

EMDE

Elektromagnetic Flowmeter



OVERVIEW

Description

Bass Instruments, EMDE Series Electromagnetic Flowmeters are flowmeters with no moving parts, no resistance to flow and almost no pressure loss. They can be used easily in liquids with an electrical conductivity of 5 microsiemens and above. They provide easy monitoring and control thanks to their standard display, electrical outputs and optional serial communication. They are suitable for many chemical fluids due to the materials used in their internal structure. They can also be used easily in dirty and particle-containing liquids.

Features

- High accuracy
- Wide measurement range
- Ideal solution for water and wastewater applications
- Long service life
- Self-monitoring capability
- Cost-effective
- No moving parts and no pressure loss



OPERATING DATA

Medium Temperature Maximum

0°C ... +70°C Rubber
-20°C ... +120°C PTFE
-20°C ... +180°C PFA

Ambient Temperature

-30°C ... +70°C

Mounting Joint

Flanged DIN / ANSI, BS

Standard Pressure

PN6, PN10, PN16, PN40 others on request

Excitation Coil Insulation

H

Control Principle

DC / AC

Enclosure

IP67 for EMDE-CM, IC, TR / IP68 as optional
IP68 for EMDE-RM

Accuracy

±0.5% of measured value, optionally ±0.2%

Hazardous Area

 ATEX II 1/2G Ex db [ia] IIC T4 Ga/Gb

MEASURING RANGE

Pipe Size Range

DN4...DN3000

MATERIALS

Measuring Tube

Stainless steel

Sensor Housing

Carbon Steel
Stainless Steel (optional)

Flange

Carbon Steel
Stainless Steel (optional)

Sensing Electrode

Stainless Steel AISI316L

Optional

Titanium, Hastelloy-B, Hastelloy-C
Platinum, Tantalum, Nickel Alloy

Lining

Hard Rubber,

Optional

PTFE
Ceramic
PFA
F46



PRODUCT CLASSIFICATION



Compact LCD Screen
EMDE-CM



Remote
EMDE-RM



Battery-Powered
EMDE-BT

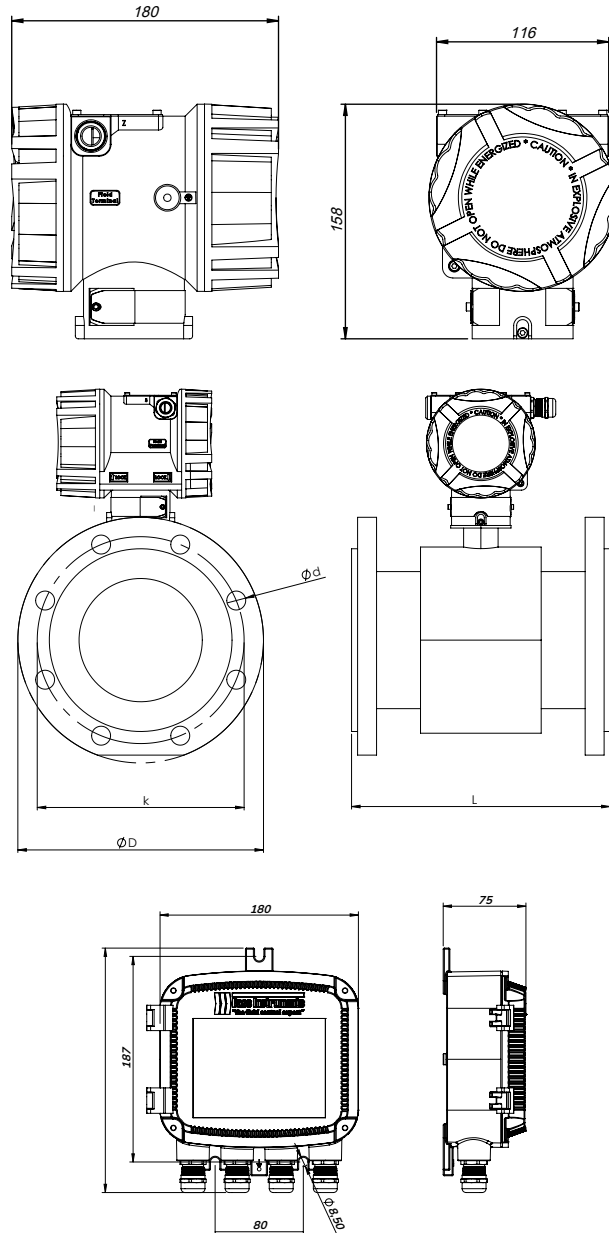


Compact TFT Screen Controller
EMDE-CT



Remote TFT Screen Controller
EMDE-RT

TECHNICAL DRAWING AND DIMENSIONS



Size	Pressure Rating (Bar)	D	k	n-d	L
15	40	95	65	4xø14	200
20	40	105	75	4xø14	200
25	40	115	85	4xø14	200
32	40	140	100	4xø18	200
40	40	150	110	4xø18	200
50	40	165	125	4xø18	200
65	16	185	145	4xø18	200
80	16	200	160	8xø18	200
100	16	220	180	8xø18	250
	25	235	190	8xø22	250
125	16	250	210	8xø18	250
	25	270	220	8xø26	250
150	16	285	240	8xø22	300
	25	300	250	8xø26	300
200	10	340	295	8xø22	350
	16	340	295	12xø22	350
	25	360	310	12xø26	350
250	10	395	350	12xø22	450
	16	405	355	12xø26	450
300	10	445	400	12xø22	500
	16	460	410	12xø26	500
350	10	505	460	16xø22	550
	16	520	470	16xø26	550
400	10	565	515	16xø26	600
	16	580	525	16xø30	600
450	10	615	565	20xø26	600
	16	640	585	20xø30	600
500	10	670	620	20xø26	600
	16	715	650	20xø33	600
600	10	780	725	20xø30	600
	16	840	770	20xø33	600
700	10	895	840	24xø30	700
800	10	1015	950	24xø34	800
900	6	1075	1020	24xø30	900
1000	6	1175	1120	28xø30	1000
1200	6	1405	1340	32xø33	1200
1400	6	1630	1560	36xø36	1400
1600	6	1830	1760	40xø36	1600
1800	6	2045	1970	44xø39	1800
2000	6	2265	2180	48xø42	2000



MESURING RANGE

DN (mm)	Flow Range(L/s)		Flow Range(m³/h)		Ordering Code
	Qmin	Qmak	Qmin	Qmak	
10	0,0078	0,785	0,0282	2,827	0010
15	0,0176	1,767	0,0636	6,361	0015
20	0,0314	3,141	0,1130	11,3	0020
25	0,0490	4,908	0,1767	17,67	0025
32	0,0804	8,042	0,2895	28,95	0032
40	0,1256	12,56	0,4523	45,23	0040
50	0,1963	19,63	0,7068	70,68	0050
65	0,3318	33,18	1,194	119,4	0065
80	0,5026	50,26	1,809	180,9	0080
100	0,7853	78,53	2,827	282,7	0100
125	1,227	122,7	4,417	441,7	0125
150	1,767	176,6	6,361	636,1	0150
200	3,141	314,1	11,30	1130	0200
250	4,908	490,8	17,67	1767	0250
300	7,068	706,8	25,44	2544	0300
350	9,621	962,1	34,63	3463	0350
400	12,56	1256	45,23	4523	0400
450	15,90	1590	57,25	5725	0450
500	19,63	1963	70,68	7068	0500
600	28,27	2827	101,7	10178	0600
700	38,48	3848	138,5	13854	0700
800	50,26	5026	180,9	18095	0800
900	63,61	6361	229	22902	0900
1000	78,53	7853	282,7	28274	1000
1200	113,09	11309	407,15	40715	1200
1400	153,93	15393	554,17	55417	1400
1600	201,06	20106	723,82	72382	1600
1800	254,46	25446	916,08	91608	1800
2000	314,15	31415	1130,97	113097	2000
2200	380,13	38013	1368,47	136847	2200



ELECTRICAL DATA

Medium Electrical Conductivity

$\geq 5 \mu\text{S/cm}$ / $\geq 20 \mu\text{S/cm}$ (for demineralized water)

Measuring Accuracy

$\pm 0.5\%$ of measured value within 0.1 ... 10 m/s
Optional: $\pm 0.2\%$

Analog Output (Active)

4...20 mA, 500 Ohm

Frequency Output

1 ... 5000 Hz

Impulse Output

0,001 ... 1000 m³ /pulse
0,001 ... 1000 lt /pulse

Alarm Outout

Low flow, high flow, flow direction

Power Supply

85-260 VAC, 50-60 Hz, 18-36 VDC

Ambient Temperature

-20°C ... +70°C

Calibration Certificate

Manufacturer calibration certificate

Optional

ISO 17025 calibration certificate (3 Point, 5 Point)

ACCURACY

Diameter (mm)	Range (m/s)	Accuracy	High Accuracy
3 ~ 20	<0.3	$\pm 0.25\%FS$	$\pm 0.2\%FS$
	0.3 ~ 1	$\pm 1.0 R$	$\pm 0.5 R$
	1 ~ 15	$\pm 0.5\% R$	$\pm 0.25\% R$
25 ~ 600	0.1 ~ 0.3	$\pm 0.25\%FS$	$\pm 0.2\%FS$
	0.3 ~ 1	$\pm 0.5\% R$	$\pm 0.3\% R$
	1 ~ 15	$\pm 0.3\% R$	$\pm 0.2\% R$
700 ~ 3000	<0.3	$\pm 0.25\%FS$	$\pm 0.2\%FS$
	0.3 ~ 1	$\pm 1.0 R$	$\pm 0.5 R$
	1 ~ 15	$\pm 0.5\% R$	$\pm 0.25\% R$

%FS : for relative ranges;

%R : for relative value of measurement



COMMUNICATION

RS485-Modbus

Optional

HART

Profibus

TCP/IP Modbus

Profinet

APPROVALS

EN IEC 61326-1:2021

EN IEC 61326-2-3:2021

EN 61010-1:2010+A1:2019

IEC/EN 60529

ISO/IEC 17025

ISO 20456:2017



ORDERING

Model	
EMDE	Electromagnetic Flowmeter

Transmitter Type	
CM	Compact design LCD Screen
RM	Remote type Screen (please specify cable length)
BT	Battery powered compact version
HT	Remote type with I/O (2× PT-100 input)
CT	Compact design TFT Screen
RT	Remote type TFT Screen (please specify cable length)

Proses Connection	

Line Size	
XXXX	Please refer to the flow range table

Flange Rating	
06	PN06 DIN
10	PN10 DIN
16	PN16 DIN
40	PN40 DIN
XX	Please specify

Electrode Material	
00	AISI 316L
01	Titanium
02	Tantalum
03	Hastelloy C
04	Hastelloy B
05	Platinum
06	Nickel Alloy

Lining Material	
01	Hard rubber
02	PTFE
03	PE
04	PFA
05	F46

Power Supply	
AC	85–250 V AC
DC	20–36 V DC

Communication	
01	RS485-Modbus
02	HART
03	Profibus
04	TCP/IP Modbus
05	Profinet

Enclosure	
01	IP67
03	IP68

Grounding Ring	
NN	None
01	Steel
02	Stainless steel
XX	Please specify

Body Material	
CS	Carbon steel
S4	SS304
S16	SS316

Accuracy	
SA	Standat Accuarcy (Please Check Accuarcy Table)
HA	High Accuarcy (Please Check Accuarcy Table)

Flow Direction Relay Module	
N	None
R	1 × Dry Contact

Hazardous Area	
N	None
EX	II 1/2G Ex db [ia] IIC T4 Ga/Gb

Electrical Connection	

