



CW24 Series

- Ratings from 10A to 125A @ 24-280VAC
- SCR Output for heavy industrial loads
- LED Status Indicator
- UL/CSA/TUV Approved, CE Compliant to EN60950-1
- Improved SEMS screw and washer
- Redesigned housing with anti-rotation barriers
- AC or DC control and Universal AC/DC control
- EMC Compliant to Level 3
- Epoxy Free Design
- Removable IP20 touch-safe cover
- DBC substrate for superior thermal performance

For **Generation 3** datasheet [click here](#)

PRODUCT SELECTION

Control Voltage	10A	25A	50A	90A	125A
3-32 VDC	CWD2410	CWD2425	CWD2450	CWD2490	CWD24125
90-280 VAC	CWA2410	CWA2425	CWA2450	CWA2490	CWA24125
18-36 VAC	CWA2410E	CWA2425E	CWA2450E	CWA2490E	CWA24125E
20-48 VDC/20-280 VAC	CWU2410	CWU2425	CWU2450	CWU2490	CWU24125

AVAILABLE OPTIONS

Series

Control Voltage
D: 3-32 VDC
U: 20-48 VDC or 20-280 VAC
A: 90-280 VAC
AxxxxE: 18-36 VAC

Thermal Pad
Blank: Not Included
H: Included

Operating Voltage
24: 24-280 VAC

Rated Load Current
10: 10 Amps
25: 25 Amps
50: 50 Amps
90: 90 Amps
125: 125 Amps

Overvoltage Protection
Blank: Not Included
P: Included (1)

Switching Type
Blank: Zero Voltage Turn-On
-10: Instantaneous Turn-On

● Required for valid part number
 ● For options only and not required for valid part number
 * Not all part number combinations are available.
 Contact Crydom Technical Support for information on the availability of a specific part number.

OUTPUT SPECIFICATIONS (2)

Description	10A	25A	50A	90A	125A
Operating Voltage (47-440Hz) [Vrms]	24-280	24-280	24-280	24-280	24-280
Transient Voltage [Vpk]	600	600	600	600	600
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	1	1	1	1	1
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec]	500	500	500	500	500
Maximum Load Current [Arms] (3)	10	25	50	90	125
Minimum Load Current [mArms]	150	150	150	250	250
Maximum 1 Cycle Surge Current (50/60Hz) [Apk]	380/400	570/600	810/850	1290/1350	1900/2000
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.3	1.3	1.3	1.3	1.25
Thermal Resistance Junction to Case [Rjc] [°C/W]	0.35	0.3	0.2	0.16	0.11
Maximum 1/2 Cycle I ² t for Fusing (50/60Hz) [A ² sec]	720/660	1620/1500	3280/3000	8320/7560	18000/16600
Minimum Power Factor (at Maximum load) (1)	0.5	0.5	0.5	0.5	0.5
HP Rating UL 508/IEC60947 [-10 Option][HP (KW)]: 120 VAC	0.5 (0.37)	1 (0.74)	2 (1.5)	3 (2.24)	5 (3.37)
HP Rating UL 508/IEC60947 [-10 Option][HP (KW)]: 240 VAC	1.5 (1.1)	3 (2.2)	5 (3.73)	7.5 (5.6)	10 (7.5)
HP Rating UL 508/IEC60947 [HP (KW)]: 120 VAC	0.5 (0.37)	0.75 (0.56)	1 (0.74)	2 (1.5)	3 (2.24)
HP Rating UL 508/IEC60947 [HP (KW)]: 240 VAC	1.5 (1.1)	2 (1.5)	3 (2.2)	5 (3.73)	7.5 (5.6)

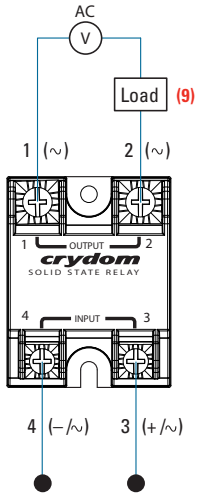
INPUT SPECIFICATIONS (2)

Description	CWD	CWA	CWAxxxxE	CWU
Control Voltage Range	3-32 VDC	90-280 VAC (4)	18-36 VAC	20-48 VDC/20-280VAC
Maximum Reverse Voltage	-32 VDC	-	-	-
Minimum Turn-On Voltage	3 VDC (5)	90 VAC	18 VAC	19 VDC/VAC
Must Turn-Off Voltage	1 VDC	10 VAC	4 VAC	5 VDC/VAC
Minimum Input Current (for on-state)	10 mA	6 mA	13 mA	7/13 mA
Maximum Input Current	15 mA	10 mA	15 mA	11/9 mA
Nominal Input Impedance	Current Regulated	Current Regulated	Current Regulated	Current Regulated
Maximum Turn-On Time [msec]	1/2 Cycle (6)	20	20	20
Maximum Turn-Off Time [msec]	1/2 Cycle	30	30	30

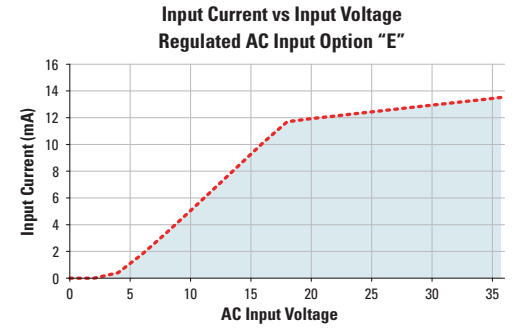
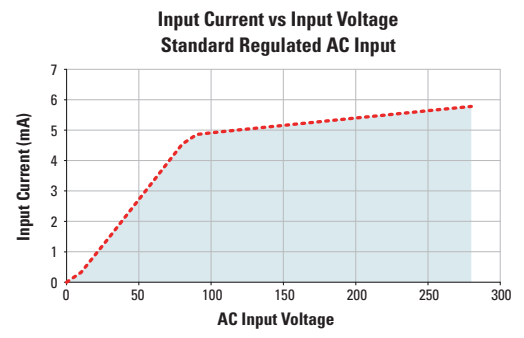
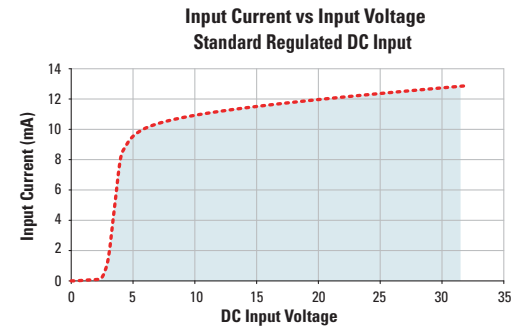
GENERAL SPECIFICATIONS ⁽¹⁾

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 VDC)	10 ⁹ Ohms
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range ⁽⁷⁾	-40 to 80 °C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	2.88 oz (81.53 g)
Housing Material	UL94 V-0
Baseplate Material	Aluminum
Input Terminal Screw Torque Range (in-lb/Nm)	13-15 / 1.5-1.7
Load Terminal Screw Torque Range (in-lb/Nm)	18-20 / 2-2.2
SSR Mounting Screw Torque Range (in-lb/Nm)	18-20 / 2-2.2
Input/Output Terminal Screw Thread Size	#6-32 UNC / #8-32 UNC
Humidity per IEC60068-2-78	93% non-condensing
LED Input Status Indicator	Green
MTBF (Mean Time Between Failures) at 40°C ambient temperature ⁽⁸⁾	11,641,553 hours (1,328 years)
MTBF (Mean Time Between Failures) at 60°C ambient temperature ⁽⁸⁾	7,210,376 hours (823 years)

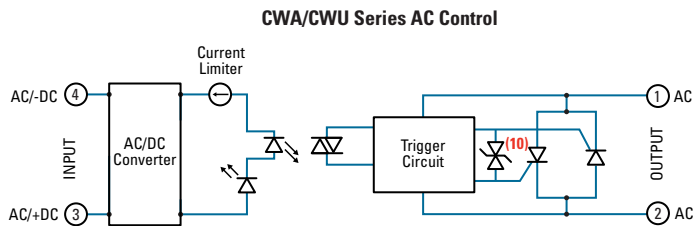
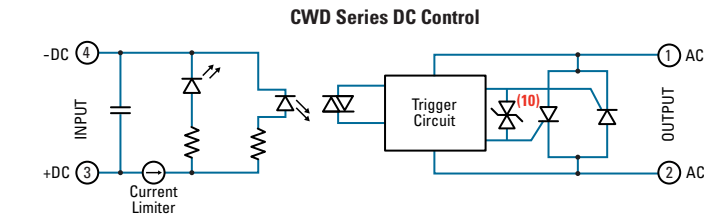
WIRING DIAGRAM



Recommended Wire Sizes		
Terminals	Wire Size (Solid / Stranded)	Wire Pull-Out Strength (lb)[N]
Input	24 AWG (0.2 mm ²) / 0.2 [minimum]	10 [44.5]
	2 x 12 AWG (3.3 mm ²) / 3.3 [maximum]	90 [400]
Output	20 AWG (0.5 mm ²) / 0.518 [minimum]	30 [133]
	2 x 10 AWG (5.3 mm ²) / 5.3 [maximum]	110 [490]
	2 x 8 AWG (8.4 mm ²) / 8.4 [maximum]	90 [400]



EQUIVALENT CIRCUIT BLOCK DIAGRAMS

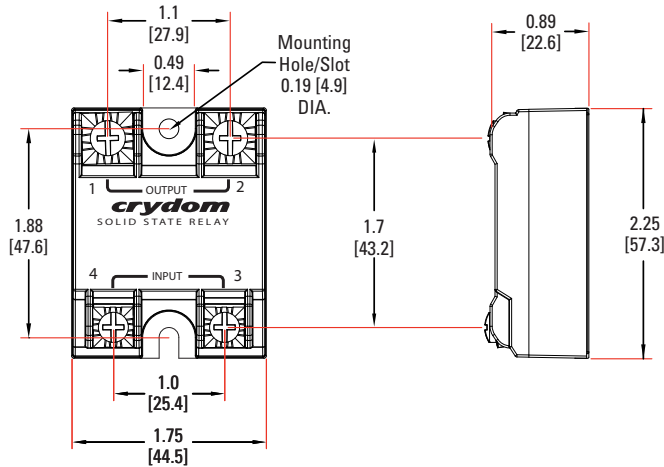


MECHANICAL SPECIFICATIONS ⁽¹⁾

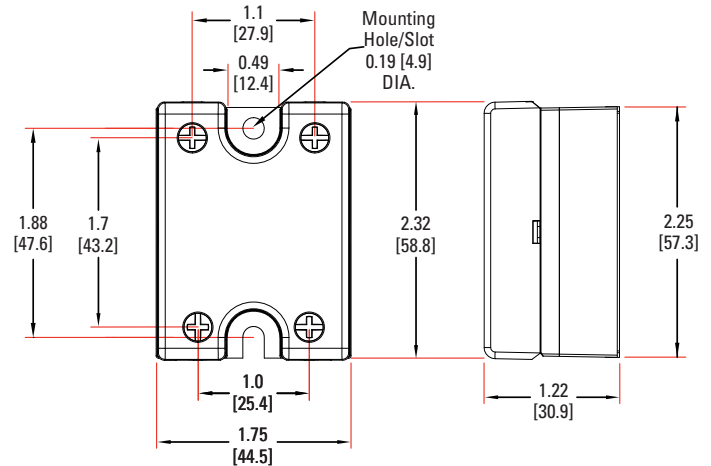
Tolerances: ±0.02 in / 0.5 mm

All dimensions are in: inches [millimeters]

Screw Termination



Screw Termination, IP20



GENERAL NOTES

- (1) Output will self trigger between 900-1200Vpk. Min. power factor 0.7 or higher, not suitable for capacitive loads.
- (2) All parameters at 25°C unless otherwise specified.
- (3) Heat sinking required, see derating curves
- (4) For ambient temperature above 40°C the maximum control voltage must not exceed 250VAC.
- (5) Increase minimum voltage by 1V for operations from -20 to -40°C.
- (6) Turn-on time for Instantaneous turn-on versions is 0.1 msec and 7msec for CWU models.
- (7) AC input models operating range is -20 to 80 °C.
- (8) All parameters at 50% power rating and 100% duty cycle (contact Crydom tech support for detailed report).
- (9) Load can be wired to either SSR output terminal 1 or 2.
- (10) Select P option for overvoltage protection.
- (11) For single surge pulse Tc=25°C; Tj=125°C. For AC Output SSRs, AC Rms value of surge current equals the peak value divided by $\sqrt{2}$ (1.414).

For additional information or specific questions, contact Crydom Technical Support.