10Km Range FM/LoRa Remote Control

Features

- Systems supplied 'ready to go'
- FSK/FHSS Spread Spectrum
- FSK upto 2Km Range
- FHSS (LoRa) upto 10Km Range
- Long Range **LoRa** Mode 1 to 4
- Map any TX switch to any RX O/P
- 868MHz CE Compliant (Europe)
- 918MHz FCC Certified (USA)

Transmitter

- IP67 Rated
- Powered from 3 x AAA Batteries
- LED Acknowledgment back from RX
- Continuous / Button Change Transmit



868MHz

918MHz

Receiver

- 6-32V ac/dc supply
- 4 Relay Changeover Contacts Rated 4A @ 230Vac (1KW)
- Waterproof to IP68
- Outputs Momentary or Latching
- Optional RX Acknowledge back to Transmitter
- Maximum 30 Button Pairings
- 2 x Cable Gland Entry 7-10mm

Intended Use

- Clay Pigeon Releases
- Industrial Lighting
- Gates / Roller Shutter Doors

Description

A versatile general purpose Remote Control System for many different applications.
The TRAP system is ideally suited to any outside Remote switching. Receivers have 4 relay outputs; using the 'easy-learn' process, each output can be controlled from one or many switches for one or many transmitters.

TRAP LoRa Remote Control

Ordering Information



Description	868MHz	918Hz
System 1 channel	TRAP-8S1	TRAP-9S1
System 4 channel	TRAP-8S4	TRAP-9S4

Additional Transmitters:



Transmitter	868MHz	918Hz
1 Switch	TRAP-8T1	TRAP-9T1
ON / OFF Switch	TRAP-8TL1	TRAP-9TL1
2 Switch	TRAP-8T2	TRAP-9T2
4 Switch	TRAP-8T4	TRAP-9T4
6 Switch	TRAP-8T6	
8 Switch	TRAP-8T8	TRAP-9T8
16 Switch (8Sw+Shift)	TRAP-8T16	TRAP-9T16

Transmitters ship with Lanyard



Additional Receivers

Description	Receiver Power Supply	868MHz	918MHz
Receiver 4 channel	6-32Vac or dc	TRAP-8R4	TRAP-9R4



Compatible Systems

TRAP products are compatible with other RF Solutions Remote Control Products and RF Modules operating on the same Band (868/918)

Custom Systems

To create a custom transmitter can be as simple as just a custom Membrane!

Please contact Sales for further info.



Technical specifications

TRAP Transmitter

Enclosure Rating: IP67
Battery Life: 2 years @ approx. 50 1/2second presses per day
Dimensions: 90 x 65 x 27 mm (without overboot) 100 x 75 x 32 mm (with overboot)
Measured at widest point and not including antenna (Antenna = 85mm)

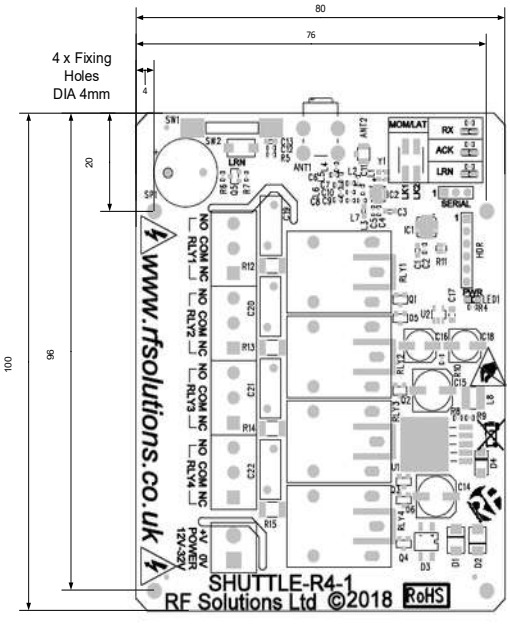
Electrical Characteristics	Min	Typical	Max	Units
Supply Voltage	3.3	4.5	6	V
Frequency		869.500 918.000		MHz
FSK Deviation 868MHz Only FHSS(868 and 918)		60 250		KHz
RF Output Power (ERP)			22	dBm

TRAP Receiver

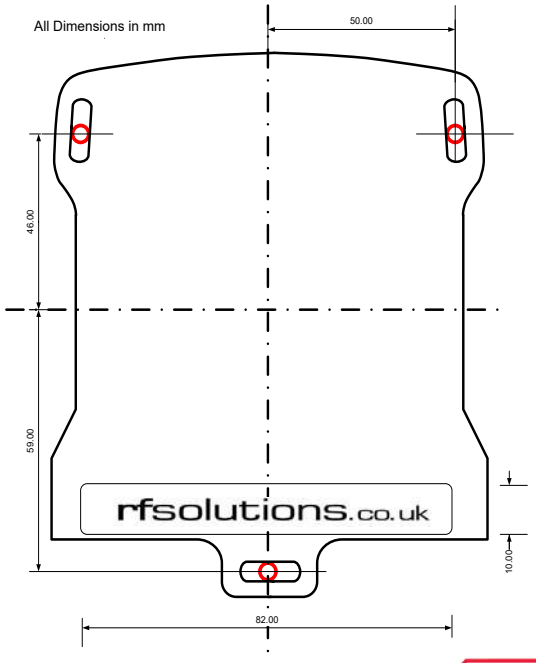
Enclosure Rating: IP68
Dimensions: 130 x 112 x 42 mm (not including antenna)
Weight: 400grams (Transmitter and Receiver)
Operating Temperature: -10 to +50° C

Electrical Characteristics	Min	Typical	Max	Units
Supply Voltage	7		32	Vdc or ac
Relay Rating (110 or 230Vac)		5	12	A
Supply Current at Vsupply 12V Quiescent All relays operating*		 15 175		mA
Time delay: (FM / LORA Mode1) Tx Switch ON to Rx Relay operation Tx Switch OFF to Rx Relay Relax		~26		mS

Mechanical Dimensions



Measurements in mm drawing not to scale



Range Test

Our Range Testing was conducted on the seafront of Brighton, UK. providing an open Line of Sight Test.

Watch The Video!

1. The System was set to LoRa Mode 4 with "Acknowledgment Activated"
2. The Receiver was attached to a Pole ~1.7metres from the Ground.
3. Weather Conditions Warm, Damp, Cloudy, 10°C (typical England!)
4. The transmitter was carried along the seafront whilst repeatedly operated.
5. After the "Transmit Signal" was activated the "Acknowledgment Signal" back from the Receiver was monitored to confirm a successful two way signal.
6. The system exhibited some signal failures along the test in particular when not in line of sight
7. Just under 12KM range was achieved, the system was working 100% however testing ceased because we could go no further in "line of sight". So the system would have operated over a longer distance if we could have done so.



Suppliers Declaration of Conformity (918MHz version)

This device complies with part 15 of the FCC Rules Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must not accept any interference received, including interference that may cause undesired operation.

47 CFR 2.1077 Compliance Information

This Declaration of Conformity is hereby issued according to Chapter 1, Subpart A, Part 2 of Title 47 of the code of Federal Regulations by:

RF Solutions Limited

William Alexander House
William Way
Burgess Hill
West Sussex
RH15 9AG
United Kingdom

Trade Name	Model
RF Solutions LoRa Scorpion	TRAP-9T1 TRAP-9T2 TRAP-9T3 TRAP-9T4 TRAP-9T8 TRAP-9T16

Contains FCC ID: P9OLAMBDA62

Complies with FCC Part 15.247

United States Responsible Party : Testing Partners LLC. 18200 SR 306, Chagrin Falls, OH 44023

Contact: info@testingpartners.com

The responsible party warrants that each unit of equipment marketed under this Declaration of Conformity will be identical to the unit tested and found acceptable with the standards and that the records maintained by the responsible party continue to reflect the equipment being produced under such Supplier's Declaration of Conformity continue to comply within the variation that can be expected due to quantity production and testing on a statistical basis.

TRAP LoRa Remote Control

Product Revision Change History TRAP 868MHz Systems			
Part	**ECN / Date**	**New Revision**	**Change / Fix**
TRAP-Systems	N/A Aug 2019	1	Initial Product Launch
TRAP-Systems	374 5/7/22	2	Addition of LORA Modes 1 - 4 (Was FM only)
TRAP-Systems	391 12/7/23	3	Bug Fix After pairing on the first operation of the transmitter after receiver power on, it has been noted that the relay operation may not function correctly

Product Revision Change History TRAP 8689MHz Transmitters			
Part	**ECN / Date**	**New Revision**	**Change / Fix**
TRAP-Transmitters	N/A Jul 2019	1	Initial Product Launch
TRAP-Transmitters	363 15/2/21	2	Change of internal RF Transceivver design Quiescent current improvement
TRAP-Transmitters	372 14/6/22	3	Addition of LORA Modes 1 - 4 (Was FM only)
TRAP-Transmitters	396 14/5/24	4	Improvement to Enclosure construction

RF Solutions Ltd. Recycling Notice
Meets the following EC Directives:
DO NOT Discard with normal waste, please recycle.
ROHS Directive 2011/65/EU and amendment 2015/863/EU
Specifies certain limits for hazardous substances.
WEEE Directive 2012/19/EU Waste electrical & electronic equipment. This product must be disposed of through a licensed WEEE collection point. RF Solutions Ltd., fulfils its WEEE obligations by membership of an approved compliance scheme.
Environment Agency Producer Registration Number: WEE/JB0104WV.

Waste Batteries and Accumulators Directive 2006/66/EC

Where batteries are fitted, before recycling the product, the batteries must be removed and disposed of at a licensed collection point.

RF Solutions Battery Producer Number: BPRN00060

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