

## Miniature General Purpose Relay

# HG4104L



### FEATURES

- Miniature type, general purpose applications
- 1 to 2 poles contact form
- 15A contact capacity
- DC and AC coil available
- Various mounting options include socket, PCB and flange
- UL, CUR approved

### TYPICAL APPLICATIONS

- Machine tools
- Medical equipment
- Industrial control
- Transportation

### CONTACT RATING

| Form                   | 1 Form C (1Z)     | 2 Form C (2Z)     |
|------------------------|-------------------|-------------------|
| Rated Load             | 15A, 220VAC/28VDC | 10A, 220VAC/28VDC |
| Max. Switching Current | 15A               | 10A               |
| Max. Switching Voltage | 250VAC/125VDC     |                   |
| Max. Switching Power   | 3300VA/420W       | 2200VA/280W       |

### UL/CUR RATING

| Form        | 1 Form C (1Z)                          | 2 Form C (2Z)         |
|-------------|----------------------------------------|-----------------------|
| General Use |                                        | 10A, 250VAC           |
| Resistance  | 15A, 250VAC/30VDC<br>10A, 240VAC/30VDC | 10A, 240VAC/30VDC     |
| Inductive   |                                        | 1/3 HP, 240VAC/120VAC |

### CONTACT DATA

|                            |                         |                          |
|----------------------------|-------------------------|--------------------------|
| Material                   | AgCdO                   |                          |
| Initial Contact Resistance | 50 mΩ max. at 1A, 24VDC |                          |
| Service Life               | Mechanical              | 2 x 10 <sup>7</sup> ops. |
|                            | Electrical              | 10 <sup>5</sup> ops.     |

### COIL DATA

| Type | Coil Voltage Code | Nominal Voltage (VDC/VAC) | Resistance (Ω) ±10% |       | Must Operate Voltage max. (VDC/VAC) | Must Release Voltage min. (VDC/VAC) |
|------|-------------------|---------------------------|---------------------|-------|-------------------------------------|-------------------------------------|
|      |                   |                           | Power Consumption   |       |                                     |                                     |
| DC   | 005               | 5                         | 27.5                | 0.9W  | 4.0                                 | 0.5                                 |
|      | 006               | 6                         | 40                  |       | 4.8                                 | 0.6                                 |
|      | 012               | 12                        | 160                 |       | 9.6                                 | 1.2                                 |
|      | 024               | 24                        | 650                 |       | 19.2                                | 2.4                                 |
|      | 048               | 48                        | 2600*               |       | 38.4                                | 4.8                                 |
|      | 110               | 110                       | 11000*              |       | 88.0                                | 11.0                                |
| AC   | 006A              | 6                         | 11.5                | 1.2VA | 4.8                                 | 1.8                                 |
|      | 012A              | 12                        | 46                  |       | 9.6                                 | 3.6                                 |
|      | 024A              | 24                        | 184                 |       | 19.2                                | 7.2                                 |
|      | 048A              | 48                        | 735                 |       | 38.4                                | 14.4                                |
|      | 120A              | 120                       | 4550*               |       | 96.0                                | 36.0                                |
|      | 220A/240A         | 220/240                   | 14400*              |       | 176.0                               | 66.0                                |

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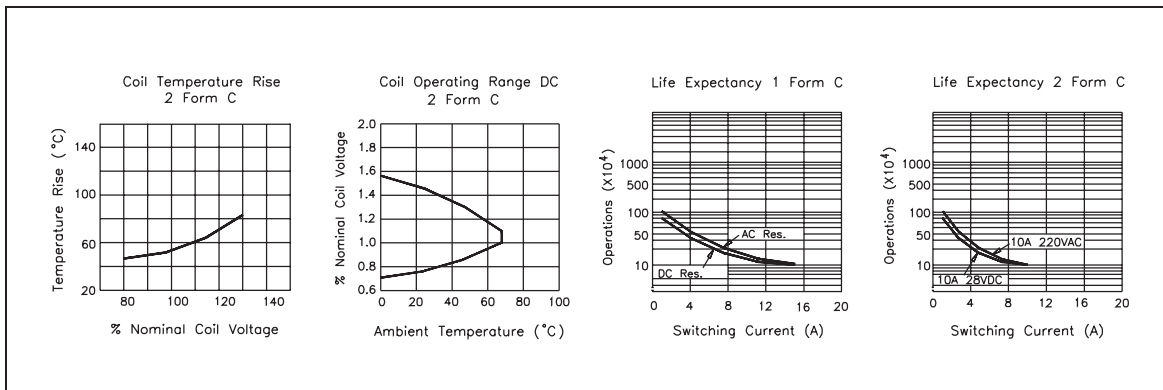
## CHARACTERISTICS

|                       |                                                                                        |
|-----------------------|----------------------------------------------------------------------------------------|
| Operate Time          | 25 ms.                                                                                 |
| Release Time          | 25 ms.                                                                                 |
| Insulation Resistance | 1000 MΩ, at 500 VDC, 50%RH                                                             |
| Dielectric Strength   | 1500 Vrms, 1 min. between coil and contacts<br>1000 Vrms, 1 min. between open contacts |
| Shock Resistance      | 10 g, 11ms. functional; 100 g, destructive                                             |
| Vibration Resistance  | DA 1.5 mm, 10 - 55 Hz                                                                  |
| Ambient Temperature   | -55°C to 70°C                                                                          |
| Weight                | 37 g, approx.                                                                          |

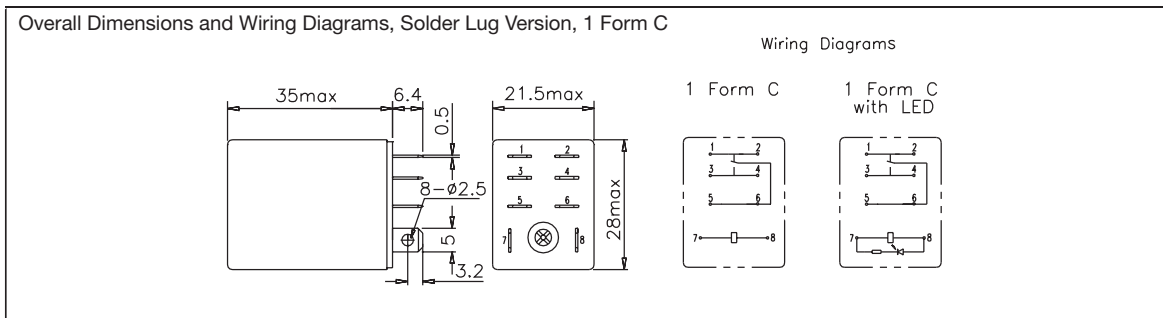
## ORDERING DESIGNATION

|                                                      |           |     |     |    |   |   |   |
|------------------------------------------------------|-----------|-----|-----|----|---|---|---|
| Example:                                             | HG4104L / | 012 | A - | 2Z | 6 | D | C |
| Model                                                |           |     |     |    |   |   |   |
| Coil Voltage Code                                    |           |     |     |    |   |   |   |
| DC/AC                                                |           |     |     |    |   |   |   |
| Nil: DC Coil; A: AC Coil                             |           |     |     |    |   |   |   |
| Contact Form                                         |           |     |     |    |   |   |   |
| 1Z: 1 Form C                                         |           |     |     |    |   |   |   |
| 2Z: 2 Form C                                         |           |     |     |    |   |   |   |
| Version                                              |           |     |     |    |   |   |   |
| Nil: Solder Lug; 4: PCB                              |           |     |     |    |   |   |   |
| 6: Top Flange; 6A: Bottom Flange; 6B: Lateral Flange |           |     |     |    |   |   |   |
| Indicator                                            |           |     |     |    |   |   |   |
| Nil: Without LED; D: With LED                        |           |     |     |    |   |   |   |
| Contact Material                                     |           |     |     |    |   |   |   |
| C: AgCdO; S: AgSnInO                                 |           |     |     |    |   |   |   |

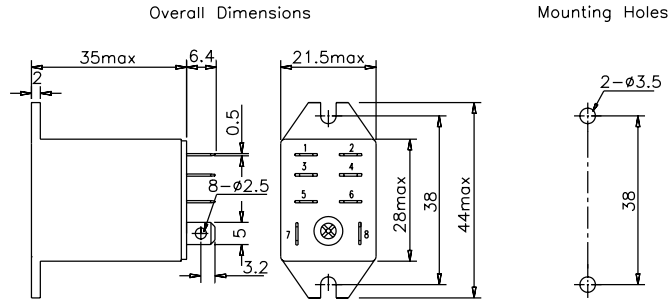
## REFERENCE CURVES



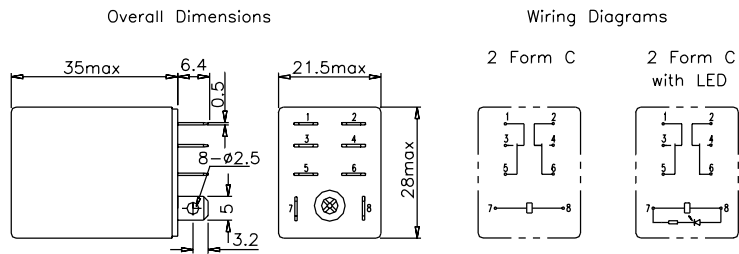
## OVERALL DIMENSIONS, MOUNTING HOLES AND WIRING DIAGRAMS (mm)



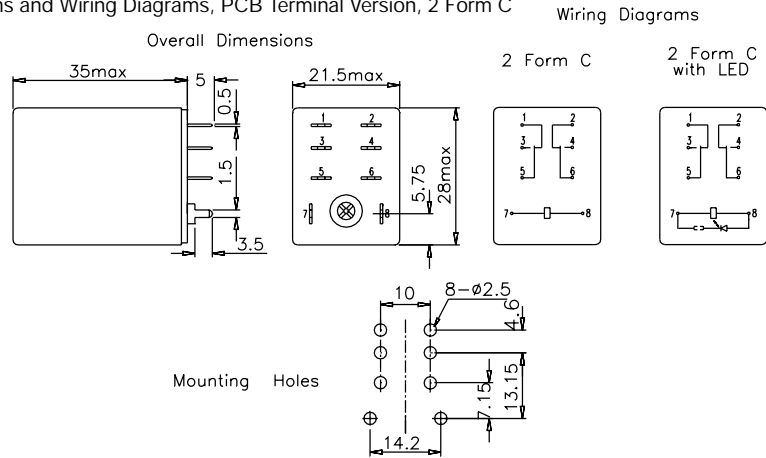
Overall Dimensions and Mounting Holes, Top Flange Version, 1 Form C



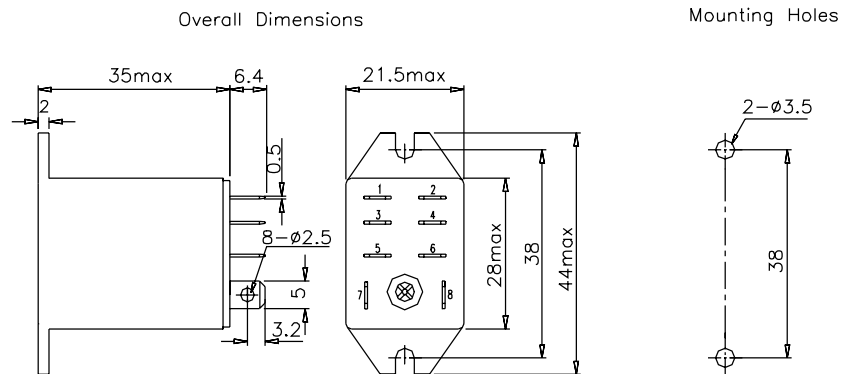
Overall Dimensions and Wiring Diagrams, Solder Lug Version, 2 Form C



Overall Dimensions and Wiring Diagrams, PCB Terminal Version, 2 Form C

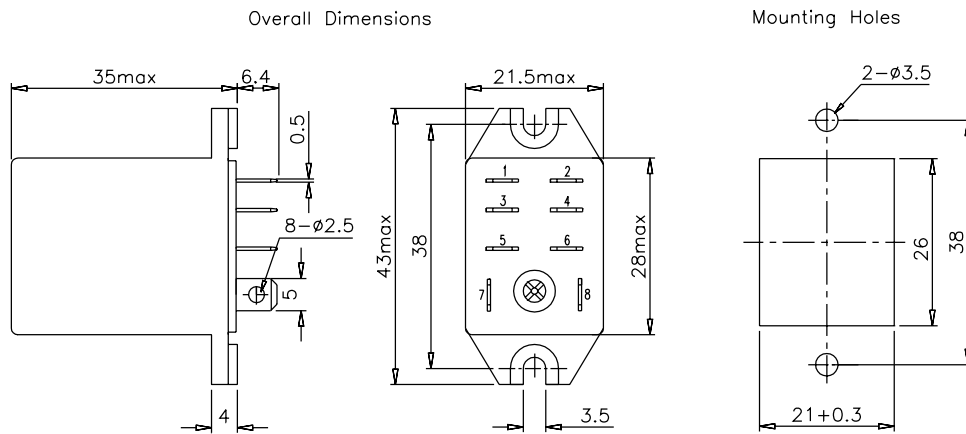


Overall Dimensions and Mounting Holes, Top Flange Version, 2 Form C

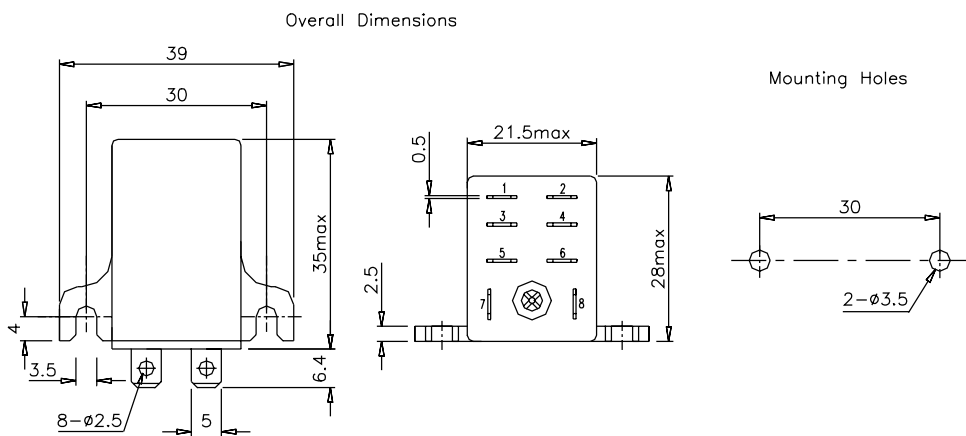


# HG4104L

Overall Dimensions and Mounting Holes, Bottom Flange Version, 2 From C



Overall Dimensions and Mounting Holes, Lateral Flange Version, 2 From C



## NOTES

1. All parameters, unless otherwise specified, are measured at ambient temperature 23°C.
2. Coil resistance with \* mark is  $\pm 15\%$ .
3. Custom-made services available with operational quantity. Please let us know your special requirements.
4. Specifications subject to change without prior notice.