GST/SFC011GS
Clamp-on Ultrasonic Flowmeter

DESCRIPTION

Guides wave Type Clamp-on Ultrasonic Flowmeter. GST/SFC011GS is a clamp-on ultrasonic flowmeter for small diameter piping. There is no need for additional piping work because flow rate can be measured just by sandwiching the existing tube. The piping is virtually kept clean.
Most suitable for processes requiring cleanliness such as semiconductor manufacturing equipment, etc.



KEY FEATURES

- **Clamp-on**
  Flow rate can be measured just by sandwiching the existing tube.
  Essentially clean because it does not contact the piping.
- **Energy saving and space saving**
  Simultaneous measurement of up to 6 lines with one SFC011GS. Multiple units can be connected to each other (No need for crossover wiring).
- **High-speed operation**
  30 ms arithmetic processing.
- **Zero adjustment**
  By performing zero adjustment before measurement, it can be started under the optimum conditions for the fluid to be measured.
- **Abundant functions**
  · 7Seg LED (red, 4 digits) indicates instantaneous flow rate and status.
  · Various analog outputs of instantaneous flow rate (select according to output types).
  · Frequency output (1 kHz F.S.), error output, instantaneous flow rate upper/lower limit alarm, integrated flow rate output, and integrated flow rate upper limit alarm (open collector).
  · Parameter settings and flow rate data acquisition are available via RS-485 communication.
  * RS-485 communication converter (sold separately) is required.
- **Conformity standards**
  · EMC conformity standards: EN61326-1:2013, EN61326-2-3:2013
  · RoHS2 compliance

STANDARD SPECIFICATIONS

CONVERTER SPECIFICATIONS

Power supply voltage:	24 V DC ±10%
Current consumption:	Approx. 350 mA
Inrush current:	Approx. 800 mA
Display:	4 digits (Instantaneous flow rate, status)
Analog output:	4 to 20 mA DC (Standard)
Load resistance:	500Ω or less
Digital output:	NPN Open collector (Normal Open)
	Load rating: 30 V, 10 mA DC
	Function Frequency output (1 kHz F.S.)
	Error output
	Instantaneous flow rate upper/lower limit alarm
	Integrated flow rate output
	Integrated flow rate upper limit alarm
Communication protocol:	RS-485 Half-duplex communication start-stop synchronization Modbus Protocol, RTU mode
	Baud Rate 115.2 kbps
	Data size 8 bits
	Parity Even
	Stop bits 1 bit
	Address Switch 01 to 32
Ambient temperature:	Single unit: 0 to 45°C, Multiple units: 0 to 25°C
Ambient humidity:	30 to 80% RH (free from dew condensation)
Installation:	DIN rail mounting
Structure:	Equivalent to IP20 (indoor use)
Material:	Heat resistant ABS resin (white)
Weight:	Approx. 250g (including power supply terminals)

DETECTOR SPECIFICATIONS

Connection:	Dedicated cable (standard 5 m)
Structure:	Equivalent to IP20 (indoor use)
Material:	PPS GF (30%)
Weight:	Approx. 130g

FLUID SPECIFICATION

Measurement target:	Purified water, photoresist, low-K material, thinner, etc. (fluid that does not contain bubbles)
Fluid temperature:	Normal temperature (±0.5°C)
Ambient temperature:	Normal temperature (±0.5°C)
Fluid pressure:	0 to 0.5 MPa

COMPATIBLE TUBE/FLOW RANGE/ ACCURACY

Tube	Flow range [L/min]	Accuracy *1
PFA 1/8 " (O.D.)	0 to 0.5	±2% of R.D. Flow rate: ±0.016 L/min for 0.8 L/min or less
PFA 1/4 " (O.D.)	0 to 2.0	
PFA ø4 (O.D.)	0 to 0.5	
PFA ø5 (O.D.)	0 to 2.0	
PFA ø6 (O.D.)	0 to 2.0	

*1 Precision for pure water at 20°C after calibration at the time of shipment

MODEL CODE

Detector model

GST	□□□	–□	□	Remarks
Suitable tube outline	031			⅛"
	040			ø4
	050			ø5
	060			ø6
	063			¼"
Tube type		–D		Thickness tube
		–T		Thinness tube
Special requirements			(Blank)	N/A
			/Z	With special request *1

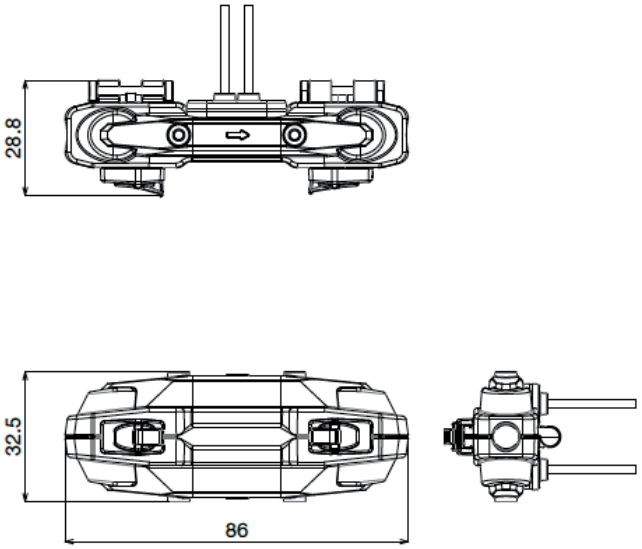
Converter model

SFC011GS	–□	□	Remarks
Analog output	–0		4–20 mA
	–1		0–20 mA
	–2		0–5 V
	–3		1–5 V
Special requirements		(Blank)	N/A
		/Z	With special request *1

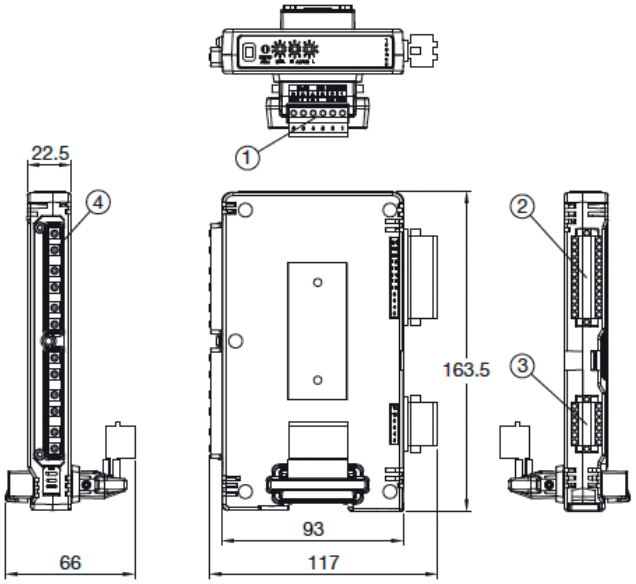
*1: In case special specifications are specified, write "/Z" at the end of the code and describe the content separately.
(Inquire availability of the production for such specifications in advance)

OUTLINE DRAWING

Detector (GST)



Converter (SFC011GS)



CONVERTER TERMINALS

①Power supply terminals

Terminal	Contents
1	24 V DC
2	0 V
3	FG
4	RS485+
5	RS485–
6	SG

②Digital output terminals

Terminal	Contents
1	CH1 output+
2	CH1 output–
3	CH2 output+
4	CH2 output–
5	CH3 output+
6	CH3 output–
7	CH4 output+
8	CH4 output–
9	CH5 output+
10	CH5 output–
11	CH6 output+
12	CH6 output–

③Analog output terminals

Terminal	Contents
1	CH1 output+
2	CH1 output–
3	CH2 output+
4	CH2 output–
5	CH3 output+
6	CH3 output–
7	CH4 output+
8	CH4 output–
9	CH5 output+
10	CH5 output–
11	CH6 output+
12	CH6 output–

④Detector connection terminals

Terminal		Contents
CH1	IN	CH1 IN connection
	OUT	CH1 OUT connection
CH2	IN	CH2 IN connection
	OUT	CH2 OUT connection
CH3	IN	CH3 IN connection
	OUT	CH3 OUT connection
CH4	IN	CH4 IN connection
	OUT	CH4 OUT connection
CH5	IN	CH5 IN connection
	OUT	CH5 OUT connection
CH6	IN	CH6 IN connection
	OUT	CH6 OUT connection

*Specification is subject to change without notice.

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