



SI-01

Electromagnetic Flowmeter for Water Applications



Features

- / Cost-effective
- / Separate or compact measuring transmitter
- / NBR or EPDM lining
- / DN25 to DN1200
- / DIN or ANSI flange

Description:

The SI-01 series of electromagnetic flowmeters is always a combination of measuring pick-up SI-01 and measuring transmitter MU-5000 which can be either directly mounted on the pick-up or separately mounted on the wall by means of a fixing metal plate. The measuring pick-up consists of a magnetically non-conductive measuring tube with plastic lining, magnetic coils fastened diametrically on the tube and at least two electrodes which are inserted through the tube's wall and establish contact with the measuring medium. As current passes through the magnetic coils, a clocked magnetic field is generated which penetrates the magnetically non-conductive measuring tube and induces in the electrically conductive medium a voltage proportional to the flow velocity. The electrodes inside the tube tap this voltage and pass it on to the measuring transmitter MU-5000. Now the transmitter generates a current signal in the range of 4...20 mA which is linearly connected to the mean velocity of flow. The measuring pick-up has a SENSORPROM memory module in which its individual data is stored. The result is that nearly every measuring pick-up of the SI-01 series can be operate along with every MU-5000 measuring transmitter without the need for prior parameterization.

Application:

Electromagnetic flowmeters are suited for measuring nearly all electricaly conductive fluids, pulp and slurry that have a conductivity of at least 5 micro-Siemens. Temperature, pressure, density and viscosity are of no consequence for the method of measurement so long as the measurement is performed within the velocity range of 0.25...10 m/s and the permissible material specifications do not fall short or are not exceeded. The main applications for the SI-01 series are found in the following areas, Water removal, Water treatment, Water distribution, Effluent treatment, Industrial water applications and Filtration installations. For applications that necessitate higher temperatures or pressure, more hostile media or other nominal diameter ranges, the high-quality measuring pick-up of the SI-02 offers a reliable solution.



Technical Specifications:

Measuring principle /	electromagnetic induction
Exciter frequency /	1.56 Hz...12,5 Hz depending on ND
Conductivity of medium /	at least 5 µS/cm (micro Siemens)
Operating range /	0.25...10 m/s for the specified accuracy, below and above this greater deviations
Accuracy /	± 0.4% ±1mm/s
Ambient temp. /	-40...+70°C -20...+60°C for directly mounted measuring transmitter
Media temperature /	-10...+70°C
Operating pressure /	DN 15...40 0.01...40 bar abs. DN 50...300 0.03...20 bar abs. DN 350...1200 0.01...16 bar abs. (note pressure level of the flange)
Lining /	NBR or EPDM
Materials /	
Flange and housing:	carbon steel, with corrosion-resistant two-component epoxy coat. (min. 150 µm)
Electrodes:	Hastelloy C
Grounding:	Hastelloy C
Process connection /	DIN EN 1092-1: PN 10 (145 psi): DN 200...300 (8"...12") without nubbin PN 10 (145 psi): DN 350...1200 (14"...48") with nubbin (Type 01 SORF) PN 16 (232 psi): DN 50...300 (2"...12") w/o nubbin (DN ≤600 Typ 01; > 600 Typ 11) PN 16 (232 psi): DN 350...1200 (14"...48") with nubbin PN 40 (580 psi): DN 15...40 (½"...1½") without nubbin ANSI B16.5: Class 150: ½"...12" without nubbin; 14"...24" with nubbin AWWA C-207: Class D: 28"...48", without nubbin AS4087: PN 16 (232 psi) DN 15...DN 300 (2"...12") without nubbin DN 350...DN 1200 (14"...48") with nubbin

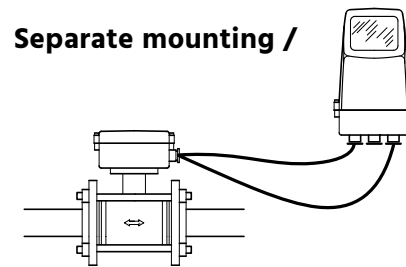
Electrical Spec. Transmitter:

Cable insertion /	M20 x 1.5 or 1/2"-NPT
Protection class /	IP67 (IP68 on request)
EMC /	2014/30/EU

(see also Measuring transmitter MU-5000)

Measuring transmitter /

In principle, the SI-01 is suited for operations with a directly mounted measuring transmitter or for separate mounting. The MU-5000 measuring transmitter can be used universally (see data sheet MU-5000), hence it can be mounted directly on the measurement pick-up or positioned away from it by means of a wall fixture. If the SI-01 is required as a spare, since the MU-5000 measuring transmitter is already available, only the measurement pick-up can be ordered without the measuring transmitter.



Ordering Codes:

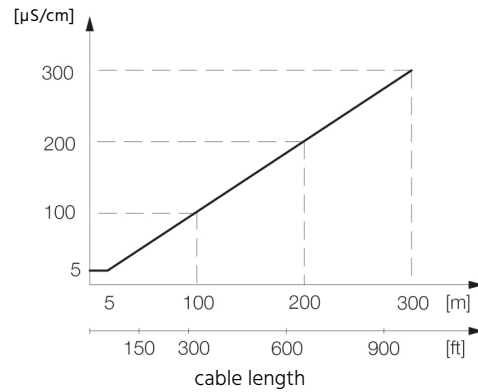
Order no.	SI-01.	[0][0][1][5].	3.	2.	1.	2
SI-01 Electromagnetic Flowmeter for Water						
Nominal diameter DN15 to DN1200 / [][][] e.g. 0040 for DN40						
Flange version and pressure level / 1 = DIN, PN10 for nominal diameters DN200...DN1200 2 = DIN, PN16 for nominal diameters DN50...DN1200 3 = DIN, PN40 for nominal diameters DN15 to DN40 4 = ANSI B16.5 Class 150 for nominal diameters 1" to 24" 5 = AWWA C207 Class D for nominal diameters 28" to 48" 6 = AS4087, for nominal diameters DN15...1200						
Lining / 1 = NBR 2 = EPDM						
Measuring transmitter / 0 = none 1 = with MU-5000, accuracy ±0.4% ±1mm/s						
Cable gland / 2 = M 20x1.5 (not for ANSI flanges) 3 = 1/2"-NPT (for ANSI flanges only)						



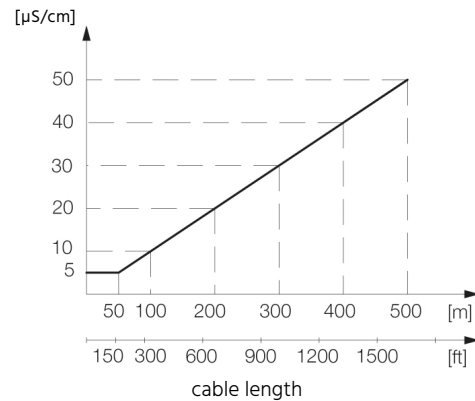
Dimensions SI-01:

Dimensions		A		D		L	
[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]
15	½	177	7.0	77	3.0	200	7.9
25	1	187	7.4	96	3.8	200	7.9
40	1 ½	202	8.0	127	5.0	200	7.9
50	2	188	7.4	76	3.0	200	7.9
65	2 ½	194	7.6	89	3.5	200	7.9
80	3	200	7.9	102	4.0	200	7.9
100	4	207	8.1	114	4.5	250	9.8
125	5	217	8.5	140	5.5	250	9.8
150	6	232	9.1	168	6.6	300	11.8
200	8	257	10.1	219	8.6	350	13.8
250	10	284	11.2	273	10.8	450	17.7
300	12	310	12.2	324	12.8	500	19.7
350	14	382	15.0	451	17.8	550	21.7
400	16	407	16.0	502	19.8	600	23.6
450	18	438	17.2	563	22.2	600	23.6
500	20	463	18.2	614	24.2	600	23.6
600	24	514	20.2	715	28.2	600	23.6
700	28	564	22.2	816	32.1	700	27.6
750	30	591	23.3	869	34.2	750	29.5
800	32	616	24.3	927	36.5	800	31.5
900	36	663	26.1	1032	40.6	900	35.4
1000	40	714	28.1	1136	44.7	1000	39.4
	42	714	28.1	1136	44.7	1000	39.4
	44	765	30.1	1238	48.7	1100	43.3
1200	48	820	32.3	1348	53.1	1200	47.2

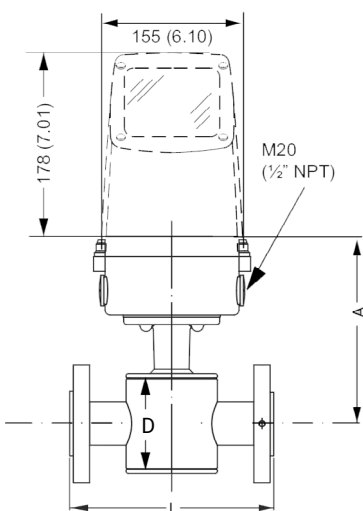
Connector length standard cable:



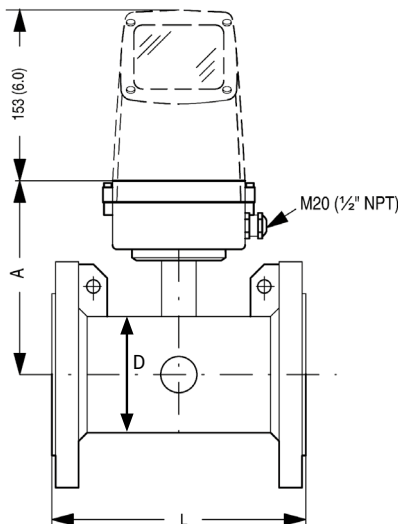
Connector length special cable:



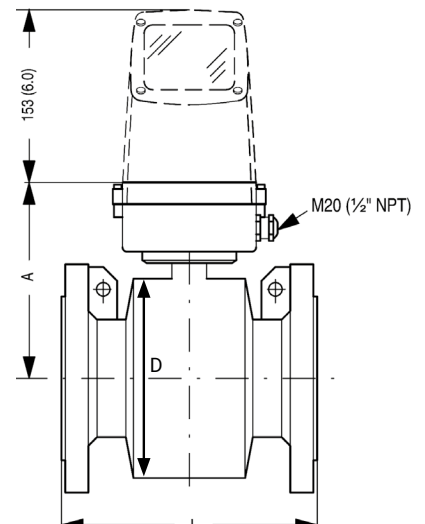
DN 15...40



DN 50...300



DN 350...1200





Flow-Nomogram SI-01 / SI-02:

