

ERDRC Installation Guide

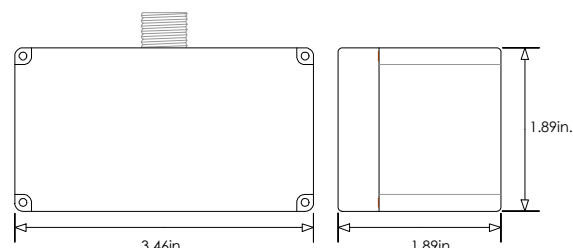
This guide cover the models number ERDRC-CC, ERDRC-C, ERDRC-PC, ERDRC-P, ERDRC-OC, and ERDRC-O. The models ERDRC-xC are equipped with EnOcean 315MHz radios and the ERDRC-X models have the EnOcean 868MHz radios.

NOTE: ELECTRICAL SHOCK HAZARD; All models of the ERDRC use High Voltage and should only be installed by a qualified installer or electrician. Follow all applicable electrical codes in the country of installation.

Mounting the ERDRC

The ERDRC is mounted to an electrical junction box or panel with a ½” threaded nipple. The antenna for the controller is embedded in the housing requiring the ERDRC to be mounted on the outside of the junction box.

The ERDRC controller products are intended to be used with switches, sensors and actuators enabled with EnOcean PTM or STM transmitters. Locating the wireless transmitters to work with the installed ERDRC controller requires planning. Careful consideration should be made for locating the controllers based on the construction materials in the space and possibility of tenant’s furniture disrupting the transmissions. Please refer to the range planning guide downloaded from www.echoflexsolutions.com/files/Reliablerangeplanning_0308.pdf



Wiring the ERDRC:

Power to the controller is connected between the White (Neutral) and the Black (120V). Optionally, based on model number, commercial voltages are applied between the White (Neutral) and the Brown(277V) or Yellow(347V). (see wiring diagram). Use only approved wire. Cap off all unused wires.

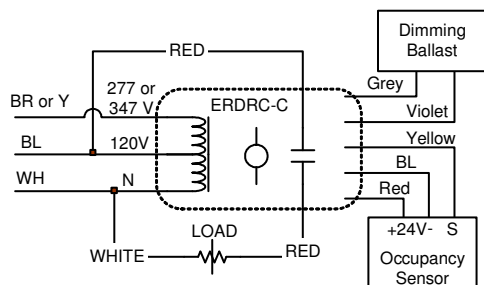


Diagram 1: 120VAC wiring ERDRC-C

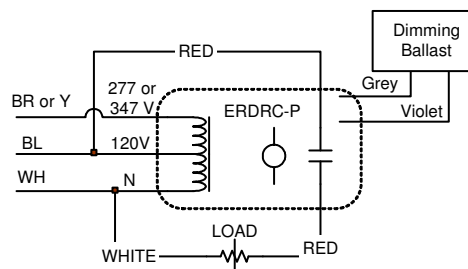


Diagram 1: 120VAC ERDRC-P

	Connection	Color	Description	Specifications
High Voltage	Electrical Load x 2	Red	Relay load connections	14AWG Stranded TEW (600V)
	Neutral – line voltage	White	Power input connection	18AWG Stranded
	120 VAC line voltage	Black	Power input connection	18AWG Stranded
	277 VAC line voltage*	Brown	Power input connection	18AWG Stranded
	347 VAC line voltage*	Yellow	Power input connection	18AWG Stranded
Low Voltage	Ballast Common	Grey	Dimming ballast common	22AWG (300V)
	0-10VDC +	Violet	Dimming ballast control signal	22AWG (300V)
	Control Signal*	Yellow	Control input from Occ. sensor	22AWG (300V)
	Common*	Black	Power output to Occ sensor	22AWG (300V)
	24 VDC +*	Red	Power output to Occ sensor	22AWG (300V)

*not used in all models

Operating Modes: There are six operating modes for the ERDRC controllers. The ERDRC will select the operating mode depending on the switches and sensors learned.

1. **Wireless Switch Only** - Once a switch has been learned to the ERDRC, it will switch the light ON or OFF. For dimming ballast lights, holding the switch in the ON or OFF position will dim the light up or down. A timeout period can be used with the switch; refer to the *Time-Out* period in the SmartClick configuration section

2. **Wireless Switch with Occupancy Sensor** – This mode has all the characteristics of mode 1 with the addition of controlling the lights ON or OFF through occupancy detection. To set the Time-Out period after last occupancy detection or to activate the lights immediately ON with motion, refer to the *Time-Out* period and *Auto-ON* sections of the SmartClick configuration section.
3. **Wireless Switch with Photocell Sensor** – This mode can only be used with dimming ballasts. Only 1 photocell sensor can be learned to a ERDRC controller. This mode has all the characteristics of mode 1 with the addition of the light activating ON or OFF according to light level setpoints and the photocell’s reading. To set the setpoints, refer to the *Photo ON*, *Photo OFF* setpoints sections of the SmartClick configuration section.
4. **Wireless Switch with Occ. and Photocell** - This mode has all the characteristics of mode 2 and 3
5. **Occupancy Sensor Only** - see mode 2
6. **Occupancy with Photocell Sensor** - see mode 2 and 3

Diagnostic LED’s and buttons

LEARN button – The LEARN button can be used to learn a switch or sensor to the ERDRC controller.

1. Insert a small flat-head screwdriver or pen into the LEARN hole depressing the button for a half second. In LEARN mode the Learn led will stay ON and the Power led will toggle every 2 seconds.
2. Using the switch or sensor that you want to LEARN to the controller, press the switch ON or press the sensor’s TEACH button. The power led will remain lit for 4 seconds while it LEARNs the new device. It will resume toggling allowing you to TEACH another device up to a total of 30 devices. Activating TEACH mode from a switch or sensor that is already learned to a controller, will remove or un-learn it from the controller.
3. To exit LEARN mode, depress the LEARN button on the ERDRC controller again for a half second. LEARN mode will time out after no activity in 30 seconds.

CLEAR button – The CLEAR button erases all switches and sensors learned to the ERDRC controller.

Insert a small flat-head screwdriver or pen into the CLEAR hole depressing the button for 5 seconds. The Learn led will flash ON for 1 second and then OFF to complete the step.

LED’s – The table below defines the LED activity and the associated mode of the controller.

Description	LEARN led	Power led	
LEARN mode	ON	Toggle 2 seconds	
Saving new device	ON	ON 4 seconds	
CLEAR mode	ON 1 second	n/a	
Normal Mode – No Switch learned	OFF	ON with relay closed	Default state
Normal Mode - Switch learned	OFF	Blink once*	
Normal Mode - Occ. sensor learned	OFF	Blink twice*	
Normal Mode - Photo sensor learned	OFF	Blink three*	

* repeated sequential cycle indicating the types of devices learned

Hardware Specifications

Power Supply	120/277 VAC or 120/347 VAC
Power Consumption	4.0 W under full load
Outputs	Relay rating 15A @ 347 VAC or 20A @ 120 or 277 VAC
Inputs	LEARN and CLEAR buttons for sensor assignment
Communications	315 MHz [TCM200] or 868 MHz [RCM120] EnOcean radio
Antenna	Integrated 15cm whip (315 MHz), 9cm (868 MHz)

Mechanical Specifications

Operating Temperature	14°F to 113°F (-10°C to 45°C)
Relative Humidity	5% to 95% RH (non-condensing)
Weight	13.5 oz (385 gms.)
Dimensions	3.5" x 1.9" x 1.9" (88 mm x 48 mm x 48 mm)
Mounting	½" nipple

Agency Listing and Compliance

UL 508 – Industrial Control Equipment, UL 5085 Part 3 – Low Voltage Transformers
 CSA CS 22.2 #0-M91, #66.3-06, #14-05
 FCC Part 15.231 - Remote Control Transmitter