

# LCD DIGITAL THERMOSTAT

### **BREATHE EASY, SAVE ENERGY.**



\$

www.green-breeze.eu | info@.green-breeze.eu

## G6861 SERIES LARGE LCD DIGITAL THERMOSTAT

### APPLICATION

The G6861 digital thermostat is designed for controlling 3-speed fans and valves in fan coil systems, ensuring efficient temperature regulation and airflow management.

#### **COMPATIBLE SYSTEM CONFIGURATIONS:**

- 2-Pipe Systems Supports cooling only, heating only, or manual changeover.
- 4-Pipe Systems Allows manual or automatic changeover for seamless operation.

### **KEY FUNCTIONALITIES:**

- Ventilation Mode Enables fan-only operation for enhanced air circulation.
- Fan Speed Control Choose between manual or automatic 3-speed control for optimal comfort.
- Water Valve Control Ensures precise temperature adjustments.
- Adaptive Fan Speed Settings Users can switch between automatic or manual 3-speed modes.
- Manual Fan Speed in Ventilation Mode When in ventilation mode, the fan operates only with manual speed control.

#### FEATURES OF G6861 DIGITAL THERMOSTAT

- Modern Aesthetic Design Sleek and stylish, ideal for offices, hotels, and residential buildings.
- Flexible Installation Options Available in horizontal and vertical models for versatile applications.
- Slim Profile Designed for direct installation on an 86-size box, ensuring a seamless fit.
- Elegant Backlight Display Features a blue/green backlight with a matching color ring for a sophisticated look.
- 2-Pipe/4-Pipe Integration Supports both systems in a single unit with easy configuration.
- Large LCD Display User-friendly English interface with intuitive icons.
- Effortless Setup & Installation Simple configuration for quick deployment.
- Programmable On/Off Timer Enables scheduled operation for added convenience.
- Customizable Display Choose between room temperature or setpoint temperature display.
- Adaptive Fan Speed Control Select manual or automatic fan speed adjustments.

- Remote Temperature Sensor Allows external sensor integration for precise readings.
- Energy-Saving Mode Can be activated via button press or dry contact key card (for hotel applications).
- Cycle Per Hour (CPH) Function Optimizes HVAC efficiency by controlling system cycling.
- Temperature Adjustment & Display Options Choose between °C or °F for user preference.
- Memory Retention User settings remain saved even during power loss.
- Freeze Protection Prevents temperature drops that may damage the system.
- Key Lock Function Lock or partially restrict access to settings in Installer Setup Mode.
- Setpoint Limitations Heat and cool temperature range limits for energy efficiency.



### **MODEL SUMMARY**

MODEL	HORIZONTAL/ VERTICAL	BACKLIGHT	COLOR RING	TIME ON/OFF	2-PIPE/ 4-PIPE	POWER SUPPLY (V)	ENERGY SAVING	VENTILATION	MANUAL/ AUTOMATIC FAN	REMOTE SENSOR
G6861H2WB	HORIZONTAL	BLUE	BLUE WHITE	Y	2/4	230	Y	Y	Y	Y
G6861H2WG	HORIZONTAL	GREEN	GREEN WHITE	Y	2/4	230	Y	Y	Y	Y
G6861V2WG	VERTICAL	GREEN	GREEN WHITE	Y	2/4	230	Y	Y	Y	Y
G6861V2WB	VERTICAL	BLUE	BLUE WHITE	Y	2/4	230	Y	Y	Y	Y
G6865H2WG	HORIZONTAL	GREEN	GREEN WHITE	Y	2/4	24	Y	Y	Y	Y
G6865H2WB	HORIZONTAL	BLUE	BLUE WHITE	Y	2/4	24	Y	Y	Y	Y

### MECHANICAL DESIGN THERMOSTAT APPEARNCE



### LCD Display



### Valve Control Function

The G6861 digital thermostat ensures precise temperature regulation by controlling the valve operation in the HVAC system.

- Accurate Temperature Sensing The thermostat acquires room temperature using either its built-in sensor or an external temperature sensor for enhanced accuracy.
- On/Off Valve Control Maintains the setpoint temperature by activating or deactivating the valve as needed.
- Efficient Climate Management Ensures optimal energy usage by controlling the flow of heated or cooled water to the fan coil unit.



### **Fan Operation**

The G6861 digital thermostat provides versatile fan control to optimize indoor comfort and energy efficiency.

- Manual or Automatic 3-Speed Selection Users can choose between manual fan control or automatic speed adjustment based on room conditions.
- Manual Mode The fan runs at a fixed speed set by the user, controlled via the Gh (High), Gm (Medium), and Gl (Low) outputs.
- Automatic Mode The fan speed adjusts dynamically based on the difference between the current room temperature and the setpoint:
- Larger temperature difference Higher fan speed for faster cooling/heating.
- Smaller temperature difference Lower fan speed to maintain comfort efficiently.
- When the setpoint is reached The valve closes, and the fan turns off automatically to conserve energy.



Fan speed ramping control algorithm



### **Four-pipe application**

System will have a fixed deadband set in ISU between heating and cooling setpoints for Automatic Change Over (ACO) configured thermostats. While the heating and cooling set points determine the dead band.

If the difference between heating and cooling set points is less than the dead band set in ISU, then the dead band set in ISU is enforced. When adjusting the cooling set point, conflicts will be resolved by moving the heating set point outof the way of the cooling set point (heating set point=cooling set point -dead band set in ISU). When adjusting the heating setpoint, conflicts will be resolved by moving the cooling set point out of the way of the heating set point (cooling set point=heating set point +dead band set in ISU). Heating and Cooling range stops will determine the maximum heating setpoint setting and minimum cooling setpoint setting.



4 pipes auto change over setpoint algorithm



### **Technical specification**

Power supply	VAC, 220(+10%,-15%)VAC				
Frequency	50/60Hz				
Control algorithm	PI, On/off output				
Accuracy	+/-1°C at 21°C				
Rating capacity	For 220V power supply:,4(2)A for fan load, 2(1)A for zone valve For 110V power supply:,4(2)A for fan load, 2(1)A for zone,valve				
Cycle times	100,000 Times				
Setpoint range	10~32ºC				
Display range	0~37℃				
Installation	Installed on 86×86mm junction box or US2×4 inch.				
Protection Class	IP20				
Environmental	Operation temperature -18~49oC				
Conditions	Shipping temperature -35~65oC Relative humidity 5~90%				



#### DECLARACTION :

Greenbreeze retains the sole right to change product design and or specifications without notice. Images presented herein may differ significantly from the delivered porducts. Information contained herein is for general consideration only as our products are subject to change. Nanyoo is the sole interpreter of the information provided within this catalogue.



GREENBREEZE UNIPESSOAL LDA Rua Da Praia Azul, Silveira Lisbon, Portugal www.green-breeze.eu

Marketed By: Cannelle Holdings FZE P O Box 261660, Jebel Ali Free Zone Dubai, United Arab Emirates Tel: +971 4 8861858 www.cannelleholdings.com