

MR03 HIGH POWER RADIO TRANSMISSION MODULE

LUMEL

FEATURES:

ISM**IP
54****Transmitter
power****869 MHz**

INPUTS/ OUTPUTS:

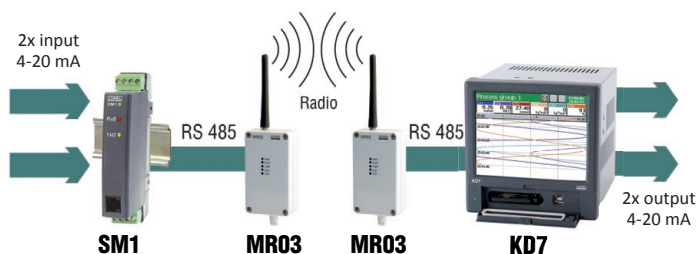
ISM**RS
232****RS
485**

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 possibility to conduct wires for device connections in the shape of a wire network.
- Operating range of the MR03 module: 2 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
	Baud rate:	1200...11520 bit/s
Port 2 - RS-485 interface	Modes:	8N1, 8N2, 8E1, 8O1
	Baud rate:	1200...115200 bit/s
Radio line	Carrier frequency:	869.500 MHz, 869.525 MHz, 869.550 MHz
	Power:	20 dBm, 23 dBm, 27 dBm
	Receiver sensitivity:	>-103 dBm
	Baud rate:	10 kbit/s
	Transmission range in a straight line:	2000 m
	Number of channels:	3
	Antenna output:	50 Ω SMA

RATED OPERATING CONDITIONS

Supply voltage	8..30 V a.c./d.c. 12... 30 V a.c. 50 - 60 Hz	Input power : ≤ 9VA
Temperature	ambient: -20..+55°C	Storage: -40..+70 °C
Relative humidity	< 95%	Inadmissible condensation
Operating position	any	
Maximum time to delay the transmission through a pair of MR03 modules	3 sec (when transmitting 250 B data)	
Time to obtain the readiness to work since the supply switching on	< 2 sec	

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EXTERNAL FEATURES

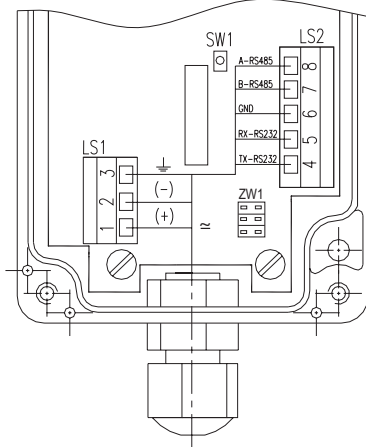
Overall dimensions	115 x 65 x 40 mm	
Weight	< 0.4 kg	
Protection grade	housing: IP54	leads: IP54
Fixing	to fix on a wall	industrial housing

SAFETY AND COMPATIBILITY REQUIREMENTS

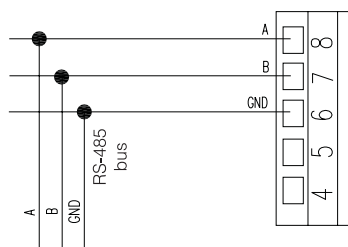
Electromagnetic compatibility	Noise immunity	acc. to ETSI EN 301 489-1 V1.8.1:2008
	Emission of radio noise	acc. to ETSI EN 301 489-1 V1.8.1:2008
Pollution level	2	
Installation category	III	acc. to EN 60215
Maximum phase-to-earth operating voltage	50 V	

CONNECTION DIAGRAMS

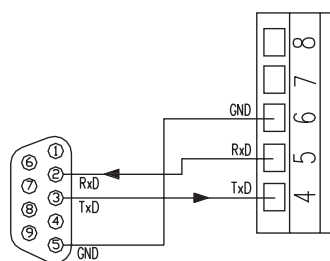
Description of MR03 leads



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 requi-		8
with an extra quality inspection certifi-		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

SEE ALSO:



Input and output modules of SM series



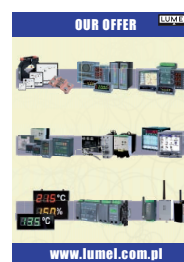
SM9 - feeder module



SM7 - radio transmission module



LUMEL - Proce software



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