

# MacR6-Z0-P LPWAN.



## Pressure logger with integrated IoT LTE Cat. M1, NB-IoT, 2G modem

**MacR6-Z0-P** is a simplified pressure monitoring device with a capacity for up to 2 pressure monitoring channels. Data is transmitted directly to eWebTEL or SCADA system via built-in LPWAN modem module. A fast configuration of the device made through an Android app. When programmed pressure ranges are out of limits, it automatically sends a report to the gas station service. **Designed for Ex Zone 0.**



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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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# Functionalities.

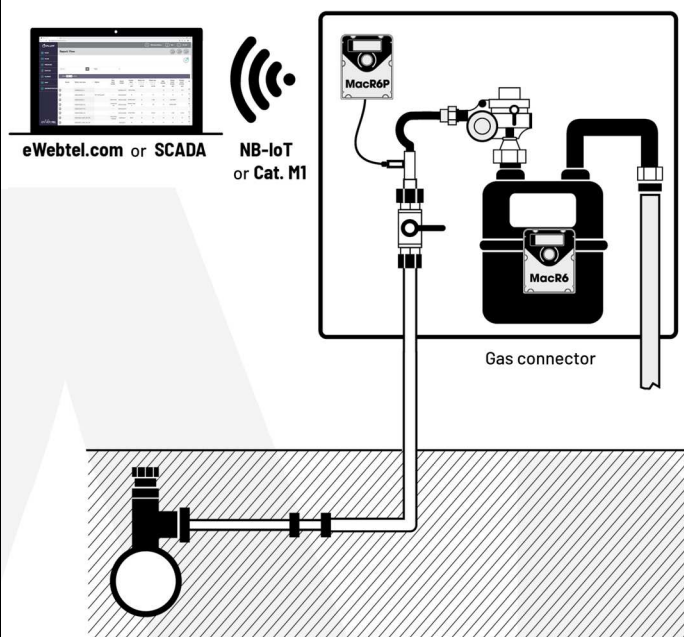
- Support for low energy LPWAN mobile network data transmission technologies: LTE Cat.M1 and NB-IoT
- Standard commercially available D-size lithium battery, allowing for 10 years of operation
- LCD display presenting connection status, network level, battery status and pressure readout
- IEC 62056 optical interface for configuration
- Effective data transmission in harsh environments by supporting LPWAN technology
- Dedicated mobile application for device configuration and reading logged data
- Implemented transmission protocol GAZ-MODEM2 and 3.

# Technical specification.

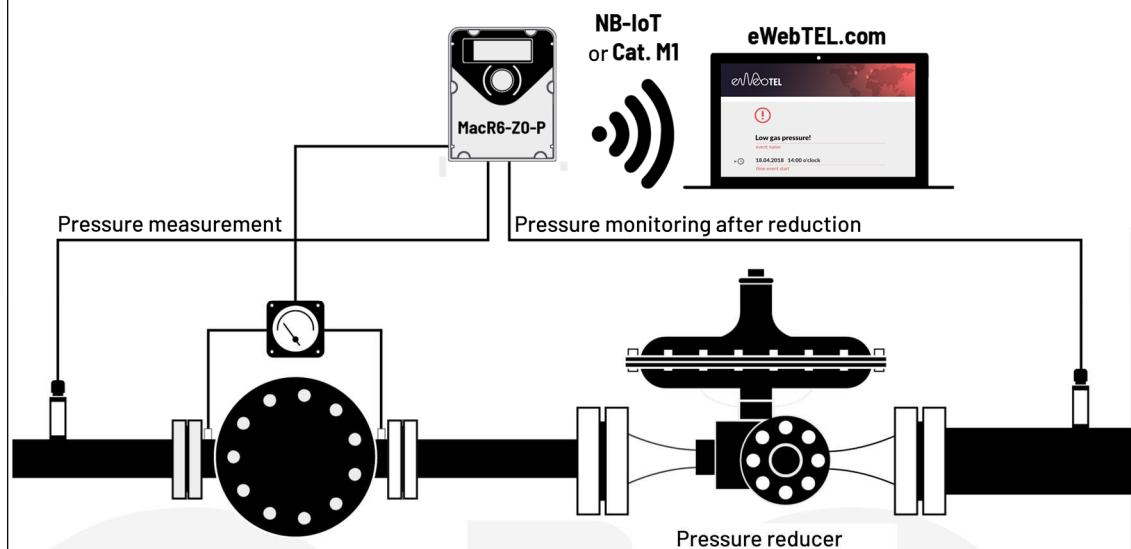
Dimesnions / weight	124mm x 85mm x 40mm / 1kg	
Housing material	Polycarbonate housing	
Relative humidity	Max 95% at temperature of 55°C	
Working temperature range	-30÷55°C	
Housing protection class	IP66 in accordance with EN 60529 for outdoor installations	
Ex marking	II 1 G Ex ia IIA T4 Ga	Certificate: FTZU16 ATEX 0051X
Display	Graphical LCD display allowing device diagnostics and showing current pressure value	
Transmission protocols	Support for TCP, UDP, FTP, NTP, HTTPS	
Environmental class (mechanical/electromagnetic)	M2/E2	
Power supply	Replacable lithium battery D-size with capacity of 17Ah providing 10 years of operation	
Transmission	<ul style="list-style-type: none"> <li>• IEC 62056-21 optical interface,</li> <li>• Cat M1: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85</li> <li>• Cat NB2: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28/B66/B71/B85</li> <li>• EGPRS: 850/900/1800/1900 MHz</li> </ul>	
Registration period	<ul style="list-style-type: none"> <li>• Data registered at intervals of 1-60 minutes. 1920 records allowing to save in device memory data from max. 3 months.</li> <li>• Memory of events — around 200 records</li> </ul>	
Inputs / sensors	<ul style="list-style-type: none"> <li>• Accelerometer — position sensor</li> <li>• Housing opening sensor</li> <li>• Gauge pressure sensors with ranges 0÷0.1 bar/ 0÷0.3 bar/ 0÷6 bar/0÷16 bar/0÷35 bar</li> <li>• Optional secondary pressure sensor</li> <li>• Preassure sensors ended wirh metric thread M12 x 1.5(Ermeto) or NPT 1/4"</li> </ul>	

# Application.

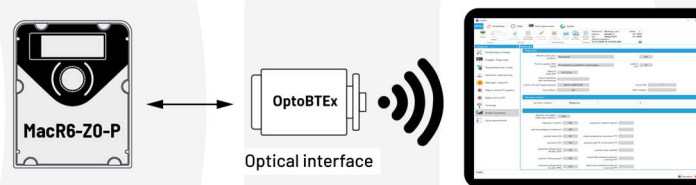
## 1. Monitoring the network end pressure using MacR6-Z0-P



## 2. MacR6-Z0-P application diagram



## 3. Local readout and configuration of MacR6-Z0-P



# Akcesoria.



## Antenna GSM/GPRS

Antenna.

Base with magnet, male SMA connector, cable length 1,5 m

Properties:

- Frequency: 900/1800 MHz
- VSWR:  $\leq 1.5$
- Enhancement (dBi): 3
- Input impedance (ohm): 50
- Polarity type: Vertical
- Cable type: RG174



## OptoBTeX.

Optical Bluetooth interface

OptoBTeX interface serves for wireless data transmission between the device equipped with Opto-GAZ communication interface and a program installed on the device with MS Windows or Android system (tablet, smartphone). Configuration program serves to configure and readout device data. OptoBTeX does not modify transmitted data and wireless communication is done via Bluetooth 2.1+EDR Class 2 standard.



## MacR6 bracket.

Mounting bracket

Versatile mounting bracket for MacR6 allows mounting on horizontal and vertical pipe as well as on flat surfaces using bolts. Possibility to seal the device to prevent its detachment. Bracket is resistant to adverse weather and environmental conditions.



## eWebTEL.

Data collection platform

The eWebTEL system is a platform for collecting measurement data for comprehensive control of the gas network. It enables the location of devices on maps with GML or Shape underlay and allows graphical visualization of data sent from loggers and registering manometers. The software allows viewing the history of logged measurements and generating reports on measurements, failures and their duration, history of values of parameters defining the of the gas network.



## ConfIT! data loggers.

Application

Application designed for mobile devices with Android operating system (tablets, smartphones). Free at Google Play store.