

# Technical Update

## MicroFlow-i

*Non-contacting Low Power Consumption  
Microwave Liquid Velocity Sensor*

### Features

- Non-contacting
- Extremely low power consumption
- Lightweight, compact design
- Minimal installation costs
- No interruption to service
- Maintenance-free
- IP68
- Cost-effective

*Patent Pending*

Pulsar's Microflow-i delivers accurate, repeatable velocity measurement for liquid flow, either as an individual sensor or by providing HART protocol or a 4-20mA loop powered signal to a system.

Microflow-i's extremely low power consumption makes it the ideal velocity solution for sewerage network monitoring (CSO) and all remote installations where mains power is unavailable.

Its lightweight, compact design makes installation simple, especially within confined spaces, and requires no interruption to normal operational flow.



MICROFLOW-I IN A SEWERAGE NETWORK



OPTIONAL MICROFLOW-I BRACKET

**pulsar**<sup>®</sup>  
PROCESS MEASUREMENT

# MicroFlow-i:

## Technical Information

### PHYSICAL

<b>Sensor body material:</b>	Valox 357
<b>Mounting connection:</b>	Via 1" BSP back mounted thread or 20mm via supplied adaptor. 45° angled mounting bracket optional
<b>Mounting angle:</b>	45° optimum, mounted at the centre line of the channel with a clear uninterrupted view
<b>Sensor body dimensions:</b>	90mm diameter x 140mm height (3.54in x 5.51in)
<b>Sensor body weight:</b>	Nominal 1kg (2.2lbs)
<b>Transducer cable extensions:</b>	2 core screened
<b>Maximum separation:</b>	Up to 100m (328ft)

### ENVIRONMENTAL

<b>Enclosure protection:</b>	IP68
<b>Max and min temperature (electronics)</b>	-20°C to +60°C (-4°F to +140°F)

### APPROVALS

<b>ATEX:</b>	Ex II 1 G D, Ex ia IIC T4 Ga, Ex ia IIIC T135°C Da (Directive 2014/34/EU)
<b>CE and RADAR approvals:</b>	Listed in the Certificate of Conformity within the manual

### PERFORMANCE

<b>Velocity range:</b>	0.2 - 6.0m/s
<b>Accuracy:</b>	The greater of ±1.5% or 0.05m/s
<b>Optimum installation:</b>	Angled at 45° in line with the flow. More information is available in the manual
<b>Maximum channel width per sensor:</b>	1.5m (4.92ft)
<b>RADAR:</b>	K-Band (ISM)
<b>Transmitter power:</b>	<15dBm
<b>Beam width:</b>	20° inclusive
<b>Wake-up time:</b>	Typically 4 seconds (warm <12 hours from last start up)

### OUTPUTS

<b>Communication:</b>	HART compatible, 4-20mA loop powered
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### PROGRAMMING

<b>PC Programming:</b>	MicroFlow-i HART PC
<b>Programming security:</b>	Via passcode
<b>Programming data integrity:</b>	Via non-volatile memory
<b>PC setup and monitoring software:</b>	Compatible with Win 7, Win 8, Win 10

### SUPPLY

<b>Operating voltage:</b>	10-28Vdc
<b>Power consumption:</b>	Start-up = 20mA, Average current = 60µA per hour when one velocity measurement is performed every 15 minutes

### UK CERTIFICATIONS



Patent Pending

*Pulsar Process Measurement Limited operates a policy of constant development and improvement and reserves the right to amend technical details as necessary*

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