                 | 1345                      |                    |                              |                      | 0.25W |
|               | 24V                        | 13.7                                 | 1730                                 | 1790                      |                    |                              |                      | 0.33W |
|               | 48V                        | 4                                    | 11880                                | 12230                     |                    |                              |                      | 0.2W  |
|               | 60V                        | 3.4                                  | 17600                                | 17910                     |                    |                              |                      | 0.2W  |
|               | 110V - 125V                | 3.4 - 3.9                            | 31790 - 31890                        | 32450 - 32900             | 0.5W               |                              |                      |       |
| 220V - 240V   | 3.3 - 3.6                  | 65670 - 66070                        | 65940 - 68570                        | 0.85W                     |                    |                              |                      |       |

## Contact Ratings

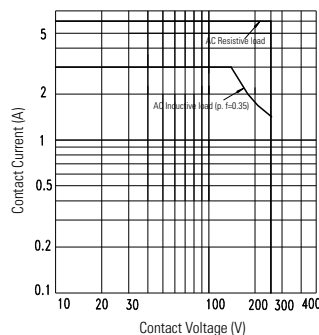
|                             |                |                       |
|-----------------------------|----------------|-----------------------|
| Allowable contact power     | Resistive load | 1500VA, 180W DC       |
| Rated Load                  | Resistive load | 250V AC 6A, 30V DC 6A |
| Allowable Switching Current |                | 6A                    |
| Allowable Switching Voltage |                | 400V AC, 125V DC      |
| Allowable Switching Power   |                | 1500VA, 180W DC       |
| Minimum Applicable Load     |                | 6V DC/10mA            |

## RV1H Relay

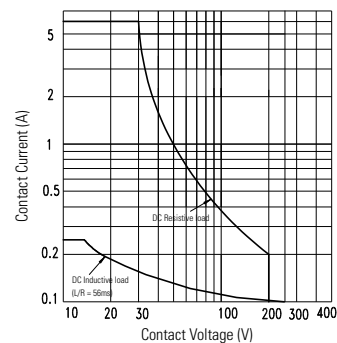
### Contact Ratings



### Maximum Switching Power AC

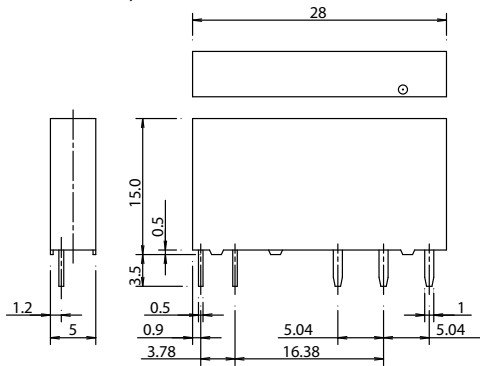


### Maximum Switching Power DC



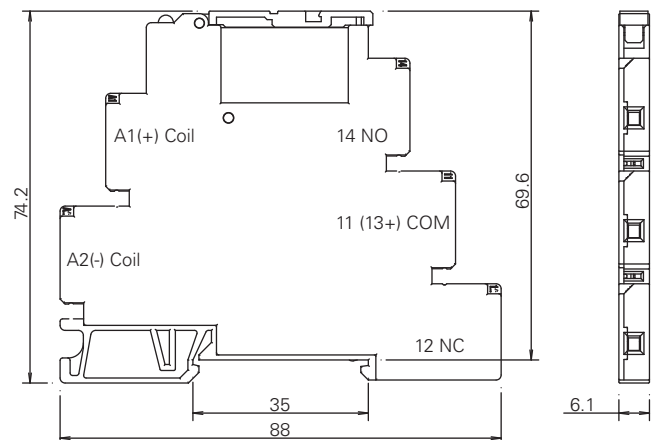
## Dimensions (mm)

RV1H-G Relay

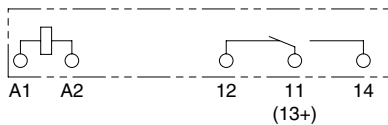


Note: Drawings are not to scale.

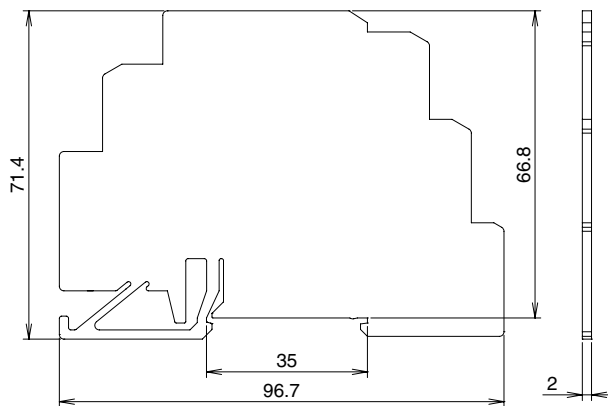
SV1H-07L Screw Terminal



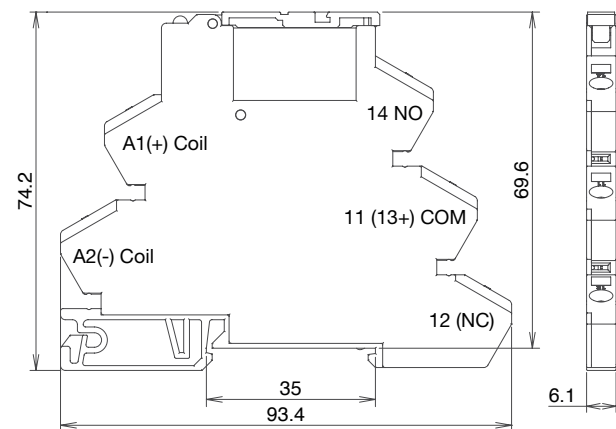
## Internal Connection (bottom view)



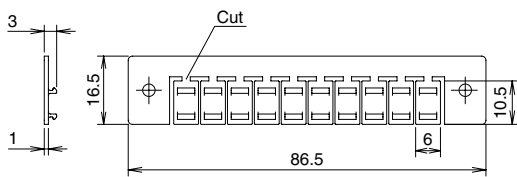
SV9Z-SA2W



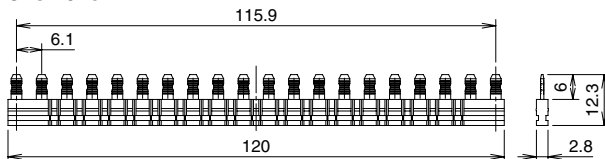
RV8H-S Spring Clamp Terminal



SV9Z-PW10



SV9Z-J20\*



\*Available in black, gray and blue.

Marking Plate Placement

