Electromagnetic Flowmeter
Type MAGNETOFLOW™ M1000

Description

ModMAG® M1000 is best suited for bidirectional flow measurements of fluids > 5 µS/cm (> 20 µS/cm for demineralized water). Thanks to its excellent price-performance ratio, ModMAG® M1000 can be chosen for a broad spectrum of applications.
All information like flow, total or error messages can be read-out from the backlit LCD display. The standard model is provided with a great number of inputs, outputs and interfaces for lots of applications. ModMAG® M1000 is encased in an aluminium housing with protection class IP67 and therefore also ideal for use in harsh environments.



Measuring principle

The operating principle of the electromagnetic flow meter is based on Faraday's law of magnetic induction: The voltage induced across any conductor, as it moves at right angles through a magnetic field, is proportional to the velocity of that conductor. The voltage induced within the fluid is measured by two diametrically opposed internally mounted electrodes. The induced signal voltage is proportional to the product of the magnetic flux density, the distance between the electrodes and the average flow velocity of the fluid.

Mainly features

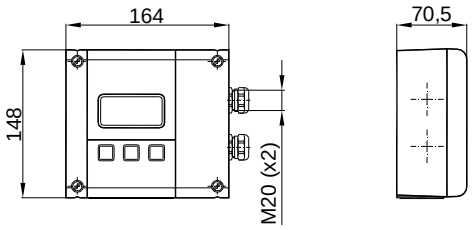
- *Accuracy ±0,3%,*
- *Flow range 0,03 – 12 m/s,*
- *DN6 – DN500,*
- *LCD display with backlight,*
- *Power supply 92 – 275 VCA / 9 – 36 VCC,*
- *IP67 protection,*
- *RS232 / RS485 Modbus® RTU in standard,*
- *HART™, M-Bus, ETHERNET (Modbus® TCP/IP) in option.*

Technical data

Power supply	92-275 VAC (50 / 60 Hz), <10 VA optional 9-36 VDC
Accuracy	±0,3% of m.v., ±2 mm/s
Repeatability	0,1%
Flow range	0,03 – 12 m/s
Conductivity	min. 5 µS/cm (20 µS/cm for demineralized water)
Flow direction	bi-directional
Programming	3 buttons optional RS232
Interface	RS232, RS422/485, Modbus® RTU in standard HART™, M-Bus, ETHERNET (Modbus® TCP/IP) in option
Analog output	0/4 - 20 mA / 0-10 mA, flow direction is displayed upon a separate status output
Pulse output	2 open collectors, passive 32 VDC, 0-100 Hz 100 mA, 100-10.000 Hz 20 mA, optional active
Frequency output	max. 10 kHz (open collector)
Status output	min/max. alarm, preselection, flow direction, error message, free configurable
Empty pipe detection	separate electrode
Low flow cut off	0-10%
Housing	Powder coated aluminium die cast
Protection class	IP67
Cable insertion	2 x M 20
Ambient temperature	-20 up to +60°C

Fuji Electric France S.A.S. – 46 rue George Besse ZI du Brézet – 63039 Clermond-Ferrand - FRANCE
Tel. +33 4 73 98 26 98 - Fax +33 4 73 98 26 99 - www.fujielectric.fr - E-mail:sales.dpt@fujielectric.fr

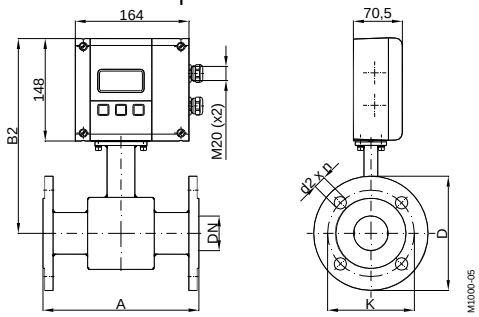
Dimensions



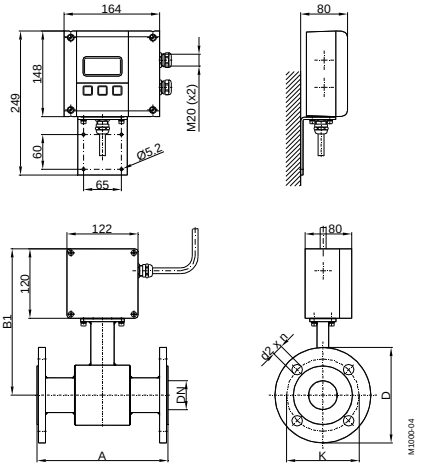
Detector type II

Flange process connection

Compact version



Remote version



The electromagnetic detector type II is not only available in a number of different flange process connections (DIN, ANSI, JIS, AWWA, etc.) but also in a number of liners like hard rubber, soft rubber, PTFE, PFA or Halar. Available in sizes from DN 6 to DN 500 and nominal pressures up to PN 100, the detector type II is best suited for a variety of applications in the industry and the water/waste water industry.

Lined measuring pipes with materials approved for drinking water: KTW/DVGW, NSF-61, WRAS, ACS.

Technical data

Size	DN 6 – 500 (1/4“ … 20“)		
Process connection	Flange: DIN, ANSI, JIS, AWWA, etc		
Nominal pressure	Up to PN 100		
Protection class	IP67, optional IP68		
Min. conductivity	5 µS/cm (20 µS/cm for demineralized water)		
Linear materials	Hard/soft rubber	DN 25 - 500	0°C to +80°C
	PTFE	DN 6 – 500	-40°C to +150°C
Electrodes material	Hastelloy C (Standard), Tantal Platinum / Gold plated, Platinum / Rhodium		
Housing	Carbon steel / Optional stainless steel		
Approval	WRAS, KTW, NSF-61, DVGW-W270 and ACS for drinking water (Hard rubber only)		

Dimensions (mm)

DN		A ISO*	B1	B2	With ANSI flanges			With DIN flanges		
					∅ D	∅ K	∅ d2xn	∅ D	∅ K	∅ d2xn
6	1/4”	170	228	288	88,9	60,3	15,9 x 4	90	60	14 x 4
8	3/10”	170	228	288	88,9	60,3	15,9 x 4	90	60	14 x 4
10	3/8”	170	228	288	88,9	60,3	15,9 x 4	90	60	14 x 4
15	1/2”	200	238	298	88,9	60,3	15,9 x 4	95	65	14 x 4
20	3/4”	200	238	298	98,4	69,8	15,9 x 4	105	75	14 x 4
25	1”	200	238	298	107,9	79,4	15,9 x 4	115	85	14 x 4
32	1 1/4”	200	253	313	117,5	88,9	15,9 x 4	140	100	18 x 4
40	1 1/2”	200	253	313	127	98,4	15,9 x 4	150	110	18 x 4
50	2”	200	253	313	152,4	120,6	19 x 4	165	125	18 x 4
65	2 1/2”	200	271	331	177,8	139,7	19 x 4	185	145	18 x 4
80	3”	200	271	331	190,5	152,4	19 x 4	200	160	18 x 8
100	4”	250	278	338	228,6	190,5	19 x 8	220	180	18 x 8
125	5”	250	298	358	254	215,9	22,2 x 8	250	210	18 x 8
150	6”	300	310	370	279,4	241,3	22,2 x 8	285	240	22 x 8
200	8”	350	338	398	342,9	298,4	22,2 x 8	340	295	22 x 12
250	10”	450	362	422	406,4	361,9	25,4 x 12	395	350	22 x 12
300	12”	500	425	485	482,6	431,8	25,4 x 12	445	400	22 x 12
350	14”	550	450	510	533,4	476,2	28,6 x 12	505	460	22 x 16
400	16”	600	475	535	596,9	539,7	28,6 x 16	565	515	26 x 16

DN		A ISO*	B1	B2	With ANSI flanges			With DIN flanges		
					∅ D	∅ K	∅ d2xn	∅ D	∅ K	∅ d2xn
450	18”	600	500	560	635,0	577,8	31,7 x 16	615	565	26 x 20
500	20”	600	525	585	698,5	635,0	31,7 x 20	670	620	26 x 20
*ISO 13359		Standard with ANSI flanges : Pressure 150 lbs						Standard with DIN flanges : Pressure PN16		

Sanitary detector for food

Process connections Tri-Clamp®, DIN 11851, ISO 2852, etc.

The sanitary detector was developed for the flow measurement of liquid food. This model is available with Tri-Clamp®, DIN 11851, ISO 2852 process connections and also with any special connections (customer specifi-cations), The sanitary detector is delivered in a stainless steel housing and with PTFE lining.

Technical data

Size	DN 10 - 100 (3/8“ ... 4“)		
Process connections	Tri-Clamp®, DIN 11851, ISO 2852, etc.		
Nominal pressure	PN 10/16		
Protection class	IP67, optional IP68		
Min. conductivity	5 µS/cm (20 µS/cm for demineralized water)		
Liner materials	PTFE/PFA	-40°C to +150°C	
Electrodes materials	Hastelloy C (Standard) Tantal Platinum / gold plated Platinum / Rhodium		
Housing	Stainless steel		
Lay length	Tri-Clamp® connection	DN 10 – 50	145 mm
		DN 65 – 100	200 mm
	DIN 11851 connection	DN 10 – 20	170 mm
		DN 25 – 50	225 mm
		DN 65 – 100	280 mm

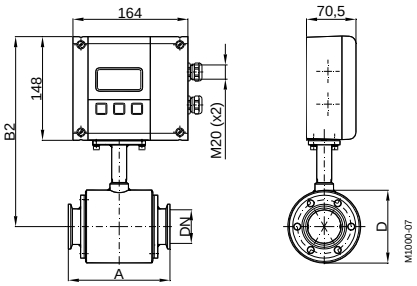
Dimensions (mm) type Food Tri-Clamp®

DN		A	B1	B2	D
10	3/8”	145	228	174	74
15	1/2”	145	228	174	74
20	3/4”	145	228	174	74
25	1”	145	228	174	74
40	1 ½“	145	238	184	94
50	2”	145	243	189	104
65	2 ½“	200	256	202	129
80	3”	200	261	207	140
100	4”	200	269	215	156
Nominal pressure PN 10					

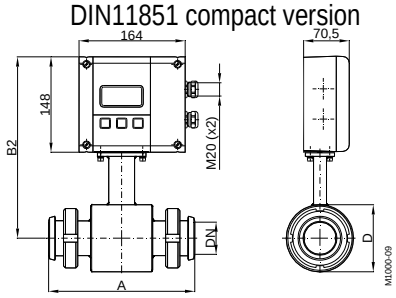
Dimensions (mm) type Food milk pipe DIN 11851

DN		A	B1	B2	D
10	3/8”	170	238	184	74
15	1/2”	170	238	184	74
20	3/4”	170	238	184	74
25	1”	225	238	184	74
32	1 ¼“	225	243	189	84
40	1 ½“	225	248	194	94
50	2”	225	253	199	104
65	2 ½“	280	266	212	129
80	3”	280	271	217	140
100	4”	280	279	225	156
Nominal pressure PN 16					

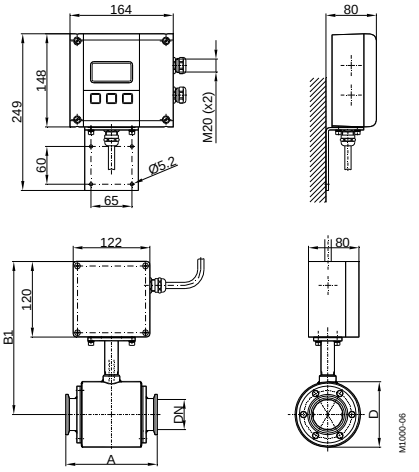
Tri-Clamp® compact version



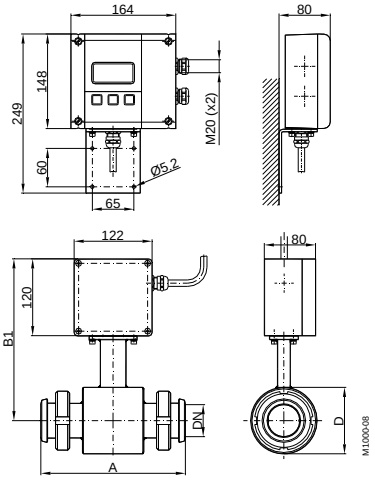
DIN11851 compact version



Tri-Clamp® remote version

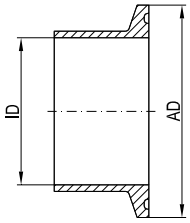


DIN11851 remote version



Type Food Tri-Clamp BS4825/ISO2852

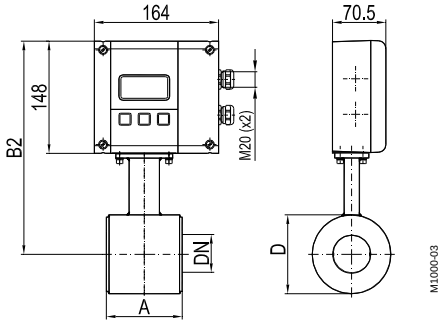
BS4825			ISO2852		
Size	AD	ID	DN	AD	ID
-	-	-	10	50.5	14.0
1/2"	25.0	9.4	15	50.5	18.1
3/4"	25.0	15.75	20	50.5	22.9
1"	50.5	22.1	25	50.5	28.7
1 ½"	50.5	34.8	32	64.0	38.4
2"	64.0	47.5	40	64.0	44.3
2 ½"	77.5	60.2	50	77.5	56.3
3"	91.0	72.9	65	91.0	72.1
3 ½"	106.0	84.3	80	106.0	84.3
4"	119.0	97.4	100	130.0	109.7
Nominal pressure PN 10 - dimension (mm)					



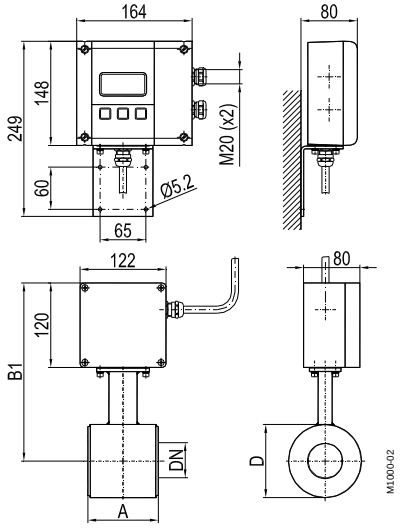
Detector type III

Wafer connection

Compact version



Remote version



Thanks to its very short lay length, the detector type III is often the right alternative to a lot of applications. Delivered with a PTFE liner, the detector type III has a standard nominal pressure of PN 40.

Technical data

Size	DN 25 – 100 (1" ... 4")	
Process connection	Wafer connection (in-between flange mounting)	
Nominal pressure	PN 40	
Protection class	IP67, optional IP68	
Min. conductivity	5 µS/cm (20 µS/cm (for demineralized water)	
Liner material	PTFE	-40 to +150°C
Electrodes material	Hastelloy C (Standard) Tantal Platinum / Gold plated Platinum / Rhodium	
Housing	Carbon steel / optional stainless steel	
Lay lenght	DN 25 – 50	100 mm
	DN 65 – 100	150 mm

Dimensions (mm)

DN		A	B1	B2	D
25	1"	100	238	184	74
32	1 ¼"	100	243	189	84
40	1 ½"	100	248	194	94
50	2"	100	253	199	104
65	2 ½""	150	266	212	129
80	3"	150	271	217	140
100	4"	150	279	225	156
Pressure PN 40					

Fuji Electric France S.A.S.
46, Rue Georges Besse – ZI du Brézet
63039 Clermont-Ferrand cedex 2 – France
France : Tél. 04 73 98 26 98 – Fax : 04 73 98 26 99
International : Tél. (33) 4 73 98 26 98 – Fax : (33) 4 73 98 26 99
Email : sales.dpt@fujielectric.fr – Web : www.fujielectric.fr

La responsabilité de Fuji Electric n'est pas engagée pour des erreurs éventuelles dans des catalogues, brochures ou divers supports imprimés. Fuji Electric se réserve le droit de modifier ses produits sans préavis. Ceci s'applique également aux produits commandés, si les modifications n'altèrent pas les spécifications de façon substantielle. Les marques et appellations déposées figurant dans ce document sont la propriété de leurs déposants respectifs. Tous les droits sont réservés.