

# MR03 HIGH POWER RADIO TRANSMISSION MODULE

## FEATURES:

ISM

IP  
54

Transmitter  
power

869 MHz

## INPUTS:

ISM

## OUTPUTS:

RS  
232

RS  
485

## GALVANIC ISOLATION:

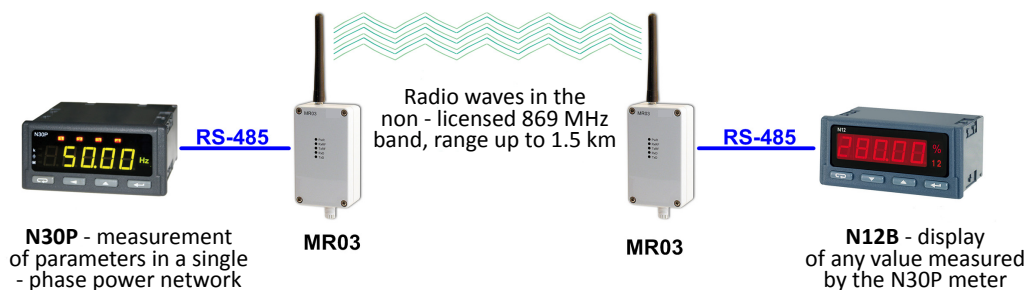
RS  
485

RS  
232



- Destined for data transmission through radio way in the non-licensed band: 869.4 - 869.65 MHz
- Co-operates with RS-485 and RS-232 interfaces
- Output power: 500 mW
- Finds application in telemetering systems in which there is no technical possibilities to conduct wires for device connections in the shape of a wire network
- Operating range of the MR03 module: 1.5 km, on average (depending on the terrain configuration and applied antenna)
- Available working modes allow individual communication of MR03 module pairs ("point-to-point" mode) and broadcast communication ("point-to-many points" mode).

## EXAMPLE OF APPLICATION



## DIGITAL INTERFACES

Port	Properties	
Port 1 - RS-232 interface	Modes:	8N1, 8N2, 8E1, 8O1, 7E1, 7O1
	Baud rate:	4800...11520 bit/s
Port 2 - RS-485 interface	Modes:	8N1, 8N2, 8E1, 8O1, 7E1, 7O1
	Baud rate:	4800...11520 bit/s
Radio line	Carrier frequency:	869.4 – 869.65 MHz
	Power:	500 mW
	Receiver sensitivity:	>-103 dBm
	Baud rate:	4800 bit/s
	Transmission range in a straight line:	1500 m
	Number of channels:	5
	Antenna output:	50 Ω SMA

## RATED OPERATING CONDITIONS

Supply voltage	8..30 V a.c./d.c.	Input power : ≤ 5VA
Temperature	ambient: 0..23..50°C	Storage: -20..70 °C
Relative humidity	< 95%	Inadmissible condensation
Operating position	any	
Maximum time to delay the transmission through a pair of MR03 modules	≤ 1.5 sec	
Time to obtain the readiness to work since the supply switching on	≤ 2 sec	

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## EXTERNAL FEATURES

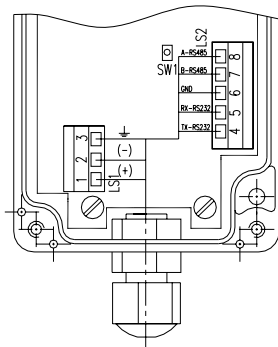
Overall dimensions	115 x 65 x 40 mm	
Weight	< 0.4 kg	
Protection grade	housing: IP54	leads: IP54
Fixing	to fix on a wall	Industrial housing

## SAFETY AND COMPATIBILITY REQUIREMENTS

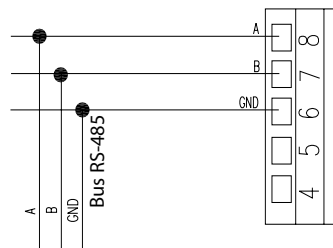
Electromagnetic compatibility	Noise immunity	acc. to EN 61000-6-2
	Fastness against supply decays	acc. to EN 61000-6-2
	Emission of radio electric perturbations	acc. to EN 61000-6-4
Pollution level	2	
Installation category	III	acc. to EN 61010-1
Maximum phase-to-earth operating voltage	Supply: 300 V, input 50 V, Output: 50 V	

## CONNECTION DIAGRAMS

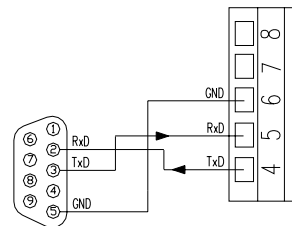
### Description of MR03 leads



### Way to connect the MR03 module to the RS-485 bus



### Way to connect the MR03 module to the RS-232 bus



Terminal	Terminal description
1	Tightening line ( + to supply by d.c.current)
2	Tightening line ( + to supply by d.c.current)
3	Functional earthing line (supply by d.c.current)
4	TxD line for RS-232 interface
5	RxD line for RS-232 interface
6	GND line of RS-232/RS-485 interface
7	B line of RS-485 interface
8	A line of RS-485 interface

## SEE ALSO:



Input and output modules of SM series



SM9 - feeder module



SM7 - radio transmission module

## ORDERING

<b>Radio transmission module - MR03</b>	<b>XX</b>	<b>X</b>
<b>Version:</b>		
standard	<b>00</b>	
custom-made *	<b>XX</b>	
<b>Acceptance tests:</b>		
without additional quality inspection requirements		<b>8</b>
with an extra quality inspection certificate		<b>7</b>
acc.to customers request *		<b>X</b>

\* after agreeing with the manufacturer

### Ordering example:

The code **MR03 - 00 7** means:

**MR03** - module of MR03 type

**00** - standard version

**7** - with an extra quality inspection certificate