



RM169

169MHZ RADIOMODEM, ALUMINUM ENCLOSURE, RS232/RS485 INTERFACE

Highlights

- **Locally or remote configuration by software**
- **Channel changing on fly by DTE**
- **Operating frequency compliant to ERC 70-03 norm**
- **Point-to-point, point-to-multipoint, broadcasting, digipeater**
- **Low consumption**
- **Suitable for indoor and outdoor applications**

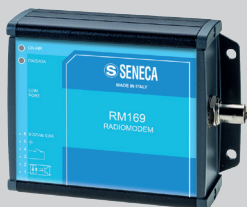
RM169 wireless module is a radiomodem family with RS232/RS485 serial interface. Radiomodems are configurable by software, either remotely or locally on the fly by DTE. The devices are complete with one optically isolated digital input and one relay output that can be used for radio transmission of signals and alarms.

RM169 radiomodems operate in the European free-use bands according to ERC 70-03, at 169 MHz.

The devices support 4 operating mode: mirror point-to-point, point-to-multipoint, broadcasting and digipeater which allows multipath data routes, to ensure data delivery.

The low power design along with power saving function allows for extended battery life. Robust construction with surface mounted component ensures highly stable electronics. Enclosure is fit for indoor and outdoor applications.





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GENERAL DATA

DATI GENERALI

Power Supply	8 -36 Vdc with limited source power
External module supply	No
Rx consumption	Approx 30 mA @ 12 Vdc – RS232/485 Relay OFF
Tx consumption	Approx 300 mA
DTR OFF consumption	< 1 mA
Hot swapping	No
LED Status indicators	ONAIR / On / Data
Operating band	169.400 – 169.475 Mhz
Channel number	3 @ CH 25 kHz , 6 @ CH 12.5 kHz – 2005/928/CE European Deliberation
Canalization	12.5 kHz o 25 kHz
Modulation	9K00F1D o 18K0F1D (NBFM / GFSK)
Data rate (radio)	4.800 bps (@ 12,5 kHz canalization); 9,6 kbps (@ 25 kHz canalization)
Frequency stability	±500 Hz
Operating mode	Point-to-point, Punto-to-multipoint, Broadcasting, digipeater
Crypting	AES 128 bit
RTC	On board for custom application
Antenna	$\lambda/4$ - $\lambda/2$ or Yagi 3 elements
Connectors	Removable screw terminals
Dimension	90 x 100 x 40 mm
Operating temperature	-30..70°C
Weight	210 g
Protection degree	IP20
Mounting	Wall mount
Aux digital output	N.O. 28 Vac @ 0,5 A o 60 Vdc @ 1 A
Digital Input	5-24 Vdc or 3,50-20 Vac. Zinp. 2.2 k Ω (optoisolated)
Built-in I/Os	1 DI , 1 DO

TRANSMITTER

Output power	0.20 WERP (DL169-IN-B); 0.5 WERP (DL169-IN-B-Y3)
Frequency deviation	± 1.8 kHz @ 12,5 kHz - ± 3.6 kHz @ 25 kHz
Output power stability	±1.5 dB
Adjacent channel power	<-37 dBm
Adjacent channel power transitory	<-40 dBc

CLASS 1/2 - LBT - AGILITY RECEIVER

Type	CLASSE 2 - LBT e AGILITY
Sensitivity	<-110 dBm @ 12,5 kHz - <-107 dBm @ 25 kHz BER 10-2
Attenuazione canale adiacente e blocking	In accordo a EN 300 220-1 v.2.3.1

COMMUNICATION

Interfaces	RS232 / RS485
Data rate	Da 1.200 a 38.400 bps
Communication mode / Data format	Asynchronous 8,N,1- 8,E,1-8,0,1
Operating mode	Simplex or half-duplex

SETTINGS & FUNCTIONS

Software	RM169-SETUP
Typical application	Meter Reading, Tackineg & Tracing, Telemetry & Commands
Special functions	Power Saving, DTE addressing, ACK, messages repetition, ECHO, LBT, AFA, remote programming

STANDARDS

Marks	CE
Norms	EN 300 220-1 v.2.3.1 , EN 300 220-2 v.2.3.1

ORDER CODE

Code	Description
A-169DV12	169MHz vert.Dip. lambda/2 ant, BNC M, 5mt, low loss cable
A-169DV14	169MHz vert.Dip. lambda/2 ant, BNC M, 5mt
A-169YAGI	169MHz 3 elem. Yagi Ant., BNC M, 10 mt, low loss cable
RM169-169DV12	169MHz Radiomodem, 1DI,1DO,1RS485, vertical dipole antenna
RM169-169YAGI	169MHz Radiomodem, 1DI,1DO,1RS485, 3 elements Yagi antenna
RM169-169DV14	169MHz Radiomodem, 1DI,1DO,1RS485, vertical stilo antenna
RM169	169MHz Radiomodem, 1DI,1DO,1RS485, BNC-F connector
RM169-SETUP	RM169 radiomodem software configuration