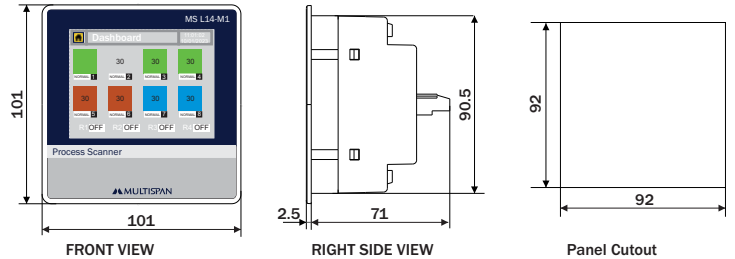




ENVIRONMENT CONDITION:

Operating Temp.	0 °C to 55 °C
Relative Humidity	UP to 95% RH (non-condensing)
Protection Level (AS Per Request)	IP-65 (Front side) As per IS/IEC 60529 : 2001

MECHANICAL INSTALLATION



TECHNICAL SPECIFICATION

INPUT SPECIFICATION:

Inputs	Input	Range
	J	0 to 600 °C
	K	0 to 1200 °C
	PT-100	-99 to 400 °C
	PT.1	-99.9 to 400.0 °C
	0 - 10V DC	-999 To 9999
	0 - 20mA DC	
	4 - 20mA DC	

DISPLAY :

Display	320 x 240 px Resistive Touch screen Display
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DIMENSION:

Size	101 (H) x 101 (W) x 71 (D) mm
Panel Cutout	92 (H) x 92 (W) mm

OUTPUT SPECIFICATION:

Relay Output	
Relay	4 nos.
Relay Type	1 C/O , (NO-C-NC)
Rating	5A, 230V AC / 28 V DC

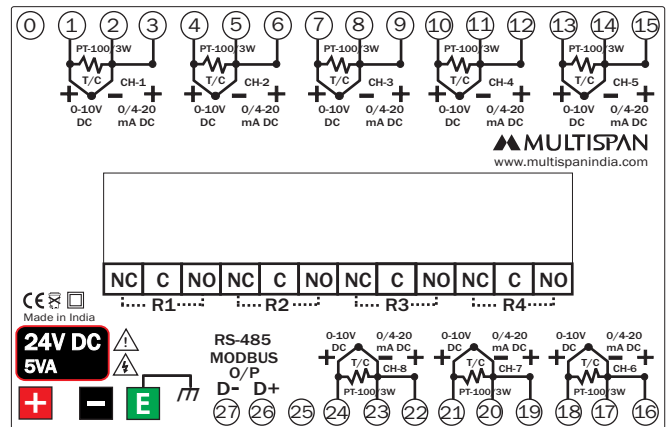
AUXILIARY SUPPLY:

Supply voltage	24V DC , 50/60Hz
Power consumption (VA RATING)	Approx 5 VA

COMMUNICATION :

RS - 485 MODBUS
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TERMINAL CONNECTION



Procedure

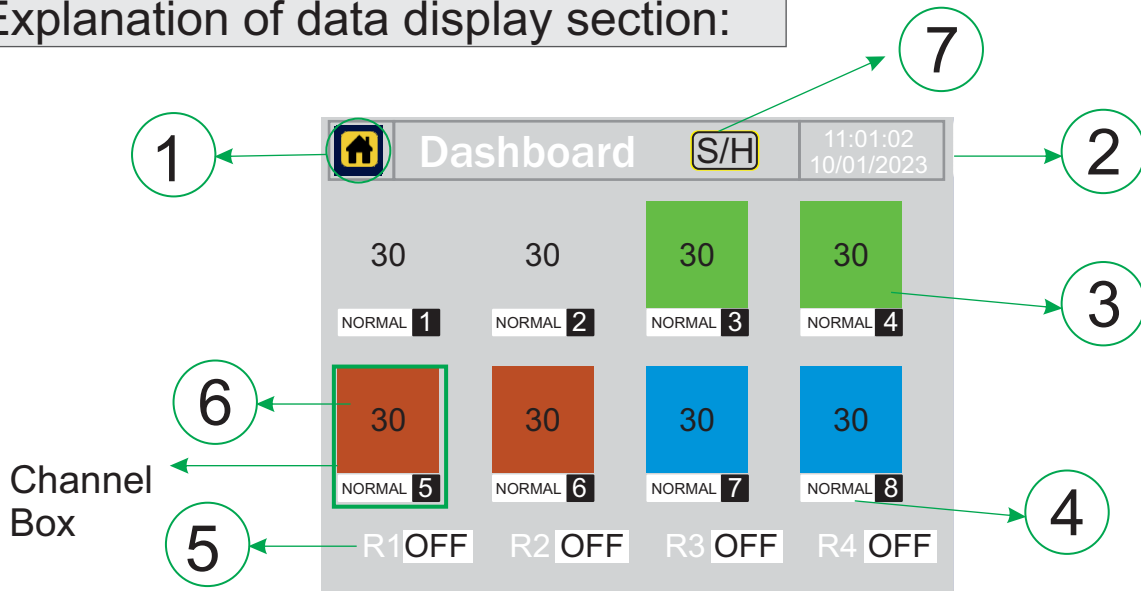
★ Do all connections as per the wiring diagram.

To Configure:

- 1. Input Selection (J, K, PT-100, PT.1, 0 - 10V DC, 0 - 20mA DC & 4 - 20mA DC).
- 2. Relay mode
  - If 1 Relay per group LOW HIGH HIGH / LOW
  - If 2 Relay per group LOW / HIGH HIGH/TRIP
- 3. Set point selection.
- 4. Analog range selection .
- 5. Offset and Correction factor selection.

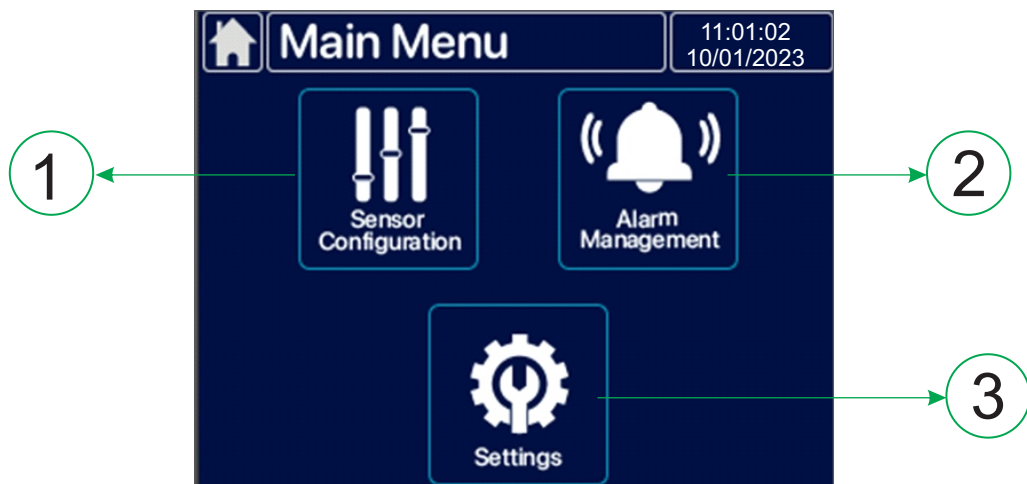
- Off set range will be ±25 °C for J, K, PT-100 temp. input.
- Off set range will be ±25.0 °C for PT.1 temperature input.
- Offset range will be -999 to 1000 for analog input.
- Correction factor range will be -999 to 1000 **only for analog input.**

# Explanation of data display section:



NO.	Function/Icon	Description
1	(Home)	Tap to open Menupage
2	Time	It will show date & time.
3	Status display	<b>SKIP</b> : Channel is not selected (Skip) in sensor configuration page <b>OPEN</b> : Sensor not connected or break (J,K,PT,PT.1) <b>SRE</b> : Sensor reverse (J,K) <b>OVER</b> : In Analog sensor type voltage or Current exceed from it's range <b>LOW</b> : When Current less-than 3.5mA (Sensor type 4-20mA)
4	Alarm Indication	Normal, Low, High, Trip
5	Color of channel & Relay	Same as color of group in which channel or relay selected
6	Double Touch	On channel box to see full information of the channel
7	To View full screen Channel Information	<p>1) Click on scroll button to Scroll the channel as per scan time entered in channel scan time page                      2) Click on Hold button for manual scrolling</p>

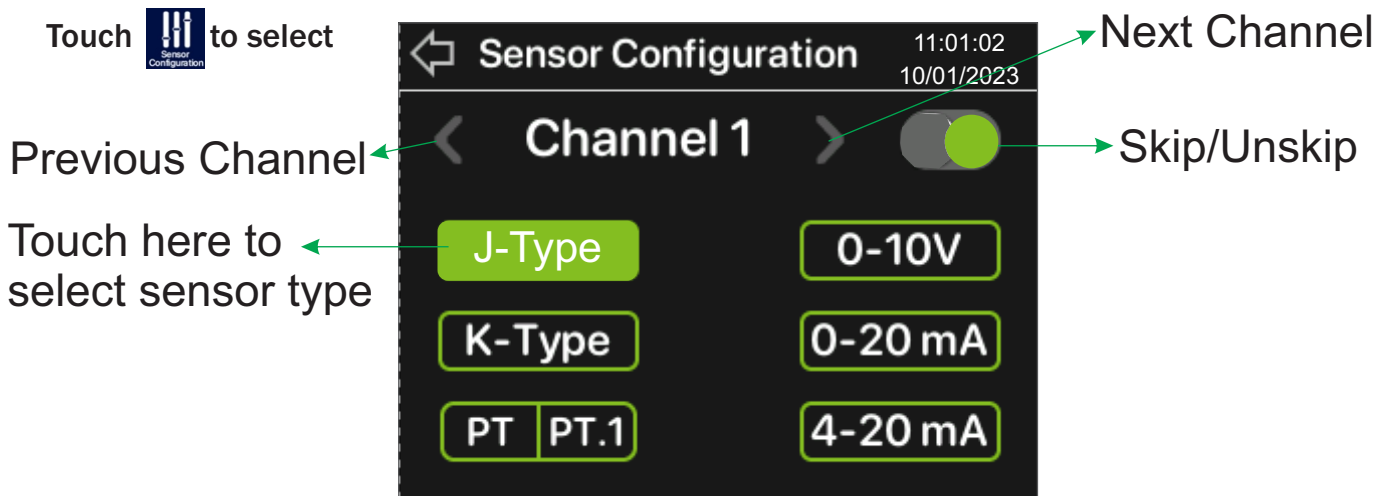
## Explanation of Menu page:



1) Sensor Configuration 2) Alarm Management and 3) Settings

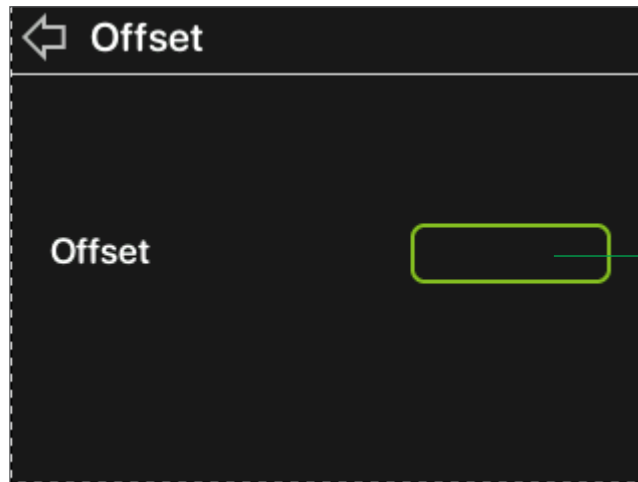
### 1) Sensor Configuration

Touch  to select

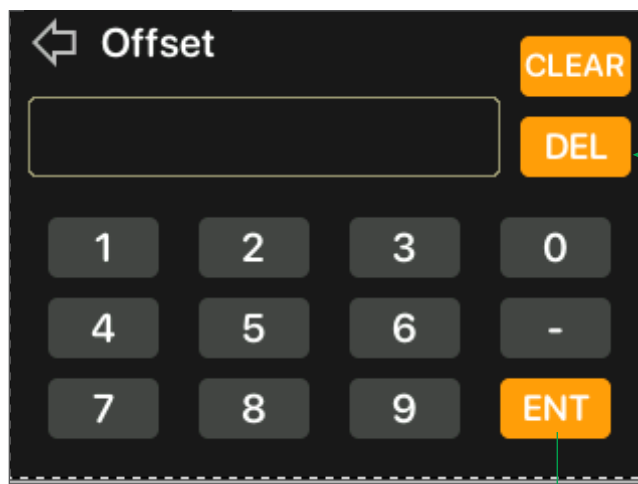


- Touch on the selected sensor to set the offset

For J/ K/ PT/ PT.1

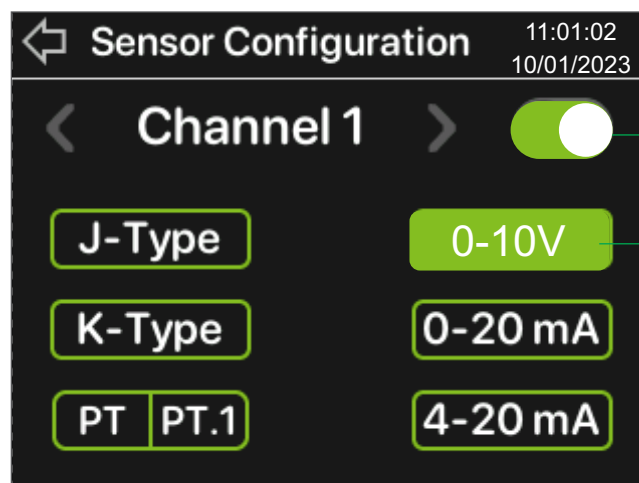


Touch Here to set value



(Keypad)

Press **ENT** to save & exit



Skip/Unskip

Touch here to select analog sensor type

- Touch on the selected sensor to set analog range

For Analog Range Selection  
( 0-10, 0-20 & 4-20 )

← Range Setting 11:01:02  
10/01/2023

Low Range 0

High Range 1000

Correction Factor 0

Offset 0

DP 0000 000.0 00.00 0.000

Note : To enter the value , touch on the Icon box and add the value in keypad and press **ENT** button to save the value

## 2) Alarm Management

Touch  to select

← Alarm Management 11:01:02  
10/01/2023

Group Configuration

Group Setting

← Group Configuration 11:01:02  
10/01/2023

< Group 1 >

Channel 1       Channel 5

Channel 2       Channel 6

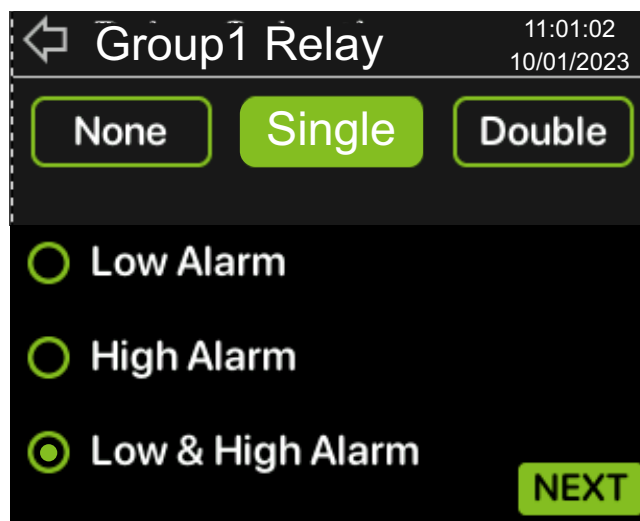
Channel 3       Channel 7

Channel 4       Channel 8

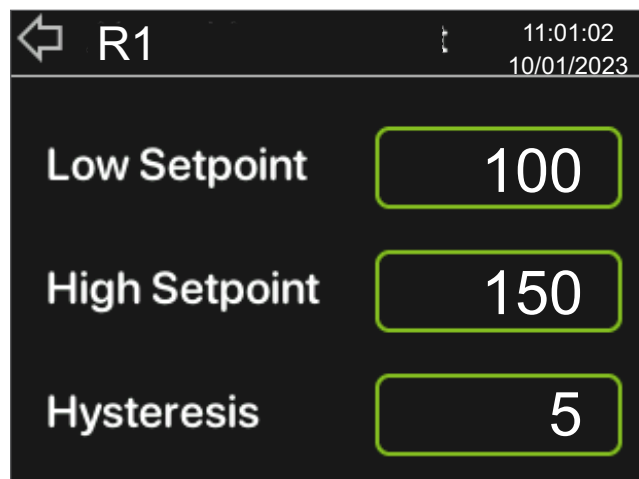
- 1) Select the channel in group (Total Group 4)
- 2) For Group 1 to Group 4 channel which is selected in one group will be disable in other groups.

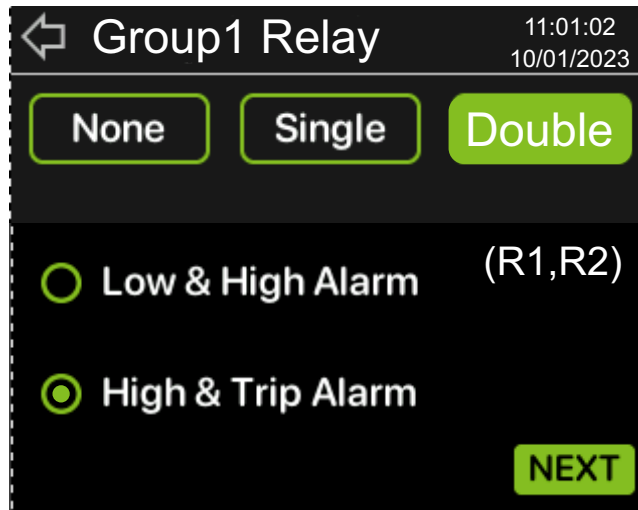


- Group will remain disable if no channel is selected in that group.

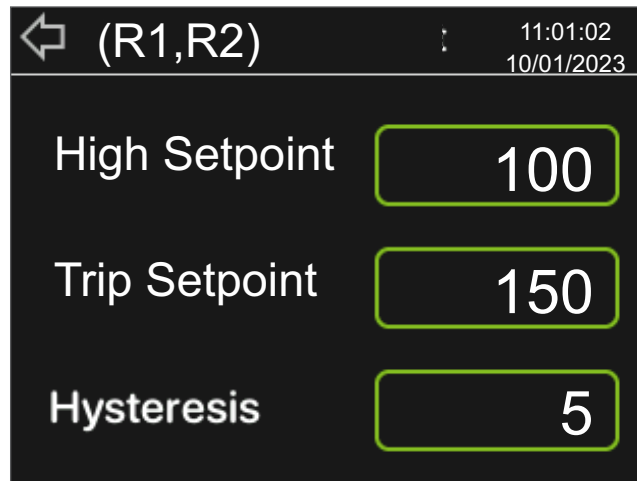


Press **NEXT** to set setpoint & Hysteresis





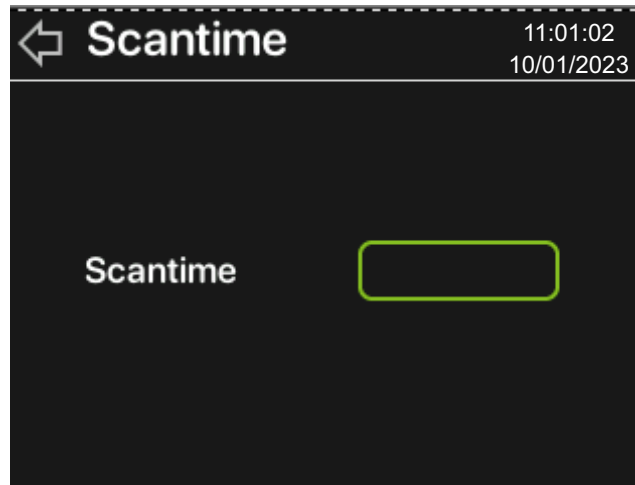
Press **NEXT** to set setpoint & Hysteresis



Note 1 : To enter the value touch on the Icon box and add the value in keypad and press **ENT** button to save the value

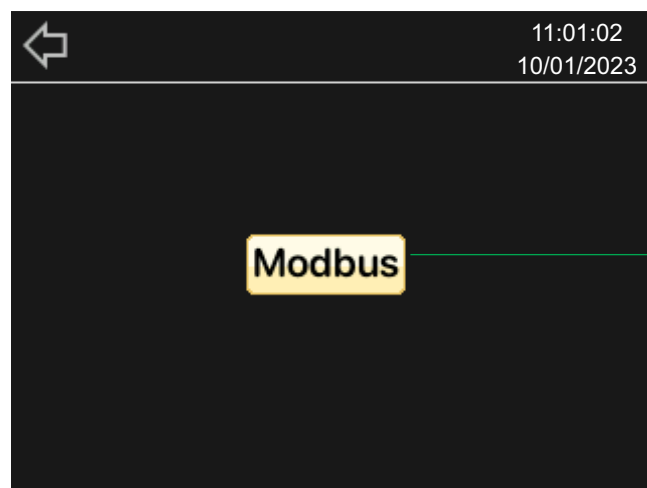
Note 2 : High Setpoint > Low Setpoint  
Trip Setpoint > High Setpoint

## 2) Channel Scan time

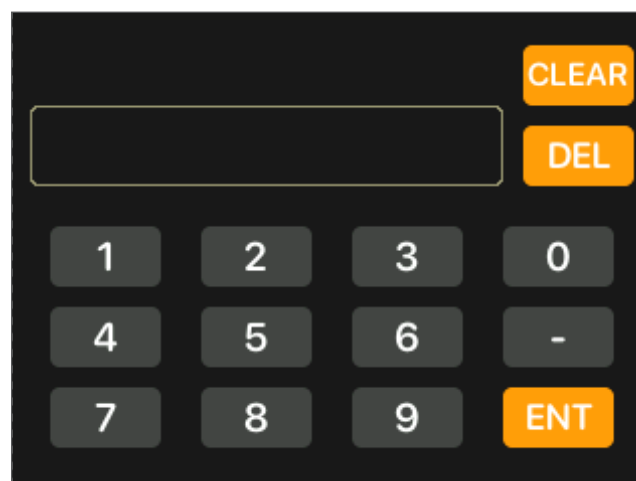


(Scan time Limit : 1 to 100 second)

## 3) Communication



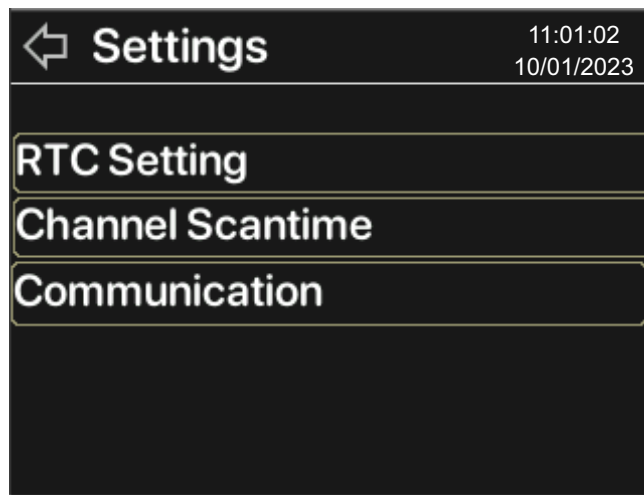
Enter  
Password : 25



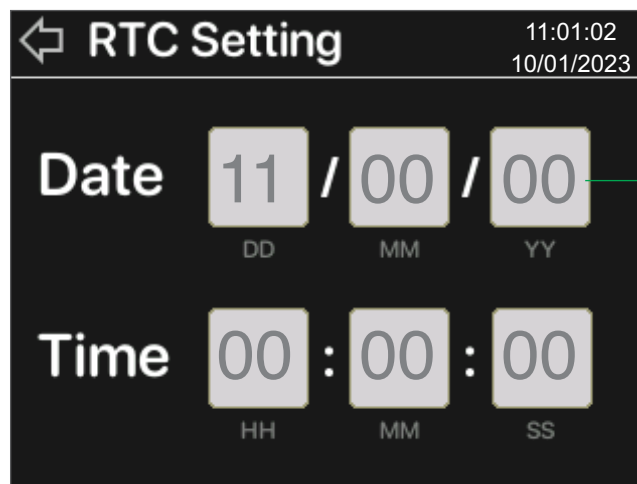


### 3) Settings

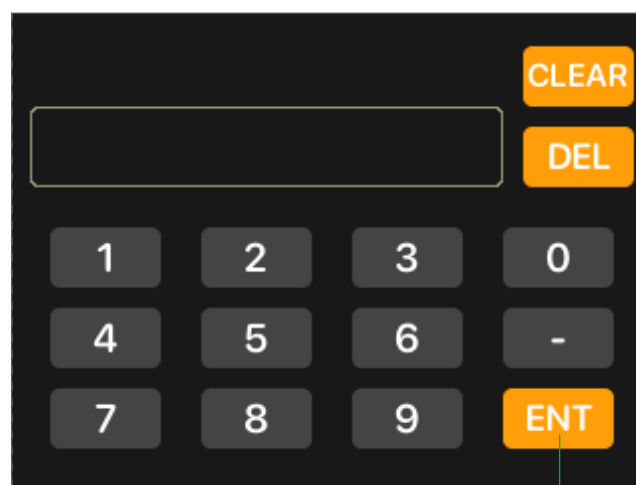
Touch  to select



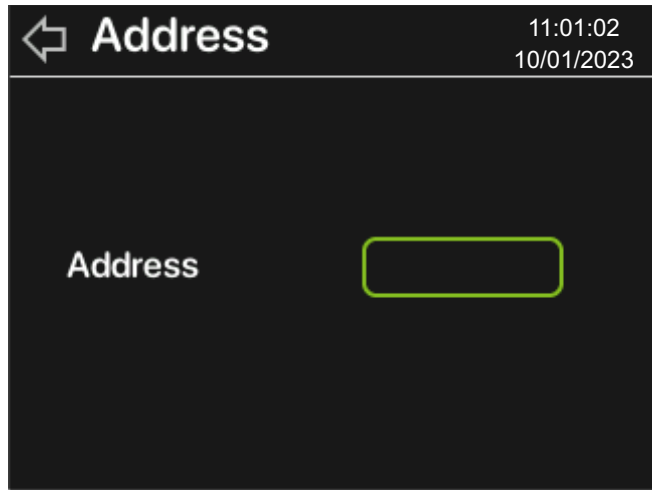
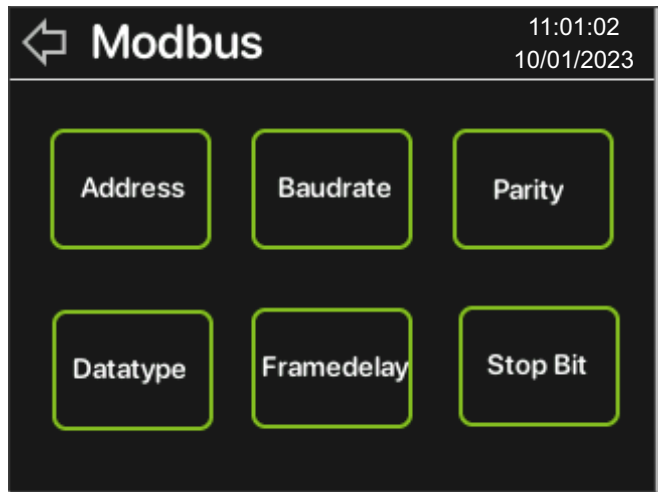
### 1) For RTC Setting



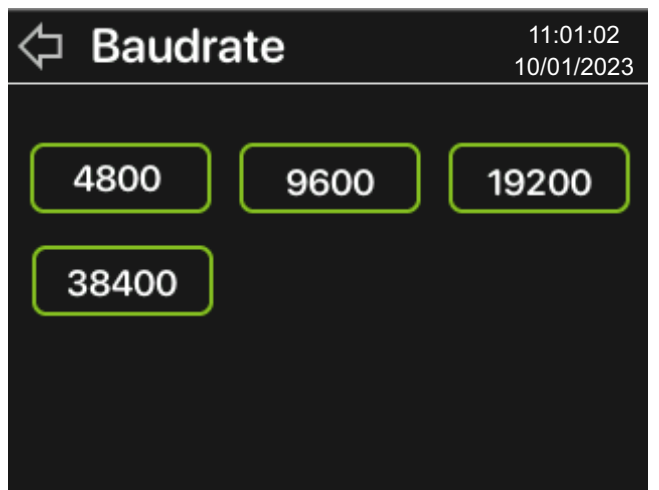
Touch Here  
to set  
date & time

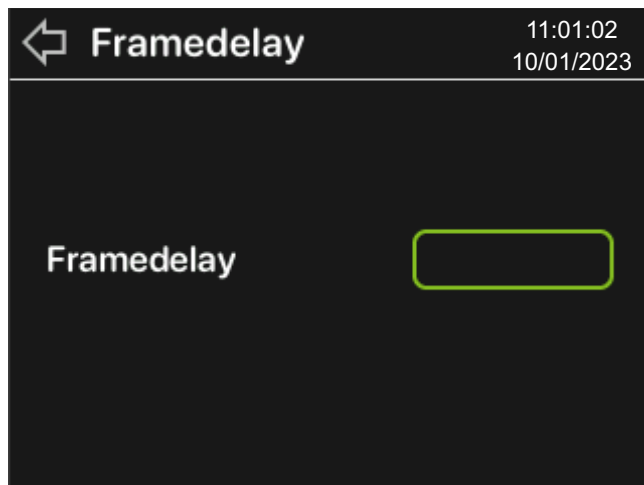
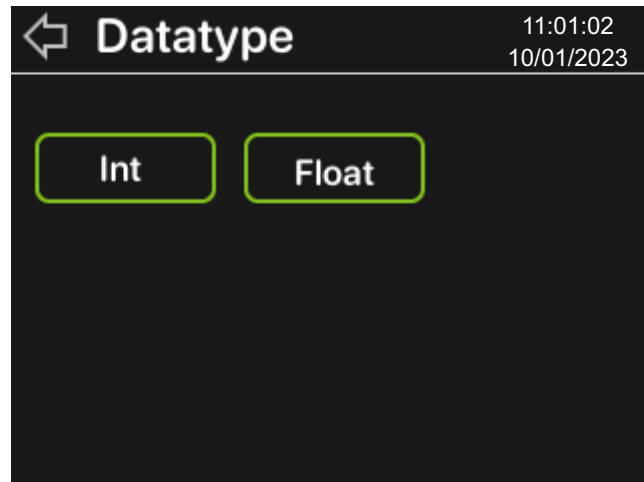
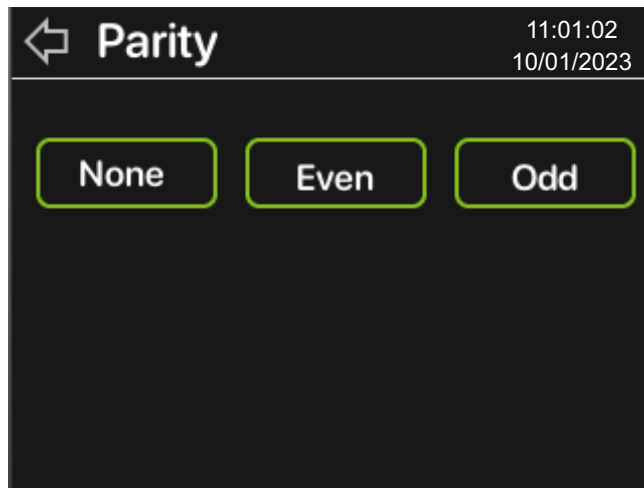


Press  to save & exit

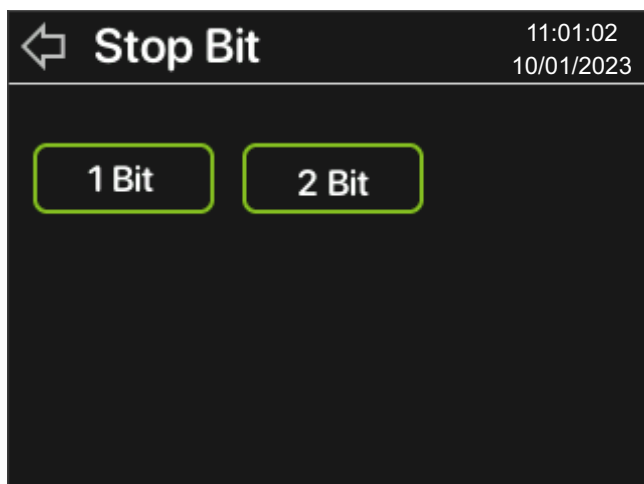


(Address Limit : 1 to 127)





(Frame delay Limit : 0 to 99 ms)



# MODBUS

Slave Address :	1 to 127
Baudrate :	4800,9600,19200,38400bps
Parity :	None,Even,Odd
Datatype :	Sign integer, Float
Read Function Register :	0x03 and 0x04
Write Function Register :	0x06 and 0x10

Read/ Write	Parameter		Data Type = Float		Data Type = Sign Integer	
			Read Function Register		Read Function Register	
			0x04	0x03	0x04	0x03
			Address		Address	
R	Ch-1 Process value	Open - 15000 Over - 16000 Low - 17000 Skip - 18000	30000	40000	30000	40000
R	Ch-2 Process value		30002	40002	30001	40001
R	Ch-3 Process value		30004	40004	30002	40002
R	Ch-4 Process value		30006	40006	30003	40003
R	Ch-5 Process value		30008	40008	30004	40004
R	Ch-6 Process value		30010	40010	30005	40005
R	Ch-7 Process value		30012	40012	30006	40006
R	Ch-8 Process value		30014	40014	30007	40007
R	Relay1 status	1-Relay on 0-Relay off	30016	40016	30008	40008
R	Relay2 status		30018	40018	30009	40009
R	Relay3 status		30020	40020	30010	40010
R	Relay4 status		30022	40022	30011	40011
R	Group1 alarm	Single Relay No alarm : 0 Low alarm : 1 High alarm : 2 Low & High alarm1 : 3  Double relay Low & High alarm2 : 4 High & Trip : 5	30024	40024	30012	40012
R	Group2 alarm		30026	40026	30013	40013
R	Group3 alarm		30028	40028	30014	40014
R	Group4 alarm		30030	40030	30015	40015
R/W	Channel 1 Skip/Unskip	0 skip channel 1 unskip channel	30032	40032	30016	40016
R/W	Channel 2 Skip/Unskip		30034	40034	30017	40017
R/W	Channel 3 Skip/Unskip		30036	40036	30018	40018
R/W	Channel 4 Skip/Unskip		30038	40038	30019	40019
R/W	Channel 5 Skip/Unskip		30040	40040	30020	40020
R/W	Channel 6 Skip/Unskip		30042	40042	30021	40021
R/W	Channel 7 Skip/Unskip		30044	40044	30022	40022
R/W	Channel 8 Skip/Unskip		30046	40046	30023	40023

Read/ Write	Parameter		Data Type = Long		Data Type = Sign Integer	
			Read Function Register		Read Function Register	
			0x04	0x03	0x04	0x03
			Address		Address	
R/W	Ch1 Sensor type	1- J Type 2- K Type 3- PT 4- PT.1 5- 0 - 10V 6- 0 - 20mA 7- 4 - 20mA	30048	40048	30024	40024
R/W	Ch2 Sensor type		30050	40050	30025	40025
R/W	Ch3 Sensor type		30052	40052	30026	40026
R/W	Ch4 Sensor type		30054	40054	30027	40027
R/W	Ch5 Sensor type		30056	40056	30028	40028
R/W	Ch6 Sensor type		30058	40058	30029	40029
R/W	Ch7 Sensor type		30060	40060	30030	40030
R/W	Ch8 Sensor type		30062	40062	30031	40031
R/W	Ch1 DP	0-0000,1-000.0, 2-00.00,3-0.000	30064	40064	30032	40032
R/W	Ch2 DP		30066	40066	30033	40033
R/W	Ch3 DP		30068	40068	30034	40034
R/W	Ch4 DP		30070	40070	30035	40035
R/W	Ch5 DP		30072	40072	30036	40036
R/W	Ch6 DP		30074	40074	30037	40037
R/W	Ch7 DP		30076	40076	30038	40038
R/W	Ch8 DP		30078	40078	30039	40039
R/W	Ch1 Low range	-999 to 9999	30080	40080	30040	40040
R/W	Ch2 Low range		30082	40082	30041	40041
R/W	Ch3 Low range		30084	40084	30042	40042
R/W	Ch4 Low range		30086	40086	30043	40043
R/W	Ch5 Low range		30088	40088	30044	40044
R/W	Ch6 Low range		30090	40090	30045	40045
R/W	Ch7 Low range		30092	40092	30046	40046
R/W	Ch8 Low range		30094	40094	30047	40047
R/W	Ch1 High range	-999 to 9999	30096	40096	30048	40048
R/W	Ch2 High range		30098	40098	30049	40049
R/W	Ch3 High range		30100	40100	30050	40050
R/W	Ch4 High range		30102	40102	30051	40051
R/W	Ch5 High range		30104	40104	30052	40052
R/W	Ch6 High range		30106	40106	30053	40053
R/W	Ch7 High range		30108	40108	30054	40054
R/W	Ch8 High range		30110	40110	30055	40055
R/W	Ch1 Offset	J,K,PT,PT.1 : -25 to 25 0-10,0-20,4-20: -999 to 999	30112	40112	30056	40056
R/W	Ch2 Offset		30114	40114	30057	40057
R/W	Ch3 Offset		30116	40116	30058	40058
R/W	Ch4 Offset		30118	40118	30059	40059
R/W	Ch5 Offset		30120	40120	30060	40060
R/W	Ch6 Offset		30122	40122	30061	40061
R/W	Ch7 Offset		30124	40124	30062	40062
R/W	Ch8 Offset		30126	40126	30063	40063

Read/ Write	Parameter		Data Type = Long		Data Type = Sign Integer	
			Read Function Register		Read Function Register	
			0x04	0x03	0x04	0x03
			Address		Address	
R/W	Ch1 Correction factor	-999 to 9999	30128	40128	30064	40064
R/W	Ch2 Correction factor		30130	40130	30065	40065
R/W	Ch3 Correction factor		30132	40132	30066	40066
R/W	Ch4 Correction factor		30134	40134	30067	40067
R/W	Ch5 Correction factor		30136	40136	30068	40068
R/W	Ch6 Correction factor		30138	40138	30069	40069
R/W	Ch7 Correction factor		30140	40140	30070	40070
R/W	Ch8 Correction factor		30142	40142	30071	40071
R/W	Group-1 Setpoint 1	-999 to 9999	30144	40144	30072	40072
R/W	Group-1 Setpoint 2		30146	40146	30073	40073
R/W	Group-2 Setpoint 1		30148	40148	30074	40074
R/W	Group-2 Setpoint 2		30150	40150	30075	40075
R/W	Group-3 Setpoint 1		30152	40152	30076	40076
R/W	Group-3 Setpoint 2		30154	40154	30077	40077
R/W	Group-4 Setpoint 1		30156	40156	30078	40078
R/W	Group-4 Setpoint 2		30158	40158	30079	40079
R/W	Group 1 Hysteresis	1 to 1000	30160	40160	30080	40080
R/W	Group 2 Hysteresis		30162	40162	30081	40081
R/W	Group 3 Hysteresis		30164	40164	30082	40082
R/W	Group 4 Hysteresis		30166	40166	30083	40083
R/W	Address	1 to 127	30168	40168	30084	40084
R/W	Baudrate	0-4800, 1-9600, 2-19200 3-38400	30170	40170	30085	40085
R/W	Parity	0-none, 1-even, 2-odd	30172	40172	30086	40086
R/W	Datatype	0-integer, 1-float	30174	40174	30087	40087
R/W	Framedelay	0-99	30176	40176	30088	40088
R/W	Stop Bit	1 - 1 stop bit , 2- 2 stop bit	30178	40178	30089	40089

Note :

**Note :**