

SATELLINE®-2ASc

Replacement for the Models 1AS and 2AS

The discontinued SATELLINE products 1AS and 2AS are being replaced by a fully compatible, up-to-date radio modem SATELLINE-2ASc. In comparison to its predecessors it offers new, useful features, including operating frequency selectable by the user, higher carrier power and better noise performance.

The SATELLINE-2ASc is a small and lightweight radio modem for half-duplex transfer of data messages. It consists of a modem part and a synthesised transceiver. The output carrier power of the transmitter is adjustable between 10 mW... 1 W. The maximum data speed in transmission is 4800/2400 bps with channel widths 25/20 kHz, respectively.

Like the 1AS and 2AS, the substitute 2ASc can be used for diverse applications involving point-to-point as well as point-to-multipoint wireless connections. Typical application areas include data transmission to and from isolated objects or between portable or mobile terminals, as well as alarm transmission, remote control and surveillance, telemetry and GPS positioning. The direct connection distances are typically a few kilometres, at the maximum. By using the maximum output power of 1 W, distances up to 40 kilometres can, however, be reached under favourable conditions.



Equipment and Know-how from your radio modem supplier

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

Today SATEL is one of Europe's leading manufacturers of narrow-band radio modems. SATELLINE radio modems are type-approved in most European countries and globally.

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

Up-to-date technology and useful features

The SATELLINE-2ASc operates in the frequency band 380...470 MHz. Two dif-

ferent channel spacings, 25 kHz and 20 kHz are available. The corresponding numbers of radio channels are 80 and 100 and the maximum data speeds 4800 bps and 2400 bps, respectively. The operating frequency is selectable within +/- 1 MHz from the allocated basic frequency, and can be set by the user with the radio modem in the Programming Mode. The radio modem is compatible with the RS-232 interface, facilitating trouble-free connection to most data terminals and systems.

Data transmission by the SATELLINE-2ASc is initiated in two alternative ways: If data is entered from a terminal directly on the TD line, no handshaking is required. In case the radio modem is used as a replacement or extension of a system based on the 1AS/2AS modems and operating at a data speed of 2400 or 4800 bps, RTS/CTS handshaking must be used to ensure compatibility with the existing system.

In reception, the data squelch technique used effectively prevents spurious characters, originating from radio interference, from entering the RD line. The Received Signal Strength Indicator

(RSSI) measures the field strength of the transmitting radio. This feature is particularly useful in systems that include several receivers, as one can choose among these the one that provides optimum reception for the incoming transmission.

Compatibility with existing 1AS and 2AS applications

The SATELLINE-2ASc is primarily intended for the replacement of the earlier generation of SATELLINE-1AS / 2AS radio modems, as well as for the extension or renovation of the existing systems. In addition to being compatible with the Models 1AS and 2AS, it offers a number of significant improvements. The higher carrier power available facilitates longer connection distances. The increased number of radio channels and free selection of the operating frequency enhance the flexibility of a radio modem system. Thanks to the programmability of the radio modem, the rest of the operating parameters of the SATELLINE-2ASc are easily initialised or changed by using a terminal program.

Technical Specifications • SATELLINE®-2ASc



SATELLINE-2ASc complies with the following international standards:
EN 300 220-1 (radio standard) and ETS 300 683 (EMC standard)

TRANSCEIVER

Frequency Range	380...470 MHz
Channel Spacing	25 kHz, 20 kHz
Number of Channels	80, 100
Frequency Stability	< ± 1.5 kHz
Method of Modulation	FSK

Transmitter

Carrier Power	10 mW ... 1 W (+30 dBm) / 50 Ω (factory set)
Carrier Power Stability	+ 2 dB / - 3 dB
Adjacent Channel Power	< 200 nW
Spurious Radiations	EN 300 220-1

Receiver

Sensitivity	-110 ... -115 dBm (BER < 10 E-3) *Note
Co-channel rejection	> - 8 dB
Adjacent channel selectivity	> 70 dB
Intermodulation attenuation	> 65 dB
Spurious radiations	< 2 nW

MODEM

Interface	RS-232
Interface Connector	D15 connector, female
Data Speed	300 - 4800 bit/s (25 kHz)
Data Speed	300 - 2400 bit/s (20 kHz)
Modulating Signal	Manchester-coded NRZ
Data Formats	Asynchronous data: 10 or 11 bits
Communication Mode	Half-Duplex

GENERAL

Operating Voltage	+ 9 ... + 30 Vdc
Current Consumption	When DTR is "0": 0.05 VA
	When DTR is "1": Receiving: 2.5 VA
	Transmitting: 6.6 VA
Antenna Connector	TNC, 50 ohm, female
Size H x W x D	137 x 67 x 29 mm
Installation plate	130 x 63 x 1 mm
Weight	250 g
Temperature Range	- 25 °C...+ 55 °C

***Note:** Depending on data speed

Values are subject to change without notice.

Manufacturer:

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