

Stationary Flow Measurement



- Measurement without cross-section changes in existing profiles
- Measurement accuracy independent from medium and conductivity
- Programming per frontside keyboard or laptop
- Integrated 3-point step controller with flooding signal
- Galvanic isolation between input- and output power supply
- Inputs: 1 x 0/4-20mA for water level
2 x flow velocity
1 x 0/4-20mA for external control set point value
- Outputs: 2 x 0/4-20mA, volume-, velocity- or height-proportional
- Relays: 4 x 1A/24V free programmable

Description

The stationary flow measurement type OCM E is the follow-up of the thousandfold approved OCM/D.

Unlike the OCM/D it has an additional second, free programmable analog output as well as a frontside keyboard, which eliminates the previous use of a separate handprogrammer's to observe the transformer.

Further the former 2-space display was replaced by a 4-space back-lit display. Thus, reading the measurement results and the device conditions is even possible under bad lighting conditions.

In the Ex-area the maximum distance between transducer and transformer is now 100m (328.1ft).

This makes the formerly needed intermediate amplifiers unnecessary.

The measurement system is well suitable for non-syphon flow measurement and control for rainwater, contaminated and wastewater from retention basins,

impound channels, bypass constructions and other similar pond constructions or for measurement in channel nets with various different geometries.

It combines the operational safety and the accuracy of the non-contact echo sounder level measurement technique with the ruggedness, reliability and drift freeness of the doppler flow velocity transducer.

Equipped with state-of-the-art microelectronics the system enables precise measurements at tough operation conditions as well as a comfortable and accurate control of desired outflow volumes.

Here, in dry weather periods, flow levels tending to zero can be precisely determined and even smallest flow volumes can be evaluated by using a software which is optimized for the case of application.

Specifications

Transmitter:

Display:	4-space LCD, back-lit,
Operation:	membrane keyboard (15 buttons)
Enclosure:	wall mount, Polycarbonate
Enclosure rating:	IP65
Approval:	Ex-zone 1 - II (2) G [Ex ib] IIB
Power supply:	115V - 230V AC; 50 - 60Hz or 24V DC; ±15%
Power consumption:	max. 20VA
Inputs:	2 x 0/4-20mA (level gauge, external set point value) 2 x flow velocity, optional Ex / not Ex 2 x slide valve final positions 1 x torque closed
Outputs:	2 x 0/4-20mA galvanically isolated, load 600 Ohm 4 x relay programmable as amount key, boundary contact, disturbance report or regulation slide valve driver
Controller:	3-point step controller with PID-behaviour, quick close function, adjustable slide valve position at disturbance and auto flush function at slide relocation
Interface:	RS232
Operating temperature:	-20°C to 60°C (Ex: 40°C)
Storage:	-20°C to 60°C, max. 80% humidity, not condensed

Flow velocity transducer

Minimum reflecting particles:	100ppm; >0,6mm (0.024in)
Measurement range:	-6m/s to 6m/s (19.67ft)
Material:	Stainless steel and Polyurethane
Cable length:	10/20/30m (32.8/65.6/98.4ft) (option: to 100m (328.1ft))
Enclosure rating:	IP68
Zero point stability:	100%
Long term drift:	0%
Approval:	Ex-zone 1 - II 2 G EEx ib IIB T4
Operating temperature:	-10°C to 50°C (Ex: 40°C)

Level transducer

Measurement ranges:	0.15m to 3m (P-03) (0.49ft to 9.85ft) 0.3m to 6m (P-06) (0.98ft to 19.69ft) 0.3m to 10m (P-10) (0.98ft to 32.8ft)
Material:	Valox 357 (PBT)
Cable length:	5, 10 or 30m, (16.41, 32.81 or 98.43ft) extendable up to 500m (1640.5ft)
Enclosure rating:	IP68
Approval:	Ex-zone 1
Operating temperature:	-40 to 75°C

Pipe measurement section (option)

Material:	galvanized steel (option: stainless steel 1.4571)
Pipe diameter:	from ID200 (7.87in)
Installation Length:	compatible with MID
Maintenance and Dome Nozzle:	ID100 (3.94in)
Dome Top:	Plastic with 1" or 2" inner thread. Can be put onto dome nozzle with ID100 (3.94in). Pressure-proof up to 10m WS (33ft water column).