



TEK616 Digital Thermostat

A Digital BUS Interface wall control to use in combination with the TEK632 or TEK7EC cooler Control. Uses 4-way header for connection to the TEK698 communications loom.

FEATURES

- Used with TEK632 TEK7EC via TEK698 loom
- Room temperature measurement, and display, on LCD. (absolute accuracy is $\pm 1^{\circ}\text{C}$)
- Set temperature adjustment by use of “Up” and “Down” buttons
- Timer function providing delayed on/off operation
- Auto Cooling, Manual Cooling, and Fan operation
- Pre-wet, pre-fill, and Dump control built-in
- Operation of pump only for use in high fire risk areas.
- Size designed to be compatible with a standard wall plate.
- Blue backlight activates when TEK616 is on.

Power Supply

- The TEK616 requires a nominal 5V supply at 45mA

Temperature & Humidity Requirements

- Nominal operational ambient 0-40°C.
- Storage Ambient 0-60°C.
- 10-95% RH, non condensing

Mounting Method

- The TEK616 shall be mounted vertically to the internal wall of a home.
- Mounting screws pass through both the Inner housing and the Wall plate.
- The front cover clips to the Inner housing to hide the screw holes.
- Cable entry shall be from the internal wall cavity through the rear of the wall plate.

The openings at the top and bottom allow natural draft airflow around temperature sensor and cannot be covered or obstructed.

Off State

When Off the TEK616 displays the room temperature. No LEDs are on unless a delayed start time has been programmed.

OPERATING MODES.

Mode selection.

Pressing the “On/Off” button resumes the previous Operating Mode. Pressing the “Mode” button cycles through the following order.

Auto ⇒ Manual ⇒ Fan ⇒ Pump Only ⇒ Auto

Auto Cooling.

When in “Auto” mode, the “Auto” LED is illuminated, “AUTO” is displayed on the LCD along with the current comfort level. The “Up” and “Down” buttons change the comfort level between 1 and 20. Which equates to a temperature range of 18°C to 27.5°C. The TEK632 controller translates this into required fan speed and pump function.

Manual Cooling Mode.

Used to set a fan speed with the pump constantly on. When in “Manual” mode, the “Manual” LED is illuminated, and “MAN” is displayed in the LCD along with the current Manual cooling level. The “Up” and “Down” buttons change between minimum 1 and maximum 20.

Fan Mode.

Used to set a Fan Speed with Pump OFF. When in “Fan” mode, the “Fan” LED is illuminated, and “FAN” is displayed in the LCD along with the current Fan level. The “Up” and “Down” buttons change the Fan level between the minimum of 1 and maximum 20.

Pump Only Mode.

When in “Pump Only” mode, the “Auto”, “Manual” and “Fan” LEDs flash and “Po” is displayed in the LCD. The “Up” and “Down” buttons have no effect. In this mode the pump and fill valve are active by putting the TEK632 into Diagnostic state 2. (see TEK632 specs)

Default Settings

On initial power up, the TEK616 shall adopt the following settings.

Item	Setting
Mode	Off
Previous Mode	Auto
Previous Auto Cooling Level	10
Previous Manual Cooling Level	10
Previous Fan Level	10
Timer	Inactive

Timer Setup

- If the timer is off, pressing the ‘Timer’ button will enter the Timer Setup, this lasts for five seconds from the last keypress.
- The Timer LED will come on, the display will show "4H" indicating a delay time of 4 hours. Pressing the ‘Up’ or ‘Down’ keys changes the delay time between the limits of 1 and 24 hours.
- If the TEK616 was on, the time shows the delay until it turns off the mode LEDs shall remain unchanged.
- If the TEK616 was off the time shows the delay until it turns on in the last mode that was ‘on’ and the corresponding LED will flash, as will On/Off LED. Pressing the Mode button changes the Mode that will be activated after the delay time expires.
- Five seconds after the last key press in Timer Setup, the timer starts. When the timer is active the remaining delay is shown on the display every 15 seconds.
- Pressing the ‘Timer’ button cancels timer operation.

Power Failure Response

If power is interrupted whilst the unit is operating, the unit will resume in the mode active during power loss. This will be true for 'Auto', Manual or 'Fan' modes; any 'Timer' operation will be cancelled, and the unit will remain 'Off'.

SPECIAL ACCESS MODES

The Special Access Modes allow customisation and diagnosis of the TEK632 function. The method of entry to each access mode is different as described in the sections below but the selection and modification of the parameters is identical once the mode is entered.

This should be used with care and by qualified technicians. Any changes to parameters will affect cooler operation. Further information is found in the TEK632 specifications/cooler operating instructions.

Installer Mode

By pressing and holding the "On/Off" and "Mode" buttons for 5 seconds, the Installer Special Access Mode has been entered. This mode allows modification of the TEK632 installer parameters.

Service Mode

By pressing and holding the "Up" and "Down" buttons for 5 seconds, then releasing them and pressing the "Timer" button followed by the "Mode" button, the Service Special Access Mode has been entered. This mode allows modification of the TEK632 service parameters.

Diagnostic Mode

By pressing and holding the "On/Off" and "Mode" buttons for 5 seconds, then releasing them and pressing the "Mode" button followed by the "Timer" button, the Diagnostic Special Access Mode has been entered. This mode allows verification of some of the functions of the TEK632.

Selecting Parameters

- Parameter select mode is entered by any of the three sequences defined above. On entry to the Parameter Select mode, the TEK616 display shows the current parameter number in the first two digits and "P" in the third digit.
- Pressing the Up or Down keys scrolls through the appliance's parameters.
- Pressing the Mode key selects the displayed parameter for modification and the TEK616 goes to Parameter Adjustment mode.
- Pressing the On/Off key returns the TEK616 to the Off state.

Parameter Adjustment

- On entry to the Parameter Adjustment mode, the TEK616 display shows the current parameter value in the first two digits and "A" in the third digit.
- Pressing the Up or Down keys increases or decreases the parameter value.
- Pressing the Mode key saves the current parameter value and returns the TEK616 to Parameter Modification mode.
- Pressing the On/Off key returns the TEK616 to the Off state.