RTURADIO

RADIOMODEM 169MHZ, BUILT-IN I/O, 1 COUNT, 1 RS485

RTURADIO is a radiomodem family opeating at 169MHz with RF output power up to 500 mW. As NBFM (Narrow Band Frequency Modulation) device optimized to be powered by batteries in Meter Reading, Tracking&Tracing, Telemetering&Commands applications in compliance with 2005/928/CE European Delivery.

RTURADIO adopts AES (Advanced Encryption Standard) at 128 bit in order to ensure transmitted data security. The device is provided by 4 digital inputs, 2 digital relay outputs, 2 analog outputs, 1 RS485 serial interface, 1 counter input. It's also available a configuration software so that RTURADIO can be used in data acquisition and remote control applications.

Four are main operating programmable modes: 1) mirror point-to-point, 2) pointmultipoint, 3) broadcasting, 4) Modbus Master / Slave or multimaster.

Highlights

- **Operating frequency 169.400 - 169.475 MHz**

- **RF Power 500 mWERP**

- **Built-in I/Os: 4DI, 2DO (relay), 1 counter, 2AO (4-20 mA), 2 AI (4-20 mA)**

- **Antenna: vertical stilo λ1/2 / λ1/4 / 3-elements Yagi**

- **Functions: I/O repetition, Master ModBUS, ModBUS node, repeater, LBT, AFA, remote progamming**

100% Made & Designed in Italy

SENECA
www.seneca.it

RTURADIO

RADIOMODEM 169MHZ BUILT-IN I/O, 1 COUNT, RS485

TECHNICAL DATA

GENERAL DATA

Power Supply	9-32 Vdc with limited power source; 3,3-4,8 Vdc with battery supply
External module supply	Sì
Rx Consumption	Approx 30 mA
Tx Consumption	Max 600 mA
DTR OFF Consumption	< 10µA
Hot swapping	no
Status indicators	ONAIR / On / Data / I/O
Operating bandwidth	169.400 - 169.475 MHz
Channels number	3 @ CH 25 kHz , 6 @ CH 12.5 kHz – European D. 2005/928/CE
Canalization	12.5 kHz or 25 kHz
Modulation	9K00F1D or 18K0F1D (NBFM / GFSK)
Data rate (radio)	4,800 bps @ 12.5 kHz – 9,600 bps @ 25 kHz
Frequency stability	±500 Hz
Operating Mode	Point-to-point, point-to-multipoint, broadcasting, Modbus (master/slave), Mesh support (static)
Crypting	AES 128 bit
RTC	Embedded for custom applications
Antenna	Vertical stilo 1/2 / 1/4 / 3-elements Yagi
Connectors	Removable screw terminal
Dimension	140 x 110 x 50 mm
Operating Temperature	-30..70°C
Weight	330 g
Protection degree	IP20
Mounting	Wall mounting
Aux Digital Output	nr. 2 N.O. 28 Vac @ 0,5 A or 60 Vdc @ 1 A
Digital Inout	nr. 4 PNP 0-12 Vdc + 1 counter 10Hz
Built-in I/O	4DI, 2DO (relè), 1 counter 2AO (4-20 mA), 2 AI (4-20 mA)

TRANSMITTER

Output power	500 mWERP
Frequency deviation	± 1.8 kHz @ 12,5 kHz - ± 3.6 kHz @ 25 kHz
Output power stability	±1.5 dB
Power on adjacent channel	Compliant to EN 300 220-1 v.2.3.1
Power transitory on adjacent channel	Compliant to EN 300 220-1 v.2.3.1

RECEIVER CLASS 1/2 - LBT - AGILITY

Type	CLASS 1 - LBT - AGILITY
Sensitivity	<-110 dBm @ 9.600 bps
Attenuation adjacent channel and blocking	Compliant to EN 300 220-1 v.2.3.1

COMMUNICATION

Interface	RS485
Data rate	From 2.400 to 57.400 bps

SETTING & FUNCTIONS

Software	RTURADIO-SETUP
Typical application	Meter Reading, Tackineg & Tracing, Telemetering & Commands

STANDARD

Marks	CE
Norms	EN 300 220-1 v2.3.1 , EN 300 220-2 v2.3.1

ORDER CODE

Order Code	Description
RTURADIO-169	RTU RADIO VHF 169MHZ 500mW, 4DI, 2 DO, 1 counter, 2 AO, 2 AI, RS485 port, BNC-F connector
RTURADIO-169DV14	RTU RADIO VHF 169MHZ 500mW, 4DI, 2 DO, 1 counter, 2 AO, 2 AI, RS485 port, BNC-F connector + short vertical antenna ¼
RTURADIO-169DV12	RTU RADIO VHF 169MHZ 500mW, 4DI, 2 DO, 1 counter, 2 AO, 2 AI, RS485 port, BNC-F connector + dipole antenna ½
RTURADIO-169YAGI	RTU RADIO VHF 169MHZ 500mW, 4DI, 2 DO, 1 counter, 2 AO, 2 AI, RS485 port, BNC-F connector + 3 elements Yagy antenna
ACCESSORIES	
S117P1	RS232/USB, TTL/USB, RS485/USB asynchronous serial converter
SOFTWARE	
RTURADIO-SETUP	RTURADIO radiomodem software configuration

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