

## Overview

Retrofit Interior (RI) replaces existing relay panel electronics and relays with a single back plate mounted assembly. Installation retains the original line voltage wire, conduit, and enclosure reducing labor as well as material cost. RI may be scheduled from any BACnet BAS and is compatible with most low voltage switches, occupancy sensors, and light level sensors. Retrofit Interior 48 (RI48) may be specified with 24, 32, 40, or 48 Lighting Tough Relays (LTR) in addition to several special options.

## Features

BTL Listed, UL Listed  
Retains line voltage wire, conduit, and enclosure  
Dimming (DLH / Presets)  
BACnet MS/TP communication to BAS network  
CANbus network for Satellite and Capacitive Touch Stations (CTS)  
Install in less than 4 hours  
Available options:

- Load status on all relays
- 347VAC Transformer
- UL924 Emergency Bypass
- Top, bottom, or center mount low voltage compartment

## General Specifications

Construction: 16ga steel with galvanneal / powder coat finish  
Dimensions:

- Top / Bottom Low Voltage Compartment:
  - 31.28"(795mm)H x 12.00"(305mm)W x 3.38"(86mm)D
  - Factory mounted transformer increases overall width to 15.56"(395mm)
- Center Low Voltage Compartment:
  - 29.00"(737mm)H x 12.00"(305mm)W x 5.25"(133mm)D

Approximate Weight: 25lbs(11kg)  
Mounting: Standard (1.00"(25mm) washer head self-tapping) Concrete / Masonry (2.25"(51mm) masonry screws with flat washer)  
Operating Environment: 32-125°F (0-50°C), 20-95%RH, non-condensing

## Certifications

BTL Listed, UL Listed, UL508A Open, US/Canada

## Warranty

Five (5) year limited manufacturer warranty from date of shipment (extended warranty optional).

## Firmware Specifications (Controller Board)

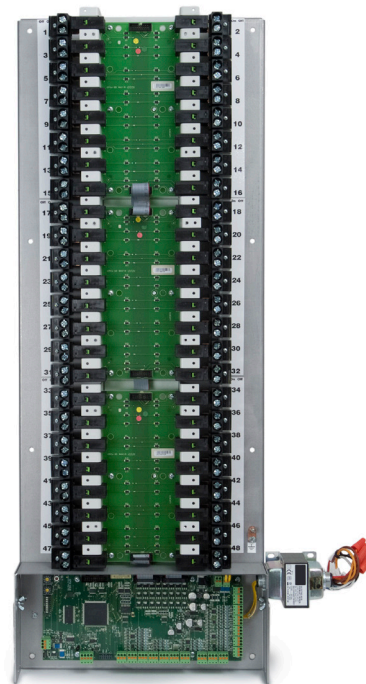
Platform: Aperio Open Control Platform  
Time Clock: Real-time clock with BACnet time sync  
Schedule: BACnet Schedule, Monday – Sunday, Holidays, and Exceptions  
Non-Volatile Memory: 16MB total, 2MB for trend data (15min trend requires 2K per day)  
RAM: 2MB total, data stored in non-volatile memory 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 CANbus 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 Application Specific Controller (B-ASC)  
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*

## CANbus Specifications

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

## Transformer Specifications

Type: 40VA Inherently Limited UL Listed  
Primary: Multi Tap 120, 208, 240, or 277VAC +/-10%, 40VA, 50-60 Hz  
Secondary: 24VAC +/-10% Inherently Limited  
Wire Requirement: 18AWG Minimum (Solid or Stranded)

## LTR Specifications

Type:

- UL Listed
- SPST latching with manual override lever
- Electrically operated mechanically held, pulse driven
- Short Circuit Current Rating (SCCR) 40,000A @ 277 VAC

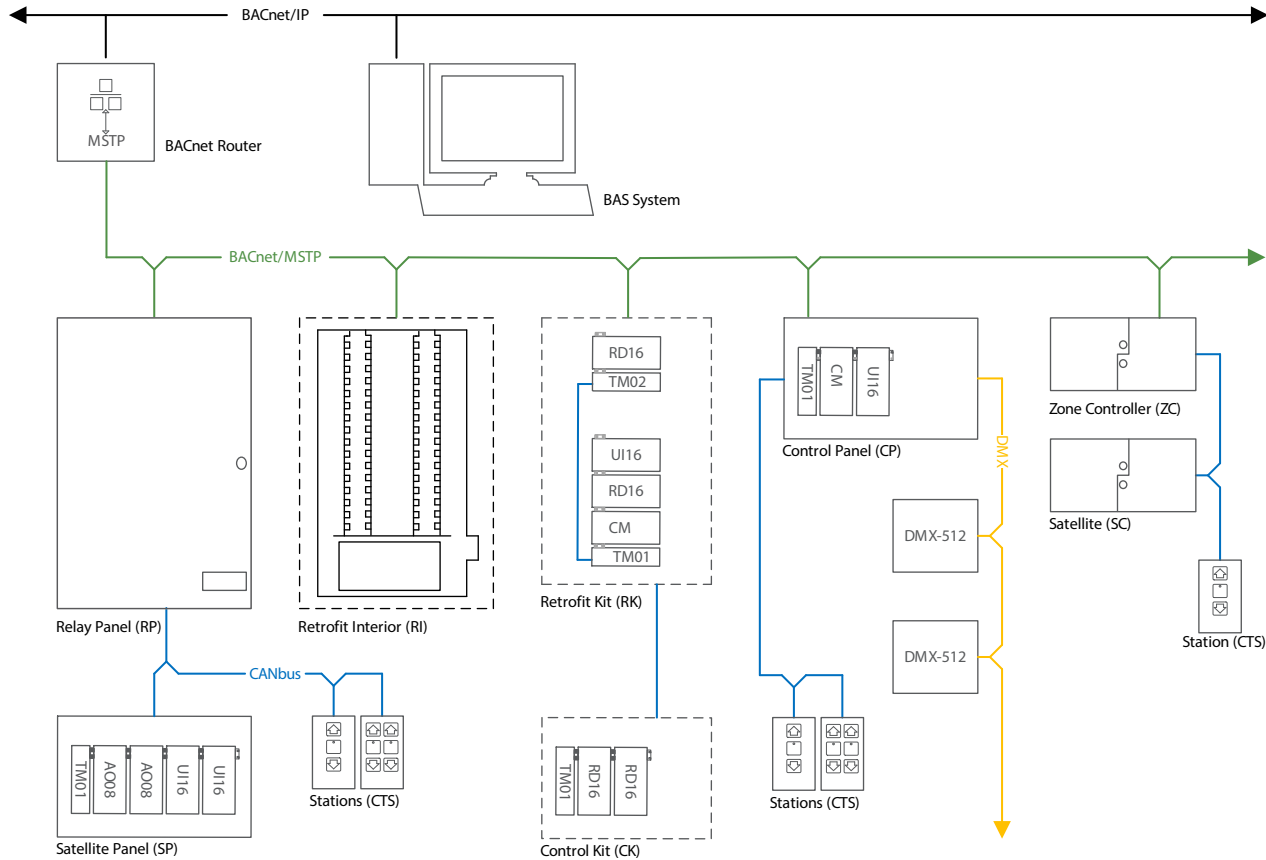
Maximum Ratings: Tungsten 20A @ 347VAC / Magnetic Ballast 30A @ 347VAC / Electronic Ballast 16A @ 347VAC / Resistive 20A @ 347VAC / 1.5HP @ 120VAC  
Load Terminal: Universal screw terminal, box type clamp  
Terminal Capacity (per side): (2) 14-10AWG or (1) 8AWG (Solid or Stranded copper wire)

# Retrofit Interior 48

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Data Sheet : Catalog Page 35

## System Architecture



## Ordering Information

R1XX48 - XX - X - XX - XX

### Controller Options

- XX = DS Dimming Standard Controller
- DL Dimming Controller with Load Status on all relays
- DX Dimming Controller with Load Status and UL924 on all relays

### Quantity of Relays Installed

- XX = 24 24 Relays Installed
- 32 32 Relays Installed
- 42 42 Relays Installed
- 48 48 Relays Installed

### Power Options

- X = 0 120 / 208 / 240 / 277VAC Transformer
- 1 347VAC Transformer

### Special Options

- XX = 00 None
- X1 UL924 Emergency Bypass (Relays 33-48 only) for L Controller Option Only
- X2 UL924 Emergency Bypass (Relays 17-48 only) for L Controller Option Only

### Low Voltage Compartment (Controller Board) Position

- XX = T0 Top of Interior
- B0 Bottom of Interior
- C0 Center of Interior