

ER1C-BC installation guide



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Part # 8DC-5050 | Revision 1.2

Product Overview

Echoflex's ER1C-BC wireless load controller provides a method of wirelessly gaining control over fixtures, appliances or any electrical load. As a wireless solution, the ER1C-BC receives telegrams from Echoflex's battery-free wireless switches and triggers an internal relay automating the activation of the electrical load. Assigning the switches to the ER1C-BC is easy and eliminates the cost of wire and installation of a switch leg.

This guide covers model number ER1C-BC which is equipped with an EnOcean 315 MHz radio.

The package includes the ER1C-BC controller and installation guide.

Planning the Installation

The ER1C-BC controller is intended to be used with switches and actuators enabled with EnOcean PTM transmitters. Locating the wireless transmitters to work with the installed ER1C-BC 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. Fire doors, elevator shafts or any large metal products will disrupt wireless transmissions.

On floor-plan drawings, draw 30 m (100 feet) diameter circles to identify optimal transmitter and controller locations. Refer to the table below for range considerations with other building materials.

<u>Material</u>	<u>Signal Range-typical</u>
Line of site:	100' (30m) corridors 330' (100m) open halls
Plasterboard:	100' (30m), through 5 walls
Brick, Aerated Concrete:	66' (20m), 3 walls
FerroConcrete, Ceiling:	33' (10m), 1 ceiling

Use an EPM100C for on-site range testing and location suitability. The EPM100C provides the convenience of a hand-held device indicating signal strength from transmitters. The EPM100C will verify proper signal reception at your intended controller locations.

For more information about range planning, please refer to the range planning guide downloaded from

"http://www.echoflexsolutions.com/files/downloads/Reliable Range Planning_0308.pdf"

Preparing to Install

The ER1C is mounted to an electrical junction box or panel with a 1/2" threaded nipple. The antenna for the controller is embedded in the housing requiring the ER1C to be mounted on the outside of the junction box either directly at the electrical load or before the load in the circuit.

You will require hand tools to gain access to the junction box and remove any cover plates or other hardware. A pin or pen is needed for pressing the controller buttons when assigning the wireless switches.

Important Safety Instructions

WARNING:

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.

Installing the ER1C-BC

Review these instructions completely before installing the ER1C-BC controller.

- 1) Locate the circuit breaker panel and turn off the power to the circuit
- 2) Remove all face plates and other hardware from the junction box so you can access the high voltage wires.
- 3) The ER1C-BC is mounted to the exterior of the junction box or panel with the 1/2" threaded nipple.
- 3) Refer to the wiring diagram to connect the ER1C-BC to the line power, neutral and load wires. Use wire nuts on all connections and cap any bare wires.

4) Replace the junction box faceplate.

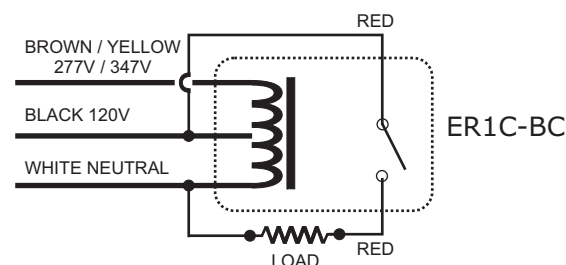
5) Restore power to the circuit.

6) Refer to the section in this guide titled **LINK Button** to assign a switch to the controller.

Wiring Instructions

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	Specification
LOAD x 2	Red	14AWG, 600V
Neutral	White	18AWG
Line 120VAC	Black	18AWG
Line 227VAC*	Brown	18AWG
Line 347VAC*	Yellow	18AWG

***not used in all models**

Using the ER1C-BC with a wired wall switch:

If the circuit will have an additional manual switch, wire the ER1C-BC in series before the manual switch.

Diagnostic LED's and buttons

LINK button – The LINK button is used to link a switch to the ER1C-BC controller.

1. Insert a small pin or pen into the LINK hole depressing the button for a half second. In LINK mode the Link led will stay ON and the Power led will toggle every 2 seconds.
2. Using the switch that you want to LINK to the controller, press the wall switch ON 3 times. The power led will remain lit for 4 seconds while it links the new device. It will resume toggling allowing you to TEACH another device up to a total of 30 devices. Linking a switch that is already linked to

a controller, will remove or un-link it from the controller.

3. To exit LINK mode, depress the LINK button on the ER1C-BC controller again for a half second. LINK mode will time out after no activity in 30 seconds.

CLEAR button – The CLEAR button erases all switches linked to the ER1C-BC controller and resets the controller to factory default settings.

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

The table below describes the LED activity and associated mode of the controller.

Description	LINK	POWER
LINK mode	ON	Toggle 2 sec.
Storing ID	ON	ON 4 sec.
CLEAR mode	ON 1 sec.	n/a
Normal operation		
w/o linked switch	OFF	ON w/relay closed factory default
w/ linked switch	OFF	Long blink followed by short blinks counting the switches linked, repeated

Specifications

EnOcean Equipment Profiles

EEP: 05-02-02 Light and Blinds - US/Canada

Hardware Specifications

Power Supply	120/277 VAC or 120/347 VAC, 60Hz
Power	4.0 W full load
Output	N.O. Relay 15A@347 VAC or 20A@120 or 227 VAC
Inputs	LEARN and CLEAR buttons
Communications	315 MHz or 868 MHz EnOcean radio with whip antenna

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 x 48 x 48 mm)
Mounting	½" nipple

Agency Listing and Compliance

Safety	ETL Recognized Component 3188207 Conforms to UL Standard 508 Certified to CAN/CSA Std. C22.2 No.14 UL 2043 Plenum rated
Radio Frequency	FCC Part 15.231 - Remote Control Transmitter IC RSS-210