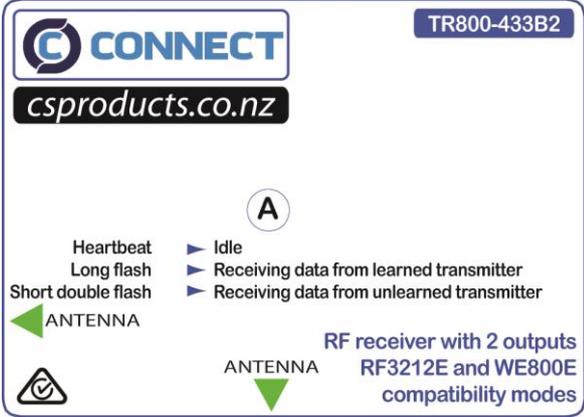




Radio Receiver Module for use with BOSCH 433MHz Intruder Alarms

4.0 Overview



The TR800-433B (is a 433MHz radio receiver compatible with the Bosch series of intruder alarm panels. Note TR800-433B2 is the same as TR800-433B.

It has two user-selectable modes of operation:

- (a) RF3212E compatibility mode.
- (b) WE800E (Solution 800) compatibility mode.

It also has **two** independent outputs (two relay, two open-collector) with flexible timer options on normally open/closed contacts.

Note: Solution™ is a trademark of Bosch Security Systems Pty Ltd.

5.0 Specifications

Parameter	Description
Dimensions (mm)	115w x 83d x 28h
Frequency	433.42MHz
Modulation	ASK
RF3212E mode	Compatible with Solution™ 880 Ultima, Solution™ 16i, Solution™ 16plus, Solution™ 64. Implements Bosch Streamline™ protocol.
WE800E mode	Compatible with Solution 844, 862 and 880.
Compatible keyfob transmitters	(a) Bosch RF3334E (b) Connect T433B. (c) Bosch RF3501LE Pendant.
Relay outputs	Two (1 Amp, NO/NC).
Output timers	(a) Seconds: 1-255 (b) Minutes: 1-100
Max transmitters for local relay control	12 (retained during power down)
Weight	140g
Operating temp	0 deg C – 55 deg C
Operating voltage	12VDC (11.5V min, 13.8V max)
Operating current	30mA, no relays active. 25mA per relay on.

6.0 Resetting the TR800-433B2

To delete all transmitters, push **LEARN (SW3)** and hold for 20 secs (NOTE: Doesn't reset Pulse Output Time). You will see:

- (a) After 5 secs, LED1 does double flash (walk test mode).
- (b) After 15 secs, LED1 does quick angry flash.
- (c) After 20 secs, LED1 does 1s flash, all transmitters deleted.
- (d) Release **LEARN**.

7.0 Tamper

The TR800 is fitted with a Tamper microswitch inside the lid. When activated (lid removed), a tamper condition is sent to the panel.

5.0 Switch Settings, Receiver Mode & Outputs (DIP Switch SW2)

Sw	Function	Off (0)	On (1)	Default	Note
S1	RXD is Remote Trigger (RY1)	Disabled	Enabled	Off	1
S2	Receiver mode	RF3212E	WE800E	Off	2
S3	OUT1	Pulse Tmo	Toggle	Off	3
	OUT2	1s Pulse	Toggle		
S4	OUT3	1s Pulse	Toggle	Off	
	OUT4	1s Pulse	Toggle		

**Note 1:** Remote trigger input on RXD is positive triggered.  
**Note 2:** Receiver mode either **RF3212E** or **WE800E**. RF3212E implements Bosch Streamline™ protocol as data output to panel with support for all RF devices. WE800E mode implements Bosch receiver protocol for Solution 844, 862 and 880 series panels for transmitter keyfob support only.  
**Note 3:** Pulse Tmo set as shown in Section 6.

1.0 Setting Pulse Output Time (Default: 1 Secs)

To set the pulse output time:

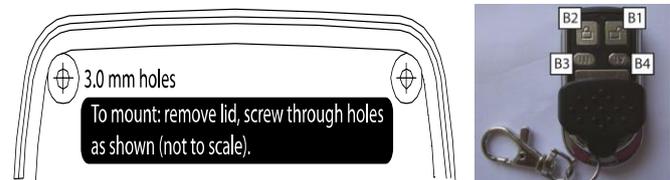
- a) Remove power.
  - b) Press **LEARN** button.
  - c) Apply power, still holding **LEARN**. LED1 will light then turn off when ready to count pulses.
  - d) Press **LEARN** 'x' times to set the pulse output time to 'x'. LED1 flashes once per push.
  - e) After entering the desired pulse output time, 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 LED1 lights solid, release. Units will be set to minutes. Range 1-100m.
- If no button press within 5 secs, times out and back to normal operation.

2.0 Remote Trigger Input (RXD)

The Remote Trigger Input (RXD) operates on RY1 and behaves as if a transmitter button was pressed for this relay. To enable this feature, set S1 ON. Remote Trigger Input is a positive trigger input on pin RXD. Note if a keyfob is prog'd for force output on RY1, RXD toggles RY1.

3.0 LED Operation

	State	LED1	Comments
1	Idle.	Double short flash every 2 secs.	Normal state, not receiving data.
2	Receiving data from learned transmitter.	Single long flash.	
3	Receiving data from unlearned transmitter.	Double flash.	
4	Walk Test.	Double short flash every sec.	Reduced sensitivity
5	Delete warning.	Fast flash.	About to delete all transmitters
6	Error.	On with short double blink off; or Double.	Data in system area (transceiver config) corrupted.
7	EE Corrupt (transmitter).	Double long flash every 2 secs.	One or more transmitter corrupt.



## 9.0 Learning and Deleting Keyfobs, Assigning to Outputs

All Bosch compatible messages received by the TR800 are transmitted to the alarm panel. In addition, transmitters can be learned into the TR800 and buttons assigned to the outputs. To learn a transmitter (i.e., assign one or more buttons to outputs):

1. Press **LEARN** until LED1 goes off (approx 1 sec). Release. LED1 should be OFF.
2. Select output to be programmed by pressing **LEARN** once for each output (1=OUT1, 2=OUT2, 3=OUT3, 4=OUT4). LED1 flashes each time button pushed and released.
3. Then either:

<b>A</b>	<b>LEARN</b> Keyfob button to output.	Press desired keyfob button.
<b>B</b>	<b>LEARN</b> Keyfob PANIC to output.	Press PANIC (B1+B2).
<b>C</b>	<b>DELETE</b> transmitter(s) learned to output.  Use to delete transmitters which are lost, otherwise see Section 10.0.	Press LEARN and hold 2s (until LED1 does single long flash) to delete all transmitters which control the output. <b>IMPORTANT: if the same transmitter controls another output, it will be deleted from there also.</b>

4. LED1 flashes once when device learned.
5. Repeat above for all keyfobs to be programmed.

### Note that:

1. When learned, the output assigned to the transmitter will operate according to the DIP switch settings for that output.
2. The TR800-433B will exit learn mode after either 25 secs or when a transmitter has been successfully learned.
3. If learning previously learned transmitter, there is no response.
4. When receiver is full, any new transmitters overwrite the last.

## 10.0 Deleting a Single Transmitter

1. Press **LEARN** until LED1 turns off (1s) then release.
2. Press PANIC buttons of keyfob to delete (B1+B2).
3. LED1 will do a **long flash**.

## 11.0 Force On/Off Outputs

**\*\*\* READ CAREFULLY TO AVOID UNEXPECTED RESULTS \*\*\***

To assign a keyfob button to turn an output on **and a different** button on the same keyfob to turn the same output off:

1. Learn the button (B1-B4) required to turn output ON.
2. Learn the button (B1-B4) required to turn output OFF.

The first learned button turns output ON, the second turns it OFF.

### IMPORTANT:

1. Force On/Off overrides DIP switch settings.
2. Having selected an output for Force On/Off, only use it for Force On/Off. **DO NOT** assign single buttons or sensors to it.
3. **DO NOT** use a button for Force On/Off control which is already assigned to another output.
4. If in doubt, reset the device (Section 3) before programming.

## 12.0 Walk Test Mode

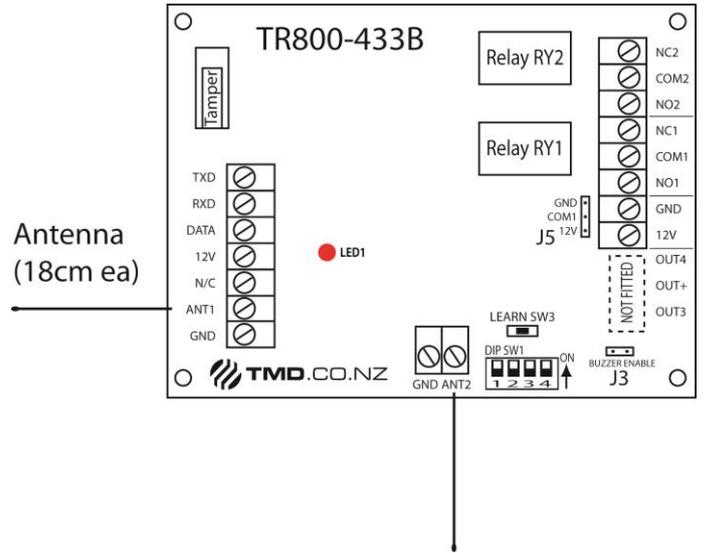
Walk Test mode reduces the sensitivity of the receiver so that devices which work in this mode will work even better in normal mode (i.e., it provides a margin of safety). To enter Walk Test Mode, press **LEARN** button and hold for 5 secs until LED1 does double flash. Test all wireless devices.

To exit Walk Test Mode, press the **LEARN** button.

## 13.0 Link Settings

	Function	Description
J3	Not fitted	n/a
J4	Not fitted	n/a
J5	COM1 voltage	Set COM1 pin to GND or 12V.

## 14.0 Switches and Connectors

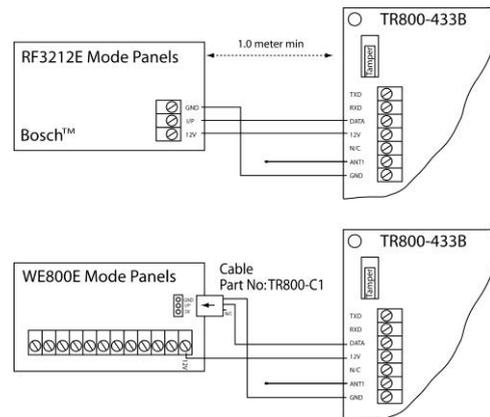


## 15.0 Antenna Connection and Installation Tips

For best performance either use external antenna A433 or:

1. Connect Antenna 1 (18cm length) into ANT, **HORIZONTAL**.
2. Connect Antenna 2 (18cm length) into ANT2, **VERTICAL**
3. Ensure the alarm panel is installed inside a metal cabinet.
4. Allow minimum 1m between alarm panel and TR800-433B.
5. Keep antennas away from all metal and wires.

## 16.0 Connections to Bosch Alarm Panels



## 17.0 Connections

Pin	Label	Description
C1.1	OUT3	Not fitted
C1.2	OUT+	Not fitted
C1.3	OUT4	Not fitted
C1.4	12V	12V (11.5V-13.8V)
C1.5	GND	Ground
C1.6	NO1	RY1: Normally open contact
C1.7	COM1	RY1: Common
C1.8	NC1	RY1: Normally closed contact
C1.9	NO2	RY2: Normally open contact
C1.10	COM2	RY2: Common
C1.11	NC2	RY2: Normally closed contact
C2.1	TXD	Transmit data (unused)
C2.2	RXD	Receive data (unused)
C2.3	DATA	PANEL Data
C2.4	12V	PANEL 12V (connected to pin 4 on connector 1)
C2.5	N/C	Not connected
C2.6	ANT1	Antenna 1 Input
C2.7	GND	PANEL Ground
C3.1	GND	Ground
C3.2	ANT2	Antenna 2 Input

**Designed in New Zealand by:** Technology Marketing and Development Consulting Ltd (TMD Consultants, www.tmd.co.nz).

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