GST No. 05BFDPD7978H1Z9,
Udyog Aadhar No. UK06A0001896
IEC No.: 6116500722, ISO 9001 : 2008

LAKSHMI ENGINEERING WORKS

Mfg & Supp of: Soil, Cement and Concrete Testing Equipment, Survey, Drawing, Hydrological, Metrological, Geological, Scientific Instruments **(All type of Water Current Meters)**

172(NEW329), Maktoolpuri, Roorkee- 247667 Distt.-Haridwar (Uttarakhand) INDIA

Mobile: 09759467802, Email ID:- lakshmiengworks.in@gmail.com

SUBJECT: PORTFOLIO OF M/S LAKSHMI ENGINEERING WORKS

We take pleasure to introduce ourselves as registered manufacturers & supplier of all kinds of Hydrological & Metrological Instruments as well as River Gauging Instruments.
We are supplying these items to all Government and Semi Government Departments with their entire satisfaction. We are also doing the repair works of these instruments at our workshop.
Our all instruments covered a guarantee for one year from the date of supply.
You are therefore requested kindly enlist our firm name on your mailing register & enquire us of our quality instruments, so that we may quote the most competitive prices.

Thanks & Regards
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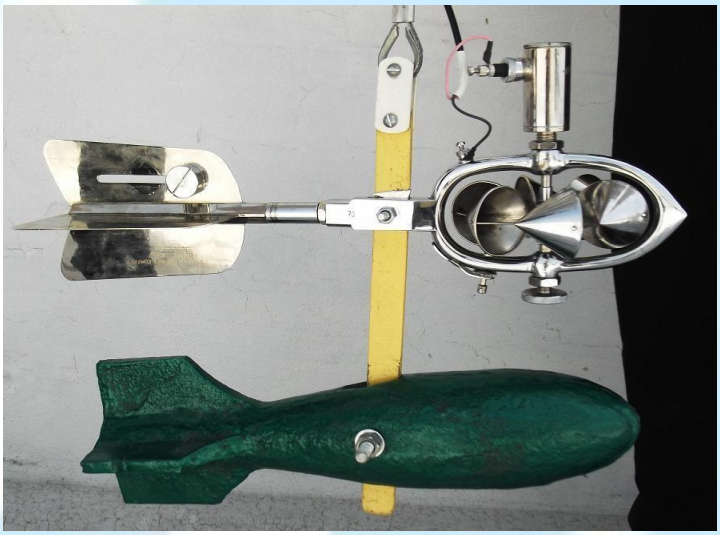
INSTRUCTION MANUAL

CUP TYPE WATER CURRENT METER



Manufactured by

Lakshmi Engineering Works

172 Maqtoolpuri Roorkee

www.lakshmienggworks.in

INTRODUCTION:

Lakshmi make Cup Type water current meter along with Micro-controller based Digital Water Velocity Indicator has-been designed to measure the Velocity of water in a flowing stream or open Canal. It comprises a **Cup Type Water Current Meter & Microcontroller based Digital Water Velocity Indicator.** Micro-controller calculates velocity of water as per the calibration equation provided with the Sensor and displayed on the 16x2 LCD display. You can save upto 56 readings. This instrument is portable, hand-held easy to use, Battery status indication, User Friendly Menu driven programmable functions. This instrument has a Cup type current meters are scaled two fifths as large as the standard type current meter, it does not have a tailing assembly and is used with the wading rod. Its range of operations is 0.3 to 3.3 meter per second. The 2 inch diameter bucket wheel contains cups a single contact closure is made each movement of the bucket wheel. The calibration chart provided with the meter gives the velocity in m/sec

Brief Specifications:

Sensor: 6-Cup Type Current Meter sensor.

Type: Magnetic sensor with one pulse per revolution.

Processor: 16F628.

Technology: RISC.

Display: 16x2 LCD.

Key board: 4x1 tactile Membrane.

Velocity Range: 0 to 99.99 mtrs / Sec.

Resolution: 0.01 mtrs / Sec.

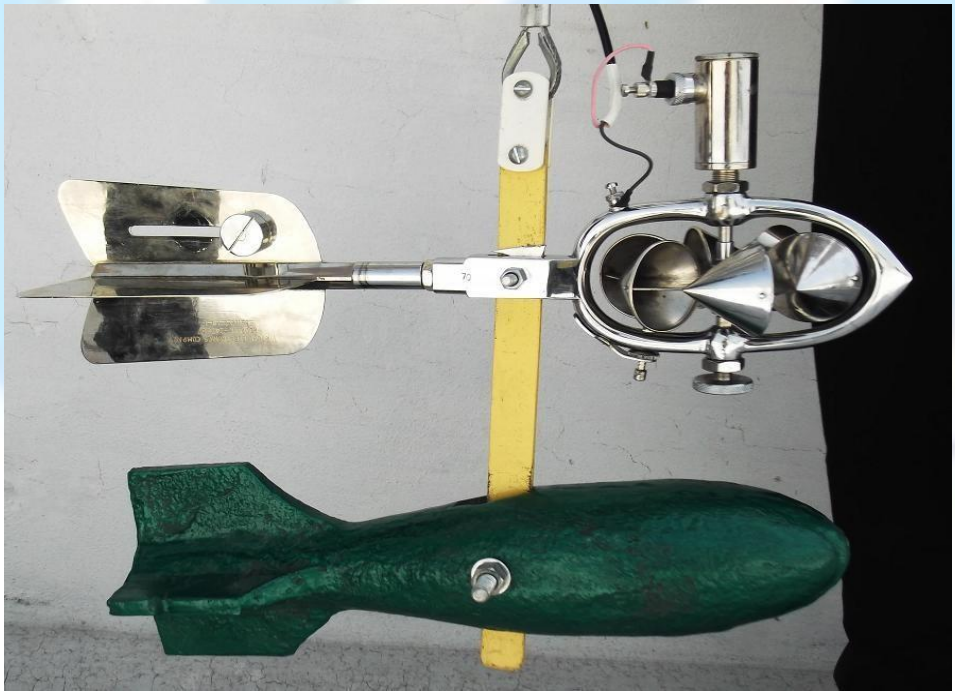
Averaging time: 1 to 100 Secs.

Power source: Dry

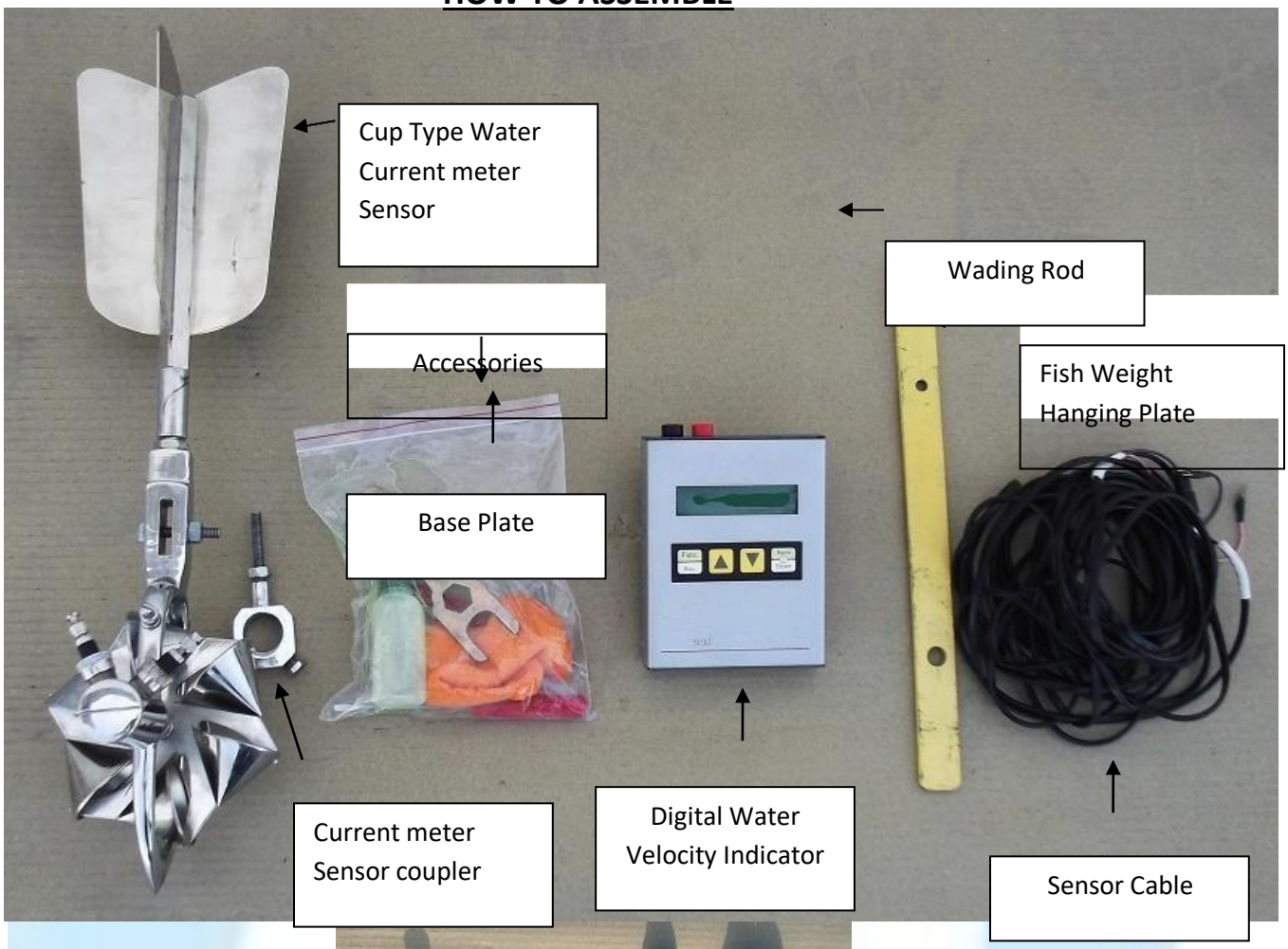
Cell AA type Back up

time: Upto 200 hours.

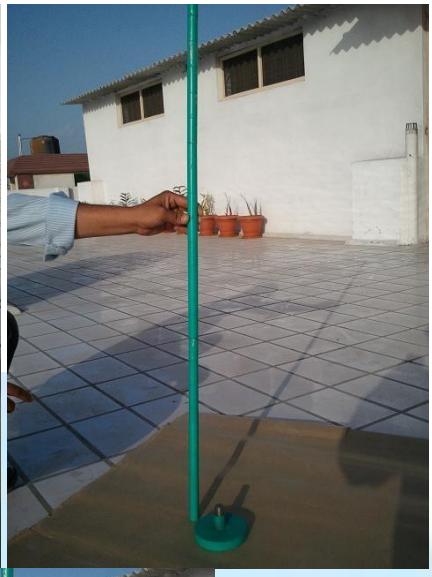
Leakage current: < 2 micro amp (Equipment switched off).



HOW TO ASSEMBLE



First of all place the wading rod at the center of base plate & insert by screwing the wading rod as shown below.After fixing wading rod (as per the depth requirement) to base plate place it on the floor.

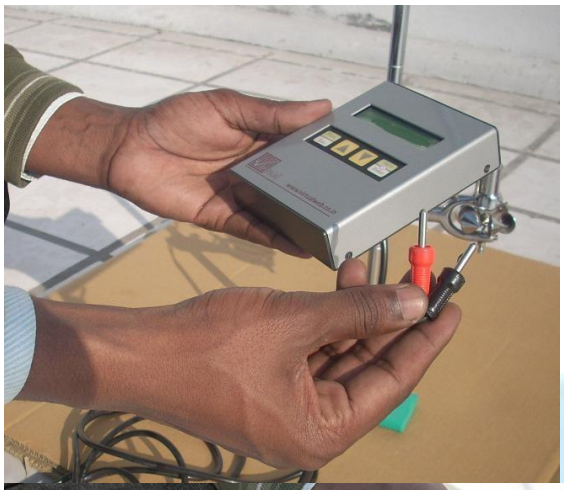



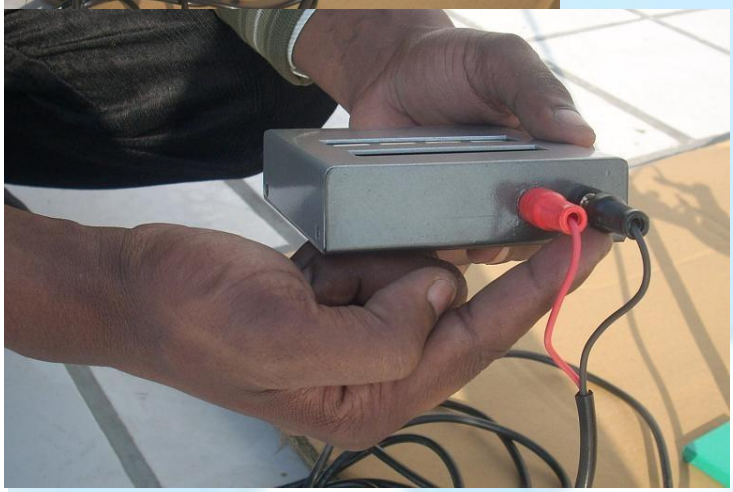

Now attach the sensor coupler to the sensor by screwing in clockwise direction as shown below


Now Insert the sensor coupler to the wading rod, tighten side bolt to make it gripped perfectly with wading rod as shown below.

Now connect sensor cable to sensor terminals as shown below.

Now connect other of sensor cable to Digital Water Velocity Indicator as shown below



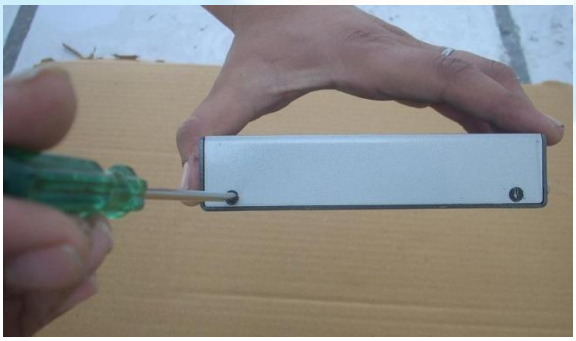


Now your configure the Digital Water Velocity Indicator as per instruction provided below in this instruction manual & after configuration your device is ready for taking readings.

How to Change Batteries

Changing Batteries of Digital Water velocity Indicator is very simple process.

First of all unscrew all the four side screw with the help of screwdriver as shown below



Now open the front panel by pulling the panel in upward direction. Here you will find batteries installed in the instrument motherboard.


Now remove the old batteries & replace with the new batteries. Make sure while inserting new batteries polarity of battery should be in the same direction as marked on motherboard as shown below.



Now place the front panel as was opened & screw back all the four side screws.

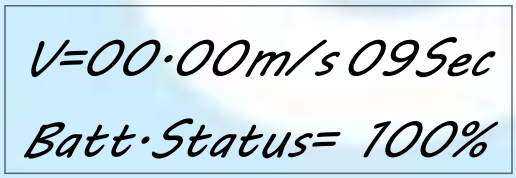
Digital Water Velocity Indicator Details:

Features:

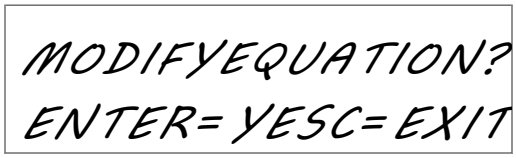
- Micro controller based.
- Storage for 56 readings.
- Stored in EEprom (Remains intact even if battery removed).
- Retrieval of data through keyboard.
- Programmable current meter equation with storage.
- Programmable polarity (+ve or -ve) for constant in the equation.
- Range of multiplier: 0.0001 to 1.0000.
- Range of constant: 0.0000 to 0.9999.
- Programmable averaging time (1 to 100 secs).
- Time out features for accidental press of function key (30 Sec).
- Auto power off if current meter not connected and no key is pressed (10 Minutes).
- Portable, hand-held easy to use.
- Battery status indication.
- User Friendly Menu driven programmable functions.

Operational Details For Indicator:

1. Push the Power **On/Off** switch. The system performs a display test by glowing all display segments of LCD & displays the name of the company.
2. The display then performs a self-check process and displays the **Velocity:……..m/sec** with battery status and instrument is ready to take observations.



3. Connect the both wires of Current meter sensor to the terminals provided on the top of this Indicator.
4. Lower the Current meter in to the water. After 20 seconds (or entered Averaging time) it directly displays the velocity of water in meters/sec.
5. If the user wants to see/edit the calibration equation, then press the “FUNC” key.



6. The display now displays the Calibration equation with the cursor blinking on the first digit of the variable.

7. User can change the digits by “UP” and “DOWN” keys. By pressing the “ENTER” key the cursor will move to the next location.

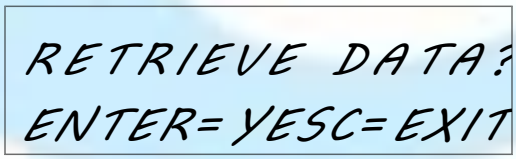
8. After editing the values of variable and constant in the calibration equation press “ENTER” key.

9. Now cursor blinking on the first digit of the averaging period i.e. 20seconds. It designates the time during which the velocity has to be averaged. It is adjustable from 1-99 sec by “UP/DOWN/ENTER” keys as mentioned above.

10. Now instrument is ready to take observations as mentioned above.

11. If you want to save any reading just press “SAVE” key. It will save data in the instrument memory and display the location number.

12. If you want to retrieve previous save data just press “FUNC” and “DOWN” keys. It will display previous saved with location number.



13. If you want clear the memory of the Indicator just press enter in the clear memory function.

14. Instrument will display Memory Cleared.

MEMORY CLEARED
PRESS ESC.

15. Push and hold the Power **On/Off** switch for 3 seconds for shut down the instrument.

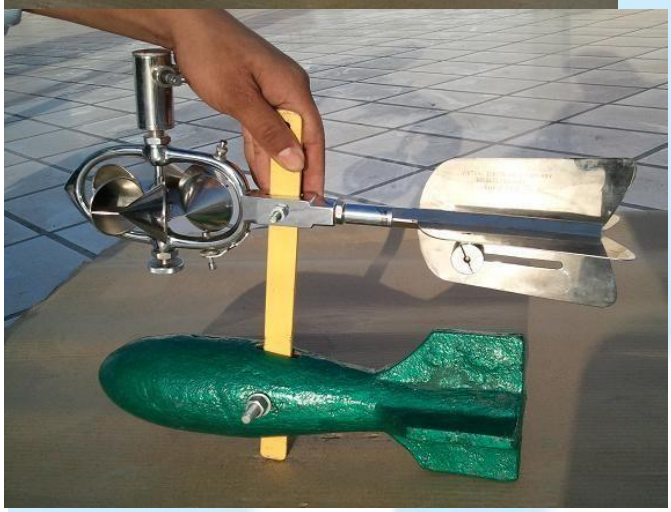
TURNING OFF. . . .
. . . . . .

Fabrication of Fish weight (if Purchased) with Cup Type Water Current Meter:

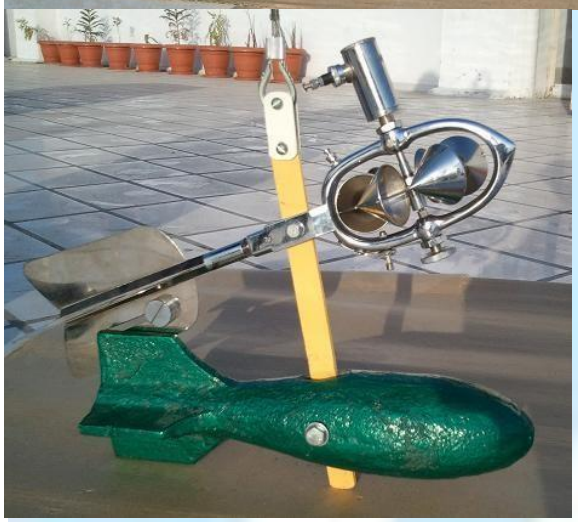
To fabricate fish weight to the current meter please follow the below instructions:

First of all insert the fish weight hanging plate to the fish weight & insert the bolt followed by screwing nut to fix it.

Now insert water current meter to the hanging plate & insert the bolt followed by screwing nut to fix it



Now attach hanging wire to the fish-weight hanging plate insert the bolt followed by screwing nut to fix it as shown below



Now fish-weight assembly is ready to lower to the river stream for measurement.

PreAllow about 10 -15 seconds time between a switch OFF / ON sequence to allow the internal power supplies to stabilize.

LIST OF EQUIPMENTS AVAILABLE WITH US:

- Automatic Weather Station
- Digital Rainfall Recorder
- Digital Rain Gauge
- Digital Evaporation rate recorder
- Automatic Soil Erosion Monitoring System
- Digital Snow Water Equivalent recorder
- Digital Solar Radiation Recorder (Pyranometer)
- Digital Water level Recorder
- Digital Water level Recorder (Pressure type)
- Digital Water level Recorder (Ultrasonic type)
- Water velocity indicator without sensor
- Water Current Meter
- Soil moisture indicator with sensor
- Soil moisture and temperature recorder
- Leaf Wetness, Air temperature and Humidity recorder
- Plant Canopy Analyzer
- Suspended Solids Indicator
- Digital Soil Tensiometer
- Soil Infilltrometer
- Water Level Indicator
- Cup Counter Anemometer (Mechanical Type)
- Wind Vane (Mechanical Type)
- Open Pan Evaporimeter
- Ordinary Rain Gauge
- Tree Height Gauge
- Stevenson Screen (Single)
- Stevenson Screen (Double)
- Aneroid Barometers
- Sunshine Recorder
- Punjab type Silt Sampler
- Winch (80 Kg)
- Maximum - Minimum Thermometer
- Wet & Dry Thermometer
- GPS
- Barometer
- Temperature and humidity sensor
- Wind speed sensor
- Wind direction sensor
- Rainfall sensor
- Water temperature sensor
- Soil temperature sensor
- Solar radiation sensor (Silicon)
- Atmospheric pressure (Barometer) sensor
- Water level sensor (Shaft encoder)
- Water level sensor (pressure)
- Water level sensor (Ultrasonic)
- Evaporation sensor
- Soil moisture sensor
- Snow Water Equivalent (Snow Gauge)
- Leaf Wetness sensor
- Digital Soil Tensiometer sensor