



Electromagnetic amplifier Primo[®] Advanced for all detectors



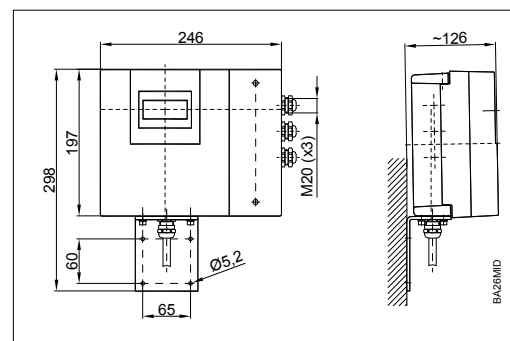
Features

- Accuracy $\pm 0,25\%$
- Flow range 0,03 – 12 m/s
- DN6 – DN2000
- LCD display
- Power supply 85 – 265 VAC / 24 VDC

Description

The amplifier type Primo[®] Advanced is time-proven in all flow applications. This series is extremely accurate and very simple to use. Standard models have a RS232 interface, thus allowing an easy programming of the devices. The backlit, four-line display shows all actual flow measuring data, daily and complete information, including alarm messages. Further functions like the entry of upper and lower flow set points and preselection for batch applications make the series flexible for a large variety of applications. Integrated tools make it easy to install and to maintain. The model Primo[®] Advanced includes HART protocol communication.

Dimensions



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.



Technical data

Power supply	85 – 265 VAC, 45 – 65 Hz, <20 VA or optional, 24VDC
Analog output	0/4 - 20 mA, ≤800 ohms, flow direction is displayed upon a separate status output
Pulse output	24 V active, 25 mA, 30 V passive, 250 mA (open collector) max. 10 kHz
Status output	1 min./max. alarm or preselection meter, 1 flow direction, 1 error message
Medium control	separate electrode
Programming	3 keys, HART, Modbus
Interface	RS232 for measuring values, optional HART, Modbus
Flow range	0,03 – 12 m/s
Accuracy	≥0,5 m/s better ±0,25% of actual flow <0,5 m/s ±1,25 mm/s of actual flow
Repeatability	0,1%
Flow direction	bi-directional
Pulse length	Programmable up to 500 ms
Outputs	Short circuit safe and galvanically isolated
Low flow cut off	0-10%
Display	LCD, 4 lines / 16 characters, backlit, actual flow, 2 totalizers, status display
Housing	Powder coated aluminium die cast
Protection class	IP65
Cable insertion	Power and signal cable (outputs) 3 x M20
Signal cable	From detector M20
Ambient temperature	-20°C up to +60°C

Detector type II

Flange process connection



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 1400 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.

Technical data

Size	DN 6 – 2000 (1/4" ... 80")	
Process connections	Flange: DIN, ANSI, JIS, AWWA, etc	
Nominal pressure	up to PN 100	
Protection class	IP65, optional IP68	
Min. conductivity	5 μ S/cm (20 μ S/cm for demineralized water)	
Liner materials	Hard/soft rubber	from DN 25 0°C up to +80°C
	PTFE	DN 6 – 600 -40°C up to +150°C
	Halar (ECTFE)	from DN 300 -40°C up to +150°C
Electrodes materials	Hastelloy C (standard), Tantal Platinum / Gold plated, Platinum / Rhodium	
Housing	Stahl / Optional Edelstahl	
Lay length	DN 6 – 20	170 mm
	DN 25 – 50	225 mm
	DN 65 – 100	280 mm
	DN 125 – 200	400 mm
	DN 250 – 350	500 mm
	DN 400 – 750	600 mm
	DN 800 – 1000	800 mm
DN 1200 – 1400	1000 mm	

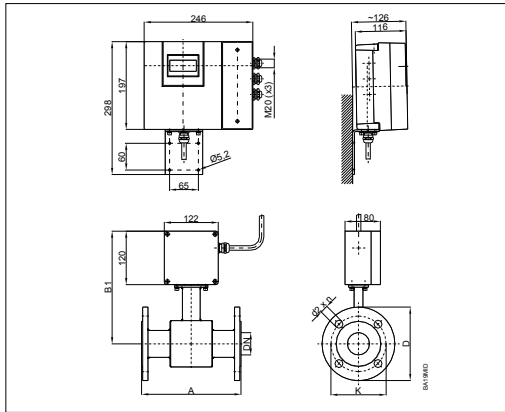
*Up to DN2000 upon request



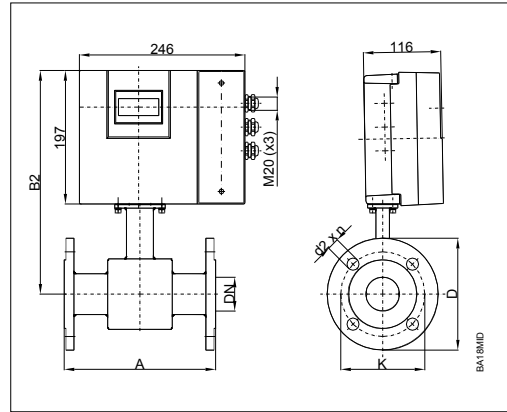
Detector type II

Flange process connection

Remote version



Mounted version



Dimensions

DN		A Std*	A ISO**	B1	B2	with ANSI-flanges			with DIN-flanges		
						Ø D	Ø K	Ø d2xn	Ø D	Ø K	Ø d2xn
6	1/4"	170	---	228	305	88,9	60,3	15,9 x 4	90	60	14 x 4
8	3/10"	170	---	228	305	88,9	60,3	15,9 x 4	90	60	14 x 4
10	3/8"	170	---	228	305	88,9	60,3	15,9 x 4	90	60	14 x 4
15	1/2"	170	200	238	315	88,9	60,3	15,9 x 4	95	65	14 x 4
20	3/4"	170	200	238	315	98,4	69,8	15,9 x 4	105	75	14 x 4
25	1"	225	200	238	315	107,9	79,4	15,9 x 4	115	85	14 x 4
32	1 1/4"	225	200	253	330	117,5	88,9	15,9 x 4	140	100	18 x 4
40	1 1/2"	225	200	253	330	127	98,4	15,9 x 4	150	110	18 x 4
50	2"	225	200	253	330	152,4	120,6	19 x 4	165	125	18 x 4
65	2 1/2"	280	200	271	348	177,8	139,7	19 x 4	185	145	18 x 4
80	3"	280	200	271	348	190,5	152,4	19 x 4	200	160	18 x 8
100	4"	280	250	278	355	228,6	190,5	19 x 8	220	180	18 x 8
125	5"	400	250	298	375	254	215,9	22,2 x 8	250	210	18 x 8
150	6"	400	300	310	387	279,4	241,3	22,2 x 8	285	240	22 x 8
200	8"	400	350	338	415	342,9	298,4	22,2 x 8	340	295	22 x 12
250	10"	500	450	362	439	406,4	361,9	25,4 x 12	395	350	22 x 12
300	12"	500	500	425	502	482,6	431,8	25,4 x 12	445	400	22 x 12
350	14"	500	550	450	527	533,4	476,2	28,6 x 12	505	460	22 x 16
400	16"	600	600	475	552	596,9	539,7	28,6 x 16	565	515	26 x 16
450	18"	600	---	500	577	635,0	577,8	31,7 x 16	615	565	26 x 20
500	20"	600	---	525	602	698,5	635,0	31,7 x 20	670	620	26 x 20
550	22"	600	---	550	627	749,3	692,1	34,9 x 20	---	---	---
600	24"	600	---	588	665	812,8	749,3	34,9 x 20	780	725	30 x 20
650	26"	600	---	613	690	869,9	806,4	34,9 x 24	---	---	---
700	28"	600	---	625	702	927,1	863,6	35,1 x 28	895	840	30 x 24
750	30"	800	---	650	727	984,2	914,4	34,9 x 28	---	---	---
800	32"	800	---	683	760	1060,5	977,9	41,3 x 28	1015	950	33 x 24
850	34"	800	---	708	785	1111,2	1028,7	41,3 x 32	---	---	---
900	36"	800	---	725	802	1168,4	1085,8	41,3 x 32	1115	1050	33 x 28
950	38"	800	---	750	827	1238,3	1149,4	41,3 x 32	---	---	---
1000	40"	800	---	790	867	1346,2	1257,3	41,3 x 36	1230	1160	36 x 28
1200	48"	1000	---	900	977	1511,5	1422,4	41,3 x 44	1455	1380	39 x 32
1350	54"	1000	---	975	1052	1682,8	1593,9	47,8 x 44	---	---	---
1400	56"	1000	---	1000	1077	---	---	---	1675	1590	42 x 36
Standard											
with ANSI-flanges		from DN 6 - 1400			150 lbs						
with DIN flanges		from DN 6 - 200			PN 16						
		from DN 250 - 1400			PN 10						
* Standard **ISO 13359											

*Up to DN2000 upon request



Detector type III

Wafer connection

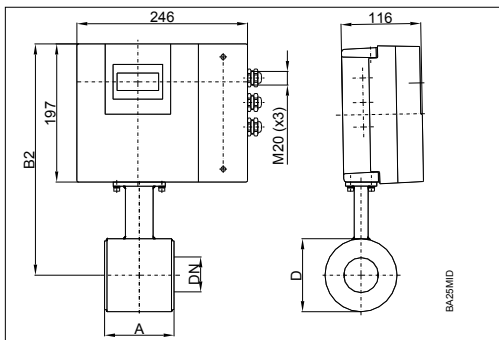


Thanks to its very short lay length, the detector type III is often the right alternative to a lot of applications. Delivered with a PTFE liner, the detector type III has a standard nominal pressure of PN 40.

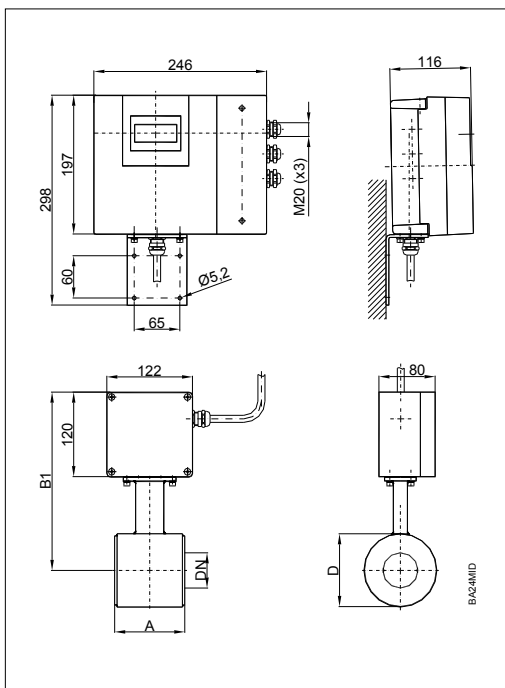
Technical data

Size	DN 25 – 100 (1" ... 4")	
Process connection	Wafer connection (in-between flange mounting)	
Nominal pressure	PN 40	
Protection class	IP65, optional IP68	
Min. conductivity	5 μ S/cm (20 μ S/cm for demineralized water)	
Liner materials	PTFE	-40°C up to +150°C
Electrodes materials	Hastelloy C (Standard) Tantal Platinum / Gold plated Platinum / Rhodium	
Housing	Carbon steel / optional stainless steel	
Lay length	DN 25 – 50	100 mm
	DN 65 – 100	150 mm

Mounted version



Remote version



Dimensions (mm)

DN		A	B1	B2	D
25	1"	100	238	201	74
32	1 ¼"	100	243	206	84
40	1 ½"	100	248	211	94
50	2"	100	253	216	104
65	2 ½"	150	266	229	129
80	3"	150	271	234	140
100	4"	150	279	242	156
PN 40					

