

# We help you solve challenges

Quality radio modules for wireless data communication

## Machines meet radio technology

Accurate and up-to-date data transfer in precise positioning systems is vital. SATEL's radio modems and modules offer a first-class solution e.g. for GNSS RTK, remote measurement, safety systems and control applications. They combine quality, continuity, flexibility and low life cycle costs. Examples of GNSS systems that use SATEL's radio modems and modules include land surveying, precision farming, machine control, harbor logistics and port cranes.

## OEM

SATEL have produced a range of OEM radio modules for system manufacturers to integrate into customer solutions. They are secure, customizable and flexible in mounting options. SATEL's solutions are widely compatible and also support other manufacturers' radio protocols.



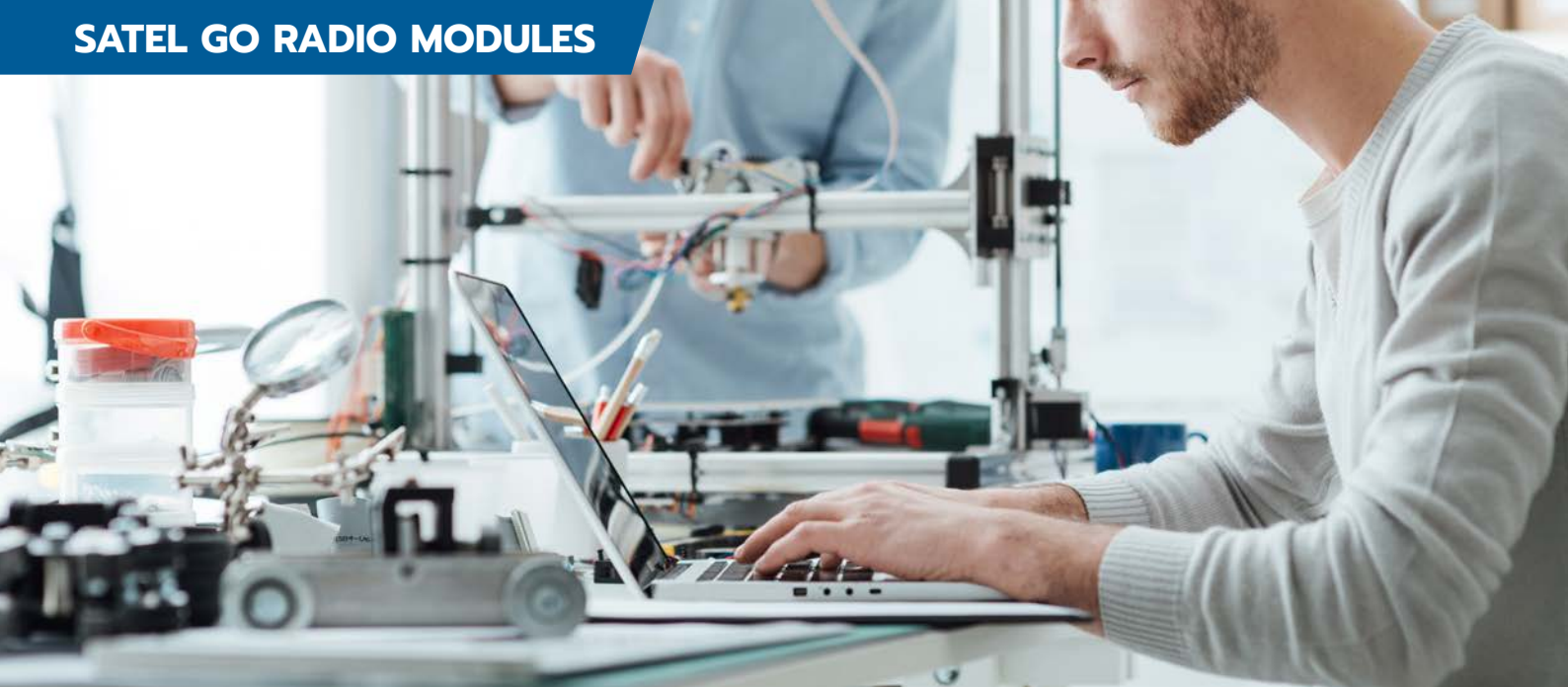
Read more: [www.satel.com](http://www.satel.com)

# SATELGO

Mission-Critical Connectivity

SATEL is the world's leading expert and innovator in independent radio networking technology. We develop and sell high quality private radio technology solutions that enable secure, mission-critical connections. We are known for our high quality, expertise, service and support.

You can contact us directly or get in touch with your local distributor.



## Small module on the move

SATEL-TR489 is a multifrequency and multimode transceiver. It has three frequency bands for the client to select and set: licensed 403 ... 473 MHz and license-free 902 ... 928 MHz and 856 ... 876 MHz bands. It is compatible with other widely used SATEL products on corresponding frequencies and also with other manufacturers' radio protocols.



### SATEL-TR489

## RADIO TRANSCEIVER SPECIFICATIONS

#### 403 ... 473 MHz

**Frequency range**

403 ... 473 MHz

**Tuning range**

70 MHz

**Channel spacing**

12.5 / 25 kHz, selectable

**Sensitivity/Carrier power**

-113 dBm BER  $10E^{-2}$  / 1 W

**Data speeds max.**

Radio 28800 bps /  
Serial 115200 bps

**Modulation**

4FSK, 8FSK, 16FSK

#### 856 ... 876 MHz

**Frequency range**

856 ... 876 MHz  
(869.400 ... 869.650 MHz \*)

**Tuning range**

20 MHz

**Channel spacing**

25 / 50 kHz, selectable

**Sensitivity/Carrier power**

-110 dBm BER  $10E^{-2}$  / 0.5 W

**Data speeds max.**

Radio 19200 bps /  
Serial 115200 bps

**Modulation**

4FSK

#### 902 ... 928 MHz

**Frequency range**

902 ... 928 MHz

**Spreading method**

Frequency hopping

**Hopping bands**

7, user selectable

**Hopping patterns**

15 per band, 105 total,  
user selectable

**Hopping channels**

50-112, user selectable

**Sensitivity/Carrier power**

-108 dBm BER  $10E^{-2}$  / 1 W

**Data speeds max.**

Radio / Serial 115200 bps

**Modulation**

2-GFSK

#### GENERAL SPECIFICATIONS

**Vibration tolerance**

25 G, up to 2 kHz sinusoidal

**Operating voltage**

+3.8 ... 5.5 Vdc

**Power consumption (RX / TX)**

400 MHz: 940 mW / 6.8 W (1 W)

800 MHz: 960 mW / 5.6 W (0.5W)

900 MHz: 420 mW / 4.3 W (1 W)

**Size / Weight**

57 x 36 x 6.9 mm / 20 g

**Connectors**

1.27 mm pitch socket / U.FL

**Interface**

CMOS-UART

**Temperature range**

-30 ... +70 °C (operational)

-20 ... +55 °C (complies with the standards)

Values are subject to change without a notice.

SATEL-TR489 complies with the requirements in:  
EU, USA, Canada, Australia and New Zealand.

\*) Tested acc. to EN 300 220-2 v3.2.1 and EN 300 220-1 v3.1.1

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