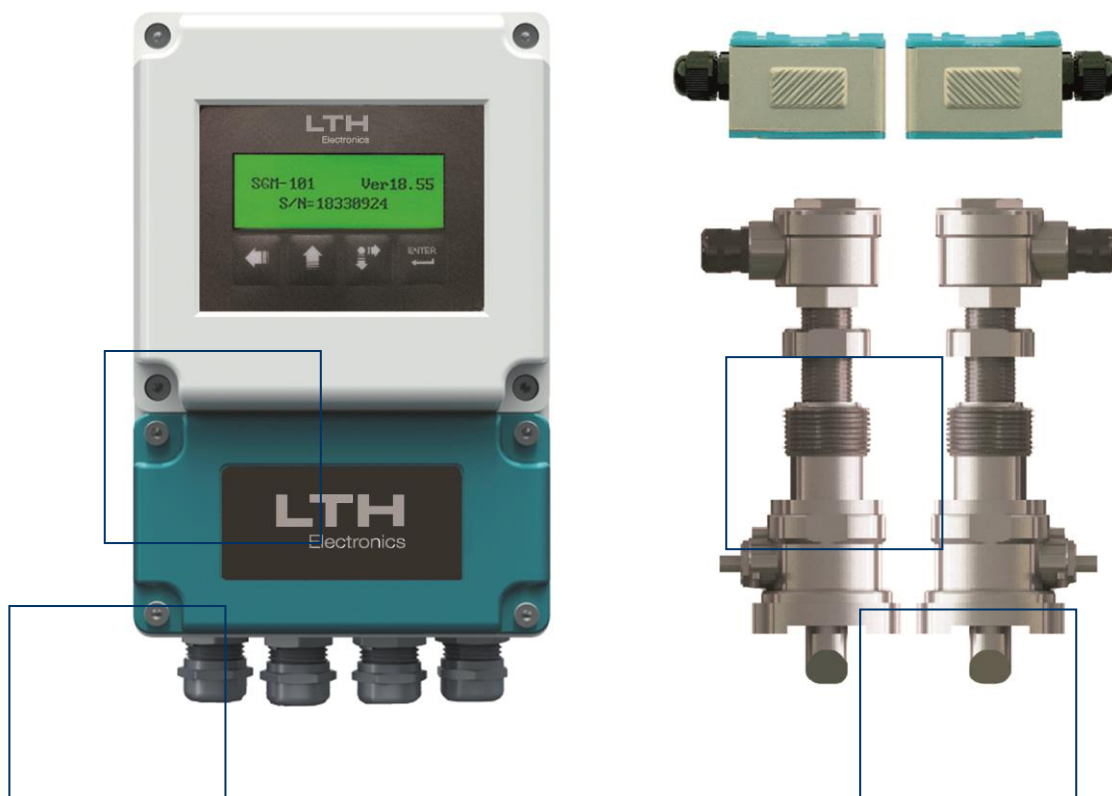


SGM-101F

Time Transit Ultrasonic Flow Meter



Features

- IP68 clamp-on or insertion transducers
- IP66 Wall mounting instrument
- Simultaneous display of flow rate and cumulative volume(Totaliser)
- 0-20/4–20mA, pulse(OCT) and relay with RS485 Modbus output
- Optional SD card for data logger
- 230vAC or 24vDC power supply options

The SGM-101F time transit ultrasonic flow meter comprises a digital converter and two clamp-on or insertion ultrasonic transducers. The system is designed to measure the fluid velocity of a liquid inside a closed pipe. The transducers are a non-contacting, clamp-on type, which provide the benefits of non-fouling operation and easy installation.

The SGM-101F utilizes two transducers which work as ultrasonic transmitters and receivers, they are clamped on the outside of a closed pipe at a specific distance from each other and can be mounted in V position where the sound crosses the pipe twice. This is the most common measurement method for pipes with inner diameters ranging from 20 to 300mm. They can also be used in the W position where the sound crosses the pipe 4 times for plastic pipes with a diameter from 10 to 100mm. Alternatively they can be used in the Z position with the transducers mounted on opposite sides of the pipe and the sound crosses the pipe once and the pipe diameter is between 300 and 500 millimetres. The selection of the mounting position depends on the characteristics of the pipe and liquids being measured, insertion transducers are also available.

The SGM-101F instrument is available in an IP66 wall mounting format and has a number of output standard as : 0-20/4-20mA current, pulse, relay output with RS485 modbus RTU. It is possible to add SD card 1GB up to 32GB for data logger option. The instrument has approximately 100 different menu windows numbered from M00 to M99 simplifying the selection and configuration of parameters and options. The SGM-100F system is suitable for many flow measurement applications including:.

- Water, water supply and drainage water
- Sewage with low particle content
- Seawater
- Power generation plants, heat energy, boiler feed water and energy management systems
- Metallurgy and mining applications
- Petroleum and chemicals
- Food, beverage and pharmaceutical
- Pulp and paper
- Pipeline leak detection
- Network monitoring systems, energy and flow computer management

Specification:

Instruments Housing:	Aluminium
Mounting:	IP66 wall
Instrument Repeatability:	± 0.2 %
Instrument Linearity:	± 0.5%
Sensor process temperature:	TS-2/TM-1/TL-1: -30 to 90°C, TS-2 HT/ TM-1HT: -40 to 160°C TC1/TLC-2: -40 to +160°C
Sensor cable:	5m as standard Option upto 200m max.
Dimensions:	200 x 120 x 77mm
Weight:	1 Kg without sensors

Pipe	Material	Carbon Steel, Stainless Steel, Cast Iron, Ductile Iron, Copper, PVC, Aluminium, Asbestos, Fiberglass-Epoxy, Other
	Pipe Ø range	20-4000mm depending on transducer model
	Inner lining	None, No Liner, Tar Epoxy, Rubber, Mortar, Polypropylene, Polystyrol, Polystyrene, Polyester, Polyethylene, Ebonite, Teflon, Other
	Pipe Lining	Upstream pipe straight section of 10-40D. Downstream pipe straight section greater than 5D. NB - The pipe straight section, downstream of a pump, must be greater than 20D

Measured Solids	Type	Water (General), Sea Water, Kerosene, Gasoline, Fuel Oil, Crude Oil, Propane (-45°C), Butane (0°C), Other Fluid, Diesel Oil, Castor Oil, Peanut Oil, Gasoline #90, Gasoline #93, Alcohol, Water (125°C)
	Suspended solids	Homogeneous fluids, even with material in suspension with a concentration less than 20g/l and particle size less than 1mm.
	Temperature	Depending on the ultrasonic transducer model used
	Flow Velocity	±0.01m/s - ±12m/s
	Direction	Direct and reverse flow rate and separate totalisation (POS ,NEG ,NET)

Data Converter Unit	Accuracy	±1%
	Working conditions	Temperature: -20+85°C, Humidity: 85% non-condensing
	Analogue output	Opto-isolated with configurable mode: 4-20mA, 0-20mA, 0-20mA Via RS232, 4-20mA vs Sound, 4-20mA vs vel.,20-4-20mA, 0-4-20mA, 20-0-20mA Max. load: 1000ohm
	OCT output	Passive opto-isolated: Vmax: 30vDC; Imax 100mA Alarm output or pulse output from flow totaliser with adjustable pulse width in 6-1000mS range
	Relay output	N.1: Max. 125vAC 1A; 30vDC 2A Alarm output or pulse output from flow totaliser
	Serial port	RS485. Communication protocol: MODBUS RTU, MODBUS ASCII
	Keyboard	4 keys
	Display	backlit 2x20 alphanumeric digit LCD
	Display data	Simultaneous display of instantaneous flow rate(-99999.99 - +9999.99m3/h), flow totalisers (-19999999.99 - +19999999.99m3), total operating time displayable via keyboard command
	Data storage	Flow rate ,Totaliser, operating time and all system configuration. Storage on EPROM or Option SD card 1GB upto 32GB ,data logging > 85,000@1GB
	Power supply (depend on model)	230vAC ±15% 50-60Hz: consumption: 3VA. 24Vdc (10 -30 Vdc) : consumption: 2W
	Protection	IP66: we would recommend the use of the protective cover (p.n. 546A103N)

SGM-101F Ordering Codes

Version	
U	Wall mounting with Data logger on 1-32 GB SD card
W	Wall mounting
Z	Special
Power Supply	
A	230v AC
D	10 -30 VDC
Z	Special
Transducers	
A0--	None
TS-2	Clamp-on type for pipes DN 20-100 / -30-90°C
TM-1	Clamp-on type for pipes DN 50-700 / -30-90°C
TL-1	Clamp-on type for pipes DN 300-4000 / -30-90°C
TS2H	Clamp-on type for pipes DN 20-10 high temperature -40-160°C
TM1H	Clamp-on type for pipes DN 50-700 - high temperature -40-160°C
TC1-	Insertion type for steel pipe -40-160°C
TLC2	Insertion type for cement pipe
Z999	Special
Additional output	
4	RS485- MODBUS
N	None
Z	Special
Optional (opt.)	
A	None
B	MODBUS communication software (010F109A)
Z	Special



These products comply with current European Directives

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