



Field Commander™

Cutler-Hammer Pow-R-Command 100

Intelligent Lighting Control and Energy Management System
Universal System Controller

Overview

The heart of the Pow-R-Command 100 Panelboard is the microprocessor-based Universal System Controller. It provides distributed intelligence for networking Cutler-Hammer panel-boards containing solenoid-operated circuit breakers to combine the functions of both circuit breaker and lighting relay. The panels are factory-configured in 18, 30, and 42 breaker sizes and up to 120 panels can be networked on a single LAN. Panel status and control information is provided for dynamic and historical analysis using optional PC Windows-based graphical software.

The Universal System Controller (USC) is an application specific unitary controller allowing the use of database definitions for creation of custom control applications. The USC, in conjunction with the Controllable Breaker Panel, provides distributed Direct Digital Control (DDC) for a wide array of systems from lighting controls to activation and shut down of equipment in commercial, industrial, and educational facilities. Universal inputs can be used to monitor temperatures, lighting levels, occupancy sensors, override switches, and utility metering. Analog outputs can be used for dimmer controls and daylight harvesting.

The USC board contains a microprocessor computer system, EPROM for program storage, real-time clock and calendar, battery-backed RAM for operational data and control parameters, and an RS-485 LAN communication interface.



System and Programming Features

Field programmable by portable PC on-site or via modem
English language device names & programming
Daylight Savings changeover and Astronomical scheduling
Alarm reporting with user-defined English messages
Optimized start-up and shut-down program options
75 event timers
Computed points and globals for user defined algorithms
RS-485 LAN connection with up to 120 panels
Trend and run-time logging
Switching power supply using 28VAC transformer

Program and database stored in 10 year battery-backed RAM
Scheduling by time, day, and dates with onboard clock and calendar
Back-up scheduling automatically activated if LAN disconnected
Interactive real-time status monitoring with multiple actions
Extensive math and Boolean functions for special algorithms
75 named points with 64 software points (flags)
Switch inputs with maintained, momentary, or toggle action
Online self-diagnostics
Demand control and electrical metering - Optional
Fully compatible with H I Solutions Field Commander Products



Universal System Controller

016-4073

Mechanical: Designed for mounting inside Cutler-Hammer Pow-R-Command 100 Breaker Panel or IFS with Pow-R-Command chassis via quick-disconnect connectors

Breaker Controls: Up to 42 breakers directly controlled with actual status feedback

Digital Inputs: Opto-isolated with over-voltage protection, automatic pulse counters

Universal Inputs: 8 10 bit Universal inputs used for monitoring digital or analog signals; analog inputs for 0-5 VDC, 4-20 MA or direct 10k thermistor signals. 15 VDC analog power source provided

Analog outputs: Analog outputs 4-20 mA or 0-10VDC with 10-bit D/A conversion, scaling, and PID software control

Thermostat: Supports two wall-mount executive thermostats with 10K-ohm thermistor, override switch, set-point adjustment, and LED display. "Smart thermostats" featuring active displays and integrated control capability available as an option

Breaker circuits: LAN Communication- Peer-to-peer network with RS-485 Driver, 9600 Baud, 1-pair cable

(control and status) 18, 30, 42

Dimensions: 3 3/4" x 10 1/2"

Breakers Bolt-on
120vac / 277vac
Single & Double Pole Up to 30amp
Meets NEC series rating requirements

Panelboard 208/120v and 480Y/277v
3-phase 4-wire and 1-phase 3-wire
400A main lug only or main breaker
200A main fuse disconnect
UL67 Listed
Max 42 branch circuits

Optional Graphical Software

Name	Description	Group	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42								
BK01	113-115-117-119	--C-----	1	OFF	OFF	2	--D-----	CORR EAST	BK02																																											
BK03	121-123-125	--C-----	3	ON	OFF	4	--D-----	CORR SO.CENTWE	BK04																																											
BK05	127-131-33-37-39	--C-----	5	OFF	OFF	6		CORR EMER	BK06																																											
BK07	141-143-145	--C-----	7	ON	OFF	8	--D-----	CORR EAST	BK08																																											
BK09	149-151-153	--C-----	9	ON	OFF	10	--D-----	CORR SO.CENT.WE	BK10																																											
BK11	150-152-155-157	--C-----	11	ON	OFF	12		CORR EMER	BK12																																											
BK13	LTG LRC	--C-----	13	OFF	OFF	14		LRC EMER.BATH.EX	BK14																																											
BK15	LTG LRC	--C-----	15	OFF	OFF	16	--C-----	142-144-146-148	BK16																																											
BK17	06L-04L-TECH OFF	--C-----	17	OFF	ON	18		136-138-140	BK18																																											
BK19	122-4-6-8-130-2-4	--C-----	19	OFF	OFF	20		Breaker 20	BK20																																											
BK21	108-110-112-114	--C-----	21	OFF	OFF	22	A.C-----	VEST 4 ENT	BK22																																											
BK23	116-118-120	--C-----	23	ON	OFF	24	.B-----	EP LOT S S CENTER	BK24																																											
BK25	W PARKING LOT	--B-----	25	OFF	OFF	26	--E-----	EP LOT S S CENTER	BK26																																											
BK27	W PARKING LOT	--E-----	27	OFF	OFF	28	--E-----	EP LOT NO N CENTER	BK28																																											
BK29	SOUTH WALKS	--B-----	29	OFF	ON	30	.B-----	EP LOT N N CENTER	BK30																																											
BK31	SOUTH WALKS	--B-----	31	OFF	ON	32	.B-----	EAS1 NUHTH WALKS	BK32																																											
BK33	Breaker 33		33	ON	OFF	34	.B-----	FLAGPOLE LIGHT	BK34																																											
BK35	Breaker 35		35	OFF	ON	36		Breaker 36	BK36																																											
BK37	Breaker 37		37	ON	OFF	38		Breaker 38	BK38																																											
BK39	Breaker 39		39	OFF	OFF	40		Breaker 40	BK40																																											
BK41	Breaker 41		41	OFF	OFF	42		Breaker 42	BK42																																											

About H I Solutions

Since 1974 H I Solutions has provided innovative and cost-effective solutions for building management needs with computer-based automation systems for industrial, commercial, office, retail, educational, and healthcare facilities. Our distribution channels include a network of Independent Distributors, OEM, and National Accounts. Headquartered outside Atlanta, Georgia, H I Solutions is committed to offering quality engineering and performance, low overall cost, and unparalleled customer service.

