

# SATELLINE® -1870

## Wireless World - Local Solution



The SATELLINE-1870 uses the all-European licence-free 868...870 MHz frequency band. Thanks to its small size, multiple functions and low carrier power (max 100 mW), the SATELLINE-1870 is particularly well suited for internal applications within industrial complexes.

The 868...870 MHz band is divided into subbands according to the allowable output power and transmitter duty cycle. When changing the frequency, the SATELLINE-1870 automatically sets the output power according to the regulations. Maximum communication distances of the order of 5 km are reached under favourable conditions.

**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.



# Low power, high functionality

The SATELLINE-1870 was designed for the transfer of data and alarm messages in a short-range network covering, for example, internal connections in an industrial or office complex. With its small size and low output power of maximum 100 mW it meets both the technical and economic requirements set on wireless communications in this kind of application environment.

In case it is necessary to extend the coverage of the radio modem network, SATELLINE-1870 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 settings of the radio modem can be changed from an external terminal in the programming mode or through auxiliary SL-commands during normal operation.

To avoid carrier frequency drift, a digital Adaptive Frequency Correction (AFC) function has been included in the SATELLINE-1870. It helps to maintain maximum sensitivity of reception, to ensure high reliability of data transfer.

## 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:



SATEL Oy,  
Meriniitynkatu 17, P.O. Box 142,  
FI-24101 Salo, FINLAND

Tel. +358 2 777 7800 info@satel.com  
Fax +358 2 777 7810 www.satel.com

## Technical Specifications SATELLINE-1870

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
Number of Channels	74
Frequency Stability	± 2.5 kHz
Type of Emission	F1D
Communication Mode	Half-Duplex

### TRANSMITTER

Carrier Power	5, 10, 25, 50, 100 mW / 50 ohm
Carrier Power Stability	+ 1 dB / - 1 dB
Adjacent Channel Power	< -38 dBm
Spurious Radiation	< -40 dBm

### RECEIVER

Sensitivity	< -108 dBm (BER < 10 E-3)
Co-channel rejection	> - 10 dB
Adjacent channel selectivity	> 45 dB
Spurious radiation	< 2 nW

### 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	<0.72 VA (60 mA @ 12 V) Receive <0.1 VA (90 mA @ 12 V / 5 mW) Transmit <0.0012 VA (0.10 mA @ 12 V) Standby mode <0.18 VA (15 mA @ 12 V) Power Save 0.05 VA typical (when DTR is "0")
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	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: