

Small Size Mass Flow Meter CME Series

The CME Series is a small size, high accuracy and high cost performance gas mass flow meter using a newly developed Yamatake Micro Flow™ sensor, which is a thermal-type flow velocity sensor unit.



1. Specifications

1.1 General Specifications

Applicable gas	Air, Nitrogen, Argon or Oxygen (designated by model number). Corrosive components such as chlorine, sulfur and acid must not be included in these gases. The gases must be dry and clean excluding dust and oil mist.
Measurement flow range	0 to 0.5L/min, 0 to 2L/min, 0 to 20L/min or 0 to 50L/min (designated by model number). (Air conversion value at 20°C and 1 atmosphere)
Operating temperature	0 to 50°C for both ambient and gas temperatures 0 to 35°C for guaranteeing temperature performance
Ambient humidity	10 to 90%RH (no condensation allowed)
Storage temperature	-10 to +60°C
Weight	Approx. 320g

1.2 Structure Specifications

Material	Gas flow passage	SUS303 stainless steel, fluoro rubber
	Case	SUS304 stainless steel
Mounting direction	Top face of body directs upward or to horizontal	
Connection	Rc 1/4	
Operating pressure	0 to 0.5MPa	
Pressure resistance	1.0MPa	
Filter installation	A filter which can remove 0.1μm mist must be installed at upper stream of the CME.	

1.3 Performance

Measurement accuracy	At ambient and gas temperatures 25°C, including pressure performance <ul style="list-style-type: none"> Above 10% of measurement flow range: ±5%RD Below 10% of measurement flow range: Confirmation is required for application.
Temperature performance	Reference temperature is 20°C. Fluctuation is within the following range in 10 to 35°C: <ul style="list-style-type: none"> Above 10% of measurement flow range: ±6%RD
Minimum output resolution	0 to 0.5L/min range : 0.001L/min; 0 to 2L/min range : 0.004L/min; 0 to 20L/min range : 0.04L/min; 0 to 50L/min : 0.1L/min

1.4 Electrical specifications

Signal output	Voltage output: 0 to 5Vdc, or 1 to 5Vdc (designated by model number). Allowable load resistance: 10kΩ min. Note: Use the output after 3 seconds required for circuit stabilization from power supply ON.
Sampling cycle	100 ± 10ms
Power supply	Rated voltage: 12 to 24Vdc, ±12 or ±15Vdc (designated by model number).
Consumption current	100mA max.
Dielectric strength	500Vac for 1 min or 600Vac for one second between all external connectors and body
Insulation resistance	50MΩ between all external connectors and body by 500Vdc megger

1.5 Response time

This is the time required in step input to reach to the output final value ±5%.

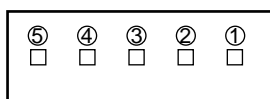
- Within 2s

1.6 Approval

Conformed to EN61326: 1997 / Amendment A1: 1998

2. Wiring

2.1 Connector pin arrangement

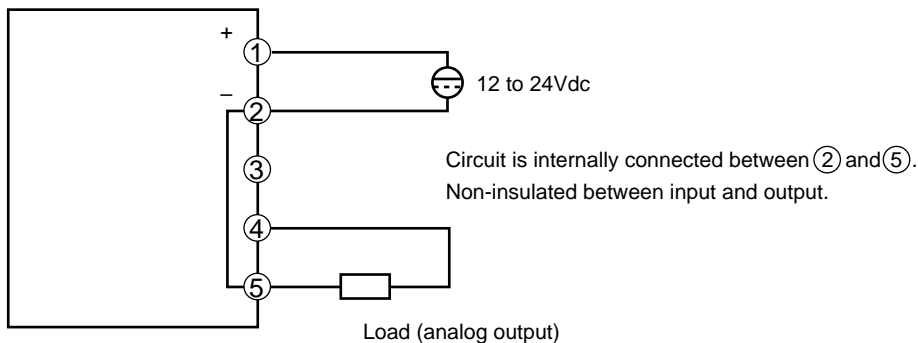


Viewed from connector terminals
Part No. of a harness side connector:
171822-5 (manufactured by AMP Co.)

12 to 24Vdc model		±12 or ±15Vdc model	
Pin No.	Function	Pin No.	Function
	Power supply (+)		+12 or +15Vdc
	Power supply (-)		COM
	(Do not connect.)		-12 or -15Vdc
	Analog output (+)		Analog output (+)
	Analog output (-)		Analog output (-)

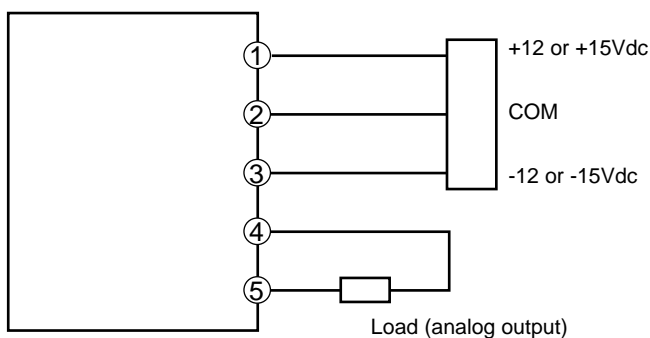
2.2 Wiring example

- 12 to 24Vdc model



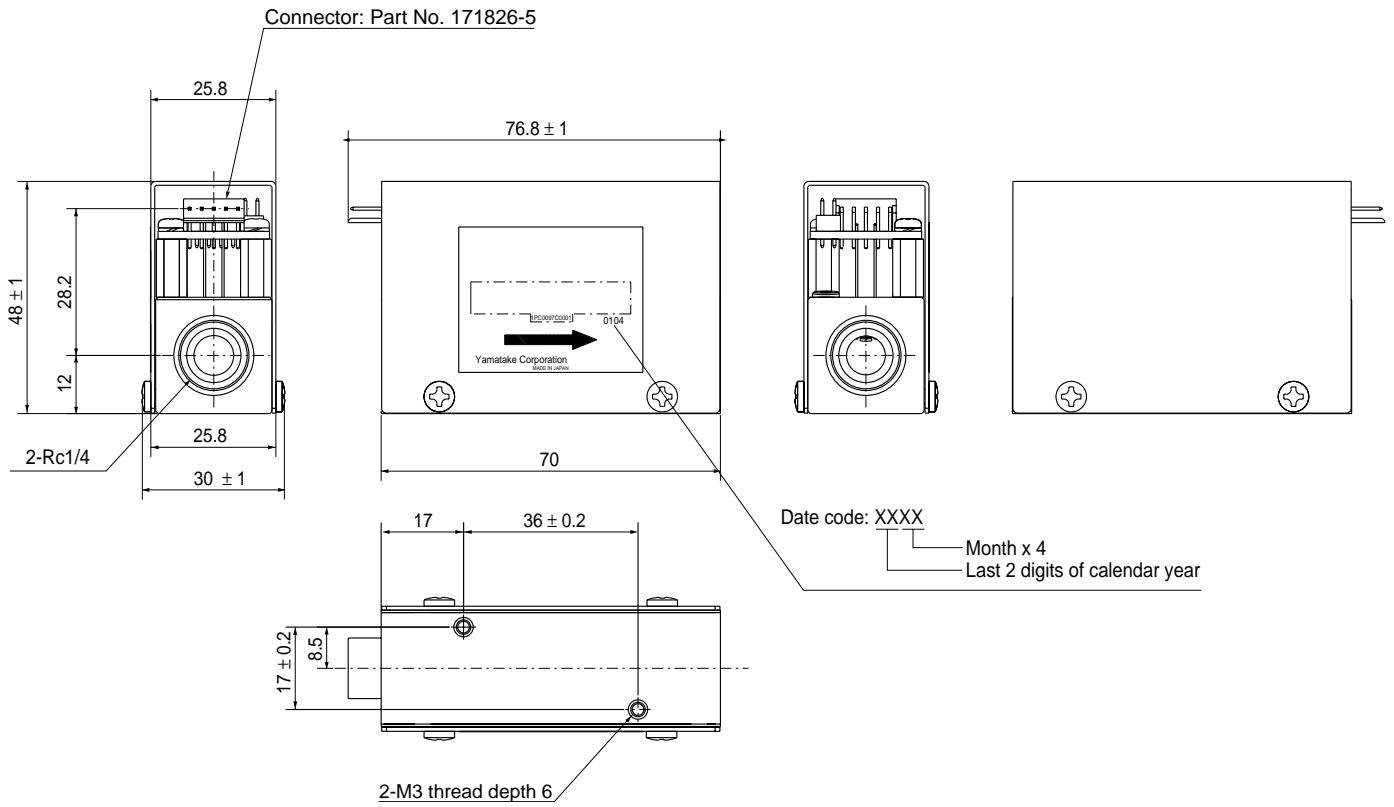
As the terminal ② is internally connected, do not connect any external wiring.

- ±12 or ±15 Vdc model



3. Dimensions

(Unit: mm)



Specifications are subject to change without notice.

YAMATAKE

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