




- Complete Remote Control System
- 1 – 2 Channel Remote Control Systems
- 12 or 24Vdc Supply
- AM / FM Remote Receiver Decoder
- High Security  Protocol
- 'Easy Learn' Tx Encoder Feature
- Easy Installation Via Screw Terminals.
- Up to 50 Transmitters per System
- 315 / 433 / 868 / 915 MHz Available
- 1 Relay Output 12Apk @ 230Vac
- 2 Relay Outputs 2A @ 12Vdc
- Momentary or Latching Outputs
- IP65 Rated Enclosure (Wall Mounting Lugs Supplied)
- Requires No Radio Licence
- 315MHz FCC Compliant for use in USA
- Range
  - AM upto 100metres
  - FM upto 200metres
  - FMNB upto 1000metres

#### Description

A Range of 'ready to operate' remote control systems supplied as either AM or FM and contain a transmitter and receiver decoder pair.

Installation simply requires connections to power supply and the output relay screw terminals. The output relays are activated by the key press on the transmitter encoder.

The system utilises the Microchip Keeloq protocol, ensuring high security and reliability.

The decoder has the capacity to learn up to 50 unique transmitters. These are memorised even if the power is removed.

The decoder is supplied in an IP65 rated enclosure with Cable Gland and wall mounting lugs supplied

**433MHz Products****AM Remote Control Systems**

Part Number	Description	Transmitter Type	Freq (MHz)	Range** (Metres)
118C1AR5	AM RC System 1 ch 12/24Vdc	Pocket Keyfob	433.92	100
118C3AR5	AM RC System 3 ch 12/24Vdc	Pocket Keyfob	433.92	100

**Additional AM Transmitter Keyfobs**

Part Number	Description	Freq (MHz)	Range** (Metres)
110C1-433AR1	Transmitter Keyfob 1 switch	433.92	100
110C2-433AR1	Transmitter Keyfob 2 switch	433.92	100
110C3-433AR1	Transmitter Keyfob 3 switch	433.92	100

**FM Remote Control Systems**

Part Number	Transmitter Type	Transmitter Type	Freq (MHz)	Range** (Metres)
128S1-433FR1	FM RC System 1 ch 12/24Vdc	Pocket Keyfob	433.92	150
128S3-433FR1	FM RC System 3 ch 12/24Vdc	Pocket Keyfob	433.92	150
10208S1-433FR1	FM RC System 1 ch 12/24Vdc	Handheld	433.92	200
10208S4-433FR1	FM RC System 4 ch 12/24Vdc	Handheld	433.92	200

**Additional FM Transmitter Keyfobs**

Part Number	Description	Freq (MHz)	Range** (Metres)
120T1-433FR1	Transmitter Keyfob 1 switch	433.92	150
120T2-433FR1	Transmitter Keyfob 2 switch	433.92	150
120T3-433FR1	Transmitter Keyfob 3 switch	433.92	150
102C1-433FR1	FM Transmitter encoder 1 switch	433.92	200
102C2-433FR1	FM Transmitter encoder 2 switch	433.92	200
102C4-433FR1	FM Transmitter encoder 4 switch	433.92	200

**FM NB (Narrow Band) Remote Control Systems**

Part Number	Transmitter Type	Transmitter Type	Freq (MHz)	Range** (Metres)
10208S1-525NR1	FM NB RC System 1 ch 12/24Vdc	Handheld + Ant	434.525	1000
10208S4-525NR1	FM NB RC System 4 ch 12/24Vdc	Handheld + Ant	434.525	1000

**Additional FM NB Transmitter Keyfobs**

Part Number	Description	Freq (MHz)	Range** (Metres)
102C1-525NR1	FM NB Transmitter encoder 1 switch	434.525	1000
102C2-525NR1	FM NB Transmitter encoder 2 switch	434.525	1000
102C4-525NR1	FM NB Transmitter encoder 4 switch	434.525	1000

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



**315MHz Products**

**AM Remote Control Systems**

Part Number	Description	Transmitter Type	Freq (MHz)	Range** (Metres)
118C1-315AR1	AM RC System 1 ch 12/24Vdc	Pocket Keyfob	315	100
118C3-315AR1	AM RC System 3 ch 12/24Vdc	Pocket Keyfob	315	100

**Additional AM Transmitter Keyfobs**

Part Number	Description	Freq (MHz)	Range** (Metres)
110C1-315AR1	Transmitter Keyfob 1 switch (FCC Compliant)	315	100
110C2-315AR1	Transmitter Keyfob 2 switch (FCC Compliant)	315	100
110C3-315AR1	Transmitter Keyfob 3 switch (FCC Compliant)	315	100

**FM Remote Control Systems**

Part Number	Transmitter Type	Transmitter Type	Freq (MHz)	Range** (Metres)
10208S1-315FR1	FM RC System 1 ch 12/24Vdc	Handheld	315	150
10208S4-315FR1	FM RC System 4 ch 12/24Vdc	Handheld	315	150

**Additional FM Transmitter Keyfobs**

Part Number	Description	Freq (MHz)	Range** (Metres)
102C1-315FR1	FM Transmitter encoder 1 switch	315	150
102C2-315FR1	FM Transmitter encoder 2 switch	315	150
102C4-315FR1	FM Transmitter encoder 4 switch	315	150

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





**Data Outputs**

Each output relay provides an isolated switch. Connections are Common (COM), Normally Open (NO) and Normally Closed (NC).

The jumper links (J1, J2) configure the outputs to be momentary or latching.

The jumper link are made / removed by a small link 'cap' placed over the pin header. Please note that the link is in the horizontal plane.

**118 Receiver Outputs**

Link 1 (LK1)	Link 2 (LK2)	O/P 1	O/P2	O/P3
Open	Open	Latch	Latch	Latch
Open	Connected	Mom	Mom	Mom
Connected	Open	Mom	Mom	Latch
Connected	Connected	Latch	Latch	Mom

**008 Receiver Outputs**

Link 1	Link 2	Relay 1	Relay 2	Relay 3	Relay 4
Open	Open	Momentary	Momentary	Momentary	Momentary
Open	Connected	Momentary	Momentary	Latch	Latch
Connected	Open	Momentary	Latch	Latch	Latch
Connected	Connected	Latch	Latch	Latch	Latch

**Combining Transmitters to receivers.**

Each transmitter has a unique identity, (one of 16 billion possible numbers), the identity number is encrypted and transmitted as a random number that changes on each press of the switch. (the same number is never repeated!). Each receiver can learn the identity of upto 50 unique transmitters.

Note : the same transmitter may be taught to any number of receivers to create 'master keys'.

**Learning a New Transmitter Keyfob Switch**

1. Press the learn switch (SW1), the accept LED will illuminate.
2. Press the transmitter once, accept LED will extinguish.
3. Press the transmitter again, the accept LED will flash.
4. Wait for the accept LED to stop flashing.
5. This transmitter will now operate the system.

The system can learn upto 50 unique transmitter keyfobs

**Erasing Existing Transmitters**

1. To completely erase the Tx encoders, press SW1 on the Rx decoder for 10 seconds.
2. The learn LED will turn off after the 10 seconds to indicate the Tx encoder(s) have been erased

**NOTE:** You can not erase individual Tx encoders





**Technical Specifications**

**'110' & '120' Transmitter Keyfob**

Battery Type GP23AE (supplied)

Electrical Characteristics	Min	Typical	Max	Units
Supply Voltage	8.5	9	16	V
Supply Current : Quiescent		0		mA
Supply Current : Transmitting		8		mA
Operating frequency		433.92		MHz

**'102' Transmitter Encoder**

Battery Type PP3 (supplied)

Dimensions 110mm x 65mm x 24mm

Electrical Characteristics	Min	Typical	Max	Units
Supply Voltage	8	9	12	V
Supply Current	11	14	21	mA
Frequency: Wideband	432.90	433.920	434.10	MHz
Narrowband	434.450	434.525	434.600	MHz
RF Output Power (ERP) @ 433 MHz	-		10	mW

**'008, 118' Receiver Decoder**

Dimensions 110mm (not including antenna) x 85mm x 35mm

Storage Temperature: -10 to +70° Celsius. Operating Temperature: 0 to +55° Celsius.

ELECTRICAL CHARACTERISTICS	MIN	TYPICAL	MAX	DIMENSION
Supply Voltage for +12 v	9	12.0	16	V
Supply Voltage for +24 v	20	24.0	28	V
Supply Current :				
Quiescent		19		mA
all relays operating*		100		
Time delay from Tx on Switch to Rx Relay operation			100	mS
Time delay from Tx sw relax to Rx Relay release			300	MS

\*The relay contacts in this unit are for functional use only and must not be used for isolation purposes

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