

FDLR05BPD



FDLTS2
(Switch and cover plate)



FDLTKEY



FDLTVC



FDLTVW

Getting Started

- Plan where you will mount each receiver and transmitter.
 - Avoid transmitting along a length of wall, sharp angles and large obstructions.
 - Avoid mounting inside a metal enclosure.
 - Typical range is 100' line of sight.
- Link devices to each other before installing.** [See linking instructions (per application) on following pages.]
 - All FDLR products must be powered during Link.
- A Gateway Controller can link with an FDLR05BPD product and control its output.
- Load state at power-up can be set to ON or OFF.
- Each FDLR product can be Linked to up to 30 transmitters of any combination.

902 MHz Model	Power Input (Vac)	Load Rating (W)	Transmission Source	EEP
FDLR05BPD	120Vac	600	Status Change/Heartbeat	A5-11-01
FDLTS2	None	NA	Button Press	F6-02-02
FDLTKEY	None	NA	Insert/Remove Card	F6-04-01
FDLTVC	None	NA	Occupancy Detected	A5-07-01
FDLTVW	None	NA	Occupancy Detected	A5-07-01

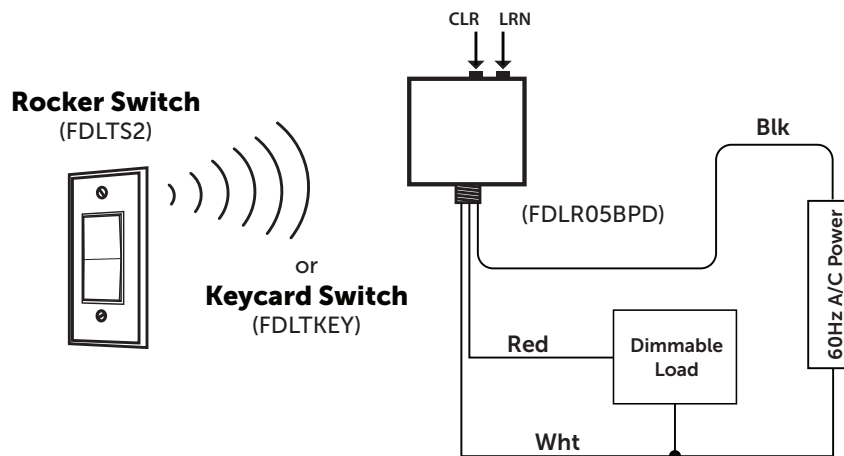
Functional Devices, Inc.'s EnOcean® Manufacturer ID is 0x055.

Compatible Device from other Manufacturers

Gateway Controller EEP A5-38-08 0x02 (Dimming Profile)
Light Level Sensor EEP A5-06-02

Lighting Applications

Simple Lighting Control: FDLR05BPD and FDLTS2 or FDLTKEY



FDLTS2 Modes

A. Dimming Mode

- Dimmer activates when Rocker ON is pressed and released, and the Output ramps to previous value.
- Dimmer activates when Rocker ON is held, and the Output ramps up from minimum until ON is released.
- When Rocker OFF is pressed and released, the Output ramps down to minimum.
- The Output will ramp up or down when the Rocker ON or OFF is held, and the Output will go to MAX if Rocker ON is pressed and released.
- Optional modes: Repeater (see page 3)

B. Momentary Mode

- Dimmer activates while switch is pressed and deactivates 5 seconds after switch is released.
- Optional mode: Repeater (see page 3)

Momentary Mode Link Procedure

1. Apply power to FDLR product.
2. Press and hold LRN button on FDLR product until LED starts flashing slowly (approximately 1/2 second).
3. Press and hold LRN button on FDLR product for 3 seconds until LED pattern changes to FLASH, FLASH, OFF (2 flashes).
4. Press and hold LRN button on FDLR Product for 3 seconds until LED pattern changes again, to FLASH, FLASH, FLASH, OFF (3 flashes).
5. Press and release the button on the switch you are learning three times quickly.
6. LED on FDLR product will stay ON for 4 seconds indicating telegram reception.
7. To learn another switch, repeat steps 2-5.

Dimming Mode Link Procedure

1. Apply power to FDLR Product.
2. Press and hold LRN button on FDLR Product until LED starts flashing slowly (approximately 1/2 second).
3. Press and release the button on the switch you are linking three times quickly.
4. LED on FDLR Product will stay ON for 4 seconds indicating telegram reception.
5. To link another switch, repeat steps 2-4.

FDLTKEY Mode

Momentary Mode

- Dimmer activates when card is inserted and deactivates 5 seconds after card is removed.
- Optional mode: Repeater (see page 3)

Momentary Mode Link Procedure

1. Apply power to FDLR product.
2. Press and hold LRN button on FDLR product until LED starts flashing slowly (approximately 1/2 second).
3. Press and hold LRN button on FDLR product for 3 seconds until LED pattern changes to FLASH, FLASH, OFF (2 flashes).
4. Press and hold LRN button on FDLR Product for 3 seconds until LED pattern changes again, to FLASH, FLASH, FLASH, OFF (3 flashes).
5. Insert and remove the card on the switch you are learning three times quickly.
6. LED on FDLR product will stay ON for 4 seconds indicating telegram reception.
7. To learn another switch, repeat steps 2-5.

Occupancy Detection

A. Manual ON – Auto OFF: *FDLR product receiving from both an Occupancy / Vacancy Sensor (FDLTVW or FDLTVVC) and a Wall Switch (FDLTS2)*

- Dimmer activates when Rocker ON is pressed. Dimmer deactivates when Rocker OFF is pressed or 30 minutes after last detection of occupancy.
- It may take up to 2 minutes for the FDLR product to respond to the Occupancy / Vacancy Sensor immediately following Link.
- Optional mode: Repeater (see page 3)

Manual ON – Auto OFF Learn Procedure

1. Be sure the Occupancy / Vacancy Sensor is charged
2. Apply power to FDLR product.
3. Press and hold LRN button on FDLR product until LED starts flashing slowly (approximately 1/2 second).
4. Trigger a Teach telegram from the Occupancy / Vacancy Sensor by pressing the Menu button once.
5. LED on FDLR product will stay ON for 4 seconds acknowledging telegram reception.
6. Press and hold LRN button on FDLR product for 1/2 second. LED will flash slowly.
7. Press and release rocker switch three times quickly.
8. LED on FDLR product will stay ON for 4 seconds acknowledging telegram reception.
9. To learn another switch, repeat steps 6-8.

B. Auto On: *FDLR Product and an Occupancy / Vacancy Sensor (FDLTVW or FDLTVVC)*

- Relay activates when occupancy is detected and deactivates 30 minutes after last detection of occupancy.
- It may take up to 2 minutes for the FDLR product to respond to the Occupancy / Vacancy Sensor immediately following Link.
- Optional mode: Repeater (see page 3)

Occupancy / Vacancy Sensor Only Learn Procedure

1. Charge the Occupancy / Vacancy Sensor per instructions.
2. Apply power to FDLR product.
3. Press and hold LRN button on FDLR product until LED starts flashing slowly (approximately 1/2 second).
4. Trigger a Teach telegram from the Occupancy / Vacancy Sensor by pressing the Menu button once.
5. LED on FDLR product will stay ON for 4 seconds acknowledging telegram reception.
6. Repeat steps 3-5 for additional Occupancy / Vacancy Sensors.

Optional Modes

Dim Mode

- Performing the following steps will toggle between leading and trailing (default) dimming.

Toggle Dim Mode

- Apply power to FDLR product.
- Press and hold LRN button on FDLR product until LED starts flashing slowly (approximately 1/2 second).
- Press and hold the CLR button for 3 seconds until LED flashes *twice* indicating Dim Mode was changed.

Set Min Dimming Threshold

(For loads that flicker at low levels)

- To set the minimum dimming threshold, adjust the output to the desired minimum and perform the following steps

Setting Minimum Threshold

- Apply power to FDLR product.
- Set Dimming Level above when Lighting Load starts to flicker
- Press and hold LRN button on FDLR product until LED starts flashing slowly (approximately 1/2 second).
- Press and hold the LRN button for 3 seconds until LED pattern changes to FLASH, FLASH, OFF (2 flashes)
- Press and hold the CLR button for 3 seconds until LED flashes *twice* indicating Minimum Threshold is set.

Set Power-up State

- Perform the following steps to change the state of output at Power-up between On and Off (default)

Toggle Power-up State

- Apply power to FDLR product.
- Press and hold LRN button on FDLR product until LED starts flashing slowly (approximately 1/2 second).
- Press and hold the LRN on FDLR product button for 3 seconds until LED pattern changes to FLASH, FLASH, OFF (2 flashes)
- Press and hold the LRN button on FDLR product for 3 seconds until LED pattern changes to FLASH, FLASH, FLASH, OFF (3 flashes)
- Press and hold the CLR button for 3 seconds until LED flashes *twice* indicating Power-up State was changed.

Repeater Mode

- Activating Repeater Mode allows FDLR product to repeat signals from other EnOcean devices within range. The FDLR product "hears" the signal and echoes it but will not respond to it unless it has been linked to the transmitting device.
- FDLR product will allow a signal to be repeated up to two times.

Enabling Repeater Mode

- Apply power to FDLR product.
- Press and hold LRN button on FDLR product until LED starts flashing slowly (approximately 1/2 second).
- Press and hold LRN button on FDLR product for 3 seconds until LED pattern changes to FLASH, FLASH, OFF (2 flashes).
- Press and hold LRN button on FDLR product for 3 seconds until LED pattern changes again, to FLASH, FLASH, FLASH, OFF (3 flashes).
- Press and hold LRN button on FDLR product for 3 seconds until LED flashes continuously.
- Press and hold the CLR button for 3 seconds until LED flashes *twice* indicating Repeater Mode is enabled.

Disabling Repeater Mode

- Apply power to FDLR product.
- Press and hold LRN button on FDLR product until LED starts flashing slowly (approximately 1/2 second).
- Press and hold LRN button on FDLR product for 3 seconds until LED pattern changes to FLASH, FLASH, OFF (2 flashes).
- Press and hold LRN button on FDLR product for 3 seconds until LED pattern changes again, to FLASH, FLASH, FLASH, OFF (3 flashes).
- Press and hold LRN button on FDLR product for 3 seconds until LED flashes continuously.
- Press and hold the CLR button for 3 seconds until LED flashes *three* times indicating Repeater Mode is disabled.

Clearing ID's from Memory

Global Clear (Reset to default settings)

Clears all linked devices, disables optional modes, turns dimmer OFF.

Performing Global Clear

- Press and hold CLR button on FDLR product for 3 seconds until LED begins slowly flashing.
 - Clear Mode will time out and exit in 30 seconds.

Single Device Clear

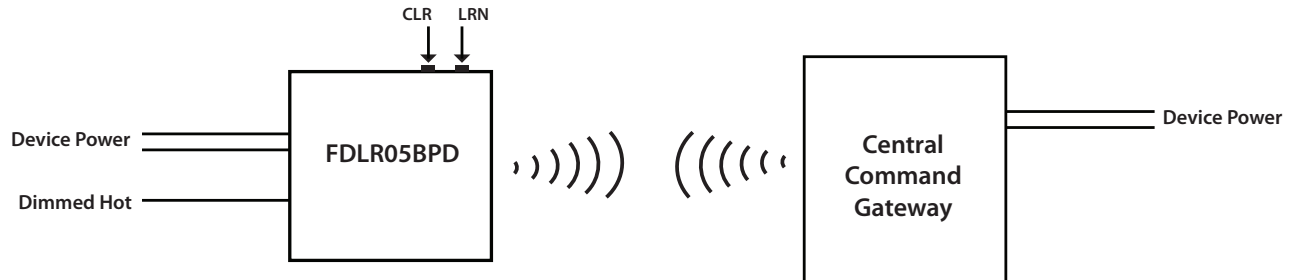
- Allows the user to Un-link a single transmitter from FDLR product.
- Maintains all optional mode settings.

Performing Single Device Clear

- Repeating the Link procedure for a currently Linked device will Un-link that device.

Building Automation Applications

Uni-directional Mode: FDLR05BPD and a Central Command Gateway



- Gateway can control the dimmed output.
- FDLR05BPD re-transmits status every 70-140 seconds.
- Optional modes: Repeater (see page 3)

Uni-directional Link Procedure

1. Apply power to FDLR product.
2. Get FDLR Product in Learn mode by pressing the LRN button until LED starts flashing slowly (approximately 1/2 second).
3. Transmit Link telegram from Central Command Gateway
 - LED on FDLR product will stay ON for 4 seconds to acknowledge and then transmit a Link telegram.

Note: To clear memory, hold CLR button for 3 seconds.

Energy Saving Applications

