Gas Measuring equipment

Electronic Volume Converter, Datalogger and Modem

Wigersma & Sikkema
Since 1921

UNICOM 300

GPRS/LTE CAT 1
Modem - Datalogger
Manufacturer: Wigersma & Sikkema
Address: NL-6983 BP 4. DOESBURG
Type: UNICOM 300, N511
Year of manufacture: 2018
Serial number: 33000001

fmax: 2 Hz (LF)
ta: -40 °C - +60 °C, IP65

CE 0344 II 1G Ex ia IIB T3 Ga
II (1)G [Ex ia Ga] IIC
KIWA 18ATEX0011 X
Static hazard; clean only with damp cloth

7 WIG01 33000001

PWR
STATUS
NETWORK
W36
SIG1
SIG2
INIT
DATA

UNIGAS 300

Unconverted volume
00776185.037 m³
Converted volume
00813758.513 m³

Electronic Volume
Conversion Device
Manufacturer: Wigersma & Sikkema
Address: NL-6983BP 4. DOESBURG
Type: UNIGAS 300 PTZ, G6112212
Year of manufacture: 2015
Serial number: 27012458

CE M15 0122 NMI T10132
ZbiZ: SGERG 1 TMS 1991
fmax: 2 Hz (LF) / 5 Hz (HF)
ta: -40 °C - +55 °C, IP66
EN 12405-1-A2 M2 E2

CE 0344 II 1G Ex ia IIC T4 Ga
II (1) G [Ex ia Ga] IIC
KEMA 08ATEX0015 X

More info: Press key

Communication

Long battery life

Easy operation

V = 11011 **Encoder**

No earthing required

Easy installation

Large memory capacity

Vielseitig

UNIGAS 300
Electronic volume converter

V= 11011
Encoder

V=⊓⊓⊓
Impulse

Corrosion proof

No earthing required

Versatile

Cost saving

Versatile

Large memory capacity

General

UNIGAS 300 is a compact electronic volume converter with MID approval that is easy to operate for the end-user and extraordinary versatile for gas utilities. UNIGAS 300 converts the volume measured by the gas meter over a wide pressure and temperature range into billable data. UNIGAS 300 complies with current European standards and directives.

The UNIGAS 300 has a durable aluminum casing with an IP66 protection class through a patented solution for humidity control. The temperature range extends from -40 °C to +55 °C, making the device suitable for almost all weather conditions. As UNIGAS 300 is ATEX approved for zone 0, the volume converter may also be installed near the gas meter.

Three counters are available in UNIGAS 300, of which counter one is used as the converter input. Input one can be programmed as Encoder (NAMUR), Low Frequency pulse input or High Frequency pulse input. All pulse inputs are equipped with a filter that suppresses pulse instability, making the counter readings in UNIGAS 300 up-to-date and reliable. UNIGAS 300 accepts the Encoder signal from all gas meter manufacturers. This ensures maximum flexibility for the type of gas meter used, for today and tomorrow.

Measurement

UNIGAS 300 is available in four different models: PTZ, PT, TZ and T.

For gas temperature measurements, UNIGAS 300 has a PT500 temperature sensor with a three meter long cable. The most compact version of UNIGAS 300 has an internal pressure sensor. An external pressure sensor with a three meter long cable is optionally available. The following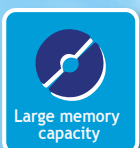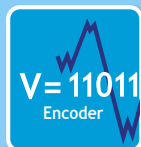 pressure ranges are available: • 0.8 – 2.5 bar abs. • 1.5 – 6 bar abs. • 2.5 – 10 bar abs. • 5 – 20 bar abs. • 10 – 40 bar abs. • 20 – 80 bar abs.
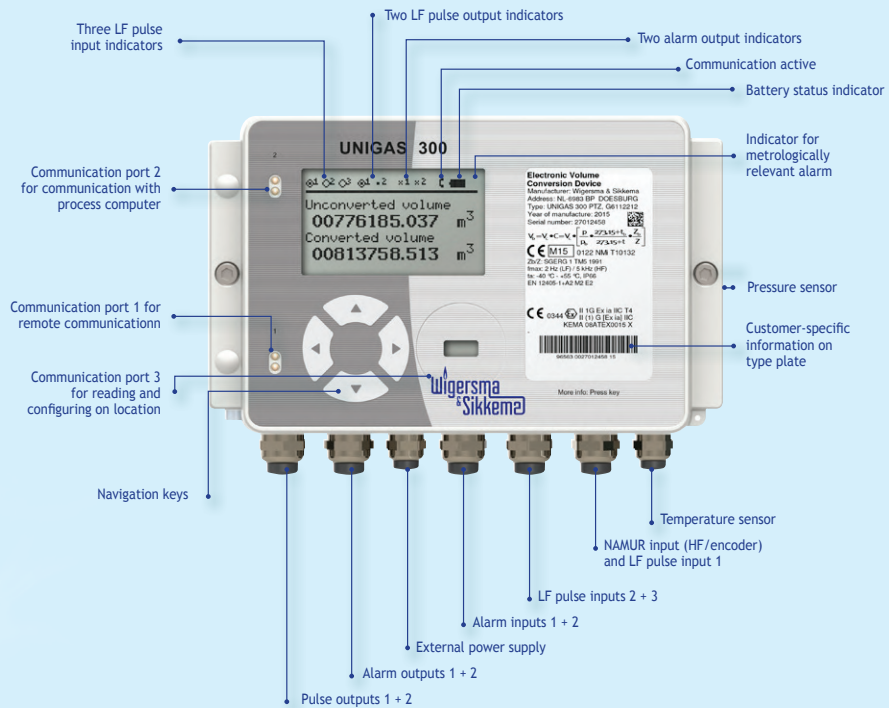
Only the highest quality pressure sensors, which have proven their stability over time, are used in UNIGAS 300. The drift of the sensor remains within the MID accuracy limits for at least 5 years. Therefore, UNIGAS 300 is the perfect device to reduce the cost of metrological re-inspection.

UNIGAS 300 calculates the compressibility factor based on the compressibility algorithm. This algorithm is not determined by an approximation method, but by using the full algorithm. UNIGAS 300 is available with compressibility algorithms SGERG TM5 1991 (methods 1-4), AGA NX19 modified (Gasunie), AGA 8 gross method 1 or set to a fixed compressibility factor.

Advanced Memory

UNIGAS 300 has ample memory space for data storage. Every 5-minutes, the measured and converted values are saved in the interval logger. The UNIGAS 300 memory stores these 5-minute values over a period of 150 days. The logged data can be retrieved by UNITOOL and displayed in the menu of UNIGAS 300. One can choose to display 5, 10, 15, 30 60-minute, daily or monthly values. By retrieving and analyzing the data of 5-minute values, it is possible to retrieve extremely detailed consumption profiles.

Three LF pulse input indicators

Two LF pulse output indicators

Two alarm output indicators

Communication active

Battery status indicator

Indicator for metrologically relevant alarm

Communication port 2 for communication with process computer

Pressure sensor

Communication port 1 for remote communicationn

Customer-specific information on type plate

Communication port 3 for reading and configuring on location

Navigation keys

Temperature sensor

NAMUR input (HF/encoder) and LF pulse input 1

LF pulse inputs 2 + 3

Alarm inputs 1 + 2

External power supply

Alarm outputs 1 + 2

Pulse outputs 1 + 2

UNIGAS 300

Unconverted volume
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Electronic Volume Conversion Device
Manufacturer: Wigersma & Sikkema
Address: NL-6983 BP DOESBURG
Type: UNIGAS 300 PTZ, G6112212
Year of manufacture: 2015
Serial number: 27012458

Communication

Up-to-date data provides crucial information, not only for the gas utility, but also for the end user. Two optical ports are available for serial data transmission. The upper communication port can transmit real time data to the end user. This makes it possible to read out the actual flow and thus avoid high consumption peaks in order stay within contract limits. The lower port can be used simultaneously to transmit data to the gas utility over the cellular network. An optical service port is available for local reading and configuration of the UNIGAS 300.

Battery supply

UNIGAS 300 is equipped with a lithium DD cell as standard for an extra long service life up to 15 years. It is also possible to connect an external power supply to power the High Frequency input, or to provide a more frequent interval of serial readout. The battery will then function as a backup with a minimum life of 1000 hours.

Communication

Versatile

Long battery life

Cost saving

UNICOM 300

UNIGAS 300

ISC 230B

Data collection system

Process computer

UNICOM 300
2G/4G CAT M1 Modem and Datalogger
for gas meters and for UNIGAS 300

Long battery life

Communication

Versatile

Cost saving

Easy installation

No earthing required

UNICOM 300 is a 2G/4G CAT M1 modem and datalogger, designed for gas measurement devices. It can be connected directly to an Electronic Volume Conversion Device such as the UNIGAS 300 or to a gas meter. The battery-powered UNICOM 300 is designed for use within the hazardous area and meets the requirements of explosion safety for use in zone 0. This means that the UNICOM 300 can be mounted near the gas meter or EVC.

The mains operated UNICOM 300 is designed for installation in the safe zone up to Ex-Zone 2, can power the UNIGAS 300 and can be supplied with a back-up battery. A standard external antenna is included, other external antennas can be easily mounted without opening the UNICOM 300.

UNICOM 300 is capable of 2 input pulse counting, encoder readout including automatic initialization and B telegrams, data storage (5 minute values are available for 155 days), UNIGAS 300 readout, communication via 2G/4G (including TCP, FTP and NTP services), 2 pulse outputs to provide consumption information to the gas consumer and a configurable scheduler.

UNICOM 300 is designed for easy and fast installation and maintenance with a minimum of tools and may be installed outdoors. UNICOM 300 is extremely well protected against moisture corrosion with a patented solution.

Special care is taken to ensure long battery life. UNICOM 300 will use the full capacity of the batteries. It is equipped with an intelligent modem scheduler which powers the modem only when needed for remote data communication. The internal NTP functions can be set to a dedicated NTP server in a dedicated APN. Secure time synchronization mechanisms make it possible to use UNICOM 300 for pure push use. Depending upon use, a lifetime battery power supply is possible, making UNICOM 300 a one-time installation and a lifetime without service solution.
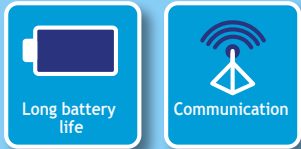
ISC 230B

Versatile

Communication

Impulse V=⎍⎍⎍

Easy installation

The design of the ISC 230B is specially designed for installations in combination with UNIGAS 300 to communicate with third-party processes. ISC 230B combines the functionalities of an ATEX barrier, an intrinsically safe external power supply for UNIGAS 300 and intrinsically safe circuits for analogue and serial signal conversion.
The ISC 230B operates with 230 VAC, but can also be operated with 12 VAC or 12 - 15 VDC. The ISC 230B is therefore ready for use with sustainable external systems, such as a solar module.

UNITOOL Software

Versatile

Easy operation

With the user-friendly and free downloadable UNITOOL software, UNIGAS 300 and UNICOM 300 can be read and configured locally and remotely, via a GSM-TCP/IP connection. UNITOOL is available in Dutch, German, English, Danish, Italian and French.

Specifications

Specification UNIGAS 300

|	
Housing	coated aluminum 194 x 120 x 70 mm
	IP66
Display	66 x 33 mm, 8 lines x 20 characters
Navigation keys	4
Approvals	MID approved by NMi , T 10132
	PTB approved, DE-17-M-PTB-0045
	ATEX approved, 08ATEX0015X
Compressibility	S-GERG 91 method 1-4, AGA 8 GM, AGA NX 19 modified, Fixed Z
Inputs	1. Converter input, LF (2 Hz), or HF (5 kHz) or Encoder (Namur)
	2. LF (2 Hz) or Encoder (when Input 1 is LF) with compare function
	3. LF (2 Hz)
	4. Alarm input 1
	5. Alarm input 2
Analogue outputs	2 Alarm outputs, freely programmable
	2 Impulse outputs, freely programmable
Optical outputs	Port 1: Modem, optical RS232
	Port 2: End user, optical RS232 (activated by module)
	Port 3: service port optical RS232 to USB
Pressure ranges	0.8 – 2.5 bar abs., 1.5 – 6 bar abs, 2.5 – 10 bar abs., 5 – 20 bar abs., 10 – 40 bar abs., 20 – 80 bar abs.
Temperature sensor	PT500, 2-wire
Temperature range gas	-40 °C / +55 °C (-30 °C / +55 °C for 40 and 80 bar)
Ambient temperature	-40 °C / +55 °C
Memory capacity	every 5 minutes (fixed) over 150 days
Daily logger	100 days
Monthly logger	36 months
Power supply	Battery powered device, with Lithium DD-cell. Lifetime at standard conditions 15 years
External power	6 – 10 VDC, by UNICOM 300 mains supplied or ISC 230B
Communication	Standard Protocol IEC 62056-21 (former 1107)
	FTP, Modbus, IDOM by CI-Module

Specification UNICOM 300

Housing	Polycarbonate 194 x 120 x 70 mm
	IP65
Ambient temperature	-40 °C / +60 °C
Approval	**Battery operated:** 18ATEX0011X, installation in ATEX zone 2, 1, 0 and in the safe area, intrinsically safe circuits can be connected to equipment within the ATEX zone 0.
	Mains operated : 20ATEX0022, installation in the safe area, intrinsically safe circuits can be connected to equipment within the ATEX zone 0.
Modem	2G/4G CAT M1 Frequencies modem
	1. Converter input, serial
	2. LF1
	3. LF2 or Alarm
	4. Encoder

Specifications

Encoder — Compatible with Itron, GWF, Elster, Dresser, FMG, GFO, RMA and RMG

Analogue outputs — 2 outputs, programmable to LF or Alarm

Optical outputs — Optical service port RS232 to USB

Memory capacity — all 5-minute values (fixed) over 155 days, daily 100 days, monthly 36 months

Battery operated — Battery powered device, with 1 or 2 battery packs. Lifetime with 2 packs, FTP and LF pulse is 15 years

Mains operated — 230 VAC or 24 VDC
Backup battery for log functionality

Time synchronisation — NTP

Communication — Standard Protocol IEC 62056-21 (former 1107), FTP
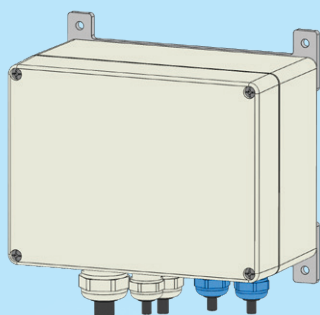
Specification ISC230B

Housing — Polycarbonate 160 x 120 x 105 mm
IP65

Ambient temperature — -25 °C / +55 °C

Approval — ZELM 14 ATEX 0523 X, Zone 0, mounting in safe area

Inputs —
1. Converter input, serial
2. NF1
3. NF2
4. Namur input

Analogue output — Pulse out module (2 x 2), 4 – 20 mA module, Alarm extension module

Serial outputs — RS485 module, RS232 module, Ethernet module

External power — 230 VAC or 12 VAC or 12 - 15 VDC

Website:

DDG6202BRGB_rev.3