

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.

Following items in the module can be customized upon request\*:

- Mechanical fastening and its type
- Interface and antenna connector types

SATELLINE-M3-TR4 can be added to existing systems; it is compatible with widely used SATELLINE-3AS and -EASy 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 can be manufactured with an option for 128-bit encryption 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.

*\*For larger orders also shape of the PCB can be customized. Please contact us to learn more about the customization options.*

**Technical Specifications**

SATELLINE-M3-TR4 complies with the following international standards: EN 300 113-2 Annex A, EN 301 489-1,-5, EN 60950-1 and FCC CFR47 Part 90.

Values are subject to change without notice.

TRANCEIVER 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 ON	12.5 kHz	6400 bps	-116 dBm
		25 kHz	12800 bps	-112 dBm
	FEC OFF	12.5 kHz	9600 bps	-113 dBm
		25 kHz	19200 bps	-110 dBm
SATEL-8FSK	FEC OFF	12.5 kHz	14400 bps	-103 dBm
		25 kHz	28800 bps	-102 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	-107 dBm
		25 kHz	28800 bps	-104 dBm
DATA MODEM				
Electrical Interface	CMOS-UART			
Interface Connector	1.27 mm pitch socket			
Data Speed of Serial Interface	1200 ... 115200 bps			
Air Interface Encryption	AES128			
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	57 x 36 x 6.7 mm (w. screw fasteners)			
Weight	18 g			

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