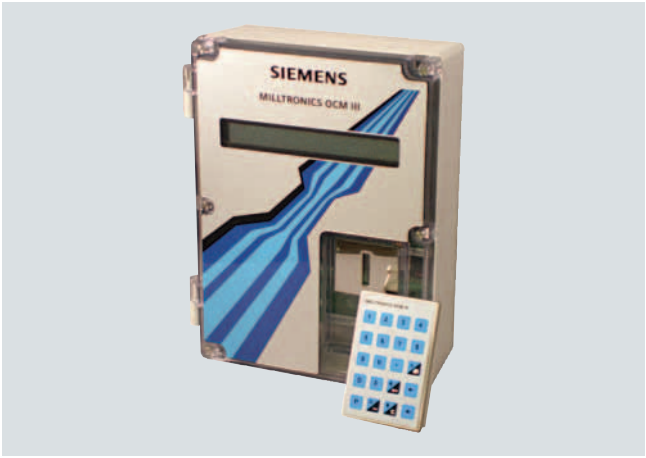
OCM III

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, inflow/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.

Technical specifications

Mode of Operation	
Measuring range[1)]	0.3 ... 1.2 m (1 ... 4 ft) or 0.6 ... 3 m (2 ... 10 ft)
Output	
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 KΩ max. load
• Resolution	5 uA
• Isolation	300 V AC continuous
• DC output	+24 V DC, 20 mA average to 200 mA at 1/10 duty cycle max. 0 ... 20
Accuracy	
Error in measurement	±1 mm/m, calculated error less than 0.02 %
Resolution	0.2 mm (0.007")
Rated operating conditions	
Installation conditions	
• Location	Indoor/outdoor
• Installation category	II
• Pollution degree	4
Ambient conditions	
• Ambient temperature (enclosure)	-20 ... +50 °C (-5 ... +122 °F)
Design	
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	• Transducer: co-axial to be RG62-A/U low capacity • mA output signal to be 2 copper conductors, twisted, with foil shield/drain wire, 300 V 0.5 ... 0.75 mm² (22 ... 18 AWG) • Relay/power to be copper conductors per local requirements to meet 250 V 5 A contact rating
Max. separation between transducer and transceiver	183 m (600 ft)
Displays and controls	LCD 5 x 7 dot matrix display with 2 lines of 40 characters each
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
Power supply	
AC version	100/115/200/230 V AC ±15 %, 50/60 Hz, 20 VA max.
DC version	9 ... 30 V DC, 8 W max.

Certificates and approvals	CE, FM, $CSA_{US/C}$, MCERTS, C-TICK[2)]
Communication	RS-232 or ±20 mA bipolar current loop, 300, 600, 1200, 2400, 4800, 9600, 19200 baud
Options	
Temperature sensor	TS-2
Remote monitoring	Flow Reporter, a Windows®-based configuration software and data extractor
Velocity sensor	Consult with factory

1) Program range is defined as the empty distance to the face of the transducer plus any range extension
2) EMC performance available upon request
Windows® is a registered trademark of Microsoft Corporation

Selection and Ordering data		Order No.
OCM III High accuracy ultrasonic flow monitor for open channels.	C)	**7ML1002-■A■0■**
Input voltage		
AC, voltage selector switch		**0**
Enclosure		
Wall mount, standard enclosure		**A**
Wall mount, 6 entries, M20 holes[1)]		**B**
Approvals		
$CSA_{US/C}$, FM, CE (EN61326), C-TICK		**5**
CE[2)]		**6**

1) Available with approval option 6 only
2) Available with enclosure option B only

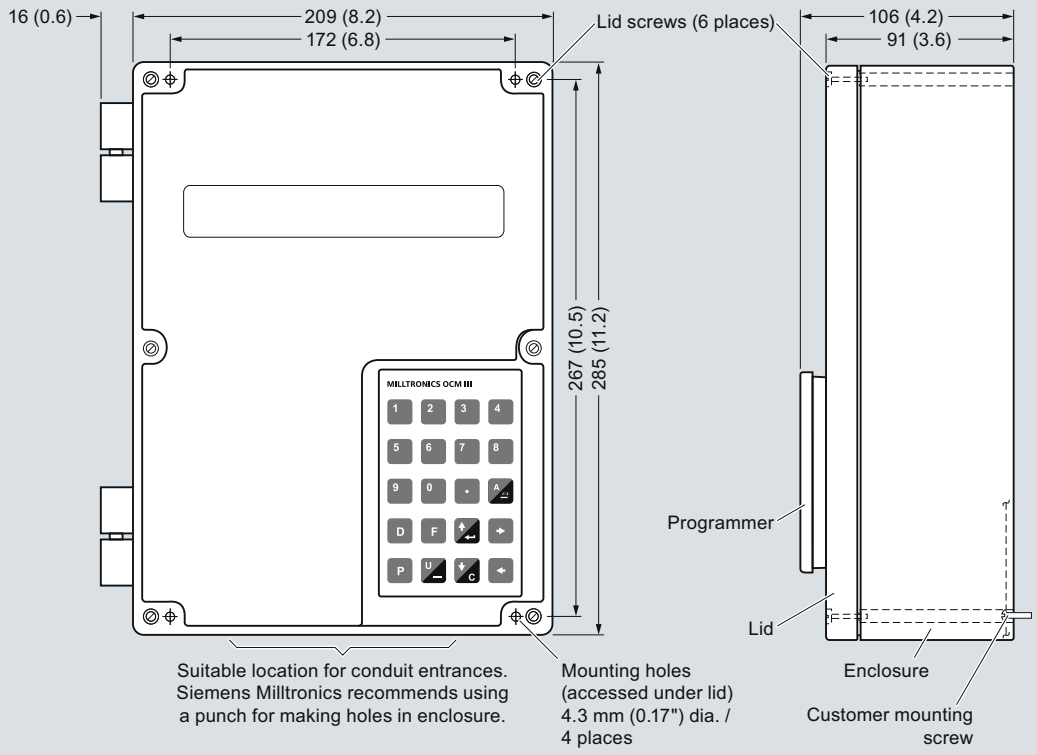
C) Subject to export regulations AL: N, ECCN: EAR99

Selection and Ordering data		Order No.
Operating Instructions		
English	C)	**7ML1998-5AB01**
French	C)	**7ML1998-1AB11**
Spanish	C)	**7ML1998-1AB21**
German	C)	**7ML1998-1AB31**
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.		
Required equipment		
TS-2 Temperature Sensor	C)	**7ML1812-1AA1**
TS-2, 1 m cable	C)	**7ML1812-2AA1**
TS-2, 5 m cable	C)	**7ML1812-3AA1**
TS-2, 10 m cable	C)	**7ML1812-4AA1**
TS-2, 30 m cable	C)	**7ML1812-5AA1**
TS-2, 50 m cable	C)	**7ML1812-6AA1**
TS-2, 70 m cable	C)	**7ML1812-7AA1**
TS-2, 90 m cable	C)	**7ML1998-5EW01**
TS-2 Operating Instructions Note: The TS-2 Operating Instructions should be ordered as a separate line item on the order.	C)	**7ML1812-1AA1**
Accessories		
Handheld programmer		**7ML1830-2AA**
Tag, stainless steel, 12 x 45 mm (0.47 x 1.77"), one text line, suitable for enclosure		**7ML1930-1AC**
M20 cable gland kit (6 M20 cable glands, 6 M20 nuts, 3 stop plugs)		**7ML1830-1GM**
Flow Reporter software license	B)	**7ML1930-1AK**
Flow Reporter Kit (includes disk, authorization code and cable)	B)	**7ML1930-1AL**
Spare parts		
Card, Mother, main	C)	**7ML1830-1MG**
Card, daughter/display	C)	**7ML1830-1LT**
Card, LCD		**7ML1830-1KY**
Eprom	C)	**7ML1830-1KW**
Battery	C)	**7ML1830-1JV**
OCM III Lid overlay		**7ML1830-1KV**

B) Subject to export regulations AL: N, ECCN: EAR99S
C) Subject to export regulations AL: N, ECCN: EAR99

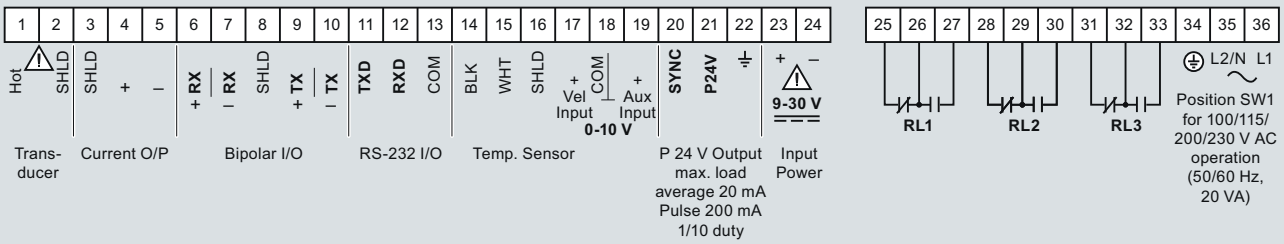
OCM III

Dimensional drawings



OCM III dimensions

Schematics



Notes:

1. Use RG62-A/U coaxial (or equivalent) for extensions up to 183 m (600 ft). Run in grounded metal conduit, separate from other wiring.
2. Each relay has 1 set of form 'C' (SPDT) contacts, relay rated at 5 A, 250 V AC, non-inductive, when equal or lower rated limiting fuses are installed. Relay de-energized when in alarm conditions and energized for pump control.

OCM III connections

FINE CONTROLS (UK) LTD

Fine Controls have been supplying process controls & instrumentation equipment since 1994, & now serves an ever expanding customer base, both in the UK & globally.

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Precision Pneumatics: Pressure Regulators, I-P Converters, Volume Boosters, Vacuum Regulators

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