

UniFlo Smart Gas meters



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

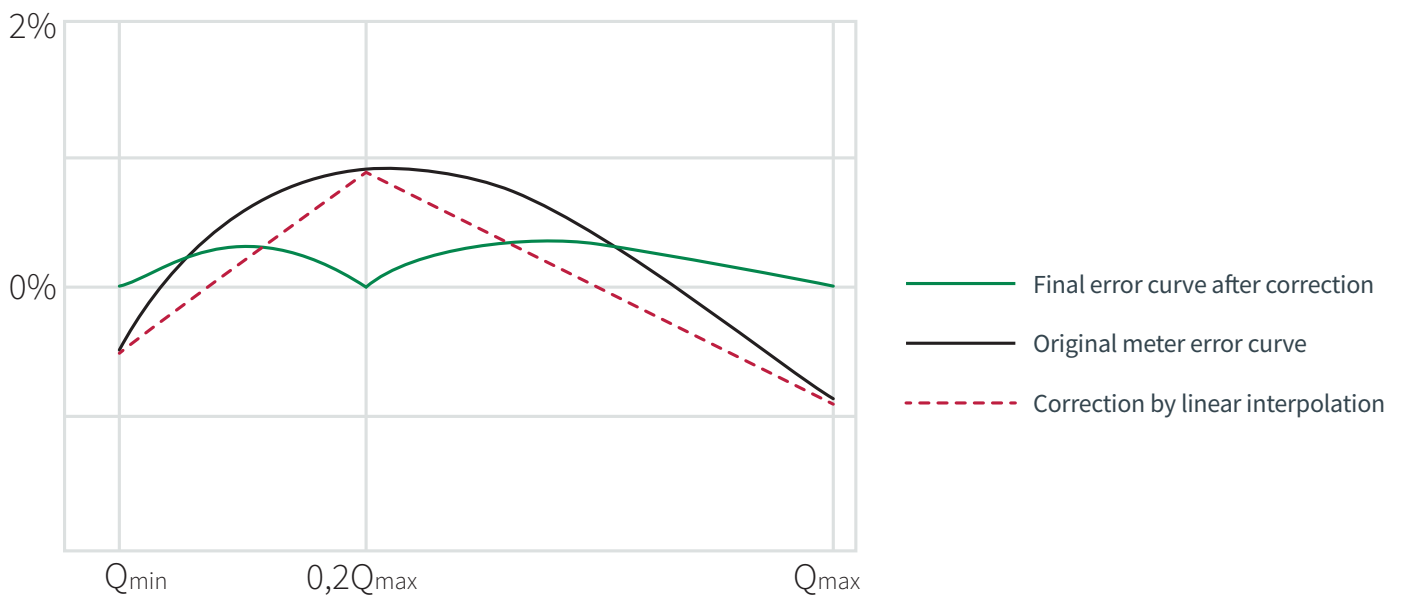
- Reliable and tamper safe optical detection of measuring unit with “Gray-Code”
- Excellent accuracy, using error curve correction
- Built-in valve for remotely closing and safe opening of gas flow
- Calculated battery lifetime of min. 15 years
- Backlight display, with menu function
- Optical interface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

Smart Functionalities

- wM-Bus (868 MHz) EN13757
- Secure AMR, using AES & ECC encryption
- Datalogging of readings, alarms and events
- Integrated ZigBee radio, 2.4GHz / 868 MHz
- Communication protocol according to ZigBee
- Smart Energy Profile (SEP 1.4), offering full exchangeability
- Firmware Upgrade Over The Air (OTA)

Error curve correction

The initial error curve of the diaphragm gas meter is programmed into the micro-processor of the index at three flows: Q_{min} , $0.2 Q_{max}$ and Q_{max} . Flow is calculated with the High Frequency Gray-Code detection and the actual error is corrected by linear interpolation. Final error is corrected to approx. 0.1%.



Time of use

The meter supports TOU with up to 4 tariffs. Energy price is depending on the time of 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 be depending 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 input of UTRN code.

Logs

The electronic index has an auto diagnostic system, monitoring the conditions of the meter: Alarm Logs and Alerts.

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

Specifications

Type	Distance	Vcyc	Boss type	Valve
4	152	1.2 L	BS1"	Valve
G4	220	1.2 L	3/4" Dutch	-
G4	250	2.2 L	G5/4"	-
G4	250	2.2 L	G5/4"	Valve
G6	220	2.2 L	3/4" Dutch	-
G6	250	2.2 L	G5/4"	-
G6	250	2.2 L	G5/4"	Valve
G10	300	5.6 L	G2"	-
G16	280	5.6 L	G2"	-
G16	300	5.6 L	G2"	-
G25	335	11.2 L	DN50	-
G25	335	20 L	G2½"	-
G25	400	11.2 L	DN50	-
G25	400	20 L	G2½"	-
G25	Mono	20 L	DN50	-

Battery Lifetime

Min. 15 years of normal operation

Temperature Range

Tamb: -25...+55°C Tgas: -25...+55°C
 Tstor: -30...+60°C RH: <93%, condensing

Display

Graphical display, fixed, 8 digits Resolution:
 3 decimals


Enclosure

IP 54

Conformity with

EN1359:1998 + A1:2006 SMETS(UK)
 OMS 4.x
 DSMR 4.x/5.x
 EN12405-1:2006 (electronic index)
 OIML D11(EMC) (electronic index)
 Directive 2014/34/EU
 EAN128 (bar code)

Approvals

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