

Satellite-3AS and Satellite-3ASd

High-Speed UHF Radio Modem with Developed Data Transfer Characteristics

SATELLINE-3AS is a half-duplex radio modem suitable for a variety of data transfer applications, in particular ones demanding high speed and precision. In addition to the maximum data speed of 19.2 kbps and channel spacings 25 kHz or 12.5 kHz, it offers a number of features and functions that are highly useful in the installation stage as well as in routine operation.

The SATELLINE-3AS software includes a selectable error correction, which improves the functioning of the radio modem under interference.

SATELLINE-3AS is compatible with the interface types RS-232, RS-422 and RS-485. The software of the radio modem can be updated through the interface from a PC, without changing the hardware.

The Model SATELLINE-3ASd is equipped with a LCD display of its own, which facilitates programming of the radio modem.



Higher speed - more data

The amount of data transferred in a local area data communications network exhibits a tendency of continuous growth. On the other hand, the average size of a communications system is increasing. Satel's response to these market tendencies is the SATELLINE-3AS, the first radio modem from Satel with a data speed of 19.2 kbps over the air. The data speed of the RS interface is selectable between 300...38 400 bps.

The SATELLINE-3AS offers several new options related to the use of the radio modem. For the first time, there is a built-in hardware compatibility with three selectable data interfaces, the RS-232, RS-422 and RS-485.

A special Model of the radio modem, the SATELLINE-3ASd, is

equipped with a LCD display, which provides the user with several new, useful functions. The display can be utilised in the Setup mode for example during the implementation stage. Thanks to the display it is possible to change the setups of the radio modem in the field without using an external terminal. It can also be used for testing the quality of the radio connection between the stations.

Support from your radio modem supplier

Satel possesses not only the world's widest selection of UHF and VHF radio modems but also extensive and profound knowledge of their applications.

Starting from the specification of your problem and the configuration of

a wireless data communications solution, the Satel applications experts and your local distributor will help you all the way through the project. The installation and start-up of a SATELLINE-3AS based data communications system is easy and straightforward.

Satel Oy is a Finnish electronics and telecommunications company that specialises in wireless data communications. It designs, manufactures and markets radio modems for data communications and alarm transfer systems. The main user groups include industrial companies, public organisations and private persons.

Satel is a leading supplier of radio modems in Europe. The Satel radio modems are type approved in most European countries and elsewhere.

A versatile radio modem with a number of user's choices

The SATELLINE-3AS radio modem consists of a synthesised transceiver and a modem board, packed in a compact aluminium case. The Model SATELLINE-3ASd is additionally equipped with a user interface LCD display.

SATELLINE-3AS exhibits a maximum data speed of 19.2 kbps. Two channel spacings, 25 kHz and 12.5 kHz are available. The corresponding numbers of radio channels are 80 and 160, respectively.

SATELLINE-3AS is compatible with the three most widely used standard data interfaces RS-232, RS-422 and RS-485. The radio modem can be connected to a terminal with any one of these interfaces. The data speed is selectable within the limits 300...38 400 bps.

In the SATELLINE-3AS the error rate is minimised by means of advance checking and correction of the data packets. In Forward Error Correction (FEC), the data packets are split in several blocks. The radio modem adds correction information inside the blocks at transmitting.

The radio modem has three basic operating modes: the Data Transfer mode, Setup mode and Test mode. In the basic Model SATELLINE-3AS the setting of operating parameters and selection of mode and function is performed with a PC through the RS interface. The Model SATELLINE-3ASd is equipped with a LCD display and four push buttons. In addition to changing the setups of the radio modem, the display is used for testing the operating condition of the radio connection.

The software of the SATELLINE-3AS resides in a flash memory. The updating of the radio modem programs is entirely software-based. The flash memory is reprogrammable through an RS interface.

SATELLINE-3AS can be operated at a voltage range 9...30 V. In practise this means that the radio modem is adaptable to both 12 Vdc and 24 Vdc systems.

Auxiliary functions

In case there is a need to extend the coverage of the radio modem network, the SATELLINE-3AS radio modem can be used as a repeater station. In the repeater function, it receives a data packet (max length 1 kB) and transmits

it immediately further.

With the radio modem in the Test mode, the state of the radio connection can be tested by means of data packets or the carrier wave.

The Data Transfer mode of the SATELLINE-3AS includes a Command Program function in which the radio channel and addresses can be changed on-line from the serial port of the radio data modem. The changes are effected by means of a specific programming package (SL command), which is entered amidst ordinary data.

Technical Specifications • SATELLINE-3AS and 3ASd

The equipment complies with the ETS 300 220 with 25 kHz channel spacing, ETS 300 113 with 12,5 kHz channel spacing and ETS 300 683 specification.



TRANSCEIVER

Frequency Range	370...470 MHz
Channel Spacing	12,5 kHz / 25 kHz
Number of Channels	160 / 80
Frequency Stability	< ± 1.5 kHz
Type of Emission	F1D
Communication Mode	Half-Duplex

Transmitter

Carrier Power	10 mW...1 W / 50 ohm
Carrier Power Stability	+ 2 dB / - 3 dB
Adjacent Channel Power	according to ETS 300 220 / ETS 300 113
Spurious Radiations	according to ETS 300 220 / ETS 300 113

Receiver

Sensitivity	-116...-110 dBm (BER < 10 E-3)
Co-channel Rejection	> - 12 dB
Adjacent channel Selectivity	> 60 dB
Intermodulation Attenuation	> 65 dB
Spurious Radiations	< 2 nW

DATA MODEM

Interface	RS-232 or RS-485, RS-422
Interface Connector	D15, female
Data Speed of RS Interface	300 - 38400 bps
Data Speed of Radio Interface	19200 bps (25 kHz channel) 9600 bps (12,5 kHz channel)
Data Formats	Asynchronous data

GENERAL

Operating Voltage	+ 9 ...+ 30 Vdc
Power Consumption	2.5 VA typical (Receive) 6.6 VA typical (Transmit) 0.05 VA typical (when DTR is "0")
Temperature Range	-25 °C...+55 °C
Antenna Connector	TNC, 50 ohm, female
Construction	Aluminium enclosure
Size H x W x D	137 x 67 x 29 mm
Installation Plate	130 x 63 x 1 mm
Weight	250 g

Manufacturer:



Satel Oy, Meriniitynkatu 17, P.O. Box 142, 24101 Salo, FINLAND
Tel. +358 2 777 7800, fax +358 2 777 7810, E-mail info@satel.fi
www.satel.fi

Distributor:

