

## 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 3 (RK3) is designed to convert existing relay panels which utilize 3-Wire relays. The kit includes a Controller, four 16-Relay Interface Boards (RIB), and two ribbon cables. Each board is mounted on a single aluminum plate for installation.

## Features

Compatible with :

- General Electric Panels (RR7)
- Horton Controls Panels (RR7)
- WattStopper Panels (RR7)
- Lithonia Lighting Panels (RR7)
- Triatek L2500 Panels (RR7)
- ILC Panels (2R7)

Retains relays, line voltage wire, conduit, and enclosure

Control up to 60 relays

BACnet MS/TP and N2 communication to BAS network

Sub network for Capacitive Touch Stations (CTS-DDN)

Install in less than 4 hours

Available options:

- LEXP Digital Input Expansion Card
- ETA Consolidated Mounting Plate
- PT3 3-Wire Relay Interface Pigtail

## General Specifications

Construction: PCB's mounted to 14ga aluminum plates

Dimensions:

Controller: 11.00"(279mm)H x 4.50"(113mm)W x 1.56"(40mm)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).

## Controller Specifications

Power In: 24VAC +/-10%, 30VA, 50-60 Hz

Auxiliary Out: 24VAC Full Wave Rectified

Digital Input: 24 two-wire inputs

Software Configuration: Maintained, state change, momentary on/off, momentary on, or momentary off

Jumper Configuration: 8 input segments, dry contact (N) or 24VDC externally powered (R)

Wire Requirement / Maximum Length: 18AWG (Solid or Stranded) / Dry Contact 500'(152m) or externally powered 1,000'(304m)

Analog Input: 6 three-wire 0-5VDC inputs

Wire Requirement / Maximum Length: 18AWG (Solid or Stranded) / 250'(76m)

## BAS Network Specifications

BACnet MS/TP

Baud Rate: DIP switch selectable 9.6K, 19.2K, 38.4K, or 76.8K

Device Profile: BACnet Advance Application Controller (AAC)

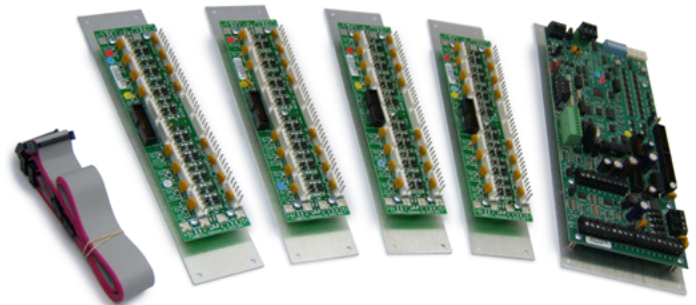
Address Range: 1 – 99 selectable with rotary dials

Unit Load: Full unit load, 32 devices per MS/TP segment

N2

Baud Rate: DIP switch selectable 9.6K

Address Range: 1 – 255 selectable with rotary dials and DIP switch



BACnet MS/TP and N2

Topology: RS-485, 3 conductor (+, -, and shield), daisy chain wiring (no stars or t-taps)

Wire Requirement / Maximum Length: Belden 8760 / 4000'(1216m)

Points: See RK Application Guide and PIC Statement

## DDN Network Specifications

Compatible with CTS-DDN and DDN devices. See data sheet for details.

## RIB Specifications

RIB-A: 2 boards, 16 relay outputs each, drives relays 1-16 and 33-48

RIB-B: 2 boards, 16 relay outputs each, drives relays 17-32 and 49-60

Relay Output Rating: 24VDC ON pulse (Red), OFF pulse (Black)

Relay Output Compatibility: 1 RR7 or equal per, no external power / switches

Relay Output Connection: 5 pin header, keyed for PT3 3-Wire Relay Interface Pigtail connection

Wire Requirement / Maximum Length: 18AWG / 50'(15m)

## Optional Equipment Specifications

LEXP Specifications

Description: Digital Input Expansion Card

Digital Input: 32 two-wire inputs

Software Configuration: Maintained, state change, momentary on/off, momentary on, or momentary off

Jumper Configuration: 8 input segments, dry contact (N) or 24VDC externally powered (R)

Wire Requirement / Maximum Length: 18AWG (Solid or Stranded) / Dry Contact 500'(152m) or externally powered 1,000'(304m)

Dimensions: 6.00"(152mm)H x 4.50"(113mm)W x 1.13"(29mm)D

ETA Consolidated Mounting Plate:

Description: Mounts several components on single 14ga aluminum plate  
Dimensions: 10.00"(254mm)H x 8.44"(214mm)W

E Option: 1 ETA for mounting Controller / 2 RIB's. Remaining RIB's on individual plates. 1.88"(48mm)D

C Option: 1 ETA for mounting Controller / 2 RIB's / LEXP (LEXP mounted atop Controller with hinged stand-offs). Remaining RIB's on individual plates. 3.13"(79mm)D

C2 Option: 2 ETA, 1st ETA for mounting Controller / 2 RIB's / LEXP (LEXP mounted atop Controller on hinged stand-offs). 2nd ETA for mounting 2 RIB's / LEXP (LEXP mounted between RIB's). 3.13"(79mm)D

PT3 3-Wire Relay Interface Pigtail:

Description: 18"(457mm)L, 18AWG, 3-wire

Pin/Color Code: 1/Unused, 2/Unused, 3/Black, 4/Red, 5/Blue

RIB Connection: Keyed 5pin plug-on connector

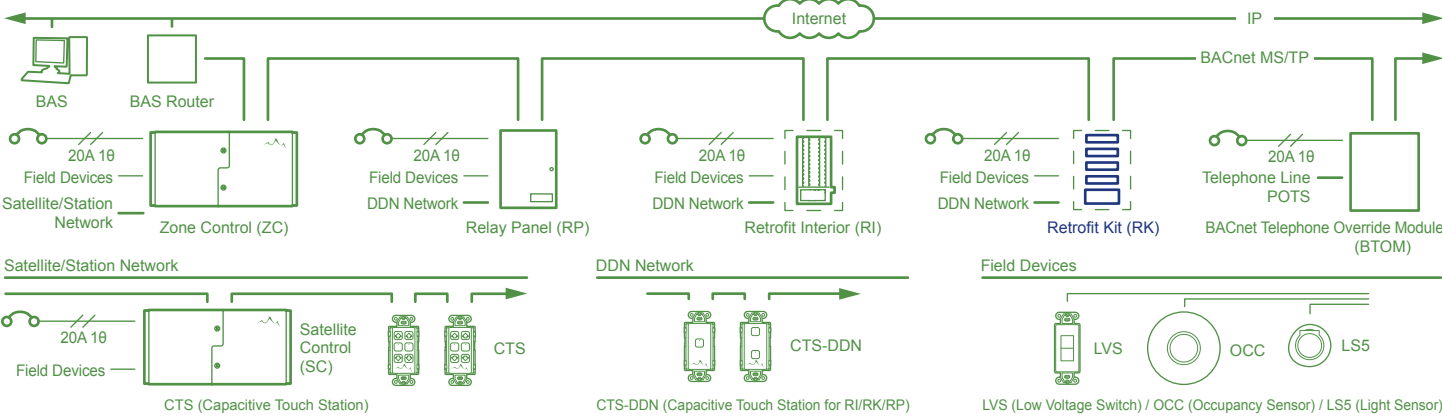
Relay Connection: 3 Insulation Displacement Connectors (IDC), 22-16AWG, UL Listed

# Retrofit Kit 3

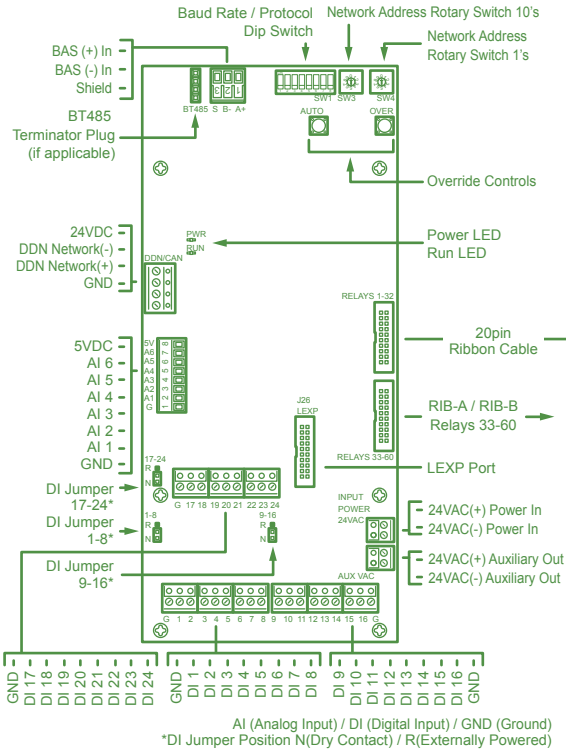
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Data Sheet : Catalog Page 29

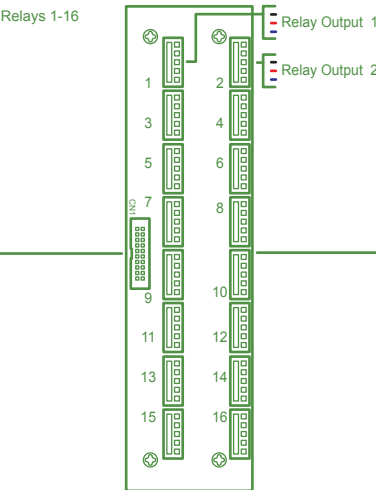
## General Architecture



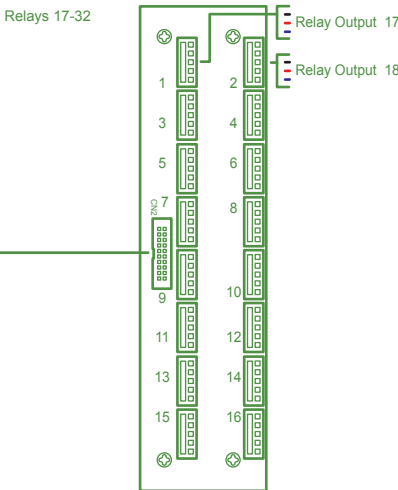
## Controller Terminations



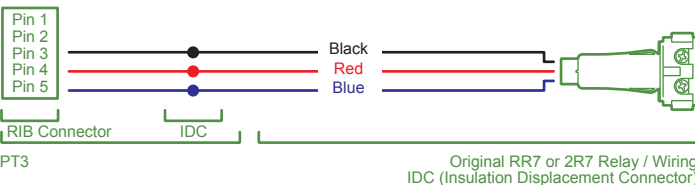
## RIB-A Terminations



## RIB-B Terminations



## PT3 Terminations



## Ordering Information

Part Number	Description
BRRK3	Kit for 3-wire relays, RR7 or equal, 60 RO, 24 DI, 6 AI
BRRK3-E	Kit for 3-wire relays, RR7 or equal, 60 RO, 24 DI, 6 AI, 1 ETA (Controller and RO 1-32 mounted to ETA)
BRRK3-L	Kit for 3-wire relays, RR7 or equal, 60 RO, 56 DI total, 6 AI, 1 LEXP (Card, Mounting Plate, and Ribbon Cable)
BRRK3-C	Kit for 3-wire relays, RR7 or equal, 60 RO, 56 DI total, 6 AI, 1 LEXP, 1 ETA (Controller, LEXP, and RO 1-32 mounted to ETA)
BRRK3-C2	Kit for 3-wire relays, RR7 or equal, 60 RO, 88 DI total, 6 AI, 2 LEXP, 2 ETA (Controller, LEXP, and RO 1-32 mounted to first ETA / LEXP and RO 33-60 mounted to second ETA)
BRRK3-16	Kit for 3-wire relays, RR7 or equal, 16 RO, 24 DI, 6 AI
BRPT3	3-Wire Relays, 18 Inches, Includes Insulation Displacement Connectors

RO (Relay Output) / DI (Digital Input) / AI (Analog Input)