



## picoELCOR 2

SMART METER WITH  
INTEGRATED VOLUME  
CONVERSION AND  
TRANSMISSION MODULE

# picoELCOR 2

## Description

picoELCOR-2 is a SMART diaphragm gas meter which integrates the electronic index, volume conversion, datalogger and GPRS or LTE modem with mechanical diaphragm gas meter body. Solid mechanical design, proven technology and use of the latest low power microprocessor technology with high processing power brings to customer guarantee of smooth functioning and space for future software and hardware extensions. The volume measurement principle is based on measuring of gas flowing through mechanical units. Each unit has four measuring chambers, separated by synthetic diaphragms. The mechanical movement is transferred via gears to a crankshaft moving the valves. Rotating movement is scanned by tamper proof optical element.

This optical element ensures maximum protection against an external magnetic fields helping to eliminate tampering of the meter. The base volume is calculated on the basis of precise measurement of the pressure, temperature and using conversion formula. Pressure and temperature transducer is integrated into the gas meter body. The electronic index with LCD display, controlled by two button keypad (accessible after opening of the front cover) gives the information about measured volume and offers user friendly interface to the customer for reading of data. The integrated battery powered GPRS or LTE modem transfers the collected data via cellular network. The LTE modem is available in variants LTE-Cat1 and LTE-Cat NB. Power supply is realized by two separate lithium batteries (EVC battery and modem battery) .

## Technical Data

Class protection	IP 65 (EN 60529)
Operating pressure	Max 0,5 Bar
Operating temperature	- 25°C ÷ +55°C
Control panel	2 button keypad shielded by the front cover
Display	Alphanumeric multisegment LCD with icons, always ON
Temperature measurement range	- 25°C ÷ +55°C
Pressure measuring range (absolute, MID certified)	0,8 - 1,6 Bar
Total accuracy (MPE)	1,50%
Communication interface	optical interface ( IEC 62056-21), modem GPRS or LTE
Digital output	1 digital output - pulse, binary or analog output with external module CL-O
Battery power supply (metrology)	Lithium battery pack (D cell) SAFT LS33600, Battery life >15 years (**)
Battery power supply (modem)	GPRS: lithium battery pack HBL-03 o HBL-03U (SAFT LS33600), up to 8 years battery life LTE Cat 1: lithium battery pack HBL-04U (SAFT LS26500), up to 5 years battery life LTE Cat NB: 1x or 2x SAFT LS 17500 (A cell), up to 7 or 12 years battery life

\*\* measurement period 30 s; data archive archiving period 1 hour; generating output pulses with frequency  $f \leq 1$  Hz; daily communication with the device (local or remote) for 2 min; local operation of the device (buttons) once a week for 5 min; flashing the firmware of the device (locally or remotely) once a year; ambient temperature: -25 °C to +55 °C; segment display permanently on; power battery SAFT LS33600

Approval	MID: TCM 143/22-5864, Atex: FTZÚ 22 ATEX 0047X Ex II -/2 G IIB T4 o Ex II -/2 G IIB T3 (modem LTE Cat1), EN 1359, EN 12405-01, EMC
Compliant with resolution ARG / GAS 631/13 (Ex / 155/08) and with UNI / TS 11291 regulations	
Firmware	remotely upgradeable in compliance with WELMEC 7.2

## Transducers

- High-precision and stability during the life
- Digital technology
- Semiconductor temperature sensor
- (MPE <0,1% of measured value; Kelvin degrees)
- Piezoresistive Pressure sensor
- (MPE <0,25% of measured value.)

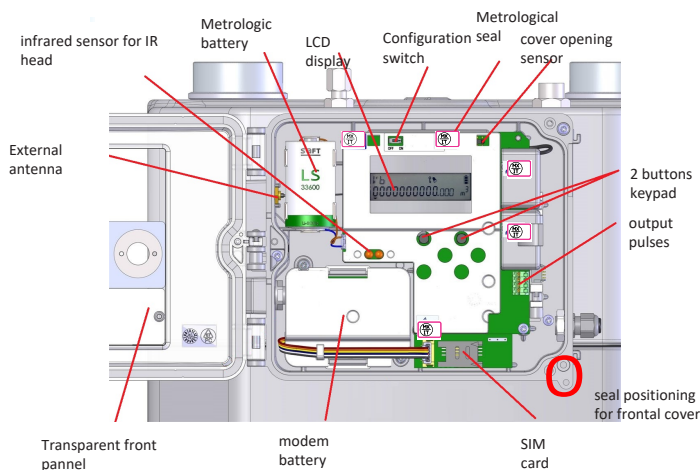
## Output

- 1 digital output, configurable as pulse or output or analog output.
- Low frequency pulse output configurable (converted volume, base volume, etc.).
- Analog output (4 - 20 mA)- made with CL-O Module.

## Compressibility formulas

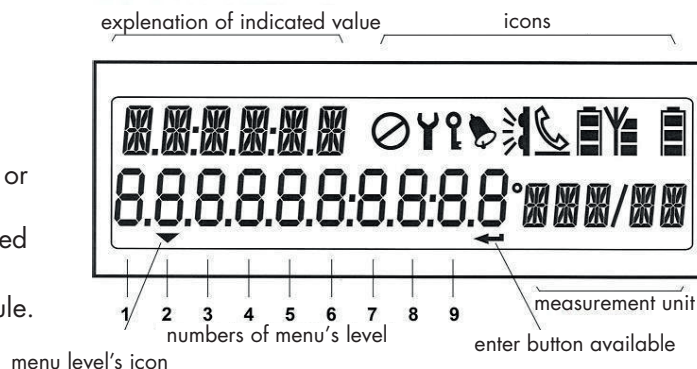
AGA-8 92DC	AGA 8-G1
AGA NX-19mod	AGA 8-G2
SGERG-88	K=1 (Standard)

## Main components



## Display

- LCD with 10 digit and icons
- Continuous show of data, display always on



## On field verification and calibration

Il PicoELCOR-2 can be equipped with a thermowell and a pressure tap for an easy metrological verification on field

## Software

For the initial configuration, on field settings and basic data administration, the **COMPASS** software is supplied. This software is a user-friendly tool allowing easy configuration and maintenance of the picoELCOR-2 thanks a followed step by step procedure.

## Communications protocols

- CTR (UNI-TS 11291-3)

## Data security

- Multi-Level Password.
- Security switches hardware.
- Data encryption AES128.
- Anti-Tamper Alarm (front panel opening).

## Communication's interface

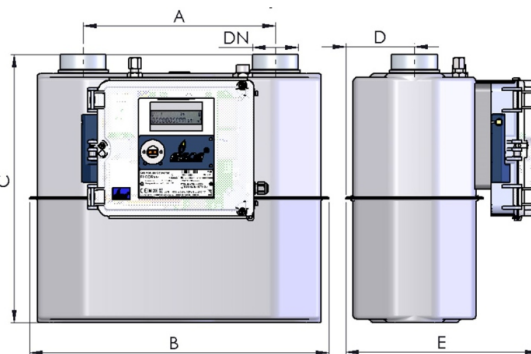
- Optical interface (IEC 62056-21)
- GSM / GPRS / SMS or LTE-Cat 1 or LTE-Cat modem or LTE-Cat M1

## Connections and flow

Model	Cyclic Vol. (dm <sup>3</sup> )	Connection DN	Qmin (m <sup>3</sup> /h)	Qmax (m <sup>3</sup> /h)
picoElcor-2 G10	5,6	1 1/4"	0,10	16
	5,6	2"	0,10	16
picoElcor-2 G16	5,6	2"	0,16	25
picoElcor-2 G25	11,2	2 1/2"	0,25	40

## Sizes and weights

Model	Dimension (mm)					Weight (Kg)
	A	B	C	D	E	
picoElcor G10	250	393	345	92	252	6,90
	280	393	345	92	252	6,90
picoElcor G16	280	393	345	92	252	6,90
picoElcor G25	335	456	361	141	352	11,2



## Product range



Rotary piston gas meters



Turbine gas meters



Gas pressure regulators



Electronic volume correctors



Diaphragm gas meters



Smart meters

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