



## Professional Radio Control

### PRO-TRAP

#### Features

- 868Mhz
- Ready to Use Remote Control
- 8 Channel Systems
- Up to 8 per transmitter
- Range: Up to 2000 metres LOS
- Highly secure transmission protocol for reliable operation
- Relay Outputs: Momentary, Latching, Timed
- Receiver IP65



#### Applications

- Lighting Control
- General Purpose Remote Switching
- Door Control
- Quarry Remote Switching
- Access Control
- Machinery Control

#### Description

Available as 4 - 16 channels the Professional range are ready to operate general purpose remote control systems using a highly secure transmission protocol for reliable operation. The receiver unit is rated IP65 with integral power supply containing industrial standard 'DIN Rail' 'receiver' and 'relay output' modules (interchangeable). Other modules with higher switching capability are available.

The relay outputs may be user set to operate as latching or momentary. Outputs may be set to timed from 0-60 minutes.

Additional transmitters can be added using the easy learn procedure. Any transmitter switch can be mapped to any individual or combination of receiver output(s).

# Professional Radio Control



Part Number	Description	Range** (Metres)	Freq (MHz)	Relay Outputs (each @230Vac)
PROTRAP-8S8	8 channel Remote Control System	2000	869.5	8 x 10A
PROSABRE-8S8	8 channel Remote Control System	4000	869.5	8 x 10A

\*\* Range stated is optimum, direct line of sight. In worst conditions this can be reduced by up to 50%

## Receiver Unit

The receiver consists of interchangeable modules which are connected via ribbon cables. (as shown below).

## Antenna

The Antenna is held internally, this is to save drilling the enclosure on the top. This may have some effect to the range for specific applications which may require the antenna externally mounted. At all times please ensure that antenna is pointing in a vertical direction and away from high interference sources.



## Receiver Unit

DIN Rails mounted on steel plate  
 Integrated 12Vdc moulded Power Supply  
 5 Amp Fused terminal block  
 Material GW PLAST 120 °C

Learning Capacity: The receiver has the capacity to learn up to 31 units (Where 1 unit is defined as a button on a transmitter)

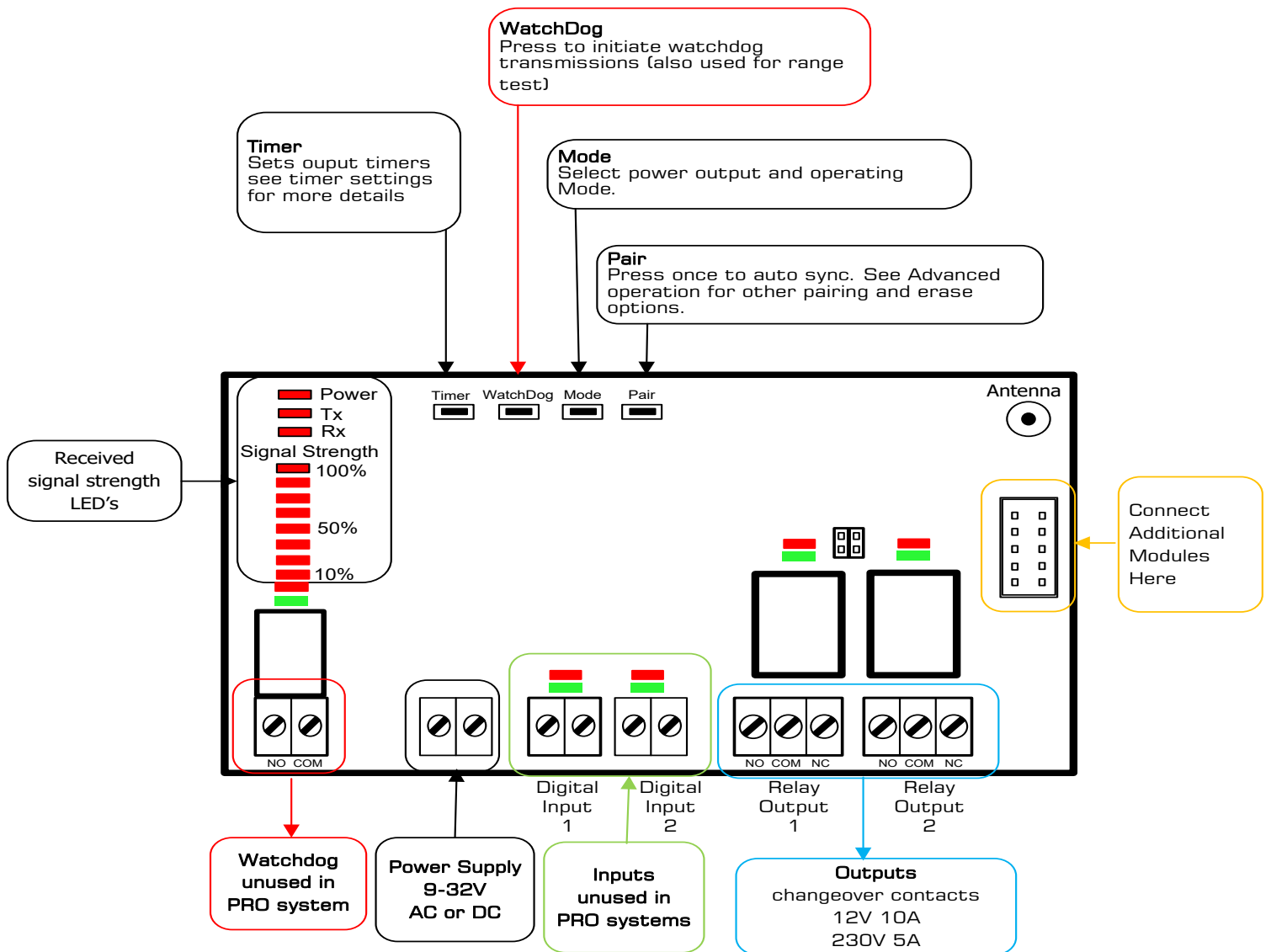
## Enclosure Dimensions

External 315 x 235 x 130mm  
 Internal 300 x 220 x 120mm

## PCB Dimensions

725-TRX 136 x 78 x 42mm  
 725-OP 136 x 78 x 42mm

A 12Vdc power supply is incorporated. 12Vdc is presented on a fused terminal block. A Gland is supplied to enable power to enter the enclosure.



## Overview of Features

PRO-TRAP/SABRE has many 'optional' features. These are summarised below and explained in detail later in this document.

**Auto or Manual Pairing:** Modules can be auto paired together in banks or any individual button can be paired to any individual output(s).

**TIMER:** The outputs can be set to Momentary/Latching /Timed

**Additional Modules:** Additional Output modules or can be connect (max 16 of each)

Please note: When using more than 2 output boards VCC must be connected to the 725-OP boards.

Please note: Inputs and watchdog are unused on the 725-TRX in the PRO systems.

## Pairing

### Factory Default Status

In Factory Default Input/Output LEDs flash Red/Green alternately

### To AUTO-PAIR

1. Press and release the PAIR button on the 725TRX Receiver.
2. The pair and all relay output LED's will flash on the 725TRX.
3. Activate ANY input on hand held transmitter.
4. All flashing LEDs on 725TRX relays will go out. The PAIR LED will flash quickly for 2 seconds.
5. Pairing Complete.

### To PAIR a button Manually to an Output 2

1. Press and release the PAIR button on the 725TRX B to enter Pairing mode. Press and release the PAIR button to cycle through LED's until only the LED above Relay 2 is Flashing.
2. Press the button on the hand held transmitter you wish to pair to relay 2.
3. All flashing LEDs on 725TRX relays will go out, the PAIR LED will flash quickly for 2 seconds.
4. Pairing Complete.

**Please Note:** Manual pair will not work when auto pair has been used.

## Erasing

### Reset to Factory Default Setting

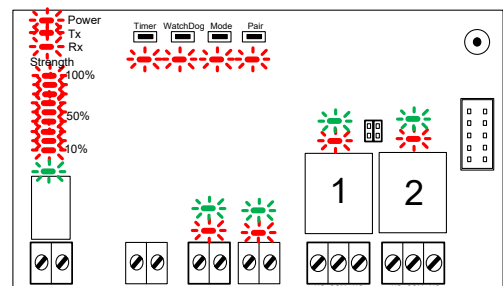
The 725TRX may be reset to Factory default at any time by pressing the PAIR button for 15 seconds.

### Erasing Everything (reset to Factory Default):

1. Apply power
2. Press and hold the PAIR button for 15 seconds, the PAIR LED will flash slow then fast.
3. Release the PAIR button.
4. 725-TRX is now reset to Factory Default

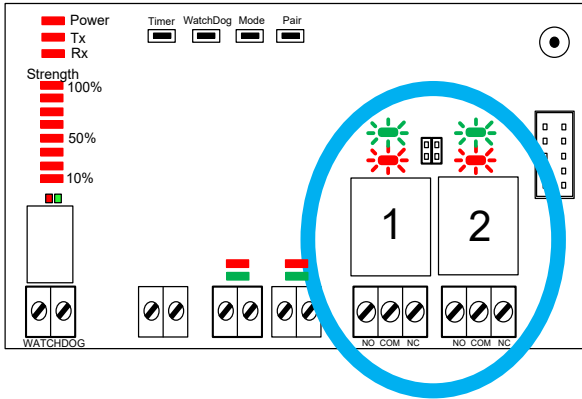
### ERASE Individual Transmitters:

1. Apply power
2. Press and hold the PAIR button for 10 seconds, the PAIR LED will flash slow as soon as this happens release the PAIR button.
3. Press any button on the transmitter to be erased.
4. The 725-TRX will exit to normal operating mode and the transmitter will be erased.



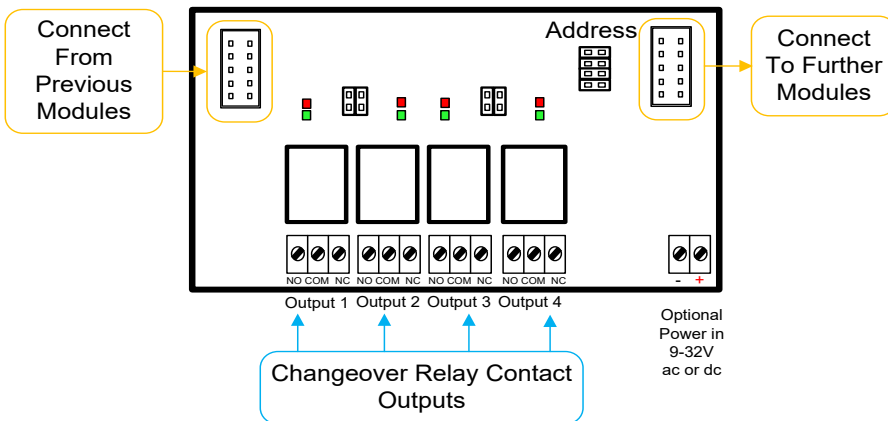
## OUTPUTs Status LEDs

When the receiving 725TRX gets a valid signal from a paired device it will activate an output. The status of active relays will be displayed on their corresponding LED's.



<b>GREEN LED</b>	<b>Status of Output</b>
ON	Relay is Active / ON
OFF	Relay is Inactive / OFF
<b>RED LED</b>	<b>Feedback from Receiver</b>
OFF	The paired 725TRX Output is paired with this output
Flashing	Relay is unpaired with any Receiver output

## 725-OP Additional Outputs Module



### Address settings

Each module must have a unique address set by the Address jumpers (it doesn't matter what the address is).

**NOTE:** outputs will cycle in address order for pairing, timers and erasing.

### Connect to 725TRX

Connect to the 725TRX or previous 725-OP module using the ribbon cable provided.

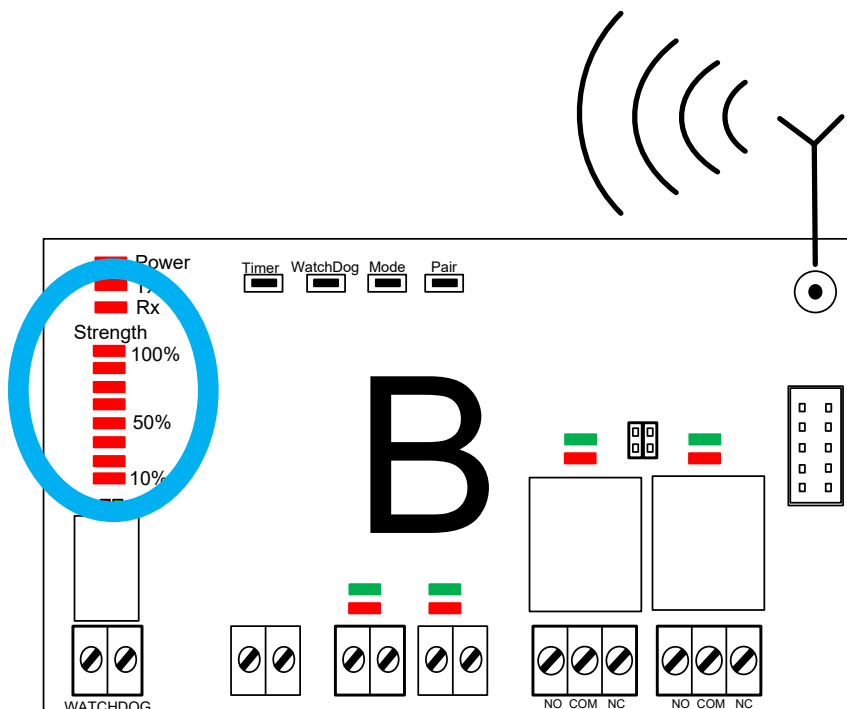
**NOTE:** When connecting more than one 725-OP module the power must be connected directly to the 725-OP module screw terminals.

## Display Signal Strength

This allows a user to check the signal strength (Walk Test).

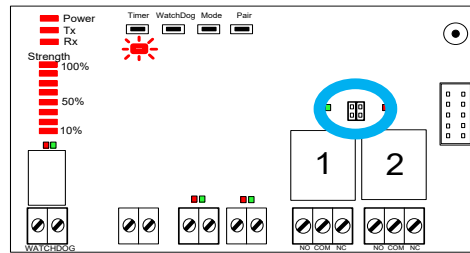
1. Any 725TRX will display a received signal on the Signal Strength LED bar graph from a compatible transmitter.

**NOTES:** For reliable communications please ensure at least 3 LED's are lit in this test.



## MOMENTARY/LATCHING setting links

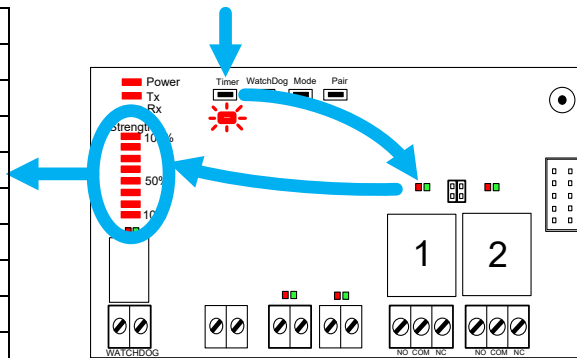
Each Relay Output can be individually preset to Momentary/Latching by fitting or removing the Link Headers.



Link Fitted	LATCHING	Output changes state on each Transmit signal
Link Removed	MOMENTARY	Output operates for duration of Transmit signal

## TIMER (Setting an Output Time Delay)

LED	Timer Output
8	60 min
7	30 min
6	10 min
5	1 min
4	30 sec
3	10 sec
2	5 sec
1	1/2 sec
0	Mom



### Setting a Timed Output.

1. Briefly press the TIMER Switch .
2. The TIMER and first relay output LED's will flash.
3. Press the TIMER switch again to scroll through relays until the chosen relay LED is flashing.
4. Wait until the chosen relay LED is on constantly.
5. Now each press of the timer button will increase the timer delay in line with the TIMER OUTPUT table displayed on the signal strength LED's.
6. When you have selected the required delay, wait 3 seconds.
7. The Red TIMER LED will stop flashing to show that the setting is saved

**NOTE:** Settings are saved even after power is removed.

**NOTE:** When zero LED's are lit the relays will operate as per the Momentary/Latching links.

### Erase ALL Timers:

1. Press and hold the TIMER button for 10 seconds,
2. Whilst held the TIMER LED will turn on and then flash fast.
3. When the LED flashes fast release the timer button the erase is complete

**NOTE:** When setting a Time Delay;

If the Jumper Link is Removed the time delay will restart on each transmission regardless of output status.

If the Jumper Link is Fitted, the time delay output will Latch OFF / ON Timed with each transmission.

## ENC-DA3 Enclosure

- IP65 rated DIN rail enclosure
- 12V volt PSU
- 305mm X 220mm X 125mm
- Premade Back plate with DIN Rail Mount
- Easy clip fit for 700 series products



## 12V1A~IN-IP

- IP67 rated PSU
- 12V volt
- 1Amp



## CBA-SMAMR-SMAF

Used for externally mounting an antenna

- SMA Male Right Angle
- SMA Female Bulkhead Straight



## ANT-GSM5WM

- Wall mount antenna
- 3m cable
- Wall Mount Whip Antenna
- 824-960
- Active gain: +5dB
- RG58 Connecting Lead





## Technical Specifications

**Transceiver :** 725-TRX  
**Dimensions:** 136 x 78 x 42 mm  
**Storage Temperature:** -10 to +70° Celsius.  
**Operating Temperature:** -10 to +50° Celsius.

Electrical Characteristics	Min	Typical	Max	Units
Supply Voltage	12		32	Vdc or ac
Frequency:		869.500		MHz
RF Output Power (ERP) @ 869.50 MHz	-	100		mW
Supply Current : Quiescent		50		mA
All output relays operating		+101		mA
Watchdog relay operating		+25		mA
When transmitting		+95		mA

### Input Module: 725-IP

**Dimensions:** 68 x 78 x 42 mm  
**Storage Temperature:** -10 to +70° Celsius.  
**Operating Temperature:** -10 to +50° Celsius.

Electrical Characteristics	Min	Typical	Max	Units
Supply Voltage		N/A		V
Input Impedance				Ohms
Supply Current		15		mA

### Output Module: 725-OP

**Dimensions:** 136 x 78 x 42 mm

ELECTRICAL CHARACTERISTICS	MODE	MIN	TYPI-CAL	MAX	Units
Supply Voltage			N/A		V
Relay Rating* (230Vac) RLY 1-4			5		A(rms)
Time delay from Tx on Switch to Rx Relay operation	FSK		30		mS
	LORA		30-1500		mS
Time delay from Tx sw relax to Rx Relay release	FSK		30		mS
	LORA		30-1500		mS
Supply Current :	Quiescent	12			mA
	All relays operating	+90			mA

**Storage Temperature:** -10 to +70° Celsius.  
**Operating Temperature:** -10 to +50° Celsius.

## Notes

- Notes The power is derived directly from 725-868
- The relay contacts in this unit are for functional use only and must not be used for isolation purposes

## Approvals Information:

- All RF Solutions products are manufactured in accordance with our ISO:9001 Quality System
- PRO Series Systems are manufactured to CE Compliant standard
- Further information available on request.

## Antenna and Range

### 2.1 Antenna

The system includes an antenna, It is situated within the enclosure (to save penetrating the enclosure)

If the range is inadequate then it may be necessary to mount the antenna protruding from the enclosure. This may be easily fitted using the provided panel mount BNC socket. The antenna cable may be extended however please note that typically there is a 50% range reduction with every 3metres of coax cable used!

For increasing range performance a +3dB gain antenna is available. This is supplied with wall mounting bracket and 2metres of coax cable, it plugs in directly to the BNC connector.

### 2.2 Range

The antenna choice and position directly controls the system range. Keep it clear of other metal in the system. The best position is protruding from the top of the product. This is often not desirable for practical or ergonomic reasons and thus a compromise may be needed. If an internal antenna must be used then try to keep it away from other metal items, and in particular large ones like transformers, batteries and PCB tracks and earth planes.

Note that the space around the antenna is as important as the antenna itself. All radio systems are dependant on a radio signal being received through airspace.

The range quoted is the optimal in direct line of sight without obstacles and in good atmospheric conditions.

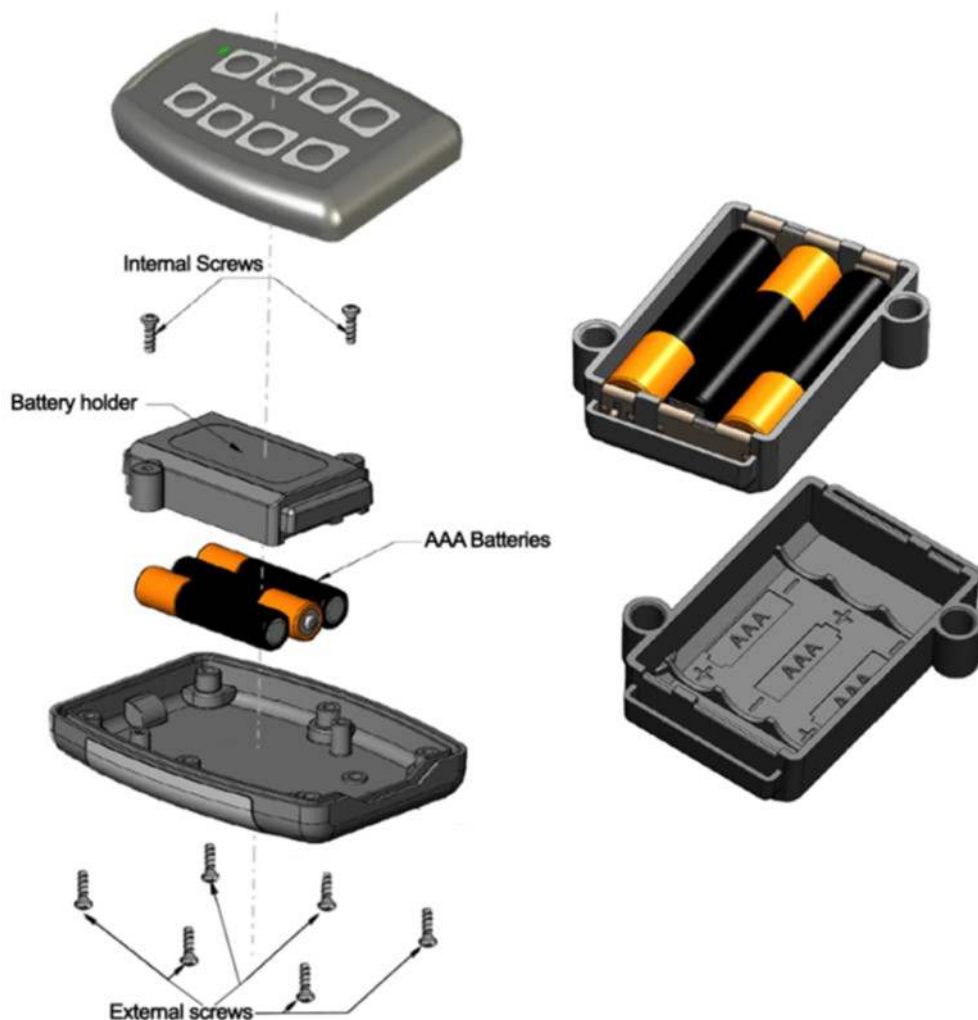
### 2.3 Signal Integrity

In systems where many encoders are in close proximity there may be occasions when, due to signal overlay between encoders, it is difficult or impossible to guarantee system integrity. In such circumstances it is the responsibility of the installer to ensure that the system performance is adequate for the purposes of the installation.

## Changing the Battery on the TRAP Transmitter

The below exploded enclosure diagram shows how to replace the 3xAAA batteries in the TRAP remotes.

Remove green rubber boot, remove the six screws on the back of the transmitter. Take the back panel apart, you will then need to remove two screws from the battery compartment.



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#### ROHS Directive 2011/65/EU and amendment 2015/863/EU

Specifies certain limits for hazardous substances.

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Waste electrical & electronic equipment. This product must be disposed of

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