

UniFlo Smart Gas meter



Application

This highly advanced Smart Gas Meter is characterized by a high level of functionality, low power consumption, excellent reliability and high flexibility for customized solutions. It offers all the features of a true smart meter and fulfils the SMETS2 V3 requirements.

Main Features

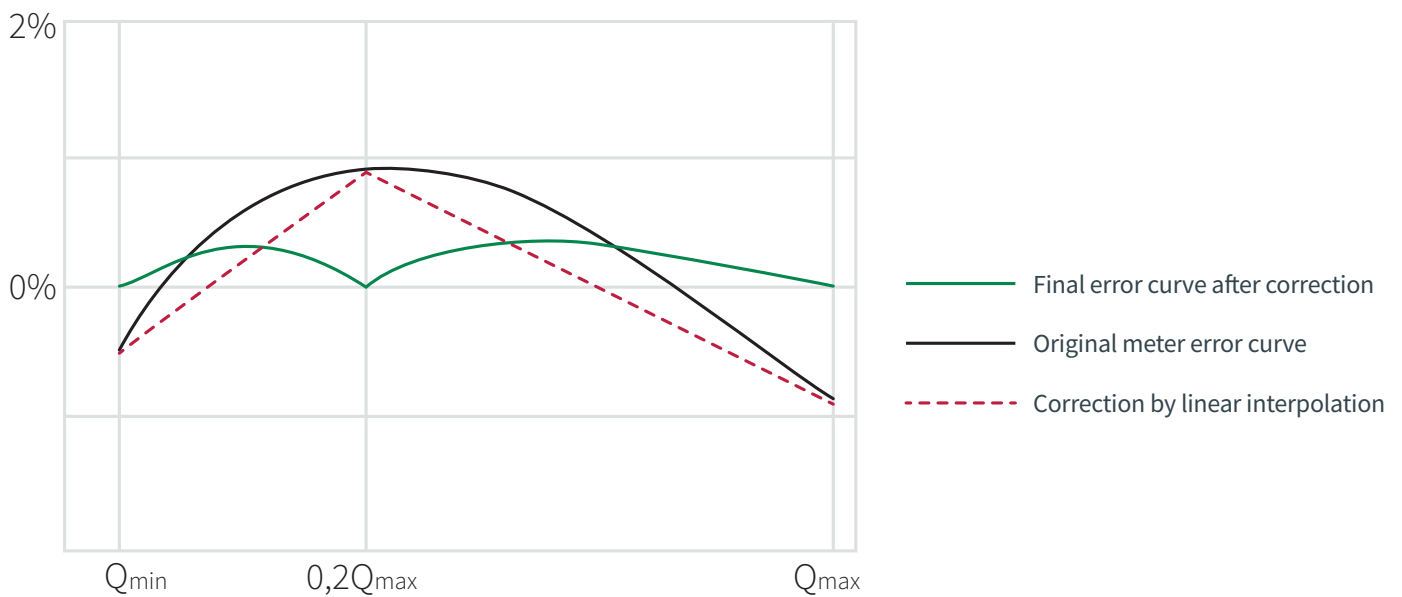
- Reliable and tamper safe optical detection of measuring unit with “Gray-Code”
- Excellent accuracy, using error curve correction
- Built-in valve for remotely closing and safe opening of gas flow
- Calculated battery lifetime of min. 15 years
- Backlight display, with menu function
- Optical interface (IEC 62056-21) for local maintenance (disabled while in the field)
- ATEX approved for zone 0/1

Smart Functionalities

- Secure AMR, using AES & ECC encryption
- Datalogging of readings, alarms and events
- Integrated ZigBee radio, 2.4GHz, Single band (G4SZV-2)
- Integrated ZigBee radio, 2.4GHz/868MHz, Double band (G4SDZV-2)
- Communication protocol according to ZigBee Smart Energy Profile (SEP 1.4), offering full exchange ability
- Firmware Upgrade Over The Air (OTA)

Error curve correction

The initial error curve of the diaphragm gas-meter is introduced into the microprocessor in the index at three flows, Q_{min} , $0,2 Q_{max}$ and Q_{max} . With the High Frequency “Gray-Code” detection, flow is calculated and by linear interpolation and the error curve of measuring unit corrected.



Time of use

The meter supports TOU with up to 4 tariffs. Energy price is depending on the time of the use. Tariff switching is performed with advanced calendar function. For each tariff, consumption will be available as m³, kWh and £.

Block Tariff

When Block tariff function is activated, the price of energy will depend on the actual half-hourly consumption. Up to 4 rates are supported.

Credit Prepayment

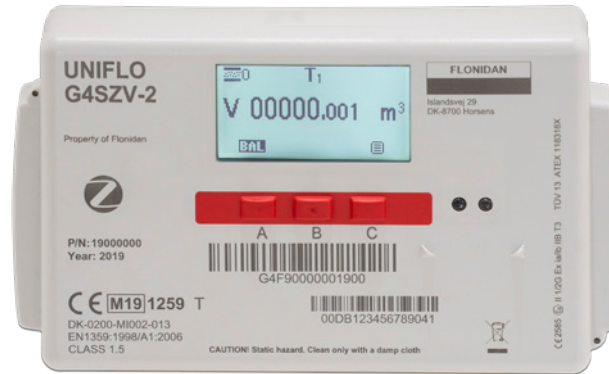
The meter can be switched between Credit mode and Prepayment mode. Switching may be performed immediately or at a predefined time. In prepayment mode the meter supports Emergency Credit, Credit from Head End system and local Credit by the input of UTRN code.

Logs

The G4SZV-2 electronic index has an auto diagnostic system, monitoring the conditions of the meter: Alarm Logs and Alerts. All Logs and Alerts are according to SMETS2 GBCS specification.

Index

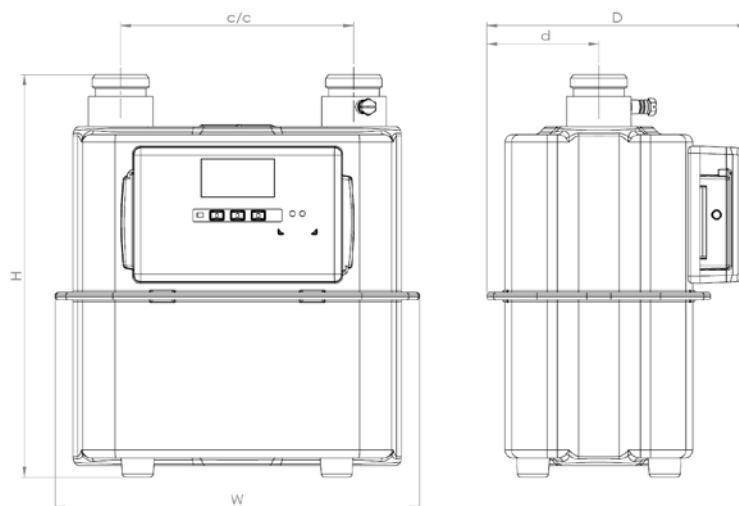
To activate the main menu (☰) press the C button. To scroll through the menus and select/acknowledge (←), activate the arrows displayed at the bottom of the display (↓ ↑ ← →) by pressing either the A, B or C button, depending on the options available.



Symbols shown at the top of the display when either volume or balance screen is displayed.

Symbol	Meaning	Required action
	Alarm	Go to the menu, select Alarms + Actual alarms, and you will see the alarm
	Valve open	No action
	Valve busy (opening or closing)	Observe if the gas is disabled
	Valve shut	When the valve is closed, gas is disabled. Contact gas utility, and press the button when the meter requires it
	Low battery	The battery must be exchanged within 30 days
	Emergency Credit Available	Use Menu to accept Emergency Credit to avoid disconnection
	Emergency Credit IN USE	Emergency Credit is being used
	Low Credit	Top up to avoid incurring Debt or being cut off
	Non-Disconnect	The meter is OUT OF CREDIT, and would have disconnected but will remain on supply, because of the Non-Disconnect period
	Message waiting (from Utility)	Go to Menu + Message, and scroll through the incoming messages. Acknowledge with ←
	Paired to Communication Hub	All OK. If the symbol is not present, there is no connection to the HAN. The symbol is dynamic and will indicate signal strength, just like a mobile phone
	Information waiting (from gas meter)	Go to Menu + Information, and scroll through the incoming information. Acknowledge by pressing the button below the i symbol
	Firmware download in progress	No action

Dimensions



Specifications

Model	Q _{max} m ³ /h	Q _{min} m ³ /h	P _{max1)} bar	ΔP ₁₎ mbar	V _{eye} dm ³
UniFlo G4	6	0.04	0,5	1.6	1.2

1) Air at Q_{max}

Battery Lifetime

Min. 15 years of normal operation

Temperature Range

T_{amb}: -25...+55°C T_{gas}: -25...+55°C
 T_{stor}: -30...+60°C RH: <93%, condensing

Display

Graphical display, fixed, 8 digits Resolution:
 3 decimals


Enclosure

IP 54

Conformity with

OIML - R137
 EN1359:1998 + A1:2006
 SMETS2(UK)

Approvals

MID DK-0200-MI002-013
CPA NCSC-1433053936-3007
ATEX  II 1/2G Ex ia/ib IIB T3
 EPS 19 ATEX 1 124 X