



## DR22 Series AC & DC Output DIN Rail Mount Solid State Relays

- Ratings up to 35 Amps at 600 VAC and 30 Amps at 200 VDC
- Built-in overvoltage transient protection on AC models
- Relay or Contactor configuration
- Integral heat sink eliminates the need for complex thermal calculations
- DBC substrate for superior thermal performance
- Optional "Elevator" screw suffix "W" allows the use of ring or lug type terminals
- 1kHz Maximum PWM frequency
- C-UL-US Listed and TUV approved

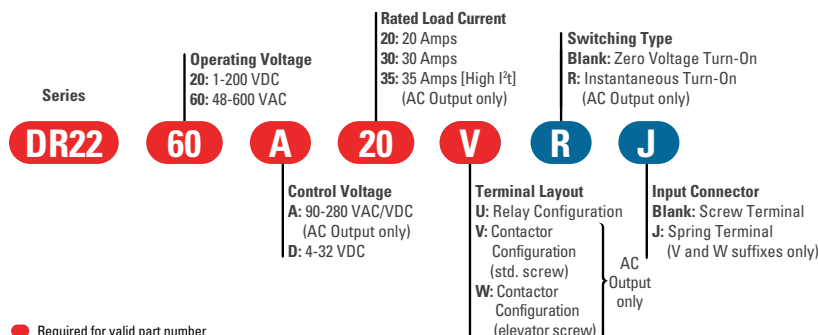


Output Specifications (A)	DR2260x20x	DR2260x30x	DR2260x35x	DR2220D20U	DR2220D30U
Operating Voltage (47-440 Hz)	48-600 V <sub>RMS</sub>	48-600 V <sub>RMS</sub>	48-600 V <sub>RMS</sub>	1-150 VDC	1-150 VDC
Absolute Maximum Rating [VDC]	-	-	-	200	200
Transient Overvoltage [Vpk] (B)	1200	1200	1200	-	-
Maximum Off-State Leakage Current @ Rated Voltage [mA]	1	1	1	0.1	0.2
Minimum Off-State dV/dt @ Maximum Rated Voltage [V/μsec]	500	500	500	-	-
Load Current, General Use UL508/LC A IEC62314 @ 40°C [A <sub>RMS</sub> ]	20	30	35	-	-
Load Current, Motor Starting UL508 FLA / LC B IEC62314 @ 40°C [A <sub>RMS</sub> ]	8.5/4.8	14/7.6	26/14	-	-
Load Current, DC General Use UL508 @ 40°C [ADC]	-	-	-	20	30
Load Current, DC Motor Starting UL508 FLA @ 40°C [ADC]	-	-	-	4.1	5.4
Maximum Load Current	20 A <sub>RMS</sub>	30 A <sub>RMS</sub>	35 A <sub>RMS</sub>	20 ADC	30 ADC
Minimum Load Current (C)	100 mA <sub>RMS</sub>	100 mA <sub>RMS</sub>	150 mA <sub>RMS</sub>	5 mA	5 mA
Maximum 1 Cycle Surge Current (50/60 Hz) [Apk]	286/300	716/750	1290/1350	-	-
Maximum On-State Voltage Drop @ Rated Current	1.35 Vpk	1.35 Vpk	1.30 Vpk	0.68 VDC	0.48 VDC
Maximum 1/2 Cycle I <sup>2</sup> t for Fusing (50/60 Hz) [A <sup>2</sup> sec]	409/375	2563/2343	8320/7593	-	-
Minimum Power Factor (at Maximum load)	0.5	0.5	0.5	-	-
Maximum Surge Current [ADC] (10 msec)	-	-	-	58	86
Maximum On-State Resistance [R <sub>DS-ON</sub> ] [Ohms]	-	-	-	0.034	0.016
Maximum Pulse Width Modulation Frequency [Hz] (D)	-	-	-	1000	900
Motor Rating UL 508/IEC62314 [HP (kW)]: 120 VAC	0.5 (0.37)	1 (0.74)	2 (1.5)	-	-
Motor Rating UL 508/IEC62314 [HP (kW)]: 240 VAC	1.5 (1.1)	3 (2.2)	5 (3.73)	-	-
Motor Rating UL 508/IEC62314 [HP (kW)]: 480 VAC	3 (2.24)	5 (3.7)	10 (7.4)	-	-
Motor Rating UL 508 [HP (kW)]: 120 VDC	-	-	-	1/3 (0.25)	1/2 (0.37)

Input Specifications (A)	DR2260Axxx	DR2260Dxxx	DR2220DxxU
Control Voltage Range	90-280 VAC/VDC (E)	4-32 VDC (F)	4-32 VDC
Maximum Reverse Voltage	-	-32 VDC	-32 VDC
Minimum Turn-On Voltage	90 VAC/VDC	4 VDC	4 VDC
Must Turn-Off Voltage	5 VAC/VDC	1 VDC	1 VDC
Minimum Input Current (for on-state) [mA]	6	10	11
Maximum Input Current [mA]	10	15	15
Nominal Input Impedance [Ohms]	Current Limited	Current Limited	Current Regulated
Maximum Turn-On time	20 msec	1/2 Cycle (G)	75 μsec
Maximum Turn-Off time	30 msec	1/2 Cycle	100 μsec

General Specifications	DR2260xxxx	DR2220DxxU
Dielectric Strength, Input to Output (50/60 Hz) [V <sub>RMS</sub> ]	4000	3750
Dielectric Strength, Input/Output/Case (50/60 Hz) [V <sub>RMS</sub> ]	4000	2500
Minimum Insulation Resistance (@ 500 VDC) [Ohms]	-	10 <sup>9</sup>
Maximum Capacitance, Input/Output [pF]	-	8
Ambient Operating Temperature Range [°C] (H)	-	-40 to 80
Ambient Storage Temperature Range [°C]	-	-40 to 100
Short Circuit Current Rating [kA] (J)	100	-
LED Input Status Indicator	-	Green
Weight (Typical) [oz] (g)	Suffix "U" 10.5 (298), "V" & "W" suffixes 10.6 (301)	
Housing Material	UL94 V-0	
Baseplate Material	Aluminum	
Hardware Finish	Nickel Plating	
Humidity	85% non-condensing	

### Part Number Nomenclature



- Required for valid part number
- For options only and not required for valid part number

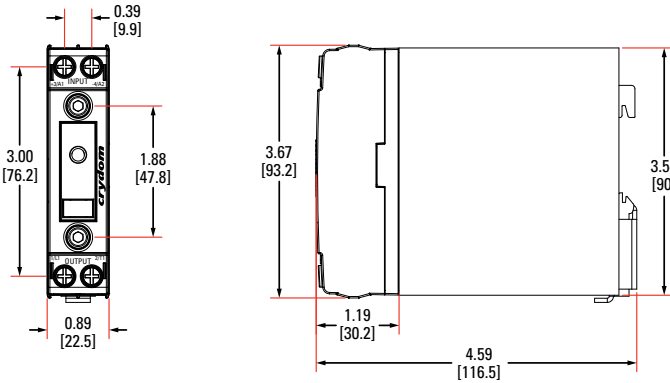
### Recommended Accessories for DR22 Series

Connectors	ID Marker	Lug Terminal	Module
CP201 CP202	CNLB CNLN CNL2	TRM0 TRM6	DRML1

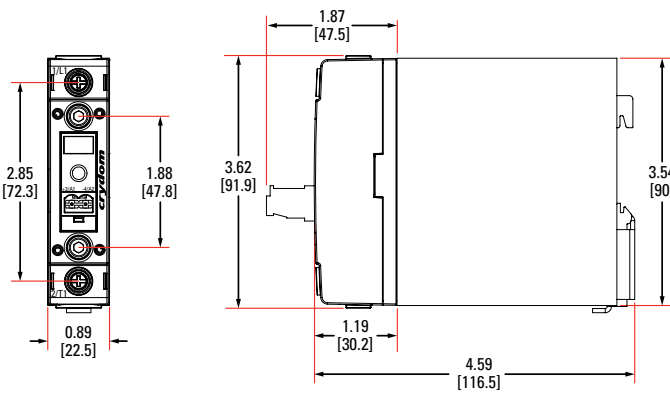
## Mechanical Dimensions

Tolerances: ±0.02 in / 0.5 mm  
All dimensions are in: inches [millimeters]

### Relay Configuration

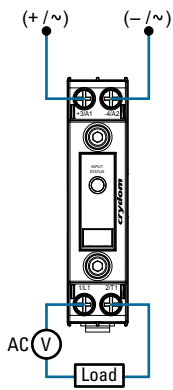


### Contact Configuration

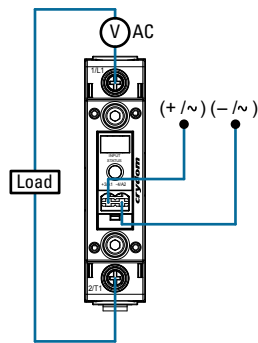


## Wiring Diagrams

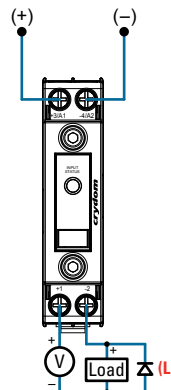
### Relay Configuration AC Output



### Contact Configuration AC Output

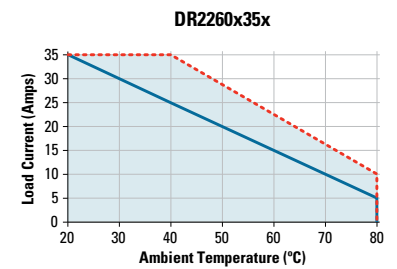
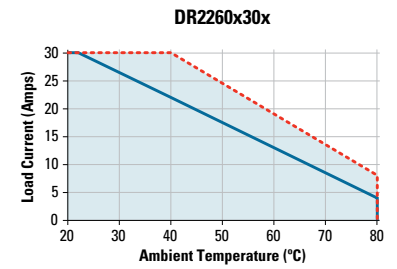
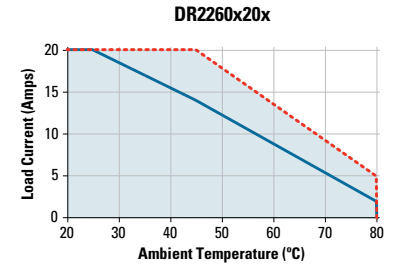


### Relay Configuration DC Output (K)

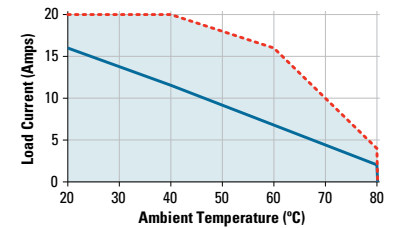


## Derating Curves (H)

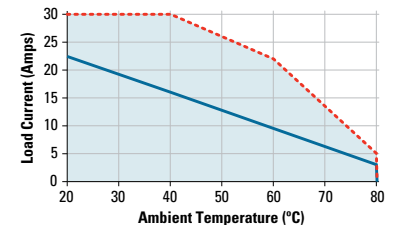
--- Single unit  
— Multiple units, no minimum spacing between components



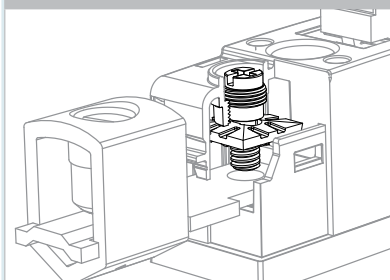
### DR2220D20U



### DR2220D30U



## Elevator Screw (Suffix "W")



The Elevator Screw option allows the screw and clamp to be raised out of the mating threads completely. This provides for the insertion and use of a ring or lug type wire terminal. See datasheet for Compatible Terminals.

## General Notes

- (A) All parameters at 25°C unless otherwise specified.
- (B) Output will self trigger between 900-1200 Vpk. Not suitable for capacitive loads.
- (C) Low current loads and high ambient temperature can affect turn-on time.
- (D) 8 VDC Minimum control voltage. Resistive loads only. Consider switching losses; at maximum frequency reduce to 75% output current. Recommended suppressor diode connected at load side, see wiring diagram.
- (E) Above 40°C ambient temperature the maximum control voltage must not exceed 250 VAC/VDC.
- (F) Increase minimum voltage by 1 V for operations from -20 to -40°C.
- (G) Turn-On Time for Instantaneous Turn-On versions is 0.1 msec.
- (H) Operating range -20 to 60°C for AC control models only.
- (J) With appropriate class and rated fuse, see product datasheet for detailed info
- (K) Load can be wired to either terminal 1 or terminal 2. Proper polarity must be observed for the DC control power supply, with terminal 3 being positive with respect to terminal 4.
- (L) DC inductive loads must be diode suppressed.