RADIOMODEM

RM169 Series

General description

The RM169 Series are radiomodems with RS232 and RS485 serial connections, 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 Series has 4 operating modes that are software programmable: 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 the power saving function, allows for extended battery life.

FOR TECHNICAL SPECIFICATION, INSTALLATION AND CONFIGURATION INSTRUCTION AND MORE DETAILS DOWNLOAD FROM OUR WEB SITE WWW.SENECA.IT THE RM169 USER MANUAL

Technical support

Our website www.seneca.it contains many useful information, user guides and configuration software and technical documents always update to the latest version.
If you have technical problems or cannot find the required information in the provided documents, contact our Technical Support by email at support@seneca.it or by phone +39 049 8705355 - 8705359.

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Restrictions on use

SENECA PRODUCTS HAVE NOT BEEN DESIGNED, INTENDED NOR INSPECTED TO BE USED IN ANY LIFE SUPPORT RELATED DEVICE OR SYSTEM RELATED FUNCTION NOR AS A PART OF ANY OTHER CRITICAL SYSTEM INCLUDED AERONAUTICAL / AEROSPACE APPLICATION.
SENECA PRODUCTS ARE GRANTED NO FUNCTIONAL WARRANTY IF THEY ARE USED IN ANY OF THE APPLICATIONS MENTIONED.

SENECA RM169 Series radio modems have been designed to operate on frequency ranges as SRD (Short Range Device), the exact use of which differs from one region and/or country to another. The user of a radio modem must take care that the device is not operated without the permission of the local authorities on frequencies other than those specifically reserved and intended for use without a specific permit.
SENECA RM169 Series are allowed to be used in the following countries with E.R.P. and duty cycle limitation, either on licence free channels or on channels where the operation requires a licence. More detailed information is available at the local frequency management authority.

Allowed use according to ERC Recommendation 70-03

Model	Frequency (MHz)	Annex (1)	E.R.P (2)	Duty Cycle (3)	Country allowed	Country with restriction of use
310	169,400 - 169,475	1e1	≤ 500 mW	≤ 1 %	AUT-BEL-BUL-CZE-CYP-DNK-	GEO-RUS-UKR
310	169,400 - 169,475	2b	≤ 500 mW	≤10 %		HOL-GEO-RUS BLR-UKR
320	433.0875 - 434.7375	f2	≤ 10 mW	≤ 10 %	EST-FIN-F-D-HRV-GRC-HNG-ISL-IRL-I-LVA-LIE-LTU-LUX-MLT-HOL-NOR-POL-POR-ROU-SVK-SVN-E-SUI-S-G-AND-ALB-AZE-BIH-BLR-GEO-MDA-MKD-MNE-RUS-SRB-TUR-UKR	GEO-RUS-UKR
340	863,000 - 870,000	1g1	≤ 25 mW	≤ 0.1 %		GRC-NOR-SVN-E-S-GEO-RUS-BLR-UKR
340	868,000 - 868,600	1g1.1	≤ 25 mW	≤ 1 %		GEO-RUS-BLR-UKR
340	868,700 - 869,200	1g1.2	≤ 25 mW	≤ 0.1 %		GEO-BLR-UKR
341	869,400 - 869,650	1g1.3	≤ 500 mW	≤ 10 %		GEO-RUS-BLR-UKR
341	869,700 - 870,000	1g1.4	≤ 5,0 mW	≤ 100 %		GEO-RUS-BLR-UKR

NOTE:
Before to install the device check always the latest version of ERC Recommendation 70-03 in order to verify any restriction and limitation in terms of E.R.P and Duty Cycle
(1) Annex 1.xxx refer to SRD (Short Range Device), Annex 2 refer to (Tracking, Tracing and Data Acquisition)
(2) E.R.P. = Max Effective Radiated Power allowed from radiomodem and associated antenna takes into consideration transmitter power output, transmission line attenuation, RF connector insertion losses and antenna gain
(3) Duty Cycle is defined as the ratio, expressed as a percentage, of the maximum transmitter "on" time on one carrier frequency, relative to a one hour period

Warnings and safety instructions

-Read these safety instructions carefully before using the product:
-Warranty will be void, if the product is used in any way that is in contradiction with the instructions given in this manual, or if the radio modem housing has been opened or tampered with.
-The radio modem is only to be operated at frequencies allocated by local authorities, and without exceeding the given maximum allowed output power ratings and duty cycle. SENECA and its distributors are not

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responsible, if any products manufactured by it are used in unlawful ways.
-The devices is complies with Directive 1999/5/EC as describe in our declaration of conformity above
-The devices mentioned in this manual are to be used only according to the instructions described in this manual. Faultless and safe operation of the devices can be guaranteed only if the transport, storage, operation and handling of the devices is appropriate. This also applies to the maintenance of the products.
-Do not install the equipment close to a heat source or in damp conditions and direct sunlight is also to be avoided.
-The device must not be exposed to aggressive chemical agents or solvents likely to damage the plastic or corrode the metal parts.
-The device must not be exposed directly to dusty environment.
-Maintenance should only be carried out by qualified persons.
-For your own safety, you must ensure that the equipment is switched off before carrying out any work on it.
-Any electrical connection of the product must be equipped with a protection device against voltage spikes and short-circuits

Disposal of waste by users in private households within the European Union



According to Directive 2012/19/EU of the European Union on waste electrical and electronic equipment (WEEE) this product must not be disposed off with your other household waste, it is your responsibility to dispose of your waste by taking it to a collection point designated for the recycling of electrical and electronic appliances.
Separate collection and recycling of your waste at the time of disposal will contribute to conserving natural resources and guarantee recycling that respects the environment and human health.
For further information concerning your nearest recycling centre, please contact your nearest local authority/town hall offices.

Conformity declaration

English: Hereby, SENECA S.r.l. declares that this RM169 SERIES is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Finnish: SENECA S.r.l. vakuuttaa täten että RM169 SERIES tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.

Dutch: Hierbij verklaart SENECA S.r.l. dat het RM169 SERIES in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG. Bij deze verklaart SENECA S.r.l. dat deze RM169 SERIES voldoet aan de essentiële eisen en aan de overige relevante bepalingen van Richtlijn 1999/5/EC.

French: Par la présente SENECA S.r.l. déclare que l'appareil RM169 SERIES est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
Par la présente, SENECA S.r.l. déclare que ce RM169 SERIES est conforme aux exigences essentielles et aux autres dispositions de la directive 1999/5/CE qui lui sont applicables

Swedish: Härmed intygar SENECA S.r.l. att denna RM169 SERIES står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

Danish: Undertegnede SENECA S.r.l. erklærer herved, at følgende udstyr RM169 SERIES overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF

German: Hiermit SENECA S.r.l., dass sich dieses RM169 SERIES in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 1999/5/EG befindet". (BMWi). Hiermit erklärt SENECA S.r.l. die Übereinstimmung des Gerätes RM169 SERIES mit den grundlegenden Anforderungen und den anderen relevanten Festlegungen der Richtlinie 1999/5/EG. (Wien)

Greek: ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ SENECA S.r.l. ΔΗΛΩΝΕΙ RM169 SERIES ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ

Italiano: Con la presente SENECA S.r.l. dichiara che RM169 SERIES è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.

Spanish: Por medio de la presente SENECA S.r.l. declara que el RM169 SERIES cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE

Portuguese: SENECA S.r.l. declara que este RM169 SERIES está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.

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Declaration of Conformity

CE

TCF reference nr.	RM169 SERIES Rev.0
Date	February 18, 2015

We, the undersigned,

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Country	Italy
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certify and declare under our sole responsibility that the following equipment:

Product description / Intended use	169 MHz, 433 MHz and 868 MHz Radiomodem for commercial and light-industrial use
EU / EFTA member states intended for use	**EU**: all members **EFTA**: all members
Member states with restrictive use	**EU**: all members **EFTA**: all members
Manufacturer	SENECA S.r.l. | I-35127 PADOVA (PD)
Brand name	SENECA
Type/Model	RM169 SERIES

is tested to and conforms with the essential requirements for protection of health and the safety of the user and any other person and Electromagnetic Compatibility, as included in following standards:

Art. of Directive	*Standard*	*Date of issue of the standard*
3.1(a) Health	EN 50401	2006 + A1(2011)
3.1(a) Safety	EN 60950-1	2006 + A11:2009 + A1:2010 +A12:2011 +AC:2011
3.1(b) EMC	EN 301 489-1	V1.9.2 (2011-09)
3.1(b) EMC	EN 301 489-3	V1.6.1 (2013-08)

and is tested to and conforms with the essential radio test suites so that it effectively uses the frequency spectrum allocated to terrestrial/space radio communication and orbital resources so to as to avoid harmful interference, as included in following standards:

Art. of Directive	*Standard*	*Date of issue of the standard*
3.2 Spectrum	*EN 300 220-2*	*V2.4.1 (2012-05)*

and therefore complies with the essential requirements and provisions of Art. 3.3 too, where applicable, of the **Directive 1999/5/EC** of the European Parliament and of the council of March 9, 1999 on Radio equipment and Telecommunications Terminal Equipment and the mutual recognition of their conformity and with the provisions of Annex II.

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