BLUE RIDGE TECHNOLOGIES™
UNIFIED LIGHTING CONTROL

Retrofit Kit 5

Project | Part Number | Ref.

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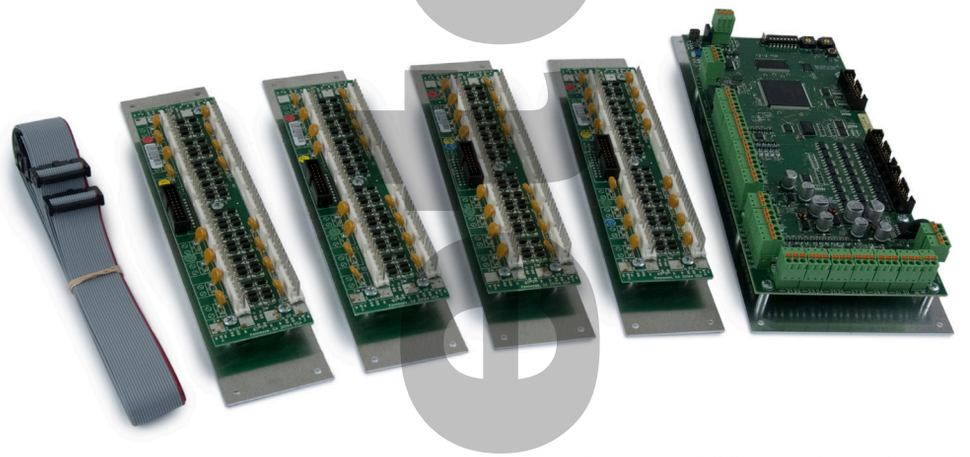

Overview

Retrofit Kit (RK) replaces existing relay panel electronics. RK installation retains the original relays, line voltage wire, conduit, and enclosure reducing labor as well as material cost. Retrofit Kit 5 (RK5) is designed to convert existing relay panels which utilize 5-Wire relays. The kit includes a Controller Board, up to four 16-Relay Interface Boards (RIB), and ribbon cables. Each board is mounted on a single aluminum plate for installation.

Features

Compatible with :

- General Electric Panels (RR8 and RR9)
- Horton Controls Panels (RR9)
- WattStopper Panels (RR9 and HDR5P)
- Lithonia Lighting Panels (RR9)
- ILC Panels (2R9)
- Triatek L2600 Panels (RR9)

Available in 16, 32, 48, and 64 relay capacities
Retains relays, line voltage wire, conduit, and enclosure
BACnet MS/TP communication to BAS network
Sub network for Satellite and Capacitive Touch Stations (CTS)
Install in less than 4 hours
Available PT5 5-Wire Relay Interface Pigtail

General Specifications

Construction: PCB's mounted to 14ga aluminum plates
Dimensions:
Controller Board:11.00"(279mm)H x 4.50"(113mm)W x 1.50"(38mm)D
RIB: 9.88"(251mm)H x 2.13"(113mm)W x 1.13"(29mm)D
20pin Ribbon Cable: 48"(1219mm)L
Weight: 2lbs(1kg)
Mounting: Panel back plate with self-tapping screws (not included)
Operating Environment: 32-125°F (0-50°C), 20-95%RH, non-condensing

Certifications

Electronics meet or exceed IEC Level 3
CEC Title 24

Warranty

Two (2) year limited manufacturer warranty from date of shipment (extended warranty optional).

Firmware Specifications (Controller Board)

Platform: Aperio Open Control Platform
Time Clock: Real-time clock with BACnet time sync
Schedule: BACnet Schedule, Monday – Sunday, Holidays, and Exceptions
Non-Volatile Memory: 16MB total, 2MB for trend data (15min trend requires 2K per day)
RAM: 2MB total, data stored in non-volatile memory upon power loss
Configuration: Tech Kit 2.0 (see data sheet for details)
Configuration Connection: Micro-B USB or Bluetooth Wireless

Low Voltage Specifications (Controller Board)

Power In: 24VAC +/-10%, 30VA, 50-60 Hz
Auxiliary Out: 24VAC, 800mA (devices with full wave rectified power supply only)
Universal Input (UI) and Satellite / Station Network Power Out: 24VDC, 200mA total
Universal Input: 24 two-wire inputs
Universal Input Software Configuration:
Digital Input (DI)
Analog Input (AI): 0-5VDC, 0-10VDC, or 4-20mA
Universal Input Wire Requirement / Maximum Length: 18AWG (Solid or Stranded) / 500'(152m)

BAS Network Specifications

Protocol: BACnet MS/TP
Baud Rate: DIP switch selectable 9.6K, 19.2K, 38.4K, 76.8K, or 115.2K
Device Profile: BACnet Advance Application Controller (AAC)
Address Range: 1 – 99 selectable with rotary dials
Unit Load: 1/8 unit load
Topology: RS-485, half duplex, daisy chain wiring
Wire Requirement / Maximum Length: CL3P, 22AWG, 2 conductor, shielded, low cap / 4000'(1216m)
Points: See *PIC Statement*

Satellite / Station Network Specifications

Compatible with CTS and Satellite devices. See data sheet for details.

RIB Specifications

RIB-A: 16 relay outputs each, drives relays 1-16 and 33-48
RIB-B: 16 relay outputs each, drives relays 17-32 and 49-64
Relay Output Rating: 24VDC ON pulse (Red), OFF pulse (Black)
Relay Output Compatibility: 1 RR9 or equal per, no external power / switches
Relay Output Connection: 5 pin header, keyed for PT5 5-Wire Relay Interface Pigtail connection
Wire Requirement / Maximum Length: 18AWG / 50'(15m)

Optional Equipment Specifications

PT5 5-Wire Relay Interface Pigtail:
Description:18"(457mm)L,18AWG, 5-wire
Pin/Color Code: 1/Yellow, 2/Yellow, 3/Black, 4/Red, 5/Blue
RIB Connection: Keyed 5pin plug-on connector
Relay Connection: 5 Insulation Displacement Connectors (IDC), 22-16AWG, UL Listed

obsolete

Retrofit Kit 5

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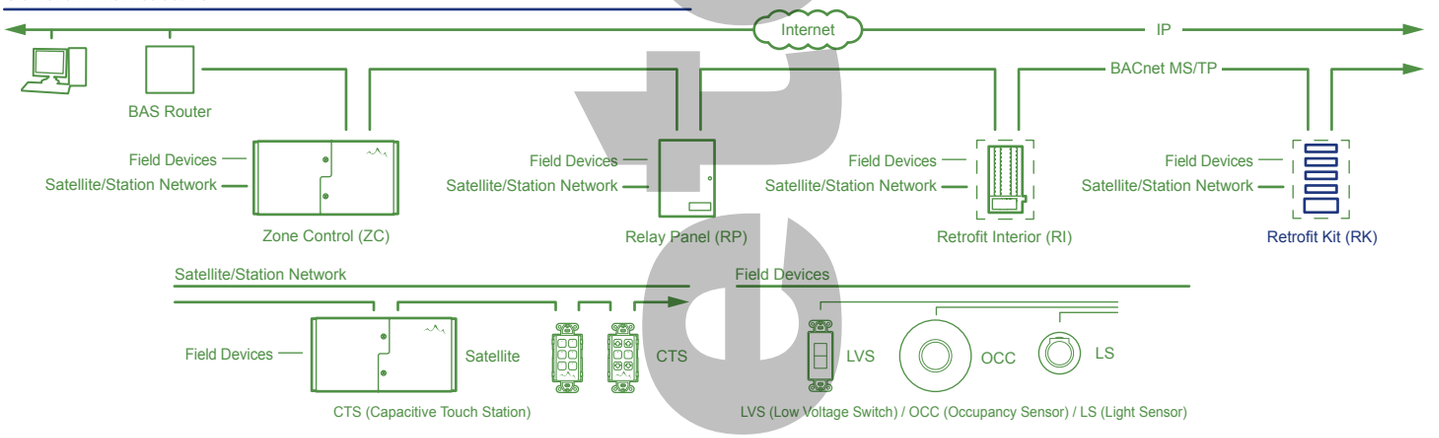
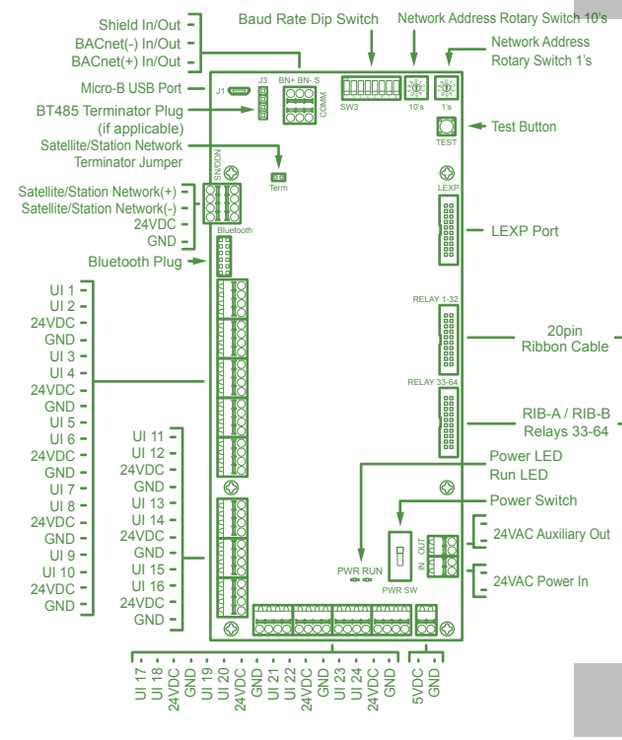
General Architecture



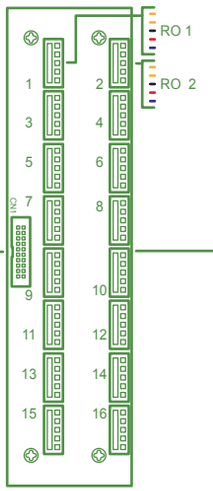
Controller Board Terminations



UI (Universal Input) / GND (Ground) / RO (Relay Output) / IDC (Insulation Displacement Connector)

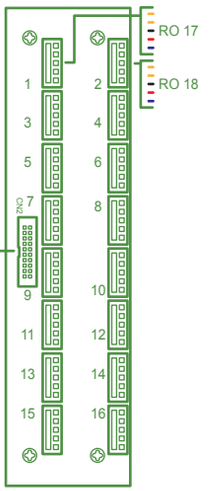
RIB-A Terminations

Relays 1-16

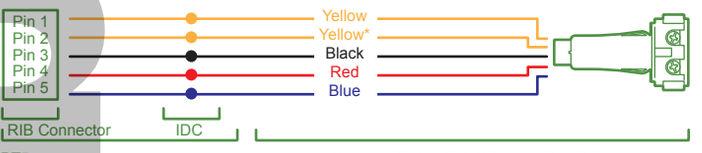


RIB-B Terminations

Relays 17-32



PT5 Terminations



Original RR8*, RR9, 2R9, or HDR5P Relay / Wiring
*The yellow wire (RIB connector Pin 2) is capped when using RR8 relays.

Ordering Information

Part Number	Description
RK5SS16	Kit for 5-wire relays, RR9 or equal, 16 RO, 24 UI
RK5SS32	Kit for 5-wire relays, RR9 or equal, 32 RO, 24 UI
RK5SS48	Kit for 5-wire relays, RR9 or equal, 48 RO, 24 UI
RK5SS64	Kit for 5-wire relays, RR9 or equal, 64 RO, 24 UI
RKPT5	Pigtail for 5-Wire Relays, 18 Inches, Includes Insulation Displacement Connectors

obsolete