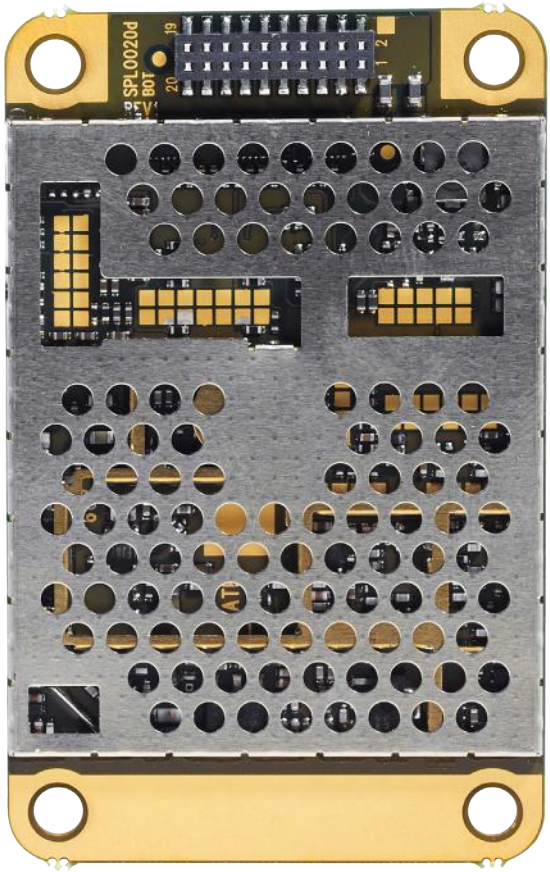

SATELLINE-M3-TR4

SATELLINE-M3-TR4 is a UHF data transceiver module in a lightweight single board structure. It is designed to be integrated into a host device, for instance for transfer of GNSS correction data in a land surveying rover or RTK base station.

It is equipped with all necessary features; such as 70 MHz tuning range (403...473 MHz) in one hardware, selectable channel width and low power consumption. The radio module configuration can be done with the SATEL SL-commands or SATEL Configuration Manager -software.

SATELLINE-M3-TR4 is compatible with other widely used SATELLINE modules and with SATELLINE-EASy radio modems, as well as with other manufacturers' radio protocols.

Setting up a local data transfer network is quick and cost effective with SATEL radio modems. The wireless network is independent and free of operator services. The cost of operation is either free of charge or fixed, depending on the frequency used. SATEL radio modems are type-approved in over 50 countries.

SATEL radio modems are always on line and provide reliable, real-time data communications over distances ranging from tens or hundreds of metres up to around 80 kilometres. Thanks to a store and forward function, any radio modem in a network can be used as a master station, substation and / or repeater.

SATEL radio modem networks are flexible, easy to expand and can cover a wide variety of solutions from simple point-to-point connections to large networks comprising hundreds of modems. Even for expanded networks, only one operating frequency is required.

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SATEL

Mission-Critical Connectivity

SATELLINE-M3-TR4 is a flexible module which makes it a suitable unit for different uses. It is an updated version of M3-TR3 module. It has two modulations more; 8FSK and 16FSK which gives more speed to the radio interface.

SATELLINE-M3-TR4 can be added to existing systems; it is compatible with widely used SATELLINE-EASy family radio modems and it supports also other manufacturers' radio protocols (such as Pac-Crest-4FSK, -GMSK, -FST).

The channel bandwidths 12.5 and 25 kHz are software selectable and SATELLINE-M3-TR4 has a wide 70 MHz tuning range. End-users can select the operation frequency within the range of 403...473 MHz.

The module is manufactured with AES128- bit encryption support on the air interface to ensure the privacy.

SATELLINE-M3-TR4 is supplied without a housing in PCB format with RF-shielding, facilitating installation in to the customer's own housing or into a host device.

SATELLINE radio modules suit all kind of needs of OEM customers, no matter the level of customization. Please contact us or our nearest distributor for various possibilities to create the perfect customized solution for you needs.

Technical Specifications

SATELLINE-M3-TR4 complies with the following international standards: EN 300 113, EN 301 489-1, -5, EN 60950-1 and FCC Part 90.

TRANSCEIVER MODULE	
Frequency	403...473 MHz
Channel Width	12.5 kHz / 25 kHz (software selectable)
Tuning Range	70 MHz
Frequency Control	Synthesized 6.25 kHz tuning resolution
Modulation	4FSK, 8FSK, 16FSK, GMSK
Carrier Power	0.1, 0.2, 0.5, 1 W programmable

Radio Interface Characteristics				
Radio compatibility	Error Correction	Channel Width	Data Speed of Radio Interface	Sensitivity (appr.) BER < 10 E-3
SATEL-4FSK	FEC OFF	12.5 kHz	9600 bps	-113 dBm
		25 kHz	19200 bps	-110 dBm
	FEC ON (3/4 coding)	12.5 kHz	7200 bps	-116 dBm
		25 kHz	14400 bps	-112 dBm
SATEL-8FSK	FEC OFF	12.5 kHz	14400 bps	-107 dBm
		25 kHz	28800 bps	-105 dBm
	FEC ON (2/3 coding)	12.5 kHz	9600 bps	-114 dBm
		25 kHz	19200 bps	-113 dBm
SATEL-16FSK	FEC ON (3/4 coding)	12.5 kHz	14400 bps	-108 dBm
		25 kHz	28800 bps	-106 dBm

GENERAL	
Input Voltage	+4 Vdc
Power Consumption, Typical	0.73 W (Receive) 4.7 W (Transmit 1 W)
Temperature Range	-25 °C ... +55 °C (complies with the standards) -30 °C ... +70 °C functional -40 °C ... +80 °C storage
Antenna Connector	HIROSE U.FL compatible type (Adapter cables available for TNC,SMA, MCX, MMCX etc.)
Construction	PCB with RF-shielding
Size H x W x D mm Weight	57 x 36 x 6.7 mm (w. screw fasteners) 18 g

DATA MODEM	
Electrical Interface	CMOS-UART
Interface Connector	1.27 mm pitch socket
Data Speed of Serial Interface	9600 ... 115200 bps
Air Interface Encryption	AES128

Values are subject to change without notice.

Distributor: