



- 1200V Blocking
- Low Leakage
- SCR Output
- Panel Mount
- Zero and Random Voltage Switching
- Integrated Fingerproof Cover
- User Friendly, Universal Connectors
- EMC Compliant Design

The Series CW48 has an SCR AC switch output featuring low off-state leakage (1mA, snubberless), zero and random voltage switching and a broadened operating range (48-660Vac). This wide range permits optimum performance at voltages from 240 Vac to 600 Vac line voltages. Manufactured in Crydom's ISO 9001 Certified facility for optimum product performance and reliability.

| MODEL NUMBERS                                                    | CWD4810<br>CWA4810 | CWD4825<br>CWA4825                                | CWD4850<br>CWA4850                                          | CWD4890<br>CWA4890 | CWD48125<br>CWA48125 |
|------------------------------------------------------------------|--------------------|---------------------------------------------------|-------------------------------------------------------------|--------------------|----------------------|
| <b>OUTPUT SPECIFICATIONS</b> <sup>①</sup>                        |                    |                                                   |                                                             |                    |                      |
| Operating Voltage (47-63 Hz) [Vrms]                              | 48-660             | 48-660                                            | 48-660                                                      | 48-660             | 48-660               |
| Load Current Range <sup>③</sup> [Arms]                           | 0.15-10            | 0.15-25                                           | 0.15-50                                                     | 0.25-90            | 0.25-125             |
| Transient Overvoltage [Vpk]                                      | 1200               | 1200                                              | 1200                                                        | 1200               | 1200                 |
| Max. Surge Current (16.6ms) [Apk]                                | 400                | 600                                               | 850                                                         | 1350               | 2000                 |
| Max. Surge Current (20ms) [Apk]                                  | 380                | 570                                               | 810                                                         | 1290               | 1900                 |
| Max. On-State Voltage Drop @ Rated Current [Vpk]                 | 1.3                | 1.3                                               | 1.3                                                         | 1.3                | 1.25                 |
| Thermal Resistance Junction to Case (R <sub>θJC</sub> ) [°C/W]   | 0.35               | 0.35                                              | 0.2                                                         | 0.14               | 0.13                 |
| Maximum I <sup>2</sup> t for Fusing, (8.3 ms) [A <sup>2</sup> s] | 660                | 1500                                              | 3000                                                        | 7560               | 16600                |
| Maximum I <sup>2</sup> t for Fusing, (10 ms) [A <sup>2</sup> s]  | 720                | 1620                                              | 3280                                                        | 8320               | 18000                |
| Max. Off-State Leakage Current @ Rated Voltage [mA] <sup>⑥</sup> | 1.0                | 1.0                                               | 1.0                                                         | 1.0                | 1.0                  |
| Min. Off-State dv/dt @ Max. Rated Voltage [V/μs] <sup>②</sup>    | 500                | 500                                               | 500                                                         | 500                | 500                  |
| Max. Turn-On Time <sup>④⑤</sup>                                  | 1/2 Cycle          | 1/2 Cycle                                         | 1/2 Cycle                                                   | 1/2 Cycle          | 1/2 Cycle            |
| Max. Turn-Off Time <sup>⑤</sup>                                  | 1/2 Cycle          | 1/2 Cycle                                         | 1/2 Cycle                                                   | 1/2 Cycle          | 1/2 Cycle            |
| Power Factor (Min.) with Max. Load                               | 0.5                | 0.5                                               | 0.5                                                         | 0.5                | 0.5                  |
| <b>INPUT SPECIFICATIONS</b> <sup>①</sup>                         |                    |                                                   |                                                             |                    |                      |
|                                                                  | <b>DC Control</b>  | <b>AC Control</b><br>24 Vac nominal<br>E - suffix | <b>AC Control</b><br>120/240Vac nominal<br>Std. (no suffix) |                    |                      |
| Control Voltage Range                                            | 4-32 Vdc           | 18-36 Vrms                                        | 90-280 Vrms                                                 |                    |                      |
| Max. Turn-On Voltage                                             | 4 Vdc              | 18 Vrms                                           | 90 Vrms                                                     |                    |                      |
| Min. Turn-Off Voltage                                            | 1.0 Vdc            | 2 Vrms                                            | 10 Vrms                                                     |                    |                      |
| Nominal Input Impedence                                          | See note 7         | 1 k ohm                                           | 21.5 k ohms                                                 |                    |                      |
| Typical Input Current                                            | 10 mA @ 12 Vdc     | 24mA@24Vrms                                       | 6 mA @ 120 Vrms                                             |                    |                      |

### GENERAL NOTES

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- ① All parameters at 25°C unless otherwise specified.
- ② Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- ③ Heat sinking required, for derating curves see page 2.
- ④ Turn-on time for random turn-on version is 0.02 msec.
- ⑤ Turn-on and turn-off time for AC input models is 50ms.
- ⑥ 10mA for models with snubber.
- ⑦ Input circuit incorporates active current limiter.

**crydom™** ISO9001 certified

For recommended applications and more information contact:  
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**GERMANY:** +49 (0)180 3000 506

### GENERAL SPECIFICATIONS

|                                               |                     |
|-----------------------------------------------|---------------------|
| Dielectric Strength 50/60Hz Input/Output/Base | 4000 Vrms           |
| Insulation Resistance (Min.) @ 500 Vdc        | 10 <sup>9</sup> Ohm |
| Max. Capacitance Input/Output                 | 8 pF                |
| Ambient Operating Temperature Range           | -40 to 80°C         |
| Ambient Storage Temperature Range             | -40 to 125°C        |

### MECHANICAL SPECIFICATIONS

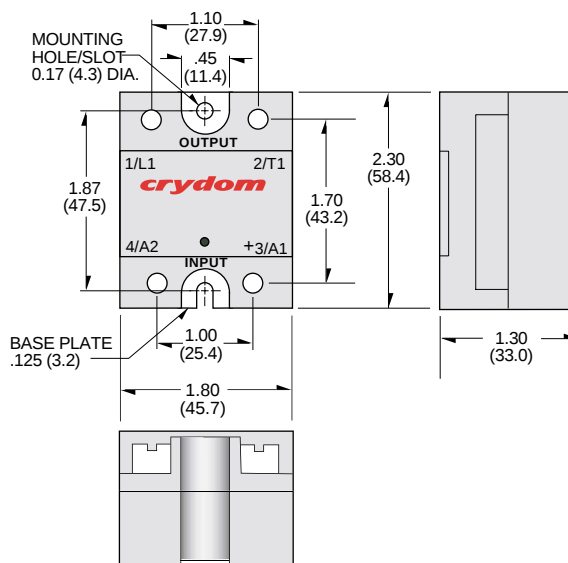
|                   |                                                                                   |
|-------------------|-----------------------------------------------------------------------------------|
| Weight: (typical) | 3.0 oz. (86.5g)                                                                   |
| Encapsulation     | Thermally Conductive Epoxy                                                        |
| Terminals         | Screw Type, Finger Proof<br>Output: 8-32, Combo Drive<br>Input: 6-32, Combo Drive |
| Max. Torque       | Output: 20 in lb (2.2Nm)<br>Input: 10 in lb (1.1Nm)                               |
| Max. Wire Size    | Output: 2 x AWG 8 (3.8mm)<br>Input: 2 x AWG 12 (2.5mm)                            |

### Available Options

- 10** Random Turn-On.  
Example: **CWD4825-10**
- E** 24 Vac Input (18-36 Vac)  
Example: **CWA4825E**
- P** Internal Overvoltage Protection.  
Relay Will Self Trigger Between  
900-1200 Vpk. Not Suitable For Capacitive Loads.  
Example: **CWD4825P**
- S** Internal Snubber Example: **CWD4825S**

**Crydom Heat Sinks** offer excellent thermal management and are perfectly matched to the load current ratings of Crydom panel mount relays. Request Crydom's Heat Sink specification sheet for all the details.

### MECHANICAL OUTLINE



All dimensions are in inches (millimeters)

### EMC Compatibility

- Input: EN61000-4-2, Level 3 ESD  
EN61000-4-4, Level 3 Burst
- Output: EN61000-4-2, Level 4 ESD  
Level 3 ESD (with P option)  
EN61000-4-4, Level 4 Burst  
Level 3 Burst (with P option)  
EN61000-4-5, Level 4 Surge

### APPROVALS

UL E116949  
CSA 1405925  
VDE Pending

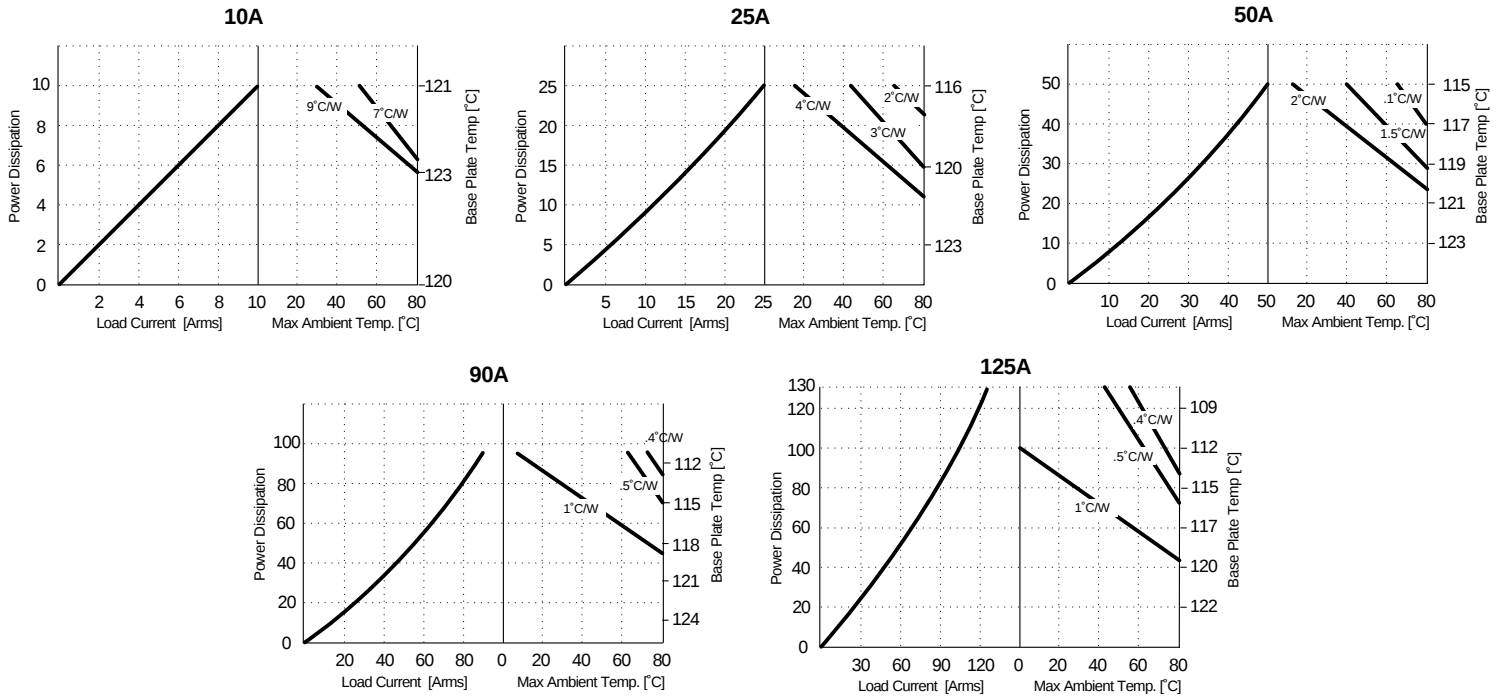


SERIES CW48  
Rev. 050903  
PAGE 2 OF 3

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### CURRENT DERATING CURVES



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