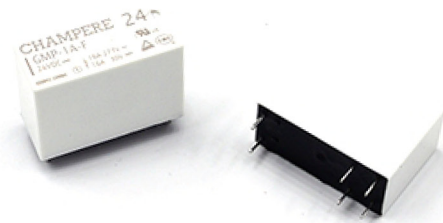




# GMP. SUBMININATURE POWER RELAY

## FEATURES

- ▶ 29.2 X 12.8 X 20.6(H) MM.
- ▶ 16A MAX SWITCHING CAPACITY.
- ▶ AVAILABLE IN 1 POLE AND 5MM PIN PITCH.
- ▶ DIELECTRIC VOLTAGE > 5KV.
- ▶ UL CLASS F INSULATION AVAILABLE AS STANDARD.



 File Number: E513402  
 File Number: R50466084

## CONTACT RATINGS

|                        |   |                         |                       |
|------------------------|---|-------------------------|-----------------------|
| Contact Form           | 1A, 1B, 1C  |                         |                       |
| Contact Resistance     | ≤50mΩ (1A 6VDC)   |                         |                       |
| Contact Material       | Ag Alloy (AgSnO <sub>2</sub> , AgSnO <sub>2</sub> In <sub>2</sub> O <sub>3</sub> , AgCdO) |                         |                       |
| Rated Load (Resistive) | Form A  | Form C                  |                       |
|                        |   | NO                      | NC                    |
|                        | 16A 277VAC<br>16A 30VDC   | 16A 277VAC<br>16A 30VDC | 8A 277VAC<br>8A 30VDC |
| Max. Switching Current | 16A   |                         | 8A                    |
| Max. Switching Power   | 4,432VA / 480W  |                         | 2,216VA / 240W        |
| Max. Switching Voltage | 277VAC / 30VDC  |                         |                       |
| Min. Permissible Load  | 100mA at 5VDC   |                         |                       |

## CHARACTERISTICS

|                           |  |                               |                                       |
|---------------------------|--|-------------------------------|---------------------------------------|
| Operate Time              | ≤ 15ms   |                               |                                       |
| Release Time              | ≤ 5ms  |                               |                                       |
| Insulation Resistance     | 1,000MΩ (@ 500VDC)                                       |                               |                                       |
| Dielectric Strength       | I / O  | O / O                         |                                       |
|                           | 5,000VAC 1min  | 1,000VAC 1 min                |                                       |
| Impulse Withstand Voltage | 10,000V (1.2 x 50μs)                                     |                               |                                       |
| Shock Resistance          | Non-energized  | Destruction                   | Malfunction                           |
|                           | 100 m/s <sup>2</sup> (10G)                               | 1,000 m/s <sup>2</sup> (100G) | 100 m/s <sup>2</sup> (10G)            |
| Vibration Resistance      | Destruction  |                               | Malfunction                           |
|                           | 10 to 55 Hz, (1.5mm double amplitude)                    |                               | 10 to 55 Hz, (1.5mm double amplitude) |
| Ambient Temperature       | Operating: -40°C to +105°C with no icing or condensation |                               |                                       |
| Ambient Humidity          | Operating: 5% to 85%                                     |                               |                                       |
| Mount Type                | PCB Pins   |                               |                                       |
| Weight                    | Approx. 13g  |                               |                                       |

NOTE: The data shown above are initial values.

## COIL DATA

| Standard            | Approx. 540mW         |                       |                    |                      |                          |
|---------------------|-----------------------|-----------------------|--------------------|----------------------|--------------------------|
| Rated Voltage (VDC) | Operate Voltage (VDC) | Release Voltage (VDC) | Max. Voltage (VDC) | Nominal Current (mA) | Coil Resistance (Ω) ±10% |
| 5                   | ≤3.75                 | ≥0.5                  | 6.5                | 106.4                | 47                       |
| 6                   | ≤4.5                  | ≥0.6                  | 7.8                | 88                   | 68                       |
| 9                   | ≤6.75                 | ≥0.9                  | 11.7               | 58                   | 155                      |
| 12                  | ≤9                    | ≥1.2                  | 15.6               | 44.4                 | 270                      |
| 24                  | ≤18                   | ≥2.4                  | 31.2               | 21.8                 | 1,100                    |
| 48                  | ≤36                   | ≥4.8                  | 62.4               | 10.9                 | 4,400                    |
| High Power          | Approx. 720mW         |                       |                    |                      |                          |
| Rated Voltage (VDC) | Operate Voltage (VDC) | Release Voltage (VDC) | Max. Voltage (VDC) | Nominal Current (mA) | Coil Resistance (Ω) ±10% |
| 5                   | ≤3.5                  | ≥0.5                  | 6.5                | 138.9                | 36                       |
| 6                   | ≤4.2                  | ≥0.6                  | 7.8                | 120                  | 50                       |
| 9                   | ≤6.3                  | ≥0.9                  | 11.7               | 78.3                 | 115                      |
| 12                  | ≤8.4                  | ≥1.2                  | 15.6               | 60                   | 200                      |
| 24                  | ≤16.8                 | ≥2.4                  | 31.2               | 29.3                 | 820                      |
| 48                  | ≤33.6                 | ≥4.8                  | 62.4               | 14.5                 | 3,300                    |

## LIFE EXPECTANCY DATA

|                            |  |   |
|----------------------------|--|---|
| Mechanical Life Expectancy | 10,000,000 Operations  |   |
| Electrical Life Expectancy | FORM A   | FORM C  |
|                            | 100,000 Operations (16A 277VAC Resistive Load, 1s ON / 9s OFF) | 100,000 Operations (NO: 16A / NC: 8A 277VAC Resistive Load, 1s ON / 9s OFF) |

NOTE: The electrical life data items shown are possible at 23°C.

SAFETY APPROVALS

| ULus / cUL<br>TUV | Coil Rating | Contact Rating   |  |
|-------------------|-------------|--|--|
|                   |             | NO   | NC   |
|                   | 5 to 48VDC  | 16A 277VAC / 30VDC 105°C 50,000 cycles (1xH Type)<br>10A 277VAC / 30VDC 105°C 50,000 cycles (1x Type)<br>5A 277VAC / 30VDC 105°C 50,000 cycles (2x Type) | 8A 277VAC / 30VDC 105°C 50,000 cycles (1xH Type)<br>5A 277VAC / 30VDC 105°C 50,000 cycles (1x Type)<br>3A 277VAC / 30VDC 105°C 50,000 cycles (2x Type) |

For more details and other ratings, please refer to our approval appendix.

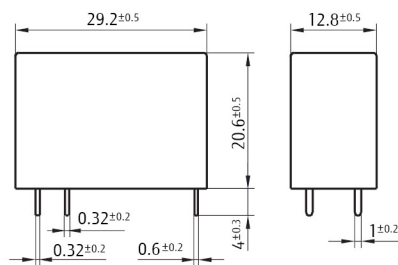
ORDERING INFORMATION

| Type         | Contact / Seal Key   | Variation Key | Coil Key   |
|--------------|--|---------------|--|
| GMP          | S 1 A D  | K F           | 24 VDC   |
| Seal Type    | Nil: Flux Proof;<br>S: Plastic Sealed  |               | X / XX:<br>Coil DC Voltage Value<br><b>Coil Voltage</b>                                  |
| NO of Pole   | 1: Single Pole   |               | Nil: Standard Insulation;<br>F: Class F Insulation<br><b>Insulation Class</b>            |
| Contact Form | A: Form A / Normally Open;<br>B: Form B / Normally Close;<br>C: Form C / Change Over |               | Nil: Standard Coil: 0.54W;<br>K: High Power Coil: 0.72W<br><b>Power Consumption</b>      |
|              |  |               | Nil: Silver Alloy (ROHS Compliant);<br>D: Silver Alloy: AgCdO<br><b>Contact Material</b> |

Example: GMP-1A-F 24VDC stands for Class F, 1 FORM A GMP relay with 5mm pin pitch, coil voltage is 24VDC. For full list of ordering codes please visit our website.

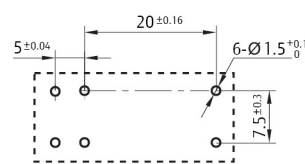
DIMENSIONS (UNIT: mm)

Outline Dimensions

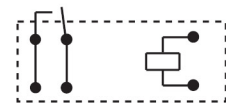


PCB Layout (Bottom View)

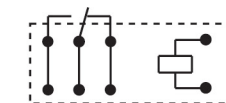
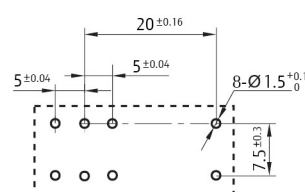
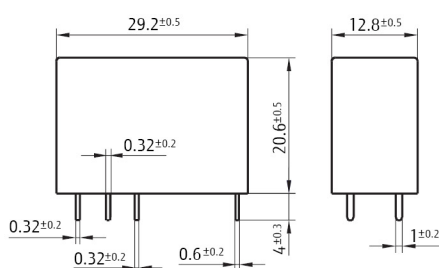
1 FORM A



Wiring Diagram



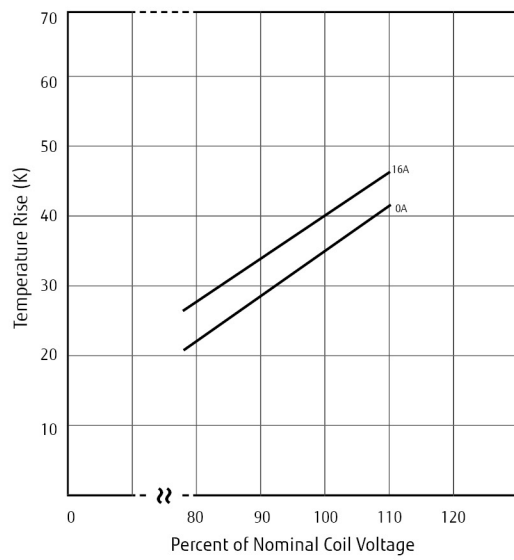
1 FORM C



ENGINEERING DATA

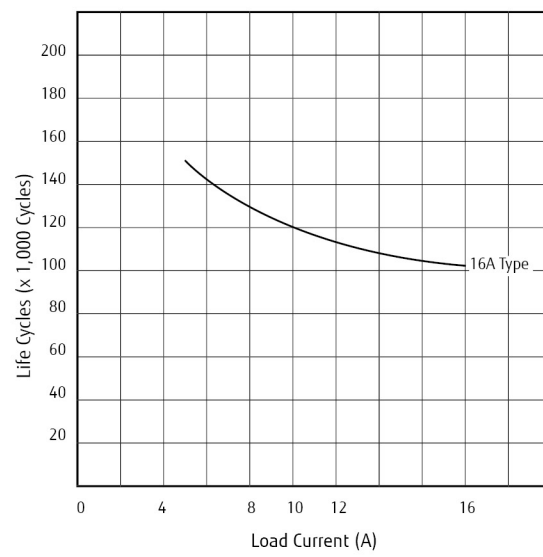
Coil Temperature Rise

Temperature: 70°C; Distance: 10mm.

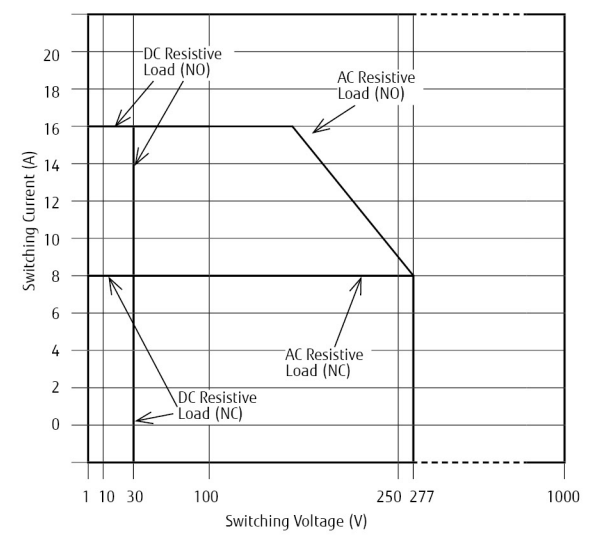


Electrical Endurance Curve

NO: 277VAC Resistive 1s ON / 9s OFF



Max. Switching Capacity

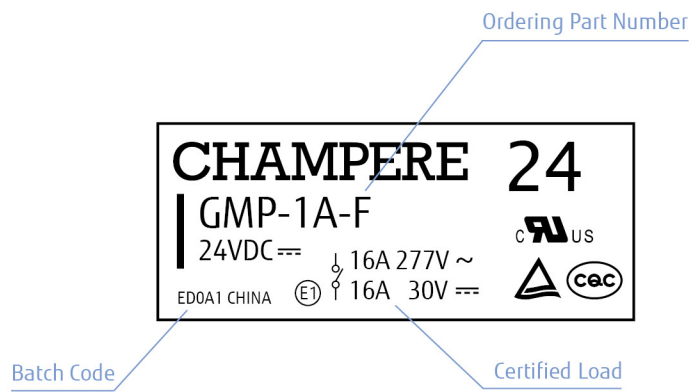


PRINT LAYOUT

Below layout is for reference only.

TOP PRINTING

LASER PRINTED ON WHITE CASE (blue / black case optional)



PACKAGE INFORMATION

|  |   |
|--|---|
| Inner Package Type & Quantity                | 25Pcs Per PVC Tube                        |
| Outer Package Type & Quantity                | 1,000pcs per Carton with Logo and Sticker |
| Outer Package Dimension & Weight G.W. / N.W. | 50 x 32 x 20 cm; 13Kgs / 12.5Kgs          |

