

➤ GENERAL

BMS1000 Series is a flange type electromagnetic flowmeter ideal for conductive liquids. It comes in sizes from 10A to 2000 mm. BMS1000 is widely used for sewage, industrial waste, chemical, solvent, food & beverage, pulp & paper and many other industrial fluid. BMS1000 Series electromagnetic flowmeter could be used in compact or separate model with BMC Series converter of electromagnetic flowmeter.

➤ FEATURES

- ❑ Various liner and electrode satisfy most industrial applications
- ❑ Flow Velocity range: 0-12 m/s, precise in low flow applications
- ❑ It comes any flanges such as, ANSI, DIN, JIS etc
- ❑ Excellent for high pressure application
- ❑ Protection class: IP68 available; sensor submersible
- ❑ FEP Liner is suitable for vacuum tube
- ❑ High accuracy of +/-0.4% value of reading (or +/-0.2% value of reading)
- ❑ With Forward / Reverse flowrate measurement function
- ❑ It has electrode cleaning function

➤ STANDARD SPECIFICATION

- | | | | |
|--------------------|---|-------------------------|---|
| ● Size | : 10A, 10, 15, 20, 25, 32, 40, 50, 65, 80, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800, 900, 1000, 1200, 1400, 1600, 1800, 2000 mm | ● Electrode & Grounding | : Stainless Steel 316L
: Hastelloy B
: Hastelloy C
: Titanium
: Tantalum
: Platinum
: Tungsten Carbide |
| ● Measuring Range | : Velocity 0-0.25 m/s Min.
0-12 m/s Max. | ● Grounding Electrode | : DN10A / 10: use Grounding Ring * 1 pc
: DN15-2000: 3 Electrodes |
| ● Material | Measuring Tube : Stainless Steel 304
Flange : Carbon Steel (Standard)
: Stainless Steel 304 (Option)
: Stainless Steel 316, 316L (Option)
Coil Housing : Carbon Steel (Standard)
: Stainless Steel 304 (Option)
: Stainless Steel 316,316L (Option) | ● Process Connection | : Flange |
| ● Liner | : Polyurethane (25-400 mm)
: Neoprene (100-2000 mm)
: FEP (10A-300 mm)
: PTFE (10A-2000 mm)
: PFA (10A-300 mm) | ● Flange Type | : JIS 10K / JIS 20K / JIS 40K
ANSI 150# / ANSI 300# / ANSI 600#
DIN PN10 / PN16 / PN25 / PN40 |
| ● Protection Class | : Junction box IP67, Body IP68
: IP68 (Submersible) | ● Grounding Resistance | : Must be less than 10 Ω |
| ● Conductivity | : More than 5 uS/cm | ● Accuracy | : +/-0.4% of reading (Velocity ≥ 0.5 m/s)
: +/-0.0025 m/s (Velocity < 0.5 m/s)
: +/-0.2% of reading
(Suitable for BMC3200 / 3200E converter) |
| ● Explosion Proof | : Ex d (ib) ibq IIB T5
(with BMC3200 only) | ● Temperature | : -10~60 °C (Polyurethane, PU)
: -20~70 °C (Neoprene)
: -40~120 °C (PTFE 3/8"-10")
: -40~140 °C (PTFE 3/8"-6", FEP 3/8"-12")
: -40~180 °C (PTFE 3/8"-3", PFA3/8"-12") |
| ● Cable Entry | Standard: M20 Option: 1/2"NPTF | ● Ambient Temperature | : -25~60 °C |
| | | ● Max. Pressure | : 350 kgf/cm ² |

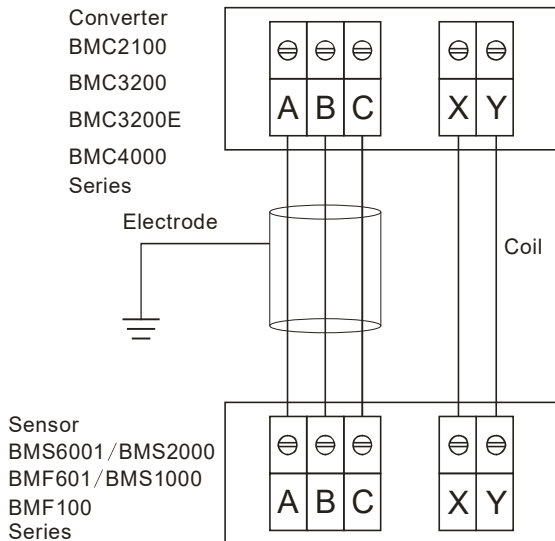


FLOW RANGE

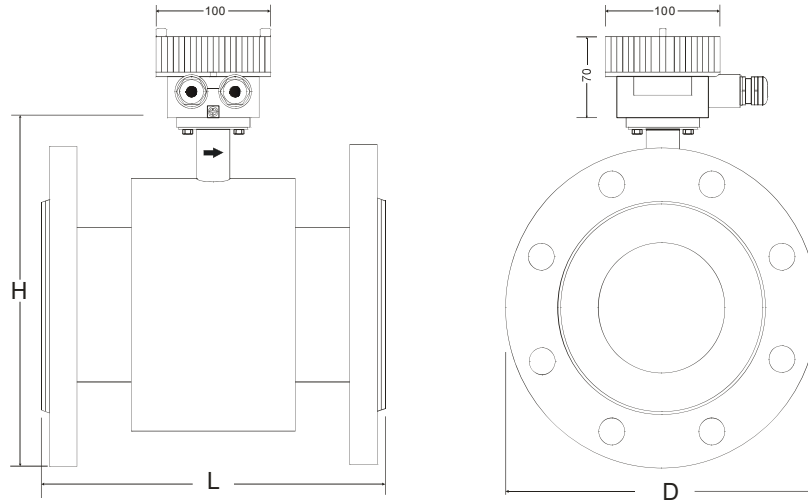
Unit: m³/hr

Normal Size		Flow Range & Velocity Table						
mm	Inch	Min. 0-0.25 m/s	1.0 m/s	2.0 m/s	3.0 m/s	5.0 m/s	10.0 m/s	Max. 0-12 m/s
10A	3/8"A	Applicable to 25-500 L/hr and accuracy +/-0.2~0.4% of reading (Depends on converter type)						
10	3/8"	0 to 0.071	0.28	0.57	0.85	1.41	2.83	0 to 3.39
15	1/2"	0 to 0.16	0.64	1.27	1.91	3.18	6.36	0 to 7.63
20	3/4"	0 to 0.28	1.13	2.26	3.39	5.65	11.3	0 to 13.6
25	1"	0 to 0.44	1.77	3.53	5.30	8.84	17.7	0 to 21.2
32	1-1/4"	0 to 0.72	2.90	5.79	8.69	14.5	29.0	0 to 34.7
40	1-1/2"	0 to 1.13	4.52	9.05	13.6	22.6	45.2	0 to 54.3
50	2"	0 to 1.77	7.07	14.1	21.2	35.3	70.7	0 to 84.8
65	2-1/2"	0 to 2.99	11.9	23.9	35.8	59.7	119	0 to 143
80	3"	0 to 4.52	18.1	36.2	54.3	90.5	181	0 to 217
100	4"	0 to 7.07	28.3	56.5	84.8	141.4	283	0 to 339
125	5"	0 to 11.0	44.2	88.4	133	220.9	442	0 to 530
150	6"	0 to 15.9	63.6	127	191	318.1	636	0 to 763
200	8"	0 to 28.3	113	226	339	565.5	1131	0 to 1357
250	10"	0 to 44.2	177	353	530	883.6	1767	0 to 2121
300	12"	0 to 63.6	254	509	763	1272	2545	0 to 3054
350	14"	0 to 86.6	346	693	1039	1732	3464	0 to 4156
400	16"	0 to 113	452	905	1357	2262	4524	0 to 5429
450	18"	0 to 143	573	1145	1718	2863	5725	0 to 6871
500	20"	0 to 177	707	1414	2121	3534	7068	0 to 8482
600	24"	0 to 254	1018	2036	3054	5089	10179	0 to 12214
700	28"	0 to 346	1385	2771	4156	6927	13854	0 to 16625
800	32"	0 to 452	1810	3619	5429	9048	18095	0 to 21714
900	36"	0 to 573	2290	4580	6871	11451	22902	0 to 27482
1000	40"	0 to 707	2827	5655	8482	14137	28274	0 to 33928
1200	48"	0 to 1018	4071	8143	12214	20357	40714	0 to 48857
1400	56"	0 to 1385	5542	11083	16625	27708	55417	0 to 66500
1600	64"	0 to 1810	7238	14476	21714	36190	72381	0 to 86857
1800	72"	0 to 2290	9161	18321	27482	45803	91607	0 to 109928
2000	80"	0 to 2827	11309	22619	33928	56547	113095	0 to 135714

WIRING DIAGRAM



➤ DIMENSIONS



Size (mm)	Standard Pressure kgf/cm ²	Liner Material				Dimensions (mm)			Weight kg
		FEP / PFA	Neoprene	Polyurethane	PTFE	L	D	H	
10A	40	⊙			⊙	120	90	145	3.5
10		⊙			⊙	120			3.5
15		⊙			⊙	150	95	155	3.5
20		⊙			⊙		105	160	4.5
25		⊙		⊙	⊙		115	166	4.5
32		⊙		⊙	⊙		140	180	6.5
40		⊙		⊙	⊙	150	190	7.0	
50		⊙		⊙	⊙	200	165	201	9.5
65		⊙		⊙	⊙		185	220	12
80		⊙		⊙	⊙		200	235	15
100	⊙	⊙	⊙	⊙	250		220	254	17
125	⊙	⊙	⊙	⊙		250	284	21	
150	⊙	⊙	⊙	⊙		300	285	314	28
200	10	⊙	⊙	⊙	⊙	350	340	369	36
250		⊙	⊙	⊙	⊙	400	395	430	49
300		⊙	⊙	⊙	⊙	450	445	480	61
350			⊙	⊙	⊙		505	540	79
400			⊙	⊙	⊙	500	565	600	99
450			⊙		⊙	600	615	640	121
500			⊙		⊙		670	700	143
600			⊙		⊙		780	800	187
700			⊙		⊙		700	895	910
800			⊙		⊙	800	1015	1020	342
900		⊙		⊙	900	1115	1120	420	
1000		⊙		⊙	1000	1230	1230	503	
1200	6		⊙		⊙	1200	1405	1405	666
1400			⊙		⊙	1400	1630	1630	1036
1600			⊙		⊙	1600	1830	1830	1333
1800			⊙		⊙	1800	2045	2045	1720
2000			⊙		⊙	2000	2265	2265	2190

Note: ⊙ Standard

Weight & Dimension D & H only for DIN flange

MODEL SELECTION GUIDE

BMS1000 Series										
Example: BMS1000-P0100-CAE84-010-T1										
BMS1000-	X	XXXX-	X	X	X	X	X-	XXX	-X	Description
Liner	N									Chloroprene Rubber (Neoprene)(100-2000 mm, 4"-80")
	F									FEP (10A-300 mm, 3/8"A-12")
	P									PTFE (10A-2000 mm, 3/8"A-80")
	A									PFA (10A-300 mm, 3/8"A-12")
	O									Polyurethane (25-400 mm, 1"-16")
Size		10A-2000								10A-2000 mm
Electrode Material			-S							Stainless Steel 316L
			-T							Titanium
			-B							Hastelloy B
			-C							Hastelloy C
			-A							Tantalum
			-P							Platinum (DN15-DN2000)
			-U							Tungsten Carbide
			-Z							Others
Process Connection			1							PN10
			2							PN16
			3							PN25
			4							PN40
			A							ANSI 150#
			B							ANSI 300#
			C							ANSI 600#
			J							JIS 10K
			K							JIS 20K
			L							JIS 40K
			Z							Others
	Grounding			N						
			E							Grounding Electrode (3 Electrodes); Note: see page #1
			R							Grounding Ring (Stainless Steel 316)
			A							Grounding & Protection Ring (Stainless Steel 316)
Protection Class			8							Junction box IP67, Body IP68
			9							IP68 (Submersible, Separate with Converter Only)
Flange & Housing			0-							Carbon Steel (Standard)
			4-							S.S. 304 Flange
			6-							S.S. 316 Flange
			8-							S.S. 304 Flange & Housing
			9-							S.S. 316 Flange & Housing
Installation & Cable Length				C						Compact Version
				010-300						Separate Version, Cable 10-300 m
Option									-N	None
									-X	Explosion Proof, Ex d (ib) ibq IIB T5 (with BMC3200 only)
									-T1	Max. Temp.: 120-140 °C
									-T2	Max. Temp.: 141-180 °C
									-PT	Cable Entry 1/2" NPTF
									-CD	Electrode Cleaning Device (Only for 2 Electrodes (316L), Size ≥4")

GENERAL

BMC3200 Series converter is a microprocessor based intelligent transmitter that can be paired with any of the BMS series sensors. The unit features multiple display parameters including flow rate, flow total, diagnostics, programming and troubleshooting. It's equipped with bluetooth, HART and MODBUS communication functions.

FEATURES

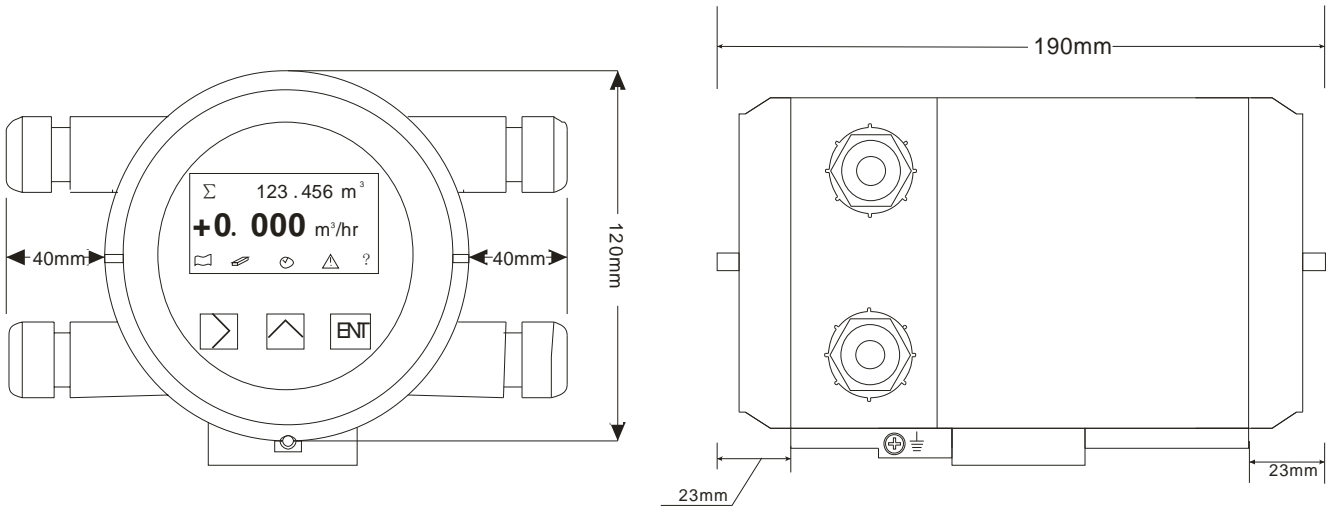
- ❑ Three line LCD display Flow Rate / Totalizer
- ❑ Accuracy of +/-0.2% value of reading
- ❑ Bi-directional flow measurement, current and pulse output
- ❑ Explosion Proof, Ex d (ib) ibq IIB T5
- ❑ Bluetooth / MODBUS / HART communication
- ❑ Converter can be rotated at Four directions for easy installation



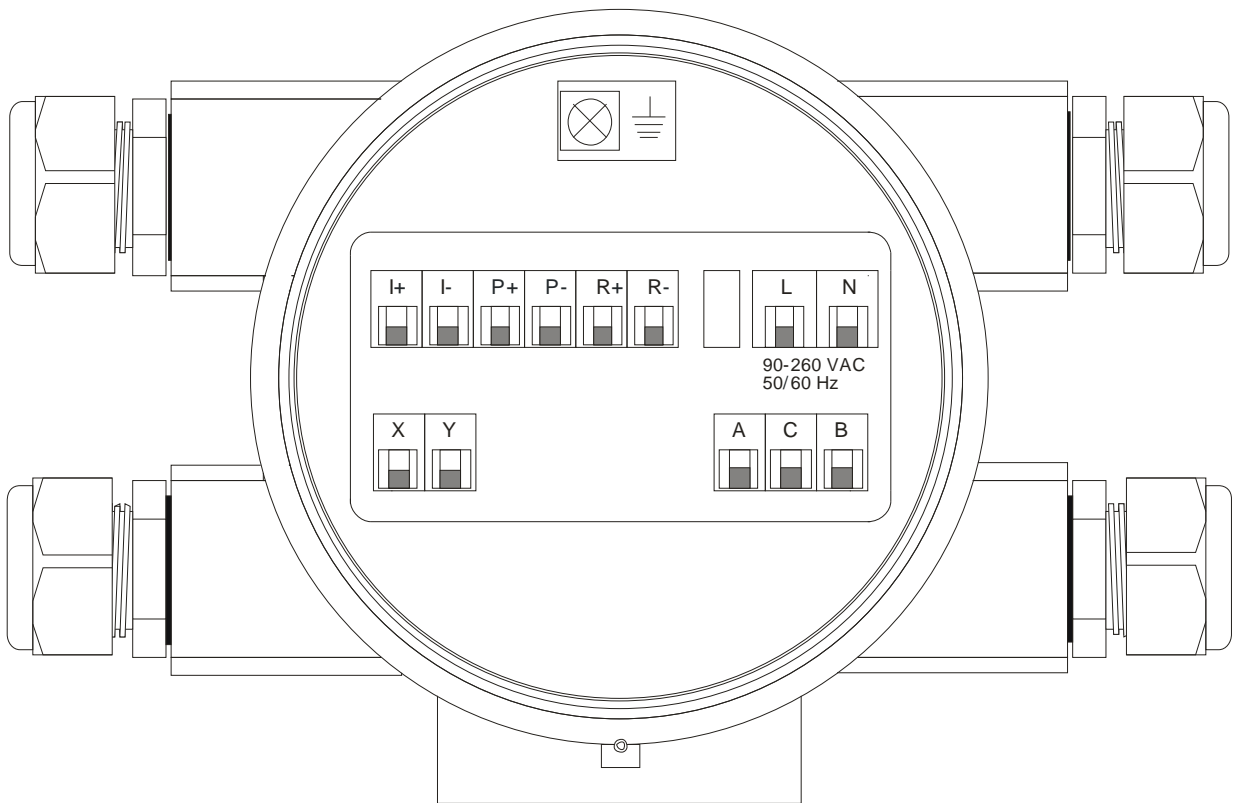
STANDARD SPECIFICATION

- Excitation : DC pulsed
- Display : 3 Lines LCD with illumination
 - Line 1 : 11 Digit totalizer for forward flow
 - : 11 Digit totalizer for reverse flow
 - : 11 Digit totalizer for difference
 - Line 2 : 5 Digit flowrate / velocity / % / mA / Hz
 - Line 3 : Parameter / Query / Clr tot / Query LOG
 - Alarm, Guidance
 - Totalizer Unit : t, kg, g, lb, Ston, Lton, m³, L, mL, lgal, gal, Mgal, bbl, ft³, a-ft
 - Time Unit : sec, min, hour, day
- Measuring Range : Min. 0-0.15 m/s
- : Max. 0-15 m/s
- Accuracy : +/-0.2% of reading (Velocity ≥ 0.5 m/s)
- : +/-0.001 m/s (Velocity < 0.5 m/s)
- Repeatability : +/-0.05% of reading
- Current Output : 4-20 mA (Isolated)
- Load : Max. 600 Ω
- Pulse Output : Open collector
- Rating : 3-30 VDC, 50 mA Max.
- Pulse Rate : 1) Scale pulse (mL/Pulse, L/Pulse, Other)
- : 2) Frequency: 0-5000 Hz
- Pulse Width : 50% of band width
- Alarm : High / Low with open collector output
- Rating : 3-30 VDC, 50 mA Max.
- Communication : Bluetooth (Android) Standard
- : RS485 (MODBUS Protocol) Standard
- : HART signal (Compatible) Optional
- Keypad : 3 Internal keys for programming and display control
- Data Storage : Operation parameters and totalizer figures are stored by EEPROM for more than 10 years
- Low Flow Cutoff : 0-9.9%
- Damping : 0-99 Seconds
- Density Setting : 0.1-9.99 g/cm³
- Self Diagnosis : The following error message are displayed if failure occurs
 - Coil failure
 - Power failure
 - Overanged Output
 - Internal error
 - Overflow
 - Empty pipe
- Cable Entry : Standard: M20 Option: 1/2"NPTF
- Protection Class : IP67, Explosion Proof, Ex d (ib) ibq IIB T5
- Ambient Temperature : -25~65 °C
- Material : Aluminum Alloy
- Power Supply : 90-260 VAC, 50/60 Hz
- : 24 VDC +/-10% (Option)
- Power Consumption : 3-17 W (Dependent on sensor size)
- Weight : 4.5 kg
- Mounting : Bracket on 2" pipe

➤ DIMENSIONS



➤ WIRING DIAGRAM

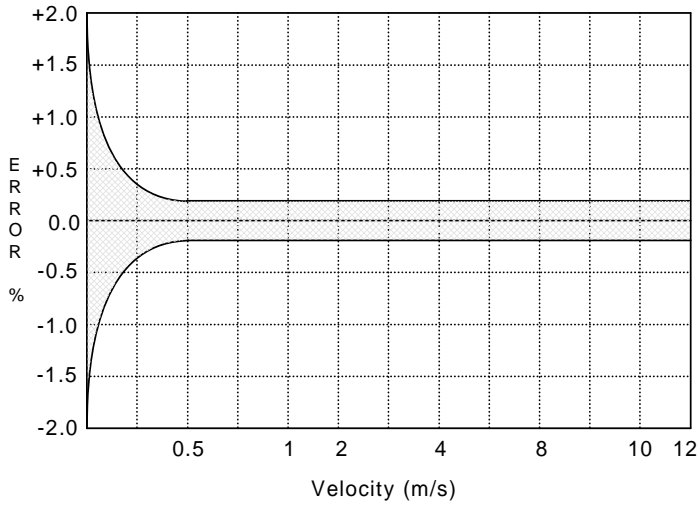


I+: 4-20 mA Output +
I-: 4-20 mA Output -

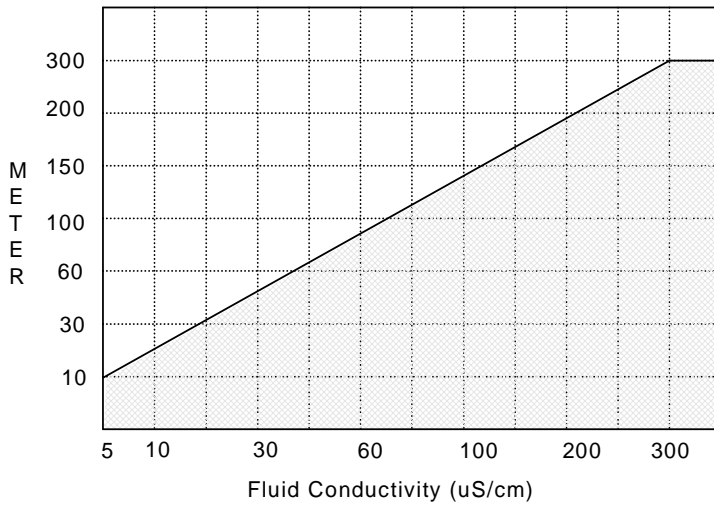
P+: Pulse Output +
P-: Pulse Output -

R+: RS485 Output +
R-: RS485 Output -

➤ ACCURACY



➤ CABLE LENGTH BETWEEN SENSOR & CONVERTER



➤ MODEL SELECTION GUIDE

BMC3200 Series					
Example: BMC3200-AC-CP-EX-HT/PT					
BMC3200-	XX-	XX-	XX-	XX	Description
Power Supply	AC-				90-260 VAC, 50/60 Hz
	DC-				24 VDC, +/-10%
Mounting	CP-				Compact with Sensor
	S2-				Separate, 2" Mounting Bracket or Wall Mounting
Protection Class	NN-				IP67
	EX-				Explosion Proof, Ex d (ib) ibq IIB T5
Option	NN				None
	HT				HART Signal (Compatible)
	PT				Cable Entry 1/2" NPTF