

WL500-S converter measures both flowrate and thermal energy. The induction-based heat consumption meters operate on the principle of electromagnetic induction. This type of meter is used to measure rates of flow and consumption of energy of electrically conductive liquids. They are particularly suitable for applications where conventional mechanical types are not sufficiently reliable and accurate and also when pressure drop is not acceptable. The only factor limiting their applicability is a certain minimum electric conductivity of the liquid and low content of ferromagnetic particles. Measuring device consists of sensor, the pair of dual resistance thermometers and electronic converter. The microprocessor controlled converter is provided with digital display, five push buttons, interface connector RS485 MODBUS and terminals for connecting the sensor to external input/output equipment. The converter WL500-S enables the meter to be used for dosing of a energy or volume of liquid. Dosing can be initiated by means of push button or external signal. The stop of dosing is governed by the converter. Dosing takes place on the background of flow measurement.

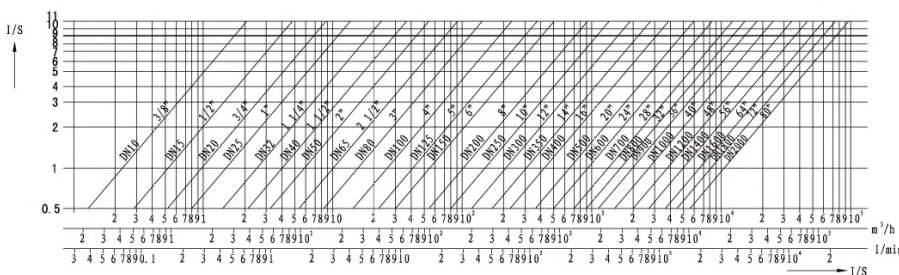


FEATURES :

- high accuracy of bi-directional flow and energy metering
- data backup in case of blackout
- simple mode and parameter selection
- energy and volume dosing
- periodical self-cleaning of electrodes
- real-time clock
- storage for up to 500 real-time data
- ping of sudden flow changes
- easy calibration
- analogue, frequency, multifunctional and data outputs
- selectable communication mode
- EN1434



Electromagnetic Flanged Remote Sensor



TEMP SENSOR

Flow meter curve graph of the relationship between diameter, flow rate and flow
STANDARD SPECIFICATION

Measuring Range : Min. 0 to 0.001 m/s
: Max. 0 to 12 m/s

Accuracy : 1 \ 0.5~12m/s : +0.5% (User select+0.2% (Relate with sensor diameter)
2 \ 0.1m/s-0.5m/s : +0.5%

Repeatability : +/-0.1% of reading

Display: 3 lines LCD with back light display instantaneous flow rate, positive cumulative volume, the reverse cumulative amount of net accumulated Volume, flow rate percentage, velocity and various self-diagnostic information Current output self-calibration;

Flowrate : 5 digit with decimal point

Totalizer : 9 digit, Forward, Reverse & Net values.

Totalizer Unit : M3, Liter, US Gallon, Imperial Gallon,

Flowrate Unit : L/S , L/M , L/H , M3/S , M3/L , M3/H

Energy Unit : KW , MW , KJ/H , MJ/H , GJ/H, BTU/H, KBTU/H

Temp unit : °C, °F

Other : Velocity, Date, Time, Differential temperature

Keyboard : 4 keys from external for programming

Low cut off % : 0.0%~9.9% adjusts(for Display or output)

Damping time : 0.1s~99.9s adjusts(for Display or output)

Auto Trim : Current output self-calibration; Empty/full Trim; Zero Trim

Self-test function : Current frequency output self-test

Self-diagnostic function: Current loop detection; Zero,Empty and flow signal detection

Self Diagnosis : The following error message is indicated during application

Coil fail, Power fail, Output overanged, ,Internal error ,Overflow, - Empty pipe

Data Storage : Operation parameters and totalization figures are stored by EEPROM for more than 12 years

Environment Temperature: -20°C-60°C

Power supply AC:85-265V,45-62Hz;DC:18-36V

Power rating : AC:10 VA : DC : 10W

Grade of protection : IP65

Input:Thermometers Type Pt 100,Pt 500,Pt 1000 Dual thermometer

Output : power output : 4-20mA load is less than 750Ω

Pulse output : Open collector, Rating : 3 to 30 Vdc, 20 mA Max.

1.Scale pulse, (Pulse/M3, Pulse/L, Other)2. Frequency, 0-5000 Hz

Communication : RS485 Modbus or HART

Max. Cable Length : 50 M

Cable Entry : 5 X PG11,1 X PG9

Case material : ABS

CE Certification : #EN 61000-6-2:2005 ; EN 61000-6-4:2007 ; EN 61000-3-2:2006/A1:2009,#
#EN 61000-3-3:2008.#

FEATURES

- Various liner can be selected that satisfies most industrial applications
- Flow Velocity range:0-12 m/s, with good results for low flow applications
- It comes any flanges such as ,ANSI, DIN, JIS... Etc
- It excellent for high pressure application
- Protection class: IP68 is available, and the sensor can sink into the water
- PFA Liner suitable in vacuum tube
- High accuracy of +/-0.5% of reading(or+/-0.2% of reading)
- With Forward/Reverse flowrate measure function



- 1.Design with circuit lightning protection. High anti-interference circuit, apply to varieties of harsh environments.
- 2.Provide sensors with zero-revision and back to zero with automatic function.
- 3.With low conductivity function of measurement.
- 4.Using electric capacitive technology with hollow and full pipe technology of detection to prevent the emergence from false alarms.
- 5.With the consistency of exchange converter, there is no need to re-enter the parameters.6.Multiple output interface of communication could choose
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 - hart communications (option)
 - RS485 (Modbus Option) the interface of communication.
 - profibus (option)
- 7.With self-diagnostic function
- 8.anti-covering
- 9.Multi points calibration of correspond flowrate correspond with 4-segment velocity correspond to correction.

EL1000 SPECIFICATION

Size	: 6,10,15,20, 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
Measuring Rang	: Velocity 0 - 0.1 m/s min.(+/-0.5%) 0.1 - 12 m/s max.(+/-0.5%)or(+/-0.2%)Option
Material	Measuring Tube : Stainless Steel 304 Flange : Carbon Steel (standard) : Stainless Steel 304(OPTION) : Stainless Steel 316(OPTION) Coil Housing : Carbon Steel (standard) : Stainless Steel 304(OPTION) : Stainless Steel 316(OPTION)
Liner	: Hard Rubber(40-2000 mm) : Neoprene(40-2000 mm) : PFA (10-2000 mm) : PTFE(10-2000 mm)
Protection	: IP 67 : IP 68
Conductivity	: to be more then 5 uS/cm
Explosion Proof	: Exd(ib)qIIBT5 (with WL300 /WL500 /WL500S-Heat Meter)
Electrode & Grounding	: Stainless Steel 316L : Hastelloy B : Hastelloy C : Titanium : Tantalum : Platinum : Tungsten Carbide
Cable Entry	: 2 X PG11
Ambient Temperature	: -25 to +60 Deg. C
Process Connection	: Flange
Flanges Type	: JIS 10K / JIS 20K / JIS 40K ANSI 150# / ANSI 300# / ANSI 600# DIN PN 10 / PN 16 / PN25 / PN 40
Grounding Resistance	: Must be less then 10 Ω
Accuracy	: +/-0.5% of reading (Velocity>=0.5 m/s) : +/-0.001 m/s (Velocity < 0.5 m/s) : +/-0.2% of reading
Temperature	: -10 ~ +80 °C (Hard Rubber) : -20 ~ +80 °C (Neoprene) : -40 ~ +180 °C (PFA) : -40 ~ +130 °C (PTFE)
Max. Pressure	: 2600 Kg/cm2



Model Selection Guide

EL1000 Series										
Example: EL1000-A0050-AB2A1-010-A										
EL1000-	X	XXXX-	X	X	X	X	X-	XXX-	X	Description
Liner	A									Neoprene (40 ~ 2000mm, 1-1/2"~80")
	B									Hard rubber (40 ~2000mm, 1-1/2"~80")
	C									PTFE (10 ~ 2000mm,3/8"~ 80")
	D									PFA (10~2000mm,3/8"~80")
Size		6 ~ 2000								6 ~ 2000mm
Electrode Material		-A								Stainless Steel 316L
		-B								Titanium
		-C								Has. B
		-D								Has. C
		-E								Tantalum
		-F								Platinum
		-G								Tungsten Carbide
		-H								Others
Connection		A								PN10
		B								PN16
		C								PN25
		D								PN40
		E								ANSI 150 #
		F								ANSI 300 #
		G								ANSI 600 #
		H								JIS 10K
		I								JIS 20K
		J								JIS 40K
		K								Others
Grounding									1	None
									2	Grounding Electrode(3 Electrode)
									3	Grounding Ring(S.S.316)
									4	Grounding & Protection Ring(S.S.316)
Protection		A								IP67
		B								IP68
Flange & Housing									1-	Carbon Steel (standard)
									2-	S.S.304 Flange
									3-	S.S.316 Flange
									4-	S.S.304 Flange & Housing
									5-	S.S.316 Flange & Housing
Installation & Cable length								NNN		Compact version
								010~300		Separate version, Cable 10M ~ 300M
Option									-A	None
									-B	Explosion Proof,Exd(ib)ibqIIBT5(with AMC3000/AMC3100 only)
									-C	Pressure higher then standard
									-D	Max. Temp. higher then 180° C

Electromagnetic Flowmeter

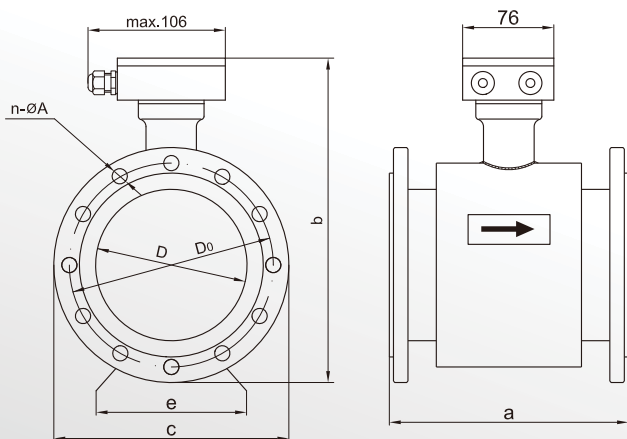
DIMENSIONS

Reference of caliber and pressure \ external dimensions and weight (Remote type)

Caliber (mm)	Pressure (Mpa)	External dimension (mm)				Flange dimension (mm)			Weight (kg)
		a	b	c	e	D	D _o	n× A	
10	4.0	200	245	90		10	60	4× 14	4
15	4.0	200	245	95		15	65	4× 14	4
20	4.0	200	245	105		20	75	4× 14	4
25	4.0	200	223	115		25	85	4× 14	5
32	4.0	200	243	140		32	100	4× 18	7
40	4.0	200	250	150		40	110	4× 18	8
50	4.0	200	263	165		50	125	4× 18	10
65	1.6	200	298	185		65	145	4× 18	15
80	1.6	200	298	200		80	160	8× 18	15
100	1.6	250	308	220		100	180	8× 18	20
125	1.6	250	318	250		125	210	8× 18	22
150	1.6	300	377	285		150	240	8× 22	33
200	1.0	350	435	340		200	295	8× 22	43
250	1.0	400	490	395	310	250	350	12× 23	82
300	1.0	500	560	445	310	300	400	12× 23	100
350	1.0	500	649	505	450	350	460	16× 23	121
400	1.0	600	693	565	450	400	515	16× 26	145
450	1.0	600	720	615	450	450	565	20× 26	210
500	1.0	600	800	670	450	500	620	20× 26	207
600	1.0	600	870	780	610	600	725	20× 30	250
700	1.0	700	972	895	610	700	840	24× 30	350
800	1.0	800	1070	1015	610	800	950	24× 35	460
900	1.0	900	1170	1115	700	900	1050	28× 35	550
1000	1.0	1000	1280	1230	700	1000	1160	28× 35	680
1200	0.6	1200	1460	1405	700	1200	1340	32× 35	770
1400	0.6	1400	1823	1524	815	1400	1560	36× 36	1230
1600	0.6	1600	2033	1726	915	1600	1760	40× 36	1550
1800	0.6	1800	2227	1926	1023	1800	1970	44× 39	2080
2000	0.6	2000	2428	2170	1123	2000	2180	48× 32	2600

Note : 1. " e" is available for DN > 250

DIMENSIONS



Sensor signal connection

