

MR03 HIGH POWER RADIO TRANSMISSION MODULE

FEATURES:

ISM

IP
54

Transmitter
power

869 MHz



- 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).

INPUTS:

ISM

OUTPUTS:

RS
232

RS
485

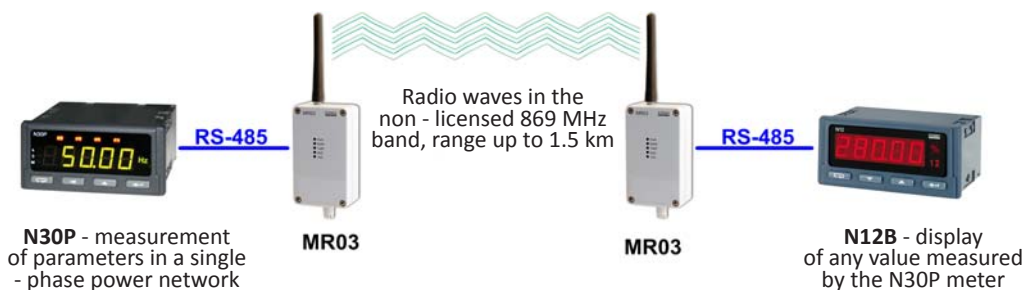
GALVANIC
ISOLATION:

RS
485

RS
232



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

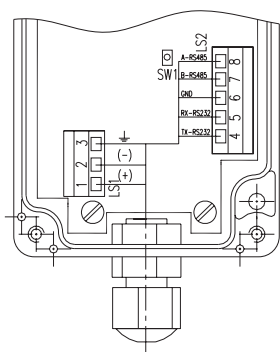
| | | |
|--------------------|------------------|--------------------|
| Overall dimensions | 115 x 65 x 40 mm | |
| Weight | < 0.4 kg | |
| Protection grade | housing: IP54 | leads: IP54 |
| Fixing | to fix on a wall | Industrial housing |

SAFETY AND COMPATIBILITY REQUIREMENTS

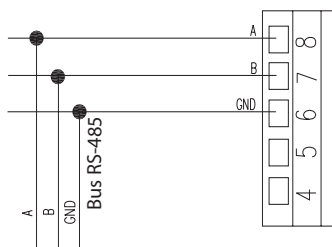
| | | |
|--|--|----------------------|
| Electromagnetic compatibility | Noise immunity | acc. to EN 61000-6-2 |
| | Fastness against supply decays | acc. to EN 61000-6-2 |
| | Emission of radio electric perturbations | acc. to EN 61000-6-4 |
| Pollution level | 2 | acc. to EN 61010-1 |
| Installation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

CONNECTION DIAGRAMS

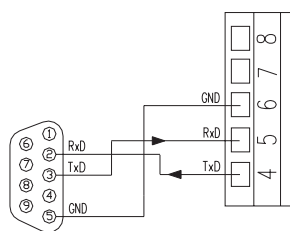
Description of MR03 leads



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 |

ORDERING

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

* 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

SEE ALSO:



Input and output modules of SM series



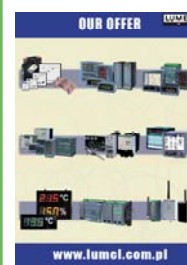
SM9 - feeder module



SM7 - radio transmission module



LUMEL - Proces software



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