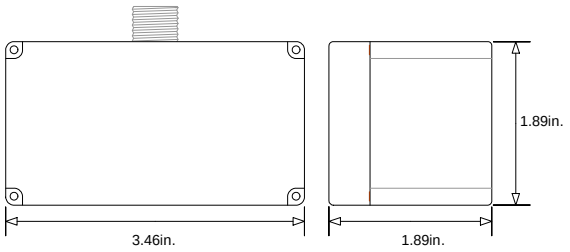
ERDRC-K Installation Guide

This guide cover the models number ERDRC-K and ERDRC-KC. The model ERDRC-KC is equipped with EnOcean 315MHz radios and the ERDRC-K models has the EnOcean 868MHz radios.

NOTE: ELECTRICAL SHOCK HAZARD; ALL MODELS OF THE ER1C-B 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.

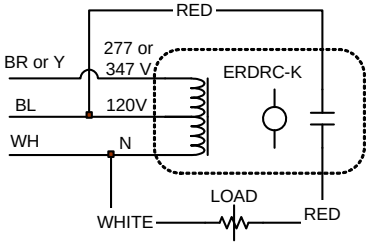


The ERDRC controller products are intended to be used with switches, sensors and actuators enabled with EnOcean PTM or STM transmitters. Locating the wireless transmitters to work with the installed ERDRC controller requires planning. Careful consideration should be made for locating the controllers 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.



	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

*not used in all models

Operating Modes: There are two wireless switches that work with the ERDRC-K controllers.

1. **Magnet Window / Door Switch** - Once a switch has been learned to the ERDRC-K, it will activate the relay ON or OFF. The window/door switch has a TEACH button for assigning the switch to a controller.
2. **Key Card Switch** – Once a switch has been learned to the ERDRC-K, it will activate the relay ON or OFF. To LEARN a key card switch to the ERDRC-K controller, enter LEARN mode and rapidly activate the key card switch three (3) times.

Diagnostic LED's and buttons

LEARN button – is used to enter and exit LEARN mode

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 that you want to LEARN to the controller, rapidly activate the key card switch three (3) times or press the TEACH button on the magnet switch
3. 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.

4. 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 – Key Card Switch learned	OFF	Blink once followed by short blinks counting switches learned*	
Normal Mode – Magnet Switch learned	OFF	Blink twice followed by short blinks counting switches learned *	

* repeated sequential cycle indicating the types of devices learned

Configuration Mode

There are four (4) configuration settings that can be modified on the ERDRC-K controller.

1. Remote Learn Mode – adding another switch to the controller
2. Remote Clear – removing a switch from the controller
3. Time-out settings from 0 to 5 minutes – time period before relay opens after de-activation
4. Setting the magnet switch logic – relay is normally open or normally closed when switch is closed

The Time-Out setting can be easily changed by pressing the LEARN button on the controller while tapping the CLEAR button.

Tap once	No time-out period
Tap twice	1 minute
Tap 3 times	2 minutes
Tap 4 times	3 minutes
Tap 5 times	4 minutes
Tap 6 times	5 minutes

To access the other configuration settings, refer to the SmartClick process and flow chart at the back of the guide.

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

UL2043 – Plenum rated, suitable for use in air-handling spaces

SmartClick™ - Follow the directions below to configure one or more controllers.

Switch Assignment - You may use SmartClick to learn a switch to a ERDRC controller if the controller has no existing switches or sensors assigned. Click the switch rapidly ON 3 times, OFF 3 times and then ON 3 times.

STEP 1: Configuration Mode – There are two methods to enter SmartClick configuration mode; both require the use of a EnOcean wall switch. Removing the faceplate of the key card switch will reveal the internal wall switch.

1. Using the keycard switch that is learned to the controller, activate three times with the card or with the faceplate removed, activate the OFF side three times. Using the same switch or a different switch, activate the switch 3 times ON, 3 OFF, and 3 ON within 60 seconds. You are now in configuration mode.
2. Using an assigned window/door switch, press the TEACH button on the switch; you have 60 seconds to activate the wall switch 3 times ON, 3 OFF, and 3 ON. You are now in configuration mode.

STEP 2: Selecting a Configuration Setting - You can scroll through the configuration table by clicking ON to move up and OFF to move down through the table. The light will blink the corresponding number of the selected setting. To select a configuration setting, press and hold ON for 3 seconds.

STEP 3: Editing a setting - Make the changes to the settings and exit back to the configuration table by pressing and holding ON for 3 seconds. The light will resume blinking indicating the selection.

Step 4: Saving and Exit - At any time you may save your changes and exit the configuration mode by pressing and holding OFF for 10 seconds

Parameter Definitions

Remote Learn – Use this mode to learn other switches after the controller is installed. The relay will start toggling when entering this mode, assign the new key card switch by rapidly activating three (3) times. Assign new window/door switches by pressing the TEACH button on the switch. The light will resume toggling after 4 seconds.

Remote Clear – You may clear any switch assignment to a controller by clicking ON 5 times, click 5 more times to clear all switches. To complete the clear, hold OFF for 5 seconds will exit configuration to normal operating mode. If you unassign all switches the light will go on or full brightness.

Time-Out– Use this setting to select the time-out period after the keycard switch or the magnet switch is de-activated. The relay will trigger OFF after the defined period has timed out from the last switch action.

Window / Door Switch Logic – Reverse the logic of the Window/door switch. The controller relay can be nornally open of normally closed when the switch is in the closed state.

Time-Out Table: minutes	
Code	period
1 click	0
2 click	1
3 click	2
4 click	3
5 click	4
6 click	5

Table 1 Time Out Table

		Step 1	Step 2				Step 3		Step 4
	Start	Enter Configuration Process	Select Parameter				Edit Parameter		Save + Exit
Relay status	OFF	ON	Blinking						OFF
LEARN a switch or sensor	⇨	**Use either method:** 1) Using the keycard switch that is learned to the controller, activate 3 times with the card or with the faceplate removed, activate the OFF side 3 times. Using the same switch or a different switch, activate 3 times ON, 3 OFF, and 3 ON within 60 seconds. 2) Using an assigned window/door switch, press the TEACH button on the switch; you have 60 seconds to activate the wall switch 3 times ON, 3 OFF, and 3 ON.	Click ON to move up through the list, OFF to move down	⇨	*1 blink*	Press and hold ON for 3 seconds	⇔	Assign switches and sensors as normal by pushing the TEACH button or clicking the switch	Press and hold OFF for 5 seconds
CLEAR switches and sensors	⇨			⇨	Click ON once *2 blinks*		⇔	Click ON 5 times to clear switch, click ON 5 more times to clear ALL (10 clicks total). Press and hold OFF for 5 seconds to complete step	
Configure time-outs	⇨			⇨	Click ON 4 times *5 blinks*		⇔	Click ON x times per table	
Configure Window/Door Switch Logic	⇨			⇨	Click ON 5 times *6 blinks*		⇔	Click ON to activate, OFF to deactivate	