

## Microwave Flow Sensor

MicroFlow & Microflow-i are a non-contacting liquid flow velocity sensor that uses microwave technology to transmit short pulses that reflect off a moving surface back to the sensor and are analysed to determine the velocity.

They are extremely low power consumption makes it the ideal velocity solution for sewerage network monitoring (CSO) and all remote installations where mains power is unavailable.

Designed for open channel flow applications where the channel has no existing primary measurement device (e.g. weir or flume). Can be combined with a Pulsar level transducer and controller in order to provide a complete flow measurement system.

The Microflow integrates with FlowCERT or Ultimate controllers, or can be added into an existing controlling system via RS485 (Modbus RTU).

The Microflow-i can be installed as an individual sensor or used to provide HART communication protocol or a 4-20mA loop powered signal into a system.



MicroFlow-i (Left) shown with dBi3 (Right)

	MicroFlow-i	MicroFlow
<b>PHYSICAL:</b>		
Sensor body dimensions:	Diameter 90mm x height 140mm	
Sensor body weight:	Nominal 1kg	
Sensor body material:	Valox 357	
Mounting connection:	Via 1" BSP back mounted thread or 20mm via supplied adaptor Optional mounting bracket available from Pulsar	
Mounting angle:	45° optimum and mounted at the centre line of the channel with a clear uninterrupted view	
Transducer cable extensions:	2-core screened	5-core screened
Maximum separation:	Up to 1000m	Up to 500m
<b>ENVIRONMENTAL:</b>		
Enclosure protection:	IP68	
Max. and min. temperature (electronics):	-20°C to +60°C	
<b>APPROVALS:</b>		
CE & radar approvals:	Listed in the Certificate of Conformity within the manual	
ATEX approval:	Ex II 1 G D, Ex ia IIC T4 Ga, Ex ia IIIC T135°C Da (Directive 2014/34/EU)	Ex II 2 G D, Ex mb IIC T4 Gb, Ex mb IIIC T135°C Db, Ta= -20°C to +60°C
<b>PERFORMANCE:</b>		
Accuracy:	The greater of ±1.5% or 0.05m/s	The greater of ±0.5% or 0.05m/s
Velocity range:	0.2 - 6m/s	
Operational range:	Up to 3m height	
Optimum installation:	Install at an angle of 45° in line with the flow. More information is provided within the manual - see the 'Locating the MicroFlow sensor' section	
Max. channel width per sensor:	1.5m	
Radar:	K-Band (ISM)	
Transmitter power:	<15 dBm	
Beam width:	20° inclusive	
<b>OUTPUTS:</b>		
Communication:	HART compatible, 4-20mA loop powered	RS485 and Modbus RTU
Compatibility with Pulsar controllers:	N/A	Integrates with FlowCERT or Ultimate
<b>PROGRAMMING:</b>		
PC programming:	MicroFlow-i HART PC	Via RS485 Modbus RTU
PC setup and monitoring software:	Compatible with Windows 7/8/10	MicroFlow PC - Compatible with Windows 7/8/10
Programming security:	Via passcode	
Programmed data integrity:	Via non-volatile memory	
<b>SUPPLY:</b>		
Operating voltage:	10 - 28Vdc	
Power consumption:	Start-up = 20mA, Average current = 60µA per hour when one velocity measurement is performed every 15 minutes	0.36W