

## iSonic 4000

### Ultrasonic flow meter/controller for open channels, partially filled pipes and tanks



#### Features

- One analog 4-20 mA input for level sensor
- IP67 device with large graphic display
- Three front panel high endurance buttons
- External power AC 92 - 275V / 50 - 60 Hz, alternatively 9-36 V (max. 9 W)
- Internal data logger with 2 MB capacity for approximately 130 000 logged lines
- Interfaces USB IP67, Ethernet, ModBus® RS485/RS422
- One analog output set for 0-20 or 4-20 mA and two galvanically isolated pulse outputs

#### Description

The iSonic 4000 is an intelligent and versatile ultrasonic meter/controller designed to measure level, volume and open channel flow.

iSonic 4000's unique features allow accurate measurements in harsh environments.

The iSonic 4000 uses the measured signals for control purposes and for recording to an internal datalogger.

In fresh and waste water applications, iSonic 4000 measures level and calculates flow rates in combination with weirs or flumes using one of its preprogrammed conversion formulas or a 35 point conversion table.

#### Programming

The unit can be programmed using three front panel push buttons. The programming menu offers a wide variety of primary flow elements (such as flumes and weirs, etc.) and enables the calculation of flow rate in partially filled pipes and angular open channels using the Manning equation. A special Q/h table can be entered with the help of the supplied "Flow Meter Tool" PC software. The software allows programming of all parameters and also the download of logged data. The user PC can be connected via USB interface (via IP67 mini USB connector located on the meter housing) or via the Ethernet interface.

#### Application

iSonic 4000 is used for influent and effluent measurements, flow control and data logging.

It can be used for tank volume measurement of water, oil, technical fluids and beverages, as well as other liquids.

## Technical data

Type	iSonic 4000
Auxiliary power	92-275 VAC (50 / 60 Hz), < 14 VA optional 9-36 VDC, < 4 W
Analog output	4 - 20 mA, $\leq$ 800 Ohm
Analog input	4-20 mA
Digital outputs	2 open collectors, passive 32 VDC, 0-100 Hz 100 mA, 100-10.000 Hz 20 mA, optional active pulse, status, error messages
USB connector	Mini USB IP67
Configuration	3 front panel mounted push buttons
Interfaces	RS422, RS485, ModBus <sup>®</sup> RTU, Ethernet
Pulse length	Configurable up to 2000 msec.
Outputs	Short-circuit-proof and galvanically separated
Datalogger	2 MB capacity with 130 000 logged lines
Display	Graphical LCD 64x128, backlight, actual flow rate, totalizers, status display
Body	Die cast powder-coated aluminium, protection class IP67
Cable inlet	Supply and signal cables 2 x M20
Signal cable	From meter M20
Ambient temperature	-20 °C to + 60 °C

Sensors	Type	Measuring range	Offset	Beam angle	Material	Approval
	DL10	0-1250mm	50mm	2°	PVDF	-
	DL24	0-3000mm	100mm	2°	PVDF	-
	ULM53	0-6000mm	200mm	14°	PVC/PVDF	-
	ULM70	0-2000mm	200mm	10°	PVC/PVDF	Ex II 1/2G Ex ia IIB T5

Measurement accuracy within the total range		
	DL10	± 0,5 %
	DL24	± 0,5 %
	ULM53	± 0,5 %
	ULM70	± 0,5 %

## Dimensions (in mm)

