

FLOW 32

POSSIBILITY OF
BLUETOOTH
WIRELESS
CONNECTION

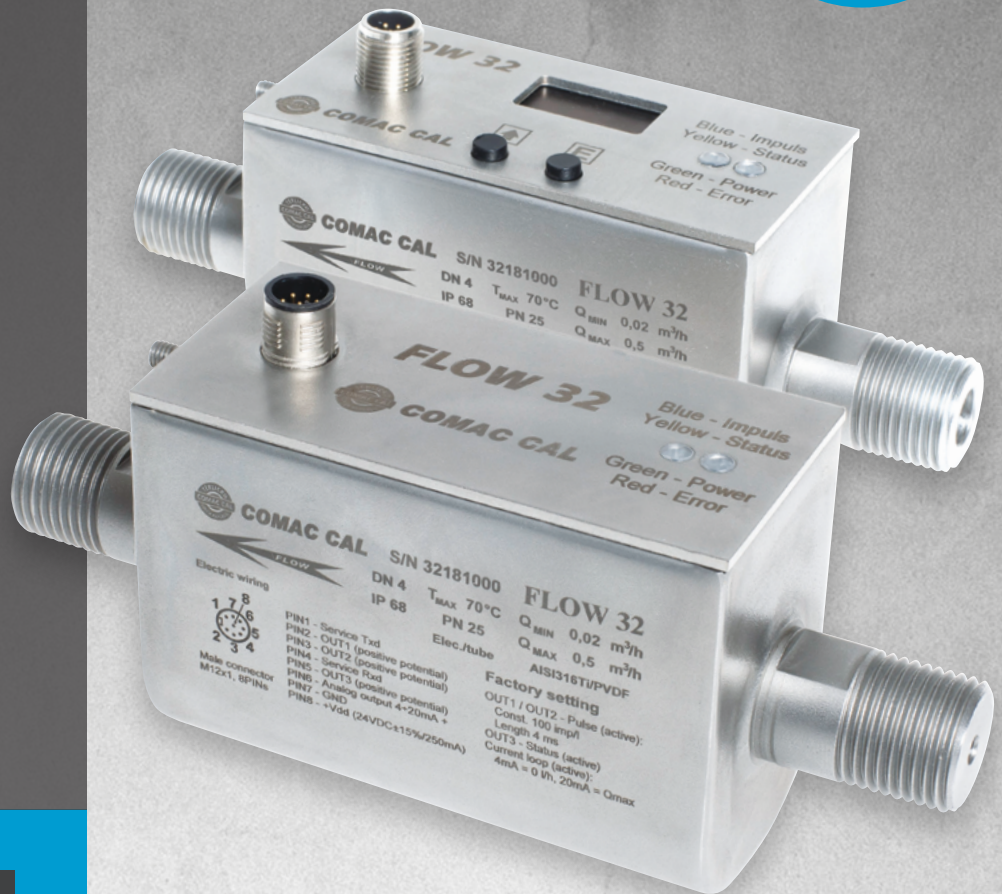
Compact OEM flow meter Flow 32

is space effective, inductive flow meter with evaluation unit which is designed primarily for measuring and dosing liquids. It is suitable for applications, where high demands are placed on accuracy, stability of metrological parameters and minimization. The current status is represented by 2 LED on the top cover or a 2 line display (display version only).

Gauge can be operated through the two buttons on the top case. The physical connection is secured via M12x1, 4-pin connector with IO LINK compatibility. Furthermore the unit can be set and maintained through a COMAC CAL mobile app (bluetooth version only).

The device also offers the possibility of use as a flow switch.

High sampling rate (up to 900samples/s) ensures high accuracy and repeatability even in the most demanding applications and together with the option of custom design will satisfy all of the customers.



MAIN BENEFITS

- Tailor-made production
- Small meter dimensions
- High accuracy and repeatability
- Different types according to communication outputs:
 - IO LINK
 - IO LINK and Bluetooth
 - IO LINK and LCD
- Customer process connection
- Empty pipe detection
- Adjustable pulse constant and pulse width
- Analog output **4 ÷ 20 mA**
- Displays meter status with LEDs in four colors
- Two configurable outputs



COMAC CAL

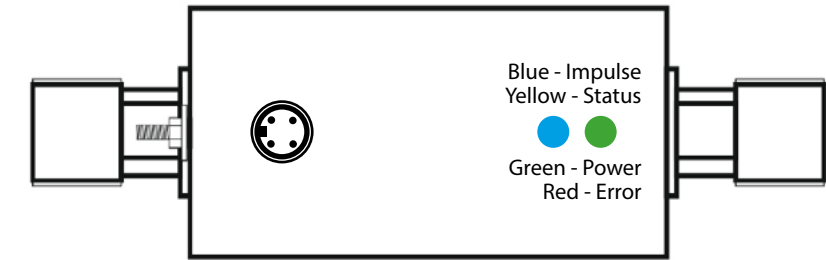
TECHNICAL DATA

Power	24V DC±15 % / 250mA with reverse polarity protection
Power consumption	3 VA
Diametre nominal	DN 4÷32
Lining material	PVDF
Minimal conductivity of the measured medium	20 µS /cm (with lower conductivity in agreement with the manufacturer)
Sampling	900 samples per scond
Standard process connection	DN4÷DN15 - G1/2"; DN20 - G3/4"; DN25 - G1, DN32 - G1 1/4"
Electrical connection	M12x1, 4-pin
Degree of protection	IP65
Display	2x LED; type LCD display (4x8)
Maximum medium temperature	70 °C (according to the lining), higher temperatures in agreement with the manufacturer
Electrode material	CrNi ocel DIN 1.4571
Material in contact with the medium	stainless steel seal EPDM and silicone PVDF
Accuracy	1% to 1÷10 m/s (repeatability up to 0,5 %) 2% to 0,2÷1 m/s (repeatability up to 0,5 %)
Outputs (active)	OUT1 – impulse, status (active) OUT2 – impulse, status, analog 4÷20 mA (active, open collector PNP)
Communication (output frequency)	IO LINK (A1) up to 10 kHz IO LINK and Bluetooth (A2) up to 10 kHz IO LINK and LCD display (A3) up to 8 kHz
Humidity of the surroundings	max. 90 %
Pressure	PN 25

DEVICE STATUS INDICATION BY LEDS

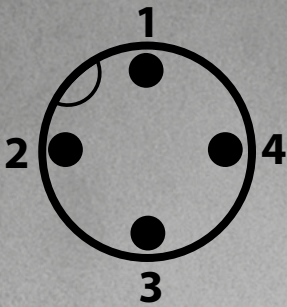
The status of the meter is continuously displayed by two indicator LEDs with a total of four colors. The diodes are located in the lid of the evaluation unit. The status of the meter expressed by the indication LEDs can be as follows:

LED 1	LED 2	Description	Current output
● green	–	The meter is OK and the flow is either none or negative (if bidirectional measurement is not set)	4 mA
● green	● blue flashes	The meter is OK and the flow is positive The blue LED indicates the sending of volume pulses	4÷20 mA
● green	● yellow	The measuring tube is empty	–
● red	–	The meter is faulty, service required	<4 mA
● red	● yellow	Meter temporarily out of parameters	<4 mA
–	–	Power problem	–



M12x1 CONECTOR DESCRIPTION

Standard connection of the M12x1 socket on the meter body: 4-pin M12x1 connector for 24 V DC ± 15% supply, All signals are active.



PIN 1 +Vdd (24VDC±15%)

PIN 2 configurable output OUT2 (PNP open collector positive potential)

PIN 3 GND

PIN 4 IO-LINK/configurable output OUT1

Load capacity of contacts according to individual outputs:
OUT1 - 50mA
OUT2 - 30mA

FLOW RANGES

Instantaneous flow rate corresponding to flow velocity

Diameter nominal [mm]	Q _{min} [m³/h]	Q _{max} [m³/h]
DN 4	0,02	0,5
DN 6	0,03	1
DN 8	0,04	2
DN 10	0,06	3
DN 15	0,2	7
DN 20	0,25	10
DN 25	0,35	15
DN 32	0,6	25

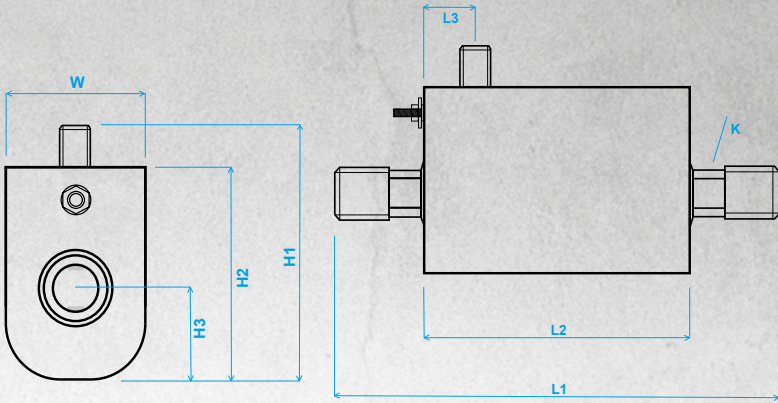
POSSIBLE OUTPUT CONFIGURATIONS

OUT1 (IMPULSE)
+ IMP = Volume pulses in the positive flow direction
– IMP = Volume pulses in the opposite flow direction
± IMP = Volume pulses in both flow directions
OUT1 (STATUS)
+FS = Status output of the flow monitor (FlowSwitch) with hysteresis
Err = Status output fault

OUT2 (ANALOG)
+AO = Current output 4-20mA in positive direction
±AO = Current output 4-20mA in both directions
OUT2 (IMPULSE)
+ IMP = Volume pulses in the positive flow direction
– IMP = Volume pulses in the opposite flow direction
± IMP = Volume pulses in both flow directions
OUT1 (STATUS)
+FS = Status output of the flow monitor (FlowSwitch) with hysteresis
Err = Status output fault

TECHNICAL DRAWING (EN ISO 228-1)

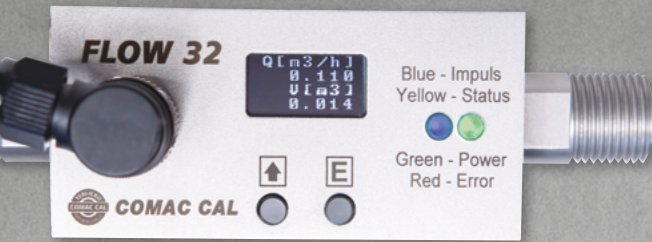
THREADED CONNECTION (EN ISO 228-1)



DIMENSIONS TABLE

Diameter nominal [mm]	Length [mm]			Width [mm]	Height[mm]			Wrench
DN	L1	L2	L3	W	H1	H2	H3	K
4	161	97	16,5	49	80	70	32	17
6	161	97	16,5	49	80	70	32	17
8	161	97	16,5	49	80	70	32	17
10	161	97	16,5	49	80	70	32	17
15	161	97	16,5	49	80	70	32	17
20	161	97	16,5	49	80	70	32	22
25	209	117	21,5	60	94	84	39,5	27
32	209	117	21,5	70	94	84	39,5	36

DISPLAY VIEW



BASIC DISPLAY VIEW

- Current flow rate Q [m³/h]
- Volumetric counter V [m³]

Both values are shown in 3 decimal places.

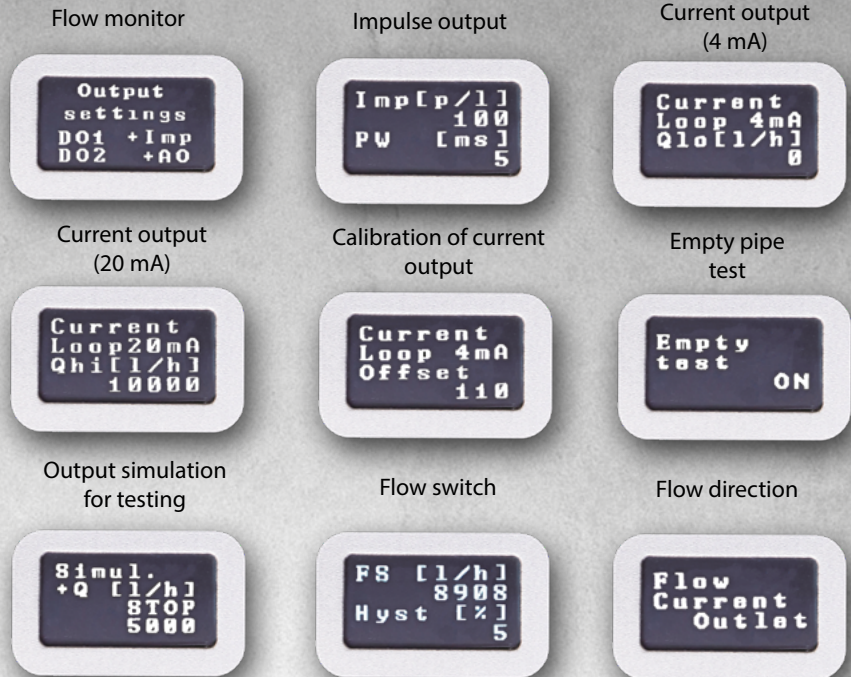
METER STATUS INDICATION ON THE DISPLAY

- i** - pulse output overflow
- s** - flow simulation
- *** - empty tube (empty tube test)
- w** - warning, the meter is temporarily out of parameters
- e** - excitation current error - service

The meter status is shown in the lower left corner of the display
Example of empty tube detection:



INDIVIDUAL DISPLAYS OF SETTING OPTIONS



Setting can be done up to 3 minutes after power on. During this time interval, it is necessary to send a setting command via the communication interface or to hold down the E button for at least 4 seconds. After the time window has elapsed the parameters are locked to prevent unauthorized access.



REMOTE CONTROL VIA BLUETOOTH

Scan this QR code and install the application that will make it easier for you to set up the meter via Bluetooth. You must have Android version 4.0 or higher to install.

PRODUCT ORDERING CODE

FluidTechnics
Standerdmolen 3
2964 HM Groot-Amers
Tel: (+31) 0184669328
Netherlands
www.fluidtechnics.nl
info@fluidtechnics.nl

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FLOW 32	FL32/DNxxx/Ax/Bx/C3/D8/E1/Fx/Gx/H1/I0/Jx
DN (diameter nominal) DN... 4÷32	J (opposite connector M12, 4 pin) J1... yes J2... no
A (construction) A1... IO LINK A2... IO LINK and Bluetooth A3... IO LINK and LCD display	I (measuring range Q_i/Q_p)*
B (connection) B2... sandwich B3... threaded B4... dairy fittings B5... clamp	H (power) H1... 24 V/VDC
C (pressure) C3... PN25 (DIN)	G (outputs) G1... impulse/switch (flow switch) G2... imp./sw. + 4÷20 mA
D (lining) D8... PVDF	F (IP code) F1... IP65
	E (electrodes) E1... stainless steel 316 Ti

Standard set: contains installation manual. In case of other requirements, contact the manufacturer.
* The measuring range is determined by the meter dimensions according to the "Flow ranges" table.