

# SATELLINE® -1870E

## Wireless World - Local Solution

The SATELLINE-1870E radio modem provides a wireless transparent data link on the European licence free 868...870 MHz frequency band. It is designed for tight integration into the user's terminal equipment, and is particularly well suited for the transfer of data and control messages in medium-range (1–10 km) applications.

In accordance with the regulations on the use of the 869 MHz band, the maximum output power of the SATELLINE-1870E is 500 mW. In the design of the radio modem, special attention was paid to ensuring reliable operation in all circumstances. Accordingly, the technical solutions applied in the radio part minimise the risk of disturbance from and collision with other services (DVB-T, TETRA, GSM) using the ISM/SRD band.

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](http://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.

All SATELLINE radio data modems fulfil RoHS requirements (EU directives 2002/95/EC and 2002/96/EU) as of 1 July 2006.



The SATELLINE-1870E operates in a transparent transfer mode, which ensures compatibility with most user systems and protocols. If desired, the modem can be programmed to utilise the addressing functions of the user's protocol, to provide routing or message filtering functions. The settings of the radio modem can be changed from an external terminal in the programming mode or through auxiliary SL-commands during normal operation.

In case there is a need to extend the coverage of the radio modem network, SATELLINE-1870E modems can be used as repeater stations. By using the Store and Forward function, the radio modem buffers the received data and transmits it further using the same radio frequency as in reception.

The SATELLINE-1870E is an appropriate choice where price and range are important aspects. With its high output power, good sensitivity, small size and low power consumption, it meets both the technical and economical requirements set on wireless communications in a number of applications, including:

- Remote meter reading (Gas, Electricity, Heat).
- Remote control of water distribution
- Remote control of irrigation systems
- Environmental monitoring

### 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 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](http://www.satel.com) or contact your local dealer.

Manufactured:



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## Technical Specifications SATELLINE-1870E

The equipment complies with the EN 300 220-1, EN 301 489-1 and EN 60950-1 specifications.

### TRANSCEIVER

Frequency Range	868 ... 870 MHz
Channel Spacing	25 kHz
Frequency Stability	± 2.5 kHz
Type of Emission	F1D (Modulation 2-FSK)
Communication Mode	Half-Duplex

### TRANSMITTER

Carrier Power	5, 10, 25, 50, 100, 250, 500 mW / 50 ohm
Carrier Power Stability	+ 0 dB ... - 1 dB (100 ... 500 mW) + 0 dB ... -3 dB (5 ... 50 mW)
Adjacent Channel Power	< -37 dBm

### RECEIVER

Sensitivity	< -106 dBm (BER < 10 E-3)
Adjacent Channel Selectivity	> 45 dB
Blocking (typical)	> 75 dB @ ±1 MHz, > 85 dB @ ±10 MHz

### DATA MODEM

Interface	RS-232
Interface Connector	DIN41650-16 pin (male)
Data speed of RS interface	300 - 19200 bps
Data speed of radio interface	9600 bps
Data format	Asynchronous RS-232

### GENERAL

Operating voltage	+ 8 ... + 30 Vdc
Power consumption	

Input Voltage (V)	Operating mode (typical values)					
	Receive (mA)	Transmit on different power levels (mA)			Power save (mA)	Standby (µA)
		500 mW	100 mW	5 mW		
8	136	444	244	168	25	55
12	89	296	166	105	19	62
30	40	128	76	47	13	1717

Temperature ranges	
- Operating	-25 °C ... +55 °C (tests acc. to ETSI standards)
	-40 °C ... +75 °C (absolute minimum / maximum)
- Storage	-40 °C ... +85 °C
Antenna Connector	SMA, 50 ohm, female
Construction	Aluminium enclosure
Size H x W x D	57 x 125 x 16 mm
Installation plate	130 x 63 x 1 mm
Weight	125 g

Values are subject to change without notice.

Distributor:

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