



## CKR48 | SERIES

DIN RAIL MOUNT



### Features

- Rating from 10 A to 30 A @ 530 VAC
- Slim 22.5mm (width) package
- SCR output for heavy industrial loads
- LED input status indicator
- AC or DC control
- Zero Voltage (resistive loads) or Instantaneous (inductive loads) turn-on output



### PRODUCT SELECTION

Control Voltage	10 A	20 A	30 A
4-32 VDC Control	CKRD4810	CKRD4820	CKRD4830
110-280 VAC Control	CKRA4810	CKRA4820	CKRA4830
90-140 VAC Control	CKRB4810	CKRB4820	CKRB4830
18-36 VAC Control	CKRA4810E	CKRA4820E	CKRA4830E



### OUTPUT SPECIFICATIONS <sup>1</sup>

Description	10 A	20 A	30 A
Operating Voltage (47-63Hz) [Vrms]	48-530	48-530	48-530
Transient Overvoltage [Vpk]	1200	1200	1200
Maximum Off-State Leakage Current @ Rated Voltage [mA <sub>rms</sub> ]	10	10	10
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] <sup>2</sup>	500	500	500
Maximum Load Current [A <sub>rms</sub> ]	10	20	30
Minimum Load Current [A <sub>rms</sub> ]	0.15	0.15	0.15
Maximum Surge Current (16.6ms) [A <sub>pk</sub> ]	120	250	1200
Maximum On-State Voltage Drop @ Rated Current [V <sub>pk</sub> ]	1.6	1.6	1.6
Maximum I <sup>2</sup> t for Fusing (8.3 msec) [A <sup>2</sup> sec]	60	260	6000
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5



## INPUT SPECIFICATIONS <sup>1</sup>

Description	CKRD48xx	CKRA48xx	CKRB48xx	CKRA48xxE
Control Voltage Range	4.0-32 VDC	110-280 Vrms	90-140 Vrms	18-36 Vrms
Minimum Turn-On Voltage	4.0 VDC	110 Vrms	90 Vrms	18 Vrms
Must Turn-Off Voltage	1.0 VDC	10 Vrms	10 Vrms	4.0 Vrms
Typical Input Current <sup>4</sup>	8-12 mA	5 mA @ 240 Vrms	5 mA @ 120 Vrms	10 mA @ 24 Vrms
Maximum Turn-On Time [msec] <sup>3</sup>	1/2 Cycle	10	10	10
Maximum Turn-Off Time [msec]	1/2 Cycle	40	40	40



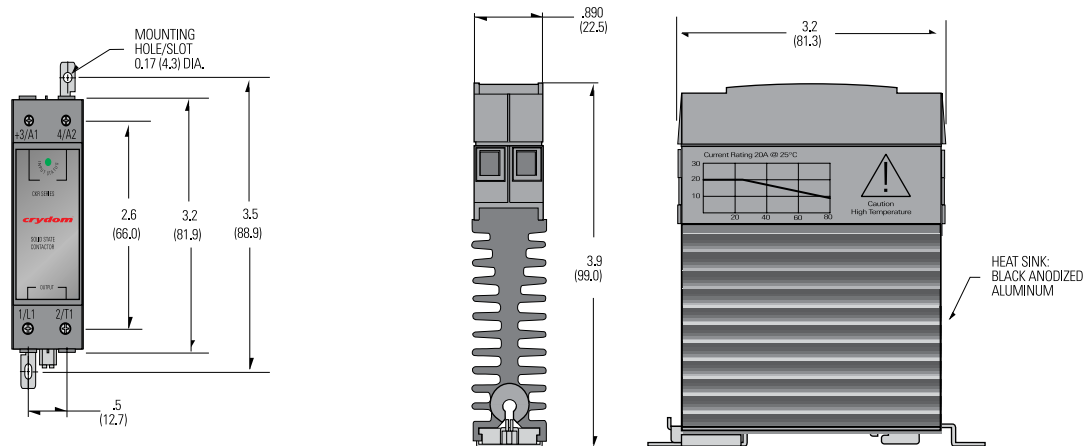
## GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 VDC)	10 <sup>9</sup> Ohms
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80 °C
Ambient Storage Temperature Range	-40 to 125 °C
Status Indicator Display	Green LED
Weight (typical)	10 oz. (280g)
Encapsulation	Thermally Conductive Epoxy
Terminals	Box Clamp Type
Maximum Wire Size	AWG # 10 (3mm)
Recommended Terminal Screw Torque Range	5.0-6.0 in-lb (0.6-0.7 Nm)
Min. Side by Side Spacing	0.8 inch (20mm)



## MECHANICAL SPECIFICATIONS

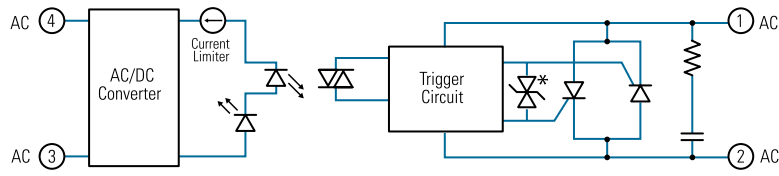
\*All dimensions are in: inches [millimeters]





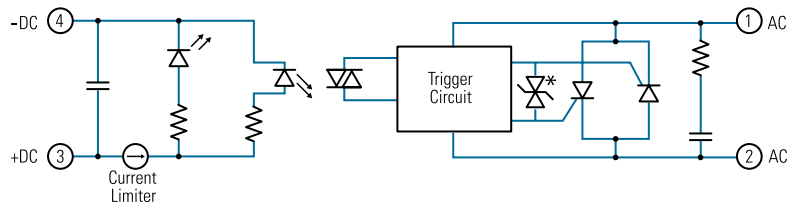
# EQUIVALENT CIRCUIT BLOCK DIAGRAMS

## AC control

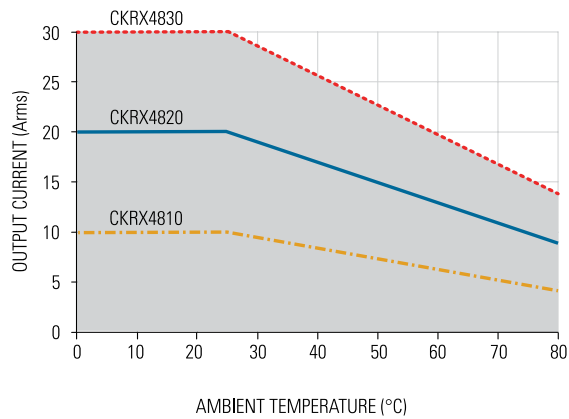


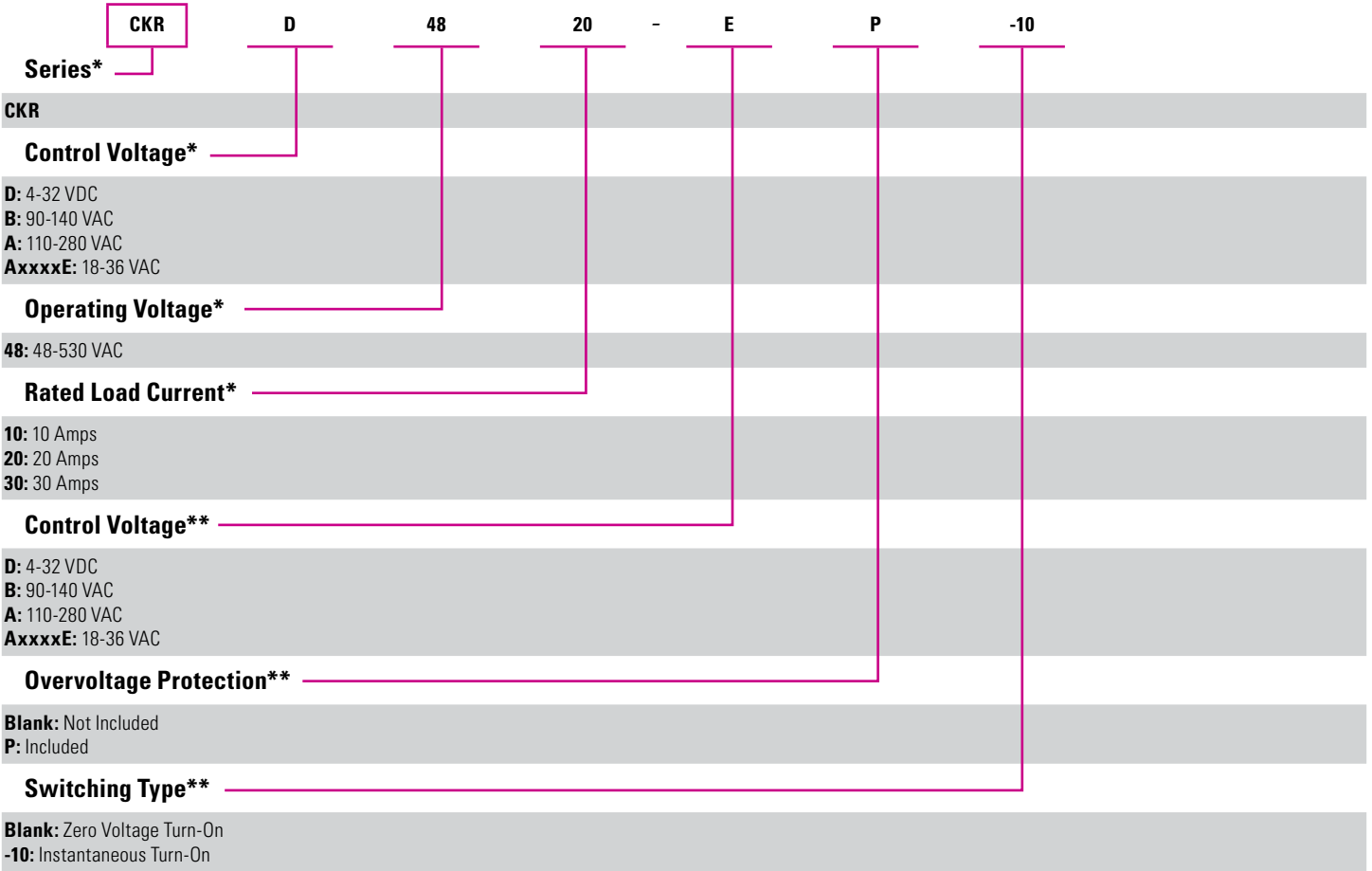
\* With Option "P" suffix

## DC control



# THERMAL DERATE INFORMATION





\*Required for valid part number  
 \*\*For options only and not required for valid part number

## GENERAL NOTES

- (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) Turn-on time for DC control instantaneous turn-on versions is 0.02 msec
- (4) Input circuitry for DC control version incorporates active current limiter.

## AGENCY APPROVALS & CERTIFICATIONS

Designed in accordance with the requirements of IEC 62314



## WARNINGS



### RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow the product to cool before touching
- Follow proper mounting instructions including torque values
- Do not allow liquids or foreign objects to enter this product

**Failure to follow these instructions can result in serious injury, or equipment damage.**



### HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Disconnect all power before installing or working with this equipment
- Verify all connections and replace all covers before turning on power

**Failure to follow these instructions will result in death or serious injury.**

Sensata Technologies, Inc. ("Sensata") data sheets are solely intended to assist designers ("Buyers") who are developing systems that incorporate Sensata products (also referred to herein as "components"). Buyer understands and agrees that Buyer remains responsible for using its independent analysis, evaluation and judgment in designing Buyer's systems and products. Sensata data sheets have been created using standard laboratory conditions and engineering practices. Sensata has not conducted any testing other than that specifically described in the published documentation for a particular data sheet. Sensata may make corrections, enhancements, improvements and other changes to its data sheets or components without notice.

Buyers are authorized to use Sensata data sheets with the Sensata component(s) identified in each particular data sheet. HOWEVER, NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER SENSATA INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY THIRD PARTY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT, IS GRANTED HEREIN. SENSATA DATA SHEETS ARE PROVIDED "AS IS". SENSATA MAKES NO WARRANTIES OR REPRESENTATIONS WITH REGARD TO THE DATA SHEETS OR USE OF THE DATA SHEETS, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ACCURACY OR COMPLETENESS. SENSATA DISCLAIMS ANY WARRANTY OF TITLE AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, QUIET ENJOYMENT, QUIET POSSESSION, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS WITH REGARD TO SENSATA DATA SHEETS OR USE THEREOF.

All products are sold subject to Sensata's terms and conditions of sale supplied at [www.sensata.com](http://www.sensata.com) SENSATA ASSUMES NO LIABILITY FOR APPLICATIONS ASSISTANCE OR THE DESIGN OF BUYERS' PRODUCTS. BUYER ACKNOWLEDGES AND AGREES THAT IT IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL LEGAL, REGULATORY AND SAFETY-RELATED REQUIREMENTS CONCERNING ITS PRODUCTS, AND ANY USE OF SENSATA COMPONENTS IN ITS APPLICATIONS, NOTWITHSTANDING ANY APPLICATIONS-RELATED INFORMATION OR SUPPORT THAT MAY BE PROVIDED BY SENSATA.

Mailing Address: Sensata Technologies, Inc., 529 Pleasant Street, Attleboro, MA 02703, USA.

## CONTACT US

### Americas

+1 (877) 502 5500  
sales.crydom@sensata.com  
**Europe, Middle East & Africa**  
+44 (1202) 416170  
ssr-info.eu@sensata.com

### Asia Pacific

sales.isasia@list.sensata.com  
China +86 (21) 2306 1500  
Japan +81 (45) 277 7117  
Korea +82 (31) 601 2004  
India +91 (80) 67920890  
Rest of Asia +886 (2) 27602006  
ext 2808