



OPERATING INSTRUCTIONS

CORFLO™ CMFM CORIOLIS MASS FLOW METER



Introduction

Please read carefully! No liability can be accepted for damage caused by improper use or installation of the Flow Meter.

The CorFlo™ CMFM Coriolis Mass Flow Meters are the leading precision flow and density measurement solution offering the most accurate and repeatable mass measurement for liquids, or slurries. CorFlo™ meters offer the most accurate measurement available for virtually any process fluid, while exhibiting exceptionally low pressure drop.

Safety Precautions

If you are unsure of the suitability of a CMFM Flow Meter for your installation, please consult your FLO-CORP representative for further information.

NOTE: REMOVE ALL PACKING INSERTS BEFORE OPERATING FLOW METER.

Authorized Personnel

All operations described in this operating instructions manual must be carried out only by trained specialist personnel authorized by the plant operator. During work on and with the device the required personal protection equipment must always be worn.

Warning about misuse

Inappropriate or incorrect use of the instrument can give rise to application-specific hazards , e.g. vessel over fill or damage to system components through incorrect mounting or adjustment.

General Safety Instructions

The user must take note of the safety instructions in this operating instructions manual , the country specific installation standards as well as all prevailing safety regulations and accident prevention rules. The instrument must only be operated in a technically flawless and reliable condition . The operator is responsible for trouble-free operation of the instrument. During the entire duration of use, the user is obliged to determine the compliance of the required occupational safety measures with the current valid rules and regulations and also take note of new regulations.

Disclaimer

The information contained in this document is subject to change without notice. FLO-CORP makes no representations or warranties with respect to the contents hereof and specifically disclaims any implied warranties of merchantability or fitness for a particular purpose.

SENSOR SPECIFICATIONS

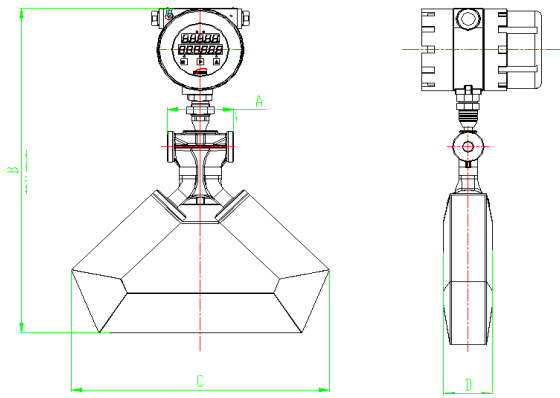
Accuracy	±0.1 ~ 0.5%
Repeatability	±0.1 ~ 0.25%
Density Measurement Range	0.5 ~ 2g/cm ³ , Accuracy: ±0.002 g/cm ³
Operating Temperature	-58 ~+ 392°F (min: -328 to max: 572°F)
Ambient Temperature	-40 ~+ 140°F or -4 ~+140°F
Measuring Tube Material	SS316L
Housing Material	SS304
Nominal Pressure	4.0MPa ; Max:35MPa
Ex-Proof Rating	Ex-Proof: Exd (ia) II C T6Gb

TRANSMITTER SPECIFICATIONS

Ambient Temperature	-4 ~ 140°F
Display Info	Mass flow: Volume flow, Density, Temperature
Display Mode	LCD
Power Supply	24VDC / 220 VAC
Output Signal	Pulse / 4-20mA
Communication	Modbus
Ex-Proof Rating	Ex d ib IIC T6 Gb

Specifications subject to change

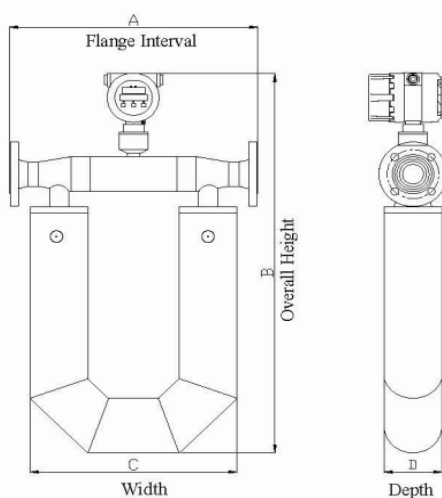
DIMENSIONS



UNIT: INCHES

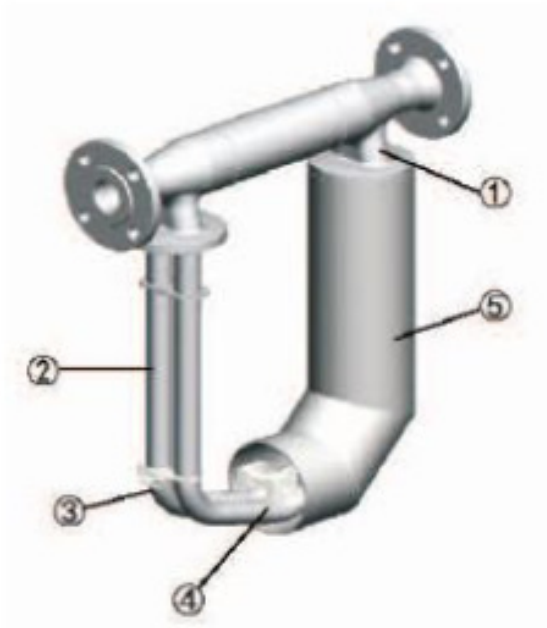
PART NUMBER	A	B	C	D
CMFM-010	17.7	23.2	14.9	2.3
CMFM-015	17.9	23.2	14.9	2.3

UNIT: INCHES



PART NUMBER	A	B	C	D
CMFM-020	21.2	29.1	18.4	4.2
CMFM-025	21.2	29.1	18.4	4.2
CMFM-040	23.6	39.7	19.6	5.5
CMFM-050	23.4	39.7	19.6	5.5
CMFM-080	34.2	53.7	30.7	8.6
CMFM-100	37.4	56.6	32.6	10.7
CMFM-150	51.1	60.6	45.0	12.7

SENSOR STRUCTURE



The CMFM Mass Flow Meter sensor consists of measurement tube, driving device, position detector, support structure, the temperature sensor, housing, etc.

- 1) Supporting structure: the measuring tube fixed on the supporting structure as the vibrating axis.
- 2) The measuring tube (Vibrating tube): consist of two parallel tubes.
- 3) Position detector: used for the measurement of measuring tube distortion.
- 4) Drive device: generate electromagnetic force to drive measuring tube to make it vibrate close to resonance frequency.
- 5) Housing: Protect the measuring tube, driving unit and detector.

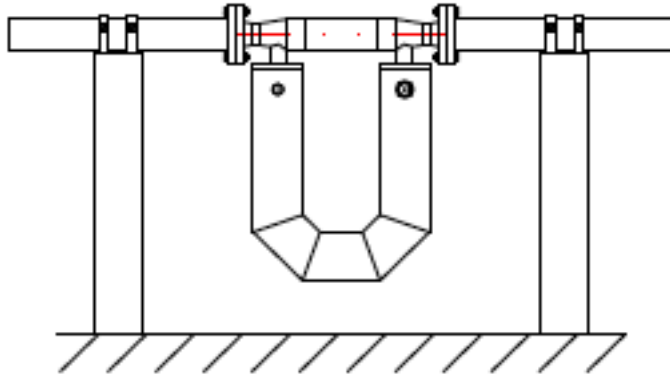
SENSOR INSTALLATION

- The CorFlo™ sensor flow label should be in accordance with the flow direction
- Proper support is needed for preventing tube vibration
- To prevent vibration, flexible connectors should be installed for isolation between pipe system and sensor
- Flanges keep parallel and their center points locate on the same axis to avoid subsidiary force generation
- Vertical installation, flow from the bottom up while measuring, the meter should not be installed on the top to prevent air getting trapped inside the tubes

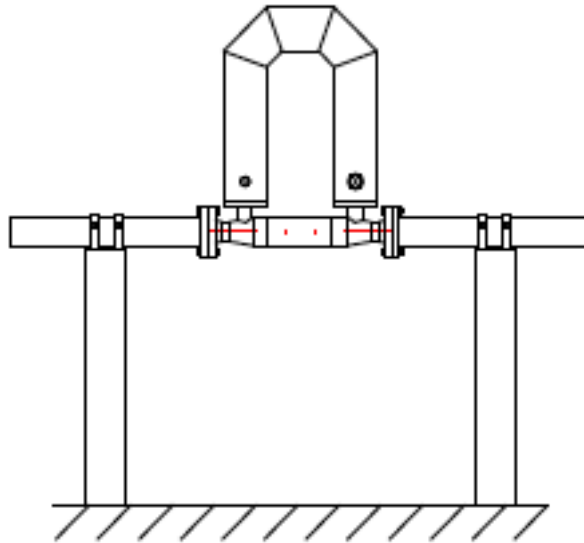
INSTALLATION RECOMMENDATIONS

In order to ensure the reliability of the measurement, the ways of installation should consider the following factors;

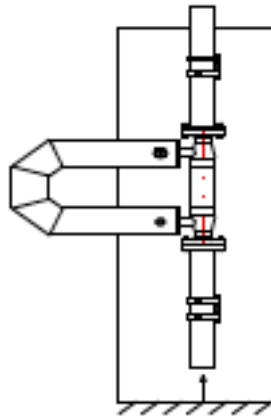
The meter shell should be installed downward when measuring liquid flow, so that air cannot get trapped inside the tubes.



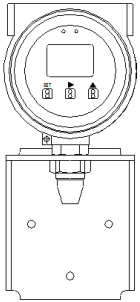
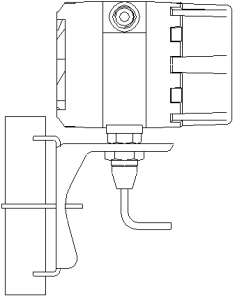
The meter shell should be installed upward when measuring gas flow, so that liquid cannot get trapped inside the tubes.



The meter shell should be installed sideward when the medium is turbid liquid.
 The flow direction of medium goes from the bottom up through the sensor.



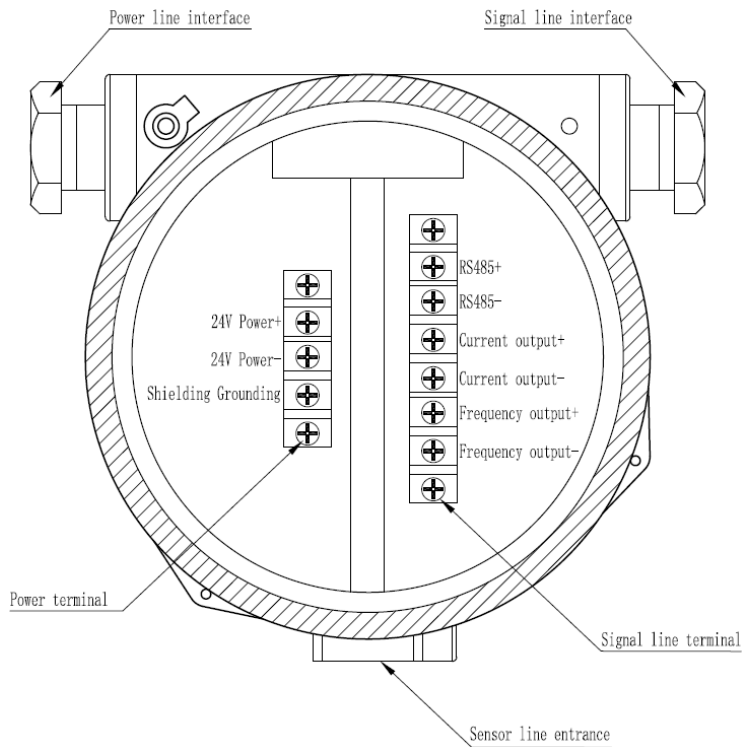
CONNECTION BETWEEN SENSOR AND TRANSMITTER

Installation Type	Description
	<p>Integrated type</p> <p>The signal lines between sensor and transmitter have been connected well before delivery, the users only need to connect external wiring.</p>
	<p>Remote type</p> <p>Mounting bracket will be equipped for remote type. Cable length for standard configuration is 2m Use air plug to connect transmitter and sensor (air plug protection is IP67)</p>

TERMINAL WIRE FOR TRANSMITTER

The 1 st line signal terminals	Signal Descriptions
1	RS485+
2	RS485-
3	Current output 1+
4	Current output 1-
5	Current output 2+
6	Current output 2-
7	Frequency output +
8	Frequency output -
The 2 nd line signal terminals	Signal Descriptions
1	24V Power+
2	24V Power -
3	Shielding Grounding

Table 4-2 Wiring terminal definition



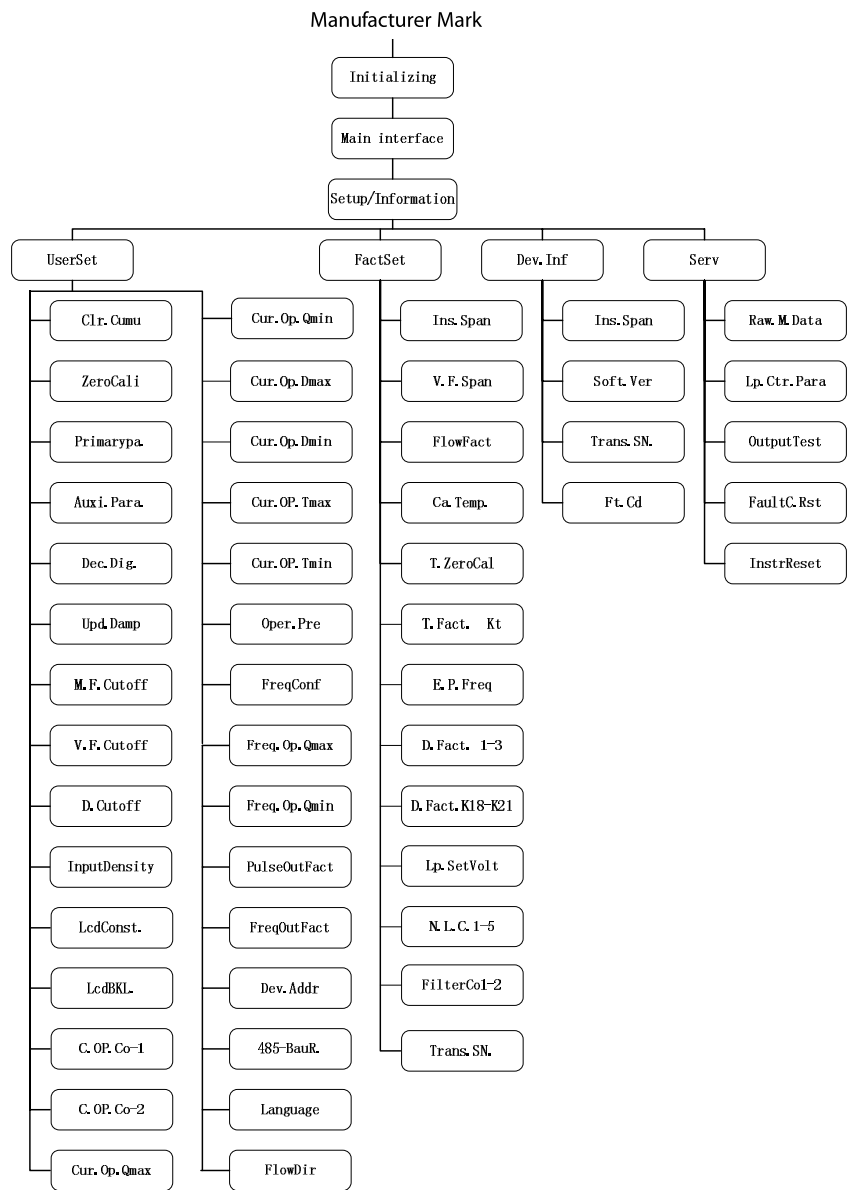
DETAILED REQUIREMENTS FOR ELECTRIC WIRING

Follow Wiring Diagram: Sensor and terminal box, Terminal box and transmitter leading wire must strictly follow the wiring diagram to ensure the wiring is correct.

The use of special cables: Connection between terminal box and the transmitter should use special cable to avoid the error measurement.

Separate Traces: Lead between sensor and transmitter should be a separate alignment, do not leave it on the motor cover and other power equipment to avoid an impact of electromagnetic fields on the measurement, lead length must not exceed its maximum allowable distance 100 meters.

SOFTWARE OPERATING PROCEDURE



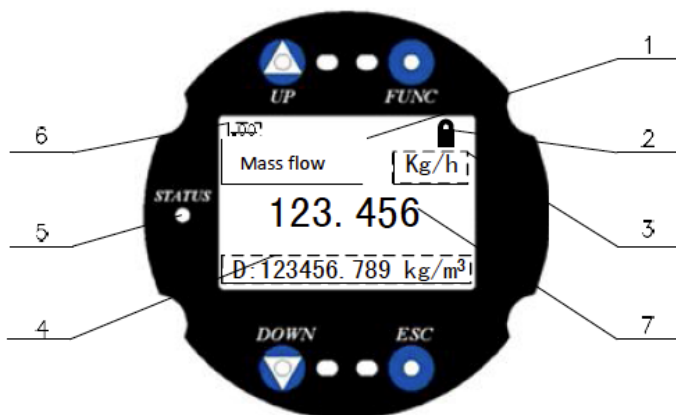
PANEL AND BUTTON

BUTTON FUNCTION



UP: Up button
 DOWN: Down Button
 FUNC: Function Selection (main interface), Confirm (setting interface)
 ESC: Exit the current menu
 Note: The button is infrared, use a finger to press the key to achieve operation

INTERFACE DESCRIPTION



Any one of the following six variables can be displayed: mass flow, volume flow, total mass, total volume, density, temperature. User can set in “variable setting > primary display variable menu”.

KEYBOARD LOCK

- : The keyboard has been unlocked
- : The keyboard has been locked

PRIMARY DISPLAY

User can set in “User Setting > Primary Display Variable Menu”

AUXILIARY DISPLAY VARIABLE

Any one of the following six variables can be displayed: mass flow, volume flow, total mass, total volume, density, temperature. Also measurement value, unit and variable code of the auxiliary variable can be displayed. At the main interface, the auxiliary display variable can be switched by UP and DOWN keys.

If the default auxiliary display variable is required, you can set the unit of variable in “User setting-the auxiliary display variable”.

Mass flow	Total mass	Volume flow	Total volume	Density	Temperature
Fm	Σm	Fv	Σv	D	T

KEYBOARD STATUS INDICATOR LIGHTS

Green light is for unlocking and pressing keys. Red light is for locking or not pressing keys.

DECIMAL CUTOFF INDICATE

When the integer length of the primary or auxiliary display variable is too long, the decimal digits will be intercepted. You can set decimal digits in "User setting -> Decimal digits"

PRIMARY VARIABLE MEASUREMENT VALUE

Displayed updating time and updating damping time set by device is the same, with reference to (10.1 updating damping)

LOCK

If no operation after 30 seconds, the screen automatically locks

UNLOCK

Press and hold UP and FUNC buttons for 6 seconds, when the indicator light turns green, that means unlocking is successful, then unlocking icon will appear.

SYSTEM MENU STRUCTURE

ENTER MENU

In the main interface, press FUNC to enter system setting menu, and press UP and DOWN to select.

User setting
Factory setting
Device info
Service

SELECTION FUNCTION

Press the FUNC button to enter the selection function, you need to input password to enter user setting and factory setting menus.

USER SETTING MENU STRUCTURE

Enter the system setting menu and select user setting, press FUNC to confirm, enter the password by direction button (initial password is 13), press FUNC to confirm and enter menu, press ESC to exit to the main interface.

PARAMETER MODIFY

Enter the user setting menu, using the UP and DOWN keys to select the submenu. Press the FUNC key to modify and select the parameters by the UP and DOWN keys. Press the FUNC key to confirm or press ESC to cancel.

Serial No.	Menu	Setting Method	Parameters Range
1	Clear cumulative	Optional	Yes/No
2	Zero calibration	Optional	Yes/No
3	Primary parameters	Optional	Mass flow/Volume flow/Total mass/Total volume/Density/Temperature
4	Auxiliary parameters	Optional	Mass flow/Volume flow/Total mass/Total volume/Density/Temperature
5	Decimal digits	Set data	0~3
6	Updatingdamping	Set data	0~60.0S
7	Mass flow cutoff	Set data	0~50%
8	Volume flow cutoff	Set data	0-50%
9	Density Cutoff	Set data	0.000-1.000g/cm3
10	Input fluid density	Set data	0.0000-3.0000 g/cm3
11	LCDcontrast	Optional	Open/Close
12	LCDbacklight	Set data	25-50
13	Current configuration-1	Optional	Mass flow/Volume flow/Density/Temperature
14	Current configuration-2	Optional	Mass flow/Volume flow/Density/Temperature
15	Current upper-limit flow	Set data	-60000~60000 Same as range unit
16	Current lower-limit flow	Set data	-60000~60000 Same as range unit
17	Current upper-limit density	Set data	0.0000-3.000 g/cm3
18	Current lower-limit density	Set data	0.0000-3.000 g/cm3
19	Current upper-limit temperature	Set data	-200-400
20	Current lower-limit temperature	Set data	-200-400
21	Operating pressure	Set data	0.00~99.00MPa
22	Frequency configuration	Optional	Mass flow/Volume flow
23	Frequency upper-limit flow	Set data	-60000~60000 Same as range unit
24	Frequency lower-limit flow	Set data	-60000~60000 Same as range unit
25	Pulse equivalent	Set data	0.0000~100.0000g/p or mL/p
26	Frequency output upper-limit	Set data	0.0000~10.0000kHz
27	Communicationaddress	Set data	0~31
28	RS485-BauR.	Optional	1200/2400/4800/9600
29	Language	Optional	Chinese/English
30	Flow direction	Optional	Forward/Reverse/ Bidirection /Absolute value

FACTORY SETTING MENU STRUCTURE

Enter the system Setting menu and select the factory setting, press the FUNC key to confirm, enter the password by direction key (initial password is 988), press FUNC key to confirm and enter the menu, press the ESC key to exit to the main interface.

Serial No.	Menu	Setting Method	Parameters Range
1	Instrument span	Set data	0~60000/Unit: t/h, kg/h, g/h
2	Volume flow span	Set data	0~60000/Unit: m ³ /h, L/h, mL/h
3	Flow coefficient 1	Set data	0~10000
4	Calibration temperature	Set data	-200~100
9	Temperature zero coefficient	Set data	0~5.000
10	Temperature coefficient k1	Set data	-500~500.000
11	Empty pipe frequency	Set data	0~500.00
6	Density coefficient 1	Set data	-500~500.000
7	Density coefficient 2	Set data	-500~500.000
8	Density coefficient 3	Set data	-500~500.000
6	Density coefficient K18	Set data	-500~500.000
7	Density coefficient K19	Set data	-500~500.000
8	Density coefficient K20	Set data	-500~500.000
12	Temperature Coefficient K21	Set data	-500~500.000
15	Closed-loop set voltage	Set data	50~1000 (Digital closed loop using)
18	Correction 1	Set data	0~150 -50~50.00
19	Correction 2	Set data	0~150 -50~50.00
20	Correction 3	Set data	0~150 50~50.00
21	Correction 4	Set data	0~150 50~50.00
22	Correction 5	Set data	0~150 50~50.00
13	Dynamic coefficient 1	Set data	0.000~1.000
14	Dynamic coefficient 1	Set data	0.000~1.000
16	Transmitter serial no.	Set data	SN: xx xxx (x0~9 can be optional)

PARAMETER MODIFY

Enter the factory setting menu and select the submenu by the UP and DOWN keys. Press the FUNC key to modify and select the parameters by the UP and DOWN keys. Press the FUNC key to confirm and press ESC to cancel.

DISPLAY SETTING

Display variables can be set separately for mass flow, volume flow, total mass, total volume, density, temperature.

Display variable	Display variable unit							
	g/s	g/min	g/h	kg/s	kg/min	kg/h	kg/day	t/s
Mass flow	t/min	t/h	t/day	lb/s	lb/min	lb/h	lb/day	
	ml/s	ml/min	ml/h	L/s	L/min	L/h	L/day	m3/s
Volume flow	m3/min	m3/h	m3/day	Gal/s	Gal/min	Gal/h	Gal/day	
	Total mass	g	kg	t	lb	—	—	—
Total volume	ml	L	m3	Gal	—	—	—	—
Density	g/cm3	g/L	g/ml	kg/L	kg/m3	lb/Gal	—	—
Temperature	°C	°F	—	—	—	—	—	—

Setting method for the primary display variable: User Setting ->Input password -> The primary display variable setting->Select the type of display variables ->Select the display unit.

DECIMALS

Set the number of decimal digits, setting range is 0-3, when the primary display variable or the auxiliary display variable automatically intercepts the decimal digits because of too long integer bits, "00" will be displayed at the upper left corner of the screen, which means the current displayed values have decimal digits to be intercepted..

Decimals Setting: User Setting ->Input password -> The number of decimals -> Set decimal digits.

LCD BACKLIGHT

You can select backlight-off when the transmitter LCD is in a bright place; You can select backlight - on under dark environment. The setting method for LCD backlight: User Setting ->Input password -> LCD backlight ->Select the backlight state

MEASUREMENT SETTING

UPDATING DAMPING

This setting is used to eliminate the small and dramatic fluctuations during measurement process. The damping value sets the reaction time of transmitter response to the change of process variable (Unit is second and setting range is 0-60S). This setting value will affect the response speed of mass flow, volume flow and density and not affect the total mass and total volume.

- 1) Higher damping value makes the measurement value change significantly smoother, the change for display, current output and frequency output is slower;
- 2) Lower damping value makes the measurement value change more quickly, the change for display, the current output and the frequency output is faster;
- 3) Imposing higher damping value on fast and intense flow changes may result in measurement error;
- 4) As long as the damping value is not zero, the measurement value will lag behind the actual change value, since the measurement value is an average over time; Generally, low damping value is preferred because of a low probability of data loss and shorter lag time between the actual changed value and the measurement value;
- 5) Updating damping setting: User Setting -> Input Password -> Updating damping -> Modify damping values

SMALL SIGNAL CUTOFF

This setting specifies the minimum measurement values, the measurement value which is lower than the cutoff value will be displayed as 0; This setting includes mass flow cutoff, volume flow cutoff and density cutoff.

- 1) Mass flow cutoff setting range is 0-50% of range, 2 decimal digits
 - 2) Volumetric flow cutoff setting range is 0-50% of range, 2 decimal digits
 - 3) Density cutoff setting range is 0-1g/cm³, 3 decimal digits
 - 4) Volume flow cutoff does not affect the measurement value of mass flow and density; Mass flow cutoff and density cutoff will affect the measurement value of volume flow. The measurement value of volume flow is calculated by the density
 - 5) Mass flow cutoff setting method: User Setting -> Input password -> Mass flow cutoff -> Modify the mass flow cutoff
 - 6) Volume flow cutoff setting method: User Setting -> Input password -> Volume flow cutoff -> Modify the volume flow cutoff
 - 7) Density cutoff setting method: User Setting -> Input password -> Density cutoff -> Modify the density cutoff
- Note: The Display of measurement value, frequency output and current output are to undergo the small signal cutoff.

INPUT FLUID DENSITY

For the volume flow measurement of the known fluid density, when the input density is not 0, then the volume flow calculation will ignore the actual density measurement value, use the input density as a reference of volume flow. Input the density unit is g/cm³, input range is 0-3g/cm³, decimal digit is 4.

Setting method: User Setting -> Input password -> Input fluid density -> modify the fluid density

FLUID DIRECTION SETTING

Flow direction will determine how the fluid forward flow and reverse flow affect the measurement value, the current output value and frequency output value.

- 1) Forward flow: in accordance with flow direction arrow on the sensor
- 2) Reverse flow: in contrast to the flow direction arrow on the sensor

Flow direction setting	The relation with sensor arrow	The relation with displayed value
Forward	Apply to the same in the direction of the flow arrow and most of the traffic situation	Forward flow displayed value is the measurement value; Direction flow displayed value is 0; Forward flow total mass and total volume increase; Reverse flow total mass and total volume are not changed.
Reverse	Apply to the opposite in the direction of the flow arrow and most of the traffic situation	Direction flow displayed value is 0; Forward flow displayed value is the measurement value (no minus sign) ; Forward flow total mass and total volume are not changed; Reverse flow total mass and total volume increase.
Absolute value	Regardless of the direction of arrow	Forward flow displayed value is the measurement value; Direction flow displayed value is the measurement value (no minus sign) ; Forward flow total mass and total volume increase; Reverse flow total mass and total volume increase.
Bidirection	Apply to the forward flow and reverse flow, and forward and reverse flow can not be ignored	Forward flow displayed value is the measurement value; Direction flow displayed value is the measurement value (with minus sign) ; Forward flow total mass and total volume increase; Reverse flow total mass and total volume decrease.

3) The effect of flow direction on current output Flow direction will affect the current output type only when the current

output configuration at mass flow or volume flow.

4) The effect of flow direction on frequency output

Flow direction setting	Actual flow direction		
	Forward	Zero flow	Reverse
Forward	Output>0	Output=0	Output0
Reverse	Output=0	Output=0	Output>0
Absolute value	Output>0	Output=0	Output>0
Bidirection	Output>0	Output=0	Output>0

5) The effect of flow direction on total mass

Flow direction setting	Actual flow direction		
	Forward	Zero flow	Reverse
Forward	Total mass increases	Total mass not changed	Total mass not changed
Reverse	Total mass not changed	Total mass not changed	Total mass increases
Absolute value	Total mass increases	Total mass not changed	Total mass increases
Bidirection	Total mass increases	Total mass not changed	Total mass decreases

CURRENT OUTPUT SETTING

This setting is used for the configuration scheme of current output, and flow range represented by output current.

CURRENT CONFIGURATION SETTING

You can select mass flow, volume flow, density and temperature as the value of current output.

Current configuration setting method: User setting->Input password ->Current configuration->Select current configuration Value

Upper-limit flow and Lower-limit flow for the current

Be used to set the flow value corresponding to current 4~20mA for mass flow configuration and volume flow configuration. The flow unit is the same as transmitter span. When density and temperature are selected by current configuration, this value is meaningless. Flow span is -60000~60000

Upper-limit flow and Lower-limit flow for the current setting method:

User setting->Input password ->Current upper-limit flow->Modify current upper-limit flow

User setting->Input password ->Current lower-limit flow->Modify current lower-limit flow

Upper-limit density and Lower-limit density for the current

Be used to set density value corresponding to current 4~20mA for density configuration. When mass flow, volume flow and temperature is selected by current configuration, this value is meaningless. Density span is 0.0000-3.000 g/cm³

Upper-limit density and Lower-limit density for the current setting method:

User setting->Input password ->Upper-limit densityfor the current->Modifyupper-limit densityfor the current

User setting->Input password ->Lower-limit densityfor the current ->Modify lower-limit densityfor the current

Upper-limit temperature and Lower-limit temperature for the current

Be used to set temperature value corresponding to current 4~20mA for temperature configuration. When mass flow, volume flow and density is selected by the current configuration, the data is meaningless. The range of temperature modification is -200~400

Upper-limit temperature and Lower-limit temperature for the current setting method

User setting->Input password ->Upper-limit temperaturefor the current->Modifyupper-limit temperaturefor the current

User setting->Input password ->Lower-limit temperaturefor the current ->Modify lower-limit temperaturefor the current

FREQUENCY OUTPUT SETTING

This setting is used for configuration scheme of frequency output, as well as the flow rate of the output frequency represents. Settings include frequency output configuration, frequency upper-limit flow, pulse output equivalent, frequency output upper-limit.

Frequency Output Configuration

Mass flow and volume flow can be optional;

Setting method: User Setting ->Input password -> Frequency Configuration ->Select mass flow or volume flow.

Frequency upper-limit flow

Be used for setting the flow value which high frequency represents, unit is the same as that of device range, modify the

scope of value (0-60000).

Setting method: User Setting ->Input password ->Frequency upper-limit flow->Set the upper-limit flow value

Pulse output equivalent

Set total flow value corresponding to a single output pulse, generally used for external device which is sensitive to pulse

equivalent. Modify the scope of value (0.0000 ~ 100.0000g/p or ml/p)

Setting method: User Setting ->Input password ->Pulse output equivalent->Set the pulse output equivalent

Frequency output upper-limit

Be used for setting the upper-limit flow corresponding to the frequency value;

Frequency output lower-limit

Be used for setting the upper-limit flow corresponding to the frequency value;

The value is always equal to 0

The current changed value	Frequency upper-limit flow	Pulse output equivalent	Frequency output upper-limit
Frequency upper-limit flow	—	Calculate according to frequency output upper-limit	unchanged
Pulse output equivalent	unchanged	—	Calculate according to pulse output equivalent
Frequency output upper-limit	unchanged	Calculate according to frequency upper-limit current	—

CLEAR CUMULATIVE

After the total amount is reset, the total mass flow and volume flow will accumulate again.

Setting method: User Setting ->Input password ->Clear cumulative-> Select yes.

ZERO ADJUSTMENT

Zero adjustment is used to modify the stored zero value to the zero value which is applied to the current application after installation, the setting method is below:

Preparatory condition

- 1) After flow meter is power on, warm-up 10 minutes;
- 2) Enable the fluid to flow through the sensor until the sensor temperature and the measured fluid are the same;
- 3) Shutdown downstream and upstream valves of the sensor (if present), so that make the fluid static, and make sure the fluid has been cut off and the fluid is full of the sensor;

Zero adjustment setting

In the system menu, select “User Setting>Input password>Zero adjustment>Yes”

Troubleshooting for zero adjustment

- 1) Make sure the sensor has been filled with fluid and the fluid is completely static;
- 2) Ensure that the fluid does not contain precipitated particles;
- 3) Repeat the procedure of zero adjustment;
- 4) Please contact with the manufacturer for another failure.

Device status view and output test

Enter the system setting menu and select the device information, press the FUNC key to enter and query by the direction key. Press ESC key to exit to the main interface. Device information is read-only mode and can not be modified.

Raw measurement data

Check vibration frequency, phase and zero information of the sensor. If the device has failure, you can provide this data to the manufacturer, and the manufacturer will analyze fault, judge and eliminate on the basis of this data.

Closed-loop control parameters

Check the working status of the closed loop inside the transmitter, including closed-loop detected voltage and closed-loop control gain and so on. If the device has failure, you can provide this data to the manufacturer, and the manufacturer will analyze fault, judge and eliminate on the basis of this data.

Fixed output test

Provide test functions for frequency and current output. When entering this function, the value for frequency and current output is fixed, which can not reflect the changes of the measurement value; After exiting the function, return to the normal output. Be used to adjust the current coefficient and verify the working state of device output. After entering the function, through UP, DOWN keys to adjust the percentage value of output to adjust the frequency and current output value.

FACTORY SETTING MENU

This menu can be only set under the condition of field replacing sensor and calibration. When working in the field, the parameters of this menu can not be adjusted, otherwise it may cause measurement error

Mass flow range

The mass flow range can be set according to the connected sensor.
Mass flow range unit: t/h, kg/l, g/h

Volume flow range

The volume flow range can be set according to the connected sensor.
Volume flow range unit: m³/h, l/h, ml/h

Empty pipe frequency

This setting should not be changed. Please contact the manufacturer if any change is required. This change will result in inaccurate measurement for the volume, density and other parameters.

Flow coefficient

This coefficient can be adjusted only under the following conditions:

- 1) Re-calibration
- 2) Replace sensor
- 3) The error for the measurement value and the actual flow value exceeds flowmeter error level.

The adjustment method is as follows:

The new flow coefficient = the stored flow coefficient × standard flow value / flow value measured by flowmeter

Note: Flow value measured by flowmeter needs to take the average of multiple measurements (at least 3 times)

The content for factory setting menu

The following is the factory setting menu, which can not be changed optionally. Please contact with the manufacturer if any change is required, otherwise any change will result in measurement error.

Flow coefficient², Density coefficient 1, Density coefficient 2, Density coefficient³, Temperature zero coefficient, Temperature coefficient 1, Temperature coefficient 2, Temperature coefficient 3, Closed-loop control parameter, Correction 1, Correction 2, Correction 3, Correction 4, Correction 5, Dynamic coefficient 1, Dynamic coefficient 5

Ordering Information

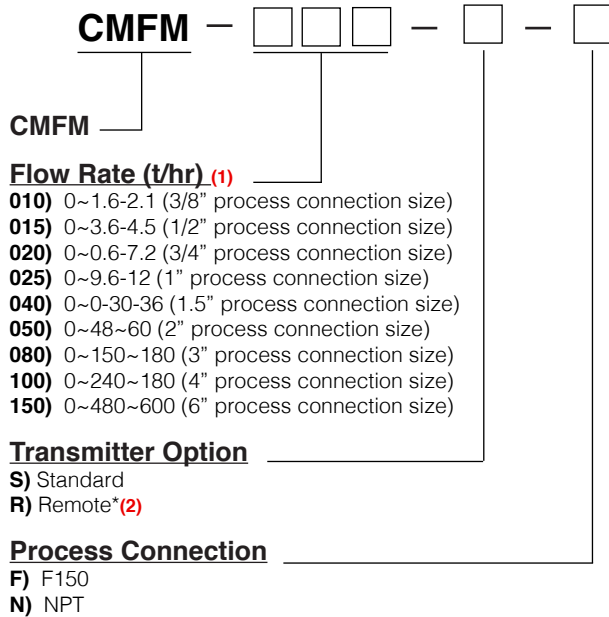
FLO-CORP MODEL NUMBER BUILDER

For Assistance Call **877.356.5463**

Use the diagram below, working from left to right to construct your FLO-CORP Model Number.

Simply match the category number to the corresponding box number.

Example: CMFM-050-S-N CORFLO™ CMFM Coriolis Mass Flow Meter with 0~48~60 t/hr flow rate with a standard transmitter and NPT Process Connection.



*REMOTE TRANSMITTER OPTION



- Mounting bracket will be equipped for remote type
- Cable length for standard configuration is 6 feet
- Use cable gland to connect transmitter and sensor (cable gland protection is IP67)

Ordering Notes:

- (1) Select the best configuration based on your requirements
 (2) Specify cable length required, standard = 6 feet

Warranty Policy

FLO-CORP (Flow Line Options Corp.) warrants to the original purchaser of its products that such products will be free from defects in material and workmanship under normal use and service for a period which is of twelve months from the date of purchase.

This warranty covers only those components of the products which are non-moving and not subject to normal wear. Moreover, products which are modified or altered will not be covered under warranty.

Flow Line Options obligation under this warranty is solely and exclusively limited to the repair or replacement, at Flow Line Options decision, of the products (or components thereof) which Flow Line Options' examination proves to its satisfaction to be defective. FLOW LINE OPTIONS SHALL HAVE NO OBLIGATION FOR CONSEQUENTIAL DAMAGES TO PERSONAL OR REAL PROPERTY, OR FOR INJURY TO ANY PERSON.

This warranty does not apply to products which have been subject to electrical or chemical damage due to improper use, accident, negligence, abuse or misuse. Abuse shall be assumed when indicated by electrical damage to relays, reed switches or other components. The warranty does not apply to products which are damaged during shipment back to Flow Line Options' factory or designated service center or are returned without the original casing on the products. Moreover, this warranty becomes immediately null and void if anyone other than service personnel authorized by Flow Line Options attempts to repair the defective products. Products which are thought to be defective must be shipped prepaid and insured to Flow Line Options' factory or a designated service center (the identity and address of which will be provided upon request) within 30 days of the discovery of the defect. Such defective products must be accompanied by proof of the date of purchase.

Flow Line Options further reserves the right to unilaterally waive this warranty and to dispose of any product returned to Flow Line Options where: a. There is evidence of a potentially hazardous material present with product. b. The product has remained unclaimed at Flow Line Options for longer than 30 days after dutifully requesting disposition of the product.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE OF THIS WARRANTY. This warranty and the obligations and liabilities of Flow Line Options under it are exclusive and instead of, and the original purchaser hereby waives, all other remedies, warranties, guarantees or liabilities, express or implied. EXCLUDED FROM THIS WARRANTY IS THE IMPLIED WARRANTY OF FITNESS OF THE PRODUCTS FOR A PARTICULAR PURPOSE OR USE AND THE IMPLIED WARRANTY OF MERCHANT ABILITY OF THE PRODUCTS.

This warranty may not be extended, altered or varied except by a written instrument signed by a duly-authorized officer of Flow Line Options Corp. For complete terms and conditions please visit www.FLO-CORP.com