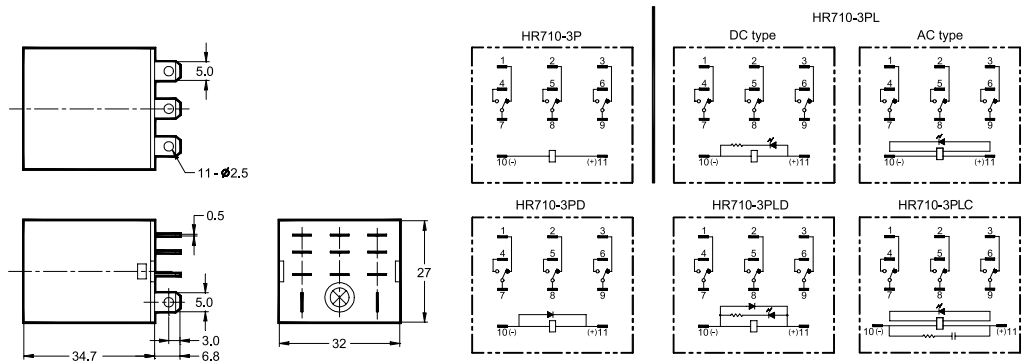




# HR710

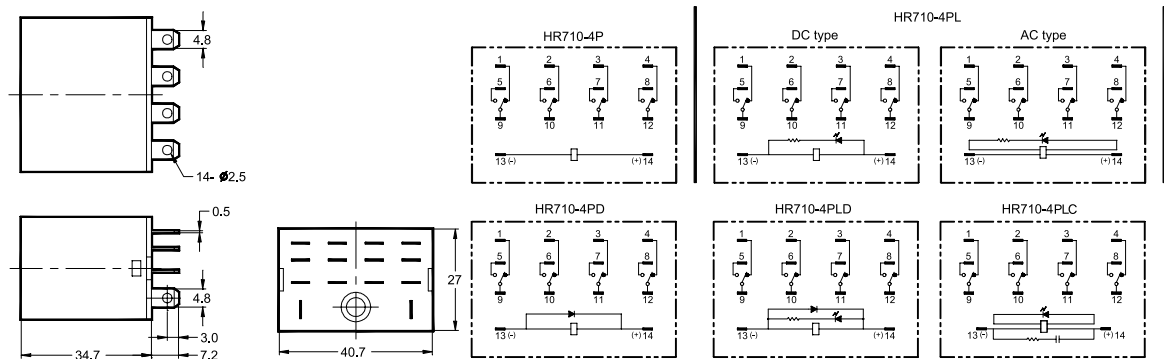
## HR710-3P and variations

Base view



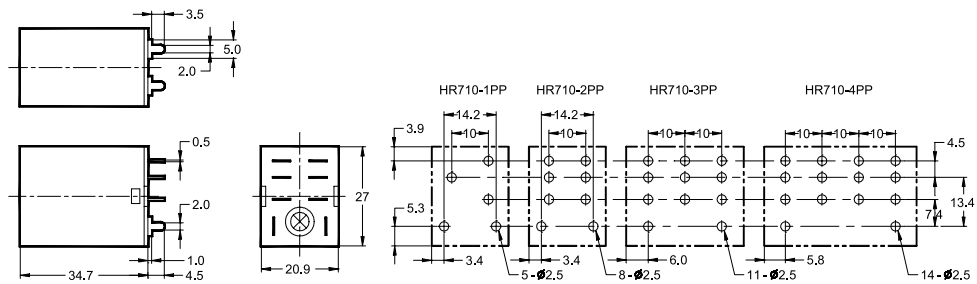
## HR710-4P and variations

Base view



## HR710-1PP, HR710-2PP, HR710-3PP, HR710-4PP

Base view



GENERAL PURPOSE RELAY



# HR710

## Contact data

|  |                                      |                         |
|--|--------------------------------------|-------------------------|
| Arrangement                            | 1 Form C (SPDT) to 4 Form C (4PDT)   |                         |
| Contact material                       | Ag Alloy                             |                         |
| Initial contact resistance             | 50mΩ max.                            |                         |
| Rated load, resistive                  | 1 Form C                             | 2,3,4 Form C            |
|  | 15A 24VDC<br>15A 110VAC              | 10A 24VDC<br>10A 110VAC |
| Maximum carry current                  | 15A                                  | 10A                     |
| Maximum switching capacity             | with DC voltage:<br>with AC voltage: | 360W<br>1,650VA         |
| Maximum switching voltage              | 125VDC<br>250VAC                     |                         |
| Minimum switching rating <sup>1)</sup> | 100mA 5VDC                           |                         |

<sup>1)</sup> Min. Switching Load mentioned above are reference values. Therefore it is recommended to perform the confirmation test with the actual load before production since reference values may vary according to switching frequencies, environmental conditions and expected reliability levels.

## Coil data

|   |   |   |
|---|---|---|
| Nominal voltage                         | 6VDC to 110VDC<br>6VAC to 240VAC  |   |
| Nominal power consumption <sup>2)</sup> | 1P to 2P DC Coil:<br>3P to 4P DC Coil:<br>1P to 2P AC Coil:<br>3P AC Coil:<br>4P AC Coil: | 0.9W approx.<br>1.4W to 1.5W approx.<br>0.9W to 1.2VA (60Hz) approx.<br>1.6VA to 1.9VA (60Hz) approx.<br>1.95VA to 2.5VA (60Hz) approx. |
| Operate voltage <sup>3)</sup>           | 80% of nominal voltage  |   |
| Release voltage <sup>4)</sup>           | DC Coil:<br>AC Coil:  | 10% of nominal voltage<br>30% of nominal voltage  |

<sup>2), 3), 4)</sup> The values depend on coil voltage, see Part selection chart

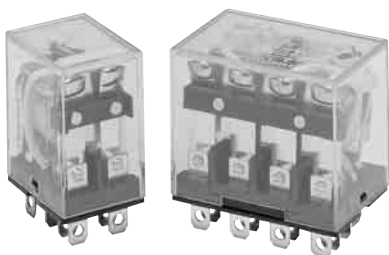
## General data

|                               |   |  |
|-------------------------------|---|--|
| Operate time                  | 25ms max. at nominal voltage  |  |
| Release time                  | 25ms max. at nominal voltage  |  |
| Initial insulation resistance | 100 MΩ min. (500VDC)  |  |
| Dielectric strength           | Between open contacts:<br>Between contacts and coil:                          | 1,000V <sub>rms</sub> for 1 minute<br>1,500V <sub>rms</sub> for 1 minute     |
| Expected life                 | Mechanical:<br>Electrical:  | More than 1,000,000 operations<br>More than 100,000 operations at rated load |
| Vibration resistance          | Functional:<br>Destructive:   | 10 ~ 55Hz dual amplitude: 1.5mm<br>10 ~ 55Hz dual amplitude: 1.5mm           |
| Shock resistance              | Functional:<br>Destructive:   | 20G min.<br>100G min.  |
| Ambient temperature           | - 25°C to + 55°C (with no icing)  |  |
| Humidity                      | 35% to 80% RH   |  |
| Weight                        | 1 and 2 Form C: 33g approx.<br>3 Form C: 53g approx.<br>4 Form C: 65g approx. |  |

Note: The above figures are initial values

# HR710

## Part number description



**HR710**

### Contact arrangement

1P: 1 Form C  
2P: 2 Form C  
3P: 3 Form C  
4P: 4 Form C

### Mounting & Terminal

None: Socket – plug-in, solder  
P: PC Board – pin  
B: Flange – tab, Quick-connect

### Options

None: Standard  
L: LED indicator (DC coil: green, AC coil: red)  
T: Test button  
LT: LED indicator + Test button  
D: Freewheeling diode  
LD: LED indicator + freewheeling diode  
LC: LED indicator + Built-in the Surge Absorbent Circuit

### Coil voltage

|            |       |            |
|------------|-------|------------|
| 6VDC       | 6VAC  | 100/110VAC |
| 12VDC      | 12VAC | 110/120VAC |
| 24VDC      | 24VAC | 200/220VAC |
| 48VDC      | 50VAC | 220/240VAC |
| 100/110VDC |       |            |

Part number description is provided for reference, part number can not be arbitrarily composed. Refer to the part numbers shown in the table below. Special designs to customer specifications are possible; please contact HR.

## Part selection

☐ Fill in the codes to the part number by selecting them from the part number description

| Part number                 | Nominal voltage (VDC) | Coil resistance (Ω ± 10%) | Nominal current (mA) |         | Must operate voltage (V) | Must release voltage (V) | Max voltage (V) | Nominal power (W.VA)     |
|-----------------------------|-----------------------|---------------------------|----------------------|---------|--------------------------|--------------------------|-----------------|--------------------------|
|                             |                       |                           | 50Hz                 | 60Hz    |                          |                          |                 |                          |
| Form C, 2 Form C, DC Coil   |                       |                           |                      |         |                          |                          |                 |                          |
| HR710-□□□ 6VDC              | 6                     | 40                        | 150                  |         | 4.8                      | 0.6                      | 6.6             | 0.9 approx               |
| HR710-□□□ 12VDC             | 12                    | 160                       | 75                   |         | 9.6                      | 1.2                      | 13.2            |                          |
| HR710-□□□ 24VDC             | 24                    | 650                       | 36.9                 |         | 19.2                     | 2.4                      | 26.4            |                          |
| HR710-□□□ 48VDC             | 48                    | 2,600                     | 18.5                 |         | 38.4                     | 4.8                      | 52.8            |                          |
| HR710-□□□ 100/110VDC        | 100/110               | 11,000                    | 9.1/10               |         | 80/88                    | 10/11                    | 110/121         | 1.1 approx               |
| 1 Form C, 2 Form C, AC Coil |                       |                           |                      |         |                          |                          |                 |                          |
| HR710-□□□ 6VAC              | 6                     | 12.2                      | 214.1                | 183     | 4.8                      | 1.8                      | 6.6             | 1.0 to 1.2 approx (60Hz) |
| HR710-□□□ 12VAC             | 12                    | 46                        | 106.5                | 91      | 9.6                      | 3.6                      | 13.2            |                          |
| HR710-□□□ 24VAC             | 24                    | 180                       | 53.8                 | 46      | 19.2                     | 7.2                      | 26.4            |                          |
| HR710-□□□ 50VAC             | 50                    | 788                       | 25.7                 | 22      | 40                       | 15                       | 55              |                          |
| HR710-□□□ 100/110VAC        | 100/110               | 3,750                     | 11.7/12.9            | 10/11   | 80/88                    | 30/33                    | 110/121         | 9.0 to 1.2 approx (60Hz) |
| HR710-□□□ 110/120VAC        | 110/120               | 4,430                     | 9.9/10.8             | 8.4/9.2 | 88/96                    | 33/36                    | 121/132         |                          |
| HR710-□□□ 200/220VAC        | 200/220               | 12,950                    | 6.2/6.8              | 5.3/5.8 | 160/176                  | 60/66                    | 220/242         |                          |
| HR710-□□□ 220/240VAC        | 220/240               | 18,790                    | 4.8/5.3              | 4.2/4.6 | 176/192                  | 66/72                    | 242/264         |                          |

Note: All values in the chart are measured at 23°C

# HR710

□ Fill in the codes to the part number by selecting them from the part number description

| Part number           | Nominal voltage (V) | Coil resistance ( $\Omega \pm 10\%$ ) | Nominal current (mA) |           | Must operate voltage (V) | Must release voltage (V) | Max voltage (V) | Nominal power (W,VA)       |
|-----------------------|---------------------|---------------------------------------|----------------------|-----------|--------------------------|--------------------------|-----------------|----------------------------|
|                       |                     |                                       | 50Hz                 | 60Hz      |                          |                          |                 |                            |
| 3 Form C, DC Coil     |                     |                                       |                      |           |                          |                          |                 |                            |
| HR710-3P□□ 6VDC       | 6                   | 25.7                                  | 234                  |           | 4.8                      | 0.6                      | 6.6             | 1.4 approx.                |
| HR710-3P□□ 12VDC      | 12                  | 107                                   | 112                  |           | 9.6                      | 1.2                      | 13.2            |                            |
| HR710-3P□□ 24VDC      | 24                  | 410                                   | 58.6                 |           | 19.2                     | 2.4                      | 26.4            |                            |
| HR710-3P□□ 48VDC      | 48                  | 1,700                                 | 28.2                 |           | 38.4                     | 4.8                      | 52.8            |                            |
| HR710-3P□□-100/110VDC | 100/110             | 8,500                                 | 12.7/13              |           | 80/88                    | 10/11                    | 110/121         |                            |
| 3 Form C, AC Coil     |                     |                                       |                      |           |                          |                          |                 |                            |
| HR710-3P□□ 6VAC       | 6                   | 6.7                                   | 310                  | 270       | 4.8                      | 1.8                      | 6.6             | 1.6 to 1.9 approx. (60Hz)  |
| HR710-3P□□ 12VAC      | 12                  | 24                                    | 159                  | 134       | 9.6                      | 3.6                      | 13.2            |                            |
| HR710-3P□□ 24VAC      | 24                  | 100                                   | 80                   | 67        | 19.2                     | 7.2                      | 26.4            |                            |
| HR710-3P□□ 50VAC      | 50                  | 410                                   | 38                   | 33        | 40                       | 15                       | 55              |                            |
| HR710-3P□□-100/110VAC | 100/110             | 2,300                                 | 14.4/16              | 12.4/13.7 | 80/88                    | 30/33                    | 110/121         |                            |
| HR710-3P□□-200/220VAC | 200/220             | 8,650                                 | 9.0/10.0             | 7.7/8.5   | 160/176                  | 60/66                    | 220/242         |                            |
| 4 Form C, DC Coil     |                     |                                       |                      |           |                          |                          |                 |                            |
| HR710-4P□□ 6VDC       | 6                   | 25                                    | 240                  |           | 4.8                      | 0.6                      | 6.6             | 1.5 approx.                |
| HR710-4P□□ 12VDC      | 12                  | 100                                   | 120                  |           | 9.6                      | 1.2                      | 13.2            |                            |
| HR710-4P□□ 24VDC      | 24                  | 350                                   | 69                   |           | 19.2                     | 2.4                      | 26.4            |                            |
| HR710-4P□□ 48VDC      | 48                  | 1,600                                 | 30                   |           | 38.4                     | 4.8                      | 52.8            |                            |
| HR710-4P□□ 100/110VDC | 100/110             | 6,660                                 | 15/15.9              |           | 80/88                    | 10/11                    | 110/121         |                            |
| 4 Form C, AC Coil     |                     |                                       |                      |           |                          |                          |                 |                            |
| HR710-4P□□ 6VAC       | 6                   | 5                                     | 386                  | 330       | 4.8                      | 1.8                      | 6.6             | 1.95 to 2.5 approx. (60Hz) |
| HR710-4P□□ 12VAC      | 12                  | 20                                    | 199                  | 170       | 9.6                      | 3.6                      | 13.2            |                            |
| HR710-4P□□ 24VAC      | 24                  | 78                                    | 93.6                 | 80        | 19.2                     | 7.2                      | 26.4            |                            |
| HR710-4P□□ 50VAC      | 50                  | 350                                   | 46.8                 | 40        | 40                       | 15                       | 55              |                            |
| HR710-4P□□-100/110VAC | 100/110             | 1,600                                 | 22.5/25.5            | 19/21.8   | 80/88                    | 30/33                    | 110/121         |                            |
| HR710-4P□□-200/220VAC | 200/220             | 6,700                                 | 11.5/13.1            | 9.8/11.2  | 160                      | 60/66                    | 220/242         |                            |

Note: All values in the chart are measured at 23°C