

# SATELLINE® -M3-TR1

## Wireless World – Local Solution

SATELLINE-M3-TR1 transceiver module provides you a compact flexible and lightweight solution. The module is specifically designed for small mechanics.

The small power consumption and lightweight design makes this module an excellent choice for applications requiring long range distances.

Available as:

VHF
▶ <b>UHF</b>
▶ <b>Licence free</b>
NMS
IP67
Product type:
Classic
Smart
▶ <b>OEM</b>



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. SATELLINE radio modems are type-approved in over 50 countries.

SATELLINE 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, sub-station and / or repeater.

SATELLINE 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.

For the latest information, please visit [www.satel.com](http://www.satel.com).



## SATELLINE-M3-TR1

SATELLINE-M3-TR1 is HW compatible with SATELLINE-3AS and -EASy product line and SW compatible with Configuration Manager and SaTerm. The module can be used together with SATELLINK products.

The module has two operating voltage levels to choose from. It has a wide (90 MHz / 70 MHz) tuning range and the operation frequency can be selected within the ranges 330...420 MHz and 403...473 MHz. The channel spacings 12.5, 20 and 25 kHz are software-selectable. The output power of 1W enables long connection distances.

## SATELLINE-M3-TR1 869

SATELLINE-M3-TR1 869 is ready to use on the Pan-European licence free channels with default settings. It is allocated for narrowband telemetry, alarm and data transfer applications.

SATELLINE-M3-TR1 869 is HW compatible with SATELLINE-3AS 869 and -EASy 869.

Each radio modem of the SATELLINE-TR1 869 network can be used as a repeater. The Message Routing function facilitates easy setup of even a large network with minimum investment in equipment.

### Technical Specifications

SATELLINE-M3-TR1 complies with the EN 300 113-2, EN 301 489-1, -5 and EN 60950-1 specifications. SATELLINE-M3-TR1 869 complies with EN 300 220-2, EN 301489-1, -3 and EN 60950-1.

	M3-TR1	M3-TR1 869
Frequency Range	330...420 MHz / 403 ... 473 MHz	869.400...869.650 MHz
Channel Spacing	12.5 kHz/20 kHz/25 kHz (Programmable)	25 kHz
Tuning Range	90 MHz / 70 MHz	0.25 MHz
Adjacent Channel Power	< -60 dBc	< -64 dBc
Sensitivity BER < 10E-3 (FEC ON) NOTE*	-114 dBm@12.5 kHz -111 dBm@25 kHz	-111 dBm
Adjacent Channel Selectivity (FEC ON)	> 47 dB@12.5 kHz > 52 dB@25 kHz	> 52 dB
Data Speed of Radio Interface	19200 bps (25 kHz channel) 9600 bps (12.5 kHz channel)	19200 bps (25 kHz channel)
Power Consumption, Save Modes	< 1.2 W (Receive) < 3 W (Transmit@0.5 W) < 7 W (Transmit@1 W) Sleep: 0.12 W/DTR: 10 mW	< 1.2 W (Receive) < 3.8 W (Transmit) Sleep: 0.12 W/DTR: 10 mW
Modulation	4FSK, GMSK	4FSK
Operating Voltage	2 options: +3 ... +9 Vdc or +6 ... +30 Vdc	+6 ... +30 Vdc
Carrier Power	100, 200, 500, 1000 mW	10, 20, 50, 100, 200, 500 mW
Spurious Emission	< -100 dBm (RX), < -80 dBm on 3rd harmonics @1215-1240 MHz (TX)	< -57dBm (RX/TX)

	GENERAL
Blocking (FEC ON)	> 86 dB
Selectivity at ±50 kHz	> 67dB
Frequency Stability	< 1 kHz
Type Of Emission	F1D
Communication Mode	Half-Duplex
Carrier Power Stability	< ± 1.5 dB
Spurious Radiation	< 2 nW
Intermodulation Attenuation	> 60 dB
Electrical Interface	Port 1 fixed: RS-232 Port 2 options: LVTTTL, TTL or RS-232/422 (Port 2 RS-232 / 422 is programmable)
Interface Connector	D15 female, 26-pin male strip, 26-pin female socket
Data Speed of Serial Interface	300-38400 bps
Data Format	Asynchronous data
Temperature Range	-25 ... +55 °C (Complies with standards) -30 ... +65 °C (Functional) -40 ... +75 °C (Absolute min./max.) -40 ... +85 °C (Storage)
Antenna Connector	TNC, SMA, MCX, MMCX
Construction	Aluminium, Stainless Steel** or without housing
Size H x W x D mm/ Weight	88 x 49 x 9 mm/50 g (without housing)

NOTE\* Due to radio electronic design, the receiver is about 6 - 15 dB less sensitive on the following frequencies: 403.000, 409.5875, 416.000, 429.000, 442.000, 455.000, 468.000 and 469.200 MHz. \*\* only for M3-TR1

Distributor:

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