

**Overview**

The OCM III is a high accuracy ultrasonic flow monitor for open channels.

**Benefits**

- Influent and effluent monitor
- BS 3680 calculations provide exceptional accuracy in measuring flow
- 1 to 24 months data log, subject to logging rate
- RS-232 serial communication
- High accuracy on unique or non-standard weirs and flumes
- AC and DC operation. Automatically switches to battery operation for uninterrupted power
- Dual power input
- Low power remote monitoring
- Flow Reporter software available for remote monitoring, configuration and data retrieval

**Application**

In addition to monitoring flowrate in sewage works, OCM III can monitor industrial discharge, rainfall/storm water studies, in-flow/infiltration studies and sewer system evaluations. As well as being compatible with many standard weirs and flumes, the programmable head versus flow curve (up to 16 points) accurately defines flow rate on unique or non-standard weirs and flumes.

The OCM III has data logging and is adjustable from once per minute to once a day. It records the average flow rate for that time period. Daily, it records minimum/maximum of temperature and flow rates, and the time they occurred, as well as the daily total. Advanced functions include variable rate logging. It can be pre-programmed to log at a higher rate when needed. Under steady conditions, the OCM III automatically logs less frequently to conserve data log space.

The OCM III has two-way communication via RS-232 with a modem or a bi-polar current loop with a current-to-voltage communication converter. Data logs can be downloaded to a file that can be manipulated into a spreadsheet or ASCII format.

# Level Measurement

## Continuous level measurement – Open channel flow – Ultrasonic controller

### OCM III

#### Technical specifications

<b>Mode of Operation</b>	
Measuring range <sup>1)</sup>	0.3 ... 1.2 m (1 ... 4 ft) or 0.6 ... 3 m (2 ... 10 ft)
<b>Output</b>	
Transducer	Echomax XRS-5, 44 kHz
Relays	3 alarm/control relays, 1 SPDT Form C contact per relay, rated 5 A at 250 V AC non-inductive or 30 V DC
mA output	0/4 ... 20 mA, isolated
• Max. load	1 K $\Omega$ max. load
• Resolution	5 $\mu$ A
• Isolation	300 V AC continuous
• DC output	+24 V DC, 20 mA average to 200 mA at 1/10 duty cycle max. 0 ... 20
<b>Accuracy</b>	
Error in measurement	$\pm 1$ mm/m, calculated error less than 0.02%
Resolution	0.2 mm (0.007")
<b>Rated operating conditions</b>	
Installation conditions	
• Location	Indoor/outdoor
• Installation category	II
• Pollution degree	4
Ambient conditions	
• Ambient temperature (enclosure)	-20 ... +50 °C (-5 ... +122 °F)
<b>Design</b>	
Weight	2.3 kg (5.1 lbs)
Material (enclosure)	Polycarbonate
Degree of protection (enclosure)	IP65/Type 4X/NEMA 4X
Cable	
Transducer and mA output signal	<ul style="list-style-type: none"> <li>• Transducer: co-axial to be RG62-A/U low capacity</li> <li>• mA output signal to be 2 copper conductors, twisted, with foil shield/drain wire, 300 V 0.5 ... 0.75 mm<sup>2</sup> (22 ... 18 AWG)</li> <li>• Relay/power to be copper conductors per local requirements to meet 250 V 5 A contact rating</li> </ul>
Max. separation between transducer and transceiver	183 m (600 ft)
<b>Displays and controls</b>	
Programming	Via removable programmer and communication link
Memory	3 V battery (NEDA 5003LC or equivalent), operating life 1 year, SuperCap capacitor for back-up during battery replacement
<b>Power supply</b>	
AC version	100/115/200/230 V AC $\pm$ 15%, 50/60 Hz, 20 VA max.
DC version	9 ... 30 V DC, 8 W max.

<b>Certificates and approvals</b>	CE, FM, CSA <sub>US/C</sub> , MCERTS, C-TICK <sup>2)</sup>
<b>Communication</b>	RS-232 or $\pm$ 20 mA bipolar current loop, 300, 600, 1200, 2400, 4800, 9600, 19200 baud
<b>Options</b>	
Temperature sensor	TS-2
Remote monitoring	Flow Reporter, a Windows-based configuration software and data extractor
Velocity sensor input	Input range: 0 ... 10 V DC Resolution: 2.7 mV

<sup>1)</sup> Program range is defined as the empty distance to the face of the transducer plus any range extension

<sup>2)</sup> EMC performance available upon request  
Windows is a registered trademark of Microsoft Corporation

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OCM III

Selection and Ordering data	Order No.	Selection and Ordering data	Order No.
<b>OCM III</b> High accuracy ultrasonic flow monitor for open channels.	C) <b>7ML1002-</b>	<b>Further designs</b> Please add "-Z" to Order No. and specify Order code(s).	
<b>Input voltage</b> AC, voltage selector switch	0	<b>Operating Instructions</b> English C) <b>7ML1998-5AB01</b> French C) <b>7ML1998-1AB11</b> Spanish C) <b>7ML1998-1AB21</b> German C) <b>7ML1998-1AB31</b> Note: The Operating Instructions should be ordered as a separate line item on the order. This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and Operating Instructions library.	
<b>Enclosure</b> Wall mount, standard enclosure Wall mount, 6 entries, M20 holes <sup>1)</sup>	A B	<b>Required equipment</b> TS-2 Temperature Sensor C) <b>7ML1812-1AA1</b> TS-2, 1 m cable C) <b>7ML1812-2AA1</b> TS-2, 5 m cable C) <b>7ML1812-3AA1</b> TS-2, 10 m cable C) <b>7ML1812-4AA1</b> TS-2, 30 m cable C) <b>7ML1812-5AA1</b> TS-2, 50 m cable C) <b>7ML1812-6AA1</b> TS-2, 70 m cable C) <b>7ML1812-7AA1</b> TS-2, 90 m cable C) <b>7ML1998-5EW01</b> TS-2 Operating Instructions C) <b>7ML1812-1AA1</b> Note: The TS-2 Operating Instructions should be ordered as a separate line item on the order.	
<b>Approvals</b> CSA <sub>US/IC</sub> , FM, CE (EN61326), C-TICK CE <sup>2)</sup>	5 6	<b>Accessories</b> Handheld programmer <b>7ML1830-2AA</b> Tag, stainless steel, 12 x 45 mm (0.47 x 1.77"), one text line, suitable for enclosure <b>7ML1930-1AC</b> M20 cable gland kit (6 M20 cable glands, 6 M20 nuts, 3 stop plugs) <b>7ML1830-1GM</b> M20 cable gland kit (4 M20 cable glands, 4 M20 nuts, 4 washers) <b>7ML1930-1FV</b> Flow Reporter software license B) <b>7ML1930-1AK</b> Flow Reporter Kit (includes disk, authorization code and cable) B) <b>7ML1930-1AL</b>	
1) Available with approval option 6 only 2) Available with enclosure option B only C) Subject to export regulations AL: N, ECCN: EAR99.		<b>Spare parts</b> Card, Mother, main C) <b>7ML1830-1MG</b> Card, daughter/display C) <b>7ML1830-1LT</b> Eprom C) <b>7ML1830-1KW</b> Battery C) <b>7ML1830-1JV</b> OCM III Lid overlay <b>7ML1830-1KV</b> B) Subject to export regulations AL: N, ECCN: EAR99S. C) Subject to export regulations AL: N, ECCN: EAR99.	

