



MacR6

data logger for gas meters

MacR6 is the device designed to enable remote readings of the gas consumption from standard mechanical gas meters in industry segment.

MacR6 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.

MacR6 can also cooperate together with any gas meter or Electronic Volume Converter with low frequency pulse output through typical cable connection and also act as an AMR device.

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
- can work as a Ex telemetry unit for Volume Converters without internal modems

Device exists in two versions:

- dedicated for diaphragm meters working in Ex Zone 2
- dedicated for any solutions working even in Ex Zone 0

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technical data

dimensions/ weight	Ex Zone 2 variant: 124 x 90 x 40 mm/ 0.3kg Ex Zone 0 variant: 146 x 114 x 40 mm/ 0.5kg
housing material	polycarbonate
relative humidity	maximum 95% at temperature of 55 °C
ambient temperature range	Ex Zone 2 variant: from -30 °C to 60 °C Ex Zone 0 variant: from -30 °C to 55 °C
housing protection class	in accordance with EN 60529 for outdoor installations: Ex Zone 2 variant: IP65 Ex Zone 0 variant: IP66
Ex feature	Ex Zone 2 variant: II 3G Ex ic IIA T3 Gc Ex Zone 0 variant: II 1G Ex ia IIA T4 Ga certificates: Ex Zone 2 variant: FTZÚ 14 ATEX 0037 Ex Zone 0 variant: FTZÚ 16 ATEX 0051X
display	segmented LCD display allowing device diagnostics and showing values: counter, monthly increments and hourly peaks
transmission protocols	GAZ-MODEM 2/3 support for TCP/UDP/NTP
resistance to mechanical and electromagnetic conditions	M2/ E2
power supply	replacable lithium battery D-size
transmission	<ul style="list-style-type: none"> • IEC 62056-21 optical interface • support for 3FF (Micro SIM) or MFF2 (MIM) standard cards • LTE-M (LTE Cat.M1): B1/ B2/ B3/ B4/ B5/ B8/ B12/ B13/ B18/ B19/ B20/ B25/ B26/ B27/ B28/B66/ B85 • NB-IoT (LTE Cat NB2): B1/ B2/ B3/ B4/ B5/ B8/ B12/ B13/ B18/ B19/ B20/ B25/ B28/B66/ B71/ B85 • EGPRS: 850/ 900/ 1800/ 1900 MHz
compatibility with gas meters	<ul style="list-style-type: none"> • direct connection (LF, TS tamper switch): <ul style="list-style-type: none"> - via magnetic sensors: Honeywell/ Elster BK-Gxx series, Apator/ Metrix UG series - via reed switch sensors: Itron RF1 counter „o” series • cable connection to any gas meter with reed switch or OC output through LF input (DI1) and magnetic field control contact TS (DI2) • cable connection to two independent gas meters with reed switch output, or to be used with Electronic Volume Converter to obtain information about Vb and Vm through OC output
outputs	Ex Zone 2 variant: <ul style="list-style-type: none"> • optional, one built-in configurable digital output OC type, capable to operate as: <ul style="list-style-type: none"> - two-state output for gas consumption limitation control in case of consumption of ordered tariff power (dVh limit), - volume pulse output, e.g. for BMS systems Ex Zone 0 variant: <ul style="list-style-type: none"> • two built-in configurable digital outputs OC type, capable to operate as: <ul style="list-style-type: none"> - volume pulse outputs (replication of pulses from two inputs) - programmable per each alarm, if alarm appears, pulse is generated
accessories	eWebtel - measuring data acquisition system ConfIT! - configuration software for PC ConfIT! data loggers- mobile application OptoBTEx - optical interface

features

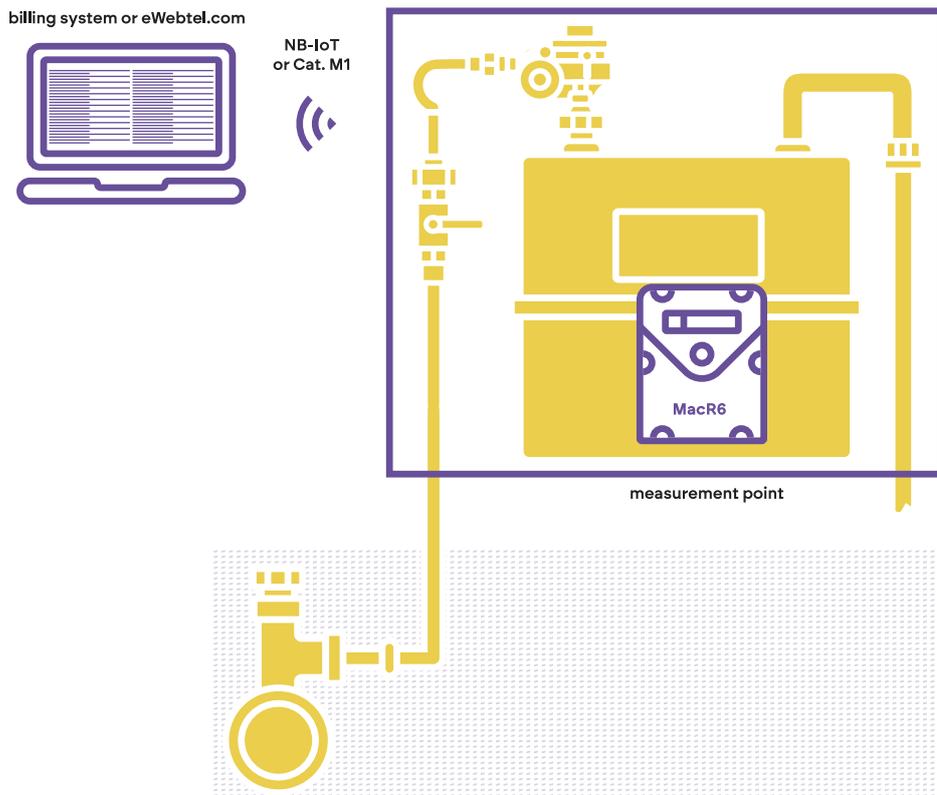
- support for LPWAN mobile network data transmission technologies: LTE-M (LTE Cat.M1) and NB-IoT (LTE Cat NB2)
- supports Mobile Virtual Network Operators (MVNOs)
- standard commercially available D-size lithium battery
- LCD display presenting connection status, network level, battery status and volume increment logging
- IEC 62056 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 outputs for replication of input pulses and alarm state indication

application

➤ remote

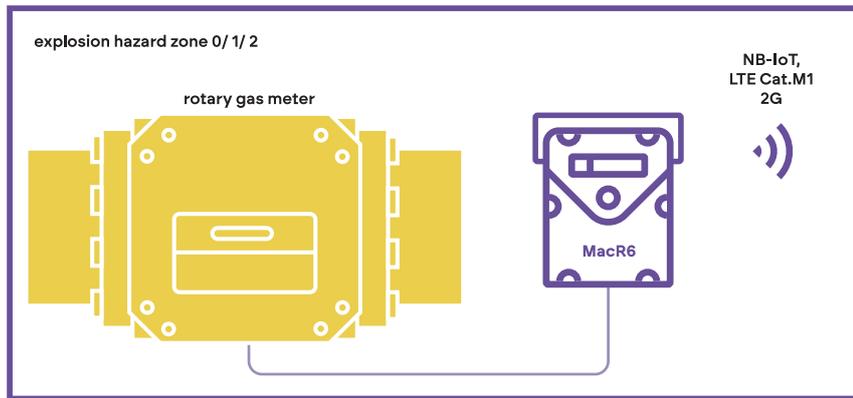
data reading

Direct installation on gas meter totalizer.



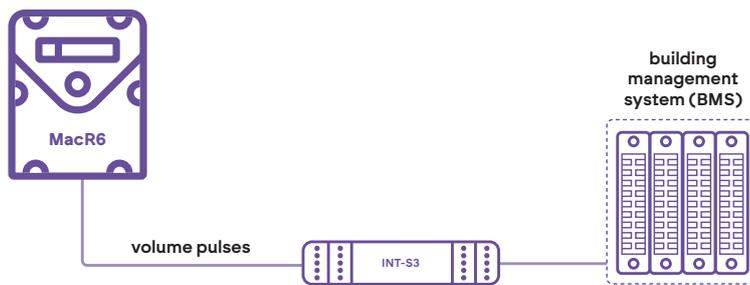
remote
data reading

Installation with i.e. rotary gas meter with pulse output. MacR6 installed near the gas meter.



application diagram

Cooperation with building management system (BMS).



local reading
and configuration

