

RS400H3

Wireless Data Transceiver, External Radio for RTK Applications

Overview

The Tersus radio RS400H3 is a base radio solution for RTK applications. It provides reliable data communications for mission-critical applications where a combination of stability, superior performance and long range are required.

The RS400H3 provides high speed, high power, wireless data links and has been designed to survive the rigors of GNSS/RTK surveying and precise positioning applications. Up to 35W transmit power maximizes range and supports operation in difficult urban areas. The RS400H3 is equipped with OLED display and keypads which are used for checking the operating status, changing the operating channel, and transmitting power level.

The RS400H3 radio has three versions: Basic, Advanced, and Ultimate which provides selectivity for the requirement from different users.

Key Features

60MHz bandwidth coverage 410-470MHz bands

Advanced data link design for high performance over entire bands

Multi-function user interface

It is designed for easy mobile use in demanding field conditions

Supports three transmission power switching

Compatible with 12.5KHz and 25KHz radios

Advanced and Ultimate versions support mobile app configuration

Ultimate version supports network repeater

IP67 environmental protection rating



Technical Specifications



General

Frequency range:	410~470MHz
Operating mode ⁽¹⁾ :	Transmitter, Receiver Radio Repeater, Network Repeater
Channel width:	12.5KHz, 25KHz
Channels:	32/200
Operation voltage:	9~16V DC
Power consumption (typical):	
– High power level (28/35W ⁽²⁾)	78/85W @ DC12V
– Medium power level (22W)	60W @ DC12V
– Low power level (5W)	35W @ DC12V
– Standby:	2W @ DC12V
Frequency stability:	$\leq \pm 1.0\text{ppm}$

Physical

Dimension:	175x130x86.5mm
Weight:	~2kg
Data interface:	LEMO 5pin
Antenna port:	TNC Female

Environmental

Operation temperature:	-40°C ~ +65°C
Storage temperature:	-50°C ~ +85°C
Dust and water proof:	IP67

Data Interface Definition

Type:	RS232
Pin 1:	Power, 9~16V DC
Pin 2:	Power ground, GND
Pin 3:	Serial data receiving, RXD
Pin 4:	Signal ground, GND
Pin 5:	Serial data transmitting, TXD

Note:

- (1) RS400H3 Basic supports transmitter only; RS400H3 Advanced supports transmitter, receiver and radio repeater; RS400H3 Ultimate supports transmitter, receiver, radio repeater and network repeater.
- (2) The high power level of RS400H3 Basic is 28W, while that of Advanced and Ultimate is 35W.
- (3) The 4G/3G/2G bands can be customized according to different regions.

Transmitter

RF output power (typical):	
– High (28/35W ⁽²⁾)	44.5/45.4±0.5dBm@DC12V
– Medium (22W)	43.4±0.5dBm@DC12V
– Low (5W)	37±1dBm@DC12V
RF power stability:	±1dB
Adjacent channel power:	>50dB

Receiver

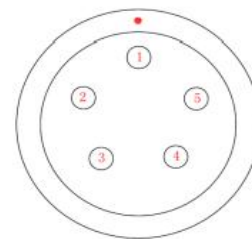
Sensitivity:	<-114dBm@BER 10 ⁻³ , 9600bps
Co-channel rejection:	>-12dB

Modem

Air baud rate:	4800 / 9600 / 19200 bps
Modulation type:	GMSK/4FSK
Serial port baud rate:	9600/19200/38400/57600/115200 bps
Protocol:	TrimTalk, TrimMark3, Transparent-EOT, SATEL

Wireless Communication

Bluetooth:	V2.0/4.0
4G/3G/2G bands ⁽³⁾ :	
4G(MHz):	B1(2100), B3(1800), B7(2600), B8(900), B20(800)
3G(MHz):	B2(2100), B8(900)
2G(MHz):	B3(1800), B8(900)



View from outside to radio



RS400H3 Options



Radio Version	Basic RS400H3	Advanced RS400H3-A	Ultimate RS400H3-U
Transmitter	√	√	√
Receiver	×	√	√
Radio Repeater	×	√	√
Network Repeater	×	×	√
OLED	√	√	√
Channels	32	32	200
Bluetooth	×	√	√
4G	×	×	√
GPS Module	×	×	√
CSMA	×	√	√
Call Sign	×	√	√
Warranty Period	ONE Year	ONE Year	ONE Year

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