PORTABLE DEW POINT METER
with Data logging
MODEL: DPM 202
INSTRUCTION MANUAL

1. SPECIFICATIONS

Parameter	Specification
Measurement Range	Dew Point (Dp): -60...+60 °C Relative Humidity (RH): 0…100 % RH Temperature (T): -40 °C to 70 °C
Resolution	0.01 °C / % RH
Accuracy	±2 °C(dp)
Display	2.8” True Colour TFT with Touch Screen
Display Refresh Rate	1 second (typical)
Alarm	Audible & Visible user settable individual High & Low alarm set with alarm mode selection
Calibration	Multipoint Calibration feature available
Touch sound	On / Off option available
Integrated battery	3.7V / 10,000 mAh Inbuilt rechargeable polymer Li-ion battery
Data logging interval *	1 sec to 24 Hours (user selectable) (Only for DPM 202-A)
Data download *	Via USB C-type to PC software (Sansel-Soft-01) (Only for DPM 202-A)
Battery charging port	USB C-type
Backlight Time Interval	OFF to 59 mins : 59 secs (user adjustable)
Brightness adjustment	10 to 100% (user adjustable)
Application Environment Range	-10 °C to +60 °C; 0% to 100% RH (non-condensed)
Storage Environment Range	-10 to 45 °C ; 10 to 90% RH
Housing Material	ABS with anti-slip grip silicon cover
Protection Class	IP40
Dimension (L x B x H)	35 x 80 x 165 mm
Weight	Approximately 560 g

Note: Due to continuous product improvements, Published specifications may change with out notice

Standard Delivery

1. Basic Instrument with sensor 2m cable
2. Charger with cable
3. Instruction manual

Optional

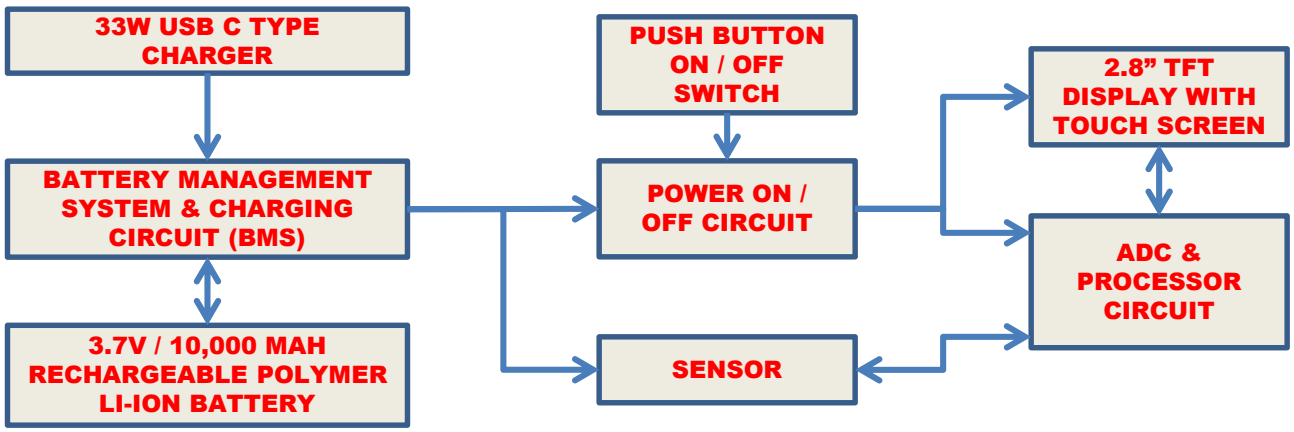
1. Protective Carrying Case
2. SANSEL-SOFT-01 software for DPM 202-A
3. ISO/IEC 17025 Accredited Calibration Certificate

2. BATTERY WARNING

WARNING:

1) **The battery used in this device may present a risk of fire or chemical burn if mistreated.**
2) **Do not disassemble heat above 140 ˚F crush or puncture short circuit external contains or dispose of in fire or water.**
3) **Use specified charger only & charge once in a month.**

3. BLOCK DIAGRAM



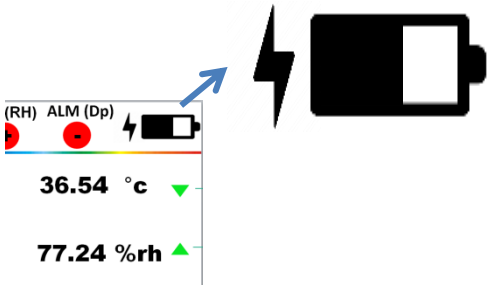
4. CHARGER CONNECTION

CAUTION:

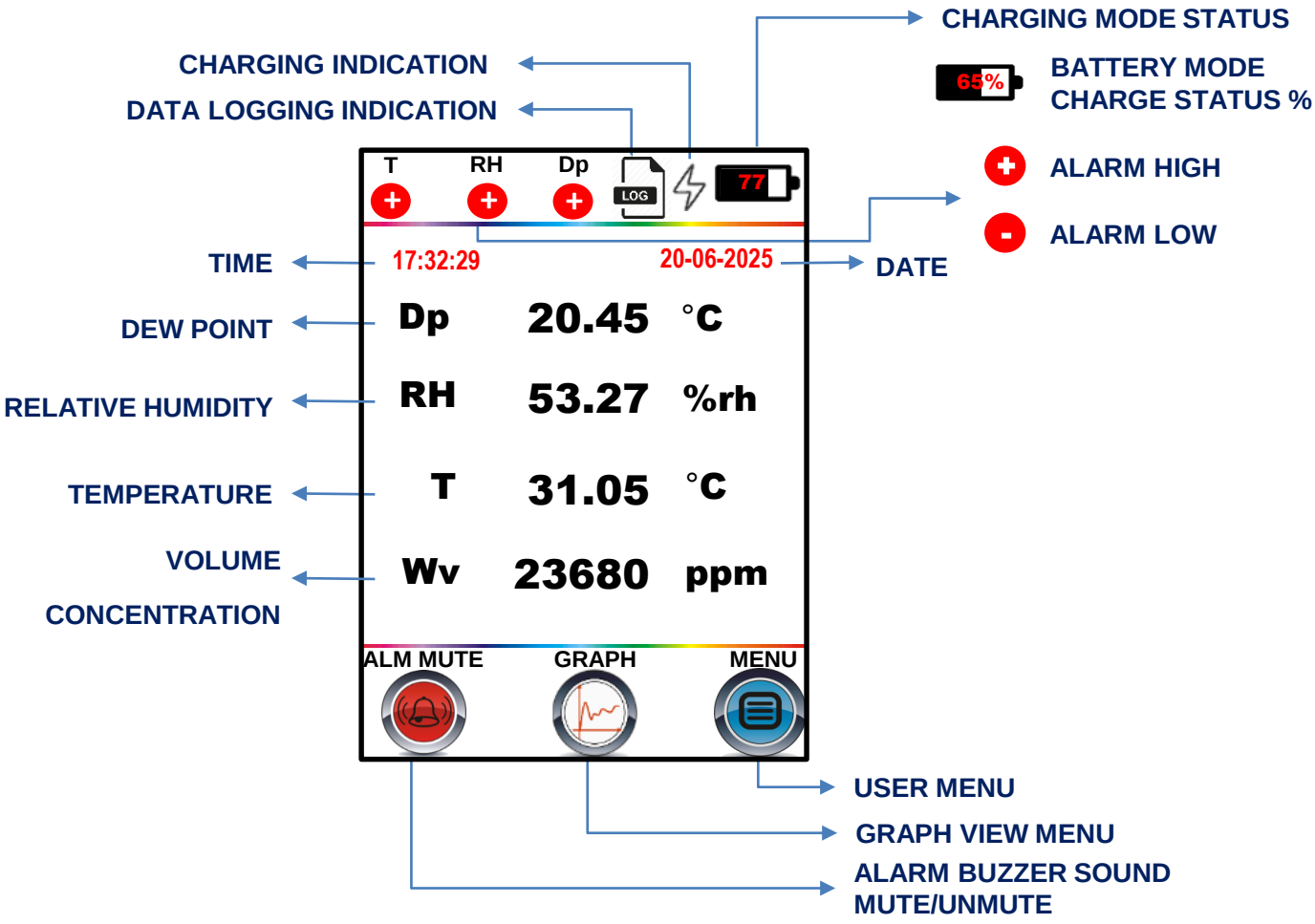
1) **Don't recharge DPM 202 during a thunderstorm**
2) **Unplug your charger from electrical outlets when they are not in use, especially if they plug directly into a wall outlet and not a surge protector**
3) **Periodically inspect chargers for wear-and-tear or outright damage**
4) **Charge devices in shorter bursts rather than longer periods**
5) **When not in use, do your best to shut off battery-powered devices that you do not need on**

I. Insert the USB C type male connector to DPM 202 Female connector

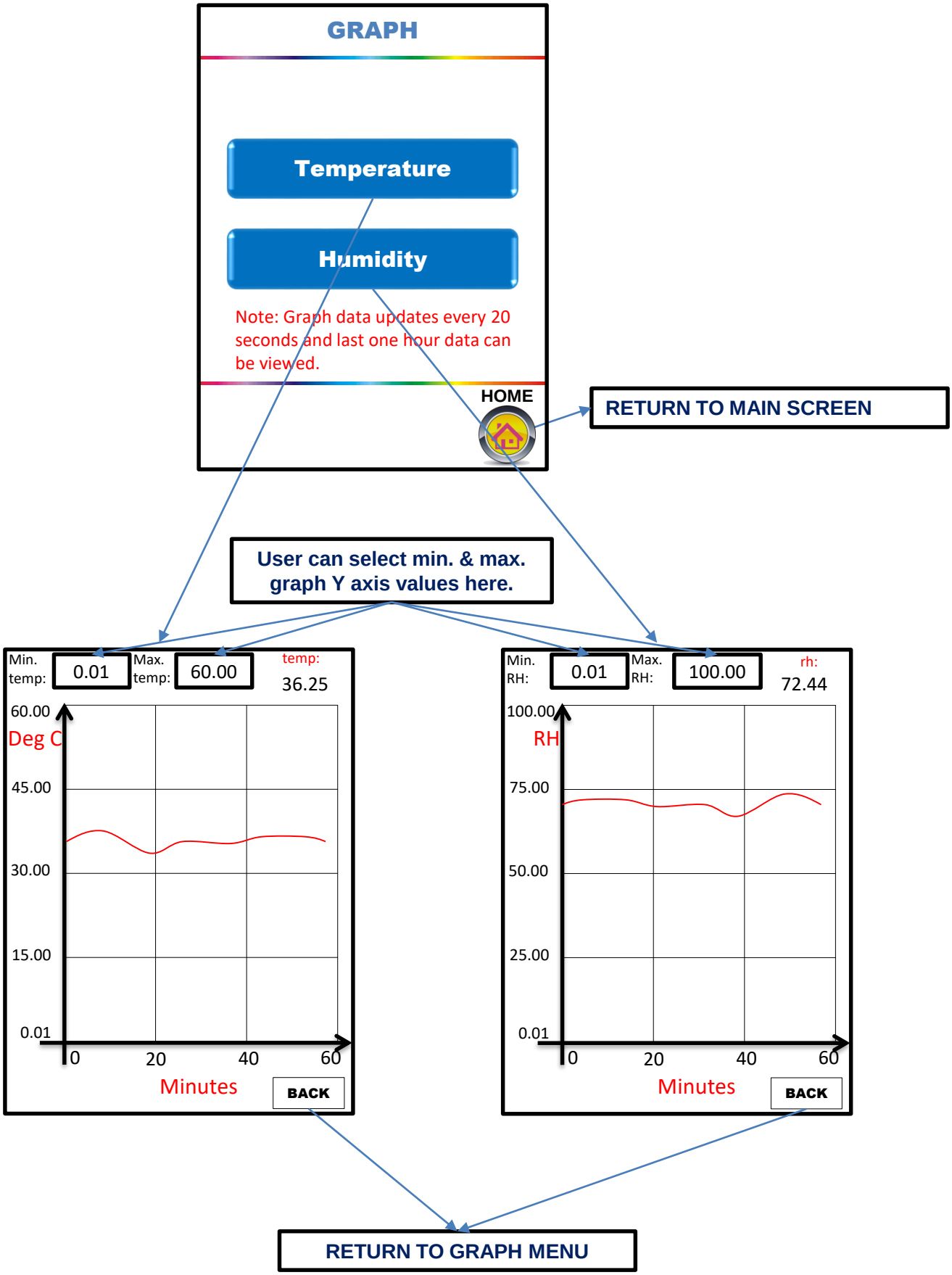
II. Insert the Charger to Power socket and switch ON, the charging symbol will appear on DPM 202 top right side corner (near charge status)



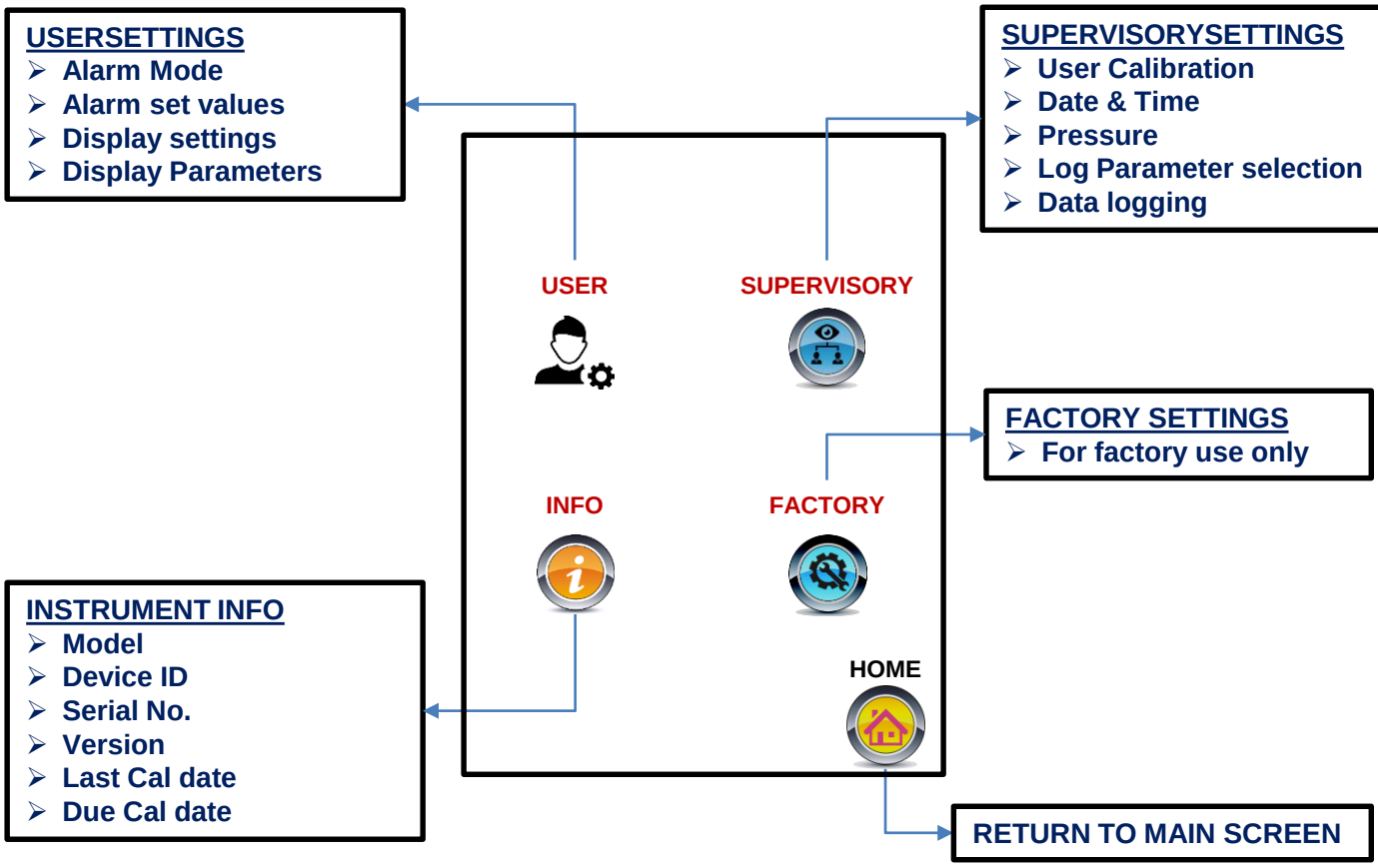
5. MAIN SCREEN DESCRIPTION



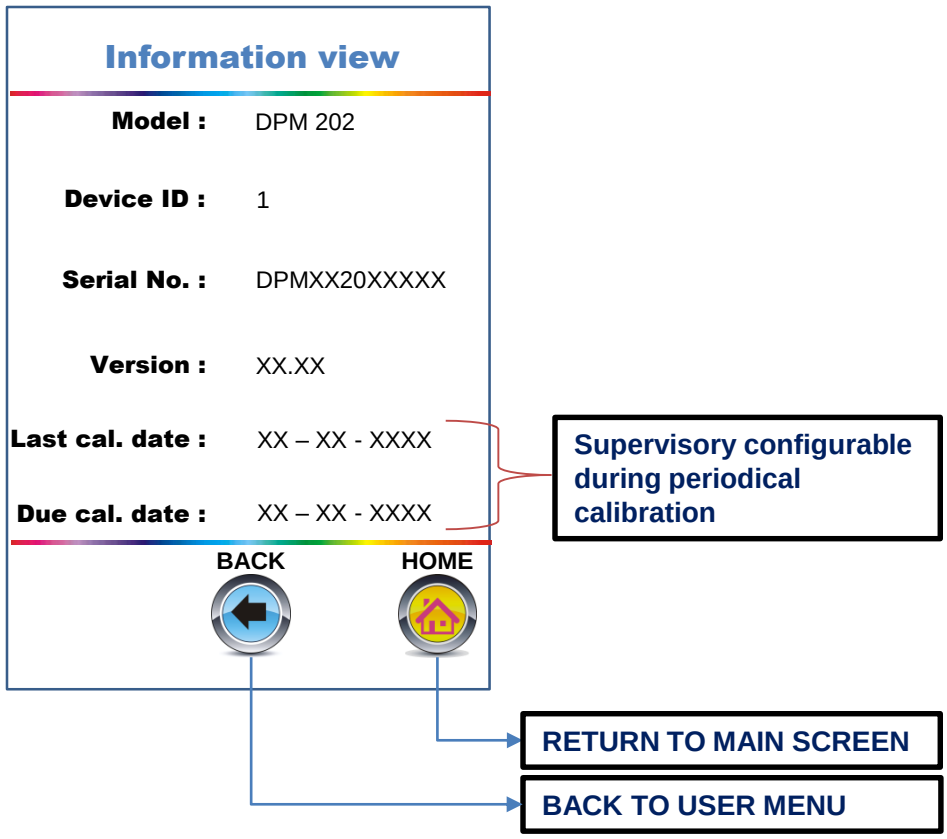
6. GRAPH VIEW MENU



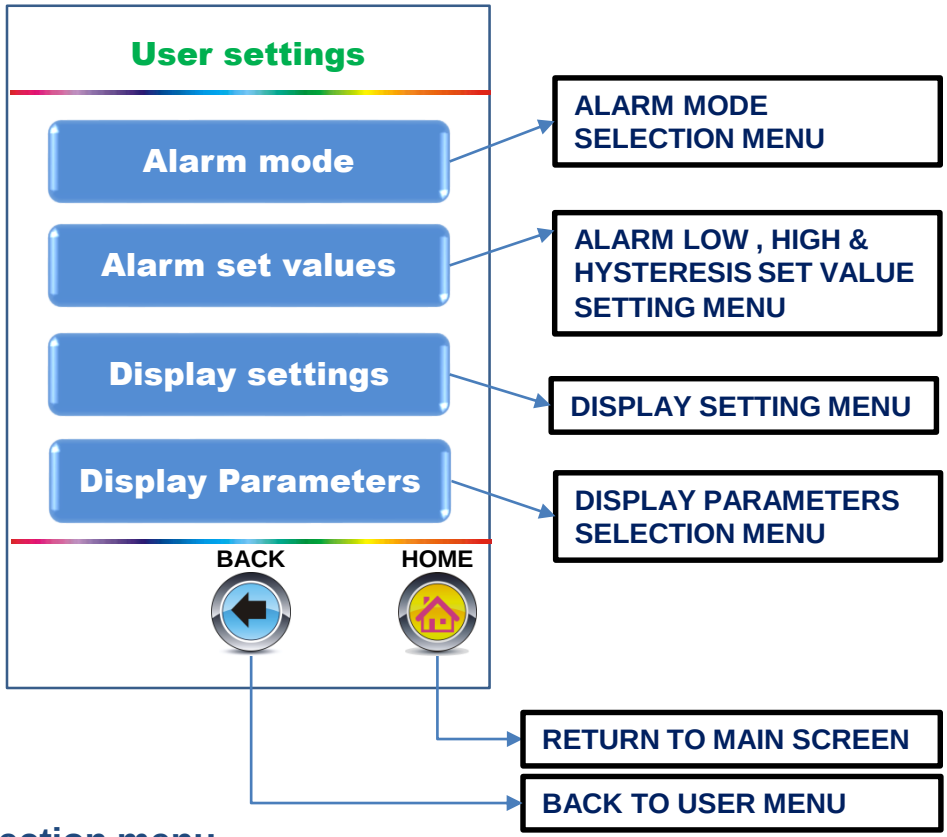
7. SETTING MENU DESCRIPTION



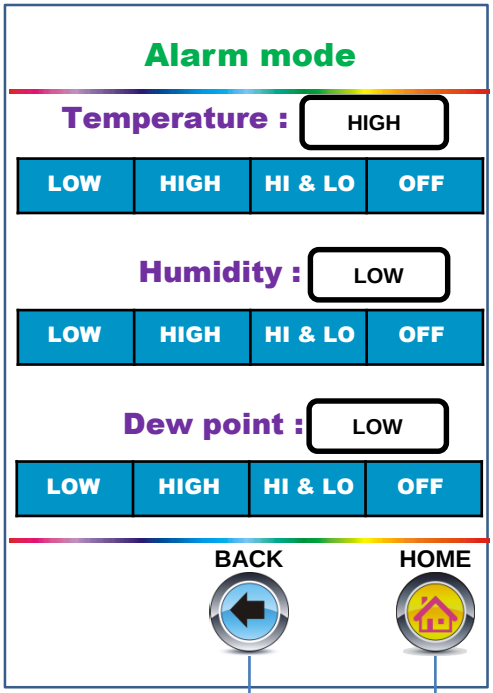
7.1. Instrument Info

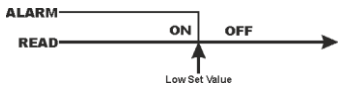
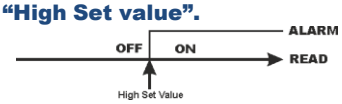
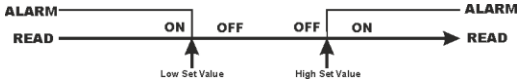


7.2. User settings

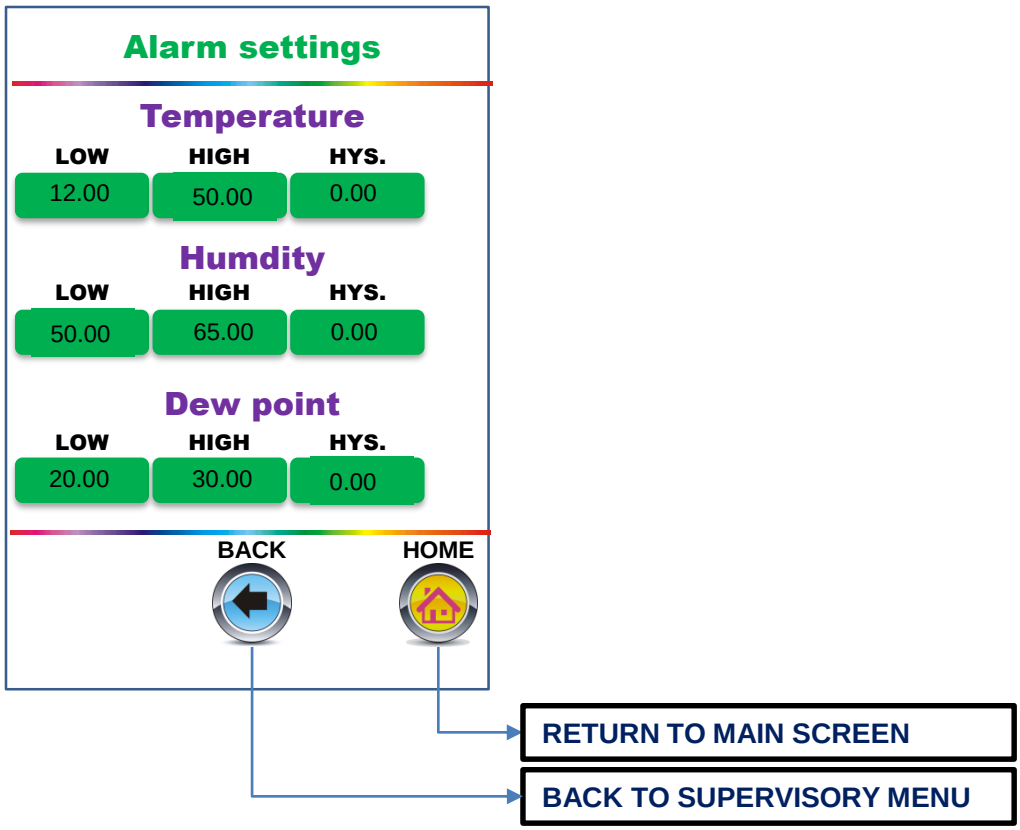


7.2.1. Alarm mode selection menu

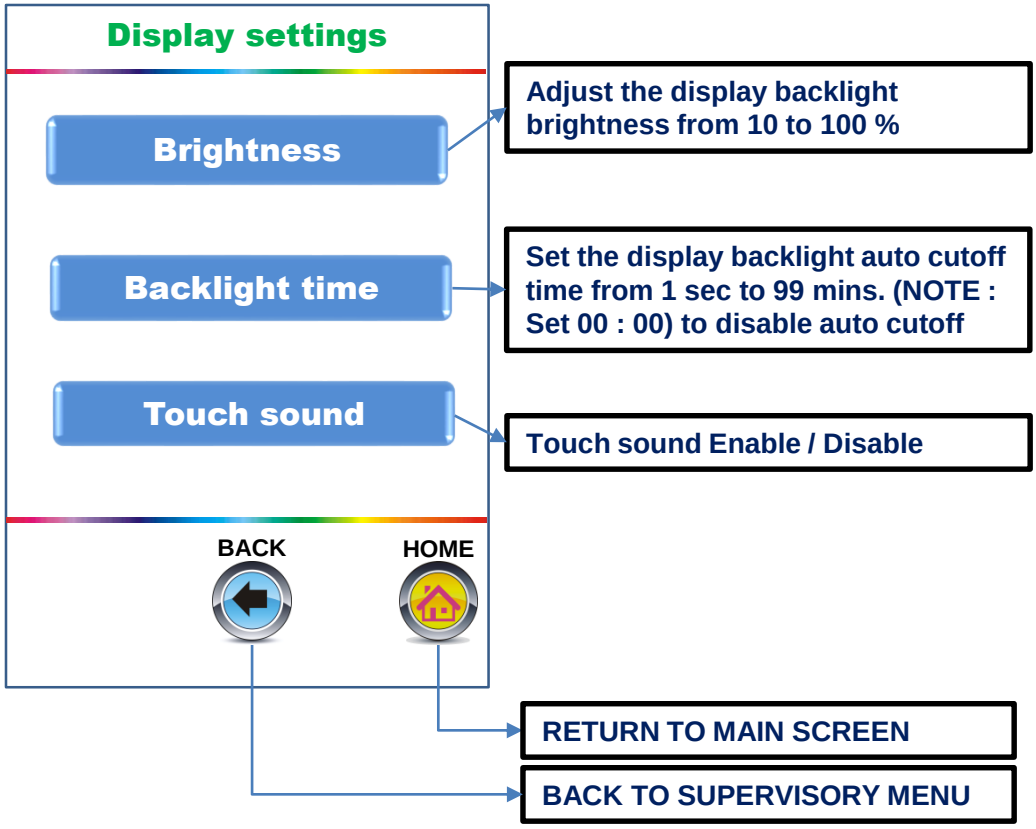


NAME	DESCRIPTION
OFF	To Switch OFF the “Alarm Output” at any condition of PV.
LOW	To Switch ON “Alarm Output” during PV below “Low Set value” and Switch OFF above “Low Set value”. 
HIGH	To Switch ON “Alarm Output” during PV above “High Set value” and Switch OFF below “High Set value”. 
HI & LO	To Switch ON “Alarm Output” during PV above “High Set value” and below “Low Set value”. Switch OFF between both set values. 

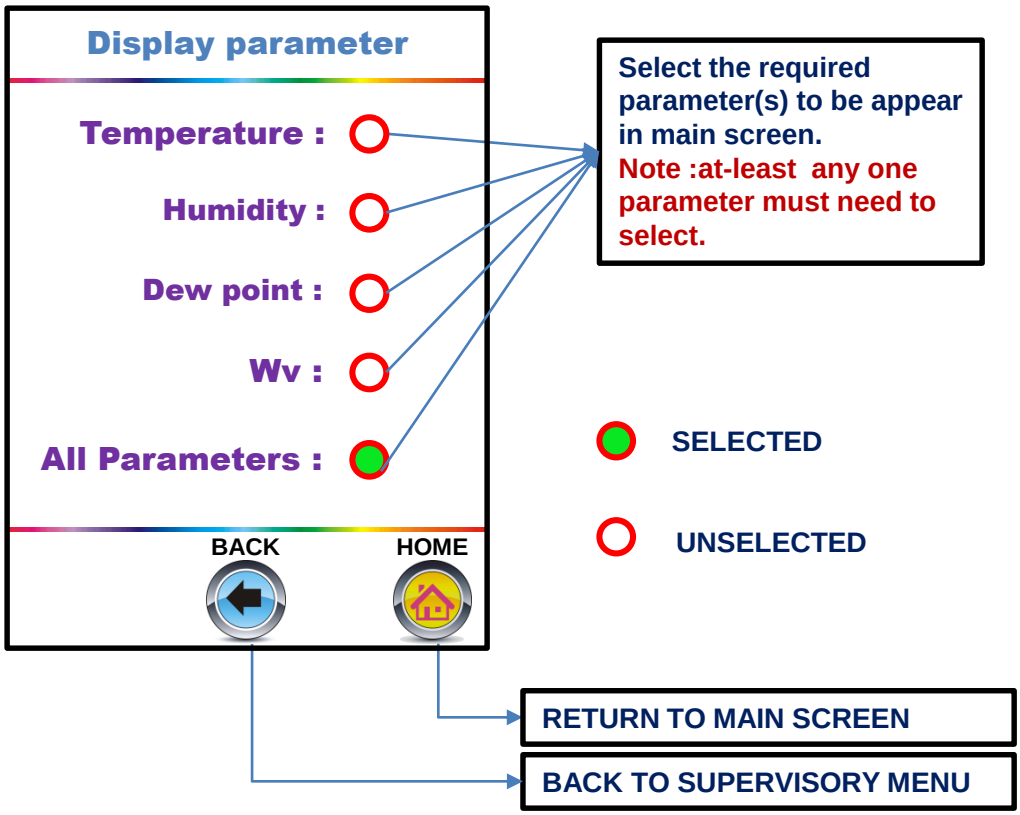
7.2.2. Alarm Set value setting menu (Low, High & Hysteresis)



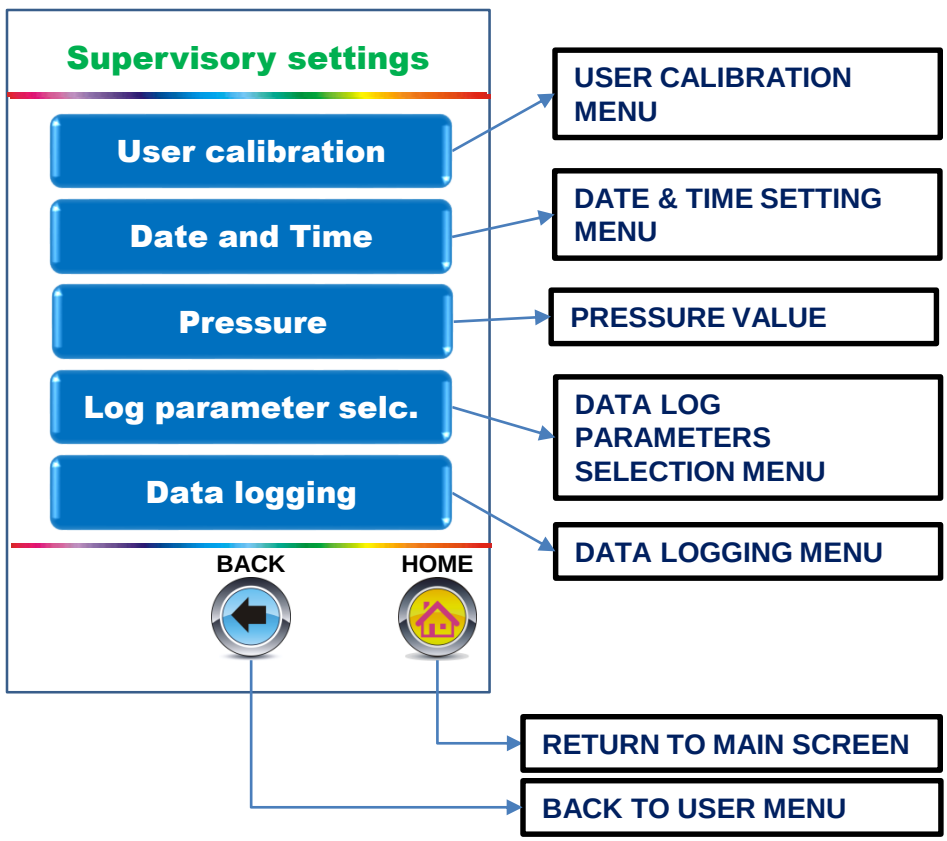
7.2.3. Display setting menu



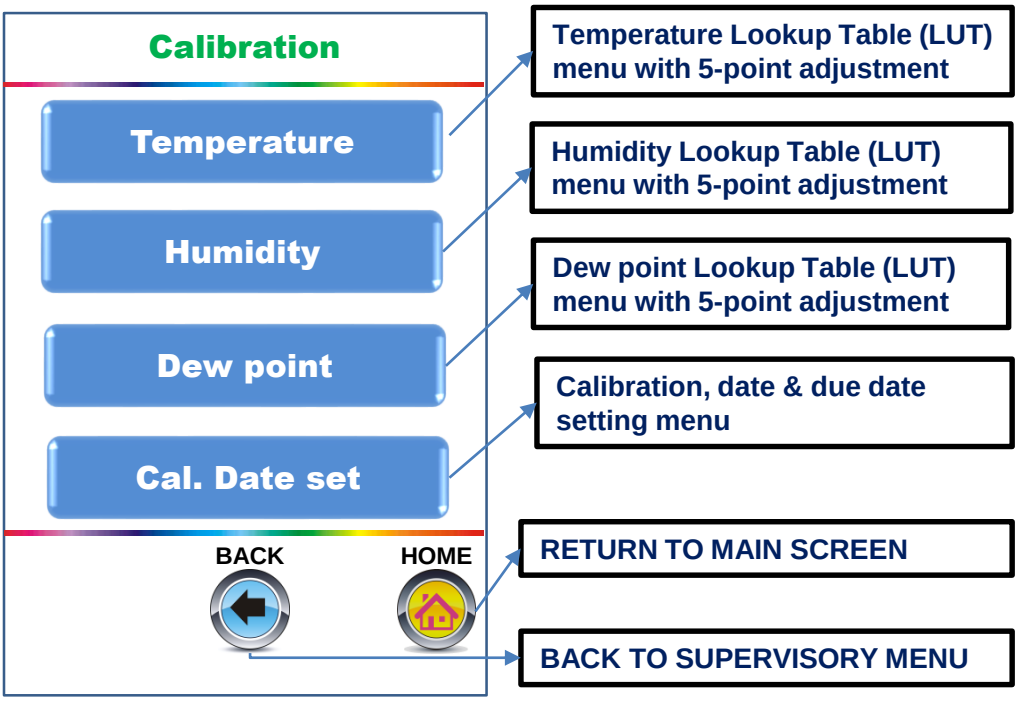
7.2.4. Display Parameter selection menu



7.3. Supervisory settings (Password = 3579)



7.3.1. User calibration menu (for Humidity& Temperature)



For better accuracy, Periodic Calibration of the DPM 202 is recommended. In addition, the DPM 202 must be recalibrated whenever:

a. The sensor is replaced.
b. After testing long term in high temperature.
c. Where high accuracy is required.
d. At least twice an year.

NOTE : For Best results, calibrate with certified accurate master hygrometer. Follow the steps given below to calibrate the DPM 202.

7.3.1.1. Temperature Linearization Lookup Table(LUT) Adjustment

This feature can be used for Temperature Read which have Non-Linear transfer characteristics. We utilize this typical application for temperature error Adjustment. DPM 202 Allows 1 to 5 LUT points adjustment for temperature. The effect of a 5-point Temperature adjustment depends on the calibration points stored in LUT points and No. of points selection.

DPM 202 can be programmed to Lookup pre-calibration set of LUT values. DPM 202 can then fit Straight lines between two adjacent pre-calibration LUT points. The number of pre-calibration points is limited from 1 to 5 LUT points. The more number of LUT points you can define the more accuracy. However DPM 202 has a fixed 1 to 5 LUT points feature.

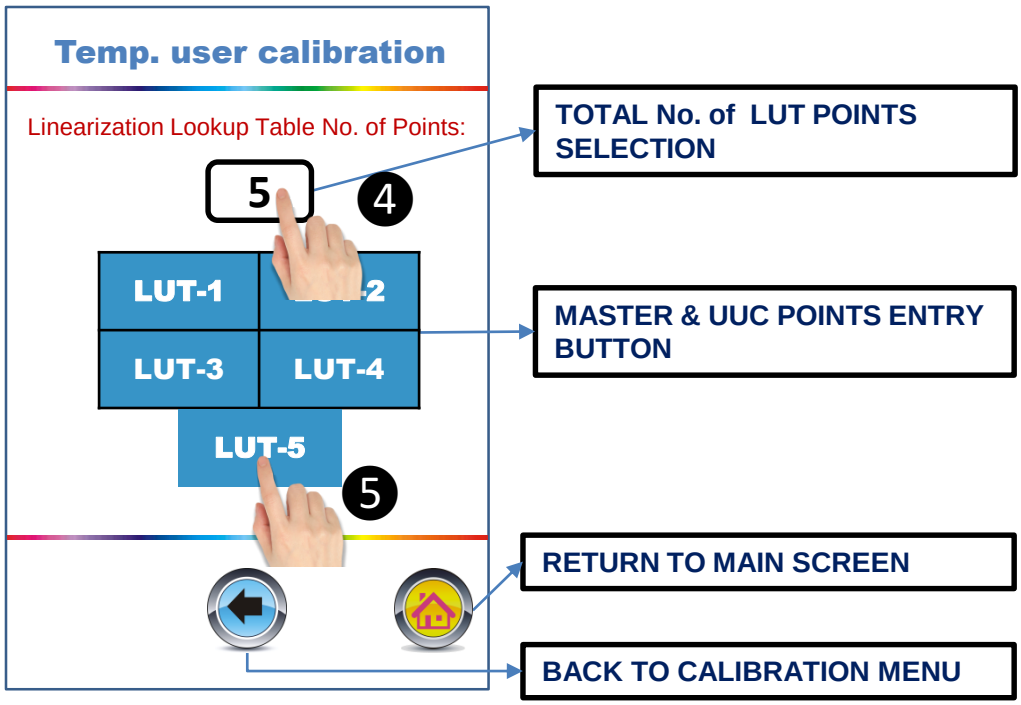
NOTE :
1) Any temperature adjustment should be done prior to adjusting Temperature.
2) Before start calibration, Ensure that the No. of points = 0 to disable existing LUT points.

STEP – 1 : Place DPM 202 sensor & Master hygrometer sensor on an stability chamber.

STEP – 2 : Decide the required temperature test point 1 to 5 to be adjust and after stabilize of each points, note down as sample points(recommended) as below table.

LUT POINT No.	CHAMBER SET POINT	MASTER READ	DPM 202 (UUC) READ
1	5	5.2523	5.34
2	15	14.7461	14.97
3	30	30.1256	30.32
4	45	44.9264	45.14
5	60	60.2762	59.95

STEP – 3 : After completion of all points, Enter Settings → Supervisory → User calibration menu → Temperature.



STEP – 4 : Click on No. of Points and select required Total No. of LUT points.

STEP – 5 : Click on all LUT-1……LUT-5 button one by one and enter all the MASTER & UUC values as already noted readings as above table.

STEP – 6 : Now Temperature calibration finished successfully and click on HOME button to return back to main screen.

7.3.1.2. Humidity Linearization Lookup Table(LUT) Adjustment

This feature can be used for Humidity Read which have Non-Linear transfer characteristics. We utilize this typical application for Humidity error Adjustment. DPM 202 Allows 1 to 5 LUT points adjustment for Humidity. The effect of a 5-point Humidity adjustment depends on the calibration points stored in LUT points and No. of points selection.

DPM 202 can be programmed to Lookup pre-calibration set of LUT values. DPM 202 can then fit Straight lines between two adjacent pre-calibration LUT points. The number of pre-calibration points is limited from 1 to 5 LUT points. The more number of LUT points you can define the more accuracy. However DPM 202 has a fixed 1 to 5 LUT points feature.

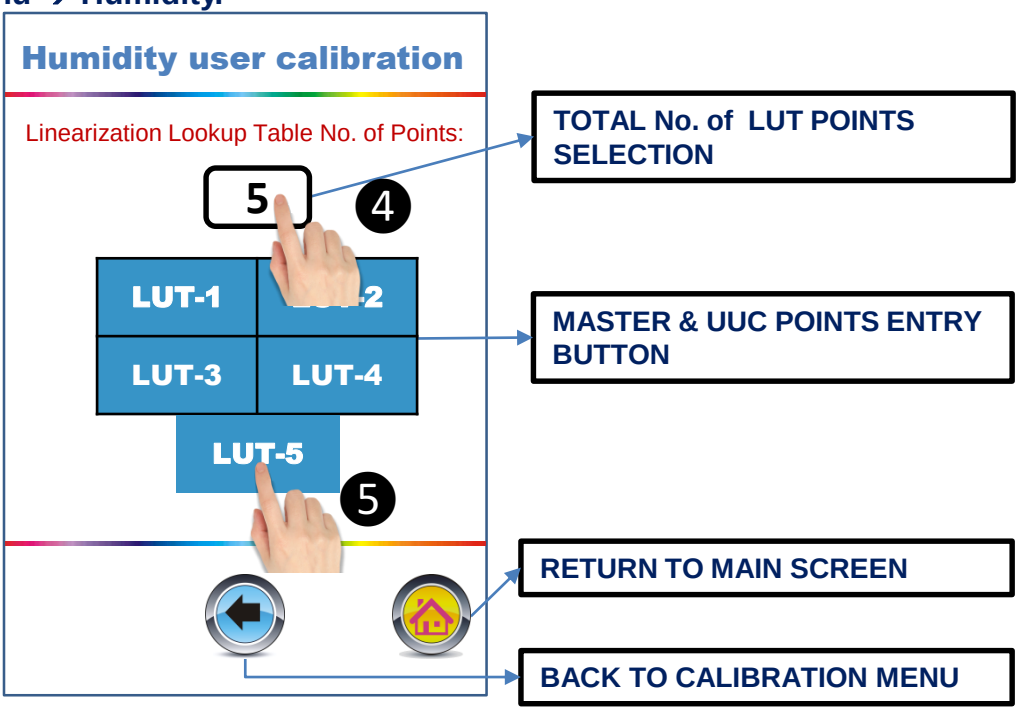
NOTE : Before start calibration, Ensure that the No. of points = 0 to disable existing LUT points.

STEP – 1 : Place DPM 202 sensor & Master hygrometer sensor on an stability chamber.

STEP – 2 : Decide the required humidity test point 1 to 5 to be adjust and after stabilize of each points, note down as sample points(recommended) as below table.

LUT POINT No.	CHAMBER SET POINT	MASTER READ	DPM 202 (UUC) READ
1	20	20.479	19.32
2	40	39.789	40.27
3	60	60.323	60.52
4	80	79.452	79.84
5	90	90.428	90.47

STEP – 3 : After completion of all points, Enter Settings → Supervisory → User calibration menu → Humidity.



STEP – 4 : Click on No. of Points and select required Total No. of LUT points.
STEP – 5 : Click on all LUT-1……LUT-5 button one by one and enter all the MASTER & UUC values as already noted readings as above table.
STEP – 6 : Now Humidity calibration finished successfully and click on HOME button to return back to main screen.

7.3.1.3. Dew point Linearization Lookup Table(LUT) Adjustment

This feature can be used for Dew point Read which have Non-Linear transfer characteristics. We utilize this typical application for Dew point error Adjustment. DPM 202 Allows 1 to 5 LUT points adjustment for Dew point. The effect of a 5-point Dew point adjustment depends on the calibration points stored in LUT points and No. of points selection.

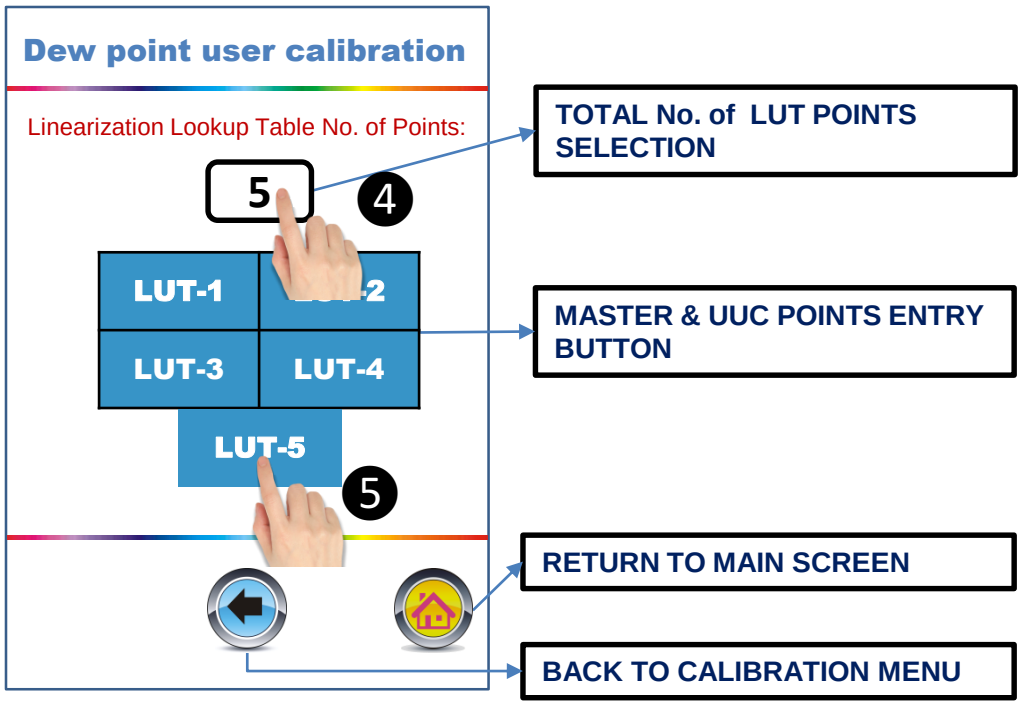
DPM 202 can be programmed to Lookup pre-calibration set of LUT values. DPM 202 can then fit Straight lines between two adjacent pre-calibration LUT points. The number of pre-calibration points is limited from 1 to 5 LUT points. The more number of LUT points you can define the more accuracy. However DPM 202 has a fixed 1 to 5 LUT points feature.

NOTE : Before start calibration, Ensure that the No. of points = 0 to disable existing LUT points.

STEP – 1 : Place DPM 202 sensor & Master hygrometer sensor on an stability chamber.
STEP – 2 : Decide the required Dew point test point 1 to 5 to be adjust and after stabilize of each points, note down as sample points(recommended) as below table.

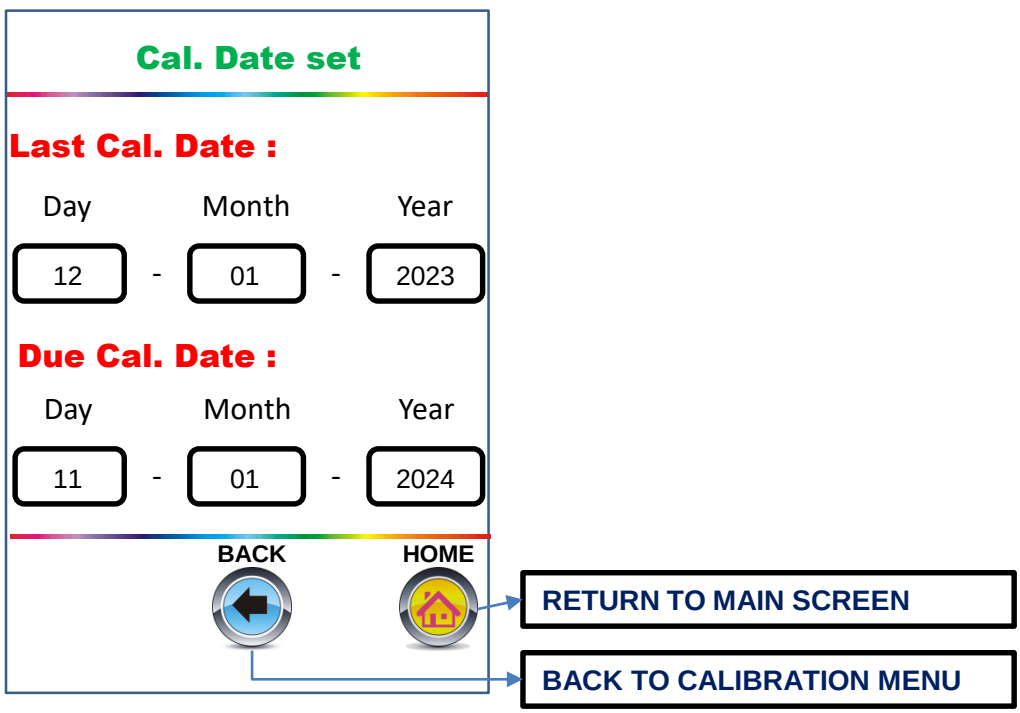
LUT POINT No.	CHAMBER SET POINT	MASTER READ	DPM 202 (UUC) READ
1	5	5.2523	5.34
2	15	14.7461	14.97
3	30	30.1256	30.32
4	45	44.9264	45.14
5	60	60.2762	59.95

STEP – 3 : After completion of all points, Enter Settings → Supervisory → User calibration menu → Dew point.



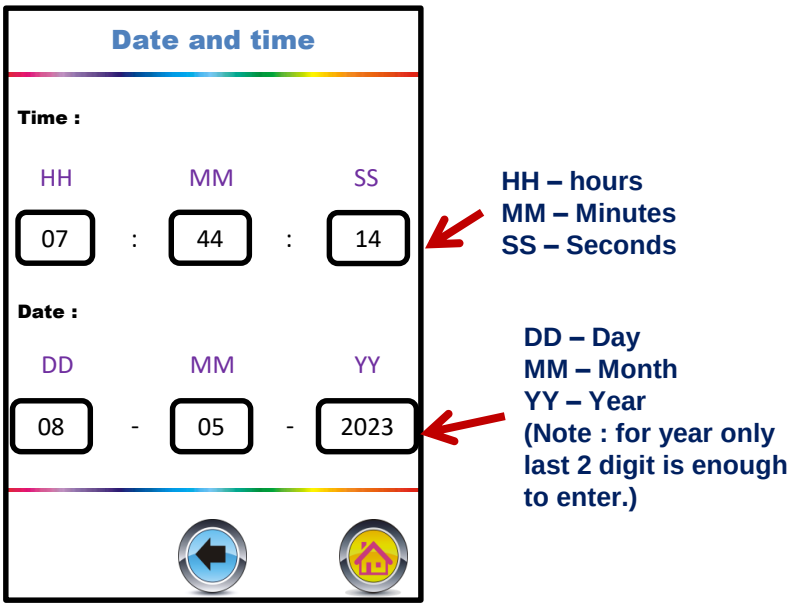
STEP – 4 : Click on No. of Points and select required Total No. of LUT points.
STEP – 5 : Click on all LUT-1……LUT-5 button one by one and enter all the MASTER & UUC values as already noted readings as above table.
STEP – 6 : Now Humidity calibration finished successfully and click on HOME button to return back to main screen.

7.3.1.4. Calibration date & due date setting menu



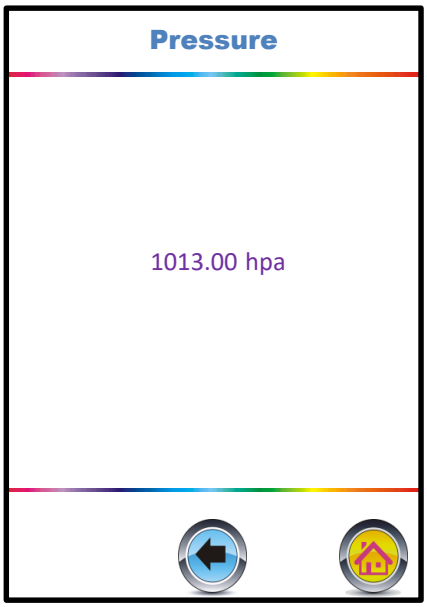
7.3.2. Date & Time Setting menu

To Configure the Date & time for DPM 202 series by click on represent parameters below.

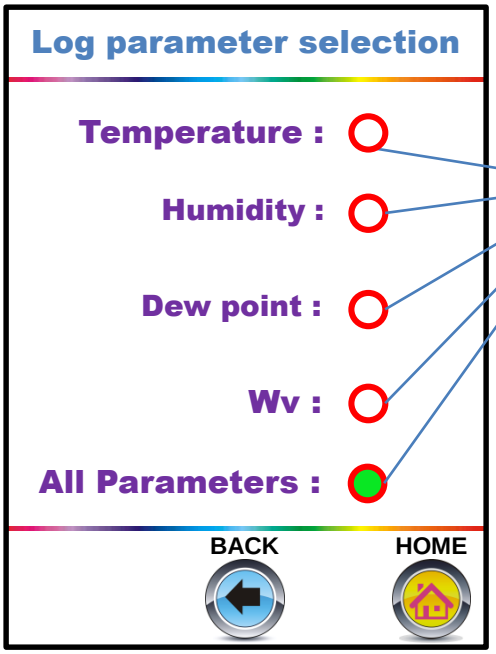


7.3.3. Pressure Value

To Check the pressure value to be read from sensor



7.3.4. Log parameter selection menu(optional)



Select the required parameter(s) to be log, during start "DATA LOGGING".
Note :at-least any one parameter must need to select, to start "DATA LOGGING" & Download datas without any error.

SELECTED

UNSELECTED

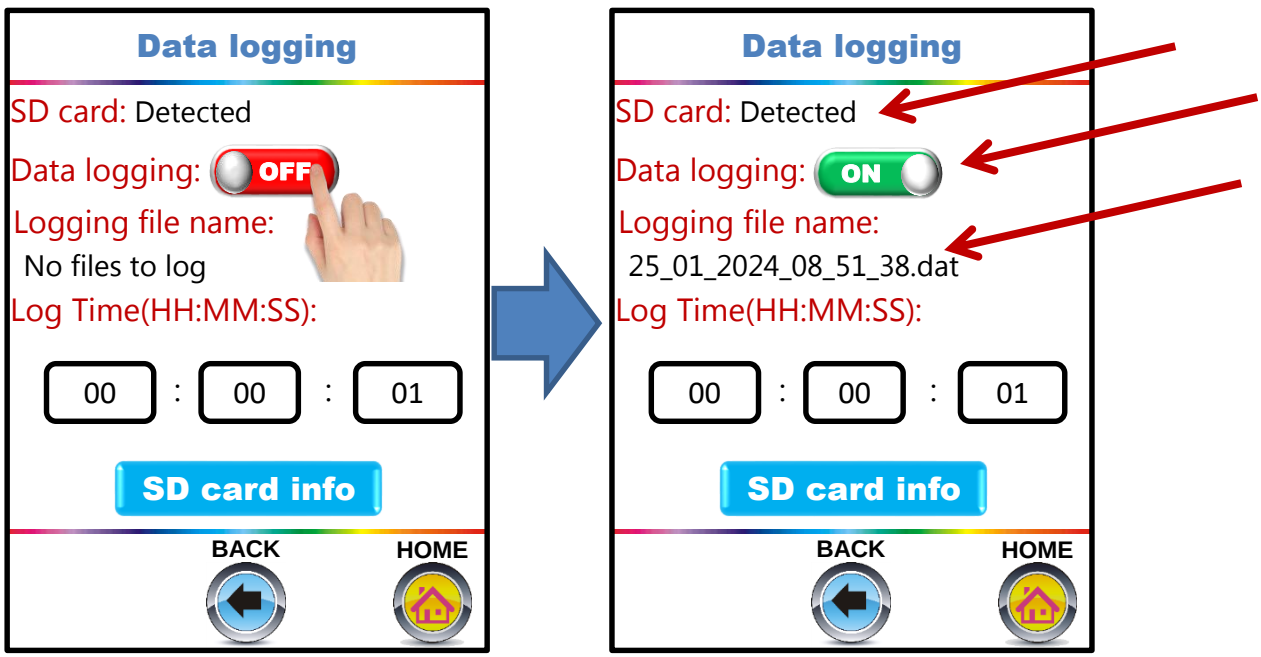
7.3.5. Data logging menu(Optional)

DPM 202-A models having an advanced feature of Data logging to store the data's along with date & time stamp with the user selectable Log interval from 1sec to 24 hours. To store the data's DPM 202-A model provide an wide internal storage SD card with the memory capacity from 4gb to 32gb(based on market availability of SD card the capacity may vary).

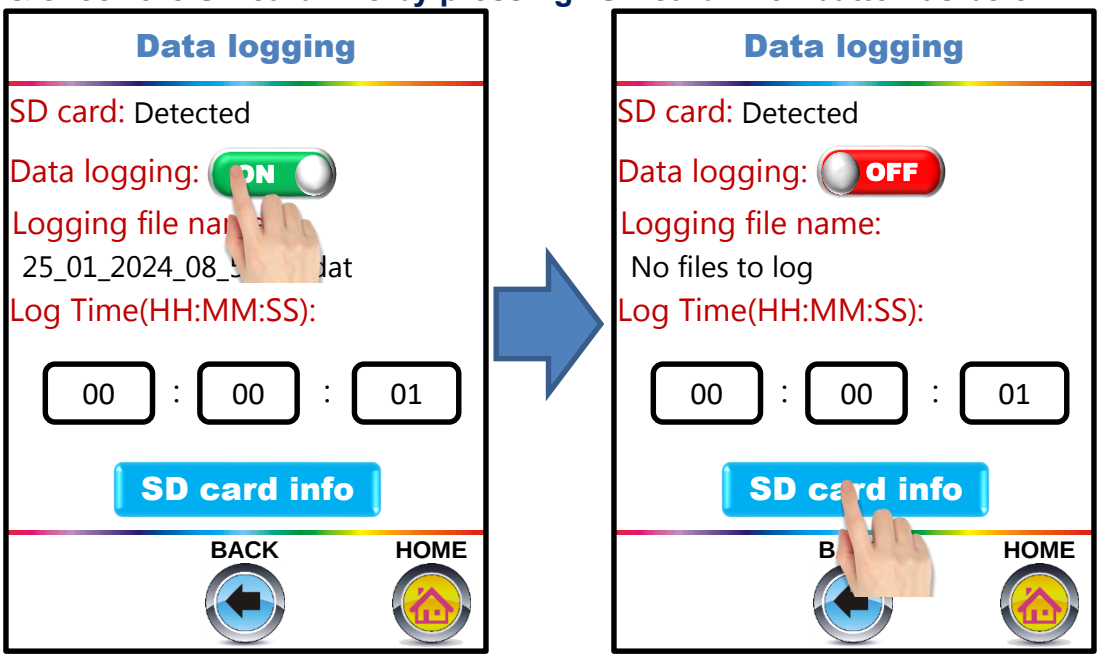
Based on Data logging ON & OFF trigger the Log file will generate a new file with the file name of Data logging ON period date & time.

Note : Before Data logging ON, configure the below mentioned points

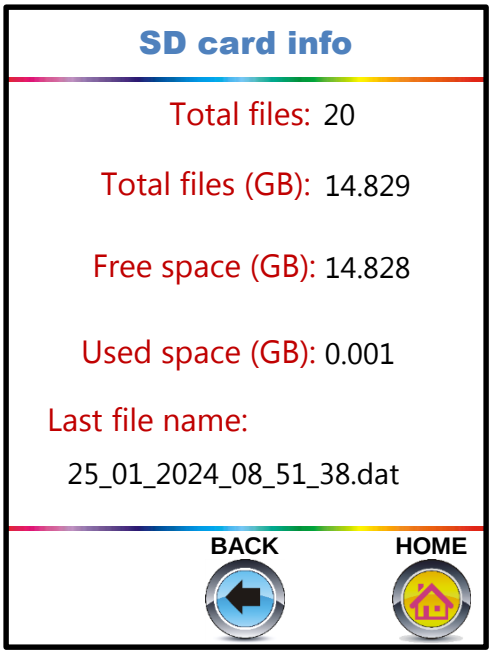
1) **Check & correct the DPM 202 series Date & time match with your local Date & time(Refer. 7.3.5.)**
2) **Select LOG PARAMETER(S) to be Log (Refer. 7.3.3)**
3) **Log Time(interval) in the format of (HH:MM:SS)(Hours:minutes:seconds)**



Once after completion of Data logging, Switch OFF the Data Logging & check the SD card info by pressing "SD card info" button as below image.



Now the SD card info screen will appear as below image with the SD card memory status & last file name & Total files available in SD card. Now connect the DPM 202 series to PC using USB C type data cable provided along with DPM 202 series and Download the datas and analyze with the help of SANSEL-SOFT-01. For more details about data download and analyze refer SANSEL-SOFT-01 instruction manual.



8. CONTACT US

SANSEL INSTRUMENTS AND CONTROLS
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