Eaton Pow-R-Command intelligent panelboard

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Intelligent, compact and easily scalable architecture helps maximize savings and meet new energy code requirements.

Features and benefits

- **Meet evolving standards**
  Meet the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE®) 90.1-2010 as well as the 2012 International Energy Conservation Code (IECC®) building standards for daylighting controls. Implement controllable circuit breakers to meet the ASHRAE 90.1-2010 requirement for automatic shut-off for at least 50 percent of receptacles.
- **Reduce space with integrated design**
  Consolidate branch circuit protection, intelligent controls for switching and dimming, and energy metering into a single enclosure to simplify design and reduce required wall space by 50 percent.
- **Minimize labor**
  Reduce material and labor costs by eliminating the need for additional control cabinets, external metering and related wiring with Eaton's integrated design that can also simplify installation for up to 50 percent labor savings.
- **Simplify scalability**
  Achieve easy and cost-effective lighting and energy management system growth with the flexible Pow-R-Command™ Master and Expansion lighting panelboards system architecture.
- **Increase sustainability**
  Reduce lighting energy usage by as much as 41 percent and lower heating, ventilation and air conditioning (HVAC) load requirements with the Pow-R-Command system, while contributing to U.S. Green Building Council (USGBC®) Leadership in Energy and Environmental Design (LEED®) credits.
- **Enhance safety**
  Prevent contact with live components. A compartment behind the Pow-R-Command controller display allows for safe access to low-voltage communications and input/output (I/O) connections without removing the panelboard trim or deadfront.

Powering Business Worldwide

Pow-R-Command components

Controller

Intuitive, high-resolution color LCD touch screen

Folded display showing integrated connections

The Pow-R-Command controller offers a broad range of schedule- and occupant-based control capabilities, as well as dimming and daylight harvesting control. Remote communication options include Ethernet and RS-485 network communications. LCD touch screen display and Ethernet maintenance port provide simple local interface.

Features and benefits

- **Simple management**
  Easily access local program, monitor and override functions directly from the Pow-R-Command backlit color LCD touch screen and user-friendly interface. Simplify local controller maintenance with an integrated maintenance Ethernet port and access to preconfigured Web pages.
- **Safe and easy access**
  Safely access low-voltage communications and input/output (I/O) connections without removing the panelboard trim or deadfront.
- **Flexible communications**
  Remotely manage programming, monitoring and system override with RS-485 and Ethernet communications options.
- **Building integration**
  Simplify building management with BACnet®/IP industry standard communications for integrating Pow-R-Command into a building management system.

Controllable circuit breakers

Solenoid-operated controllable circuit breakers

Eaton solenoid-operated circuit breakers integrate branch circuit protection and control into a single device.

Features and benefits

- **Maximize energy savings**
  Control lighting and plug loads with time and space occupancy schedules to maximize energy savings.
- **Intelligent control**
  Achieve accurate status and override controls with integrated solenoid mechanism.
- **Flexibility**
  Meet the needs of nearly every building type with 15 A, 20 A and 30 A configurations in single- and two-pole models suitable for voltage systems up to 480 Vac. Emergency and plug load controllable circuit breakers available to meet special application requirements.

Digital switches

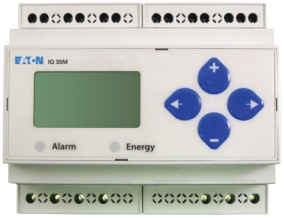
Intelligent digital switches for local load control (optional component—can be purchased separately)

Pow-R-Command digital switches provide occupant override and dimming control. Digital switches are connected to the controller Digital Switch Network (DSN) port via a CAT-6 cable.

Features and benefits

- **Reduce wiring**
  Connect up to 99 digital switches in a daisy-chain network architecture to the controller DSN port. On-board digital and analog I/O for connecting local occupancy and light level sensor inputs and lighting with analog dimming control circuitry reduces field wiring back to the controller.
- **Simplify management**
  View real-time feedback of controllable circuit breaker or group status with LED backlit buttons. Save configuration time with easy field addressing using two rotary switches.
- **Enhance aesthetics**
  Seamlessly integrate switches into existing building design schemes with two-, four- and six-button in white, black, almond and ivory colors.

Integrated energy meter panelboard



Eaton IQ 35 Meter (optional component)

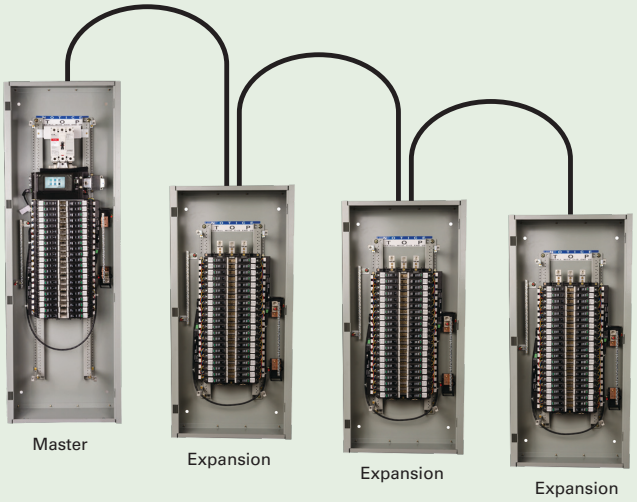
Two integrated meter configurations provide exceptional performance in a compact footprint to deliver a cost-effective energy and power monitoring solution. The Eaton IQ 35 meter is used for monitoring panelboard mains, and the branch circuit meter is used to monitor individual branch circuits.

Features and benefits

- **Enhance energy management**
  Identify wasteful practices, decrease unnecessary usage and make informed load shifting and shedding decisions.
- **Increase productivity**
  Simplify management with a powerful and compact electronic meter that includes a backlit LCD display and the ability to communicate with the Power Xpert® Gateway for remote monitoring.
- **Verify energy bills**
  Monitor voltage, current, power factor, frequency, power and energy to verify energy bills and allocate energy costs accurately.

Master and Expansion architectures

Meet future needs with the flexible Pow-R-Command Master and Expansion intelligent panelboard architecture. An integrated communications subnetwork provides simple system scalability, and can easily expand with integrated control and monitoring for up to 168 controllable circuit breakers.



Pow-R-Command Master and Expansion subnetwork

PRC-E controller features

Controller features	PRCEP(P)	PRC750E	PRC1000E	PRC1500E	PRC2000E
Inputs					
Dry-contact inputs	—	16	8	8	8
Universal inputs, configurable dry-contact or analog 0–10 Vdc	—	—	8	8	8
Outputs					
Maximum number of controllable circuit breakers	—	168	168	168	168
Analog outputs, 0–10 Vdc, 80 mA sink or 40 mA source current [1]	—	—	8	8	8
Power supply to power external devices, 100 mA at 12 Vdc/30 Vac	—	■	■	■	■
Power supply to power integrated Breaker Control Bus and SLAN V+ and V–	PRCEPP	■	■	■	■
Inputs and outputs accessory modules					
Analog Expansion Module (PRCEAEM) w/ 8 universal inputs configurable as maintained dry-contact or analog 0–10 Vdc, 8 analog outputs 0–10 Vdc at 80 mA sink or source current [1][2][3][4]	—	—	8 UI/8 AO	8 UI/8 AO	8 UI/8 AO
Switch Override Controller (PRCSOC) w/ 60 maintained dry-contact inputs, optional card includes 32 two-wire 24 Vdc outputs for status LEDs [3][5]	—	—	60 I/ 32 O	60 I/ 32 O	60 I/ 32 O
Control Logic					
Panelboard configurations include 18, 30, 42, 60, 72 and 84 circuits	—	■	■	■	■
Maximum number of control groups, 17–250 groups require PRCLOS software configuration	—	16	250	250	250
365-day time clock	—	■	■	■	■
Astronomical time clock with sunrise and sunset offsets	—	■	■	■	■
Schedules	—	250	250	250	250
Holidays	—	32	32	32	32
Automatic daylight savings time	—	■	■	■	■
Circuit breaker blink notice	—	■	■	■	■
Override time switches	—	■	■	■	■
Manual dimming and automatic daylight harvesting	—	—	■	■	■
Configurable source logic (OR, AND, XOR, XNOR, NAND and LAST EVENT) [3]	—	—	■	■	■
Communications					
Expansion Panelboard SLAN	■	■	■	■	■
Maximum Breaker Control Bus (BCB) per SLAN	—	8	8	8	8
Ethernet network	—	—	—	■	■
BACnet/IP protocol	—	—	—	■	■
Email notification, user configurable alarms	—	—	—	—	■
Pow-R-Command RS-485 (CNET)	—	—	■	■	■
Digital Switch Network (DSN)	—	—	■	■	■
MLAN communications to Analog Expansion Module (PRCEAEM) [4]	—	—	■	■	■
MLAN communications to metering devices with Modbus RTU communications [6]	—	—	—	—	■
Modbus TCP pass-through metering mode	—	—	—	—	■
Modbus RTU, Breaker Control Bus addresses 1–16	■	—	—	—	—
Local programming					
4.3-inch backlit color LCD touchscreen	—	■	■	■	■
Front Maintenance Port (Ethernet) access to Web server [7]	—	■	■	■	■
PRC Lighting Optimization Software (PRCLOS), Maintenance Port (Ethernet) access [7]	—	■	■	■	■
Password protection	—	■	■	■	■
Remote programming					
Remote access to controller Web server via Ethernet connection	—	—	—	—	■
PRC Lighting Optimization Software (PRCLOS)	—	—	■	■	■
Password protection	—	■	■	■	■
Memory					
SD card for logs and programming database (GB)	—	4	4	4	4
Onboard capacitor to power clock chip during power outage (days)	—	10	10	10	10

[1] Refer to driver/ballast manufacturer specs to calculate maximum connected load.

[2] Connects to controller MLAN network.

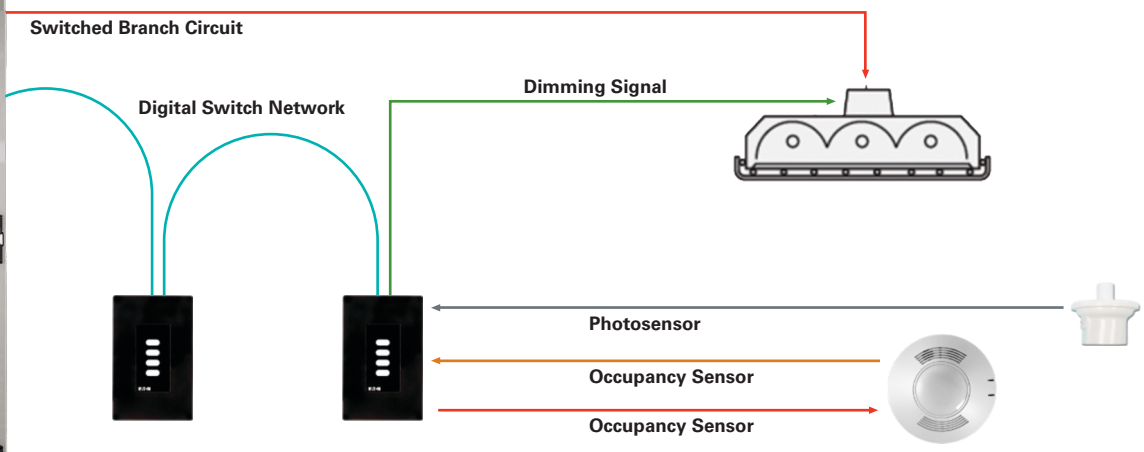
[3] Requires PRCLOS configuration software.

[4] Maximum of seven PRCEAEM (PRC1000E maximum one PRCEAEM) connected to MLAN network.

[5] Connects to controller RS-485 CNET network.

[6] Maximum of eight meters with Modbus RTU communications.

[7] Requires industry standard Ethernet patch cable.



Eaton's Pow-R-Command E Series intelligent panelboards provide branch circuit switching and dimming/daylight harvesting control. Digital and analog field devices can be wired directly to the Pow-R-Command controller or the digital switch network. Wiring field devices to the digital and analog I/O on the back of the digital switch helps reduce field wiring and total system cost.

Learn more at
Eaton.com/lightingcontrol

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