

**UL File NO. E341422**  
**TUV File NO. R50254542**  
**CQC File NO. CQC13002093538**

**FEATURES**

- Outline dimension (19.2mm×15.5mm×15.3mm)
- 1 Form A (SPST) or 1 Form C (SPDT) contact arrangement
- Designed to meet cULus, TUV, CQC requirements
- Immersion cleanable, sealed version available
- Class F type
- RoHS compliance
- REACH SvHC compliance
- Halogen-Free type available Glow
- Glow wire type



**APPLICATION**

Appliances, Power Supplier, Industrial Control

**COIL PARAMETER**

|              |           |       |
|--------------|-----------|-------|
| Coil voltage | 5-48VDC   |       |
| Coil power   | Sensitive | 240mW |
|              | Standard  | 360mW |

**COIL DATA @23°C**

| CHW-DA2/DC2(360mW), Standard |                      |                         |                            |                            |
|------------------------------|----------------------|-------------------------|----------------------------|----------------------------|
| Nominal coil voltage (VDC)   | Nominal Current (mA) | Coil Resistance (Ω)±10% | Operate Voltage (VDC Max.) | Release Voltage (VDC Min.) |
| 5                            | 71.4                 | 69                      | 3.75                       | 0.25                       |
| 6                            | 60.0                 | 100                     | 4.50                       | 0.30                       |
| 9                            | 40.0                 | 225                     | 6.75                       | 0.45                       |
| 12                           | 30.0                 | 400                     | 9.00                       | 0.60                       |
| 18                           | 20.0                 | 900                     | 13.50                      | 0.90                       |
| 24                           | 15.0                 | 1600                    | 18.00                      | 1.20                       |
| 48                           | 7.5                  | 6400                    | 36.00                      | 2.40                       |

| CHW-LA2/LC2(240mW), Sensitive |                      |                         |                            |                            |
|-------------------------------|----------------------|-------------------------|----------------------------|----------------------------|
| Nominal coil voltage (VDC)    | Nominal Current (mA) | Coil Resistance (Ω)±10% | Operate Voltage (VDC Max.) | Release Voltage (VDC Min.) |
| 5                             | 48.0                 | 104                     | 3.75                       | 0.25                       |
| 6                             | 40.0                 | 150                     | 4.50                       | 0.30                       |
| 9                             | 26.7                 | 338                     | 6.75                       | 0.45                       |
| 12                            | 20.0                 | 600                     | 9.00                       | 0.60                       |
| 18                            | 13.3                 | 1350                    | 15.50                      | 0.90                       |
| 24                            | 10.0                 | 2400                    | 18.00                      | 1.20                       |
| 48                            | 5.0                  | 9600                    | 36.00                      | 2.40                       |

**CONTACT DATA**

|                                 |                                   |
|---------------------------------|-----------------------------------|
| Contact arrangement             | 1 Form A (SPST) / 1 Form C (SPDT) |
| Contact material                | Ag Alloy                          |
| Initial contact resistance      | 100mΩ max.@6VDC, 1A               |
| Max. switching voltage          | 277VAC/30V DC                     |
| Max. switching current          | 15A(NO) / 6A(NC)                  |
| Max. switching power            | 2770VA/300W(NO)                   |
|                                 | 1662VA/180W(NC)                   |
| Contact rating (Resistive Load) | 15A@125VAC                        |
|                                 | 10A@250VAC                        |
|                                 | 10A@30VDC                         |
|                                 | 10A(NO)/6A(NC)@250VAC             |
| Mechanical endurance            | 10,000,000 ops Min.(no load)      |
| Electrical endurance            | 100,000 ops Min.(rated load)      |
| Minimum load (reference value)  | 100mA@5VDC                        |

**CHARACTERISTICS**

|   |   |  |
|---|---|--|
| Operate voltage                         | 75% of nominal voltage or less                              |  |
| Release voltage                         | 5% of nominal voltage or more                               |  |
| Operate time (At nominal voltage)       | 10ms max.   |  |
| Release time(At nominal voltage)        | 5ms max.  |  |
| Insulation resistance                   | 1,000 MΩ min. (at 500 VDC)                                  |  |
| Dielectric strength                     | Between coil and contacts                                   | 1,500 VAC, 50/60 Hz for 1 min                |
|   | Between open contacts                                       | 750 VAC, 50/60 Hz for 1 min                  |
| Surge voltage between coil and contacts | 3,000V(1.2/50μs)  |  |
| Vibration resistance                    | Destruction   | 10 to 55 Hz., 1.5mm double amplitude         |
|   | Malfunction   | 10 to 55 Hz., 1.5mm double amplitude         |
| Shock resistance                        | Destruction   | 1,000 m/s <sup>2</sup> (100G approximately ) |
|   | Malfunction   | 100 m/s <sup>2</sup> (10G approximately)     |
| Ambient temperature                     | Operating: -40~+105°C (without icing or condensation)       |  |
| Ambient humidity                        | Operating: 20% to 85% RH                                    |  |
| Terminal                                | PCB terminals   |  |
| Enclosure (94V-0 Flammability Ratings)  | V: Vented(Flux-tight, RTII)<br>S: Sealed(Wash-tight, RTIII) |  |
| Weight                                  | Approx. 7g  |  |

**ORDERING INFORMATION**

**CHW -V -1 12 D A 2 '000**

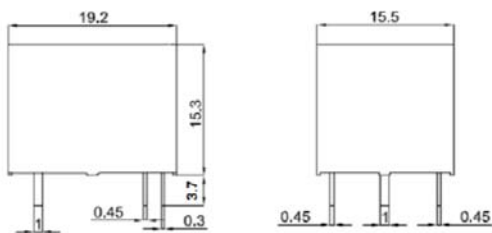
- 1. Product Family**
- 2. Enclosure**  
 V=Vented(Flux-tight, RTII)  
 S=Sealed(Wash-tight, RTIII)
- 3. Number of Poles**  
 1=1 pole
- 4. Rated Coil Voltage**  
 05=5VDC 06=6VDC 09=9VDC  
 12=12VDC 24=24VDC 48=48VDC
- 5. Coil Power**  
 D = Standard(360mW)  
 L = Sensitive(240mW)
- 6. Contact Arrangement**  
 A = Form A(SPST)  
 C = Form C(SPDT)
- 7. Contact Arrangement**  
 2 =AgSnO
- 8. Additional numbers and /or letters**  
 000-999, AAA-ZZZ, aaa-zzz or blank, which does not represent electrical changes, only for specific customer requirements

**Typical products**

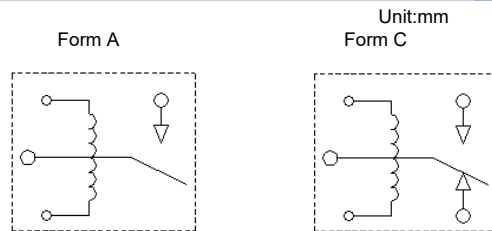
| Product Description |      | Characteristic                      |                  |                                     |                      |                      |   |  |                 |                |  |  |  |  |
|---------------------|------|-------------------------------------|------------------|-------------------------------------|----------------------|----------------------|---|--|-----------------|----------------|--|--|--|--|
| Product Name        | Code | Coil Rated voltage                  | Contact material | Contact Load                        | Electrical endurance | Safety certification | Glow  | Anti-explosio                                  | Special Feature |                |  |  |  |  |
| CHW-V-1**DA2        | 000  | 3V.5V.6V.9V.<br>12V.18V.24V<br>.48V | Ag alloy         | 10A @250VAC                         | 100000ops.min        | UL/cUL,TUV,CQC       |   |  |                 |                |  |  |  |  |
|                     | G000 |                                     |                  | 15A @125VAC                         |                      | UL/cUL               |   |  |                 |                |  |  |  |  |
| CHW-S-1**DA2        | 000  |                                     |                  | 10A @250VAC                         |                      | UL/cUL,TUV,CQC       |   |  |                 |                |  |  |  |  |
|                     | 100  |                                     |                  | 10A @250VAC                         |                      |                      |   |  |                 |                |  |  |  |  |
|                     | G000 |                                     |                  | 15A @125VAC                         |                      |                      |   |  |                 |                |  |  |  |  |
| CHW-V-1**DC2        | 000  |                                     |                  | 3V.5V.6V.9V.<br>12V.18V.24V<br>.48V |                      | Ag alloy             | 10A @250VAC(NO)<br>6A @250VAC(NC)                     | 100000ops.min<br>100000ops.min                 | UL/cUL          |                |  |  |  |  |
|                     | G000 |                                     |                  |                                     |                      |                      | 15A @240VQAC(NO)<br>6A @250VAC(NC)                    | 50000ops.min                                   |                 |                |  |  |  |  |
| CHW-S-1**DC2        | 000  |                                     |                  |                                     |                      |                      | 10A @250VAC(NO)<br>6A @250VAC(NC)<br>15A @240VQAC(NO) | 100000ops.min<br>100000ops.min<br>50000ops.min | UL/cUL          | UL/cUL,TUV,CQC |  |  |  |  |
|                     | F000 |                                     |                  |                                     |                      |                      |   |  |                 |                |  |  |  |  |
|                     | G000 |                                     |                  |                                     |                      |                      |   |  |                 |                |  |  |  |  |
|                     |      | 10A @250VAC(NO)<br>6A @250VAC(NC)   | 100000ops.min    |                                     | UL/cUL,TUV,CQC       |                      |   |  |                 |                |  |  |  |  |

Remarks: ①Special ordering for other requirements: ② “●” Indicate the applicable model

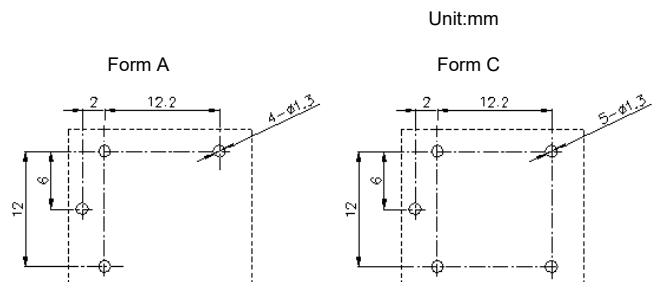
**OUTLINE DIMENSION**



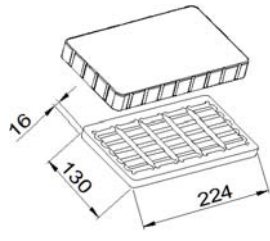
**WIRING DIAGRAMS (BOTTOM VIEWS)**



**PC BOARD LAYOUTS (BOTTOM VIEWS)**



**Remark:** 1)The reference tolerance in outline dimension:  
 outline dimension ≤1mm, reference tolerance is ±0.2mm;  
 outline dimension >1mm and ≤5mm, reference tolerance is ±0.3mm;  
 outline dimension >5mm, reference tolerance is ±0.5mm.  
 2)The reference tolerance for PC Board layout is ±0.1mm.



50 pcs inside a box  
1000pcs inside a carton