

Product information

Flow - dynamic diaphragm

Momentary value indicator, transmitter and meter OMNI-C1 electronics



Counter for flow transmitters:

- Dynamic diaphragm
- Rotor
- Turbine
- Gear
- Screw
- MID
- Vortex

- Momentary value indicator and totalisation
- Pulse output with adjustable pulse per volume
- Antivalent outputs
- Analogue output of the momentary value
- Simple guided menu via graphics display

Characteristics

The local OMNI-C1 electronics offers a momentary value indicator and a totalisation of the flow rate quantity.

The momentary value is output at the analogue output as a 4..20 mA signal (or optionally as a 0..10 V signal). In addition, the electronics has a pulse output, which outputs a pulse after a preset quantity with a duration of 36 ms. The pulse is available at two switching outputs in antivalent form.

The primary displayed value is the flow rate. Using the programming ring, you can temporarily switch to the totalisation.

The state of the totalisation is indicated in an LCD display with only four digits. Here, the number of decimal places and the unit displayed is continuously matched to the current state of the counter. In this case, the smallest value which can be displayed is 0.001 ml (= 1 µl), and the largest is 9999 m³. The counter therefore has 13 places, of which the four most significant are displayed at any one time. The display resolution at all times is therefore at least 1 per thousand of the displayed value, or better, and this generally exceeds the accuracy of the connected flow transmitter. The non-displayed digits of the counter are in that case irrelevant to the accuracy of the measurement.

The automatic dynamic changeover of units in the display in relation to the state of the counter makes the value easy to read in spite of a display with only four digits. In addition, user configuration of the counter is unnecessary.

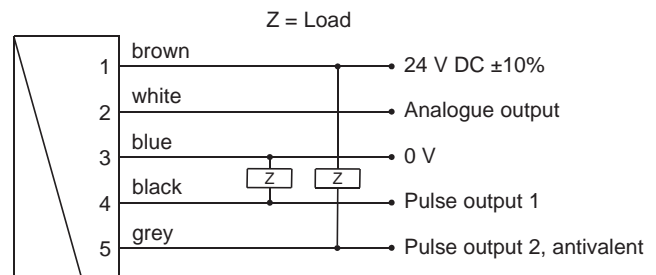
Counter C:

Instead of the counter option C1 the counter option C is available (see corresponding datasheet). It offers a totalizer with adjustable preset value and external reset. This allows to realize a filling control application for example. Additionally the actual flow rate value can be displayed, however without an analog output.

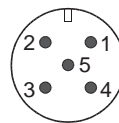
Technical data

Counter range	0.000 ml to 9999 m ³ with automatic setting of the decimal places and of the applicable unit
Pulse outputs (Pin 4 + 5)	2 x pushpull output, max. 100 mA, resistant to short circuits and polarity reversal, antivalent statuses, pulse width 36 ms

Wiring



Connection example: PNP NPN



Plug connector M12x1

Before the electrical installation, it must be ensured that the supply voltage corresponds to the data sheet. The use of shielded cabling is recommended.

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Handling and operation

Installation

For assembly, please observe the handling instructions for the different device versions.

After assembly, it is possible to move the sensor head to the most optimal reading position opposite the sensor part using its rotating function.

Programming

The resetting of the meter to zero takes place through the programming.

The stainless steel case has a hardened non-scratch mineral glass pane. It is operated by a programming ring fitted with a magnet, so there is no need to open the operating controls housing, and its leakproofness is permanently ensured.

By turning the ring to right or left, it is simple to modify the parameters (e.g. switching point, hysteresis...). To protect from unintended programming, it can be removed, turned through 180 ° and replaced, or completely removed, thus acting as a key.



On the display, the meter indicates the current flow rate as a value and unit. For this purpose, no adjustments by the user are necessary.

To use the other functions, configuration may be required. This is carried out using the programming ring located on the device.

The annular gap of the programming ring can be turned to positions 1 and 2. The following actions are possible:



Set to 1 = continue (STEP)
Set to 2 = modify (PROG)

Neutral position between 1 and 2

The ring can be removed to act as a key, or turned through 180 ° and replaced to create a programming protector. Operation is by dialogue with the display messages, which makes its use very simple.

Rotating the ring once to Pos. 1 displays the totaliser status. In the process, the unit is automatically set to the quantity already counted.

After 10 seconds, the display automatically returns to the momentary value mode.

If the ring is turned to position 1 again while the totaliser status is shown, the code input is reached.

The code gives access to various input levels into which parameters can be changed (so that this does not occur inadvertently, the code must be entered!).

Code 100:

Reset for totaliser

Code 111:

Filter

Enables the input of a filter time in multiple levels

The filter time describes the time after which a volatile change in flow occurs until the display value has adopted the new value

PlsUnit

Enables the input of the unit of the pulse volume (pulse per volume), e.g. cm³, Litre, m³

PlsVal

Enables the input of the meter value of the pulse flow (0..9999)

Output

Enables switching of the analogue output between 0..20 mA and 4..20 mA (optionally (0..10 V and 2..10 V)

4 mA

Defines the momentary value at which 4 mA should be output

20 mA

Defines the momentary value at which 20 mA should be output

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Combination examples

Vortex CF..	
Calorimetric F.. (separate data sheet)	
Calorimetric FG.. (separate data sheet)	
Calorimetric FIN..	
Magnetic inductive FIS.. (separate data sheet)	
Piston HD.. HR.. MR..	
Magnetic inductive MID1..	
Panel mounting OMNI-TA (separate data sheet)	
Rotor RR..	
Turbine RT..	
Screw VHS..	

Gear VHZ..	
Dynamic diaphragm XF..	