POWER EQUIPMENT

CHF

CHF Constant Current Regulator

FERRORESONANT, AIR-COOLED, 50/70 KW

Compliance with Standards

FAA: L-828/L-829 AC 150/5345-10 (Current Edition). ETL Certified.

Military: UFC 3-535-01; NAVAIR 51-50AAA-2

Uses

FAA L-828/ L-829
Supplies three or five precision output levels to power series lighting circuits on airport runways and taxiways.

Features

- Advanced CCR architecture produces minimal EMI, high efficiency, and near unity power factor for AC 150/5345-10 test conditions, exceeding FAA and military requirements for power factor and efficiency. Advanced architecture has excellent input power factor and efficiency at all intensity steps and lower loads.
- Does not exceed the conducted power line emission limits given in Table 4 of AC 150/5345-10 with testing as specified in the Code of Federal Regulations (CFR) Title 47, Subpart B, Section 15.107b. Does not exceed the radiated emission limits given in Table 5 of AC 150/5345-10 with testing as specified in the Code of Federal Regulations (CFR) Title 47, Subpart B, Section 15.109b.
- Optional integrated ACE^{TM} unit provides state-of-the-art remote control and L-829 monitoring capability. True-RMS output current and voltage, VA, watts, lamps-out, and series circuit insulation resistance (IRMS) value to be alternately displayed. A visual indication is also provided for all other FAA-monitored parameters, including open circuit, overcurrent, loss of input power, loss of input voltage, low VA (drop in load VA of 10%), Remote/Local status, and incorrect output current.
- Available in one class and style:
  Class 2 = 20 A maximum output current (50-70 kW only)
  Style 2 = 5 Brightness Steps
- If input power loss occurs, operation will resume within five seconds after restoration of input power
- Field upgrade available from L-828 to L-829 with ACE^{TM} unit
- Input and output lightning protection included

Theory of Operation

Ferroresonant circuitry and a solid-state control system accurately regulate the output current to within the FAA-allowable range from no load to full load and with input voltage variations of -5% to +10% of nominal.

ACE^{TM} Unit

The optional ACE^{TM} unit provides L-829 monitoring and optional field Insulation Resistance Measurement System (IRMS) and optional CCR input power monitoring capability. Each unit is installed internally in each CCR that requires remote control and/or monitoring within the airfield lighting electrical vault. Optional CCR input monitoring monitors the following:

- CCR input current
- CCR input voltage
- CCR input volt-amps (VA)
- CCR input power (watts)
- CCR input power factor
- CCR % efficiency

The ACE^{TM} unit is also a component of ADB Safegate's distributed control and monitoring system. Each unit can be easily connected to an Airport Lighting Control & Monitoring System (ALCMS) by simply adding redundant communication wires. See ADB Safegate RELIANCE Power ACE3 data sheet 3097 for additional information.

Environmental Operating Conditions

Temperature:	L-828: -40 °C to +55 °C (-40 °F to +131 °F) L-829: 0 °C to +55 °C (32 °F to +131 °F)
Humidity:	10 to 95%
Altitude:	0 to 6,600 ft (2,000 m)

CHF

Ordering Code

CHF XX XX - X X X X

Amperage
20 = 20 A output

Size
50 = 50 kW
70 = 70 kW

Output Range
5 = 5-step without Series Cutout
6 = 5-step with Series Cutout

Input Voltage
3 = 480 Vac, 60 Hz

Monitoring Options (See Application Notes)
00 = None (Standard L-828)
33 = L-829 Monitor (ACE3)
53 = L-829 Monitor (ACE3) with IRMS
73 = L-829 Monitor (ACE3) with Input Power Monitor
83 = L-829 Monitor (ACE3) with IRMS, Input Power Monitor

Electrical Supply

Power Input:	60 Hz, single-phase, available in 480 VAC
Power Factor:	0.95 or more for 50 and 70 kW
Efficiency:	93% minimum for 50 kW 94% minimum for 70 kW
Remote Control:	120 VAC, 60 Hz or +48 VDC, ±10%

Dimensions

CCR Size	Dimensions (H × W × D)	Weight (lbs / kg)
50 kW	70 × 33 × 34 (in.) 177.8 × 83.8 × 86.4 (cm)	2150 lbs / 975.2 kg
70 kW	70 × 33 × 34 (in.) 177.8 × 83.8 × 86.4 (cm)	2400 lbs / 1088.6 kg

CCR Kits

Various kits are available to customize CCRs for specific application requirements.

Current Sensing Relay Kit	**94A0343**

Application Notes

Monitoring Option	Application Notes
00	L-828 with Analog Current Meter on door. Remote Control through multi-wire connection to terminal block in CCR. No monitoring.
33	L-829 Monitoring with RELIANCE Power ACE3 Advanced Control Equipment. • Remote control from ACE3 to ADB Safegate ALCMS through ethernet or serial communication cable. Multi-wire connection to terminal block in CCR also available.
53	Includes Monitoring Option 33, and • Insulation Resistance Measurement System (IRMS)
73	Includes Monitoring Option 33, and • Input Power Monitoring through ACE3
83	Includes Monitoring Option 33, and • Insulation Resistance Measurement System (IRMS) • Input Power Monitoring through ACE3