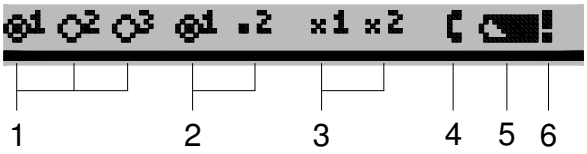
UNIGAS 300 is equipped with 3 inputs of which input 1 can be configured for a gas meter with an LF impulse output, an HF impulse output or an encoder output.
The counters for corrected and converted gas quantities are related to input 1.

UNIGAS 300 is simple to operate. Only four navigation keys allow easy navigation through the menus. The display is activated when pressing any key. Navigation keys ▼ and ▲ allow navigation between screens and menu functions. Navigation keys ► and ◄ are used to access or leave a menu or submenu. These navigation keys are also used to refresh or confirm certain data.

Main screen status bar



1. LF impulse input indicators of impulse inputs 1, 2, and 3
2. LF impulse output indicators of impulse outputs 1 and 2
3. alarm output indicators of alarm outputs 1 and 2
4. indicator for remote reading
5. battery condition indicator, when the remaining capacity drops below 10 %, the battery condition indicator will blink
6. indicator for a calibration-relevant alarm

Menu screen

1. selected menu-item
2. menu title
3. number of selected menu-item
4. indicator that more screens can be displayed if ▼ or ▲ is actuated

Counters for input 1

Vb1	Converted volume, undisturbed volume at base conditions
Vm1	Volume at measuring conditions, total volume
Vc1	Corrected volume at measuring conditions, corrected for the measuring error of the gas meter, total volume. When operating with LF pulse-input or encoder: Vm1 = Vc1
Vc1err	Corrected volume at measuring conditions, disturbed volume
Vb1err	Converted volume, disturbed volume

Flow rate and consumptions for input 1

Qc1_inst	Instantaneous flow rate, corrected and unconverted total value
Qc1_5	Flow at measuring conditions based upon 5 minutes interval, total value
Qc1_ nx5	Flow at measuring conditions, based upon the moving average of n x 5 minutes interval, total value
Qb1_inst	Instantaneous flow, undisturbed value at measuring conditions
Qb1_5	Flow at base conditions, undisturbed value based upon 5 minutes interval
Qb1_nx5	Flow at base conditions, undisturbed value based upon the moving average of n x 5 minutes interval
Vc1_60	Consumption in actual hour, total volume at measuring conditions
Vb1_60	Converted consumption in actual hour, undisturbed volume

Counters for input 2 and 3

Vm2	Volume at measuring conditions, total volume, input 2
Vm3	Volume at measuring conditions, total volume, input 3

Other relevant items

p, t	Actual pressure and temperature	tb, pb	Base pressure and temperature
pfix, tfix	Substitute value for pressure and temperature	Cf, C, Z, Z/Zb	Conversion values
		CO_2, H_2, N_2, d, Hs	Gas composition
pmin, pmax	Limits pressure range	Z/Zbfix	Substitute value for Z/Zb
tmin, tmax	Limits temperature range	INP1DIV, INP2DIV, INP3DIV	Scaling factors inputs
tmeas	Measurement interval for pressure and temperature	OUT1DIV, OUT2DIV	Scaling factors outputs

Menu functions

1. Current values	►	1-1: Cf, C, Z, Z/Zb, p, t.
2. Parameters	►	2-1: CO_2, H_2, N_2, d, H_s, Z/Zbfix ▼ 2-2: tmeas, tb, pb ▼ 2-3: pmin, pmax, tmin, tmsx, pfix, tfix
3. Flow rate	►	3-1: Qc1_5, Qc_ nx5, Qc1_inst, Vc1_60. ▼ 3-2: Qb1_5, Qb1_nx5, Qb1_inst, Vb1-60.
4. Interval logger	►	4-x: Date, date selection using ▼ and ▲ ► 4-x-1: interval, into for selection using ▼ and ▲ ► 4-x-x-x: Vm1, Vb1, Vc1, Vb1err ► ◄ 4-x-x-xa: Vm2, Vm3, t, p, status registers 1, 2, 3
5. Day logger	►	5-x: Day logger, day selection using ▼ and ▲ ► 5-x: Vm1, Vb1, Vc1, Vb1err ► ◄ 5-xa: Vm2, Vm3, t, p, status registers 1, 2, 3
6. Month logger	►	6-x: Month logger, month selection using ▼ and ▲ ► 6-x: Vm1, Vb1, Vc1, Vb1err ► ◄ 6-xa: Vm2, Vm3, t, p, status registers 1, 2, 3
7. Inputs and outputs	►	7-1: Inputs/outputs: INP1DIV, INP2DIV, INP3DIV, OUT1DIV, OUT2DIV 7-2 to 7-5: Coefficients for gas meter error curve correction
8. Status	►	8: Status, actuating ▼ and ▲ and subsequently ► select a status register ► 8-1-x: Conversion; status register 1 Actuating ► resets the status register. An alarm cannot be reset until the cause of that alarm no longer exists ► 8-2-x: Operation; status register 2 ► 8-3-x: Alarm; status register 3 See Installation and user manual, chapter 10 for more information Remark: if there are no messages, it will be reported on the screen
9. System	►	9-1: Serial, Version M, Version D, Operation, CRC M, CRC D ▼ 9-2: Gas meter, P meter, T meter, Time, Date ▼ 9-3: Dev addr, EAN code
10. Battery	►	10-1: Status ► 10-1-1: Status: U batt, AH used, AH new ► 10-2: Replace See chapter 8, Replacing the battery
11. Modem	►	11-1: Status: Network, Commh, Maincell, Ubatt ► 11-2: Switching on the modem, by actuating ► the modem is switched on for 30 min
12. Adjusting	►	12-x: p_offset, tcorr_min, tcorr_0, tcorr_max See chapter 7; Maintenance
13. Language	►	13-x: language setting English, Dutch ▼ and ▲for selecting ► for activating ◄ to return
14. Display test	►	display with changing checker board pattern

Remarks:

- Menu numbers are given in grey.
- When menu items 1 and 3 are selected, the measuring interval for pressure and temperature is temporarily reduced to 5 s.
- Menu 1: when the calculation of Z and Zb is disabled, Z is displayed without a value and Z/Zb is displayed as “Z/Zbfix”.
- Menu 1: when the calculation of Z or Zb is not possible, Z is displayed with “ERROR” and Z/Zb is displayed as “Z/Zbfix”.
- Menu 9. System: Version M = Software version bottom PCB, Version D = Software version top PCB

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Representation of status registers for menu items 4, 5, 6 and 8

UNIGAS 300 features three status registers:

- status register 1; calibration-relevant alarms
- status register 2; operation-relevant statuses
- status register 3; other alarms and warnings

In menu item 8 the state of alarms for status register 1 is retained until a manual reset has taken place. The alarms can only be reset, when the cause of the alarm no longer exists.
The state of the status registers is shown on the display as text messages in menus 8-1, 8-2 and 8-3.

In the presentation of interval data and data of the day and month loggers, menu items 4, 5 and 6, the three status registers are shown as three hexadecimal numbers of four characters:

$$St : 1_1 1_2 1_3 1_4 \quad 2_1 2_2 2_3 2_4 \quad 3_1 3_2 3_3 3_4$$

Hereunder, the three status registers are explained in more detail. The tables successively represent:

- the name with which a status message is shown in menu items 8-1, 8-2 and 8-3
- the classification of alarms or warnings for the presentation of St for menu items 4, 5 and 6
- the values of the presentation of St that belong to an alarm or warning
- the nature of the alarm or warning: C= condition (state) and E= event
- description of the properties of the alarm or warning

Status register 1; calibration relevant alarms

Presentation menu 8.1		Presentation menu 4, 5, 6		Description	
CRC error interface	1_1	8, 9, A, B, C, D, E, F	E	CRC error occurred in program memory of the processor of the top PCB. The memory is checked once per hour	F
Watchdog interface		4, 5, 6, 7, C, D, E, F	E	Watchdog of the program of the processor of the top PCB has been activated	E
CRC error conversion		2, 3, 6, 7, A, B, E, F	E	CRC error occurred in program memory of the processor of the bottom PCB. The memory is checked once per hour	D
Watchdog conversion		1, 3, 5, 7, 9, B, D, F	E	Watchdog of the program of the processor of the bottom PCB has been activated	C
Reset	1_2	8, 9, A, B, C, D, E, F	E	Software has been rebooted	B
External power		4, 5, 6, 7, C, D, E, F	C	External power supply present	A
Alarm ENCODER		2, 3, 6, 7, A, B, E, F	C	Readout values from encoder counter are unusable (BCC error) or a encoder reading is lower than counter reading Vm1 or Vm2. Vm1 or Vm1 will not be modified	9
NAMUR open circuit		1, 3, 5, 7, 9, B, D, F	C	NAMUR input has been interrupted. The current is lower than 1 mA.	8
NAMUR short-circuit	1_3	8, 9, A, B, C, D, E, F	C	NAMUR input has a current greater than 8 mA, NAMUR input is switched off.	7
Counters set		4, 5, 6, 7, C, D, E, F	E	A counter reading has been set	6
Alarm switch program		2, 3, 6, 7, A, B, E, F	C	Calibration lock opened because calibration switch was operated	5
Alarm open casing		1, 3, 5, 7, 9, B, D, F	C	Housing is open	4
Alarm temperature	1_4	8, 9, A, B, C, D, E, F	C	Measured value is not between tmin and tmax or measurement was not possible	3
Alarm pressure		4, 5, 6, 7, C, D, E, F	C	Measured value is not between pmin and pmax or measurement was not possible	2
Error Z of Zb		2, 3, 6, 7, A, B, E, F	C	Error on measuring Z or Zb	1
Low battery		1, 3, 5, 7, 9, B, D, F	C	Battery voltage too low (<2.8 V) or Ah_used > Ah_new State is ended when menu action exchange battery has been carried out and the battery voltage is at least 3.3 V	0

Status register 2; operational status

Presentation menu 8.2		Presentation menu 4, 5, 6		Description	
Error in Zb	2_1	8, 9, A, B, C, D, E, F	C	Error on calculation of Zb. This status bit is complementary to status bit error_Z_or_Zb	F
Error in p or t		4, 5, 6, 7, C, D, E, F	C	In status register 1 there is a report for alarm pressure and / or alarm temperature	E
Battery exchanged		2, 3, 6, 7, A, B, E, F	E	Battery exchanged through menu item 10-2	D
Alarm volume difference		1, 3, 5, 7, 9, B, D, F	E	Volume difference measured between inputs 1 and 2 equal to or higher than value Vm1Vm2_warning. See chapter 17 for more details	C
Alarm tmax	2_2	8, 9, A, B, C, D, E, F	C	Temperature > Alarm tmax	B
Alarm tmin		4, 5, 6, 7, C, D, E, F	C	Temperature < Alarm tmin	A
Alarm pmax		2, 3, 6, 7, A, B, E, F	C	Pressure > Alarm pmax	9
Alarm pmin		1, 3, 5, 7, 9, B, D, F	C	Pressure < Alarm pmin	8
Warning tmax	2_3	8, 9, A, B, C, D, E, F	C	Temperature > Warning tmax	7
Warning tmin		4, 5, 6, 7, C, D, E, F	C	Temperature < Warning tmin	6
Warning pmax		2, 3, 6, 7, A, B, E, F	C	Pressure > Warning pmax	5
Warning pmin		1, 3, 5, 7, 9, B, D, F	C	Pressure < Warning pmin	4
Clock set	2_4	8, 9, A, B, C, D, E, F	E	Clock set	3
Clock set > 10 s		4, 5, 6, 7, C, D, E, F	E	Clock has been moved by more than ns (register C.9.1) s, see also chapter 10, *Other settings for functions of UNIGAS 300*	2
Log book cleared		2, 3, 6, 7, A, B, E, F	E	Status log book or calibration log book erased	1
Logger cleared		1, 3, 5, 7, 9, B, D, F	E	Interval logger, day logger or month logger erased	0

Status register 3; other alarms and warnings

Presentation menu 8.2		Presentation menu 4, 5, 6		Description	
	3_1			No function	
Log book (O) full	3_2	8, 9, A, B, C, D, E, F	C	Status log book is full, the oldest loggings will be overwritten. Is cancelled as soon as log book is deleted.	B
Log book (M) full		4, 5, 6, 7, C, D, E, F	C	Calibration log book is full, the oldest loggings will be overwritten. Is cancelled as soon as log book is deleted.	A
Alarm input 2		2, 3, 6, 7, A, B, E, F	C	Connected alarm contact open	9
Alarm input 1		1, 3, 5, 7, 9, B, D, F	C	Connected alarm contact open	8
Warning Vc1_60	3_3	8, 9, A, B, C, D, E, F	C	Vc1_60 > Warning Vc1_60	7
Alarm Vc1_60		4, 5, 6, 7, C, D, E, F	C	Vc1_60 > Alarm Vc1_60	6
Warning Qc1_nx5		2, 3, 6, 7, A, B, E, F	C	Qc1 > Warning Qc1_nx5	5
Alarm Qc1_nx5		1, 3, 5, 7, 9, B, D, F	C	Qc1 > Alarm Qc1_nx5	4
Warning Vb1_60	3_4	8, 9, A, B, C, D, E, F	C	Vb1_60 > Warning Vb1_60	3
Alarm Vb1_60		4, 5, 6, 7, C, D, E, F	C	Vb1_60 > Alarm Vb1_60	2
Warning Qb1_nx5		2, 3, 6, 7, A, B, E, F	C	Qb1 > Warning Qb1_nx5	1
Alarm Qb1_nx5		1, 3, 5, 7, 9, B, D, F	C	Qb1 > Alarm Qb1_nx5	0