

Touch Screen μ C Based PID Auto tune %rH&Temperature Controller with Timer

Features:-

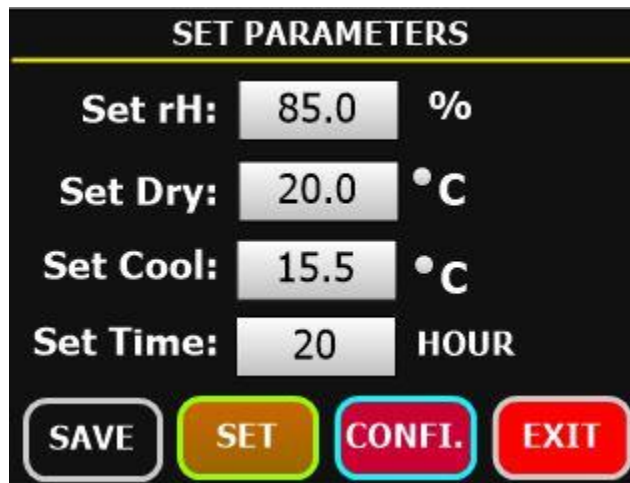
- Microcontroller based, Humidity & Temperature controller
- Supply 24 V DC
- Temperature Sensor Input : RTD PT100
- Humidity Sensor Input: 3.3V, 5V, 10V or 4-20mA (Factory Fix)
- Output: 1. Dry Heater SSR, 2. Wet Heater SSR 3. Cooling SSR 4. Alarm
- PID Control for Humidity & Temperature
- Range: Temperature 0-60c (As per Sensor)
- Humidity 5 to 100% (As per Sensor)
- Temperature As per range adjustable in set mode.
- Humidity As per range adjustable in set mode.
- Settable logging time , date , month, Year , and Time for data logging function
- Ct 1 to 60 for ssr output
- Auto tuning require for pb, It & dt value of humidity & temperature
- Delay 0 to 250 second adjustable for cooling control
- Defrost on & off time setting for auto defrost
- Manual defrost by defrost Symbol on Process Screen
- Timer function enable/Disable
- Timer Hold & Run with respect to Humidity & Temperature control Band
- Memory of Time value
- Water level input (Potential Free contact – NC Healthy) to protect Wet Heater
- Low water level indication.
- Alarm on In case of sensor Break or water level low
- Alarm as per High And LOW Alarm band
- Relay trip if sensor break or connection open
- Calibration Error correction (No preset setting)



Process Indication Screen

Function

- Press Setting Symbol to Open **SET PERAMETER** Screen
- Press Defrost Symbol for 5 second to toggle defrost cycle manually
- Press Timer Symbol for 3 second to start or Stop controller
- Press Mute symbol to mute Alarm
- Do note switch off power if tuning is on
- Tune message will be automatically out after completion of tuning
- To disable defrost cycle set Defrost on time =0000
- Timer start automatically when Temperature & Humidity value achieved @ set value
- If Temperature PV & Humidity PV are within T. band & R.band Range , Timer will start otherwise Timer will be in Hold
- **Water LVL** message Blink means water level low

SET PARAMETERS SCREEN

SET PARAMETERS		
Set rH:	85.0	%
Set Dry:	20.0	°C
Set Cool:	15.5	°C
Set Time:	20	HOUR

SAVE SET CONF. EXIT

- Press **SET** rH Value to Set Humidity
(Range Min 5 to Max 100)
- Press **SET** Dry value to Set Dry Temperature
(range Min 0 to Max 100.0)
- Press **SET** Cool value to Set Cooling Temperature
(range Min 0 to Max 60.0)
- Press **SET** Time value to Set Time of Timer
(range Min 5 to Max 100)
- Press **SAVE** to save value & Press **Exit** to Exit from page

- Press **SET** symbol to for 5 second to Open **CONTROL PARAMETERS** Screen

CONTROL PARAMETERS SCREEN

CONTROL PARAMETERS				CONFIGURE PARAMETER			
Delay:	<input type="text"/>	H.Error:	<input type="text" value="0.0"/>	T.HY:	<input type="text" value="120"/>	R.HY:	<input type="text" value="120"/>
D.On:	<input type="text" value="5"/>	T.Error:	<input type="text" value="0.0"/>	rH CT:	<input type="text" value="120"/>	T.CT:	<input type="text" value="10"/>
D.Off:	<input type="text" value="10"/>	DEHUM:	<input type="text" value="0.0"/>	T.TUNE	<input type="text" value="NO"/>	R.TUNE	<input type="text" value="NO"/>
<input type="button" value="SAVE"/> <input type="button" value="SET"/> <input type="button" value="NEXT"/> <input type="button" value="EXIT"/>				<input type="button" value="SAVE"/> <input type="button" value="EXIT"/>			

- Press **DEALY** value to Set Compressor Delay (Range Min **0** to Max 250)
- Press **D.ON** value to Set Defrost ON time(Set D.On = 0 to disable Defrost function) (Range Min **0** to Max **250**)
- Press **D.OFF** value to Set Defrost OFF time (Range Min **1** to Max **9999**)
- Press **H.Error** value to set Humidity error correction (Range Min **-25** to Max **25**)
- Press **T.Error** value to set Temperature error correction (Range Min **-25.0** to Max **25.0**)
- Press **DEHUM** value to set Dehumidifier (Range Min **1 or 1.0** to Max **25 or 25.0**) (Enter 0 to disable Dehumidifier)
- Press **SAVE** to save value & Press **Exit** to Exit from page **NEXT** for next page
- Press **R.CT** and **T.CT** value to Set Cycle Time of Rh and Temperature (Range Min **1** to Max **60**)
- Press **rH.Hy** and **T.HY** value to Set Cycle Time of Rh and Temperature (Range Min 3 to Max **25**) or (Range Min 0.3 to Max **25.0**) according to resolution
- Press **TUNE** value to Start Tune Function(according to control selection) (Yes or No)

- Press **CONF1**. For 5 second to open numeric keypad
- Enter **100** to open **CONFIGURE PARAMETERS** Screen

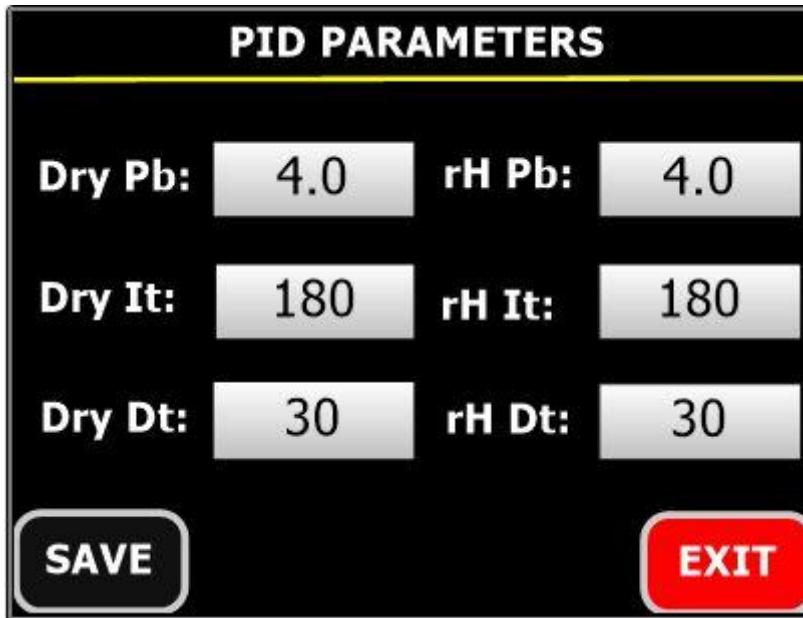
CONFIGURE PARAMETERS SCREEN

CONFIGURE PARAMETERS			
R.BAND:	5.0	TIMER:	ENABLE
T.BAND:	5.0	ALARM:	ENABLE
UNIT:	Minute	Rh Tune:	4.0
RESO.:	YES	T. TUNE:	4.0
SAVE		EXIT	

- Press **R.BAND** Value to Set %rH Band value (Timer Start according to R.band range selection) (Range Min 2 to Max 25)
- Press **T.BAND** value to set Temperature Band Value(Timer Start According to T.band range selection)(Range Min 2.0 to Max 25.0)
- Press **UNIT** value to Set Unit ofTimer (Minute or Hour)
- Press **RESO**value to Set Timer resolution (Yes or No)
- Press **TIMER**Button to change Timer function (Enable & Disable)
- Press **ALARM** Button to change Alarm function (Enable & Disable)
- Press **rH. TUNE**value to set rH Tune Band (Range Min 1 to Max 4)
- Press **T.TUNE**value to set Temperature Tune Band (Range Min 1.0 to Max 4.0)
- Press **SAVE** to save value & Press **Exit** to Exit from page

PID PARAMETERS SCREEN


- Press set symbol of control Parameter Screen for 15 second to see or set PID value



- Press Value to change exiting value
- Press **SAVE** to save value & Press **Exit** to Exit from page

SENSOR SELECTION SCREEN

- Press **CONFI.** For 5 second to open numeric keypad
- Press **SHIVAKI** logo for 5 sec then
- Enter **111** to open **SENSOR SELECTION** Screen



SENSOR SELECTION

I/P Select: 3.3V

Resolution: 0000

SAVE **EXIT**

- Press Input select value to change input Voltage
- Press resolution value to change resolution
- Press **SAVE** to save value & Press **Exit** to Exit from page

NOTE:

- Check **%rh set point, humidity correction error, rh tune band, rh band value** after changing resolution, wrong setting of above parameters may give you error in control

RANGE & ALARM SCREEN

- Press **CONFI**. For 5 second to open numeric keypad
- Enter **200** to open **RANGE & ALARM** Screen



The screenshot shows a black screen with white text and buttons. At the top, it says "RANGE & ALARM". Below this, there are four rows of parameters, each with a label and a value in a grey box:

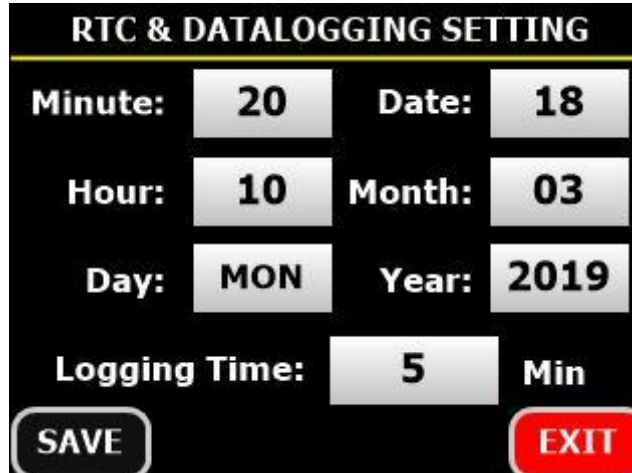
Rng.LO:	10	Rng.HI:	10.5
T.A.LO:	120	T.A.HI:	4.0
r.A.LO:	120	r.A.HI:	120

At the bottom, there are two buttons: a white "SAVE" button on the left and a red "EXIT" button on the right.

- Press **Rng.Lo** value to Set of Temperature low range (Range Min **-10.0**to Max **Rng.Hi - 10**)
- Press **Rng.Hi** value to Set Temperature high range (Range Min **Rng.Lo + 10**to Max **1500**)
- Press **T.A.LO** Button to change Temperature Alarm Range at lower side of set point (Min **3**to Max **250**)(Enter 251 to turn off **T.A.Lo**)
- Press **T.A.HI** Button to change Temperature Alarm Range at upper side of set point (Min **3**to Max **250**)(Enter 251 to turn off **T.A.Hi**)
- Press **r.A.LO** Button to change%RHAlarm Range at lower side of set point (Min **3** to Max **25** or Min **3** to Max **250**) (According to resolution selection) (Enter 251 to turn off **r.A.Hi**)
- Press **r.A.HI** Button to change%RHAlarm Range at upper side of set point (Min **3** to Max **25** or Min **3** to Max **250**) (According to resolution selection) (Enter 251 to turn off **r.A.Hi**)
- Press **SAVE** to save value & Press **Exit** to Exit from page

RTC & DATALOGGING SETTING SCREEN

- Press **CONF1**. For 5 second to open numeric keypad
- Enter **201** to open **RTC & DATALOGGING** Screen

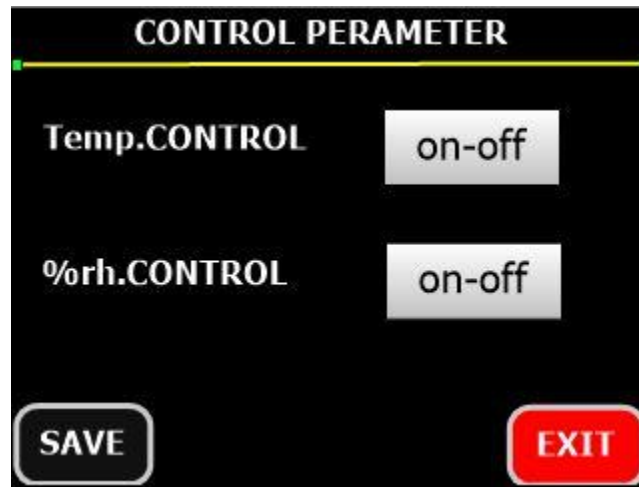


RTC & DATALOGGING SETTING			
Minute:	20	Date:	18
Hour:	10	Month:	03
Day:	MON	Year:	2019
Logging Time:	5	Min	
SAVE		EXIT	

- Press **Minute** value to Set of minute in RTC clock
- Press **Hour** value to Set of Hour in RTC clock
- Press **Date, Month, Year, Day** Value to change present value
- Press **Logging Time** Button to change Logging Time
- Press **SAVE** to save value & Press **Exit** to Exit from page

CONTROL SELECTION SCREEN

- Press **CONF1**. For 5 second to open numeric keypad
- Enter 202 to open **CONTROL SELECTION** Screen



- Press Temp. control Button to select temperature control mode **(PID/ON-OFF)**
- Press %rH control Button to select Rh control mode **(PID/ON-OFF)**
- Press **SAVE** to save value & Press **Exit** to Exit from page

CONTROL SELECTION SCREEN

- Press **CONF**. For 5 second to open numeric keypad
- Enter **203** to open **CONTROL SELECTION** Screen



- Press %Rh.MFC Button to set value of %rh MFC
- Press Temp control Button to set value of temp MFC
- Press **SAVE** to save value & Press **Exit** to Exit from page