

RM169-1

169 MHZ RADIOMODEM, RS232/RS485 INTERFACE, 2014/53/EU RED DIRECTIVE COMPLIANT

Highlights

- **Operating frequency compliant to ERC 70-03, 2005/32/EC and RED directive**
- **Operating mode: Point-to-point, Point-to-multipoint, broadcasting, digital repeater, routing table support for addressing**
- **Channel changing on fly by DTE**
- **Local or remote configuration by software**
- **Low consumption**
- **Suitable for indoor and outdoor applications**

Radiomodem RM169-1 is a NBFM (Narrow Band Frequency Modulation) system at 169 MHz band with RS232 / RS485 interface, available to be powered also through primary or secondary batteries in Meter Reading, Tracking & Tracing, Telemetering & Commands applications, in compliance with the norm ERC 70-03 and European Resolution 2005/32/ EC and RED (Radio Equipment Directive).
The module offers different operating modes programmable via software: point-to-point, point-multipoint, broadcasting, digirepetear, routing table support for addressing together with the digipeater function 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.
The device is equipped with 5mt length coaxial antenna.

100% Made & Designed in Italy

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RM169-1



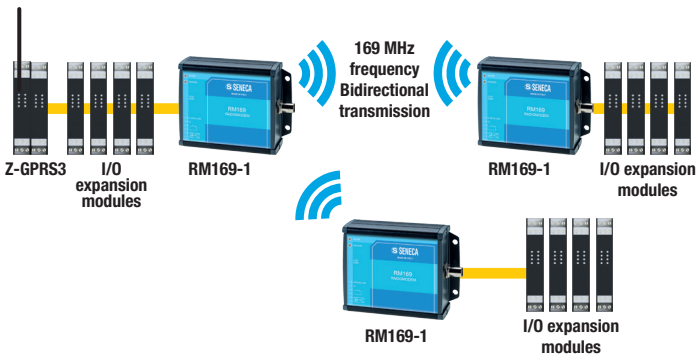
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TECHNICAL DATA

GENERAL DATA	
Power Supply	9 – 32 Vdc
Rx/Tx power consumption @12Vdc	Rx ~ 30 mA; Tx ~200 mA
Max power consumption	5 W
Hot swapping	No
LED status indicators	ONAIR / On / Data
Operating bandwidth	169.400 – 169.475 Mhz
Channnels	1@CH50kHz 3@CH25kHz 6@CH12.5kHz
Canalization	12,5-25-50-kHz
Modulation	9K00F1D or 18K0F1D (NBFM / GFSK)
Data rate (radio)	4.800 bps (@12,5 kHz canalization) 9,6 kbps (@25 kHz canalization) 19.200bps(@50kHz canalization)
Crypting	AES 128 bit
RTC	Built-in for custom applications
Antenna	λ/4 - λ/2 or Yagi 3 elements
Connectors	Removable terminals
Dimensions	90 x 100 x 40 mm
Operating temperature	-30..60°C
Weight	210 g
Case	Aluminum
Protection degree	IP20
Mounting	Wall / Penal mounting
Built-in I/O	"Nr.1 Digital Input, 5-24 Vdc o 3-20 Vac. Zinp. 2.2 kΩ (optoisolated) Nr.1 Relay Digital Output, N.O. 24 Vac @ 0,5 A o 32 Vdc @ 1 A
Operating mode	Point-to-point, Point-to-multipoint, broadcasting, digital repetear, routing table support for addressing
Settings (software)	RM169-1-SETUP
COMMUNICATION	
Interfaces	RS232 / RS485
Protocols	Protocol-transparent (max buffer 1024 bytes)
Data rate	From 1,2 to 57,6 kbps
Output power (trasmitter)	50-150-500 mW
Frequency deviation	±1.8 kHz@12.5 kHz ±3.8kHz@25 kHz
Receiver (type)	CLASS 2 - LBT, AGILITY
Input sensitivity (receiver)	BER <10^{-2} <-105dBm@50 kHz <-107dBm@25 KHz <-110dBm@12.5 kHz
Communication mode / Data format	Half /Full Duplex
Distance range	Up to 10 km in open field with directive antenna
STANDARD	
Approvals	CE
Norms	EN 300 220-1 v2.3.1 , EN 300 220-2 v2.3.1, Direttiva RED 2014/53/UE
Countries	AT, BE, CY, CZ, DK, EE, FI, FR, DE, GR, HU, HR, IE, IT, LV, LT, LU, MT, NL, PL, PT, SK, SI, ES, SE, GB, IS, LI, NO, CH, BG, RO, TR

APPLICATION NOTE

MODBUS I/O EXPANSION – POINT-TO-MULTIPOINT



POINT-TO-POINT DATA TRANSMISSION (I/O REPETITION)



ORDER CODES	
Code	**Description**
RM169-1	169 MhHz Radiomodem, 1DI,1DO,1RS485, BNC-F connector, RED compliant
RM169-1-169DV12	169MHZ Radiomodem, 1DI,1DO,1RS485, vertical dipole antenna, RED compliant
RM169-1-169DV14	169MHZ Radiomodem, 1DI,1DO,1RS485, vertical stilo antenna, RED compliant
RM169-1-169YAGI	169 MHz Radiomodem, 1DI,1DO,1RS485, 3 elements Yagi antenna, RED compliant
ACCESSORIES AND SOFTWARE	
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
RM169-1-SETUP	RM169-1 radiomodem software configuration

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