ETC

Sensor-J Power Control Modules

Sensor 100 V Series



Type(s)

Project

Date

Notes

GENERAL INFORMATION

Sensor -J power control modules are designed for use in all SR3N or SR3AFN modular rack enclosures. Whether you need forward-phase or reverse-phase SCR dimming, relay control, or the flexible control of our ThruPower modules, Sensor has you covered.

Each module provides two circuits of control with options for one-pole (hot) or two-pole (hot and neutral) circuit breaker protection. Advanced Features (AF) modules enable dimmer-specific feedback of load circuit data in SR3AFN encl. All modules feature modular installation and removal, fully magnetic circuit breakers, and rock-solid construction.

APPLICATIONS

- Tungsten lighting
- Low voltage lighting
- Non-dim loads
- Moving lights, fog machines, and powered effects
- Electronic transformers
- Electronic LED power supplies
- 2-wire Fluorescent ballast
- 4-wire Fluorescent ballast (requires ETC Response 0-10 V Gateway)
- Quartz lighting
- Neon lighting
- Cold Cathode lighting

FEATURES

- High-density modular assembly
- Die-cast aluminum chassis
- Fully magnetic circuit breakers
- Temperature sensors

ADVANCED FEATURES (AF)*

- Built-in per-circuit voltage and current sensing
- Advanced Features error messages:
  - Load dropped below recorded value
  - Load increased over recorded value
  - Circuit breaker tripped
  - Dimmer module removed
  - Dimmer load absent

*Access to AF features require an AF-equipped Sensor rack or pack

SPECIFICATIONS

GENERAL
- Rated for continuous duty at 100% of rated load
- 1 kW or 2 kW circuits

PHYSICAL
- Modular plug-in assemblies
- Cast aluminum chassis, finished with textured epoxy paint
- Keyed to prevent insertion in inappropriately rated rack positions

CIRCUIT BREAKERS
- Fully magnetic to eliminate nuisance tripping
- 20x inrush current rating (PhaseAdept and ELV modules rated at 10x inrush)
- 125%, 10–100 seconds, must-trip rating
- Rated for 100% switching duty applications

SHORT CIRCUIT RATINGS
- 100,000 A Short Circuit Current Rating (SCCR)
- Modules withstand hot-patching of cold loads up to full rating

POWER DEVICE
- Sealed, patented assembly
- Field-replaceable with screwdriver
  - Power devices on PhaseAdept and ELV modules are not field-replaceable
- Two back-to-back SCRs per circuit (D20 and TR20 modules)
- Per-circuit LED indicators
- Mechanical held air gap relay
- Integral bonded heatsink
- Integral temperature sensor

FILTERING
- High quality toroidal filters (see module chart for rise times)

LOW VOLTAGE DIMMING
- Dimming range of 2 and 4-wire fluorescent ballast is dependent on lamp ballast combination. 4-wire fluorescent control by others. Contact ETC for range verification
- Phase dimming performance for LED lamps varies considerably depending on the manufacturer and model. Visit etcconnect.com/compatibility/ for details on a variety of specific lamps and information on how to send samples to ETC for testing.
- PhaseAdept (LED) modules provide forward- or reverse-phase dimming and are compatible with any ETC Unison DR, Unison DRd or Sensor enclosure, including legacy products
- ELV modules provide forward- or reverse-phase dimming and are compatible with Sensor+ and Sensor3 enclosures

SR3-J DIMMER MODULE CHART

Model Number Key

Module Type - Identifies the function of the module: TR (ThruPower), D (Dimmer), R (Relay), LED (PhaseAdept), ELV (Electronic Low Voltage)

NUMBER - Identifies the rated max current per circuit within the module; for example, a D20J module provides dimming for 20 A circuits

AF - Module provides advanced features (AF) feedback per circuit; requires Sensor rack with AF cards for full functionality

R - Module provides per-circuit 30 mA RCD circuit breaker protection; requires Neutral Disconnect Sensor rack

N - Module is compatible with Sensor racks that have a separate neutral connection bus but does not provide neutral disconnect or RCD protection

AFM - Module body without electronics for rack slots without branch circuits; ensures proper air flow and rack cooling

ThruPower Modules

MODEL	CURRENT/ WATTAGE/RISE TIME	CIRCUITS	RACK SLOTS	EFFICIENCY	MAX BTU/ HR|WATTS/ CHANNEL	WT / SHIP WT	DIMENSIONS
TR20SAFJ	20 A / 2 kW / 350 µs	2	1	96.50%	239 BTU / 70 W	2.3 kg / 3.1 kg	38 mm x 300 mm x 172 mm
TR20SAFNJ	20 A / 2 kW / 350 µs	2	1	96.50%	239 BTU / 70 W	2.3 kg / 3.1 kg	38 mm x 300 mm x 172 mm
TR20SAFRJ	20 A / 2 kW / 350 µs	2	1	96.50%	239 BTU / 70 W	2.3 kg / 3.1 kg	38 mm x 300 mm x 172 mm

Dimmer Modules

MODEL	CURRENT/ WATTAGE/RISE TIME	CIRCUITS	RACK SLOTS	EFFICIENCY	MAX BTU/ HR|WATTS/ CHANNEL	WT / SHIP WT	DIMENSIONS
D20J	20 A / 2 kW / 350 µs	2	1	95.00%	341 BTU / 100 W	2.3 kg / 3.1 kg	38 mm x 300 mm x 127 mm
D20EJ	20 A / 2 kW / 500 µs	2	1	95.00%	341 BTU / 100 W	2.3 kg / 3.1 kg	38 mm x 300 mm x 127 mm
D20AFJ	20 A / 2 kW / 500 µs	2	1	95.00%	341 BTU / 100 W	2.3 kg / 3.1 kg	38 mm x 300 mm x 127 mm
D20AFNJ	20 A / 2 kW / 500 µs	2	1	95.00%	341 BTU / 100 W	2.3 kg / 3.1 kg	38 mm x 300 mm x 127 mm
D20AFRJ	20 A / 2 kW / 500 µs	2	1	95.00%	341 BTU / 100 W	2.3 kg / 3.1 kg	38 mm x 300 mm x 127 mm

Relay Modules

MODEL	CURRENT/ WATTAGE	CIRCUITS	RACK SLOTS	EFFICIENCY	MAX BTU/ HR|WATTS/ CHANNEL	WT / SHIP WT	DIMENSIONS
R20J-R2	20 A / 2 kW	2	1	>99.0%	68 BTU / 20 W	1.2 kg / 1.6 kg	38 mm x 300 mm x 127 mm
R20AFNJ-R2	20 A / 2 kW	2	1	>99.0%	68 BTU / 20 W	1.2 kg / 1.6 kg	38 mm x 300 mm x 127 mm
R20AFRJ-R2	20 A / 2 kW	2	1	>99.0%	68 BTU / 20 W	1.2 kg / 1.6 kg	38 mm x 300 mm x 127 mm

Sensor-J Power Control Modules*

Sensor 100 V Series

Low Voltage Line Dimming Modules

MODEL	CURRENT/ WATTAGE	CIRCUITS	RACK SLOTS	EFFICIENCY	MAX BTU/ HR|WATTS/ CHANNEL	WT / SHIP WT	DIMENSIONS
LED10NJ	10 A / 1 kW	2	1	96.23%	163 BTU / 48 W	1.1 kg / 1.5 kg	38 mm x 300 mm x 127 mm
LED10RJ	10 A / 1 kW	2	1	96.23%	163 BTU / 48 W	1.1 kg / 1.5 kg	38 mm x 300 mm x 127 mm
ELV10AFRJ	10 A / 1 kW	2	1	96.50%	119 BTU / 35 W	1.1 kg / 1.5 kg	38 mm x 300 mm x 127 mm
ELV10AFNJ	10 A / 1 kW	2	1	96.50%	119 BTU / 35 W	1.1 kg / 1.5 kg	38 mm x 300 mm x 127 mm
ELV10NJ	10 A / 1 kW	2	1	96.50%	119 BTU / 35 W	1.1 kg / 1.5 kg	38 mm x 300 mm x 127 mm
ELV10RJ	10 A / 1 kW	2	1	96.50%	119 BTU / 35 W	1.1 kg / 1.5 kg	38 mm x 300 mm x 127 mm

Note: LED10 and ELV10 modules do not support use with magnetic transformers.

Air Flow Modules

MODEL	CURRENT	CIRCUITS	SLOTS	EFFICIENCY	MAX BTU	WT / SHIP WT	DIMENSIONS
AFM	-	0	1	-	-	0.7 kg / 1.1 kg	38 mm x 300 mm x 127 mm

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