



TECHNICAL GUIDANCE

INDICATION AND OUTPUT OF FLOW RATE, TOTALIZATION AND ALARM,
MIDDLE TO LARGE CONNECTION AND HIGH FLOW RATE MEASUREMENT VERSION

TF-2261T ALL-IN-ONE

MINI THERMAL MASS FLOWMETER

OUTLINE

The TF-2261T can handle larger flows than flowmeters with medium to large connection sizes among the TF-2000 series mini thermal mass flowmeters.

TF-2261T has LCD indication of flow rate and totalization. Also, functions of scaled output pulse and DC4 to 20mA are provided. Furthermore, two-point field adjustable alarm contacts are provided. TF-2261T can be operated by DC24V power supply.

FEATURES

- ❑ Wide range of process connection for high flow rate
Connections of 25mm to 80mm are available. They are useful with the extensive use in Air and Nitrogen supply lines etc.
- ❑ Simultaneous indication of flow rate and totalization
Large two-line LCD is provided.
- ❑ Output of current, pulse and alarm functions are provided.
Remote indication, batch processing and safety operations are achieved by one unit.
- ❑ Mass flow measurement
Flow measurement is not influenced by the change in pressure and temperature.
- ❑ Excellent in durability
Excellent durable sensor supported by old know-how is used.
- ❑ Whole quantity passage detection system
Pressure loss is very small.
- ❑ High speed response
High pressure response - 90% within one second
- ❑ Selection up to six scale ranges can be made.
Up to 6 scale ranges can be preset using keys.

STANDARD SPECIFICATION

Fluid	Air, Nitrogen
Scale range	Min. 0 to 80m ³ /h (nor) / 25mm (1") Max. 0 to 1500m ³ /h (nor) / 80mm (3")
Rangeability	1 : 20 (std.)
Gas press.	- 0.07 to 1.0MPa
Gas temp.	0 to 50°C
Temp. change effect	Within Span: ±0.1%F.S./°C
Press. change effect	Within ±0.1%F.S./0.1MPa
Response	1 sec. for 90%
Material	Tube: SUS304 or SUS316 Sensor: Combination of SUS316, Glass, CTFE, and PT Seal: FKM Housing: AC2A
Finish	Housing: Munsell N8.5 Stainless body not painted
Construction	Waterproof (Equiv. to IP65)
Installation	Horizontal or Vertical (*)
Ambient temp.	0 to 50°C
Cable connection	2 × G1/2 (Terminal: M3 screw)
Power supply	DC24V (DC22V to DC27V)
Consumption	Approx. 5.5W
Process connection	Screw: Rc (1" to 2") Flange: JIS10K (25 to 80mm)

Installation & flow directions: Horizontal and Left to Right (standard) set up at factory



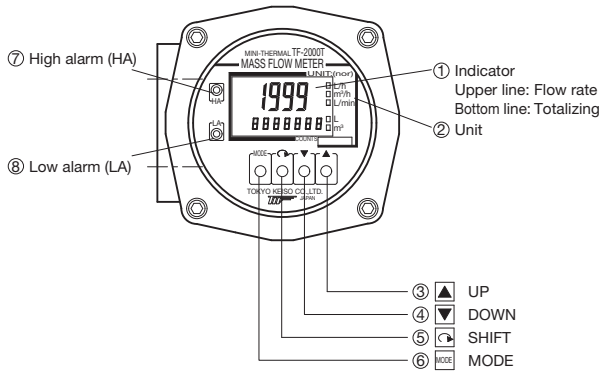
FULL SCALE AND PRESSURE LOSS

Meter size	Full scale	m ³ /h (nor)	Pressure loss (kPa) (*)
25mm (1")	Min.	80	32
	Max.	160	
32mm (1-1/4")	Min.	150	39
	Max.	300	
40mm (1-1/2")	Min.	200	38
	Max.	400	
50mm (2")	Min.	300	32
	Max.	600	
65mm (2-1/2")	Min.	500	33
	Max.	1000	
80mm (3")	Min.	700	35
	Max.	1500	

* Pressure loss (at 1atm, 25°C) at the time of maximum full scale; The rough value of the pressure loss is proportional to the square of flow rate and is in inverse proportion to the pressure.

Indication	Flow rate : 4 digits LCD Height: 13mm Totalization: 7 digits LCD Height: 6mm
Accuracy	Flow rate : ±2%F.S. ±1dig. Totalization: ±2.1%F.S. Totalizing count: 60 to 18000c/h
Low cut-off	Std. 5%F.S. (Adjustable) Flow rate, Totalization, Current output, & Pulse output
Output	Current output : Accuracy ±2%F.S. DC4 to 20mA (Load resistance: 450 ohms or less) Pulse output Output : Open collector Rating : DC30V 30mA Max. Pulse width : (Approx.) 100ms fixed Pulse rate : Synchronized with pulse count Flow rate alarm output Output : Open collector Action : "ON" when operating (With Red LED for operating confirmation) Rating : DC30V 30mA Max. Setting : Push key at front panel No. of points : 2 points (H + L alarm) Setting accuracy: ±1.0%F.S. Setting range : 0 to 100% of F.S. Hysteresis : 1% ±0.5%F.S.
Data backup	Setting of parameter and totalizing value is memorized by EEPROM. (Retaining: For 10 years)

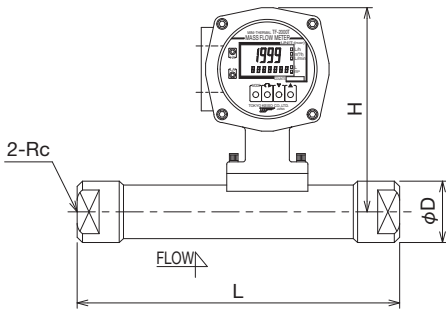
FRONT PANEL



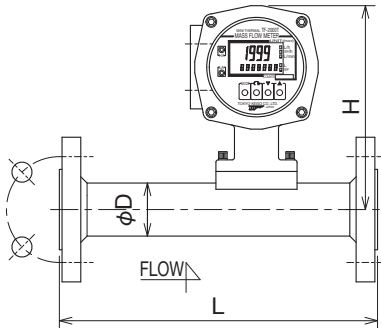
* Use the MODE key for gas setting.

DIMENSIONS

TF-2261T-***-P**



TF-2261T-***-F**

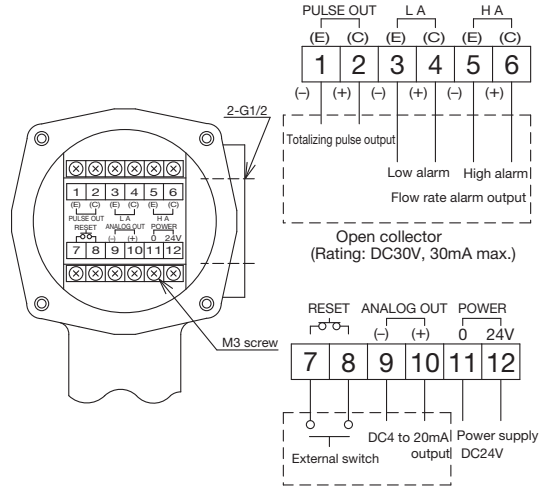


Note: The outer shapes of body for TF-2261T-***-P25 and TF-2261T-***-F25 differ slightly from the above ones.

DIMENSION TABLE

Meter size	L (mm)	D (mm)		H (mm)	Mass (Approx.) kg	
		Flange	Screw		Flange	Screw
25mm	195	34	50	166	5.0	3.3
32mm	215	43	60	175	5.5	3.2
40mm	230	49	65	177	5.7	3.3
50mm	270	61	75	183	6.8	4.0
65mm	290	77	—	191	9.4	—
80mm	320	89	—	198	10.4	—

TERMINAL



MODEL CODE

Model code										Description		
TF-2261	T	—									Scale range	
Full scale flow rate * A B C —										SUS304 (Available only for flange connection)		
Materials										SUS316 (Available for all models)		
Connection rating										Rc screw (1" to 2")		
Connection size										JIS 10K Flange (25 to 80 mm)		
* : Full scale flow rate = (AB) × 10 ^c m ³ /h (nor)										25 mm (1")		
(Ex.) 80 m ³ /h (nor) → 800										32 mm (1-1/4")		
400 m ³ /h (nor) → 401										40 mm (1-1/2")		
1500 m ³ /h (nor) → 152										50 mm (2")		
Flow direction										65 mm (2-1/2")		
										80 mm (3")		
										— R Left to Right (std.)		
										— L Right to Left		
										— U Bottom to Top		
										— D Top to Bottom		

CAUTION FOR INSTALLATION

- Straight run upstream and downstream (d: inside diameter)

Upstream	Downstream
10d	5d

- Installation of the pipe is the same connection as flowmeter.
- Rc screw connection is to be used for the pipe less than Sch. 80.
- Pipe which is different from connection of flowmeter is ±1 size. Install the necessary straight run of the same connection as the flowmeter.
- Install valves downstream if any.
- Before installing the flowmeter onto process piping, flush and clean the whole piping.
- Use the shielded cable for wiring and do not locate it near to power supply line etc. to avoid the electric noise.
- There is the arrow mark showing the flow direction. Make the installation so that the measured gas can flow as per the arrow marking.

* Specification is subject to change without notice.

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