



# MacR8

## data logger for gas meters

MacR8 is the device designed to enable remote readings of the gas consumption from standard mechanical gas meters in industry segment.

MacR8 can be installed on chosen types of the diaphragm meters using dedicated installation kit and work as a smart extension of the mechanical totalizer of that meter.

MacR8 works with diaphragm, turbine and rotary gas meters using pulse cable connection and direct coupling with certain types of diaphragm gas meters meter totalizer using mature PLUM solution for automatic detection and volume counting algorithm.

### key benefits

- gas usage profile transmission to the head-end system
- enabling readouts from low accessibility places - high installed meters, closed buildings requiring personal access
- gas flow control and immediate alarming about potential fraud on the object
- enabling access to historical gas consumption in high resolution, consumption even from every minute
- quick installation and minimum effort configuration using modern mobile application
- integrated pulse replication module to copy and retransmit input volume to external systems or devices
- modern transmission technologies with long-term availability

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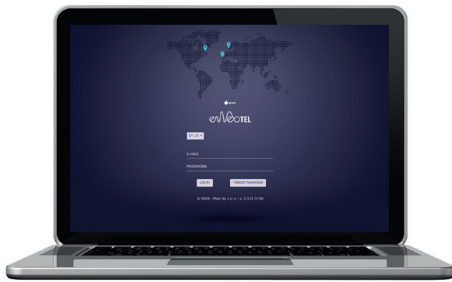
# technical data

<b>dimensions/ weight</b>	124 x 115 x 40 mm/ 0.3 kg
<b>housing material</b>	polycarbonate
<b>relative humidity</b>	maximum 95% at temperature of 60 °C
<b>ambient temperature range</b>	from -30 °C to 60 °C
<b>housing protection class</b>	in accordance with EN 60529 for outdoor installations: IP 66
<b>Ex feature</b>	II 3G Ex ic IIA T3 Gc certificates: OBAC 25 ATEX 0302X
<b>display</b>	segmented LCD display allowing device diagnostics and showing values: counter, monthly increments and hourly peaks
<b>transmission protocols</b>	GAZ-MODEM 2/3, support for TCP/UDP/NTP
<b>resistance to mechanical and electromagnetic conditions</b>	M2/E2
<b>power supply</b>	standard replaceable lithium battery pack, size D
<b>transmission</b>	<ul style="list-style-type: none"><li>• optical interface</li><li>• support for 3FF (Micro SIM) or MFF2 (MIM) standard cards</li><li>• LTE-M (LTE Cat.M1): B1/ B2/ B3/ B4/ B5/ B8/ B12/ B13/ B18/ B19/ B20/ B25/B26/ B27/ B28/B66/ B85</li><li>• NB-IoT (LTE 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>
<b>compatibility with gas meters</b>	<ul style="list-style-type: none"><li>• direct connection (LF, TS tamper switch):<ul style="list-style-type: none"><li>- via magnetic sensors: Honeywell/ Elster BK-Gxx series, Aparator/ Metrix UG/GL series</li><li>- via reed switch sensors: Itron RF1 counter „o” series</li></ul></li><li>• cable connection to any gas meter with reed switch or OC output through LF input (DI1) and magnetic field control contact TS (DI2)</li><li>• cable connection to two independent gas meters with reed switch output</li></ul>
<b>outputs</b>	optional, one built-in configurable digital output OC type, capable to operate as: <ul style="list-style-type: none"><li>• two-state output for gas consumption limitation control in case of consumption of ordered tariff power (dVh limit),</li><li>• volume pulse output, e.g. for BMS systems</li></ul>

## features

- support for LPWAN mobile network data transmission technologies: LTE-M (LTE Cat.M1) and NB-IoT (LTE Cat NB2)
- supports Mobile Virtual Network Operators (MVNOs)
- standard commercially available D-size lithium battery pack
- LCD display presenting connection status, network level, battery status and volume increment logging
- optical interface for configuration
- effective data transmission in harsh environments
- dedicated mobile application for device configuration and reading logged data
- cooperation with diaphragm, rotary, and turbine gas meters with reed switch or OC output type
- built in output for replication of input pulses and alarm state indication

## accessories



### eWebtel

measuring data acquisition system

The eWebtel system is a platform that collects measurement results intended for comprehensive control of the gas network. It enables the location of devices and allows for graphical visualization of data sent from position sensors, manometers, and recorders.



### Confit!

configuration and diagnostic tool - PC application

The Confit! program allows for the configuration of Plum products based on a clear graphical interface and other modules supporting device supervision, such as the software exchange module.



### Confit! Data Loggers

mobile application

The mobile application Confit! Data Loggers is designed for configuring telemetry modules, gas meters, and pressure recorders produced by Plum.



### OptoBTeX 2

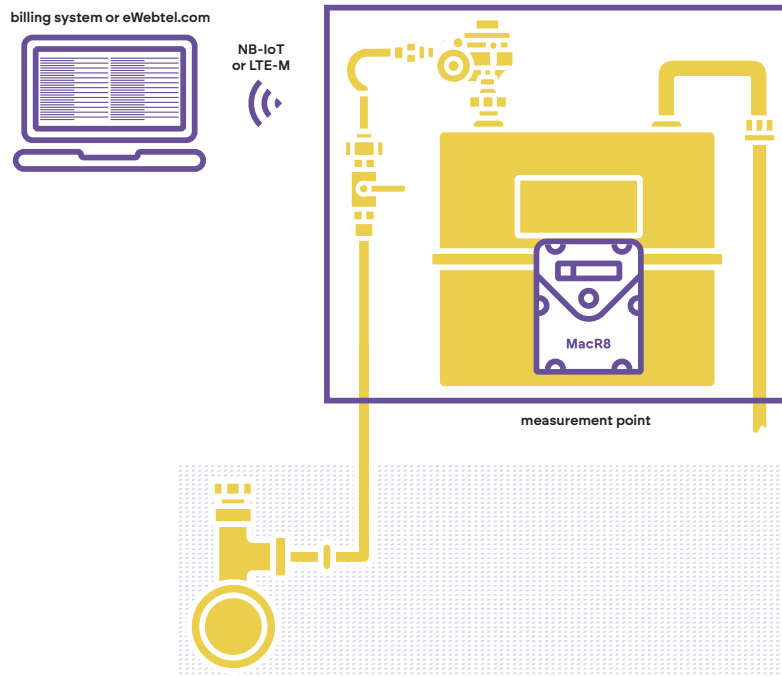
optical interface

OptoBTeX 2 is used for reading and wireless (BLE - Bluetooth Low Energy) data transmission from devices equipped with an optical communication interface compliant with the IEC 62056-21 standard to configuration software installed mainly on mobile devices with MS Windows and Android operating systems (tablet, smartphone, laptop).

# application

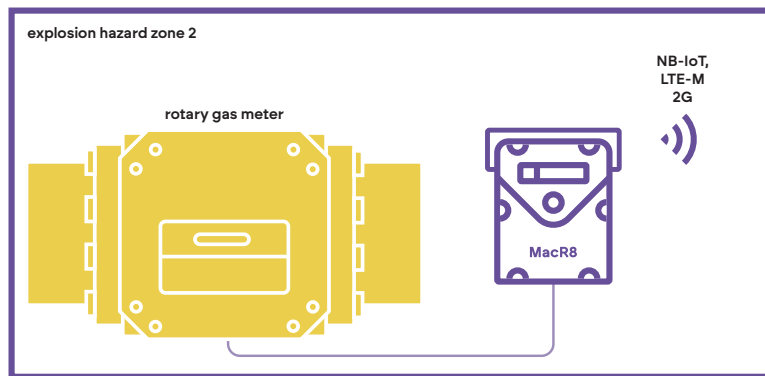
## remote data reading

Direct installation on gas meter totalizer.



## remote data reading

Installation with i.e. rotary gas meter with pulse output. MacR8 installed near the gas meter.



## application diagram

Cooperation with building management system (BMS).



## local reading and configuration

