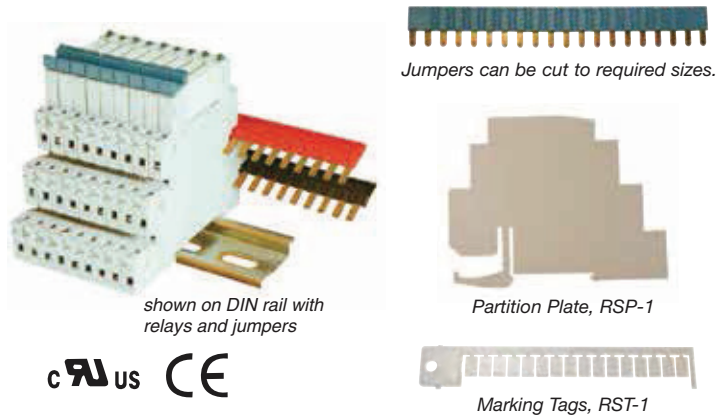


### RS Series Relay Modules

At only 6.2mm thickness the RS series Relay module features a slim Din Rail mountable interface solution. The modules have a plug in construction and are available with or without the relay. The built in LED indicates the relay energizing state. The relay features a SPDT configuration and a maximum switching current of 6A. It is available with several standard coil voltages from 5VAC/DC up to 230V AC/DC.

There is a provision for fitting pluggable jumpers which reduces the wiring time. The modules have screw terminals with finger protection for wire termination and offer an IP 20 protection rating. The relay has an IP67 protection rating. Both the relay and the module are UL recognized.



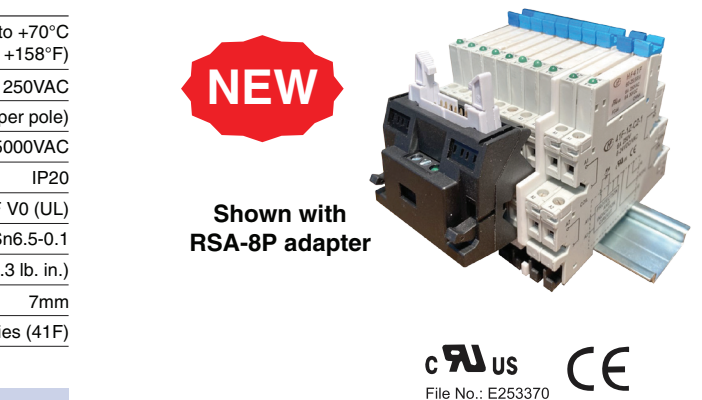
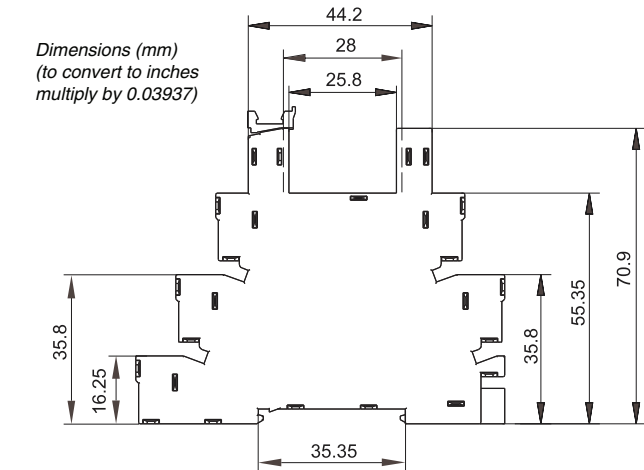
| Part Number | Type number                | Description                                           | Std. Pk. |
|-------------|----------------------------|-------------------------------------------------------|----------|
| RSM-05CU    | 41F-1Z-C2-5 + HF41F/5-Z-S  | 6A@250VAC/30VDC,5VDC Coil, 6.2 mm, LED, SPDT          | 10       |
| RSM-06CU    | 41F-1Z-C2-5 + HF41F/6-Z-S  | 6A@250VAC/30VDC,6VDC Coil, 6.2 mm, LED, SPDT          | 10       |
| RSM-12CU    | 41F-1Z-C2-1 + HF41F/12-Z-S | 6A@250VAC/30VDC,12VAC/DC Coil, 6.2 mm, LED, SPDT      | 10       |
| RSM-24CU    | 41F-1Z-C2-1 + HF41F/24-Z-S | 6A@250VAC/30VDC,24VAC/DC Coil, 6.2 mm, LED, SPDT      | 10       |
| RSM-110CU   | 41F-1Z-C2-3 + HF41F/60-Z-S | 6A@250VAC/30VDC,110VAC/DC Coil, 6.2mm, LED, SPDT      | 10       |
| RSM-220CU   | 41F-1Z-C2-4 + HF41F/60-Z-S | 6A@250VAC/30VDC,220VAC/DC Coil, 6.2mm, LED, SPDT      | 10       |
| RSJ-RD      | HF41F-AAJ-001-RD           | Jumper for RSM, Red, 36A, 250V, 20 pole               | 10       |
| RSJ-BK      | HF41F-AAJ-001-BK           | Jumper for RSM, Black, 36A, 250V, 20 pole             | 10       |
| RSJ-BL      | HF41F-AAJ-001-BL           | Jumper for RSM, Blue, 36A, 250V, 20 pole              | 10       |
| RSP-1       | HF41F-AAS-001              | Partition plate for RMS 2.2mm wide                    | 10       |
| RST-1       | HF41F-AAT-001              | Marking Tag strip for RSM, white, (16 tags per strip) | 4        |
| RSA-8P      | RSA-8P                     | Relay module adapter, 8 pole for FBK20                | 1        |

### RS Series Socket

#### CHARACTERISTICS

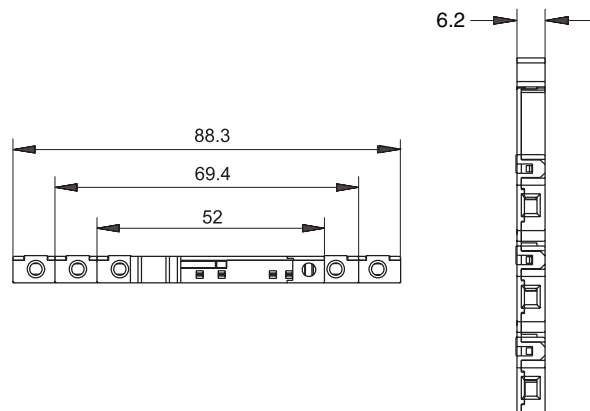
|                            |                                     |
|----------------------------|-------------------------------------|
| Ambient Temperature:       | -40°C to +70°C<br>(-40°F to +158°F) |
| Rated Voltage:             | 250VAC                              |
| Rated Current:             | 6A (per pole)                       |
| Insulation Voltage (Min.): | 5000VAC                             |
| Protection:                | IP20                                |
| Socket Material:           | PA66+GF V0 (UL)                     |
| Contacts Spring Material:  | QSn6.5-0.1                          |
| Terminal Torque:           | 0.6Nm (5.3 lb. in.)                 |
| Wire Strip Length:         | 7mm                                 |
| Applicable Relay Type:     | RSR Series (41F)                    |

| Part Number | Type number     | Description                             |
|-------------|-----------------|-----------------------------------------|
| RSS-624U    | 41F-1Z-C2-1-555 | For 12 to 24VAC/DC relays, IP20, LED    |
| RSS-624D    | 41F-1Z-C2-5-555 | For 5 to 24VDC relays, IP20, LED        |
| RSS-4860U   | 41F-1Z-C2-2-555 | For 48 to 60VAC/DC relays, IP20, LED    |
| RSS-110U    | 41F-1Z-C2-3-555 | For 110 to 125 VAC/DC relays, IP20, LED |
| RSS-220U    | 41F-1Z-C2-4-555 | For 220 to 240 VAC/DC relays, IP20, LED |



#### Notes: Module features/ functions:

- (1) LED indicates the coil energizing state.
- (2) Eliminates negative current of relays.
- (3) Rectifying function (only for VAC/DC types).



## RS Series Subminiature Power Relay

### FEATURES

- Slim size (width 5mm)
- High breakdown voltage 4kV (between coil and contacts)
- Surge voltage up to 6kV (between coil and contacts)
- Clearance/creepage distance: 8mm
- Coil power consumption: 170mW
- Contact configuration: SPDT (Form C)
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: 28.0 x 5.0 x 15.0mm



**cULus**  
File No.:E133481



File No.:40020043

### CONTACT INFORMATION

|                                 |                                                      |           |
|---------------------------------|------------------------------------------------------|-----------|
| Contact arrangement             | SPDT                                                 |           |
| Initial contact Resistance Max. | 100mΩ (at 1A/6VDC)<br>Gold plated: 30mΩ (at 1A/6VDC) |           |
| Contact material                | AgNi                                                 |           |
| Contact rating                  | Resistive Load                                       | 6A/250VAC |
|                                 | Pilot Duty                                           | 6A/30VDC  |
| Max. switching voltage          | 400VAC / 125VDC                                      |           |
| Max. switching current          | 6A resistive                                         |           |
| Max. switching power            | 1500VA / 180W                                        |           |
| Mechanical life                 | 10 million cycles                                    |           |
| Electrical life                 | 10,000 cycles at 85°C (185°F)                        |           |

### CHARACTERISTICS

|                                   |                         |                                                  |
|-----------------------------------|-------------------------|--------------------------------------------------|
| Initial insulation resistance     |                         | 1000mΩ (at 500VDC)                               |
| Dielectric strength               | Between coil & contacts | 4000VAC 1 min.                                   |
|                                   | Between open contacts   | 1000VAC 1 min.                                   |
| Operate time (at nominal voltage) |                         | Max. 8ms                                         |
| Release time (at nominal voltage) |                         | Max. 4ms                                         |
| Shock resistance                  | Functional              | 50m/s <sup>2</sup> (5g)                          |
|                                   | Destructive             | 1000m/s <sup>2</sup> (100g)                      |
| Vibration resistance              |                         | 1mm double amplitude max<br>@10 ...55 Hz, 6G max |
| Humidity                          |                         | 5 to 85% RH                                      |
| Ambient temperature               |                         | -40°C to +85°C (-40°F to +185°F)                 |
| Termination                       |                         | Plug in; PCB mount                               |
| Unit weight                       |                         | 5.4g (0.2 oz.)                                   |
| Construction                      |                         | Sealed IP67. Flux proof                          |

### COIL

|                         |                                          |
|-------------------------|------------------------------------------|
| Coil power consumption: | 5 to 24VDC: 170mW<br>48VDC, 60VDC: 210mW |
|-------------------------|------------------------------------------|

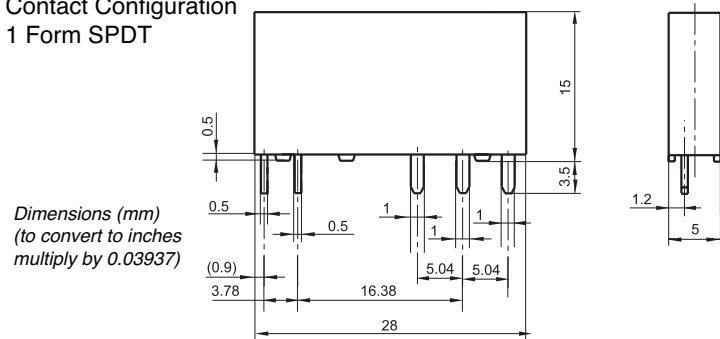
### COIL DATA

at 20°C

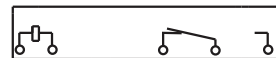
| Nominal Voltage (VDC) | Pick-up Voltage (VDC) | Drop-out Voltage (VDC) | Max. Allowable Voltage (VDC) 85°C | Coil Resistance (Ω) |
|-----------------------|-----------------------|------------------------|-----------------------------------|---------------------|
| 5                     | 3.75                  | 0.25                   | 6.50                              | 147 ± 10%           |
| 6                     | 4.50                  | 0.30                   | 7.80                              | 212 ± 10%           |
| 12                    | 9.00                  | 0.60                   | 15.6                              | 848 ± 10%           |
| 24                    | 18.0                  | 1.20                   | 31.2                              | 3390 ± 15%          |
| 48                    | 36.0                  | 2.40                   | 62.4                              | 10600 ± 15%         |
| 60                    | 45.0                  | 3.00                   | 78.0                              | 16600 ± 15%         |

| Part Number | Type number      | Description                  |
|-------------|------------------|------------------------------|
| RSR-05DCS   | HF41F/5-Z-S-210  | SPDT, 5 mm, 5VDC Coil, IP67  |
| RSR-06DCS   | HF41F/6-Z-S-210  | SPDT, 5 mm, 6VDC Coil, IP67  |
| RSR-12DCS   | HF41F/12-Z-S-210 | SPDT, 5 mm, 12VDC Coil, IP67 |
| RSR-24DCS   | HF41F/24-Z-S-210 | SPDT, 5 mm, 24VDC Coil, IP67 |
| RSR-48DCS   | HF41F/48-Z-S-210 | SPDT, 5 mm, 48VDC Coil, IP67 |
| RSR-60DCS   | HF41F/60-Z-S-210 | SPDT, 5 mm, 60VDC Coil, IP67 |

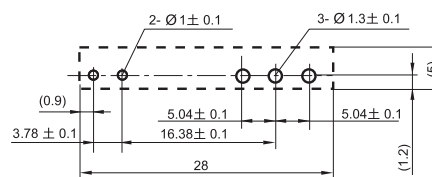
Contact Configuration  
1 Form SPDT



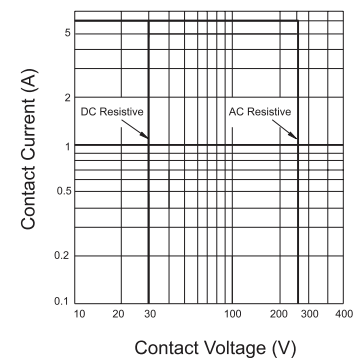
Wiring Diagram



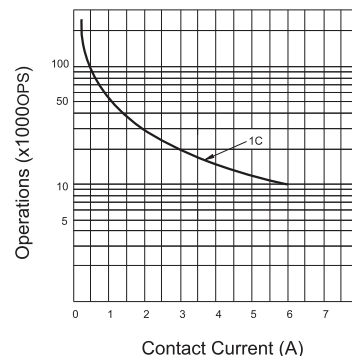
PCB Layout



MAXIMUM SWITCHING POWER



ENDURANCE CURVE



COIL TEMPERATURE RISE

