Eltako
ELECTRONICS

Bus thermo clock/hygrostat
BUTH65D/12 V DC with display CE

Only skilled electricians may install this electrical equipment otherwise there is the risk of fire or electric shock!

Temperature at mounting location:
-20°C up to +50°C.
Storage temperature: -25°C up to +70°C.
Relative humidity:
annual average value <75%.

Bus thermo clock/hygrostat with display pure white glossy for connection to the RS485 bus gateway BGW14. For single mounting or Montage mounting into the E-design switching system. 84x84 mm, 14 mm high. Installation depth 33 mm. Illuminated display. Only 0.1 watt stand-by loss. With adjustable day and night reference temperatures and relative humidity. Preset ready to operate.

For installation in 55 mm switch box. 7 days power reserve.

Data transmission and power supply takes place over the 4-wire bus with a 12 V DC power supply unit.

Up to 16 BUTH devices can be connected to the RSA/RSB terminals of the RS485 bus gateways BGW14. The total permitted line length is 1,000 m. The second 120 Ω supplied with the BGW14 must also be connected to the RSA/RSB terminals on the furthest BUTH device.

We recommend stainless-steel countersunk screws 2.9x25 mm, DIN 7982 C, for screw connections. Both with rawl plugs 5x25 mm and with 55 mm switch boxes. Set of 2 stainless-steel countersunk screws 2.9x25 mm and plugs 5x25 mm are enclosed.

Up to 60 timer memory locations are freely assigned to the channels.

With date and automatic summer/winter time changeover.

Every 20 seconds, the BUTH sends a message over the RS485 bus when there is an actual temperature change of min. 0.15°C or a change in air humidity of 5%. A change in setpoint temperature or setpoint air humidity is sent immediately.

Settings are made with the buttons MODE and SET and can be locked.

A complete switching programme is preset and can be very easily changed.

Day setpoint temperature 22°C monday to thursday from 6 a.m. to 22 p.m., friday from 6 a.m. to 23 p.m., saturday from 7 a.m. to 23 and sunday from 7 a.m. to 22 p.m.. The factory setting for night setpoint temperature is 18°C.

Set language: Every time the power supply is applied, press SET within 10 seconds to set the language german or english and press MODE to confirm. The **normal display** then appears: Weekday, date, time, **actual temperature** from 0°C to +40°C to one decimal point and relative humidity. To adapt the sensor to the ambient conditions, the internal sensor can be adjusted to the actual room temperature and humidity according to the operating instructions. If the settings are locked, the reference temperature *set-temp.* can be displayed and changed here from +8°C to +40°C in steps of 0.5°C by pressing MODE followed by SET.

Select EEP profile and display lighting: Press MODE and then press SET to search for the **function *setup*** and press MODE to select. Press SET to select the required EEP profile *A5-10-06 FTR, A5-10-12 heating* or *A5-10-12 hygrostat* and select MODE to confirm. Then press SET to select the duration of display lighting. When you press MODE to confirm **temporary,** the display lighting goes out 20 seconds after the last time a key was pressed. When you press MODE to confirm **permanent,** the display lighting lights up permanently.

Rapid scroll: In the following settings, the numerals scroll rapidly when you press and hold down Enter. Release then press and hold down to change the scroll direction.

Set time: Press MODE and then press SET to search for **function *clock*.** Select by pressing MODE. Press SET to select the hour and press MODE to confirm.

Proceed in the same way as for minutes.

Set date: Press MODE and then press SET to search for the **function *date*.** Select by pressing MODE. Press SET to select the year and press MODE to confirm. Proceed in the same way as for month and day. The final setting in the sequence is the weekday which is selected by pressing SET.

Press MODE and SET to switch the display lighting on.

20 seconds after pressing MODE or SET, the menu returns automatically to normal display.

Programs:

After pressing MODE to confirm, P01 appears in the display. Press SET to select the program you want to edit and press MODE to confirm. Then press SET to select either *inactive* or *active*.

If you press MODE to confirm *inactive*, the normal display appears. If you press MODE to confirm *active*, press SET to select either temperature or humidity. If you press MODE to confirm **temp.** (setpoint temperature), then press SET to select either *night-temp., day-temp.* or *free-temp.,* then press MODE to confirm.

- The *night-temp.* and *day-temp.* are taken over automatically in all programs.

- You can enter *free-temp.* individually for each program.

Then press SET to set the setpoint temperature.

Press MODE to confirm and then press SET to select the hour.

Press MODE to confirm and then press SET to select the minutes.

Press MODE to confirm, then press SET to activate the whole week or each single week day and press MODE to confirm your choice. After completing your input, the menu returns to normal display.

If you press MODE to confirm **humidity**, press SET to select either *fixed-val1, fixed-val2* or *value* and press MODE to confirm your choice.

- The *fixed-val1* and *fixed-val2* entered are automatically taken over in all programs.

- You can enter each of the values separately in each program.

Then press SET to set the humidity.

Press MODE to confirm and then press SET to select the hour. Press MODE to confirm and then press SET to select the minutes.

Press MODE to confirm, then press SET to activate the whole week or each single week day and press MODE to confirm your choice. After completing your input, the menu returns to normal display.

Press MODE for longer than 2 seconds to exit the menu at any point.

The parameter changes are saved and the menu returns to normal display.

The BUTH can be taught-in in heating/cooling relays FHK14, F4HK14, FAE14 and in switch relay FSR14.

Learn: Press MODE and press SET to search for the ***learn* function.** Press SET to select.

Press SET to select between **heating FHK** (or **heating A5-10-12, hygrostat A5-10-12**) or **hygrostat.** If *heating FHK* (or *heating A5-10-12, hygrostat A5-10-12*) is confirmed by pressing MODE, press SET to send a teach-in telegram and to teach in an actuator prepared for teach-in.

When you press MODE to confirm *Hygrostat,* press SET to select *on* or *off.*

When you press MODE to confirm *on* or *off,* press SE to send the associated pushbutton telegram and teach it as central pushbutton in an actuator which is ready for teach-in.

You can only quit teach-in mode by pressing the MOE pushbutton longer than 2 seconds. The screen then returns to normal display.

Clear all programs: Press MODE and press SET to search for the ***clear all programs* function.** Press MODE to select. *press SET to erase* then appears in the display.

If you press SET to start this function, *erasing finished* appears in the screen when the clear function has ended. Press MODE to confirm. If you press MODE to confirm *press SET to erase,* the message *erasing cancelled* appears in the display and then the normal display returns 2 seconds later.

Summer/winter time switchover: Press MODE and the press SET to search for **function *summer/wintertime automatic*** and press MODE to select. Then press SET to select either *active* or *inactive.* If you select *active,* switchover is automatic.

Set hysteresis for hygrostat: Press MODE and then press SET to search for **function *hysteresis*** and select by pressing MODE. When the *hygrostat hysteresis* is reached, press SET to select the required hysteresis 5%, 10%, 15% or **20%** and press MODE to confirm. The normal display then appears.

Adapt sensor to ambient conditions: Press MODE and then press SET to search for **function *sensor adjustment*** and select by pressing MODE. At **temp. adjustment,** press SET to adjust the temperature measurement between ±5.0 K in steps of 0.5 K. After pressing MODE to confirm, press SET at **humidity adjustment** to adjust the humidity measurement between ±10% in steps of 1%. After pressing MODE to confirm, the normal display appears.

Set BUTH bus address: Press MODE and then press SET to search for the **bus-address function.** Press MODE to select. Then press SET to set a different bus address for each of the max. 16 BUTH devices. After you press MODE to confirm, the screen returns to normal display.

Error messages: If several BUTH devices have the same bus address, *addressing error* appears in the display and the display flashes. If there is a bus communication error, *Bus comm. interrupt.* appears in the display and the display flashes.

Switch on/off night reduction manually: Press MODE and SET together for 4 seconds. At ON, **C** appears in the display.

Switch on/off control: Press MODE and SET together for 10 seconds. At OFF, **0** appears in the display.

Control from GFVS software via FGW14-USB: The GFVS software specifies a setpoint temperature for the BUTH. Set temperature without priority means that the set temperature must be adapted individually but only in case if it is beyond ±3°C. Example: the setpoint temperature is specified by the GFVS at 20°C. The setpoint temperature of 22°C and remains unchanged. The setpoint temperature with priority sets the setpoint temperature to the setpoint temperature of the GFVS. Control by the GFVS is terminated by a telegram containing a setpoint temperature of 0°C. If no telegram is received by the GFVS for longer than 1 hour, the control process is also ended. If the BUTH is activated by the GFVS, a wireless icon appears in the display. Settings at TF will be overruled by GFVS.

Data transmission:
EEP A5-10-06:
Data telegram:
Data_byte0 = 0x08
Data_byte1 = actual temperature 0xFF..0x00 equivalent to 0..40°C
Data_byte2 = setpoint temperature 0x00..0xFF equivalent to 0..40°C
Data_byte3 = night-time reduction
Teach-in telegram: 0x40300D87
Hygrostat values are sent as pushbutton telegrams (to switch a fan on or off with an FSR14). A hysteresis is adjustable for hygrostat values (pushbutton telegrams).
EEP A5-10-12:
Data telegram:
Data_byte0 = 0x08
Data_byte1 = temperature actual value 0x00..0xFA equivalent to 0..40°C
Data_byte2 = humidity actual value 0x00..0xFA equivalent to 0..100%
Heizung: Data_byte3 = setpoint value 0x00..0xFF equivalent to 0..40°C
Hygrostat: Data-byte3 = setpoint value 0x00..0xFF equivalent to 0..100%
Teach-in telegram: 0x40900D80

Lock settings: Briefly press MODE and SET together and at *lock,* press SET to lock. This is displayed by an arrow next to the lock symbol.

Unlock settings: Press MODE and SET together for 2 seconds and at *unlock* press SET to unlock.

Must be kept for later use!