

OUTLINE

The **UCUF** (Ultra-Clean Ultrasonic Flowmeter) series Ultrasonic Flowmeter is designed for very low flow rate applications. The non-wetted Sensor design, constructed of specific grade PFA material, makes the UCUF Series an ideal choice for semiconductor industry, where extreme cleanliness of pipe line inside is of primary importance.

The **SFC-780** is used as a converter for **UCUF** series ultrasonic flowmeters. Using state-of-art signal processing technology, this converter offers stable flow measurement by minimizing adverse effects caused by the bubbles contained in the flow liquids. Thus, it has achieved the reliable flow measurement of semiconductor manufacturing process and chemical liquids handling process. Furthermore, the stability of flow measurement at low flow rate has been improved significantly by the upgrading of time resolution and high speed signal processing compared to the existing products.



FEATURES

- ☐ New signal processing has improved anti-bubbles capability of converter.
Normally, ultrasonic flowmeter has difficulty in measuring fluid containing bubbles, because the bubbles interfere with ultrasonic signal passage. In virtue of DSP and accumulated field experience, anti-bubbles capability has been remarkably improved.
- ☐ Compact and light weight
The detector and the converter are of separate type. Compact and easy wiring because of the plug-in construction of the converter.
- ☐ Coaxial connector
General purpose BNC coaxial connector common to existing products
- ☐ Cleared EMC test conforming to EN61326
- ☐ Lead free compatible
- ☐ Optimal measurement because of zero adjustment before measuring
- ☐ Measurement of high kinetic viscosity liquids as high as 40mm²/s
- ☐ Ideal detector with clean construction
- ☐ Corrosion resistant and easy installation
- ☐ Accuracy : within $\pm 1\%$ of the reading at flow velocity 1m/s or more
- ☐ Versatile functions including followings
Alarm outputs of instantaneous flow rate or fault status output
Various analog outputs of instantaneous flow rate are selectable.
- ☐ Easy parameter setting

STANDARD SPECIFICATIONS

Model		SFC-780
Power supply		DC24V $\pm 10\%$
Consumption current		Approx. 100mA (Approx. 2.5W)
Inrush current Approx.		1.5A/2ms
Output	Pulse output	Either frequency pulse output or fault output is selectable <ul style="list-style-type: none"> Frequency pulse output <ul style="list-style-type: none"> Open collector pulse Load rating: Within DC30V, 50mA Pulse width: 0.5ms (Max.) Pulse rate: 0 to 1000Hz (Full scale) FAULT output (Output will be made if abnormalities occur in converter or detector.) <ul style="list-style-type: none"> Open collector pulse Load rating: Within DC30V, 50mA
	Alarm output	High or Low alarm (2 points) <ul style="list-style-type: none"> Open collector pulse Load rating: DC30V, 50mA
	Current output	DC4 to 20mA <ul style="list-style-type: none"> Load resistance: Within 500Ω
Input	Sensor signal	Exclusive cable (BNC connector)
Communication function		RS485 communication function Protocol: MODBUS Maximum 31 of flowmeters can be connected.

- Measurable fluid: Liquids
- Fluid temperature: 10 to 60°C
(Consult us about 61°C or more.)
- Fluid sound speed: 1000 to 2200m/s
- Fluid kinematic viscosity: 0.3 to 40mm²/s
- Flow detector and Flow range

Detector	Flow range (L/min)	
	Min.	Max.
UCUF-04MB	0 to 0.05	0 to 2.0
UCUF-04K/-4PB	0 to 0.05	0 to 3.0
UCUF-06K/-06PB	0 to 0.4	0 to 8.0
UCUF-10K	0 to 1.0	0 to 20.0
UCUF-15K	0 to 3.0	0 to 50.0
UCUF-20K	0 to 4.0	0 to 80.0

* Coaxial connector is BNC connector.

* Consult us about other models.

- Low flow cutoff: 0 to 25%FS
- Linearizer: Automatic
Manual /15 line-segment approximation (Option)
- Status: FAULT, AGC/ZERO, ALARM
(Red LED display)
- Address switch: 1 to 32 (Selectable)
- Ambient condition: Temperature: 0 to 60°C,
Humidity: 30 to 80%RH
- Installation: DIN rail installation
- Enclosure classification: IP20 (Indoor use)
- Materials: ABS resin (Black)
- Mass: Approx. 200g

SFC-780	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Description
Sensor connection	1				UCUF-04, 06, 10
	2				UCUF-15, 20
Analog output		0			4 to 20mA
		1			0 to 10V(Optional)
		2			0 to 5V(Optional)
		3			1 to 5V(Optional)
Special		(Blank)			Not provided
		/ Z			Provided

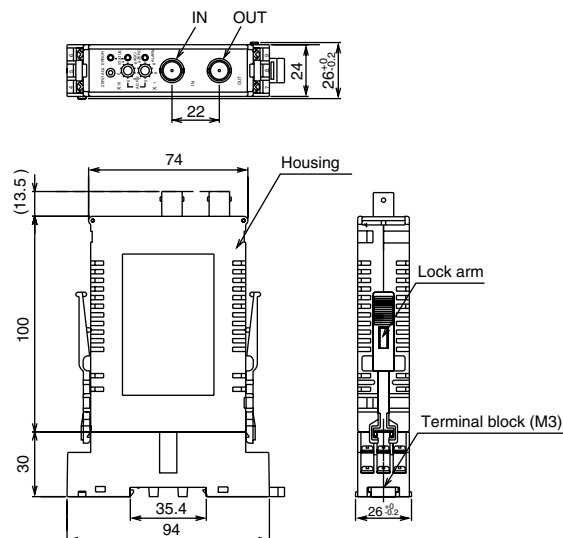
BNC connector

Terminal	Polarity	Description
IN	Inlet	Sensor signal input
OUT	Outlet	

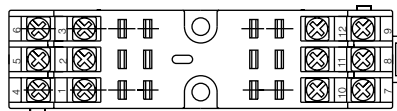
Terminal arrangement

Terminal No	Terminal specification/Terminal name	Description
1	AL2	Alarm output 2
2	AL1	Alarm output 1
3	COM	Common (For AL1, AL2)
4	FG	Grounding
5	0V	Power supply input
6	+24V	DC24V
7	RS485(+)	RS485 communication (+)
8	P.OUT(+)	Pulse output (+)
9	A.OUT(+)	Current output (+)
10	RS485(-)	RS485 communication (-)
11	P.OUT(-)	Pulse output (-)
12	A.OUT(-)	Current output (-)

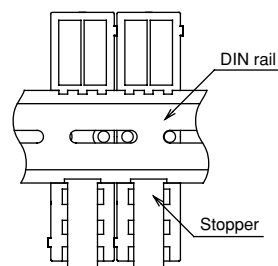
DIMENSIONS (DIN rail installation type)



Terminal arrangement



DIN rail mount (Rear view)



* Specification is subject to change without notice.

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