



ALSONIC-EG

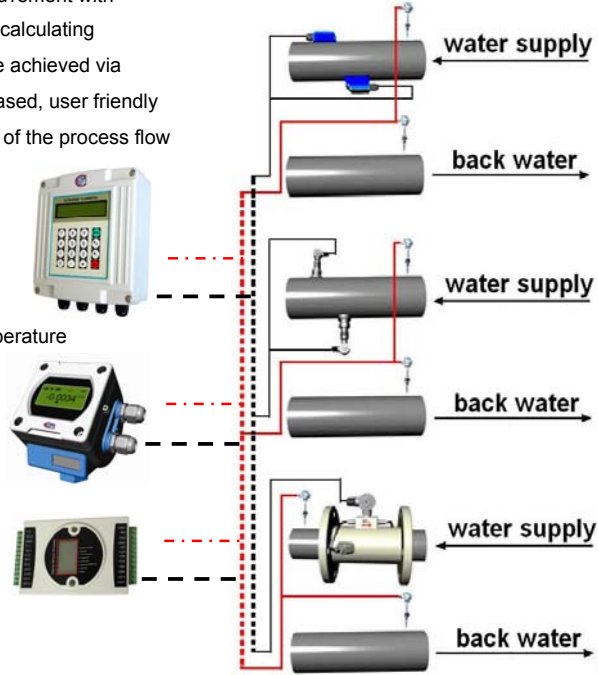
Ultrasonic Thermal Energy Meter Model Alsonic-EG

GENERAL

Alsonic-Energy meters feature transit-time ultrasonic flow measurement with two PT 100 temperature sensors or customer-supplied RTD sensors for calculating total and instantaneous energy consumption. Flow measurement may be achieved via clamp-on, spool piece, or insertion-type sensors. Our microprocessor based, user friendly field programmable flow measurement technique creates no interruption of the process flow and has low installation costs.

FEATURES

- ❑ Measures energy consumption rate and total
- ❑ Compact or wall mount version
- ❑ Proven ultrasonic technology for flow measurement and PT 100 for temperature
- ❑ Clamp-on, spool piece or insertion mounting for flow measurement
- ❑ Wide range velocities - 0.03 ~ ±105 feet/sec (0.01 ~ ±32 m/s)
- ❑ Transducers for pipe sizes ranging from ½" ~ 240" (15 ~ 6000 mm)
- ❑ Excellent accuracy - ±0.5% of reading.
- ❑ RS485 and Modbus communication protocols available
- ❑ 4-20 mA and pulse outputs with available relays and alarms
- ❑ Data logger function - includes time & date, totalizer, diagnostics
- ❑ Response time less than 1 second
- ❑ NIST traceable calibration certificate



SPECIFICATION

- | | | | |
|-------------------------|---|---------------------|--|
| ● Flow measurement | : Transit time ultrasonic method | ● Display | : LCD with backlight, 2 x 20 characters |
| ● Transducer type | : clamp-on, spool piece, or insertion | ● Keypad | : 4 x 4 tactile-feedback membrane keypad
Displays energy rate, total consumption, temperature, instantaneous flow rate, accumulated flow rate, velocity, time |
| ● Temperature measure | : Platinum 100 RTDs | ● Mounting | : wall mounting or integral |
| ● Pipe Size | : ½"-240" (25-6000mm) | ● Max. Cable Length | : 500' (150 m) |
| ● Pipe Material | : Cast Iron, Stainless Steel, Ductile Iron
Copper, PVC, Aluminum, Asbestos
Fiberglass... etc. | ● Power | : ≤ 2W |
| ● Liner Material | : Tar Epoxy, Rubber, Mortar, Polypropylene,
Polystyryl, Ploystryene, Polyester, Ebonite,
Polyethylene, Teflon... etc. | ● Power Supply (AC) | : 90 ~ 260V _{AC} , 50/60 Hz |
| ● Flow Velocity | : 0.03 ~ ±105 feet/sec (0.01 ~ ±32 m/s) | ● Power Supply (DC) | : 3.6V Li battery (for 6 years of operation) |
| ● Resolution | : 0.0003 feet/sec (0.0001 m/s) | ● Data Storage | : Totalized data up 64 days
Time and corresponding flow rates of the last 64 times power on/off events |
| ● Liquid temperature | : -40 ~ 312 °F (-40 ~ 155 °C) | ● Signal outputs | : Manual or automatic flow loss consumption |
| ● Suspended solids | : <2%; particle size smaller than 75µm | ● Signal inputs | : Two RTD channels, and additional inputs |
| ● Engineering units | : Metric or English (US) | ● Response Time | : < 1 second |
| ● Accuracy | : ± 1%-± 2% of reading from 1.5 - 100 feet/sec
± 0.5% of reading (online calibration) | ● Enclosure | : NEMA 4X (IP65) |
| ● Repeatability | : ±0.5% of reading | ● Sensor | : IP68(Submersible) |
| ● Digital communication | : Isolated RS 485, MODBUS, GPRS/GSM | ● Weight | : 4 lb (2 kg) wall mount, 2 lb (1 kg) integral |
| ● Measurement period | : 0 to 99s | | |
| ● Ambient Temperature | : -4 ~ 122 °F (-20 ~ 50 °C) | | |

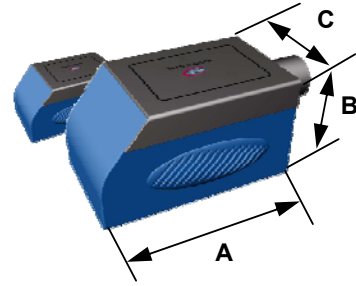
TRANSDUCER SPECIFICATION

Standard-Transducers

Fluid Temperature : -30 ~ +90 °C

Accuracy: 1%

Model	SCS (Small Size)	SCM (Medium Size)	SCL- (Large Size)
Pipe Size	DN15-100mm	DN50-1000mm	DN300-6000mm
A*B*C	45mm*23mm*25mm	64mm*32mm*35mm	98mm*45mm*49mm

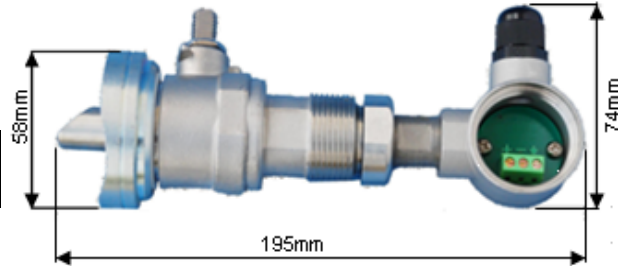


Insertion Transducers

Fluid Temperature : -40 ~ +160 °C

Accuracy: 1%

Model	SIS (Standard)	SIL (Large Size)
Pipe Size	DN80-1000mm	DN300-6000mm



High Temperature Transducers

Fluid Temperature : -30~160 °C

Accuracy: 1%

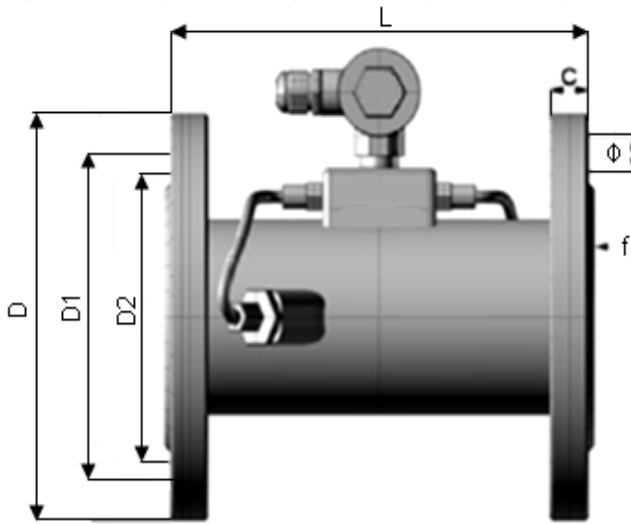
Model	STS (Small Size)	SHL (Medium Size)
Pipe Size	DN15-100mm	DN50-1000mm



Inline Type

Fluid Temperature : -40~160 °C

Accuracy: 0.5%



DN	L	D	D1	φ×n	D2	f	C
50	200	165	125	18×4	99	3	20
65	200	185	145	18×4	118	3	20
80	225	200	160	18×4	132	3	20
100	250	220	180	18×8	156	3	22
125	250	250	210	18×8	184	3	22
150	300	285	240	22×8	211	3	24
200	350	340	295	22×12	266	3	24
250	450	405	355	26×12	319	3	26
300	500	460	410	26×12	370	4	28
350	550	520	470	26×12	429	4	30
400	600	580	525	26×16	480	4	32
450	700	640	585	30×20	548	4	34
500	800	715	650	33×20	609	4	36
600	1000	840	770	36×20	720	5	38
700	1100	910	840	36×24	794	5	40
800	1200	1025	950	39×24	901	5	42
900	1300	1125	1050	39×28	1001	5	44
1000	1400	1255	1170	42×28	1112	5	46

Note: all dimensions are mm unless stated

ACCESSORY



Pt-100 RTD



Measuring Tape



Mounting Belt



Silicone grease



Thickness gauge



Transducer cable

Energy Ultrasonic Flowmeter

Wall Mount

Size: 180x170x56mm

Material: cast aluminium

Setting data: flow unit, zero, clear total flow, K-factor, date, passwords, linearity factor, etc....

Input: 3 channel 4-20mA analog input, 2 channel resistance signal input

Output: Isolation RS232/RS485 output, MODBUS
2 channel isolation OCT output
1 channel isolation 4-20mA output (two-wire)

Protection: IP65



Compact

- Display:**
1. status
 2. error time
 3. temperature difference
 4. temperature
 5. energy flow
 6. total flow
 7. flow rate
 8. positive total flow

Size: 96x96x129mm

Input: 3 channel 4-20mA analog input, 2 channel resistance signal input

Output: Isolation RS232/RS485 output, 2 channel isolation OCT output
1 channel isolation 4-20mA output (two-wire), MODBUS

Protection: IP68

DC Power 3.6V Li battery (for 6 years of operation)



Remote Module

Size: 120x80x30mm

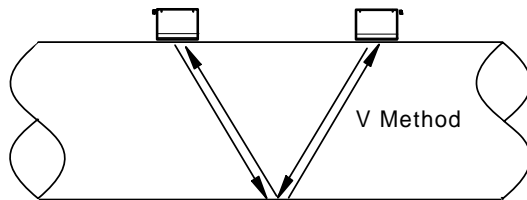
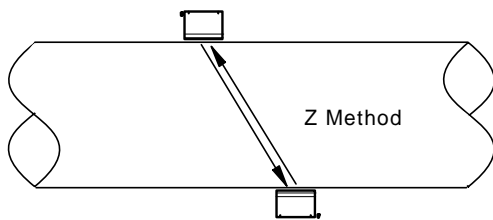
- Display:**
- | | | |
|----------------|------------------------|---------------------------|
| 1. status | 2. error time | 3. temperature difference |
| 4. temperature | 5. energy flow | 6. total energy flow |
| 7. flow rate | 8. positive total flow | |

Input: 3 channel 4-20mA analog input, 2 channel resistance signal input

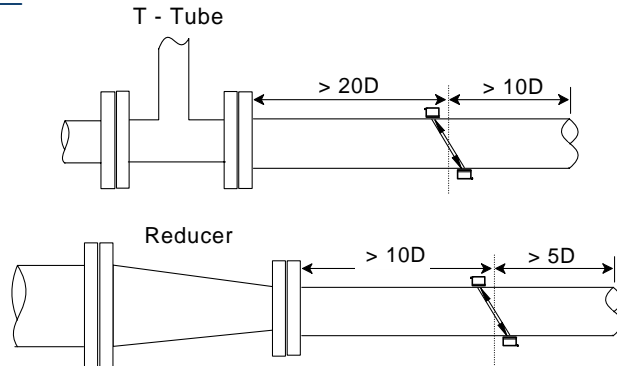
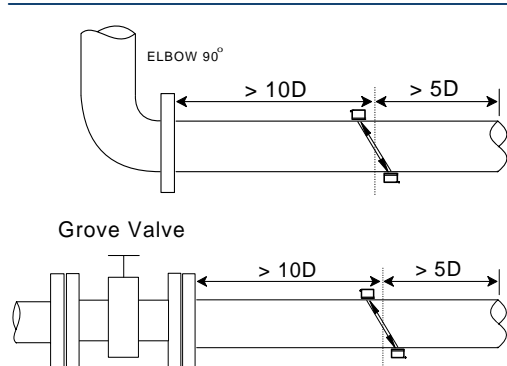
Output: Isolation RS232/RS485 output
2 channel isolation OCT output
1 channel isolation 4-20mA output (two-wire)



INSTALLATION



STRAIGHT RUN PIPING REQUIREMENT








**** Please contact your local SMC application engineer**

You also need to provide the following information:

Type of Fluid	Please provide the name of your fluid, including operating density and viscosity
Line Size	Nominal pipe size and sensor connection type (insertion,clamp, etc..)
Process Pressure and Temperature	We will calibrate your flowmeter as close to your operating conditions as possible
Type of Electronics	Output and installation type (compact, wall mount, panel mount,etc..)
Pipe Material	Please provide the name of your pipe material (Copper, PVC, black iron, etc.)

➤ Model Selection Guide

Alsonic-Energy									
Example 1: Alsonic-EG-CPE-SMCTS-C1-05-AC									
Alsonic-EG-	**	**	**	**	**				Description
Compact-multichannel with display,RS232/RS485,OCT output,4-20mA output 	CPE						Flow Meter		
Module-Energy, 4-20mA, RTD input, RS-232/RS-485, OCT, 4-20mA output 	MUE								
Wall mount with display, multichannel input/outputs 	WLE								
Pair of PT 100 RTDs		RTD					RTD		
Small clamp sensor, ½" - 4" (15 - 100mm)			SCS			Transducers			
Medium clamp sensor, 2" - 40" (50 - 1000mm)			SCM						
Large clamp sensor, 300 ~ 6000 mm			SCL						
High Temperature clamp sensor; -22-320 °F, ½": - 4" (15 - 100 mm)			SHS						
High Temperature clamp sensor; -22-320 °F, 2" - 40" (50 - 1000 mm)			SHL						
Standard insertion sensor			SIS						
Long insertion sensor			SIL						
Inline spool piece please state size in mm			SN-***						
15' (5m), 2 Cables				C1		Signal Cable Length			
30' (10m), 2 Cables				C2					
45' (15m), 2 Cables				C3					
Additional wall mount transmitter 					TW		Options		
Additional panel mount transmitter 					TP				
thickness gague					P1				