

MacREJ 5 R.



Electronic gas flow recorder with integrated 4G LTE Cat.1 modem

MacREJ 5 R is a gas flow data logger which allows an online access to the logged data, via 4G LTE Cat.1 / 3G / 2G modem or serial ports RS232 and / or RS485.

MacREJ 5 R is an intrinsically safe device, that can already be installed in explosion hazard zone zero.



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PLUM Sp. z o.o. reserves the right to introduce amendments in construction of the devices, without prior notice.

Functions indicated above are for illustrative purpose only, they are adjusted depending on Manufacturer/Producer and software of system concerned.

Contracting entity is obliged to inform PLUM Sp. z o.o. of required functionalities.

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0322

Main features.

- Integrated GSM modem (optional) operating in 4G LTE Cat.1 and 3G, 2G networks
- Support for NFC proximity communication standard, optical connection and two RS485 / RS232 serial connections
- Graphical 4" display with backlight allowing operation in temperatures down to -30 °C
- Configurable main screen Widgets showing daily/monthly graphs as bargraphs
- ATEX-certified for operation in any explosion hazardous zone (up to zone 0, 1, 2), also for an integrated modem
- Cooperation with bellows, rotary and turbine gas meters with reed switch or OC type output
- Support for up to two gas meters via low frequency inputs LF
- Support for five bistate inputs for potential-free sensors
- Low operating cost by using standard commercially available lithium batteries
- Operation with BMS (Building Management System) via MODBUS RTU/TCP or Vb and Vm pulses

Technical data.

Housing material	Polycarbonate
Dimensions / Weight	207x194x77 mm / 1,3 kg
Relative humidity	Maximum 95% at temp. of 70°C
Ambient temperature range	from -25°C to 70°C
Housing protection class	IP66 for outdoor installations
Keyboard	6 pushbuttons
Display	Graphical, 4", backlight, operation at full working temperatures range
Ex marking	II 1G Ex ia IIB T4 Ga Certificate: FTZU 17 ATEX 0047X
Internal power supply	One standard lithium battery size D 3,6V/17Ah. Operation time: 5 years
Modem power supply	Two lithium batteries size D 3,6V/17Ah Operation time: 5 years with two transmissions per day (for two batteries)
External power supply	Communication interface INT-S3 – switchable RS485 port, intrinsically safe power supply, two digital OC inputs/outputs. Interface supply voltage 11-30V DC
Transmission protocols	MODBUS RTU, MODBUS TCP (available in version with integrated modem), GAZMODEM1,2,3, other protocols per request
Transmission ports	<ul style="list-style-type: none"> • Two independent serial transmission protocols, speed up to 256000 b/s, RS485 standard; COM1, COM2 • Optical interface IEC 62056-21 • NFC IEC 14443 interface • Integrated 4G Cat.1 /3G/2G module (optional)
Resistance to mechanical and electromagnetic conditions	M2/E2
Inputs	<ul style="list-style-type: none"> • 5 intrinsically safe programmable digital inputs: <ul style="list-style-type: none"> • 2 reed LF inputs /bistate • 3 reed bistate inputs
Control outputs	<ul style="list-style-type: none"> • Four intrinsically safe oputputs OC type: <ul style="list-style-type: none"> • One configurable as bistate or frequency (0-5000Hz) • Three bistate outputs

Application.

1. Direct data transmission to the system – data readout via integrated 4G cat.1 modem with battery supply

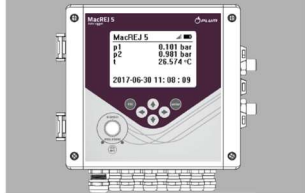
SCADA or eWebTEL.com



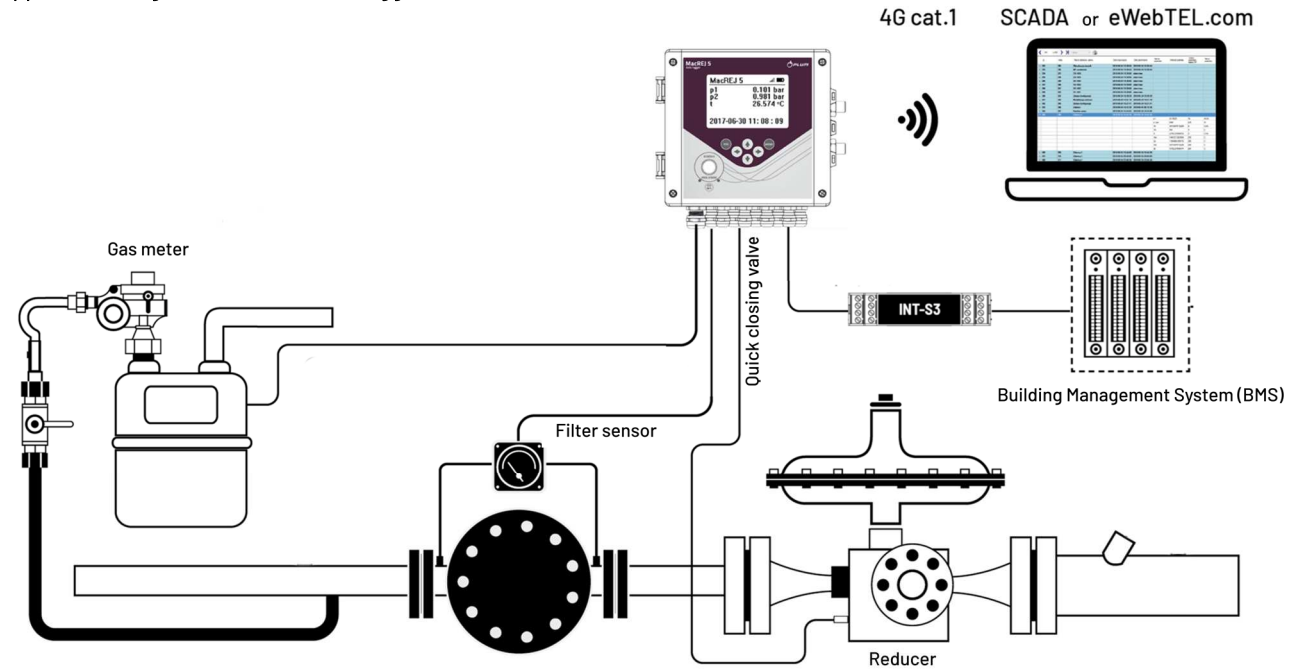
GSM/GPRS



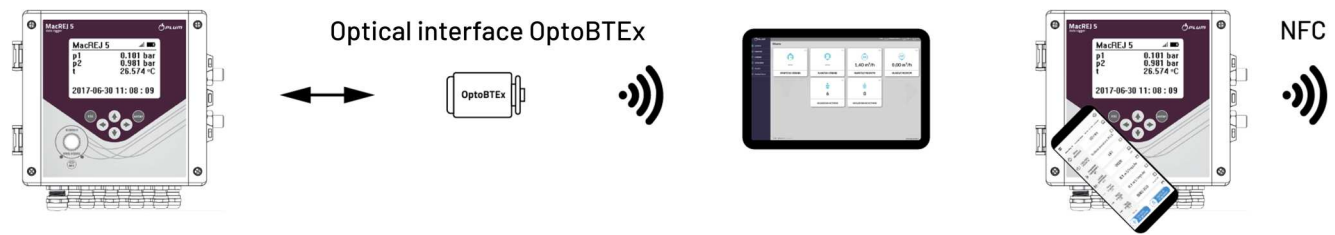
Ex Zone 0/1



2. Application diagram of MacREJ 5 R logger



3. Local readout and configuration



Accessories.



INT-S3.

Communication interface.

Interface ensures power supply and separation of connected measuring devices in stationary telemetry systems powered from 230V mains or batteries. Data transmission is possible to computers or other devices with battery or mains supply, equipped with RS485 port. It allows for data readout from the devices placed in explosion hazard zone. Interface supply $V_{IN}=11-30VDC$.



ConfIT!.

Configuration software and mobile application.

ConfIT! software allows configuration of PLUM products based on transparent graphical interface, which can be freely customised if needed. The basic functionality of the graphical device profiles allows configuration in basic and advanced mode. There is also configuration in text mode available. Each modified and unsaved value is marked with a distinctive color, so that the user is aware of each implemented modification. It is also possible to replace the software in PLUM devices without using additional interfaces or programs.



eWebTEL.

Data collection software.

eWebTEL system is a platform collecting measurement results for comprehensive control of gas network. It allows locating devices, graphical visualization of data transmitted from position sensors, manometers and loggers. The software allows history overview of registered measurements and generating reports on: average pressure measurements, exceeding limits, occurrence of failures and their duration, history of values of parameters defining the status of the gas network.



OptoBTEx .

Optical interface.

OptoBTEx interface serves for wireless (bluetooth) data transmission between the device equipped with Opto-Gaz communication interface compliant with IEC 62056-21 standard and the configuration program installed on the device with MS Windows or Android operating system (tablet, smartphone). The configuration program serves for configuration and data readout from the device. OptoBTEx does not modify transmitted data and wireless communication takes place in Bluetooth 2.1+EDR Class 2 standard.



Antenna 4G/3G/2G

Antenna.

Base with magnet, FME plug, cable length 3 m.

Properties:

- Frequency: 850/900/1800 /2100 MHz
- VSWR: ≤ 1.5
- Enhancement: 5dB
- Input impedance (ohm): 50
- Polarity type: Vertical
- Cable type: RG174