CONDUCTIVITY INDICATOR

CI-550

FILTRA CONSULTANTS AND ENGINEERS LTD.
Gala No. 2 & 3, Ground Floor, Neminath Industrial Estate No. 2, Navghar, Vasai (East), Dist.: Palghar - 401 219
Tel.: +91 8691009127/26 Email: filtraw@gmail.com Website: www.ewatertreatmentindia.com

TEST REPORT

This is Test & calibration report as done at our factory with respect to ***Master meter** Sr.No.11.12.250 traceble to NABL standard vide Certificate No.Y/EMB/12-13/CM-02 Dated 01/01/13 Valid till 31/12/13

*Master Reading (µs/cm² or ppm)	Test Meter Reading (µS/cm² or ppm)

Factor (CONS) : Sensor Cell constant(K) :

Done By:

Date:

IN CASE OF 4-20mA OUTPUT:

In case of field transmitter, the meter takes the sensor input & gives 4-20mA output current. The factory settings for ZERO(value of Conductivity/ TDS at which transmitter would give 4 mA current) & SPAN (value of Conductivity/ TDS at which transmitter would give 20 mA current) are:

Reading	Current Output(mA)
	4mA
	20mA

GUARANTEE CERTIFICATE

We certify that the instrument mentioned above has been tested by us and is guaranteed for a period of 12 months from the date of dispatch. We would replace or repair defects arising due to faulty design, material, or workmanship within the above mentioned period. This is if the part in respect to which the complaint is made, is sent to the dealer at the purchaser's expense.

The guarantee is valid subject to:

The meter or part has not been subject to alteration, accidents or misuse.

The installation having been done as per our guidelines in the manual.

Client: for **Embark**

2 Date of dispatch: Authorized Signatory

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TECHNICAL SPECIFICATIONS:

METER	
1. Physical dimensions	105 X 105 X 130 mm 92 mm X 92mm (panel cut out)
2. Enclosure	ABS Weather proof/IP 65
3. Mounting	Field/Panel
4. Parameter sampling rate	< 2 seconds
5. Resolution	0.001/0.01/0.1/1 depending upon range
6. Accuracy	± 2% of FSD
7. Power supply	230V A.C./110V A.C.
8. Display	4 Digit 7 SEGMENT LED
9. Calibration/Set point	Using front panel keypad.
10. Input	From sensor
11. Measuring Range	0 to 1999µS/cm² (Other ranges optional)
12. Output	4-20 mA Current(Optional)
SENSOR	
1. MOC	SS-316 & ABS
2.End connections	½" & ¾" BSPM
3.Cell constant(K)	0.01 or 0.1 or 1.0(Depending on range)
4. Cable	2 core shielded 3 meter length. (Higher length optional)
5.Max.operating pressure	5 kg/cm²
6.Max.operating temperature	60°C 100°C with Automatic temperature Compensation (Optional)
7. Sensor Holder	3/4" Tee BSPF (MOC: ABS/NORRYL)

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GETTING AQUAINTED WITH THE METER:

The meter has weather proof housing in compliance with the **IP-65 Certificate,** which makes it rugged and reliable. It can be used on sites exposed to rain, dust and robust handling. Basically, it comes in two parts i.e. meter & sensor.

SENSOR : It is the sensing element of meter, which senses the conductivity and sends signal to the meter.

METER : This is the unit that processes the information received from the sensor and displays the actual conductivity/TDS in line. Further if meter has 4-20 mA output facility it will give output current according to set zero & span.

ON SITE CALIBRATION:

The CI 550 normally comes duly calibrated along with its sensor. Incase recalibration is required on site, dip the sensor in a known conductivity solution. Note the value indicated by the instrument & set the constant value accordingly with the help of below guideline.

KEY	DISPLAY
Left & Middle simultaneously	PASS:0000
Enter password 0123 using Left & Middle key	
Menu	CnSt
Menu	Previously set Constant value*
Use Left & Middle key to set this constant value	
Menu	OFSt
Menu	Previously set Offset value
What is this offset value? This value offsets the reading shown by the sensor when it is in air (i.e. not in sample)Max.value 00.49	
Menu	End
Menu	Actual reading

***Note**: The constant should be changed in proportion to the variation in the reading e.g. If the reading shown is 10% higher than the actual value, then the constant needs to be reduced by 10%.

The instrument can show conductivity or TDS in the line.For changing the display mode from Conductivity to TDS or vice versa follow the guideline:

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Conversion from µS/cm² to PPM & Vice Versa	
Menu	dMod (display mode)
Menu	µSM (i.e. micro Siemens/cm²)
Above unit can be changed to PPM by pressing middle key	
Menu	End
Menu	Actual reading

How to know whether the meter is showing Conductivity or TDS?
The meter has two separate LEDs to indicate the display mode.(i.e. If LED of **µsm** is glowing then meter is showing conductivity.Similarly if LED of ppm is glowing then meter is showing TDS).

IN CASE OF 4-20 mA OUTPUT:

The instrument can give analog output(4-20 mA D.C.current) according to conductivity/TDS reading in line. Use following guideline to set ZERO(value of conductivity/TDS at which meter would give 4mA current) & SPAN(value of conductivity/TDS at which meter would give 20mA current) values.

KEY TO BE PRESSED	DISPLAY
LEFT(▶) & MIDDLE(▲) simultaneously	PASS
ENTER PASSWORD 0678 USING LEFT(▶) & MIDDLE(▲) KEYS	
MENU	Zero
MENU	Previously set ZERO value
USE LEFT(▶) & MIDDLE(▲) KEY TO CHANGE THE VALUE	
MENU	SPAN
MENU	Previously set SPAN value
USE LEFT(▶) & MIDDLE(▲) KEY TO CHANGE THE VALUE	
MENU	END

Instrument also works as 4_20 mA current simulator.It gives 4 mA & 20 mA current for the calibration of other instruments.Follow the below guideline:

KEY TO BE PRESSED	DISPLAY
LEFT(▶) & MIDDLE(▲) simultaneously	PASS
ENTER PASSWORD 0420 USING LEFT(▶) & MIDDLE(▲) KEYS	

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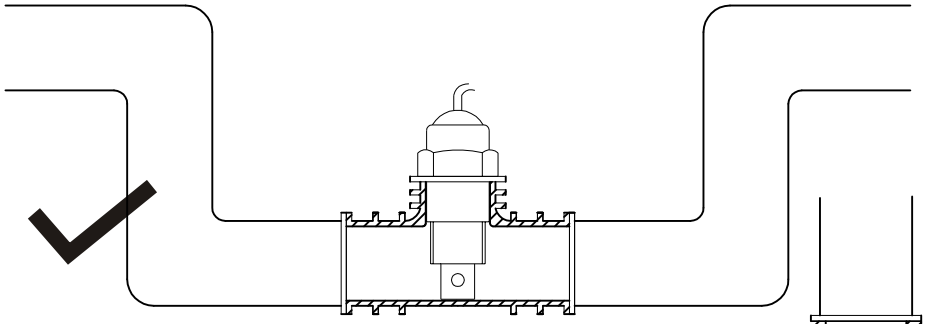
MENU	4 mA
Instrument will give 4 mA current	
Middle key	20 mA
Instrument will give 20 mA current	
Middle key	E.nd
MENU	Actual reading

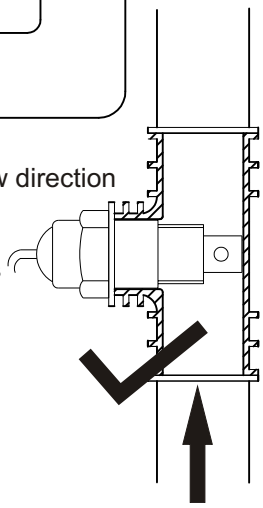
INSTALLATION GUIDELINES

SENSOR

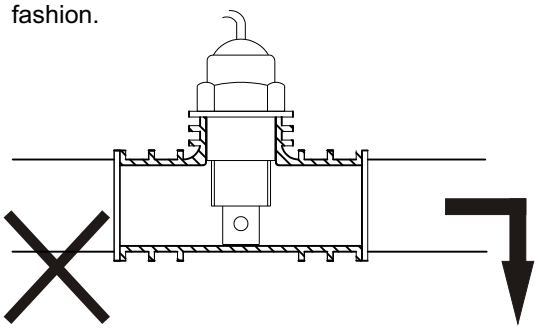
The conductivity sensor is supplied with 3/4" installation tee with female threading. The fitting can be connected to the sampling point by flexible tubing. The outlet tubing/piping must be looped such that the sensor fitting remains filled with water always (as shown below).



If sensor has to be connected in vertical line then flow direction should be from bottom to top(as shown)



Presence of air bubble in the line can result in erroneous or fluctuating readings. Avoid mounting in following fashion.



Incase the sensor is removed from the fitting,**DO NOT APPLY GREASE ON THE SENSOR**.

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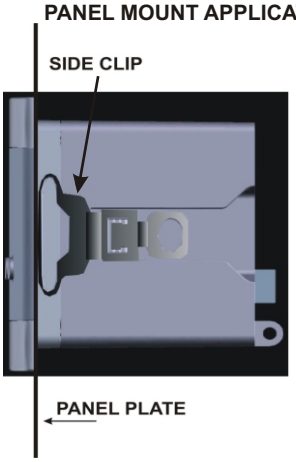
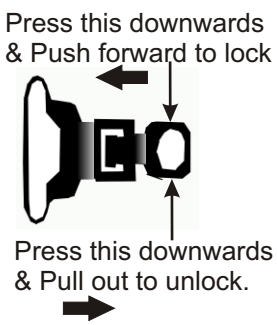
METER:

The meter is designed to suit field,panel as well as sensor mount application as shown below.

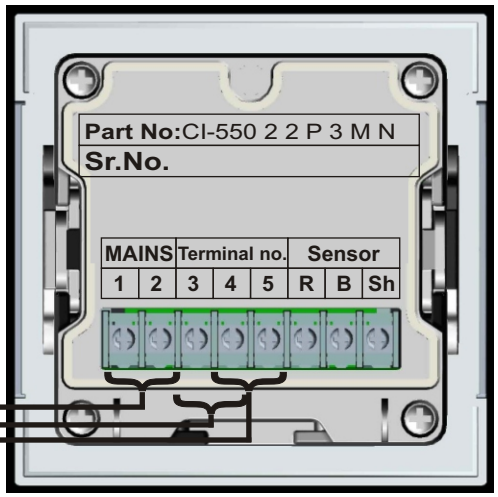
PANEL MOUNT APPLICATION





SENSOR MOUNT APPLICATION

TERMINAL DETAILS:



Part no.	Description	1	2
CI-550 **1** 2 P 3 M N	Input voltage 110 V A.C.	P	N
CI-550 **2** 2 P 3 M N	Input voltage 230 V A.C.	P	N

Part no.	Description	4	5
CI-550 2 2 P 3 M **N**	No Output	X	X
CI-550 2 2 P 3 M **C**	4-20 mA Current output	-	+

Part no.	Description	3	4
CI-550 2 2 P 3 **M** N	Manual temp. compensation	X	X
CI-550 2 2 P 3 **A** N	Automatic temp. compensation	Temp Sensor I/P	GND

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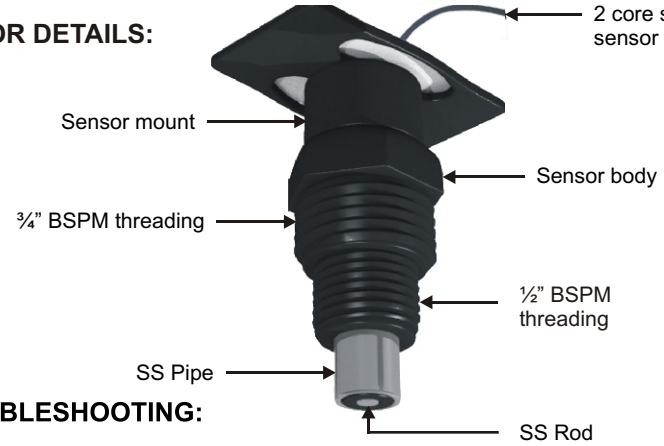
SENSOR DETAILS:



TROUBLESHOOTING:

TROUBLE	PROBABLE CAUSE	ACTION
Display Shows Erroneous reading	Sensor not dipped in the line properly	Loop the outlet tubing such that the tee always remains flooded with water
	Deposition on the sensor	Remove the sensor and clean it With polish paper
No display	High voltage	Check MOV/FUSE, if it is burnt then replace it with new one
Frequent Fuse failure	MOV short	Replace MOV* as well as FUSE**

*MOV 14mm Dia. and 320V AC

** FUSE -- 500mA

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