Constant Current Regulators: Options

CCR0

Applications

The options described below apply to the Crouse-Hinds 828X0 and 829X0 constant current regulators (CCR's) listed on catalog pages ET-5.1, ET-6.5 and ET-6.9 (except as noted in the option descriptions). Many options may be combined in one CCR. However, contact Crouse-Hinds when specifying multiple options to insure compatibility.

Option Number **Description**

11 **48 VDC Control Voltage (Remote Source)**
The regulator control voltage is 48 VDC supplied by the user from a remote source. The source is typically a DC power supply but it may also be batteries. This option replaces the standard internal 120 VAC supply.

12 **Customer Specified Control Voltage (Remote Source)**
The regulator control voltage is a fixed DC voltage between 12 and 76 supplied by the user from a remote source. The user specifies the exact DC value. The source is typically a DC power supply but it may also be batteries. This option replaces the standard internal 120 VAC supply.

16 **48 VDC Control Voltage (Internal Source)**
The regulator control voltage is 48 VDC supplied by a built-in power supply. No separate power supply in the tower is required. Using individual power supplies for each regulator lessens the possibility of control system failure than when using a single central source. This option replaces the standard internal 120 VAC supply.

17 **Customer Specified Control Voltage (Internal Source)**
The regulator control voltage is a fixed DC voltage between 12 and 60 supplied by a built-in power supply. The user specifies the exact DC value. No separate power supply in the tower is required. Using individual power supplies for each regulator lessens the possibility of control system failure than when using a single central source. This option replaces the standard internal 120 VAC supply.

21 **On/Off Output Current Monitor**
Also called simple remote back indication, this option supplies a set of dry contacts for remote monitoring of the output current. It provides a positive signal to the tower that the constant current regulator is really "on", that is, there is current output to the circuit.

22 **Individual Step Output Current Monitor**
This option is remote back indication for the individual brightness steps of the constant current regulator. It provides a positive signal to the tower that the constant current regulator is really "on" at the commanded step, that is, there is current output to the circuit. There are five (5) normally open contacts for brightness step indication and one (1) normally open contact that monitors two fault conditions: overcurrent and open circuit.

23T **Computer Interface**
This option is used only for FAA L-828 regulators and provides sets of dry contacts for remote status monitoring. There are two (2) normally open / normally closed Form C contacts to monitor: local or remote status; and regulator input power indication. (This option provides potential and current transformers and related items with a CROUSE-HINDS computerized control system).

24 **RVR Interface**
The constant current regulator receives a 120 volt input from the runway visual range computer and produces a preset voltage output to the RVR computer based upon the brightness step of the series circuit. This option is usually applied only on the high intensity runway edge lighting circuit. (Not available for small REGD's as shown on catalog page ET-6.9).

31 **Lamp Failure Detector (829X0 only)**
This option is used only for FAA L-829 regulators and provides additional eight (8) dry contacts for remote indication from zero to eight (8) individual failed airfield lighting lamps.

33 **Earth Leakage / Ground Fault Detector**
Cable insulation resistance is based on soil conditions, cable length and age, and other variables. This option will display a relative percentage leakage value. This option may also substitute for periodic circuit megger readings and provides programmable ground fault detection with two (2) levels of remote alarm via dry contacts. Readings are requested using the keypad and appear on the CCR digital display. The installer calibrates the CCR to the 100% value (zero ohms) by shorting one output terminal to ground. When first connected to the circuit, the initial reading represents the existing leakage (typically less than 20%). Record that initial percentage value P_1 as the baseline and measure future percentage P_2 readings relative to it. Megger the circuit the first time and record that value as M_1. Future megger readings M_2 are performed by reading P_2 and using the following formula:

$$M_2 = M_1 (P_1 3 P_2) \qquad 100\% = 0 \text{ ohms}$$

P_1 = Initial % reading M_1 = Initial megger P_2 = Today's % reading M_2 = Today's megger
The user determines and sets the two (2) percentage alarm levels.

41 **Digital Display of Line Voltage & Current**
Displays on one (1) meter the regulator's input line volts and amps.

42 **Digital Display of Line Voltage, Line Current & Load Voltage**
Combines the functions of options 41 and 44 using two (2) meters.

43 **Digital Display of Line Voltage**
Displays on one (1) meter the regulator's input line volts.

44 **Digital Display of Load Voltage**
Displays on one (1) meter the regulator's output series circuit volts.

57 **Discrete Elapsed Time Meter Alarm**
The 828X0 and 829X0 regulators include elapsed time indications as a standard feature. This option supplies a set of dry contacts for remote alarm indication. The brightness step and the time to alarm are programmed by the user.

62 **Discrete Status Indication (829X0 only)**
This option is used only for FAA L-829 regulators and provides seven (7) dry contacts for remote status monitoring of the L-829 functions. Without this option, the L-829 alarms are indicated only by a single global alarm signal locally at the regulator.

63T **Digitrac Computer Interface**
This option provides full control and monitoring (L-827) capabilities in conjunction with Crouse-Hinds Digitrac Airfield Lighting Control System.

92 **Delete Primary Switch**
This option deletes the large REGD's primary switch and adds the parts required for use of an external 120 volt control primary switch supplied by others. (Not available for small REGD's as shown on catalog page ET-6.9).

94 **Primary Switch, 2 Poles**
The standard large REGD breaker is one-pole for use with a Wye electrical system. This option provides a breaker suitable for use with a 2400 volt Delta distribution system. (Not available for small REGD's as shown on catalog page ET-6.9).

Important Note: Where applicable, the contacts provided for external remote indication are limited to two (2) amps resistive load. The external wiring and indicators are not supplied by Crouse-Hinds. Improper external wiring voids the regulator warranty.

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