

# FLOW 32



WIRELESS  
BLUETOOTH  
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 backlight 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**

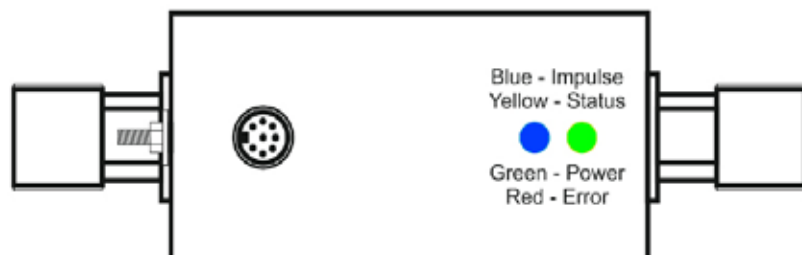
## TECHNICAL DATA

Power	24V DC±15 % / 250mA with reverse polarity protection
Power consumption	3 VA
Nominal Diameter	DN 4...32
Lining material	PVDF
Minimal conductivity of the measured medium	5 µS/cm
Sampling	900 samples per second
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	Stainless Steel 316 Ti
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)	IO LINK / OUT1 - impulse, status (active) OUT2 - impulse, status, analog 4÷20 mA (active, open collector PNP)
Communication (output frequency)	IO LINK (A1) - OUT1, OUT2 up to 10 kHz IO LINK and Bluetooth (A2) - OUT1, OUT2 up to 10 kHz IO LINK and LCD display (A3) - OUT1, OUT2 up to 8 kHz
Humidity of the surroundings	max. 90 %
Pressure	PN 25

## DEVICE STATUS INDICATION BY LEDES

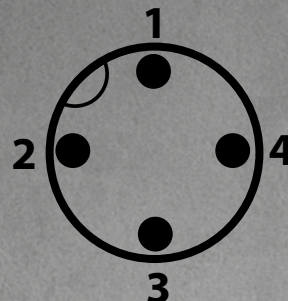
The status of the meter is continuously displayed by two indicator LEDs with a total of four colors. The diodes are located in the lid of the evaluation unit. The status of the meter expressed by the indication LEDs can be as follows:

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 CONNECTOR 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

## FACTORY DEFAULT SETTINGS

Nominal Diameter [mm]	Impulse output		4-20mA (in $Q_{min}/Q_{max}$ 1/100 range)	
	Vout [imp/l]	Vout pulse width [ms]	Q[l/h] for 4mA	Q[l/h] for 20 mA
DN 4	100	4	0	500
DN 6	100	4	0	1 000
DN 8	10	4	0	2 000
DN 10	10	4	0	3 000
DN 15	10	4	0	7 000
DN 20	10	4	0	10 000
DN 25	10	4	0	15 000
DN 32	10	4	0	25 000

## FLOW RANGES

Nominal Diameter [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

# FLOW 32

## 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

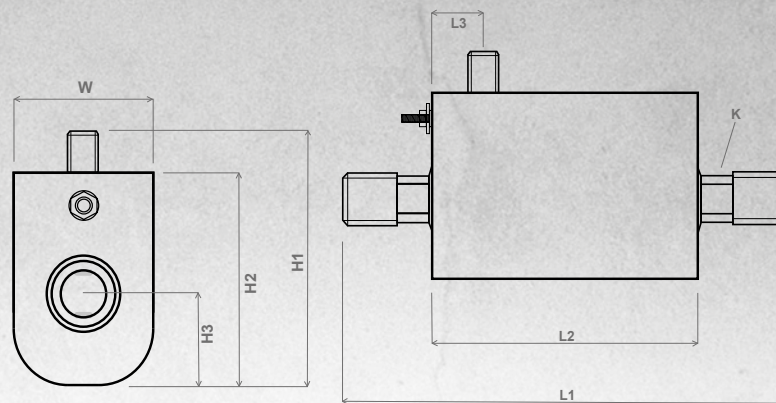
### OUT1 (STATUS)

**+FS** = Status output of the flow monitor (FlowSwitch) with hysteresis

**Err** = Status output fault

## TECHNICAL DRAWING

### THREADED CONNECTION (EN ISO 228-1)



## DIMENSIONAL TABLE

Nominal Diameter [mm]	Length [mm]			Width [mm]	Height [mm]			Wrench
	L1	L2	L3		H1	H2	H3	
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 [m<sup>3</sup>/h]
- Volumetric counter V [m<sup>3</sup>]

Both values are shown in 3 decimal places.

## METER STATUS INDICATION ON THE DISPLAY

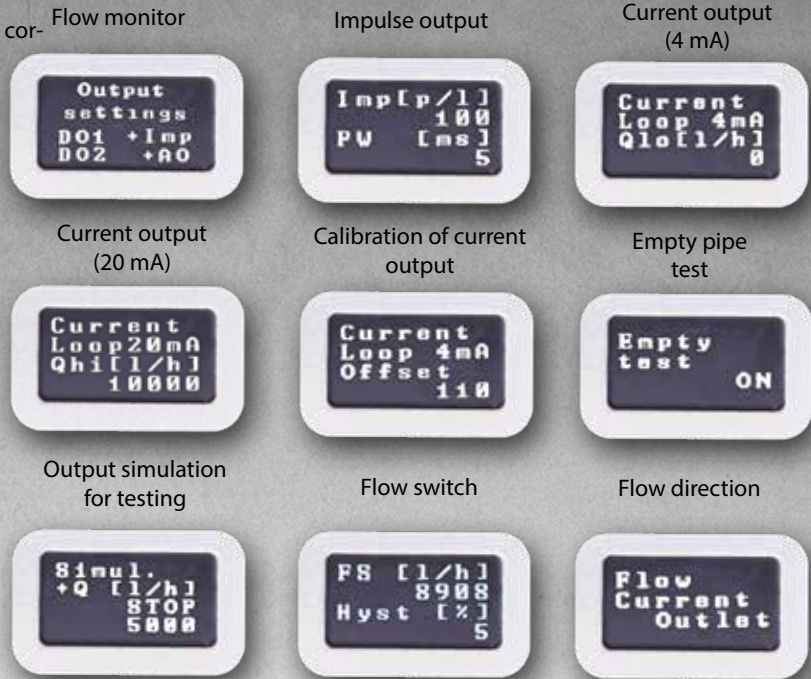
The meter status is indicated by a symbol in the lower-left corner of the display. Their descriptions are provided below:

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

Example of empty pipe detection:



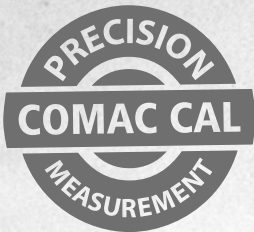
## INDIVIDUAL DISPLAYS OF SETTING OPTIONS



The meter can be reconfigured after power-up via Bluetooth or a button. In operating mode, the settings are locked.



## BLUETOOTH OPTIONS VIA APP CC FLOW

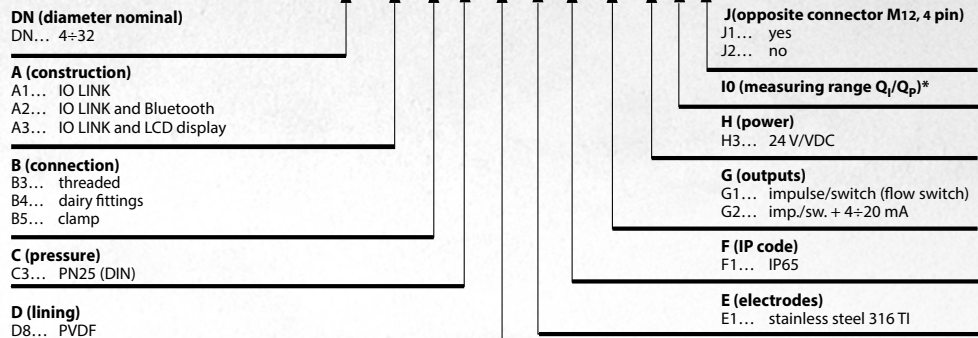


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## PRODUCT ORDER CODE

FL32/DNxxx/Ax/Bx/C3/D8/E1/Fx/Gx/H3/I0/Jx



\*The measuring range is determined by the meter dimensions according to the "Flow ranges" table.