

**INSTRUCTION MANUAL
FOR
BATTERY POWERED ULTRASONIC
FLOW METER
MODEL NO. :- ASIONIC 400S**

SAFETY WARNING & GENERAL INSTRUCTIONS

1. Only qualified and authorized person shall carry out installation, connections, commissioning and service.
2. Read User manual carefully and understand instructions & directions provided in this manual.
3. Only Electronet representative may carry out any repair work and service.
4. To protect instrument from any external hazards, customer should take necessary care while preparing site ready before installation.
5. Lithium batteries are used as power source of the Instrument. They are of Non-Rechargeable type and having higher Amp Hour capacity. They are dangerous if used carelessly.
6. Do not attempt to charge batteries. Do not short circuit batteries. Always connect batteries with 100mA series fuse.
7. Always connect batteries with correct polarities. Do not attempt to crush, puncture or open battery cell.
8. Do not expose batteries to excessive heat and / or water. Do not attempt to solder battery body.
9. Batteries should be removed before transporting Instrument. Also batteries should be transported with special packaging.
10. Batteries shall be replaced within two months time; from LOW BAT indication on display starts blinking.

FEATURES:

- Low Battery Indication : When approximately 85% of battery power consumed. Message indicates on display.
- Reverse Flow Indication : When Flow is in reverse direction Totaliser value is not updated.
- Unit Conversion : User can set display units for Totaliser as per requirement.
- Real Time Clock : Built in RTC, with battery.

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1. TECHNICAL SPECIFICATIONS

SPECIFICATIONS	DESCRIPTION
Instrument Name	BATTERY POWERED ULTRASONIC FLOW METER
Model No.	ASIONIC 400S
Line Size	1¼" (32 NB)
Process Connection	BSP Threaded (Male)
Mounting	Integral inline horizontal or vertical
Serial No.	17320133 ,17320134
Media	Water
Minimum Conductivity	>10uS/cm
Calibration Range	0 TO 17.37 m3/hr
Flow Velocity	0 to 6 m/s
Flow Accuracy	1% of F.S.
Response Time	6 seconds typical, maximum 8 seconds
Linearity	1% of F.S
Repeatability	1% of F.S
Relative Humidity	05 – 95 % RH, non condensing at 25°C
Volume units	m ³ /hr, LPM
Unit Conversion	Auto as per selected volume and time unit
Direction of Flow	Forward flow
Battery Life	5 Year
Power Off retention	Totalized flow
Display	7 Segment display with 6 digit flow value & 9 digit totalized flow value
Mounting	In Line
ENVIRONMENTAL SPECIFICATIONS:-	
Operating Temperature of Electronics	0 to 50°C
Operating Pressure of Mechanical Assembly	4 to 10Kg/cm ²
Relative Humidity of Electronics	05 - 95 % RH ,non condensing at 25°C

1. TECHNICAL SPECIFICATIONS

SPECIFICATIONS	DESCRIPTION
Instrument Name	BATTERY POWERED ULTRASONIC FLOW METER
Model No.	ASIONIC 400S
Line Size	1½" (40 NB)
Process Connection	BSP Threaded (Male)
Mounting	Integral inline horizontal or vertical
Serial No.	17400135 TO 17400138
Media	Water
Minimum Conductivity	>10uS/cm
Calibration Range	0 TO 27.14 m ³ /hr
Flow Velocity	0 to 6 m/s
Flow Accuracy	1% of F.S.
Response Time	6 seconds typical, maximum 8 seconds
Linearity	1% of F.S
Repeatability	1% of F.S
Relative Humidity	05 – 95 % RH, non condensing at 25°C
Volume units	m ³ /hr, LPM
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Direction of Flow	Forward flow
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2. ASSEMBLY OVERVIEW

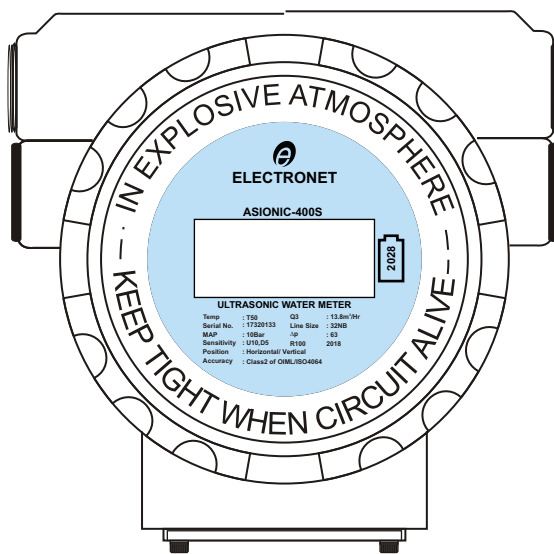


Fig.1 Front View

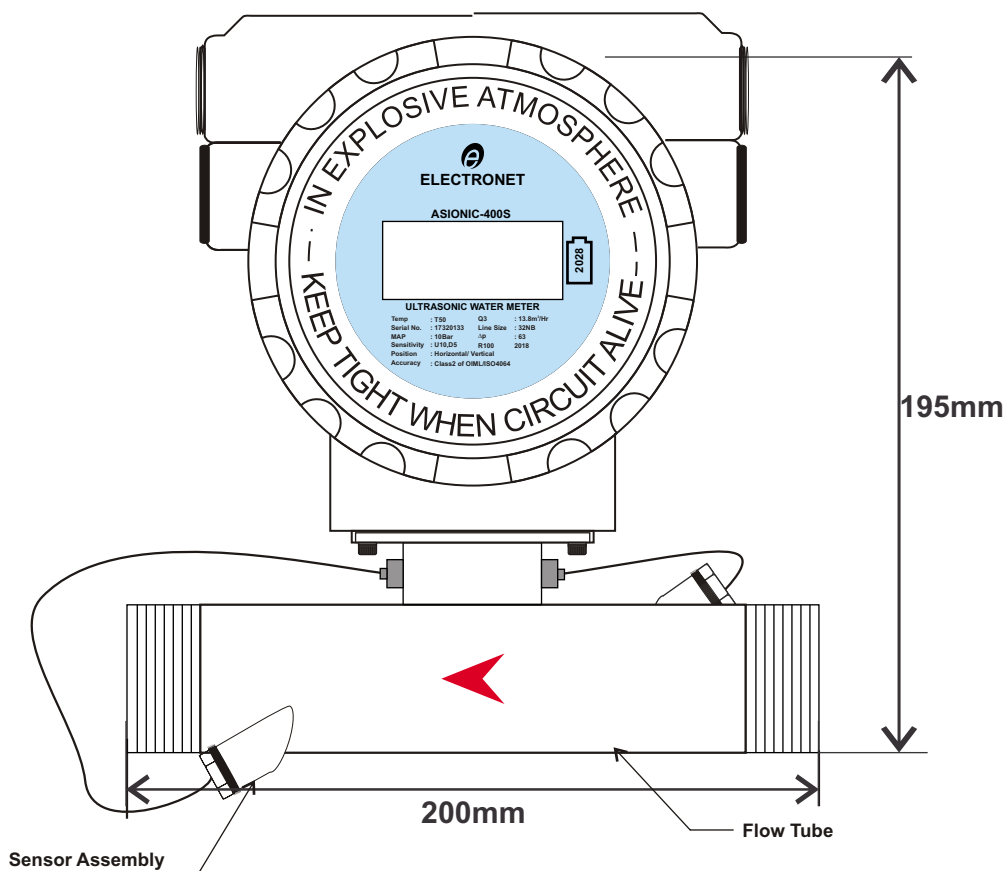
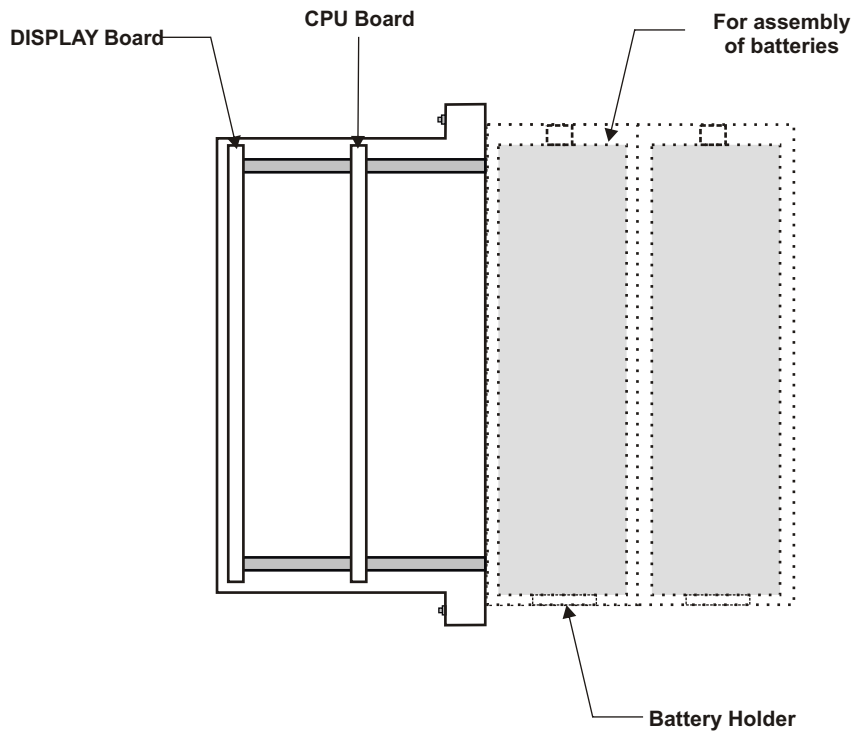


Fig.2 Side View

**Note : All Dimensions are in mm
With $\pm 5\%$ of Tolerance.**

2.1 Internal View



2.2 Battery Replacement :

Special care must be taken while handling batteries. Batteries are Non-Rechargeable Lithium batteries with 9 AH capacity. They are dangerous if used carelessly.

- Remove the top cover of instrument.
- Remove termination board.
- Remove existing batteries.
- Replace with new batteries of same specifications with correct polarities.
- Do not attempt to recharge removed batteries or do not crush, puncture.
- Ensure that LOW BAT indication on display has stopped blinking after installation of new batteries.
- Please note warranty void if seal is broken.

3. INSTALLATION DETAILS

3.1 Safety instructions :

1. Read this manual carefully.
2. Pay attention to the environment on the installation site.

3.2 Mounting location :

- To obtain a stable and accurate flow measurement, it is very important that the flow sensor is mounted correctly in the pipe system.
- There must be no flow fluctuations.
- Avoid locations with vibrations from for example pumps.
- Avoid locations with extensive temperature changes.
- There must be sufficient free space around the flow sensor.
- Observe the flow directions of through the Pipe.
- Avoid corrosive environments and locations with a great risk of condensation, or consult factory for special builds for these locations

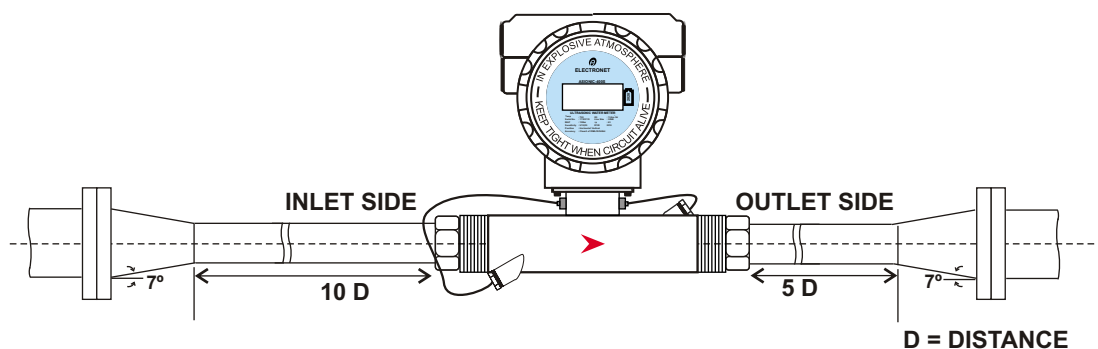
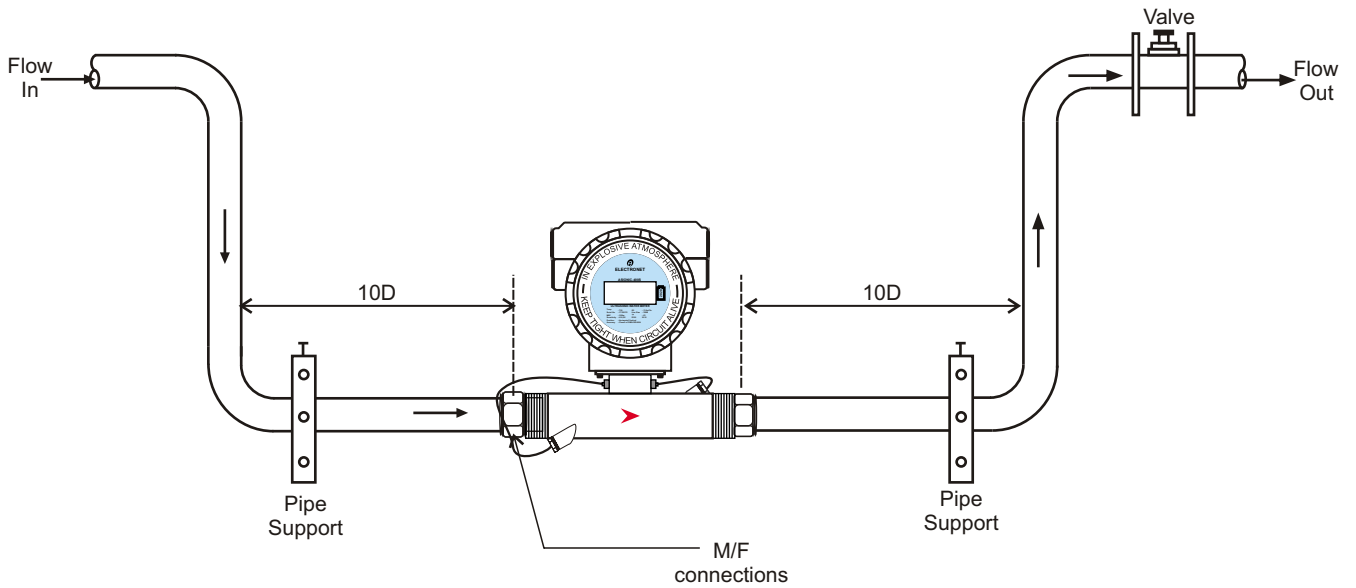


FIG.7. FLOWMETER INSTALLATION WITH REDUCER

- 1) Reducers are to be used for mounting flowmeter only where pipeline is bigger than flowmeter size.
- 2) At inlet side, straight run to be maintained 10 times of flowmeter bore size 'D' and similarly 5 times of 'D' at outlet side.
- 3) Flange size to be selected as per pipeline and flowmeter size.

Note:-1) Select a pipe location which will always run full of liquid.
2) Distances of pipe bends and elbows should be atleast 20D from the flowmeter.

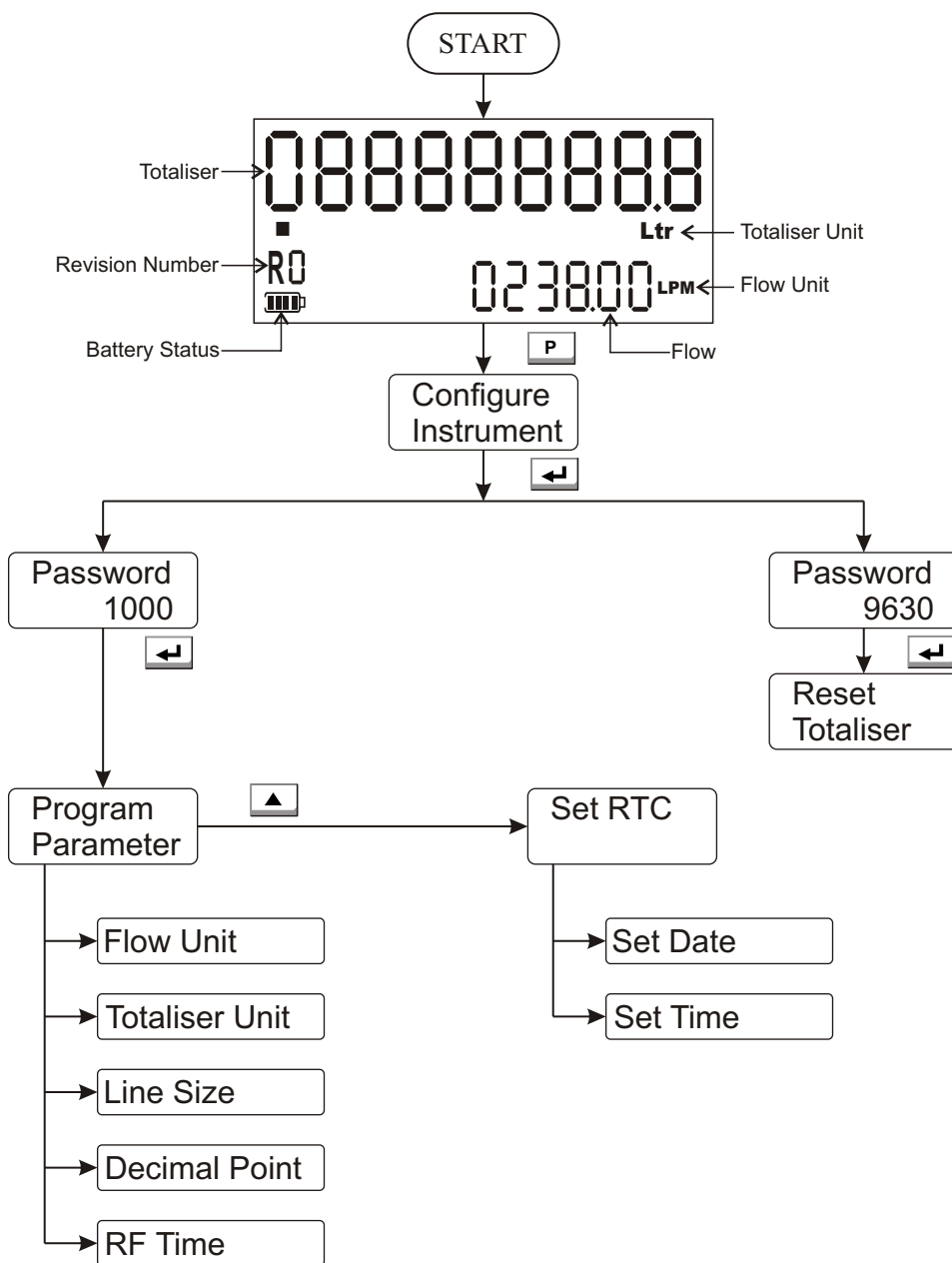
3.3 Installation In Horizontal Position:-



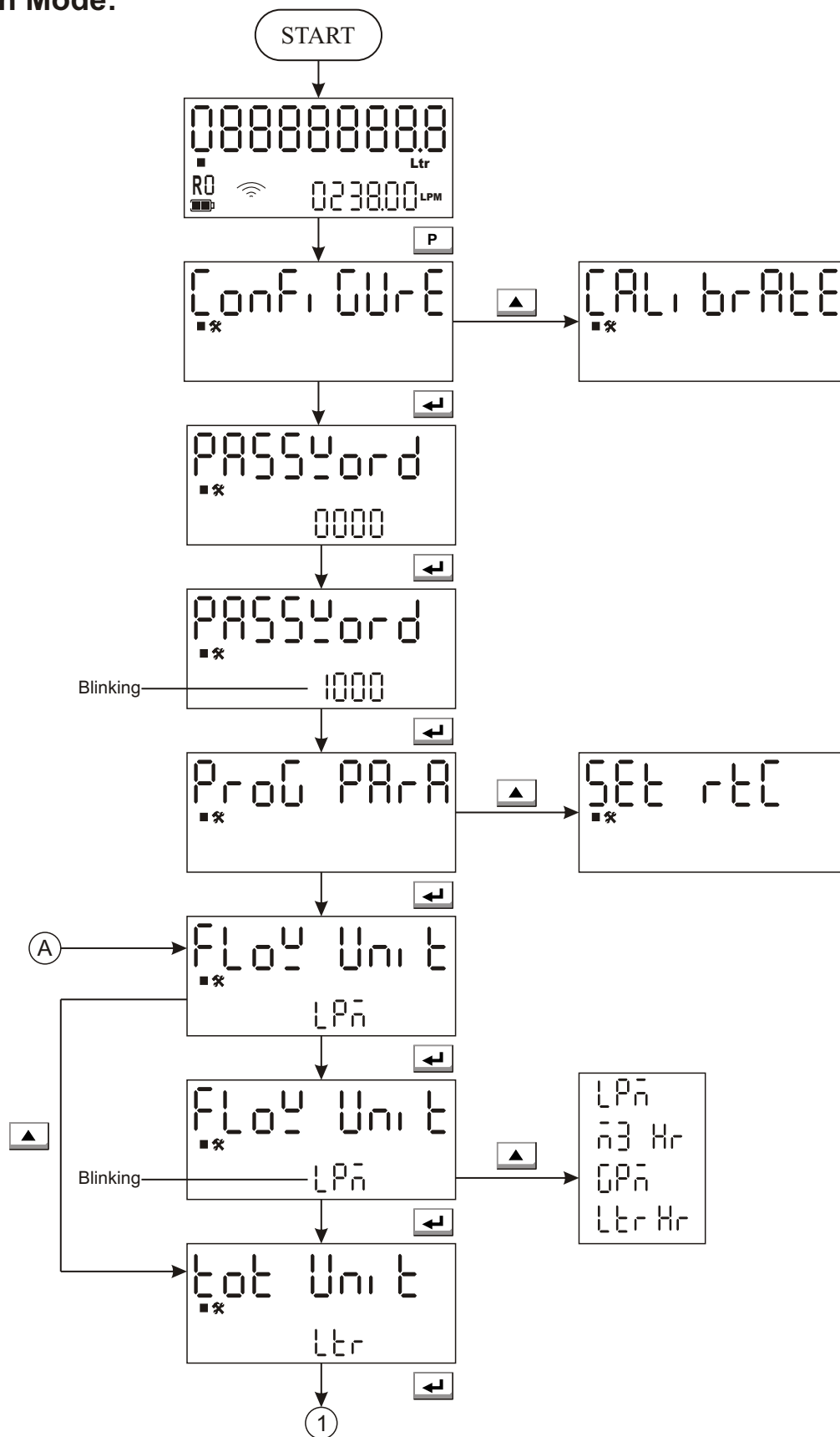
NOTE: Flow meter can be installed in any position either vertical or horizontal. Select a pipe location which will always run full of liquid. Vertical installation with flow from down to top assures full pipe condition.

4. OPERATIONAL FLOW CHART

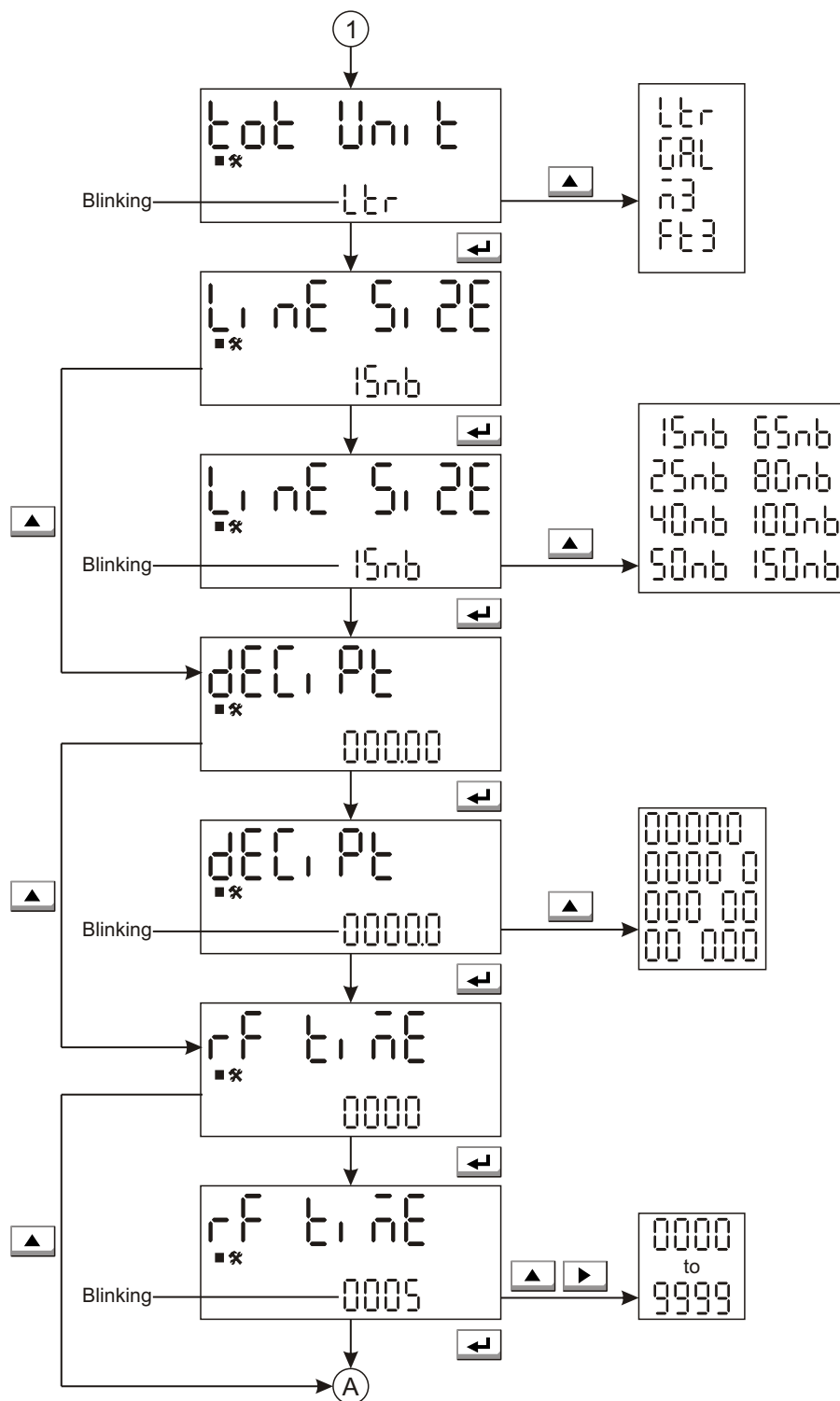
4.1 General Overview Of Operations :



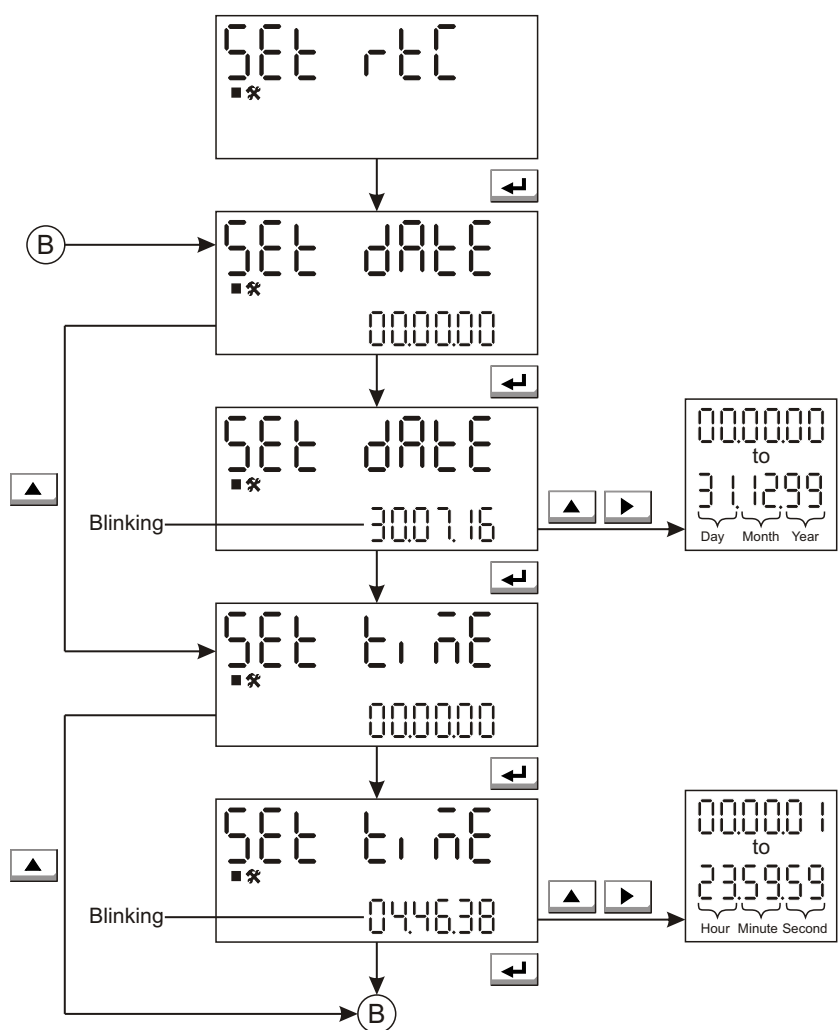
4.2 Configuration Mode:



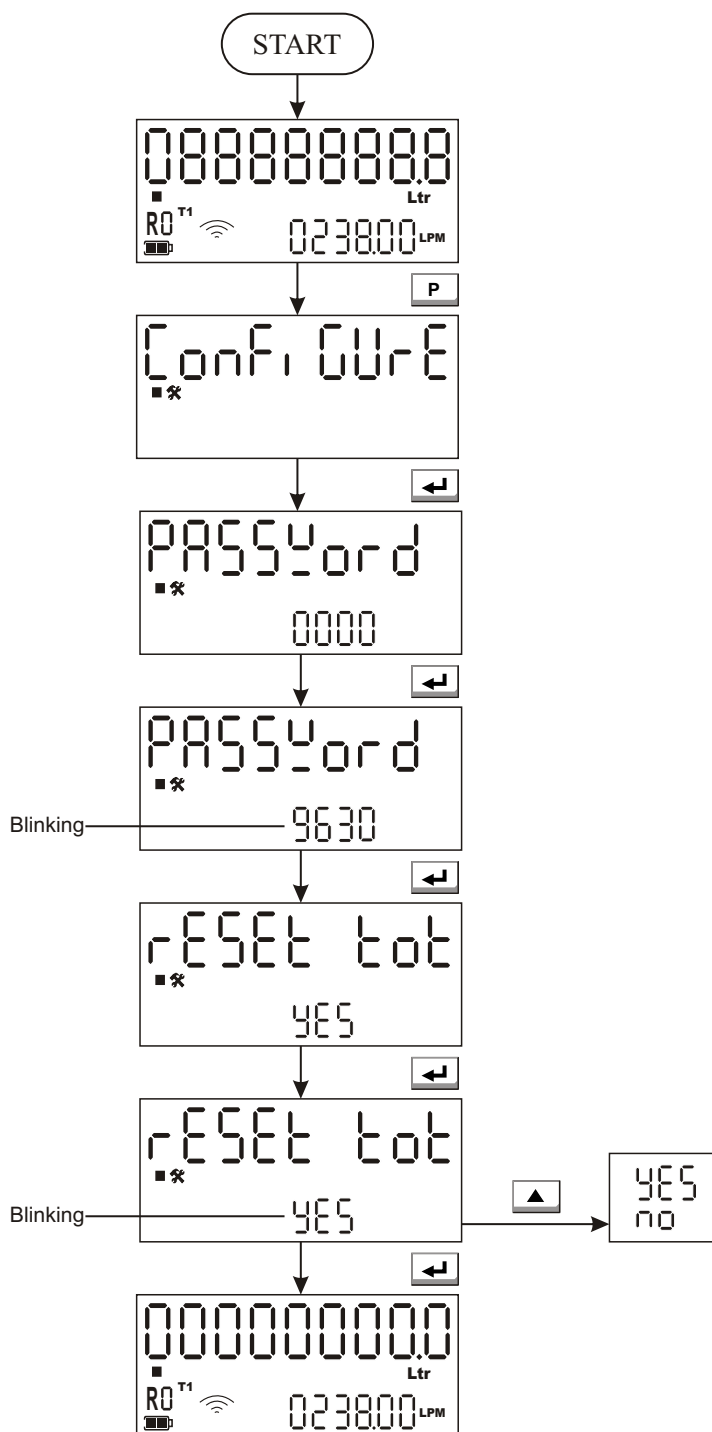
Note: On selection of Ltr/hr as 'Flow Unit' Run mode display will indicate "T4"



Note: RF time to be set in “minutes” 0001 refers to 1 minutes



4.3 Reset Totaliser :



5. LEGENDS DESCRIPTION

Display	Description
ርዕዝ ርዕዥ	Configure Instrument
ፖፕዎርድ	Password
ፕሮግራም ፕላን	Program Parameter
ፎሎው ህንጻ	Flow Unit
ሊትር በከፍት	Liters per minute
ካብ ሊትር	m ³ /hr
ጊላን በከፍት	Gallons per minute
ሊትር በሰዓት	Liters per hour
ጠቅላላ ህንጻ	Totaliser Unit
ሊትር	Liter
ጊላን	Gallon
ካብ ሜትር	m ³
ካብ ፊት	Ft ³
ሊን ስፔር	Line Size
ዲሲማል ፖይንት	Decimal Point
ሪፍሊሽን ጊዜ	RF Time

Display	Description
ጊዜ ሪፍሊሽን	Set Real Time Clock
ጊዜ ደብዳቤ	Set Date
ጊዜ ጥንቅቅ	Set Time
ርብረት ማስተካከል	Calibrate Instrument
ሰነድ ሰነድ	Set Instrument Information
ጊዜ ስር	Set Serial Number
ኦ ቦርከር	K Factor
ጊዜ ቦርከር	Set K Factor
ሪሲት ጠቅላላ	Reset Totaliser

6. DOS & DON'TS

Precautions to be taken on site :-

1. Read the instruction manual carefully before installing the instrument.
2. Do the connections as per the termination details given in the manual.
3. Terminal connections should be tight.

7. TROUBLE SHOOTING PROCEDURE

SYMPTOMS	CAUSE OF FAILURE	ACTION TO BE TAKEN
No display / Blank LCD	Error condition due to battery supply fluctuation	Make battery connections firm & tight
No display / Blank LCD	No Power supply	Check Battery connection & Battery Voltage. Change batteries if required.
Incorrect Flow Display	Incorrect Parameters selected or incorrect calibration or Loose process connection	Check for correct parameters, if this does not solve the problem , Recalibration is required contact Electronet service department.
Constant 0000 display	Calibration disturbed	Recalibration is required contact Electronet service department.

Authorised Dealer



NK Instruments Pvt. Ltd.

B-501/504, 5th floor, Raunak Arcade, Near THC Hospital, Gokhale Road, Naupada,
Thane(W) 400602. Maharashtra INDIA Telefax Nos.: 91-22-25301330 / 31 / 32
E-Mail: sales@nkinstruments.com Web: <http://www.nkinstruments.com>
Skype: nitinkelkarskype Gtalk: nkinstruments2006

