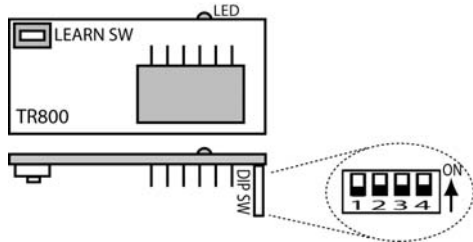


**Radio Receiver Module, 433MHz BOSCH™ Compatible Fits to Relay Boards (RLDP-V, RLSPHC-V)**

**1.0 Overview**



- ✓ 433MHz radio receiver.
- ✓ Compatible with Bosch™ series keyfob alarm transmitters.
- ✓ Plugs on to Livewire RLDP-V or RLSPHC-V relay boards.
- ✓ Two outputs: (1) relay on relay board and (2) logic level output.
- ✓ Remote trigger input for wired pushbutton control.

**2.0 Specifications**

Parameter	Description
Dimensions (mm)	36w x 9d x 18h
Frequency	433.42MHz
Modulation	ASK
Compatible keyfob transmitters	(a) Bosch™ RF3332E, RF3334E (b) Connect T433B.
Compatible relay boards	(a) Livewire RLDP-V (b) Livewire RLSPHC-V
Outputs	(a) 2 (one relay, one logic level)
Output timers	(a) Seconds: 1-255 (b) Minutes: 1-100
Max number learned transmitters	16
Operating temp	0 deg C – 55 deg C
Operating voltage	12VDC (11.5V min, 13.8V max)
Operating current	(a) Relay off: 24mA (b) Relay on: 35mA

Programmed keyfobs and timer values retained during power down.

**8.0 Switch Settings, Receiver Mode and Outputs**

Sw	Function	Off (0)	On (1)	Default	Note
S1	TP	TP=OUT2	TP=Remote Trigger Input	Off	1, 2
S2	Unused			Off	
S3	Ch Mode	See Output Channel Mode table		Off	
S4	Ch Mode			Off	

**Note 1:** When used as Remote Trigger Input, triggered on negative edge. Pulled high via 10k to 3.3V.

**Note 2:** When used as second output (OUT2), TP is connected to Microcontroller (3.3V), positive logic via 470R (max 7mA).

**Output Channel Mode Table**

Switches S3 and S4 set the mode of operation for the two outputs. Setting S3=On and S4=On is a special case where transmitter buttons force channel outputs on or off as shown. These button settings override the learned button order but if S3/S4 are changed back to Pulse/Toggle, the stored button settings will again be used.

S3	S4	OUT1	OUT2	OUT3	OUT4
Off	Off	Pulse	Pulse	Pulse	Pulse
Off	On	Toggle	Toggle	Toggle	Toggle
On	Off	Pulse	Toggle	Pulse	Toggle
On	On	B2: OUT1 On	B1: OUT1 Off	B3: OUT2 On	B4: OUT2 Off

**Note:** Buttons B1-B4 refer to Keyfob Transmitter T433B below.

**3.0 Setting Pulse Output Time (Default: 2 Secs)**

To set the pulse output time:

- a) Remove power.
- b) Press **LEARN** button.
- c) Apply power, still holding **LEARN**. LED will light then turn off when ready to count pulses.
- d) Press **LEARN** 'x' times to set the pulse output time to 'x'. LED flashes once per push.
- e) After entering the desired pulse output time, set the units:
  - (i) **Seconds:** Do nothing, the heartbeat will restart and the timer will be set in units of seconds. Range 1-255s.
  - (ii) **Minutes:** Press and hold **LEARN**. When LED lights solid, release. Units will be set to minutes. Range 1-100m.

If no button press is detected within 5 secs, pulse count mode is aborted and TR800-433B returns to normal receive mode.

**4.0 Remote Trigger Input (TP)**

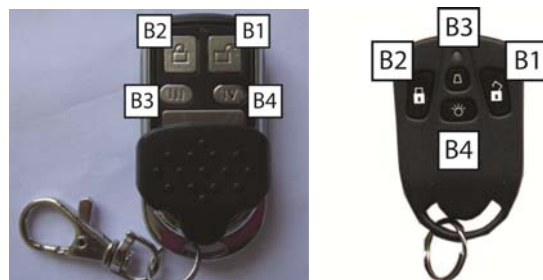
For wired pushbutton control. When enabled, the Remote Trigger Input is active on TP. Shorting TP to ground causes the relay to operate as if the appropriate keyfob transmitter button was pressed. **To enable, set DIPSW S1 ON (See also Section 14.0).**

**5.0 Second Output (OUT2 on TP)**

When enabled, the second output is active on pin TP. Off=0V, On=3.3V. **To enable, set DIPSW S1 OFF (See also Section 14.0).**

**6.0 Compatible Transmitters**

The following keyfobs are compatible with the TR800-433BM. Also operates with external input on point transmitter RF3401E.



T433B

RF3332E, RF3334E

**7.0 Learning Transmitters, Assigning Relays to Buttons**

Keyfobs can be learned into the TR800 and buttons assigned to the output(s).

To learn a transmitter (i.e., assign one or more buttons to outputs):

1. Press **LEARN** button for 1 second until LED goes off, release.
2. To assign single button to OUT1, press desired button once. Press same button again.
3. To assign two buttons to two outputs, press desired button for OUT1 followed by desired button for OUT2.
4. Note that Force mode will operate for any learned transmitter.

Once a transmitter is learned, the output assigned to the button will operate in accordance with the switch settings in Section 3.0.

## 9.0 Install Mode

To enter Install Mode, press **LEARN** button and hold for 5 secs until LED does double flash.

If required, install mode can be used when installing wireless devices. It reduces the sensitivity of the TR800 so that devices which work in install mode will work even better in normal mode (i.e., it provides a margin of safety).

To exit Install Mode, press the **LEARN** button.

## 10.0 Deleting Transmitters

To delete all transmitters push **LEARN** and hold for 20 secs. You will see that:

- After 5 secs, LED does double flash (install mode).
- After 15 secs, LED does quick angry flash to warn that deleting data is imminent.
- After 20 secs, LED is on solid and all transmitters have been deleted.
- Release **LEARN**.

## 11.0 Installation Tips

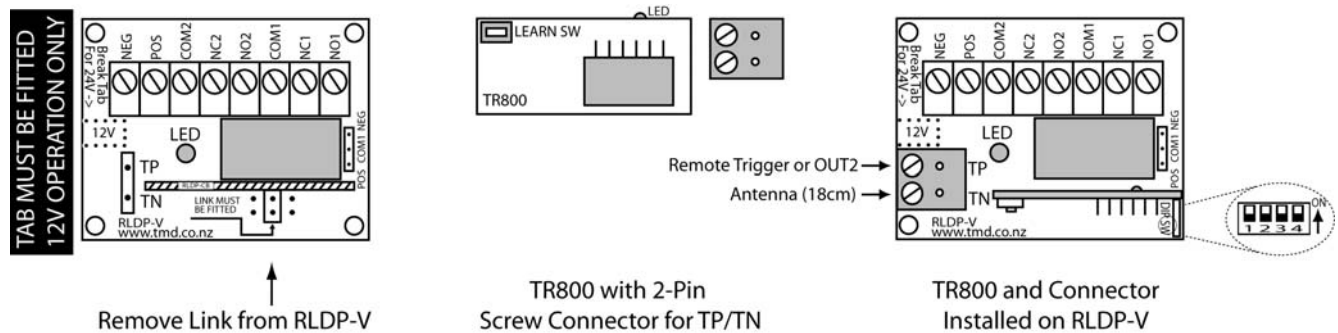
**IMPORTANT.** To achieve good performance from the TR800-433BM:

- Connect antenna (18cm length) into TN
- Antenna should be in horizontal plane. Don't curl up!
- Install away from wires and metal objects.

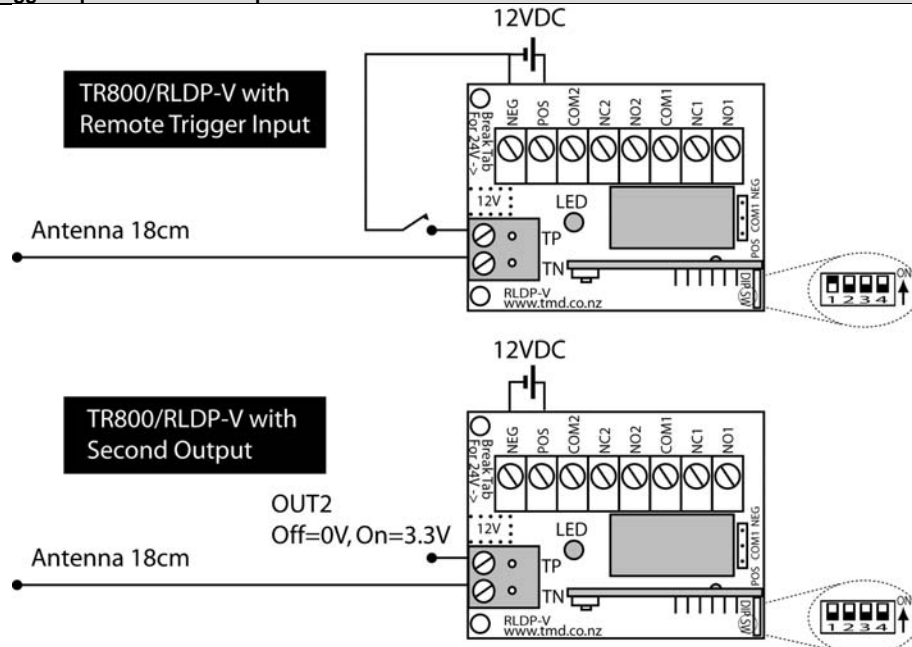
## 12.0 LED Operation

	State	LED	Comments
1	Idle.	Short flash every 2 secs.	Normal state when not receiving data.
2	Receiving data from learned transmitter.	Single long flash.	
3	Receiving data from unlearned transmitter.	Single short flash.	
4	Install mode.	Double short flash every sec.	Reduced sensitivity
5	Error.	On with short double blink off; or Double.	Data in system area (transceiver config) corrupted.
6	EE Corrupt (transmitter).	Double long flash every 2 secs.	One or more transmitter record corrupted.

## 13.0 Installing the TR800-433BM on RLDP-V and RLSPHC-V Relay Boards



## 14.0 Using TP as Trigger Input or Second Output



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