

Solid State Relays - Panel Mount: CW24



Features

SCR output • 10-125Amp • 120/240 Vrms • AC Switching • AC/DC control • Finger-proof cover • Snubber and snubberless versions • Status indicating LED • Improved thermal ratings and lower power dissipation.

Product	INPUT SPECIFICATIONS	OUTPUT SPECIFICATIONS			
	Control Voltage Range	Load Current	Switching Voltage Type	Turn On	Load Voltage Range
CWD2410	3-32 Volts DC	0.15-10 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWD2410-10	3-32 Volts DC	0.15-10 Amps RMS	AC	Random	24-280 Volts RMS
CWD2410P	3-32 Volts DC	0.15-10 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWD2410S	3-32 Volts DC	0.15-10 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWD24125	3-32 Volts DC	0.25-125 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWD24125-10	3-32 Volts DC	0.25-125 Amps RMS	AC	Random	24-280 Volts RMS
CWD24125P	3-32 Volts DC	0.25-125 Amps RMS	AC	Zero cross	24-280 Volts RMS

CWA24125	90-280 Volts RMS	0.25-125 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWA24125-10	90-280 Volts RMS	0.25-125 Amps RMS	AC	Random	24-280 Volts RMS
CWA24125E	18-36 Volts RMS	0.25-125 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWA24125P	90-280 Volts RMS	0.25-125 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWA24125S	90-280 Volts RMS	0.25-125 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWA2425	90-280 Volts RMS	0.15-25 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWA2425-10	90-280 Volts RMS	0.15-25 Amps RMS	AC	Random	24-280 Volts RMS
CWA2425E	18-36 Volts RMS	0.15-25 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWA2425P	90-280 Volts RMS	0.15-25 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWA2425S	90-280 Volts RMS	0.15-25 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWA2450	90-280 Volts RMS	0.15-50 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWA2450-10	90-280 Volts RMS	0.15-50 Amps RMS	AC	Random	24-280 Volts RMS
CWA2450E	18-36 Volts RMS	0.15-50 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWA2450P	90-280 Volts RMS	0.15-50 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWA2450S	90-280 Volts RMS	0.15-50 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWA2490	90-280 Volts RMS	0.25-90 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWA2490-10	90-280 Volts RMS	0.25-90 Amps RMS	AC	Random	24-280 Volts RMS
CWA2490E	18-36 Volts RMS	0.25-90 Amps RMS	AC	Zero cross	24-280 Volts RMS

CWD24125S	3-32 Volts DC	0.25-125 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWD2425	3-32 Volts DC	0.15-25 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWD2425-10	3-32 Volts DC	0.15-25 Amps RMS	AC	Random	24-280 Volts RMS
CWD2425P	3-32 Volts DC	0.15-25 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWD2425S	3-32 Volts DC	0.15-25 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWD2450	3-32 Volts DC	0.15-50 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWD2450-10	3-32 Volts DC	0.15-50 Amps RMS	AC	Random	24-280 Volts RMS
CWD2450P	3-32 Volts DC	0.15-50 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWD2450S	3-32 Volts DC	0.15-50 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWD2490	3-32 Volts DC	0.25-90 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWD2490-10	3-32 Volts DC	0.25-90 Amps RMS	AC	Random	24-280 Volts RMS
CWD2490P	3-32 Volts DC	0.25-90 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWD2490S	3-32 Volts DC	0.25-90 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWA2410	90-280 Volts RMS	0.15-10 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWA2410-10	90-280 Volts RMS	0.15-10 Amps RMS	AC	Random	24-280 Volts RMS
CWA2410E	18-36 Volts RMS	0.15-10 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWA2410P	90-280 Volts RMS	0.15-10 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWA2410S	90-280 Volts RMS	0.15-10 Amps RMS	AC	Zero cross	24-280 Volts RMS

CWA2490P	90-280 Volts RMS	0.25-90 Amps RMS	AC	Zero cross	24-280 Volts RMS
CWA2490S	90-280 Volts RMS	0.25-90 Amps RMS	AC	Zero cross	24-280 Volts RMS



- 600V Blocking
- Low Leakage
- SCR Output
- Zero and Random Voltage Switching
- LED Status Indicator
- Panel Mount
- Intergrated Removable Fingerproof Cover
- User Friendly, Universal Connectors
- EMC Compliant Design

Crydom's CW24 line of solid state relays offer an SCR AC switch output featuring low off-state leakage (1mA, snubberless), zero and random voltage switching and a broadened operating range (24-280Vac). This wide range permits optimum performance at both 120Vac and 240Vac line voltages.

Manufactured in Crydom's ISO 9001 Certified facility for optimum product performance and reliability.

MODEL NUMBERS	DC Control AC Control	CWD2410 CWA2410	CWD2425 CWA2425	CWD2450 CWA2450	CWD2490 CWA2490	CWD24125 CWA24125
OUTPUT SPECIFICATIONS ^①						
Operating Voltage (47-63 Hz) [Vrms]		24-280	24-280	24-280	24-280	24-280
Load Current Range ^③ [Arms]		0.15-10	0.15-25	0.15-50	0.25-90	0.25-125
Transient Overvoltage [Vpk]		600	600	600	600	600
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 _{θJC}) [°C/W]		0.35	0.35	0.2	0.14	0.13
Maximum I ² t for Fusing, (8.3 ms) [A ² s]		660	1500	3000	7560	16600
Maximum I ² t for Fusing, (10ms) [A ² s]		720	1620	3280	8320	18000
Max. Off-State Leakage Current @ Rated Voltage [mA] ^⑥		1.0	1.0	1.0	1.0	1.0
Min. Off-State dv/dt @ Max. Rated Voltage [V/μs] ^②		500	500	500	500	500
Max. Turn-On Time ^{④⑤}		1/2 Cycle	1/2 Cycle	1/2 Cycle	1/2 Cycle	1/2 Cycle
Max. Turn-Off Time ^⑤		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

INPUT SPECIFICATIONS ^①	DC Control	AC Control 24 Vac nominal E - suffix	AC Control 120/240Vac nominal Std. (no suffix)
	Control Voltage Range	3-32 Vdc	18-36 Vrms
Max. Turn-On Voltage	3 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

GENERAL SPECIFICATIONS

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

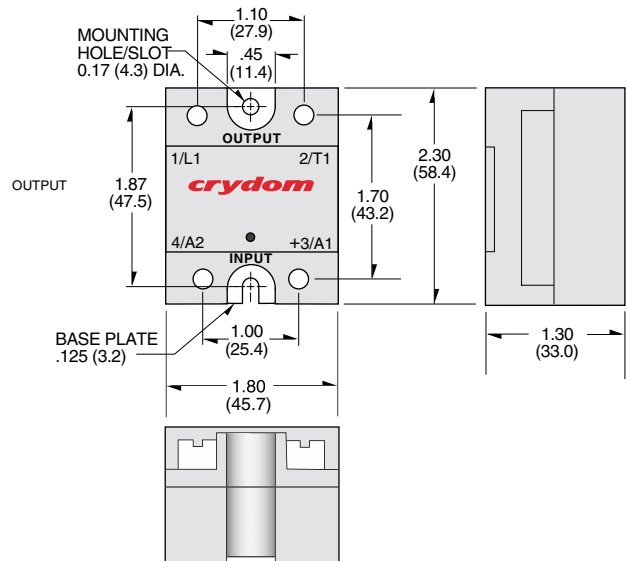
MECHANICAL SPECIFICATIONS

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

Available Options

- 10 Random Turn-On.
Example: **CWD2425-10**
- E 24 Vac Input (18-36 Vac)
Example: **CWA2425E**
- P Internal Overvoltage Protection.
Relay Will Self Trigger Between
450-600 Vpk. Not Suitable For Capacitive Loads.
Example: **CWD2425P**
- S Internal Snubber Example: **CWD2425S**
- H Heat Transfer Pad (Attached)
Example: **CWD2425H**

MECHANICAL OUTLINE



All dimensions are in inches (millimeters)

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.

EMC Compatibility

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

APPROVALS

UL E116949
CSA 1405925
VDE 40007242



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