EL 500

Electromagnetic Flow Meter

Description

The EL 500 series of electromagnetic sensors represent the state of the art for the accurate measurement of low flow rates. This new generation sensor covers the temperature range -4 to 320°F and is available in line sizes from 1/8” through 3/4”.

An electromagnetic flow meter bases its operation on the Faraday Principal, by which a conductor crossing a magnetic field generates a potential. The resultant potential is directly proportional to the flow velocity. The EL 500 series flow meters utilize 316 stainless steel flow tube with AISI 316 UNI 338 male threaded, NPT, or triclamp / ISO 2852 fittings. Connections can be supplied in Hastelloy C and Titanium on request. Standard electrode material is 316L stainless steel, with Hastelloy C or Titanium options. The standard liner material is PTFE. The flow meter enclosure is stainless steel.

Electronics available for the EL 500 series consists of a base transmitter with optional panel mounted display, as well as a multiple output converter with integral display. Electronics can be mounted directly on the flow meter or remotely mounted. When the electronics are remotely mounted the entire flow meter meets IP 68 suitable for permanent immersion in water up to a depth of 1.5 meters.

Features

- High accuracy
- No moving parts
- Compact design
- Sealed electrode and coil assembly provides immunity to humidity variation and IP68 protection
- Wide rangeability with a single unit
- No pressure drop
- Batching capability with MC 308C electronics
- Bidirectional capability
- High temperature standard
- -4 to 320°F

Model EL 500
Electromagnetic Flow Meter

Specifications

Accuracy	±0.2% of reading with velocity greater than 0.45 m/s
Repeatability	±0.1%
Max Fluid Velocity	10 m/s (to maximize performance, size meter to operate has high up in its flow range as possible)
Nominal Line Sizes	1/8”, 1/4”, 3/8”, 1/2”, 3/4”
Tube Material	316 stainless steel
Electrode Material	AISI 316L (standard) Hastelloy C22 Titanium
Liner Material	PTFE
Temperature Range	-4 to 320°F with remote electronics Note: Please contact factory if temperatures above 284°F (140°C) are required. -4 to 140°F with integral electronics
Max Pressure	16 bar (232psi)
Max Cable Length	100 meters
Min Conductivity	5 µS/cm, 20 µS/cm for DI water
Rating	IP 68 to a depth of 1.5 meters
CE Declaration	EN 61326:1997 to EN 61326/A3:2003
Straight Run	5D upstream and 3D downstream minimum
End connections	NPT, Triclamp, DIN 11851, and UNI 338

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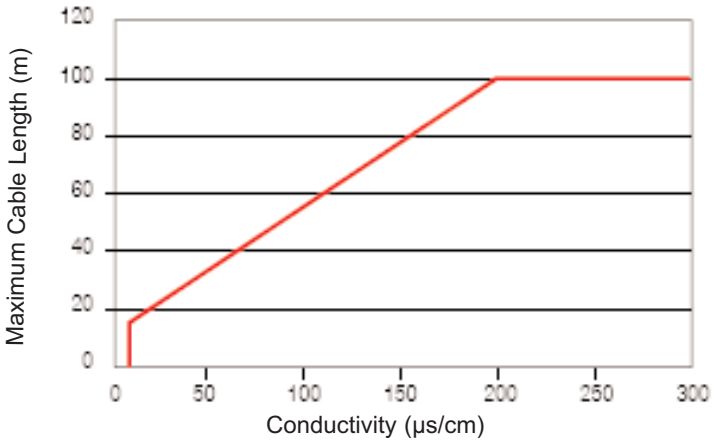
Specifications (cont)

EMC/CE approvals	EN 61326:1997 EN 61326/A3:2003 EN 55022/A2:2003 EN 61000-4
Compatible electronics	MC308 series MC106 series
Weight (max)	~ 4.5 lb

End Connections

Nominal Diameter	NPT	Tri-Clamp	DIN 11851
1/8”	1/4”	51mm	10mm
1/4”	3/8”	51mm	10mm
3/8”	1/2”	51mm	10mm
1/2”	3/4”	51mm	15mm
3/4”	1”	51mm	20mm

Maximum Cable Length VS Conductivity



EL 500 Flow Range

Nominal Diameter	Minimum Flow*	Maximum Flow
1/8”	0.022 gpm	1.1 gpm
1/4”	0.090 gpm	4.4 gpm
3/8”	0.260 gpm	12.8 gpm
1/2”	0.530 gpm	26.5 gpm
3/4”	0.880 gpm	44.0 gpm

* Minimum flow rate is defined as the flow rate at 0.2 m/s and maximum flow is defined at 10 m/s.

Compatible Electronics

MC 308C Series Features

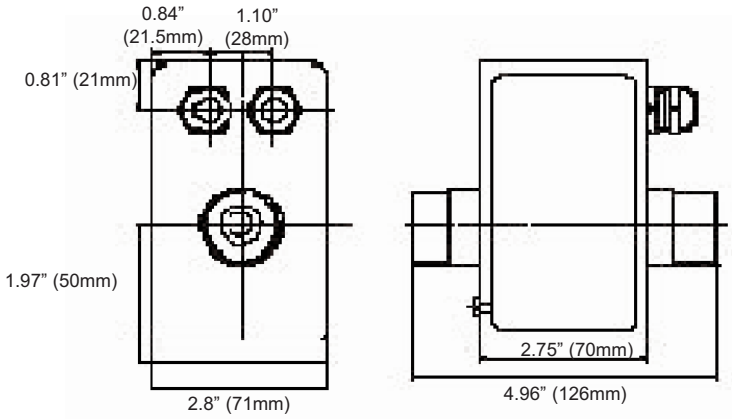
- High end controller
  Batching
- Bi directional functionality
- AC and DC versions
- Low power consumption mode
- 2 line 16 character display
- Digital outputs
- Analog outputs
- Alarm outputs

MC 106 Series Features

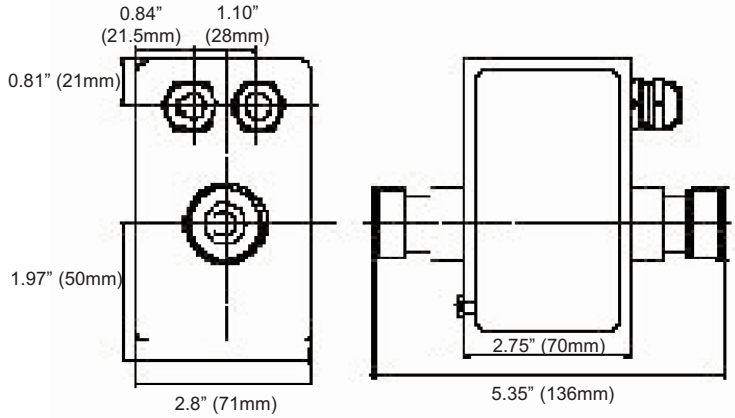
- Base level transmitter
- Frequency output
- Analog output
- AC and DC versions
- 2 line 16 character display
- Alarm output

Dimensions

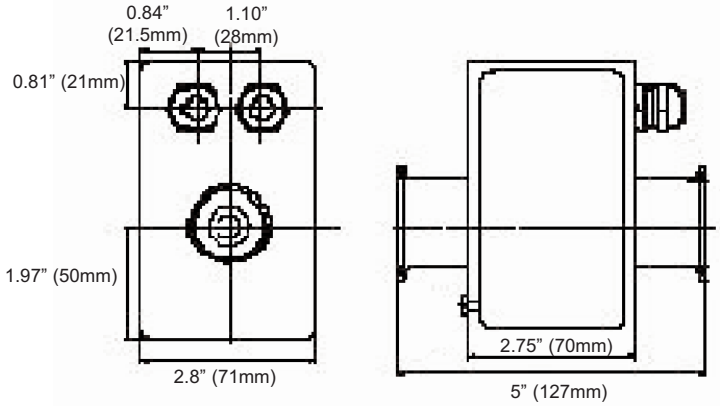
Threaded Joints NPT



Threaded Joints DIN 11851



Triclamp / ISO 2852 Joints



EL 500 Ordering Information

EL500				P			A

Meter Size	Order Number
1/8”	-003
1/4”	-006
3/8”	-010
1/2”	-015
3/4”	-020

End Connection	Order Number
Male threaded UNI 338	GAS
Male threaded NPT	NPT
DIN 11851 female	DIN
Triclamp	ATC

End Connection Material	Order Number
AISI 316 (standard)	S
Hastelloy C	C
Titanium	T

Electrode Material	Order Number
AISI 316L (standard)	L
Hastelloy C	C
Titanium	T

Note: Electrode and end connection material should always be the same.

Version	Order Number
Compact	C
Remote with cable connected (The cable is always connected to the sensor and sealed with resin)	A

FTI FLOW TECHNOLOGY™

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