SATEL-R4+

SATEL-R4+ is a UHF data receiver module in a lightweight single board structure. It is designed to be integrated into a host device, for instance for receiving GNSS correction data in a land surveying rover.

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

SATEL-R4+ is compatible with other widely used SATEL modules and with SATEL 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.

SATEL GO
Mission-Critical Connectivity

Read more: www.satel.com

SATEL is the world's leading expert and innovator in independent radio networking technology. We develop and sell high quality private radio technology solutions that enable secure, mission-critical connections. We are known for our high quality, expertise, service and support.

You can contact us directly or get in touch with your local distributor.

SATEL-R4+ is a flexible module which makes it a suitable unit for different uses. It is an updated version of M3-R4 module.

SATEL-R4+ 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).

SATEL-R4+ is supplied without a housing in lightweight PCB format with RF-shielding, facilitating installation in to the customer's own housing or into a host device, e.g. to transfer GNSS correction data in a land surveying rover or RTK base station.

SATEL GO radio modules suit all kind of needs of OEM customers, no matter the level of customization.

SATEL-R4+:
• 70 MHz tuning range (403...473 MHz) and selectable channel width (12.5, 20 and 25 kHz)
• Extended operating voltage range
• Moderate power consumption
• AES128 support as default, AES256 as an order option

Technical Specifications
SATEL-R4+ complies with the following international standards:
EN 300 113, EN 301 489-1, -5, IEC 62368-1 and FCC Part 15 *).

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 (10 kHz @ 20 kHz spacing)
Modulation	4FSK, 8FSK, 16FSK, GMSK
Vibration	20 G (20 Hz ... 2 kHz sinusoidal)

Radio Interface Characteristics

Radio compatibility	Error Correction	Channel Width	Data Speed of Radio Interface	Sensitivity (appr.) BER < 10 E-2
SATEL-4FSK	FEC OFF	12.5 kHz	9600 bps	-112 dBm
		25 kHz	19200 bps	-109 dBm
	FEC ON (3/4 coding)	12.5 kHz	7200 bps	-115 dBm
		25 kHz	14400 bps	-113 dBm
SATEL-8FSK	FEC OFF	12.5 kHz	14400 bps	-105 dBm
		25 kHz	28800 bps	-103 dBm
	FEC ON (2/3 coding)	12.5 kHz	9600 bps	-112 dBm
		25 kHz	19200 bps	-111 dBm
SATEL-16FSK	FEC ON (3/4 coding)	12.5 kHz	14400 bps	-104 dBm
		25 kHz	28800 bps	-102 dBm

GENERAL

Input Voltage	+3.8 .... +5.5 Vdc
Power Consumption, Typical	0.86 W (RX) 0.3 W (Sleep)
Temperature Range	-25 °C ... +55 °C (complies with the standards) -30 °C ... +70 °C functional -40 °C ... +85 °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 6.9 mm (w. screw fasteners) 20 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 default AES256 order option

Values are subject to change without notice.
*) Ask availability

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