SATELLINE®-3AS(d) VHF

Wireless World – Local Solution

The SATELLINE-3AS NMS/VHF introduces SATEL´s concept of remotely manageable radio modems. In addition to ordinary communication functions it offers configuration through radio, efficient diagnostics tools and accumulation of operation statistics data.

The management and surveillance of a network of 3AS VHF radio modems is effected through the Master Station connected by a serial interface to a PC with dedicated Network Management software.

A special advantage of the SATELLINE-3AS VHF, operated in a VHF frequency band, is the wider coverage. With the same carrier power and antenna gain, the connection ranges are 30 to 50 per cent larger than those reached with an equivalent UHF radio modem.

VHF with NMS

UHF with NMS

UHF

Licence Free

IP67

OEM

With SATEL radio modems, setting up a local data transfer network is quick and cost effective. Your 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. For the latest information, please visit our website www.satel.com.

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, substation 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.

SATELLINE-3AS VHF

VHF Radio Mo

SATELLINE-3ASd VHF

VHF Radio Modem with NMS

SATEL

SATEL®

The SATELLINE-3AS VHF is the first SATEL radio modem model that operates on the 135...174 or 218...238 MHz frequency bands. The radio modem is compatible with the most widely used serial interfaces RS-232, RS-485 and RS-422. The SATELLINE-3AS(d) VHF with 5 W output power and a heat sink is the appropriate choice when continuous transmission (when transmitter duty cycle exceeds 20%) is required. In mobile fleet management applications, use of VHF frequencies reduces signal fading significantly.

Reliability and efficiency

A SATELLINE-3AS(d) VHF network consists of remotely adjustable radio modems controlled through the Master Station by the dedicated SATEL NMS PC software. The user data and NMS information are transferred seamlessly together. The Network Management System provides easy configuration of the network and advance indication of faults, for maximum reliability, labour-saving maintenance work and efficient system management.

The NMS radio modems monitor, on a continuous basis, the condition of the radio connection, in particular the strength of the signal (RSSI) and the voltage level of the power source as well as the inside temperature of the modem. The information is transmitted to the SATEL NMS PC software, where it is stored and displayed as logs and trend data. With the help of the graphical display of the network available at the SATEL NMS PC software, the user can conveniently configure, add or remove radio modems as well as set repeater links, without need of a terminal.

Expert's help always at hand

With over 20 years of experience, SATEL Oy has grown into one of the leading radio modem manufacturers in the world. As a result of our persistent and innovative work in both product design and international marketing, we now offer an extremely large selection of radio modems, and operate through an extensive and skilled distributor network all over the world.

SATEL Oy is an ISO 9001:2000 and 14001:2004 certified company. The quality of our operations and products is kept as flawless and at as high level as possible.

We have also accumulated a considerable amount of know-how in different radio modem applications. So, whatever your application is, do not hesitate to ask for our expert help whenever you need it. SATELLINE radio modems have been used, for example, at airports, waterworks and electricity plants for various monitoring and control applications, as well as to set up location data-based fleet management systems in cities.

SATEL Oy has prepared an extensive set of Application Notes describing the different ways of utilising SATEL radio modems in various applications. For further information about our products and their applications, please visit our home page www. satel.com or contact your local dealer.

Manufactured:

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Technical Specifications SATELLINE-3AS(d) VHF

The equipment complies with the EN 300 113-1, -2*1, EN 301 489-1, -5, EN 60950-1 and FCC CFR47 section 90 specifications.

TRANSCEIVER

Frequency Range	135...174 MHz / 218...238 MHz
Tuning Range	135...155, 138...160, 155...174, 218...238 MHz
Channel Spacing	12.5 kHz / 25 kHz
Frequency stability	< ± 650 Hz
Type of Emission	F1D
Communication Mode	Half-Duplex

TRANSMITTER

Carrier Power	100 mW, 500 mW, 1 W, 5 W / 50 ohm
Carrier Power Stability	+ 1.5 dB / - 1.5 dB
Adjacent Channel Power	according to EN 300 113 and CRF47 section 90
Spurious Radiation	according to EN 300 113 and CRF47 section 90

RECEIVER

Sensitivity	< -115 dBm (BER < 10 E-3) *2
Co-channel Rejection	> -12 dB
Adjacent Channel Selectivity	> 50 dB @ 12.5 kHz /> 60 dB @ 25 kHz
Intermodulation Attenuation	> 60 dB
Spurious Radiation	< 2 nW

DATA MODEM

Interface level	RS-232, RS-485 or RS-422
Interface	One port for data and one for NMS
Interface Connector	D15, female
Data speed of RS interface	1200 - 38400 bps
Data speed of radio interface	19200 bps @ 25 kHz, 9600 bps @ 12.5 / 20 kHz
Data format	Asynchronous RS-232, RS-422, RS-485

GENERAL

Operating voltage	+ 9 ...+ 30 Vdc
Power consumption (average)	1.7 W typical (Receive)
	6.6 W @ 1W / 22 W @ 5W typical (Transmit)
	0.07 W typical (in Standby mode)
Temperature range - Operating	-25 °C...+55 °C (tests acc. to ETSI standards)
	-40 °C ...+75 °C (absolute minimum / maximum)
- Storage	-40 °C ... +85 °C
Antenna Connector	TNC, 50 ohm, female
Construction	Aluminium Enclosure
Size H x W x D	137 x 67 x 29 mm without cooling part
	137 x 80 x 56 mm with cooling part
Installation plate	130 x 63 x 1 mm
Weight	265 g without cooling part
	550 g with cooling part

Values are subject to change without notice.
*1: Full compliance with the TX parameter limits. Please refer to specifications above for minor deviations from RX parameter limits.
*2: Depending on Receiver settings

Distributor: