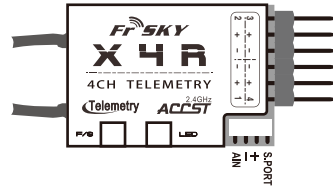


FrSky 2.4GHz ACCST X4R/X4R-SB CPPM Manual

Introduction

Thank you for purchasing FrSky X4R 3/8ch and or the X4RSB 3/16ch CPPM full duplex telemetry receiver. In order to fully enjoy the benefits of this system, please read the instruction manual carefully.

Overview



	Pins Definition (Standard)	Pins Definition (CPPM)
X4R	CH1	→ CPPM (CH1~CH8)
	CH2	→ CH9
	CH3	→ CH10
	CH4	→ CH11

	Pins Definition (Standard)	Pins Definition (CPPM)
X4RSB	CH1	→ CPPM (CH1~CH8)
	CH2	→ CH9
	CH3	→ CH10
	SBUS	→ SBUS

Green LED	RED LED	Status
ON	Flashing	Binding
Flashing	OFF	Normal
OFF	Flashing	Signal Lost
Flash Twice	Off	Failsafe Set

Specifications

Dimension: 40*22.5*6mm (L x W x H)

Weight: 5.8g

Number of Channels:

X4R- 3/8Ch (Channels 9, 10 and 11 via Pulse Width Modulation (PWM, normal servo output), and CPPM = channels 1-8)

X4RSB- 2/16Ch (Channels 9 and 10 via Pulse Width Modulation (PWM, normal servo output), SBUS = Channels 1-16, and CPPM = channels 1-8)

Operating Voltage Range: 4.0~10V

Operating Current: 100mA@5V

Operating Range: full range (>1.5km)

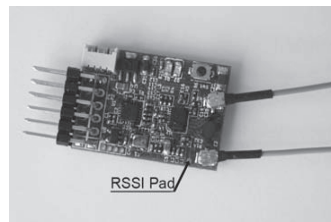
With RSSI output on board: PWM voltage output (0~3.3V)

Firmware: User Upgradeable

Compatibility: FrSky X-series modules and FrSky transmitters

(X4R and or X4RSB CPPM do not work with D-series modules.

The EU version of the X4R or X4RSB will only work with EU versions of FrSky Modules and transmitters.)



Features

- Smart Port enabled, realizing two-way full duplex transmission.
- External analog telemetry port (AD2) for basic voltage monitoring.
- Lighter weight and physically smaller than X8R and X6R receivers.
- More output options: **X4RSB**, X4RSB, with PWM, CPPM and SBUS output options, up to 16 channels available!
X4R, with PWM, and CPPM output options, up to 11 channels available!
- With RSSI PWM output (0~3.3V) on board.



Smart Port (S. Port) is a signal wire full duplex digital transmission interface developed by FrSky Electronic Co., Ltd. All products enabled with Smart Port (including XJT module, X4R, X6R and X8R receiver, new hub-less sensors, new Smart Dashboard, etc), serial port user data and other user input/output devices can be connected without limitations for numbers or sequences at a high transmission speed.

Binding Procedure

Binding is the process of uniquely associating a particular receiver to a transmitter module. A transmitter module can be bound to multiple receivers (not to be used simultaneously), while a receiver can only be bound to one transmitter module.

Follow the steps below to bind your receiver.

1. **Modules-** Put the XJT module in D16 mode (please refer to the module instruction manual for switch positions).

FrSky Transmitters- select D16 mode in the model setup.

2. A jumper can be placed on the signal pins of the receiver for different output options. Please see the table below. Power up the receiver while holding the F/S button on the receiver. The LEDs on the receiver will light, indicating it is ready to bind. (LEDs will not be flashing.)

3. **Modules-** Turn on the transmitter while holding the F/S button on the module. Release the button. The RED LED on the Module will flash, indicating the module is ready to bind to the receiver.

FrSky Transmitters- select bind in the model setup, the radio will start chirping indicating the radio is ready to bind to the receiver.

The receiver LED will start flashing, this indicates that the bind process was successful.

4. Turn off both the transmitter and the receiver.

5. Turn the transmitter on and power the receiver. The GREEN LED on the receiver indicates the receiver is receiving commands from the transmitter.

Receiver	Mode of Receiver	Telemetry	Channel Output	Jumped Before Bind (Signal pins)	F/S Button
X4R	D16	√	CPPM(CH1~8), CH9~11	CH2 & CH3	Connect the battery to any available channel output while holding the F/S button on Receiver
X4R	D16	√	CH1~4	No Jumper	
X4RSB	D16	√	CPPM(CH1~8), CH9~10, SBUS(CH1~16)	CH2 & CH3	
X4RSB	D16	√	CH1~3, SBUS (CH1~16)	No Jumper	

Note: After binding procedure is completed, recycle the power and perform a range check.

Range Check

A pre-flight range check should be done before each flying session. Reflections from nearby metal fences, concrete buildings or trees can cause loss of signal both during range check and during the flight. Follow the steps below.

- Place the model at least 60cm (two feet) above ground, non-metal contaminated (e.g. on a wooden bench).
- The receiver antennas should be separated in the model, and not touching the ground.
- Turn on the transmitter and the receiver.

Modules- Press the F/S button on the XJT module for 4 seconds to enter range check mode, the RED LED will be off, GREEN LED will flash rapidly. The module will beep while in range mode.

FrSky Transmitters- Select the range option in the model setup. The transmitter will chirp while in range mode.

4. Walk away from the model while simultaneously operating the controls on the transmitter to confirm all controls function normally. The effective distance will be decreased to 1/30 (at least 30m).

5. **Modules-** Press the F/S button on the XJT module for 1~2 seconds to exit range check mode, RED LED will be back on, indicating normal operation is back.

FrSky Transmitters- Select the range option in the model setup to turn off the range check mode.

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Failsafe

Failsafe is a useful feature in which all controls move to a preset position if the radio signal is lost for a period of time. X4R supports failsafe function for all channels. Follow steps below to set failsafe.

Option-1: How to set failsafe to a user-determined state on lost signal:

- 1) Bind the receiver to the transmitter module first and turn on both the transmitter and the receiver;
- 2) Move the controls to desired failsafe position for all channels;
- 3) Press the F/S button on the receiver (less than 1 second). The Green LED will flash twice, indicating the failsafe position has been set in the receiver.

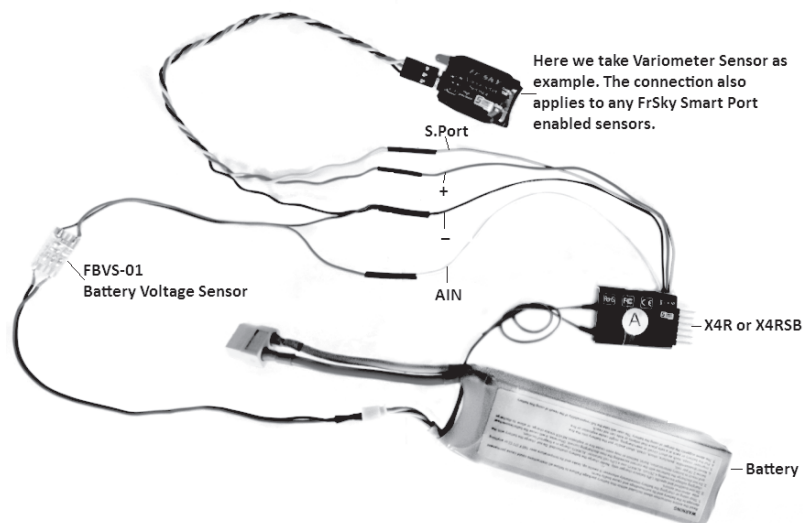
Option-2: How to set failsafe for no pulses on lost signal (needed for some flight controllers):

1. Turn off the transmitter, power on the receiver, and then press the F/S button on the receiver (less than 1 second). The Green LED will flash twice, indicating the failsafe position has been set in the receiver.

Note: If failsafe is not set, failsafe default will hold last position before signal was lost. In this mode your model may fly away or cause injury.

For more details, please check the complete manual for X4R from www.frsky-rc.com - Download -Manual. Should you have other questions, please send e-mails to FrSky technical support sales4tech@gmail.com.

How to connect Smart Port enabled sensors and/or FBVS-01 to X4R/X4RSB



Smart Port enabled sensors and X4R/X4RSB

Smart Port Cable		X4R/X4RSB Cable
Yellow	< = >	Green/Yellow
Red	< = >	Red
Black	< = >	Black

FBVS-01 and X4R/X4RSB

FBVS-01		X4R/X4RSB Cable
Red	< = >	White
Black	< = >	Black

Note: refer to the above picture and charts for the correct connection. Use the heat shrink tube on the exposed wires to prevent accidental in-flight short circuit.