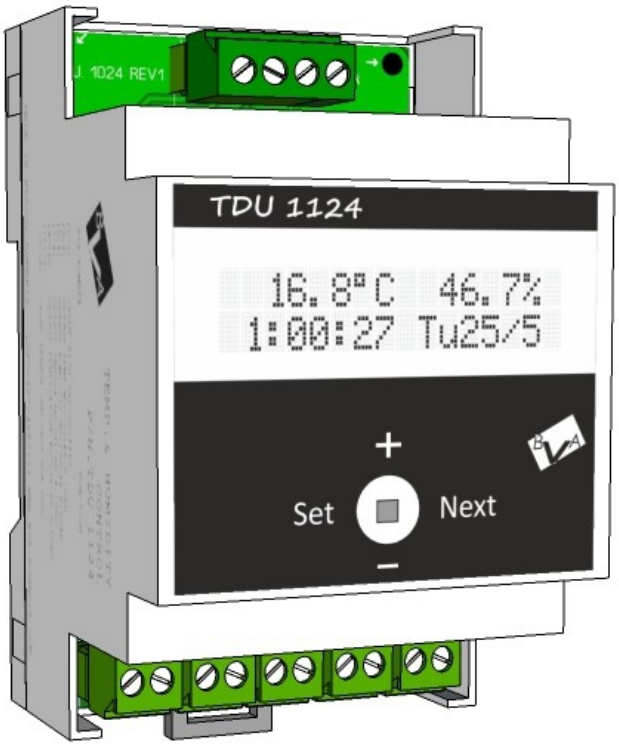
TEMPERATURE AND HUMIDITY CONTROLLER
TDU 1124
USER MANUAL



CE

2014/35/EU Low voltage Directive(LVD)
2014/30/EU Electromagnetic Compatibility Directive (EMC)
2011/65/EU Hazardous Substance Directive (ROHS)

TEMPERATURE CONTROLLER
TDU 1124

DANGER. This sign draws attention to possible dangers/damages to people.

CAUTION. This sign draws attention to possible dangers/damages to the environment.

This device is specially designed for temperature and humidity control in technical spaces, exhaust rooms, residential rooms, commercial space heating, etc., with time/weekly programmer and pulse generator. see technical sheet

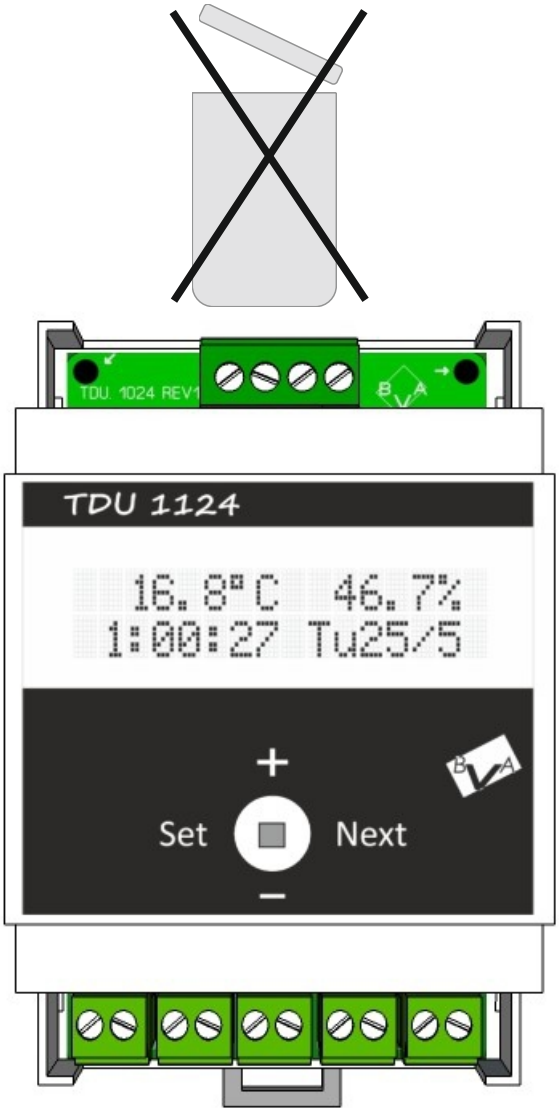
WARNING.

Spare parts and parts subject to wear that have not been checked together with the installation may influence the operation of the installation.
The installation of unapproved components as well as the performance of unauthorized modifications may endanger safety and restrict the granting of warranty services.
In the event of replacement of parts, only original parts supplied by the manufacturer shall be used.

CAUTION.

Do not spray the device or touch its keys with wet or contaminated fingers (oils, solvents, etc.).

When disposing of the device, contact the manufacturer to neutralize the product.



TEMPERATURE CONTROLLER
TDU 1124

Mounting:

The device is mounted using the omega rail (DIN rail) in closed / open panels, on the wall or in any other place that allows the mounting of this device.

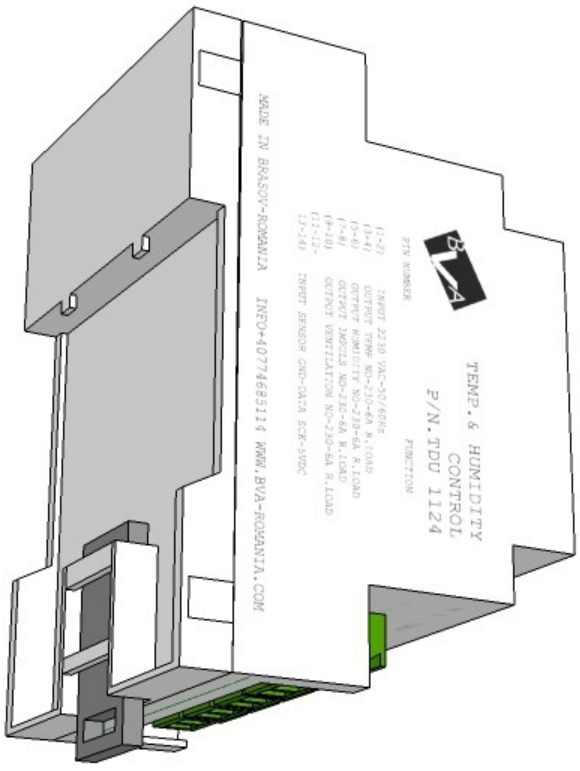
The environmental requirements described in the technical sheet will be respected.

The installation can be done by a person at least qualified in the electrical and automation fields.

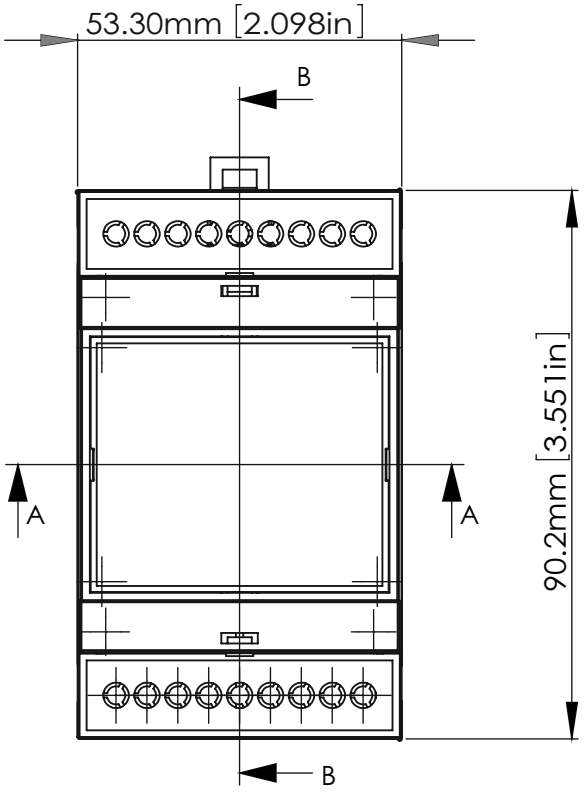
The polarity of the 230VAC connections and the polarity of the peripheral terminals will be taken into account.

The digital sensor cable can be extended up to 50-60 ml using a shielded cable, which will be mounted in troughs separated from high currents.

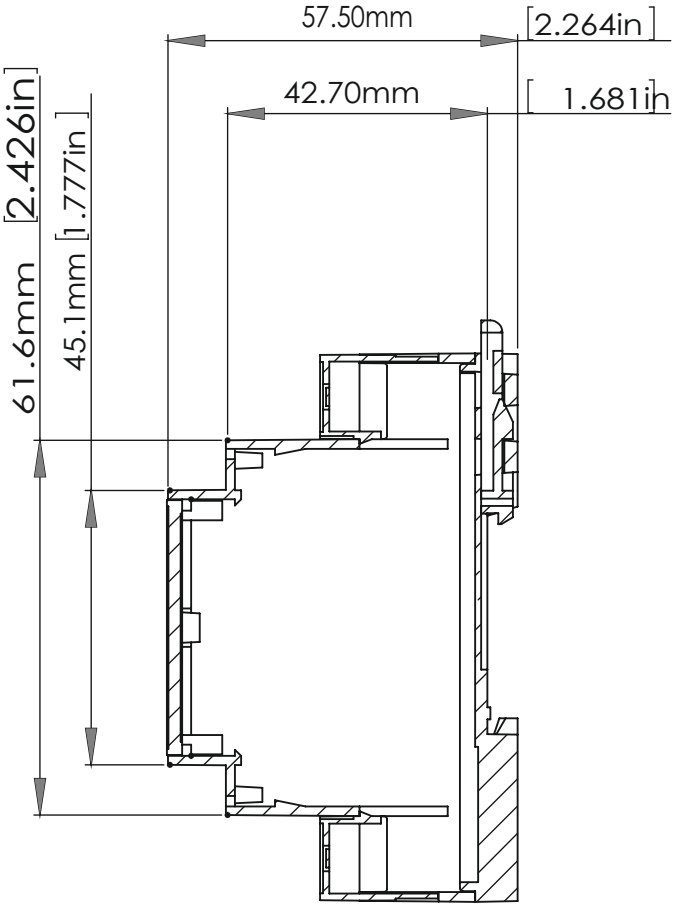
When disposing of this device, we insist that it be recycled or returned to the seller / manufacturer for recycling / neutralization.



TEMPERATURE CONTROLLER
TDU 1124
DIMENSIONS

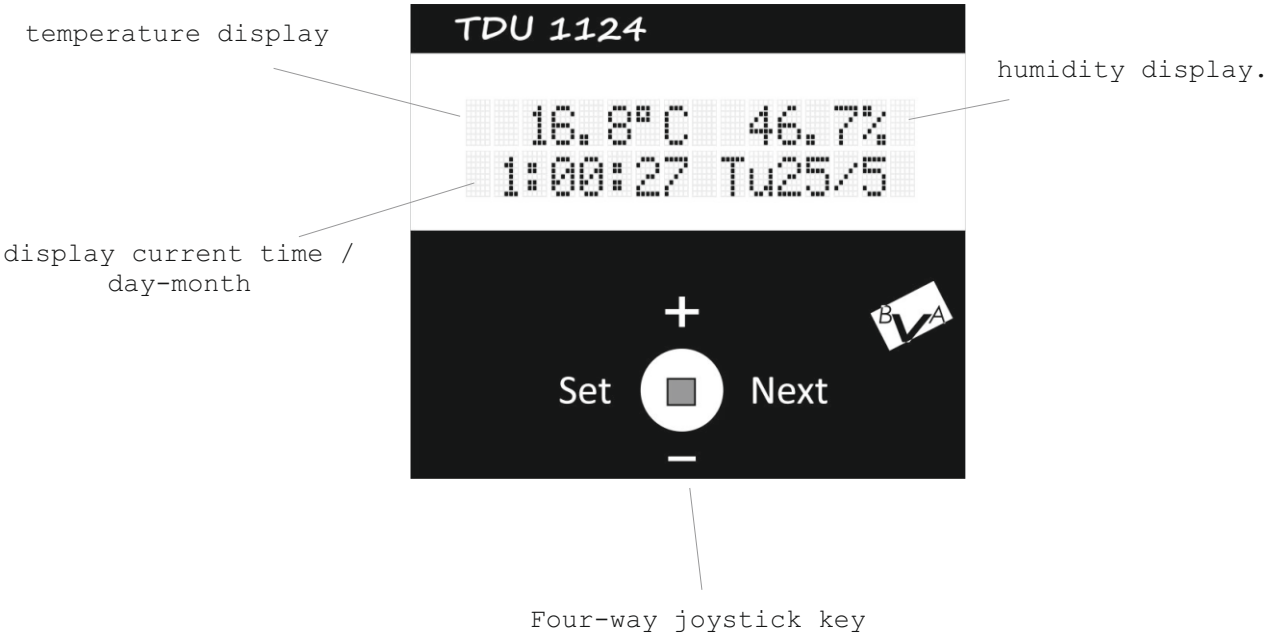


SECTIUNEA A-A
SCARA 1 : 1



SECTIUNEA B-B
SCARA 1 : 1

TECHNICAL DATA SHEET
TDU 1124



Power supply 85...264V AC, 120...370V DC
Measurement accuracy_____00.01
Refresh rate 10 Msec
Output 4 channels I-MAX 6A, 230VAC resistive loads:

1x output for temperature control IMAX 6A RESISTIVE LOADS, 0.5A INDUCTIVE LOADS;
1x output for humidity control IMAX 6A RESISTIVE LOADS, 0.5A INDUCTIVE LOADS;
1x output for pulse generator control IMAX 6A RESISTIVE LOADS, 0.5A INDUCTIVE LOADS;
1x output for ventilation control IMAX 6A RESISTIVE LOADS, 0.5A INDUCTIVE LOADS.

1 sensor input TEMPERATURE + HUMIDITY.
White backlit LCD display. The backlight automatically turns off after 256 seconds from the last key operation.

Standby power consumption 70 mA
Power consumption with all relays active 200mA

ENVIRONMENTAL REQUIREMENTS:
Operating temperature 10 - 65 oC
Max humidity 80% non-condensing
Medium CORROSIVE environment

Life span 20,000,000. CYCLES

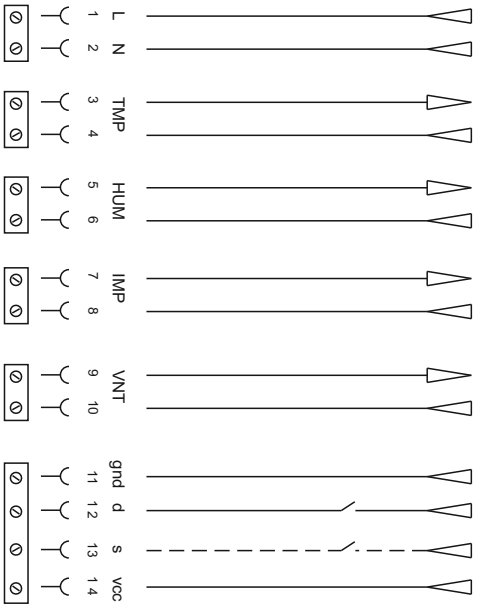
Dimensions PAG.4

4-WAY JOYSTICK key..

Terminals: Screw terminal socket.

Average service life 10 years.

TEMPERATURE CONTROLLER
TDU 1124
WIRING DIAGRAM



1. Power supply 230 VAC/60 Hz. on / off switch

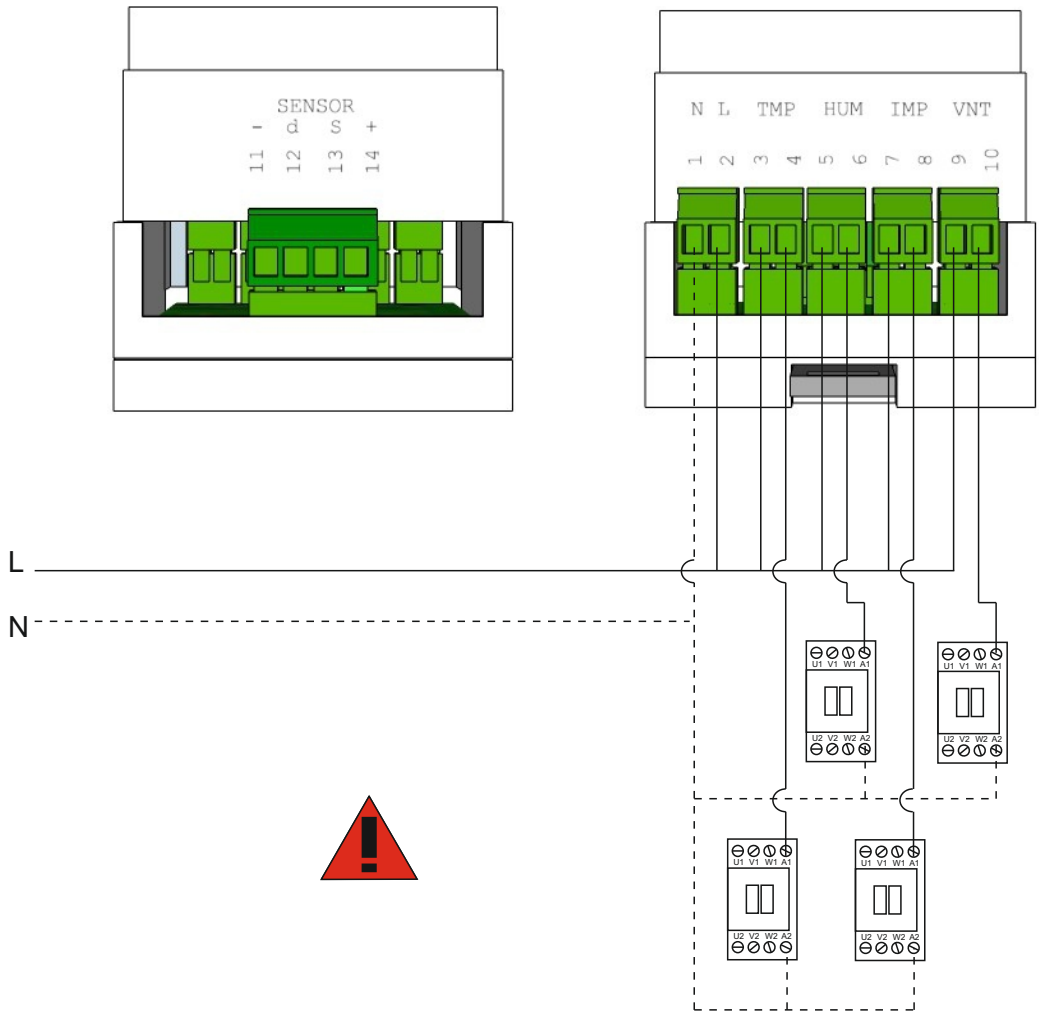
2. Rocker relay (com-no) Imax 6A RESISTIVE LOADS, potential-free contacts, CONTROLLED BY TEMPERATURE SENSOR.

3. Rocker relay (com-no) Imax 6A RESISTIVE LOADS, potential-free contacts, CONTROLLED BY HUMIDITY SENSOR.

4. Rocker relay (com-no) Imax 6A RESISTIVE LOADS, potential-free contacts, CONTROLLED BY PULSE GENERATOR.

5. Rocker relay (com-no) Imax 6A RESISTIVE LOADS, potential-free contacts, CONTROLLED BY TEMPERATURE SENSOR ($T \geq 5\ C^{\circ}$ SET POINT.

6. Digital temperature and humidity sensor input.



INDUCTIVE LOADS GREATER THAN 0.5A ARE NOT ALLOWED

TEMPERATURE CONTROLLER
TDU 1124
INSTRUCTIONS FOR USE

When powered on, the device will display the current temperature, humidity, time and date on the LCD.

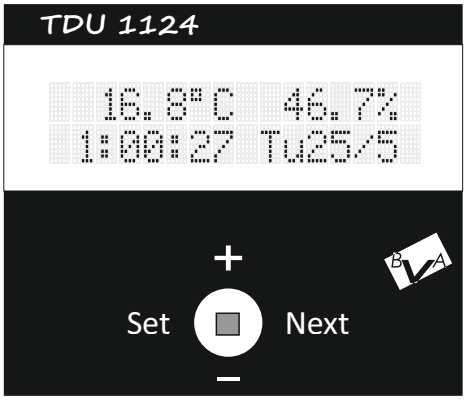


fig.1

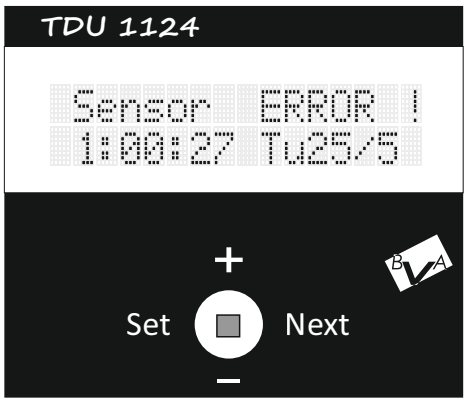


fig.2

If the sensor is not connected or is faulty, the device will display the message 'SENSOR ERROR!', time and date on the LCD.

When first using the device, set the time and date. ATTENTION! The device does not contain an internal battery to keep the current time and date.

To set the time and date, press the (SET) key and hold for 4 seconds until the two segments of the time are displayed flashing.

Press the (NEXT) key with short pulses to move the cursor to the minutes, day of the week and month.

Press the (+ or -) keys with short pulses to increase or decrease the value.

After setting the current time and date, press the (SET) key with a short pulse to save the data.

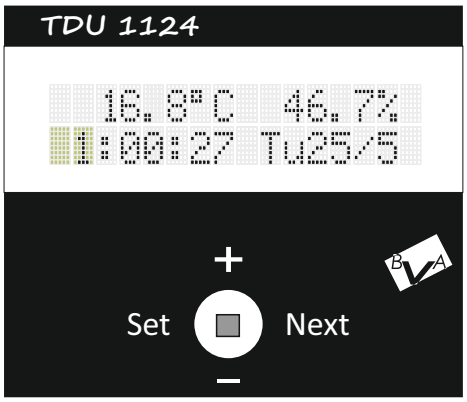


fig.3

TEMPERATURE ADJUSTMENT

TDU 1124

To change the controller parameters, temperature, timer, humidity and pulse times, proceed differently:
From the home screen, press the keys (+ / -) and scroll through the menu.

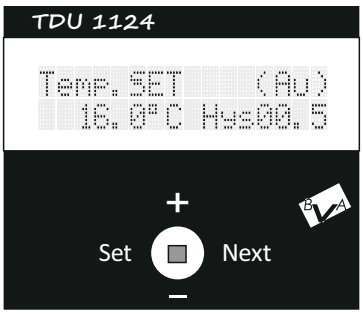


fig.4

1. Temperature setting. From the "temp set" screen, see fig.5, press the (SET) key, the temperature value will be displayed intermittently. With the + and - keys, change the value, this will be the temperature setpoint. Go ahead with the (SET) key and choose the thermostat operating mode, (automatic or manual) see fig.7.
In automatic mode, the temperature regulation will be based (Au) (Ma)
on the daily / weekly program.

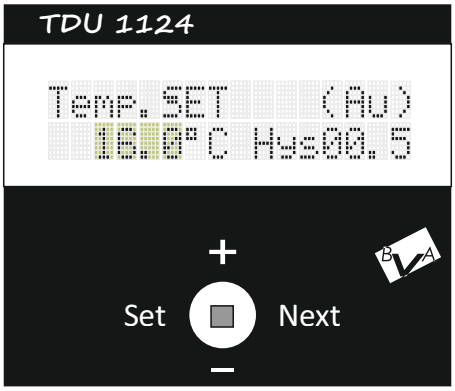


fig.5

Go ahead with the (NEXT) key and adjust the hysteresis value, i.e. the temperature range between two activations of the dedicated relay, see fig.6.

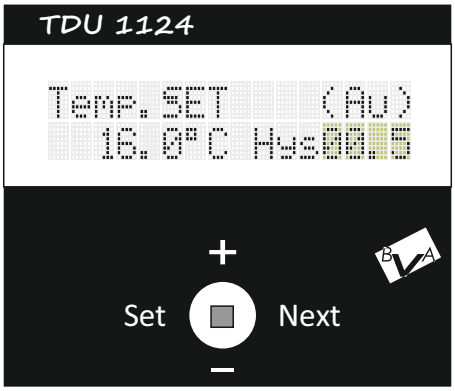


fig.6

The output contact (TMP) will close when the temperature value indicated by the sensor is lower than the set point + hysteresis and will open when the temperature value indicated by the sensor is higher than the set point + hysteresis.

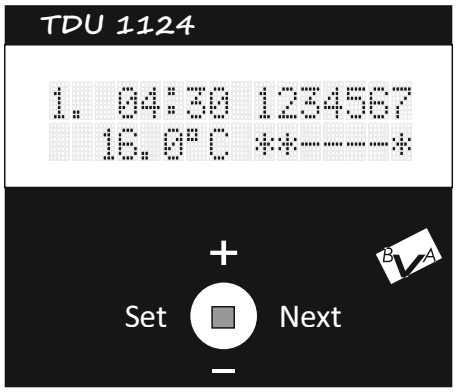


fig.7

Weekly timer for heating only.
From the (temp set) screen, press the next key and the first program will appear on the screen. fig.7.
With the (+ and -) keys we can scroll through the 7 programs for viewing.
By pressing the (set) key we can configure any of the 7 programs. We can choose the time, temperature and days of the week when the controller will maintain that chosen temperature. After making the adjustment, press the (set) key to save the program.
* PROGRAM IS ACTIVE
- PROGRAM IS INACTIVE.

If we change the reference temperature (set point) at any time, the thermostat will execute the command until the next program comes into operation.

HUMIDITY ADJUSTMENT
TDU 1124

2. Humidity adjustment. From the humidity adjustment screen see fig.8, press the (SET) key, the humidity value will be displayed intermittently see fig.9, with the (+ and -) keys we choose the desired value, with the (NEXT) key we go further to the hysteresis adjustment see fig 10 where with the (+ and -) keys we choose the desired value, and with the (SET) key we save the entered data.

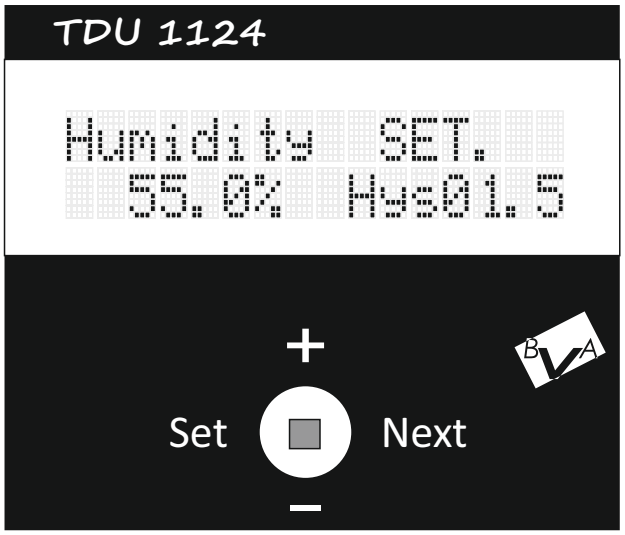


fig.8

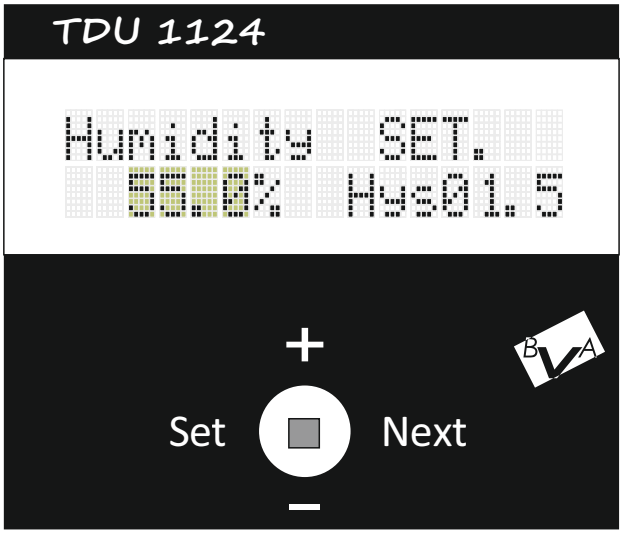


fig.9

The output contact (HUM) will close when the humidity value indicated by the sensor is lower than the set value + hysteresis and will open when the value indicated by the sensor is higher + hysteresis than the value (set point).

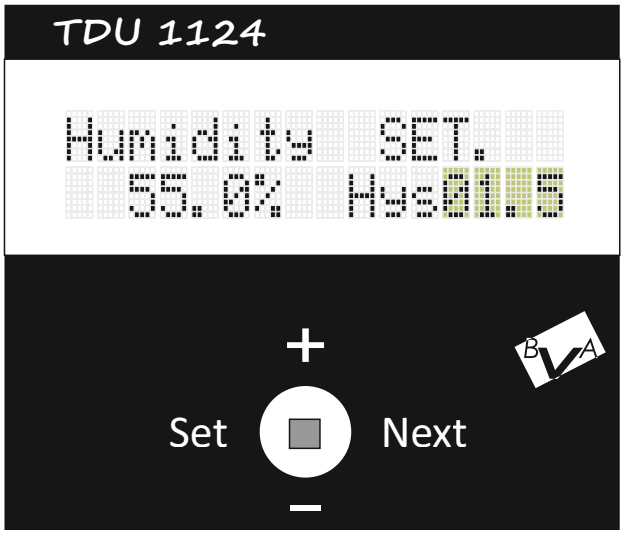


fig.10

PULSE GENERATOR ADJUSTMENT
TDU 1124

3. Pulse generator setting.see fig 11.
The pulse generator will operate permanently as long as the device is under voltage.
It will generate a pulse of a certain duration once at a certain time interval.
The pulse duration can be set from the 3rd screen (pulse). Press the (SET) key, the time value will be displayed intermittently see fig.12, choose the desired value with the (+ and -) keys, press the (NEXT) key to move on to defining the chosen value (seconds or minutes) see fig.13 and with the (+ or -) keys choose minutes or seconds (the value chosen in minutes or seconds will be the pulse duration).

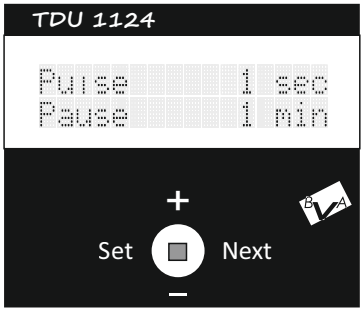


fig.11

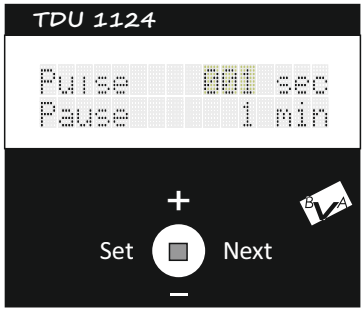


fig.12

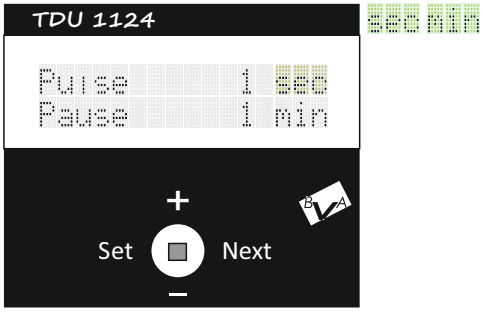


fig.13

With the (NEXT) key we go to the (Pause) parameter fig.14, that is, the time duration between two pulses. With the (+ and -) keys we choose the desired value. The pause duration can be defined in two ways, (minutes or hours) by pressing the (NEXT) key and choosing with the (+ and -) keys minutes or hours fig.15. At the end of the adjustment press the set key to save the data.
This will be the time duration between two pulses.

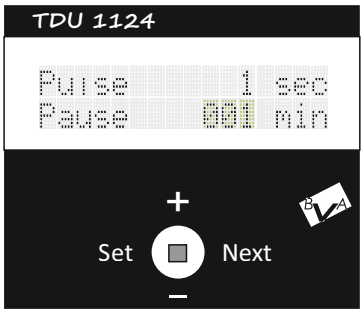


fig.14

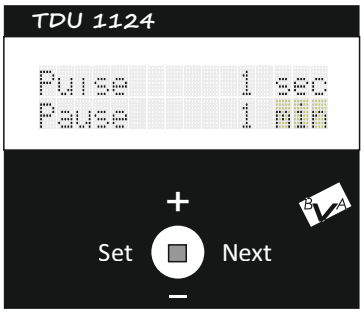


fig.15

The output contact (IMP) will close for a (set) time and reopen for a (set) time.

Example: setting Pulse 3 SEC Pause 1 hou results in output contact (IMP) closed for 3 sec, once per hour to - infinity.

The pulse generator can be used in various applications that require a repetitive action example: an aromatherapy pump, rotating a platform inside an oven, changing the colors of a sequential projector, closing/opening a hatch ETC.

VENTILATION CONTROL
TDU 1124

4. Fan control.

The fan output (vnt) is controlled by the thermostat, by default by the temperature sensor.
When the current temperature is 5 degrees higher than the set point,
the output contact (VNT) will close and will reopen when the current temperature is
equal to or lower than the set point.

RELAYS
TDU 1124

The relay control is divided into four independent parts, 4 outputs .
(on=Log.1 / off=Log.0).

TMP output = 1 when VT <= SET POINT TEMPERATURE + hys
TMP output = 0 when VT => SET POINT TEMPERATURE + hys

HUM output = 1 when VH <= SET POINT Humidity + hys
HUM output = 0 when VH => SET POINT HUMIDITY + hys

IMP output = 1 PULSE TIME
IMP output = 0 PAUSE TIME

VNT output = 1 when VT > 5C ABOVE SET POINT TEMPERATURE
VNT output = 0 when VT =< SET POINT TEMPERATURE

info! VT = temperature value read by sensor
VH = humidity value read by sensor
HYS= hysteresis

Fabricat in ROMANIA