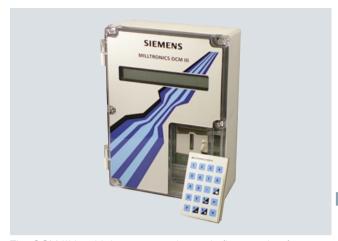
Level Measurement

Continuous level measurement - Open channel flow - Ultrasonic controller

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.

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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) Cable	IP65/Type 4X/NEMA 4X			
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-base configuration software and data extractor				
Velocity sensor input	Input range: 0 10 V DC Resolution: 2.7 mV				

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

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Selection and Ordering data			Order No.		
OCM III High accuracy ultrasonic flow monitor for open channels.	7M ■ A				
Input voltage AC, voltage selector switch	0				
Enclosure Wall mount, standard enclosure Wall mount, 6 entries, M20 holes ¹⁾		A B			
Approvals CSA _{USIC} , FM, CE (EN61326), C-TICK CE ²⁾			5 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.		
Further designs				
Please add "-Z" to Order No. and specify Order code(s).				
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		
M20 cable gland kit (4 M20 cable glands, 4 M20 nuts, 4 washers)		7ML1930-1FV		
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		
Eprom	C)	7ML1830-1KW		
Battery	C)	7ML1830-1JV		
OCM III Lid overlay		7ML1830-1KV		

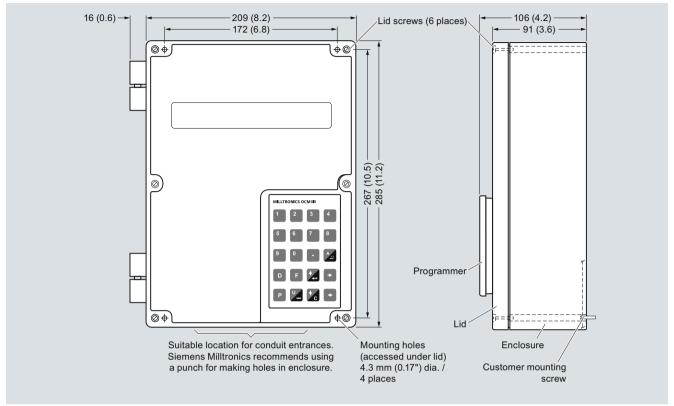
- B) Subject to export regulations AL: N, ECCN: EAR99S.
- C) Subject to export regulations AL: N, ECCN: EAR99.

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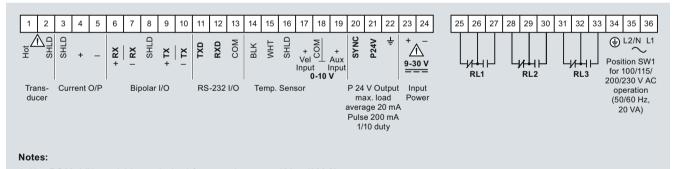
OCM III

Dimensional drawings



OCM III, dimensions in mm (inch)

Schematics



- 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