


Tek-Cor 1100A



Quick Start Guide

1. Before You Begin

This guide provides basic guidelines to assist you in quickly getting started.

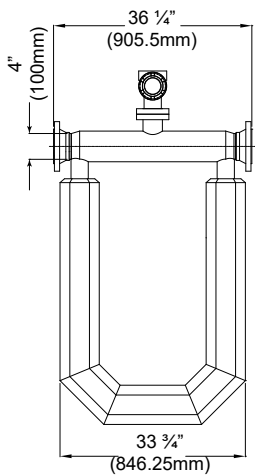
 Installation of the transmitter in an explosive environment must be undertaken in accordance with the appropriate local, national, and international standards, codes, and practices. Review the approvals section of the Tek-Cor 1100A reference manual for any restrictions associated with a safe installation.

2. Unpack

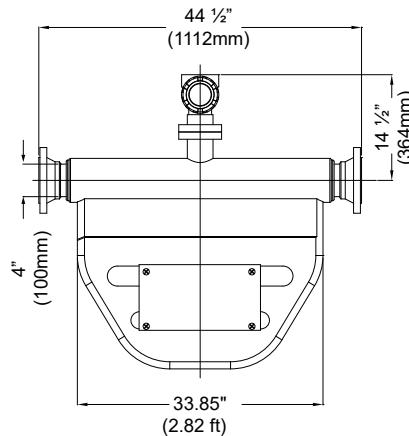
Tek-Cor 1100A Coriolis Mass Flow meter x 1

3. Dimensional View

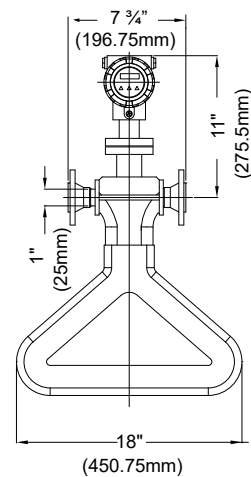
Note: For additional dimensions refer to the detailed manual.



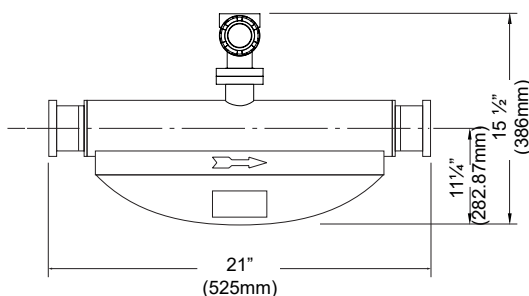
U-Tube



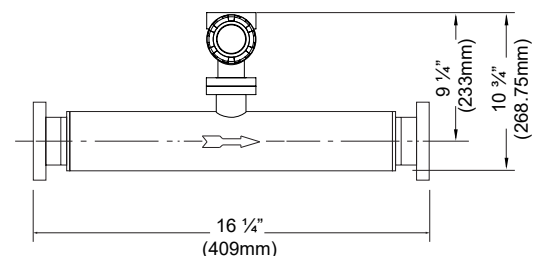
Standard



Nano



Super Bend



Straight

4. Display

Please use the operation panel of the transmitter to set the configuration, such as basic configuration parameters, zero calibration, and cut-off value of low flow and output range of current frequency.

The panel of the transmitter is shown as below:

Indication of Title

Indication of Numeric Value



Indication of Units



No.	Notes
1	E key : Enter
2	→ Key : Move Cursor or Return
3	↓ Key : Page Down
4	Light for Working Status
5	Two Line LED

5. Key Functions

Key	Measurement State	Menu State	Function State	Date State
↓	Show the Measurement Result and State on Page 1/2/3 of the Display. Page Down to Menu State.	Next Menu	Next Function	Change Number Change Unit Change Character
→	Return to the Last Screen	Return to the Upper-Level Menu, Press the Key Several Times to Return to the Measurement State	Select Function	Move the Cursor Right
E	-	Enter the Menu	Confirm and Save the Function	Save the Input Select Yes or No then Back to Function Menu

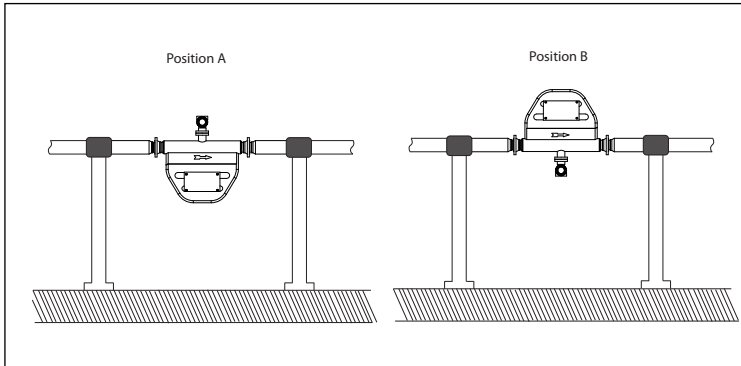


Operation point of Photoelectric Key is located right behind the glass panel. It is better to operate the Photoelectric Key in a vertical direction, not a horizontal direction.

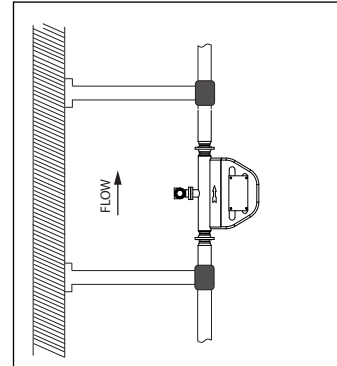
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6. Sensor Mounting

Micro-Bend Sensor Mounting

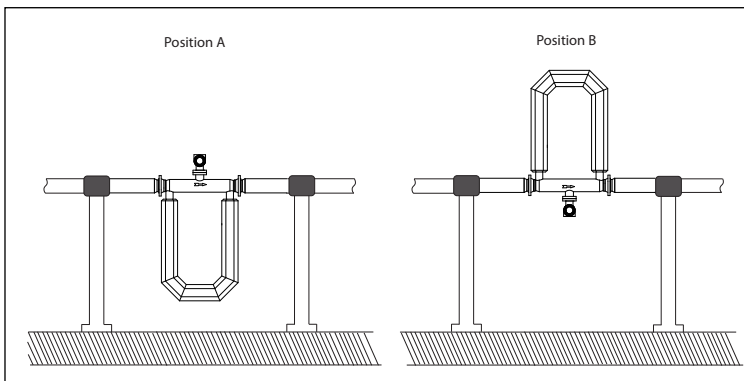


Recommended Horizontal Installation

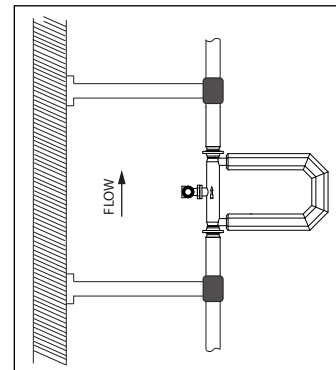


Vertical Mounting

U-Shaped Sensor Mounting



Recommended Horizontal Installation



Vertical Mounting

If the medium contains solid particles, mount the meter as shown in position "A", and in all other cases mount the meter as shown in position "B". Vertical Mounting is recommended, if the medium contains gas bubbles and solid particles.

7. Transmitter Mounting

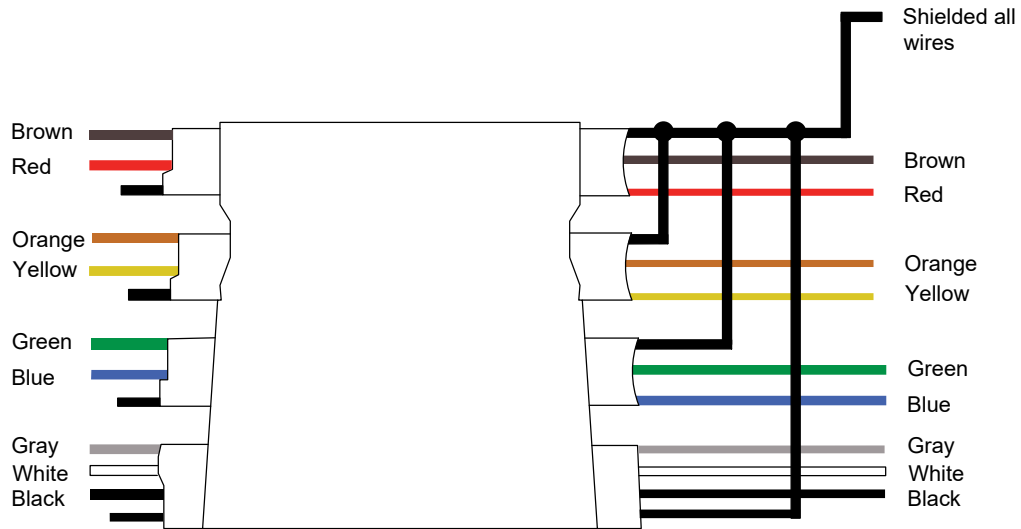
Integral Mount

Install the sensor and the transmitter on the pipeline. The transmitter can be mounted with 90° revolutions depending on the requirement of sensor installation.




Remote Mount

When Tek-Cor 1100A is mounted separately, the sensor and the transmitter should be connected through special 9-core cable.



Note: In case of remote mounting, the sensor and the transmitter should be respectively matched with junction box for connecting the special 9-core cable.

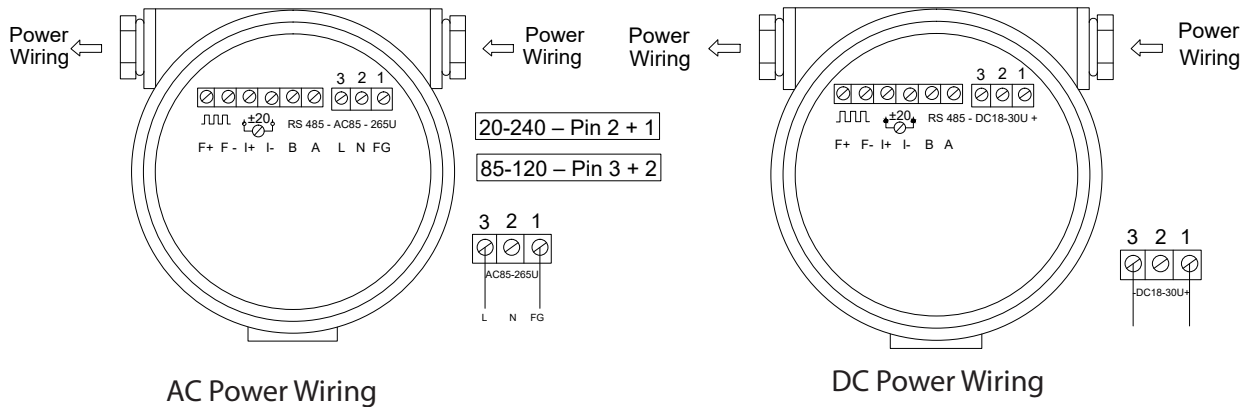
Line No.	Line Color	Function
1	Brown	The Left Coil +
2	Red	The Left Coil -
3	Orange	The Left Coil +
4	Yellow	The Left Coil -
5	Green	Driving Coil +
6	Blue	Driving Coil -
7	Grey	Temperature +
8	White	Temperature -
9	Black	Temperature Compensation

 Cut off power before connecting cables. The power voltage must match that indicated in the junction box of the transmitter and the earth connector must be well connected with the earth wire to ensure its correct safety performance.

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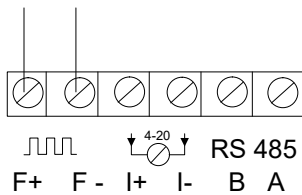
8. Power Supply and Signal Output Wiring

The transmitter can be connected to 85 to 220 VAC or 18 to 28 VDC power supply.

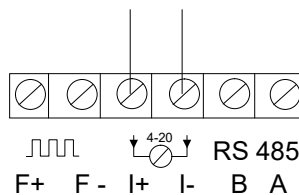


AC Power Wiring

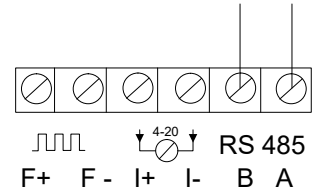
DC Power Wiring



Pulse Output Wiring



Current Output Wiring



RS485 Output Wiring



Before powering up the flow meter in a dangerous area, please confirm that the flow meter's explosion-proof class is consistent with the environmental requirements in order to avoid potential danger. Make sure that the power is shut off to avoid electric shock when installing the transmitter. Follow the installation and operation instruction manual to ensure safe operation.

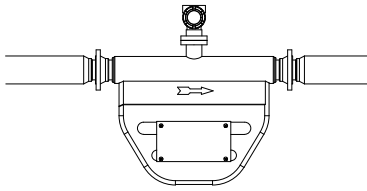
9. Grounding

Both the sensor and the transmitter have to be grounded correctly; failure to do so may cause a measurement error and the sensor may not work. If the pipeline is connected with the ground, the transmitter can be grounded through the pipeline; if the pipeline is not connected with the ground, the transmitter should be grounded independently.

10. Installation

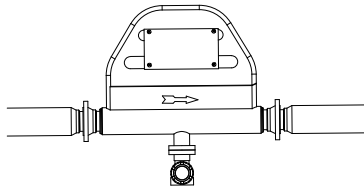
Standard Installation

Picture-1



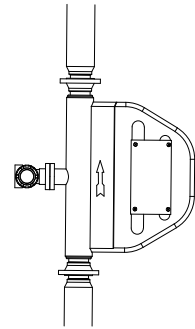
For Liquid

Picture-2



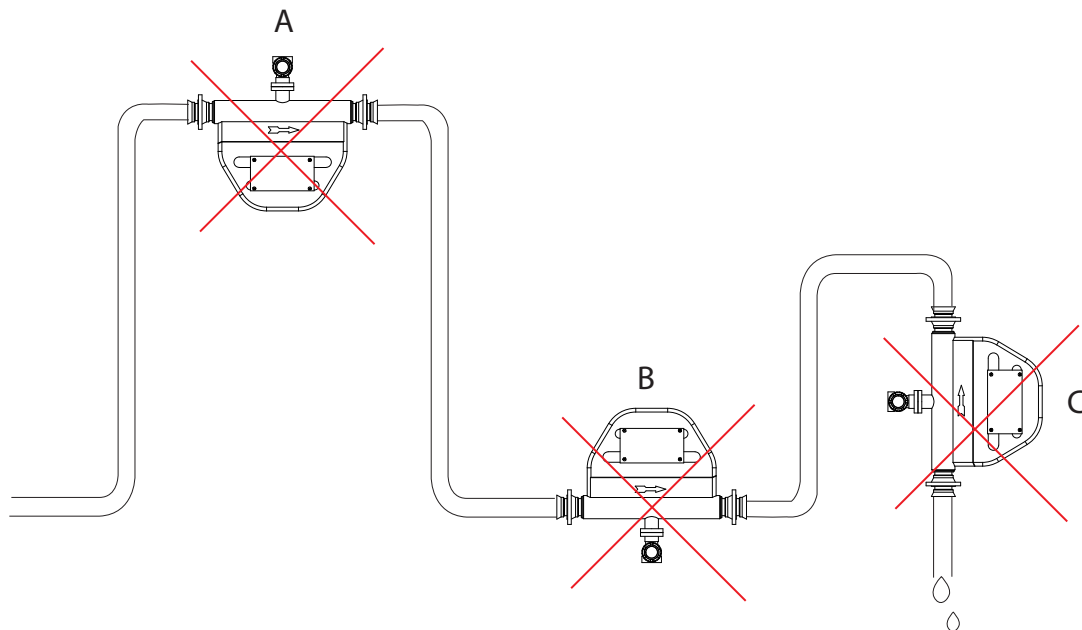
For Gas

Picture-3



For or Slurry

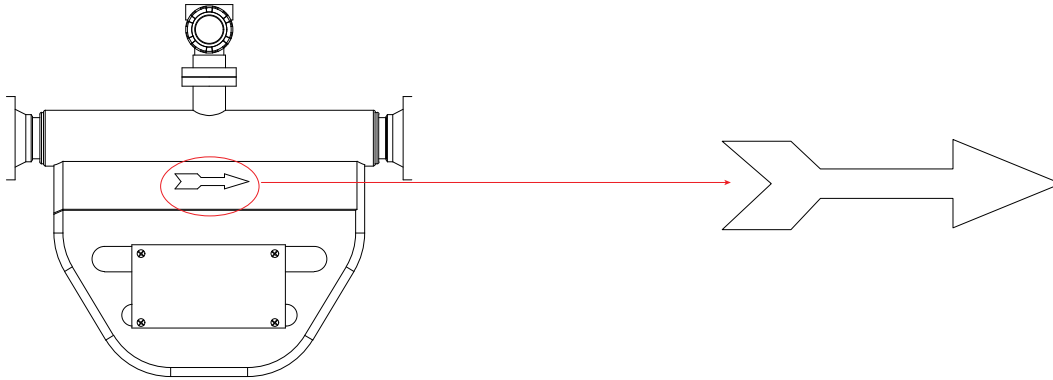
For the horizontal installation, the measuring tube should be installed on the downside of the pipeline when the process medium is liquid or slurry (shown in Picture 1); on the upside of the pipeline when the process medium is gas (shown in Picture 2). For vertical installation, the measuring tube should be installed alongside the pipeline when the process medium is liquid, slurry, or gas (shown in Picture 3).



The meters must not be mounted at the highest point of the tubing (A), if gas bubbles are expected. If solid particles expected, then it should not be installed at the lowest point (B). The meters must not be mounted in a drop line near the open end (C), as this may cause the meter to run empty.

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11. Flow Direction



There is a flow arrow which indicates the flow direction in front of the sensor; install the Tek-Cor 1100A accordingly; failure to do may result in the transmitter not displaying the mass flow correctly. If the process medium is liquid or slurry, the flow direction is down-up; if the process medium is gas, the flow direction can be either down-up or up-down.

Note: It is recommended that sensor of Tek-Cor 1100A is supported using a rubber connector as the buffer.

12. Configuration Parameter

Review or set the configuration parameters according to the following indications
(Press to ↓ go to the next page and press → to move the position of cursor)



WARNING

If you forget your password, you must call a Tek-Trol engineer to reset it.

Measuring Unit



Reset Totalizer

Before performing the Total Reset activity change the Dip switch settings in the right side of the display after opening the protective glass cover as the 1 to 8 - OFF.

This will allow you to reset the mass totalizer.

After Reset make Dip switch as 1- ON & 2to 8- OFF state. This will prevent any unauthorized user to Reset the total.

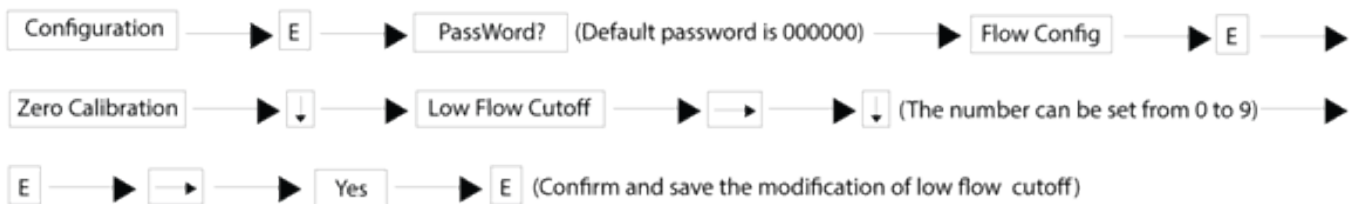


Video link demonstrating Tek-Cor 1100A Coriolis Flow Meter Reset Totalizer:

<https://www.youtube.com/watch?v=IRueSyxhd9A>



Low Flow Cut-off



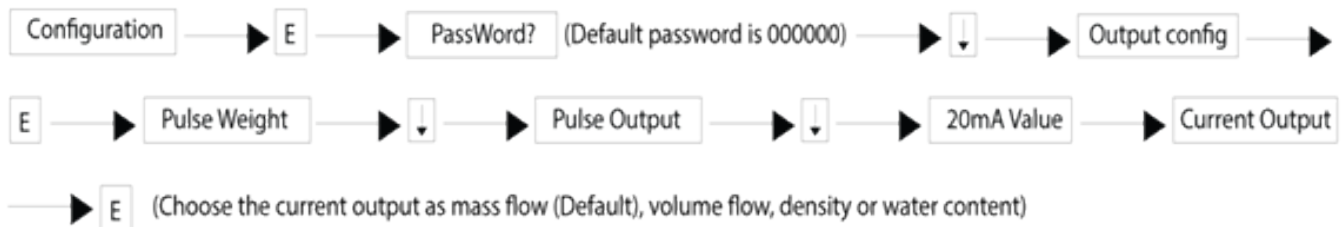
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Current Output

- Set the Flow Rate for 20 mA

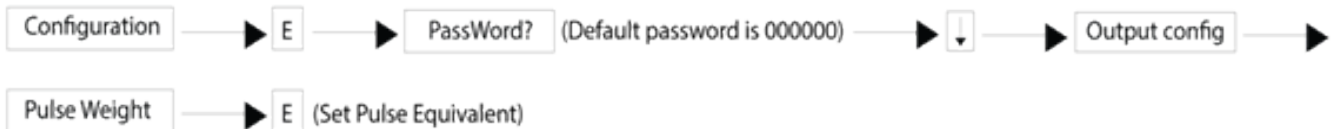


- Set Current Output Signal



Pulse/Frequency Output

- Set Pulse Equivalent



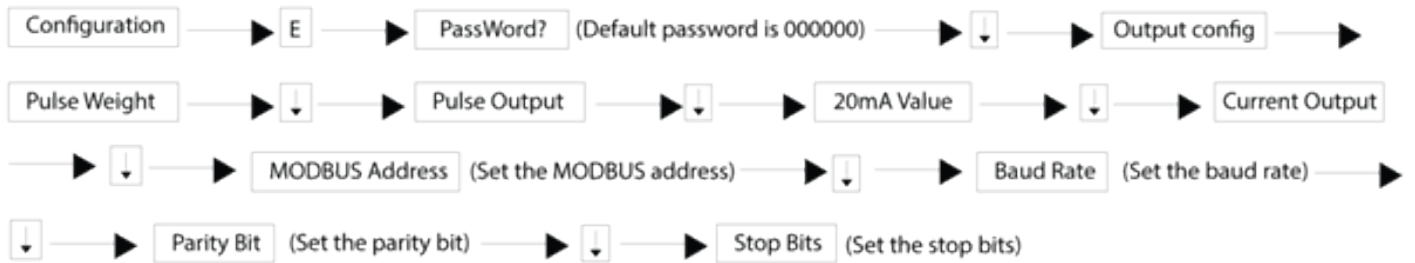
The Meter accepts any equivalent in ml/N (milliliter per pulse unit) for Volumetric flow & g/N (grams per Pulse unit) for mass flow. You need to convert Each unit of your choice to these 2 units for pulse weight.

Example: suppose you want the pulse output as 1 gallon per pulse, you need to convert 1 gallon to ml i.e., 3785.412 enter this value as pulse weight and the pulse output reflects as 1 Pulse=1 gallon. If you want 0.1 gallon per pulse, put 378.54 as pulse weight (i.e., 10 pulse = 1 gallon). always convert the unit in ml and enter the equivalent value as required for volumetric flow, follow the same procedure for mass flow pulse output. Convert mass flow unit to Grams and put in pulse weight.

- Set Pulse Signal

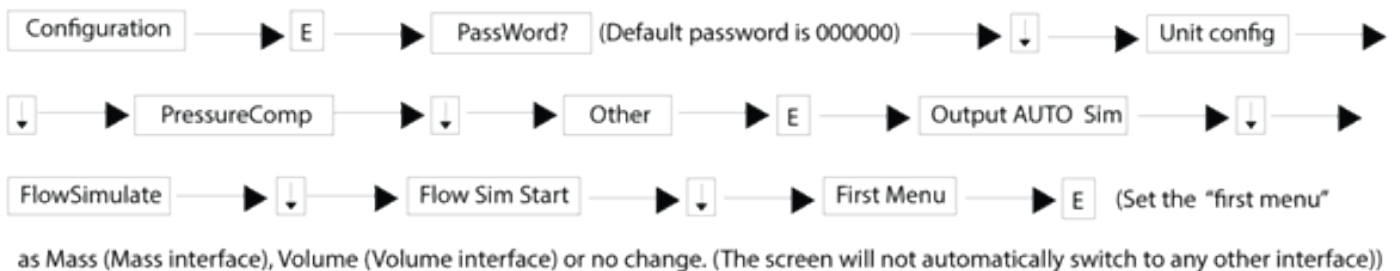


RS 485 Output

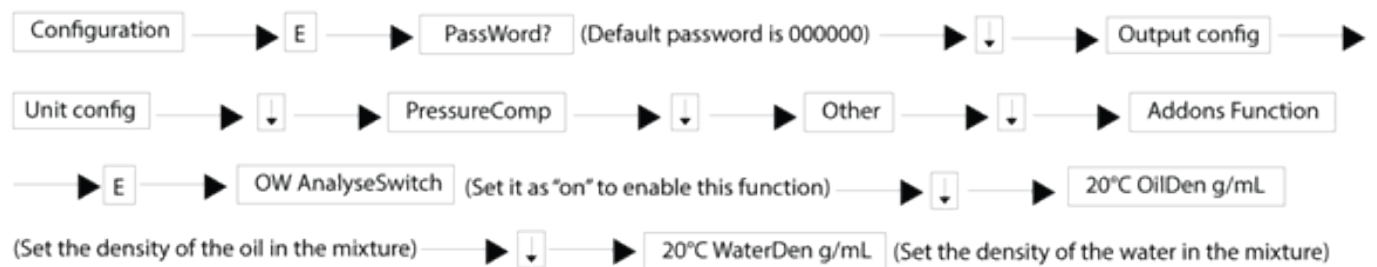


First Menu

The screen automatically displays the content chosen in “First menu” if no key operation is being done for 128 seconds.



Oil and Water Content Analysis



Zero Calibration



*Note:- Please refer 13 for detail procedure of ZERO calibration

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13. Calibration

The Tek-Cor 1100A does not need field calibration; it has been calibrated before delivery. Each set of Tek-Cor 1100A has its own instrumental coefficient, including one flow coefficient and four density coefficients (high density D1, high period K1, low density D2, and low period K2), which will be shown in the nameplate of the Sensor or Calibration certificate.

Tek-Cor Mass Flow Meter						
Model 1100A	2-2-025A-1-1-150-1-G	Flow Range	37 to 881 lb/min	MMQ	14 lb.	
Size	1"	Accuracy	0.2	Material (Wetted)	316 SS	
Connection	1.5	ANSI 300 RF	Nominal Pressure	928 PSI		
IP Class	IP67		Temperature Range	-58F to 257F		
Supply Voltage	24 VDC	0.4A	Flow Cal	915.740 G/S/US		
Ambient	-4F to 131F		D1	0.0012	D2	0.9965
SN	V17101601T5562	2017.06	K1	3663.21	K2	3975.42
Ex Marking	Class 1, Div.1, Gr.B,C,D					GPS NJ,USA GPE 1100A ENGL
Tag No.						
www.tek-trol.com	Crystal Lake, IL60014, USA	NTEP CC NO.45-033			E360841	

Zero Calibration

Zero Calibration provides the reference point for the flow meter. It is necessary to conduct the zero calibration whenever the Coriolis Meter is installed.

For Zero Calibration, follow the following procedure after installation:

- Warm-up the flow meter for 30 minutes.
- Once the warm-up is complete, continue the flow through the flow meter until the temperature of the flow meter is same as the working temperature of the fluid.
- When the flow meter has reached the required temperature, close the downstream valve, and make the fluid pass through the flow meter under normal temperature, density and, pressure. Then close the upstream valve to ensure the sensor is full of liquid during the process of Zero Calibration.
- Carry out the Zero Calibration of the flow meter.

Finally, press → Configuration → Zero-Cal → Flow Configuration → Zero Correction → E →

Input password to start zero calibration.

The default password is 000000

Note: Each Zero Calibration lasts 30 seconds and must be repeated at least 10 times.

14. Error Indication

The user can detect a fault in the flow meter using the LED indicator and LCD displays. Different colors of the LED lights indicates the working condition of the flow meter, while the LCD displays can show the self-diagnostic alarm information of the transmitter, which is useful for detecting the malfunctions.

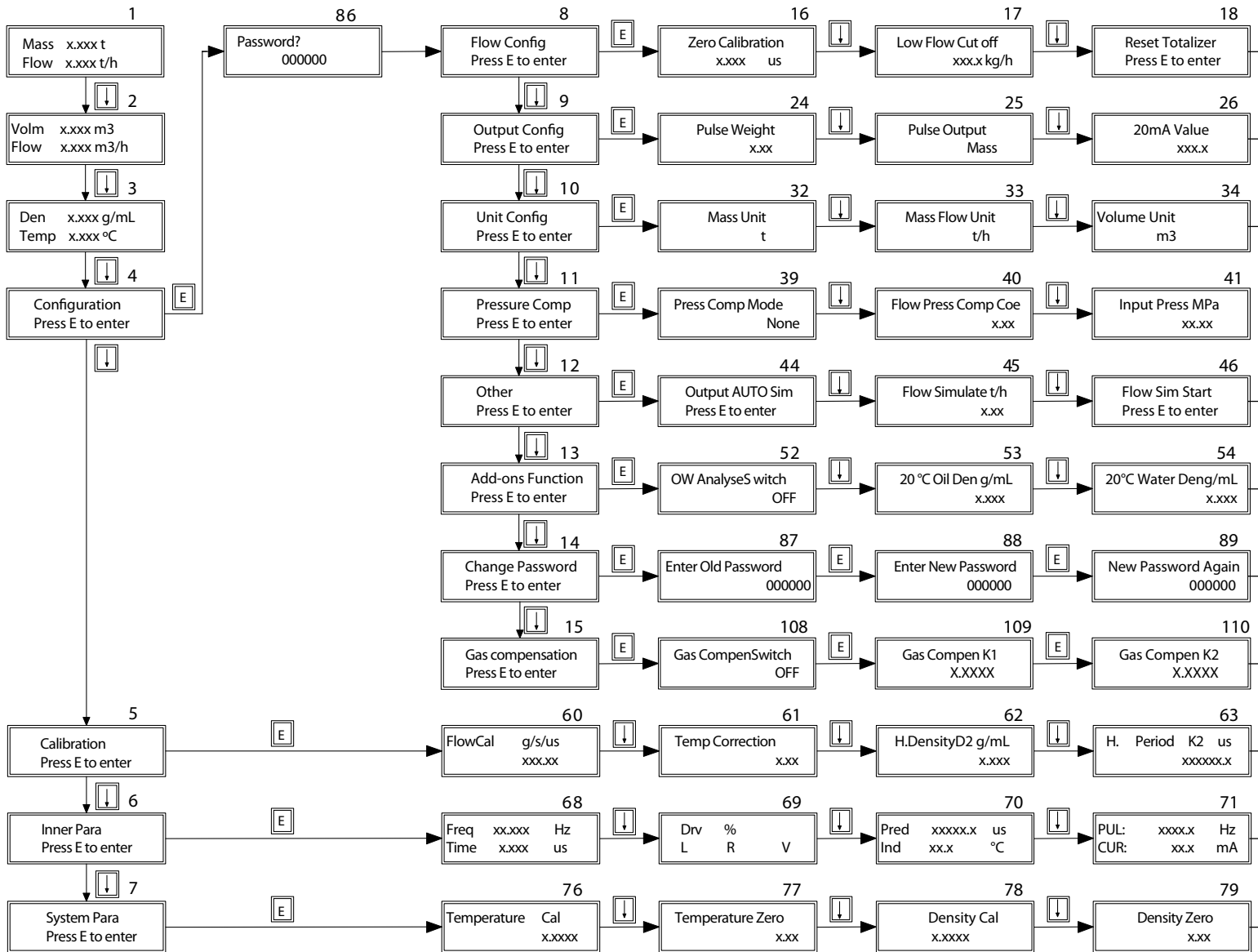
LED Indication

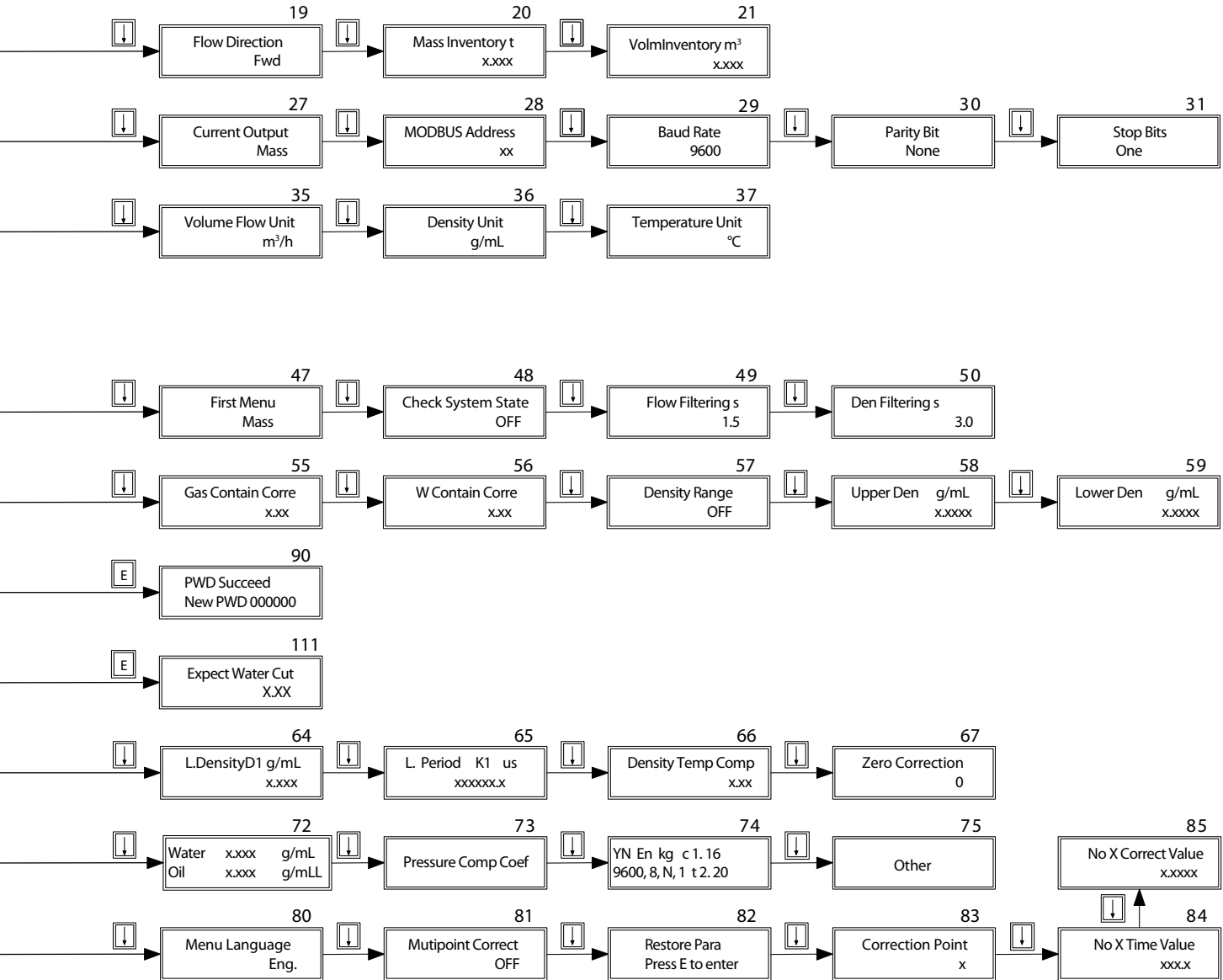
LED Condition	Working Condition
Green Light	Normal Operation
Red Light	Error

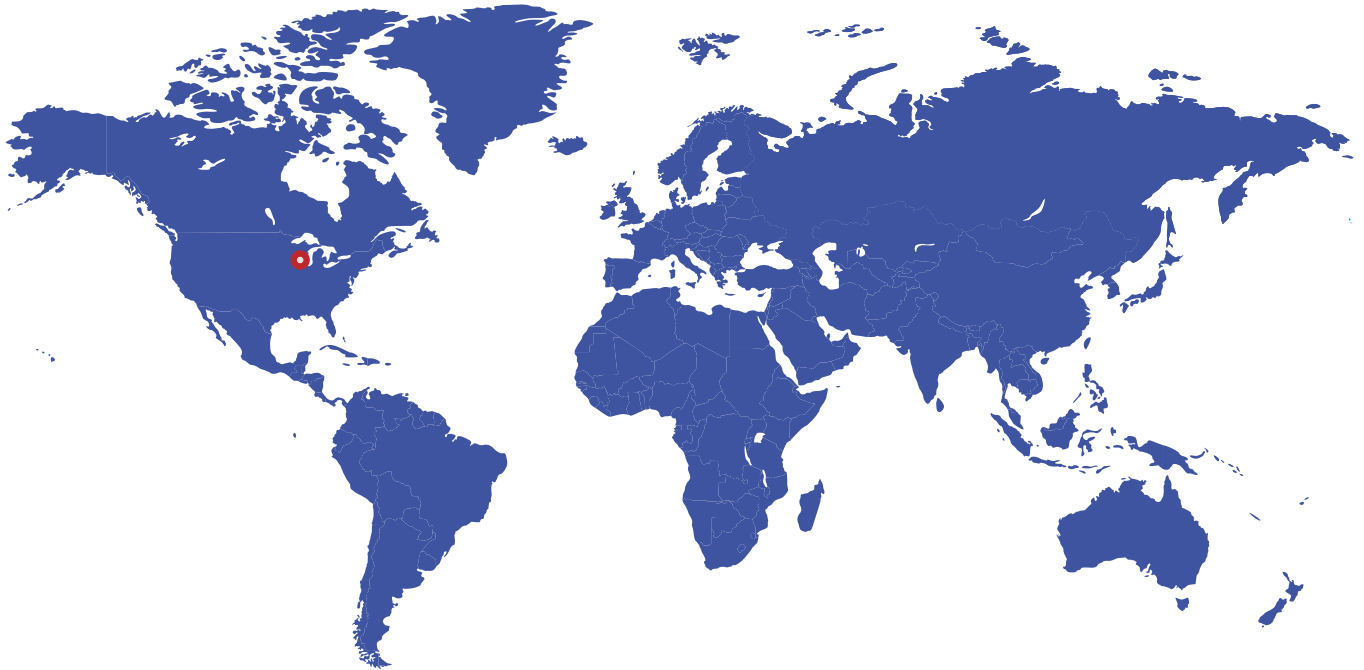
Note: For additional information refer to the detailed manual.

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15. Menu Tree







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