

# Miniature Intermediate Power Relay HY



- 7A switching capabilities (2C, 3C)
- 1.5kV dielectric strength (between coil and contacts)
- Various terminals, test button available
- Different sockets available
- 2 to 4 pole configurations
- Outline dimensions: 28 x 21.5 x 36.0 mm



## Options and Ordering Codes

|                     |          |          |           |                                      |
|---------------------|----------|----------|-----------|--------------------------------------|
| <b>HY</b>           | <b>4</b> | <b>1</b> | <b>PN</b> | <b>24DC</b>                          |
| Contact arrangement |          |          |           | Coil voltage                         |
| 2 Pole CO           | <b>2</b> |          |           |                                      |
| 3 Pole CO           | <b>3</b> |          |           |                                      |
| 4 Pole CO           | <b>4</b> |          |           |                                      |
| Mounting            |          |          |           |                                      |
| Plug-in             |          | <b>1</b> |           |                                      |
| PCB                 |          | <b>2</b> |           |                                      |
|                     |          |          | <b>PN</b> | Mechanical indicator /test latch LED |
|                     |          |          | <b>XN</b> | Mechanical indicator                 |
|                     |          |          | <b>PX</b> | Test latch and flag                  |
|                     |          |          | <b>XX</b> | No indication or test                |



## Contact Data

| Contact arrangement    | 2C, 3C                | 4C                |
|------------------------|-----------------------|-------------------|
| Contact resistance     | 100mΩ (at 1A 6VDC)    |                   |
| Contact material       | Silver Alloy          |                   |
| Contact Rating         | 7A 250VAC / 30VDC     | 5A 250VAC / 30VDC |
| Max. switching voltage | 250VAC / 30VDC        |                   |
| Max. switching current | 7A                    | 5A                |
| Max. switching power   | 210W                  | 150W              |
|                        | 1750VA                | 1250VA            |
| Mechanical Life        | 2x10 <sup>7</sup> OPS |                   |
| Electrical Life        | 1x10 <sup>5</sup> OPS |                   |

## Characteristics

|                               |                         |                     |
|-------------------------------|-------------------------|---------------------|
| Initial Insulation Resistance |                         | 1000MΩ (at 500VAC)  |
| Dielectric Strength           | Between coil & contacts | 1500VAC 1min.       |
|                               | Between open contacts   | 1000VAC 1min.       |
|                               | Between contact sets    | 1500VAC 1min.       |
| Operate time (at nomi. Volt)  |                         | 25 ms max.          |
| Release time (at nomi. Volt)  |                         | 25 ms max.          |
| Shock resistance              | Functional              | 98m/s <sup>2</sup>  |
|                               | Destructive             | 980m/s <sup>2</sup> |
| Vibration resistance          |                         | 10 to 55Hz 1mm DA   |
| Ambient temperature           |                         | -40°C to +70°C      |
| Humidity                      |                         | 95% RH, 40°C        |
| Termination                   |                         | PCB, Plug-in        |
| Unit Weight                   |                         | Approx 37g          |
| Construction                  |                         | Dust protected      |

## Coil Data

at 23°C

| Nominal Voltage VDC | Pick-up Voltage VDC | Drop-out Voltage VDC | Max. Allowable Voltage VDC | Coil Resistance Ω |
|---------------------|---------------------|----------------------|----------------------------|-------------------|
| 5                   | 4                   | 0.5                  | 5.5                        | 27.5 (1 ± 10%)    |
| 6                   | 4.8                 | 0.6                  | 6.6                        | 40 (1 ± 10%)      |
| 12                  | 9.6                 | 1.2                  | 13.2                       | 160 (1 ± 10%)     |
| 24                  | 19.2                | 2.4                  | 26.4                       | 650 (1 ± 10%)     |
| 48                  | 38.4                | 4.8                  | 52.8                       | 2600 (1 ± 15%)    |
| 110                 | 88                  | 11                   | 121                        | 11000 (1 ± 15%)   |

| Nominal Voltage VAC | Pick-up Voltage VAC | Drop-out Voltage VAC | Max. Allowable Voltage VAC | Coil Resistance Ω |
|---------------------|---------------------|----------------------|----------------------------|-------------------|
| 6                   | 4.8                 | 1.8                  | 6.6                        | 11.5 (1 ± 10%)    |
| 12                  | 9.6                 | 3.6                  | 13.2                       | 46 (1 ± 10%)      |
| 24                  | 19.2                | 7.2                  | 26.4                       | 184 (1 ± 10%)     |
| 48                  | 38.4                | 14.4                 | 52.8                       | 735 (1 ± 10%)     |
| 120                 | 96                  | 36                   | 132                        | 4550 (1 ± 15%)    |
| 240                 | 176                 | 66                   | 264                        | 14400 (1 ± 15%)   |

## Coil

|            |         |                |
|------------|---------|----------------|
| Coil power | DC type | 0.9W to 1.1W   |
|            | AC type | 1.2VA to 1.8VA |

## Safety Approval Ratings

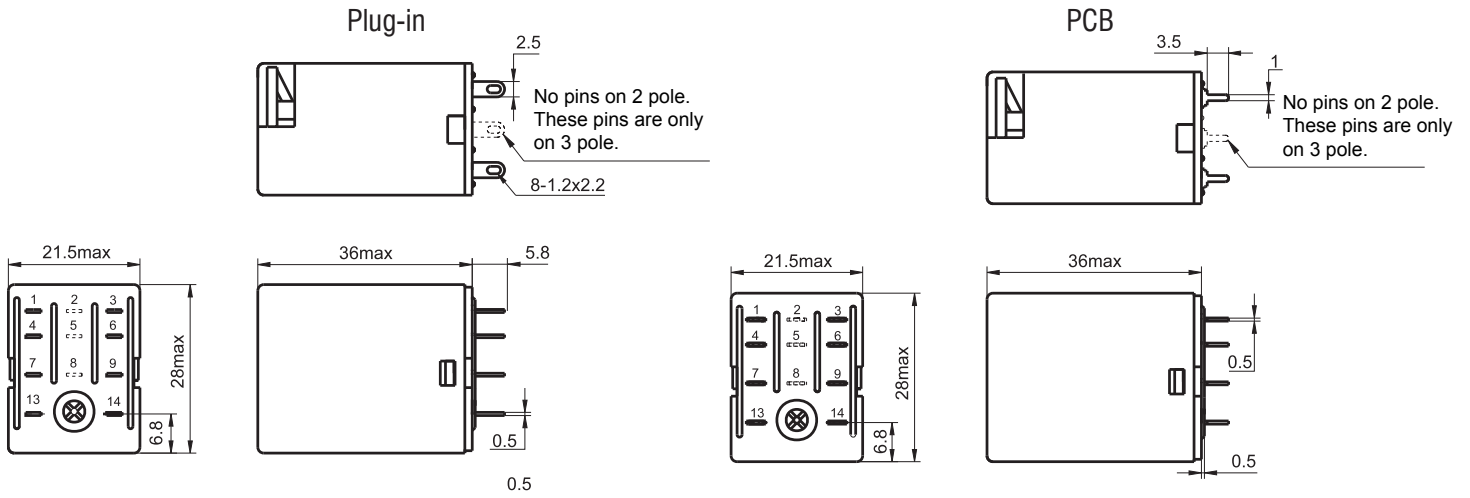
|        |      |                   |
|--------|------|-------------------|
| UL/CUL | 2PCO | 7A 250VAC / 30VDC |
|        | 3PCO |                   |
|        | 4PCO |                   |

# Miniature Intermediate Power Relay HY

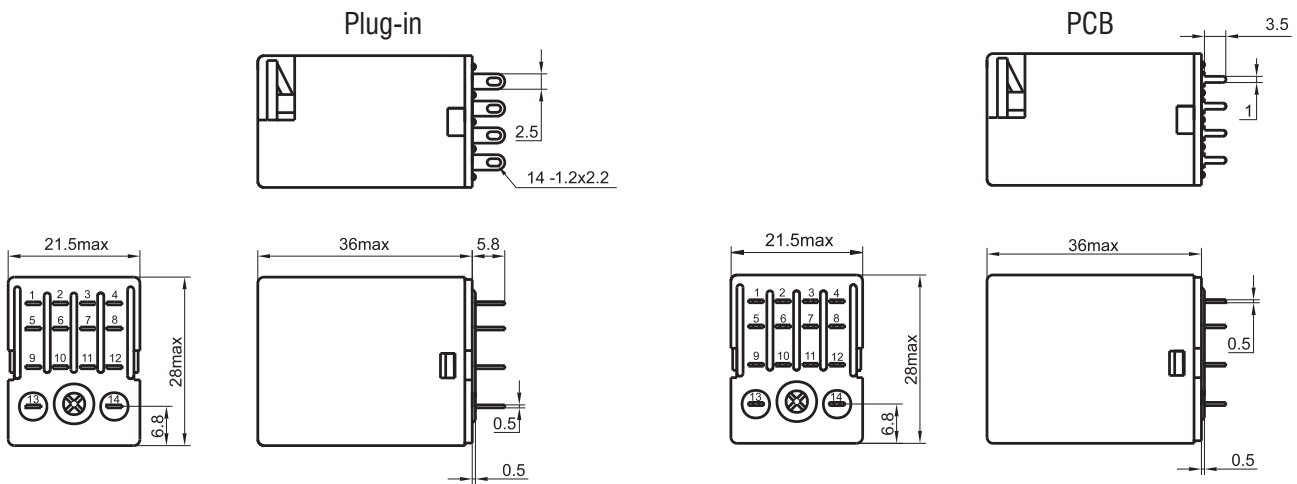


## Outline dimensions (mm)

### 2 and 3 Poles

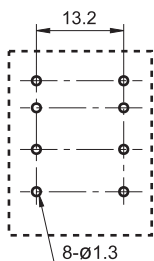


### 4 Poles

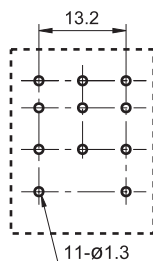


### PCB Layout

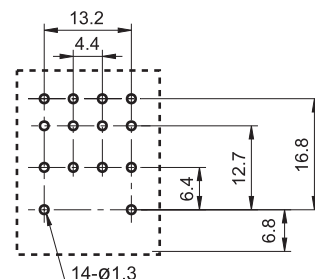
2 Pole CO



3 Pole CO



4 Pole CO

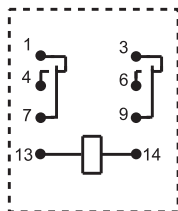


# Miniature Intermediate Power Relay HY

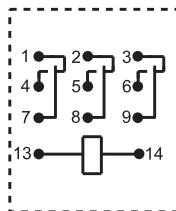


## Wiring diagram

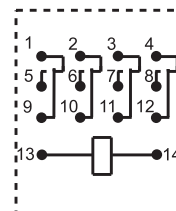
2 Pole CO



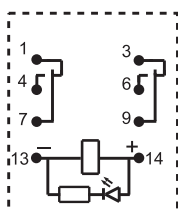
3 Pole CO



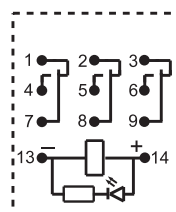
4 Pole CO



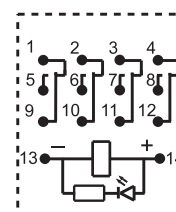
2 Pole CO  
(With LED)



3 Pole CO  
(With LED)

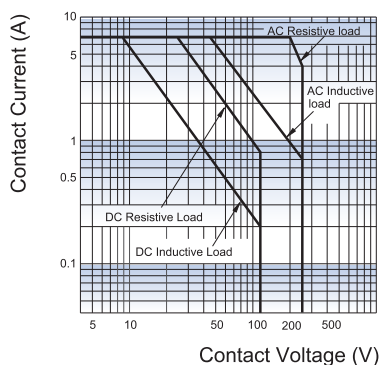


4 Pole CO  
(With LED)

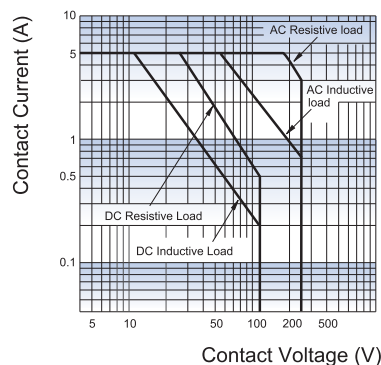


## Characteristics Curve

Maximum Switching Power  
(2, 3 pole CO)



Maximum Switching Power  
(4 pole CO)



# SRN2-D

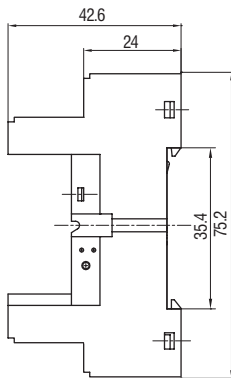


## Characteristics

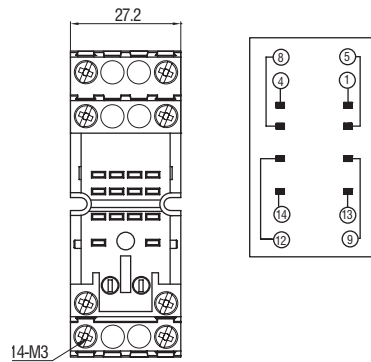
|                          |                                 |
|--------------------------|---------------------------------|
| Ambient temperature      | -40 to 70 °C                    |
| Rated voltage            | 300VAC                          |
| Rated current            | 12A (Per pole)                  |
| Insulation voltage       | >5KV                            |
| Protection degree        | IP20                            |
| Socket material          | Self-extinguishing-PA66+GF (V0) |
| Contacts spring material | QSn6.5-0.1                      |
| Hold down spring         | Plastic                         |
| Stew Torque              | 0.6Nm                           |
| Wire strip length        | 7mm                             |



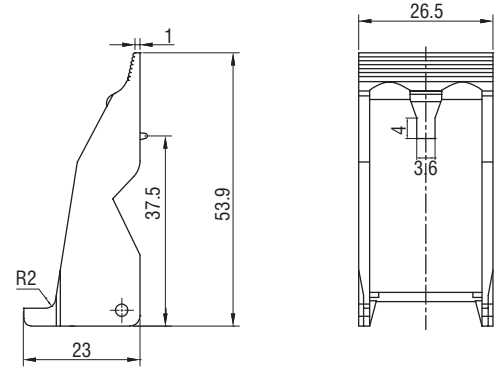
### Mounting dimension



### Inter connection



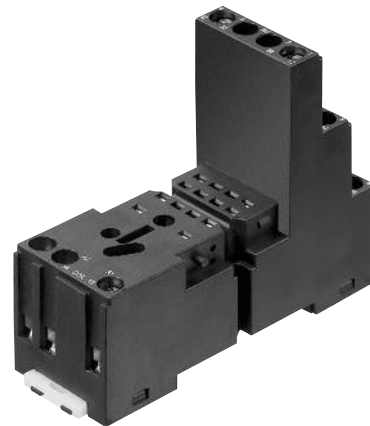
### Retainer dimension



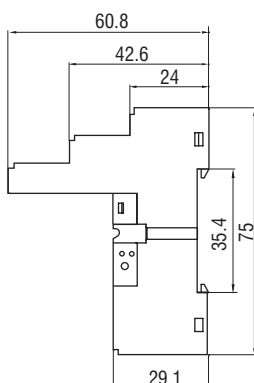
# SRN2-S Panel mount or 35mm Din Rail (EN50022)

## Characteristics

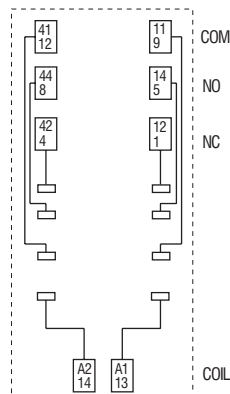
|                          |                                 |
|--------------------------|---------------------------------|
| Ambient temperature      | -40 to 70 °C                    |
| Rated voltage            | 300VAC                          |
| Rated current            | 12A (Per pole)                  |
| Insulation voltage       | >5KV                            |
| Protection degree        | IP20                            |
| Socket material          | Self-extinguishing-PA66+GF (V0) |
| Contacts spring material | QSn6.5-0.1                      |
| Hold down spring         | Plastic                         |
| Stew Torque              | 0.6Nm                           |
| Wire Strip length        | 7mm                             |



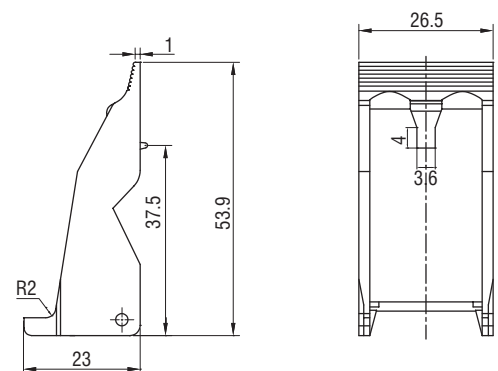
### Mounting dimension



### Inter connection



### Retainer dimension



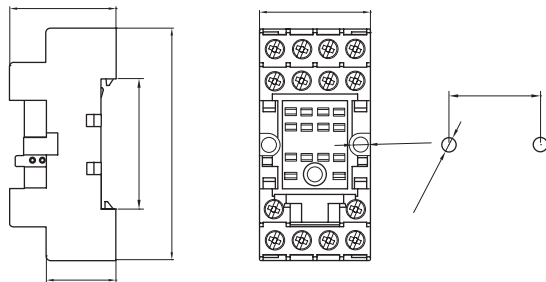
# SRN4-C Panel mount or 35mm Din Rail (EN50022)

## Characteristics

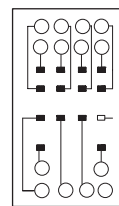
|                          |                                 |
|--------------------------|---------------------------------|
| Ambient temperature      | -40 to 70 °C                    |
| Rated voltage            | 300VAC                          |
| Rated current            | 12A (Per pole)                  |
| Insulation voltage       | >5KV                            |
| Protection degree        | IP20                            |
| Socket material          | Self-extinguishing-PA66+GF (V0) |
| Contacts spring material | QSn6.5-0.1                      |
| Stew Torque              | 0.6Nm                           |
| Wire strip               | 7mm                             |



Mounting dimension



Inter connection



# General Purpose Power Relay QY

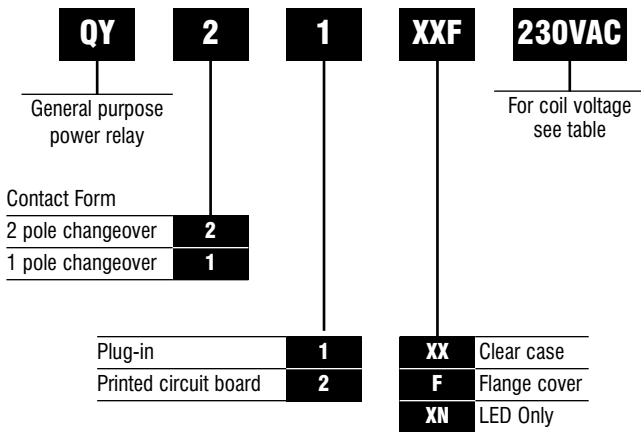


General purpose 10 amp Power Relay available in 1 and 2PCO Plug-in, PCB, chassis mount and Flange

- Arc barriers prevent flashover between contacts
- High reliability/long life expectancy
- UL/cUL approved
- RoHS Approved



## Options and ordering codes



## Specification

|                            |   |              |
|----------------------------|---|--------------|
| Contact arrangement        | 2C  | 1C           |
| Contact Resistance         | 100m (at 1A 6VDC)   |              |
| Contact material           | Silver alloy  |              |
| Contact rating (res, load) | 1C: 15A 250VAC/30VDC<br>2C: 10A 250VAC/30VDC                  |              |
| Max. switching voltage     | 250VAC/30VDC  |              |
| Max. switching current     | 15A   | 10A          |
| Max. switching power       | 3750VAC/450W  | 2200VAC/280W |
| Mechanical endurance       | 2 x 10 <sup>7</sup> OPS                                       |              |
| Electrical endurance       | 1 x 10 <sup>5</sup> OPS<br>(See approval reports for details) |              |

## Coil Data

| Rated Voltage | AC Coils.<br>Coil resistance | DC Coils.<br>Coil resistance |
|---------------|------------------------------|------------------------------|
| 12            | 46                           | 160                          |
| 24            | 184                          | 650                          |
| 110           | 4550                         | 11000                        |
| 230           | 14400                        | -                            |

## Characteristics

|                                     |                        |                      |
|-------------------------------------|------------------------|----------------------|
| Initial Insulation Resistance       | 500M @ 500VDC          |                      |
| Dielectric Strength                 | Between coil & contact | 1500VAC 1min.        |
|                                     | Between open contacts  | 1000VAC 1min.        |
|                                     | Between contact sets   | 1500VAC 1min.        |
| Operate time (at nomi. voltage)     | 25ms                   |                      |
| Release time (at nomi. voltage)     | 25ms                   |                      |
| Temperature rise (at nomi. voltage) | 60K max.               |                      |
| Shock resistance                    | Functional             | 100m/s <sup>2</sup>  |
|                                     | Destructive            | 1000m/s <sup>2</sup> |
| Vibration resistance                | 1mm DA, 10 to 55Hz     |                      |
| Humidity                            | 98%, +40°C             |                      |
| Ambient temperature                 | -40°C to +70°C         |                      |
| Termination                         | PCB, Plug-in           |                      |
| Unit Weight                         | Approx. 37g            |                      |
| Construction                        | Dust protected         |                      |

## Safety Approval Ratings

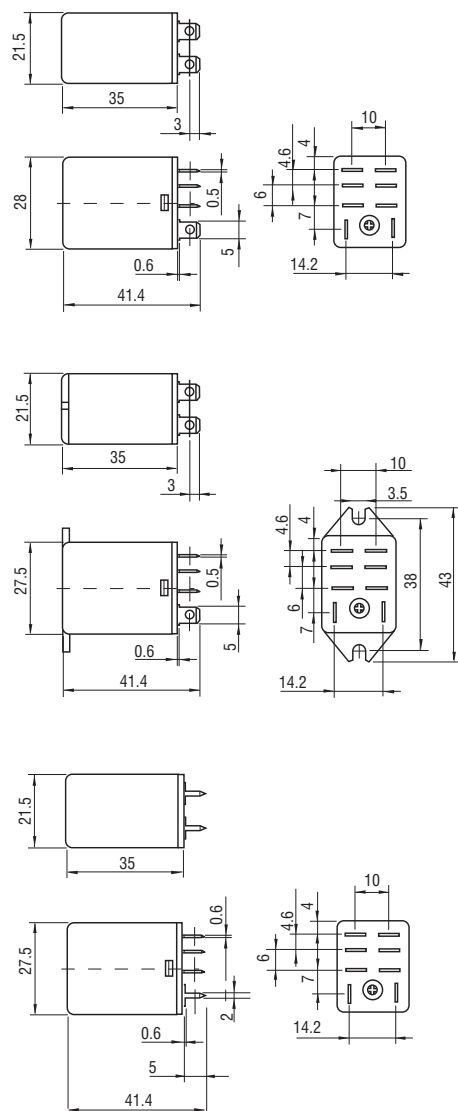
|        |   |
|--------|---|
| UL&CUR | 1 Form C: 15A 250VAC/30VDC                        |
|        | 2 Form C: 10A 250VAC/30VDC<br>1/3HP 240VAC/120VAC |
| TÜV    | 2C: 10A 250VAC/30VDC                              |

# General Purpose Power Relay QY

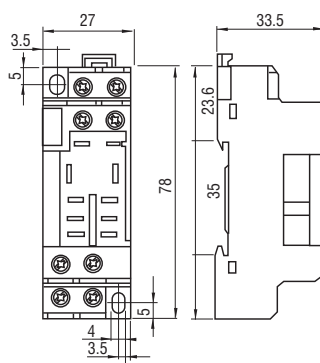


## Outline dimensions

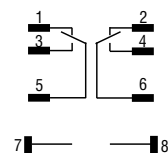
Wiring diagram and PC Board layout



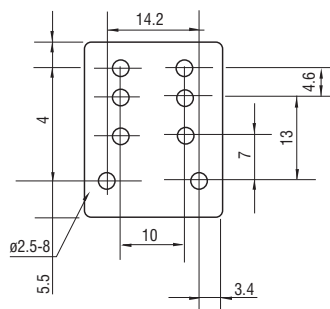
DIN Socket SRH2-C



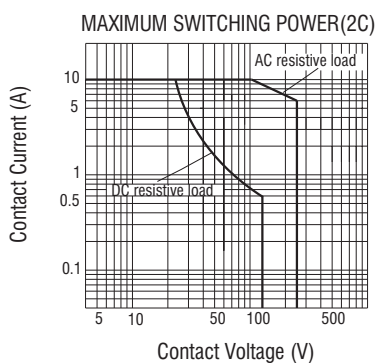
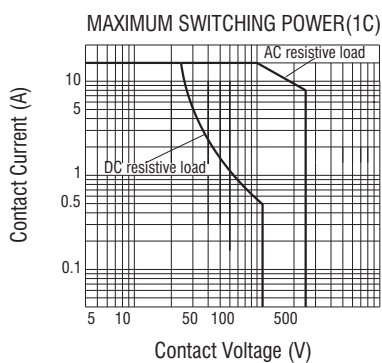
Terminal arrangement



PCB layout



## Characteristic Curve



# SRH2-C Panel mount or 35mm Din Rail (EN50022)

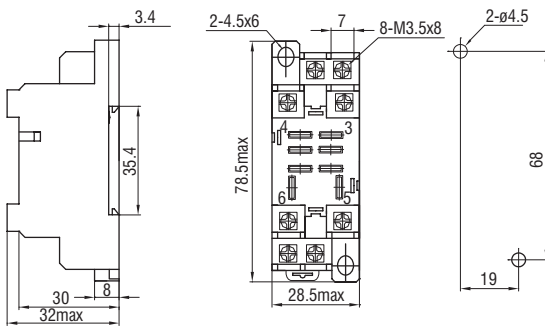


## Characteristics

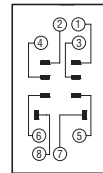
|                          |                                 |
|--------------------------|---------------------------------|
| Ambient temperature      | -40 to 70 °C                    |
| Rated voltage            | 300VAC                          |
| Rated current            | 15A (Per pole)                  |
| Insulation voltage       | >5KV                            |
| Protection degree        | IP20                            |
| Socket material          | Self-extinguishing-PA66+GF (V0) |
| Contacts spring material | QSn6.5-0.1                      |
| Hold down spring         | Steel                           |
| Stew Torque              | 1.0Nm                           |
| Wire Strip length        | 7mm                             |



### Mounting dimension



### Inter connection



### Retainer dimension

