

COSAL

Constant Current Regulator E with RELIANCE IL Central Unit and SRU with Voltage Limiter



Compliance with Standards

IEC	IEC 61822 IEC 62870 IEC / DIN EN 62821 (VDE 0161-103)
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Overview description

The ADB SAFEGATE Control System for Airfield Lighting – COSAL® is used for supplying, controlling and monitoring series circuits.

The Constant Current Regulator type E (CCRE)® is a component of the COSAL® system. The CCRE was developed specifically for use in airport lighting systems, and is designed to ensure dependable supply to series circuits featuring lights or taxi traffic signs.

Power specifications

Input voltage (for single- or two-phase power supply)	230 V AC / 400 V AC ± 10%
Input current, depending on the regulator type involved	Max. 50 A / 80 A / 100 A
Line frequency	50 Hz ± 7.5%
Output current	Max. 6.6 A
Efficiency	> 80 %
Remote control voltage	1 x 24 V DC / 10 W
Optional	1 x 48 V DC / 10 W

Design

The CCRE is designed as a 19-inch drawer, featuring at the front a back-lit 4-line LCD display, plus a membrane keyboard for parameterization and manual operator control. A cubicle system (which can also be provided in different installation heights) serves to accommodate a maximum of 8 regulator drawers with up to 16 control circuits. Both the power and control connections are established by plugging in the plug connectors provided at the rear.

Features

- Direct field bus connection (CAN, RCOM, MODBUS, Profibus - simple or redundant)
- Parallel interface available
- Connection of other field bus systems (e.g. Interbus S) possible using a bus converter

- All operating parameters can be modified using intuitive menu prompting and an integrated membrane keyboard
- Parameterization alternatively via serial parameterization interface (RJ45) on the front panel
- Continual display of the following operational data of the regulator:
 - Circuit designation (e.g. TXE 006, THR 19-1, etc.)
 - Setpoint values of the categories, the series circuit current and the power rate (optional)
 - Actual values of the categories, the series circuit current and the power rate (optional)
- Continual display of the following data from the series circuit:
 - Insulation resistance value
 - Lamp failure (percentage / numerical)
- Storage of all operational parameters on a replaceable memory card, obviating the need for recalibration after a regulator replacement
- Insulation resistance display integrated in the regulator drawer
- Microprocessor-controlled, fully digital
- 8 brightness levels
- Integration option for a remote providing individual lamp control (RELIANCE IL)
- 1 or 2 control circuits in a 19-inch drawer
- Can be supplied for system cubicles, combined cubicles or for compact regulators
- On-the-spot operator control using a membrane keyboard
- Option for switching between local and remote control using a toggle switch or a separate lock switch

Option with RELIANCE IL Central Unit (CU) for RELIANCE IL SRU

In ADB SAFEGATE COSAL® Constant Current Regulators E (CCRE) type 501-E, 505-E, 506-E, 805-E, 105E, 531-E, 525-E and 117-E is a RELIANCE IL Central Unit (which equals a master unit used by competitors). These regulator types are designed especially for use with RELIANCE IL when combined with a SRU type 111 (single-channel) or 112 (dual-channel). See ordering code table.

Optional SRU with Voltage Limiter for DIN EN 62870 Systems

The RELIANCE IL SRU type 111 and 112 is equipped with an optional voltage limiter to support your DIN EN 62870 system.

Technical Data

Parallel interface	Input: 24 V DC / 10 mA Output: 24 V DC / 30 mA
Optional	Input: 48 V DC / 10 mA Output: 48 V DC / 30 mA
Field bus	CAN, RCOM, MODBUS, Profibus - simple or redundant
Brightness levels	8, user-configurable on each level within the tolerance range of the current
Response time and shut-down behavior to IEC 61822 Control rate	30 A/s
Control precision	1%
Humidity (non-condensing)	Max. 95% rel.
Installation site / air pressure	< 2000 m above sea level
Operating temperature range	-5°C – +50°C
Transport / storage	-25°C – +55°C
Protection class	IP 40
Dimensions (W x H x D)	483 x 132 x 509 mm

Ordering Code

Type	Interface			Supply				Double CCRE	Lockswitch
	CAN / RCOM	Profibus	IL III	1-phase 50 A	2-phase 50 A	2-phase 80 A	2-phase 100 A		
CCR 503-E	X			X					
CCR 507-E	X			X				X	
CCR 501-E	X		X	X					
CCR 505-E	X		X/X	X				X	
CCR 506-E	X		X/-	X				X	
CCR 806-E	X					X			
CCR 805-E	X		X			X			
CCR 106-E	X						X		
CCR 105-E	X		X				X		
CCR 530-E		X			X				X
CCR 531-E		X	X		X				X
CCR 522-E		X			X			X	X
CCR 525-E		X	X/X		X			X	X
CCR 116-E		X					X		X
CCR 117-E		X	X				X		X