Dynasonics®
Ultrasonic Flow Meters

iSonic 4000

Open-Channel Flow Meter

DESCRIPTION

An economical open-channel flow meter, iSonic 4000 measures level, flow rate and total volume of water flowing through weirs and flumes. The meter includes a non-contact ultrasonic level sensor to detect the water level and then calculates the flow rate and total volume using the Gauckler-Manning or other equations based on characteristics of the channel. All the measurements are available over Modbus RTU and can be logged for historical records.

BENEFITS

- Measure level, flow rate and total volume with a single device
- Simple setup for flumes and weirs
- Retain a historical log of all measurements
- Easily connect up to SCADA systems with Modbus RTU
- Rugged IP67 powder coated aluminum enclosure

OPERATION

Based on empirical formulas, the iSonic 4000 calculates the flow rate based on the geometry of the channel or primary element and water depth. The level sensor measures the depth of the water used in the calculation.

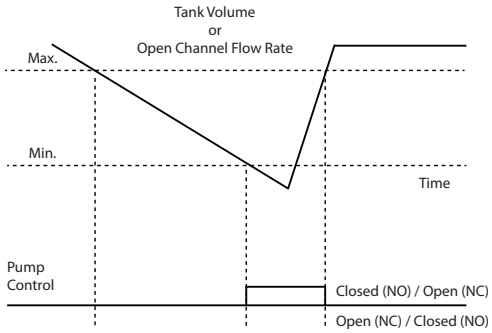
The iSonic 4000 includes a selection of primary elements with preprogrammed tables to simplify the setup, including:

- Parshall flumes
- Manhole flumes
- V-notch weirs

Additionally, you can enter custom tables using the Flow Meter Tool software.

PUMP CONTROL OPTION

The Pump Control option automatically starts and stops the pump based on water level.



PART NUMBER

- DK-1S-S
  - ◊ iSonic 4000 transmitter
  - ◊ Level sensor with 32 ft (10 m) cable
  - ◊ USB cable
  - ◊ Flow Meter Tool configuration software
- Optional bracket for level sensor

APPLICATIONS

Open channels with a primary element are a cost effective solution for managing varying flow rates in unpressurized systems. The iSonic 4000 flow meter performs best when used with a primary element, such as a flume or weir, and where the sediment does not build up.

- Flow into water treatment plants from reservoirs
- Storm and sanitary sewer systems
- Effluent from water resource recovery or wastewater treatment
- Industrial discharge
- Agriculture irrigation channels

Badger Meter®

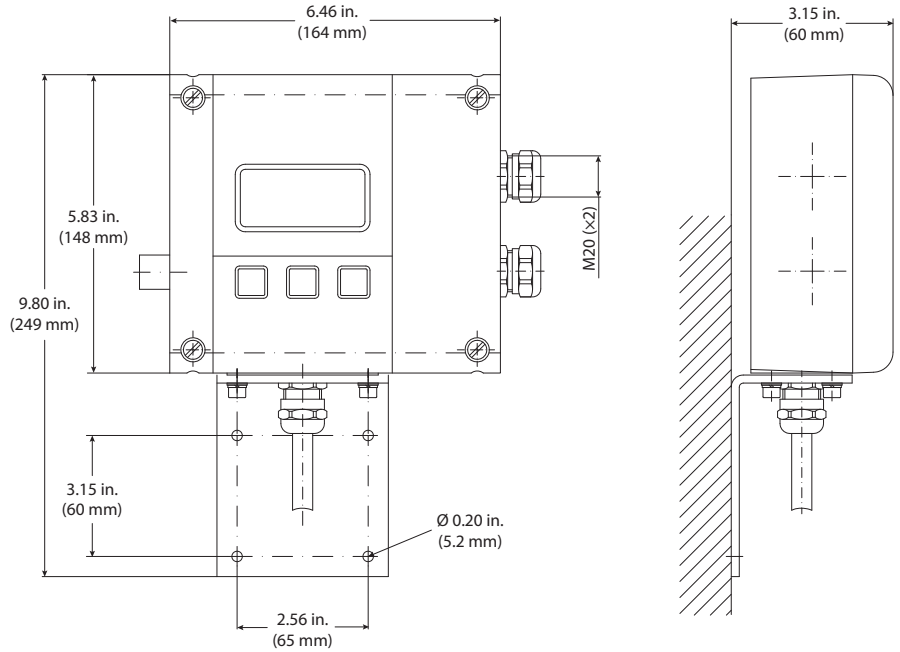
HYB-DS-02510-EN-02 (October 2017)

Product Data Sheet

SPECIFICATIONS

Type	iSonic 4000					
Auxiliary power	92…275V AC (50/60 Hz), < 14 VA optional 9…36V DC, < 4 W					
Analog output	4…20 mA, 0…20 mA, 0…10 mA ≤ 800 Ohm, active or passive; Assigned parameter depends on flow meter mode					
Level sensor input	4…20 mA from level sensor					
Digital outputs	2 open collectors; passive: max. 32V DC, 0…100 Hz 100 mA, 100…10.000 Hz 20 mA; active: 24V DC, max. 20 mA; Select active pulse, min/max. alarm, error messages or pump control					
	Solid-state relay (n.o./n.c.) max. 230V AC, 500 mA, 1 Hz; Function is linked with open collector output 2					
Digital input	5…30V DC; totalizer reset, positive return zero, BEACON/AquaCUE connectivity					
Programming port	Mini USB, IP67					
Configuration	3 front-panel mounted push-buttons					
Communication	RS485 Modbus RTU, Modbus TCP/IP Ethernet, BEACON/AquaCUE connectivity					
Pulse length	Configurable up to 2000 msec					
Datalogger	2 MB capacity with 130,000 logged lines: date, level, flow rate, tank volume					
Display	Graphical LCD 64 × 128, backlight, actual flow rate, totalizers, status display					
Body	Die cast powder-coated aluminium, protection class IP67					
Cable inlet	Supply and signal cables 2 × M20; cable glands included					
Signal cable	From meter M20; cable gland included					
Ambient temperature	-20…60° C					
Sensors	**Measuring range**	**Offset**	**Beam width**	**Material**	**Accuracy**	**Deadband**
	0…49.21 in. (0…1250 mm)	2 in. (50 mm)	2 in. (50 mm)	PVDF	0.125 in. (3 mm)	2 in. (50 mm)
Security	Three level password					
Languages	English, Spanish, French, German, Italian, Czech, Russian					
Channel selection	Contracted rectangular weir, suppressed rectangular weir, Cipoletti weir; V-notch weir (30°, 45°, 60°, 90°); Parshall flume (1, 2, 3, 6, 9, 12, 18, 24, 36, 48 and 60 in.); Manhole flume (4, 6, 8, 10 and 12 in.); table entry, exponential equation, Manning rectangle flume, Manning pipe					

DIMENSIONS



Control. Manage. Optimize.

www.badgermeter.com

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