# Grow Light+Duct fan System

# GTC42



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1519-Manual



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#### Product size drawing and interface description



#### **Product Packing List**



#### Product connection diagram



#### **Display instructions**

#### 1. LIGHT BUTTON 1

Press the button to display the light control interface. You can switch between 4 channels. You can set the brightness of each channel or select All to set all channels uniformly.

#### 4-5.UP/DOWN BUTTONS(4)(5)

Adjusts the value of your current mode. The up button increases and down button decreases the setting. Hold both to reset values to OFF/Default.

#### 6.MODE BUTTON

Cycles through the controller modes:

ON, OFF, AUTO (6 triggers)

TIMER TO ON

TIMER TO OFF

CYCLE (ON and OFF)

SCHEDULE (ON and OFF).

10、 Displays the currently monitored VPD (10), and displays "--" when no probe is inserted;

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2. DEVECE BUTTON(2)

Press the button to display the fan

control interface. You can switch

between the four devices and set the

parameters of each device or select

All to set all parameters uniformly.

- 11. Displays the currently monitored humidity (1), and displays "--" when no probe is inserted;
- status, screen lock and over-temperture alarm;

12、Alert icon bar 1 🔤

13. Display the current time (13). There is a super capacitor inside to maintain the clock. It will not default to 00:00 when the power is cut off;

- 14、Current equipment operation level (14)
- 15、Display time (5), timed on or off time, countdown on or off time, cycle on or off time;

16. Display setting value (6), display the setting value of the current mode, press the up and down keys to adjust the value;

#### 3.SETTING BUTTON 3

Cycles through the controller settings: DISPLAY, CLOCK,°F/°C CALIB. T°/H%/kPa TRANS. T°/H%/kPa BUFF. T°/H%/kPa/VPD Only available in device mode; Over temperature protection/slow rise and slow fall/buffer temperature are only available in light mode;

7. Display the level position of each channel ⑦;
8. Control mode ;
9. Display the currently monitored temperature ③, and diaplay "--"
When no probe is inserted;

climate alarm, timer alarm, APP connection



#### **Interface Operation Instructions**

1. Lighting control interface



Press the light key①again, the dot before "CH1" flashes, and press④or⑤ to adjust the brightness of CH1 alone; Press the light key①again, the dot before "CH1" flashes, and press④or⑤ to adjust the brightness of CH1 alone; Press the light key①again, the dot before "CH2" flashes, and press④or⑤ to adjust the brightness of CH2 alone; Press the light key①again, the dot before "CH3" flashes, and press④or⑤ to adjust the brightness of CH3 alone; Press the light key①again, the dot before "CH3" flashes, and press④or⑤ to adjust the brightness of CH3 alone; Press the light key①again, the dot before "CH3" flashes, and press④or⑤ to adjust the brightness of CH3 alone; Press the light key①again, the dot before "CH4" flashes, and press④or⑤ to adjust the brightness of CH3 alone; Press the light key①again, the dot before "CH4" flashes, and press④or⑤ to adjust the brightness of CH4 alone; The 4 channels execute their respective set brightness respectively. When the dot before "All" flashes again, the 4 channels all execute the value set by "All" synchronously;



Can switch between Normally ON, Normally OFF, SCHEDULE, 3 modes, stay for 5 seconds to automatically confirm;

Normally ON: Run according to the set value; "All": All channels are set synchronously, and the parameters of 1, 2, 3, and 4 can also be set.

Normally OFF, the light will be off in this mode;





SCHEDULE, ON flashes Press the up and down keys to set the on time, press the mode key OFF flashes Press the up and down keys to set the off time; in this mode, the light will turn on or off according to the set time and run automatically every day;





Press③set botton Set over-temperature protection. Press④or⑤to adjust parameters.

#### Over temperature protection setting

Fahrenheit range OFF-33-194 Celsius range OFF-0-90 When the temperature  $\geq$  the setting value, all lights are turned off.

Over-temperature protection prompt When the monitored temperature is ≥ the set value, the lights of all channels will be turned off.The over-temperature Protection icon lights up as a prompt; Press the ③ setting key again to set the **buffer value**.

**Example:** BUFF.T° is set to 5 degrees, over-temperature protection is set to 40 degrees, the light goes out when the temperature reaches 40 degrees, and the light turns back on when the temperature drops to  $\leq$ 35 degrees.

Fahrenheit range OFF-33-76 degrees Celsius range OFF-1-10 degrees







Press the ③ setting key again to set the sun rise and sun set.

Example: The slow rise and slow fall is set to 10 minutes. The on time is 8:00 and the off time is 8:30. The difference between on and off time is 30 minutes. The maximum slow rise/slow fall time can only be set to 15 minutes (the setting range can only be 0-15 at this time). If the off time is 8:31, the slow rise/slow fall time can still only be set to 15 minutes. If the off time is 8:32, the maximum slow rise/slow fall time can be set to 16 minutes.



That is the slow rise/slow fall time can only be half of the difference between the on and off time.

SUN rise For example: Set the start time to 8:30

SUN rise time to 60 minutes

Then from 8:30, the brightness will rise evenly to the set brightness value within 60 minutes, that is, from 9:30 to the set brightness value

SUN set For example:

Set the end time to 20:00

SUN set time to 60 minutes, then from 19:00, the brightness will fall evenly to the light turning off within 60 minutes, that is, it will start to fall at 19:00 and turn off at 20:00

Setting range: OFF-1-60 minutes

"OFF" means this function is not enabled

#### **Device control**



Press key (2) to enter device control

Press key (2) to enter lighting control. The dot in front of "All" flashes, indicating that the 4 channels CH1-CH4 are set synchronously. At this time, press (4) or (5) to set the brightness of the 4 channels at the same time.

Press key ② again. The dot in front of "CH1" flashes. At this time, press ④ or ⑤ to adjust the CH1 level separately; Press key ② again. The dot in front of "CH2" flashes. At this time, press ④ or ⑤ to adjust the CH2 level separately; Press key ③ again. The dot in front of "CH3" flashes. At this time, press ④ or ⑤ to adjust the CH3 level separately; Press key ② again. The dot in front of "CH4" flashes. At this time, press ④ or ⑤ to adjust the CH3 level separately; Press key ② again. The dot in front of "CH4" flashes. At this time, press ④ or ⑤ to adjust the CH4 level separately; The 4 channels execute their own set levels respectively. When the dot in front of "All" flashes again, the 4 channels will execute the value set by "All" synchronously;

Press the button again to select the device to be controlled, which is All-1-2-3-4 respectively. The scrolling display is as follows

All sets the same parameters for all devices, and different parameters can be set for each of the 4 devices.



After selecting the device to be set, press function key (6) to select the operation mode.

They are Normally ON, Normally OFF, AUTO ( 6 triggers), TIMER ON, TIMER OFF, CYCLE ON/OFF, SCHEDULE mode.

Normally ON:Press ④ or ⑤ to adjust the running level (0-10 levels). The blue box is the setting area. When setting, the number is synchronized to the fan icon; The gear position set in this mode will be used as the maximum gear position for other modes (automatic mode trigger on, countdown TO OFF mode, cycle on mode and schedule on mode). Please do not set the gear position of this mode to 0, otherwise the gear position will be 0 when triggered in all other modes.



**Normally OFF:** Press ④ or ⑤ to adjust the running level (0-10 levels). The blue box is the setting area. When setting, the number is synchronized to the fan icon; (This value is the running value when it is turned off. For example, if it is set to 2 level, it will still run at 2 level when it is turned off) This setting will be used for the running level when it is turned off in all modes (automatic mode, timer to on mode, cycle off mode and the lowest running level of schedule off); If you want the device to be completely turned off when triggered, please set it to "0":

Level description 0-0% 1-23% 2-30% 3-36% 4-45% 5-53% 6-61% 7-69% 8-78% 9-86% 10-100%



AUTO mode (when in this mode, you can select 6 trigger conditions to associate with the device)

#### AUTO mode (HIGH TEMP TRIGGER)

A white dot will light up in front of the selected item HIGH TEMP The temperature condition for the associated device to start, press the ④ or ⑤ button to adjust the temperature, and it will be automatically saved 5 seconds after setting;the setting range is OFF-33-194 degrees for Fahrenheit and OFF-0-90 degrees for Celsius. "OFF" means the function is not enabled.



If the sensor reading reaches or exceeds this threshold, the device will start, and "HIGH TEMP" will flash Light, up the icon at the same time; the device will gradually rise to the gear set in the on mode. If the sensor reading falls below this threshold, the device will gradually decelerate to the gear set in stop or off mode;

When in automatic mode, any of the 6 trigger points can activate the device.Even if you select other conditions, if you do not need to enable,then use the ④ or ⑤ buttons to set the trigger point to "OFF".If the gear set in the close mode is not 0, the device will run at this gear when the shutdown is triggered.



#### AUTO mode (LOW TEMP TRIGGER)

LOW TEMP The temperature conditions for the associated equipment to start, press the ④ or ⑤ button to adjust the temperature. The setting range is OFF-32-194 degrees for Fahrenheit and OFF-0-90 degrees for Celsius; "OFF" means the function is not enabled.



If the sensor reading reaches or falls below this threshold, the device will start, and "LOW TEMP" will flash ,Light up the icon at the same time;the device will gradually rise to the gear set in the on mode.If the sensor reading falls below this threshold, the device will gradually decelerate to the gear set in stop or off mode;

When in automatic mode, any of the 6 trigger points can activate the device.Even if you select other conditions, if you do not need to enable,then use the ④ or ⑤buttons to set the trigger point to "OFF".If the gear set in the close mode is not 0, the device will run at this gear when the shutdown is triggered.



#### AUTO mode (HIGH HUMID TRIGGER)

HIGH HUMID The humidity conditions for the associated equipment to start, press button ④ or ⑤ to adjust the humidity. The setting range is OFF-0-100%, "OFF" means not enabling this function.



If the sensor reading reaches or exceeds this threshold, the device will start, and "HIGH HUMID" will flash, Light up the icon at the same time; the device will gradually rise to the gear set in the on mode. If the sensor reading falls below this threshold, the device will gradually decelerate to the gear set in stop or off mode;

When in automatic mode, any of the 6 trigger points can activate the device.Even if you select other conditions, if you do not need to enable,then use the ④ or ⑤buttons to set the trigger point to "OFF".If the gear set in the close mode is not 0, the device will run at this gear when the shutdown is triggered.



#### AUTO mode (LOW HUMID. TRIGGER)

LOW HUMID The humidity conditions for the associated equipment to start, press button ④ or ⑤ to adjust the humidity. The setting range is OFF-0-100%, "OFF" means not enabling this function.



If the sensor reading reaches or falls below this threshold, the device will start, and "LOW HUMID" will flash ,Light up the icon at the same time;the device will gradually rise to the gear set in the on mode.If the sensor reading falls below this threshold, the device will gradually decelerate to the gear set in stop or off mode;

When in automatic mode, any of the 6 trigger points can activate the device.Even if you select other conditions, if you do not need to enable,then use the ④ or ⑤buttons to set the trigger point to "OFF".If the gear set in the close mode is not 0, the device will run at this gear when the shutdown is triggered.



#### AUTO mode (HIGH VPD TRIGGER)

HIGH VPD VPD conditions for associated equipment startup, press ④ or ⑤ to adjust the saturated water vapor pressure dificit, setting range OFF-0-9.9kPa,"OFF" means not enabling this function.



If the sensor reading reaches or exceeds this threshold, the device will start, and "HIGH VPD" will flash, Light up the icon at the same time; the device will gradually rise to the gear set in the on mode. If the sensor reading falls below this threshold, the device will gradually decelerate to the gear set in stop or off mode;

When in automatic mode, any of the 6 trigger points can activate the device.Even if you select other conditions, if you do not need to enable, then use the ④ or ⑤buttons to set the trigger point to "OFF".If the gear set in the close mode is not 0, the device will run at this gear when the shutdown is triggered.



#### AUTO mode (LOW VPD TRIGGER)

LOW VPD VPD conditions for associated equipment startup, press ④ or ⑤ to adjust the saturated water vapor pressure dificit, setting range OFF-0-9.9kPa,"OFF" means not enabling this function.



If the sensor reading reaches or falls below this threshold, the device will start, and "LOW VPD" will flash.Light up the icon at the same time;The device will gradually rise to the gear set in the on mode.If the sensor reading is above this threshold,the device will gradually decelerate to the gear set in stop or off mode;

When in automatic mode, any of the 6 trigger points can activate the device.Even if you select other conditions, if you do not need to enable,then use the ④ or ⑤buttons to set the trigger point to "OFF".If the gear set in the close mode is not 0, the device will run at this gear when the shutdown is triggered.



**TIMER TO ON** (Countdown on mode) Press button ④ or ⑤ to set the countdown time, setting range 0-24 hours, After the timer is up, the device will be triggered to open. If a gear is set in shutdown mode, the device will operate in that gear during the countdown and when shutdown is triggered.

After the setting is completed, if there is no operation for 5 seconds, it will be automatically saved and the countdown will begin. At this time, the remaining time will be displayed above the setting. During the countdown, if you leave this interface, the countdown will be paused, and the countdown will continue until you return to this interface;



#### For example:

**TIMER TO OFF** (Countdown OFF mode) Press button ④ or ⑤ to set the countdown time. The setting range is 0-24 hours. After the timer ends, the device will be triggered to turn off. The device will run in the ON mode during the countdown and when triggered to turn on.

After the setting is completed, if there is no operation for 5 seconds, it will be automatically saved and the countdown will begin. At this time, the remaining time will be displayed above the setting. During the countdown, if you leave this interface, the countdown will be paused, and the countdown will continue until you return to this interface;

#### For example:



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**CYCLE ON/OFF** (Cycle On and Off Mode) Press ④ or ⑤ to set the On duration and Off duration. The setting range is 0-24 hours. First set the On duration. After the timing ends, the device will trigger the shutdown. The device will run the ON mode gear during the countdown.

After the setting is completed, if there is no operation for 5 seconds, it will be automatically saved and the countdown will begin. At this time, the remaining time will be displayed above the setting. During the countdown, if you leave this interface, the countdown will be paused, and the countdown will continue until you return to this interface;

Then press the mode key (6) to set the shutdown duration. The device will trigger shutdown after the timing ends, and the device will run the gear of the OFF mode during the countdown. If the gear set in the shutdown mode is not 0, the device will run at this gear when the shutdown is triggered.







**SCHEDULE ON/OFF** Press button ④ or ⑤ to set the time for turning on and off every day. The setting range is 0-24 o'clock. First, set the time to turn on the device every day; when the set time is reached, the device will run in the ON mode gear.

After the setting is completed, if there is no operation for 5 seconds, it will be automatically saved. If you leave this interface during the timer operation, it will automatically exit this mode and will continue to operate according to the set schedule until you return to this interface.

Then press the mode key <sup>(6)</sup> SCHEDULE OFF to set the time for each day to shut down. When the set time is reached, the device will be triggered to shut down and will run at the gear of the OFF mode. If the gear set in the shutdown mode is not 0, the device will run at this gear when it is triggered to shut down.







#### **Controller Settings**

Pressing the ③Settings key will cycle through the available settings for the controller: DISPLAY, °F/°C, CLOCK,Calibration Temp/Humidity/VPD, TRANS. Temp/Humidity/VPD, Buffer Temp/Humidity/VPD. (Available in device mode)

Over temperature protection/sun rise and sun set / buffer temperature (only available in light mode)

DISPLAY is for backlight brightness adjustment and automatic adjustment. Press button ④ or ⑤ to set. The display will cycle through 1, 2, 3, A2, A3 (1st level 30%, 2nd level 60%, 3rd level 100%, A2 60%, A3 100%; the brightness of A2 and A3 will automatically drop to 30% after 1 minute of no operation); Long press ③Settings key to lock the screen. The lock icon will be displayed on the



Long press ③Settings key to lock the screen. The lock icon will be displayed on the screen Press the ③Settings key again while the screen is locked. The screen will turn off (the program will still run when the screen is off). Press it again to turn the screen back on. Long press the ③ Settings key again to unlock the screen, and the lock icon will not be displayed. When the screen is off, the setting program will run normally.



#### Temperature unit setting

°F/°C Changes the displayed temperature unit to Fahrenheit or Celsius. Press button ④ or ⑤ to cycle through °F/°C. When adjusting this setting, all displayed units automatically switch.



#### System time setting

CLOCK System time setting, press button ④ or ⑤ to adjust the time, 0:0-23:59, displayed in the upper right corner;



Press the ③Set key again to calibrate sensor parameters.

#### CALIBRATION TEMPERATURE SETTING

Adjusts the temperature reading the sensor probe is measuring. Press the up or down button to increase or decrease the data figure in 1° increments. The calibration cycle ranges from -18°F to 18°F (or -10°C to 10°C) and will be applied to the sensor probe' s measurements.



#### CALIBRATION HUMIDITY SETTING

Adjusts the relative humidity reading the sensor probe is measuring. Press the up or down button to increase or decrease the data figure in 1% increments. The calibration cycle ranges from -10% to 10% and will be applied to the sensor probe' s measurements.



#### CALIBRATION LEAF OFFSET SETTING

Adjusts the VPD reading the sensor probe is measuring. Press the up or down button to increase or decrease the data figure in 0.1 increments. The calibration cycle ranges from -2.5kPa to kPa and will be applied to the sensor probe' s measurements.



#### TRANSITION TEMPERATURE SETTING

Adjusts how gradually your device will shift between levels when triggered ON by the AUTO Mode's temperature trigger. This will determine how much the probe temperature needs to increase to step up to the next level setting.

The higher the transition setting is, the wider the temperature gap is between levels. The lower the transition setting is, the smaller the temperature gap is between levels. If this figure is set to zero, your device will jump to your maximum level when triggered ON. Press the up or down button to set a transition threshold between 0°F and 18°F (0°C and 10°C). When the sensor temperature first reaches or crosses the temperature trigger point, the level will increase by one (exiting OFF Mode). Each time the threshold level is crossed, the level will ramp up by one until it reaches the level set in ON Mode.

#### For example:

TRANS. T° is set to 3 degrees, the trigger temperature is 30 degrees, when the temperature reaches 30 degrees, the fan gear is triggered to start at gear 1, when the temperature reaches 33 degrees, the fan becomes gear 2, and so on to the gear set in "ON" mode.

If it is set to 0, the gear set in "ON" mode is directly triggered.





#### TRANSITION HUMIDITY SETTING

Adjusts how gradually your device will shift between levels when triggered ON by the AUTO Mode's humidity trigger. This will determine how much the probe humidity needs to increase to step up to the next level setting.

The higher the transition setting is, the wider the humidity gap is between levels. The lower the transition setting is, the smaller the humidity gap is between levels. If this figure is set to zero, your device will jump to your maximum level when triggered ON. Press the up or down button to set a transition threshold between 0% and 10%. When the sensor humidity first reaches or crosses the humidity trigger point, the level will increase by one (exiting OFF Mode). Each time the threshold level is crossed, the level will ramp up by one until it reaches the level set.



#### For example:

triggered.

TRANS. H% is set to 5%, triggering humidity 60%. When the humidity reaches 55%, the fan gear is triggered to start at gear 1. When the humidity reaches 60%, the fan gear changes to gear 2, and so on to the gear set in "ON" mode. If it is set to 0, the gear set in "ON" mode is directly



Sensor

#### TRANSITION VPD SETTING

Adjusts how gradually your device will shift between levels when triggered ON by the VPD trigger. This will determine how much the probe VPD needs to increase to step up to the next level setting.

The higher the transition setting is, the wider the VPD gap is between levels. The lower the transition setting is, the smaller the VPD gap is between levels. If this figure is set to zero, your device will jump to your maximum level when triggered ON.

Press the up or down button to set a transition threshold between 0.1 kPa and 1.0 kPa. When the sensor VPD first reaches or crosses the VPD trigger point, the level will increase by one (exiting OFF Mode). Each time the threshold level is crossed, the level will ramp up by one.

### 

#### For example:

TRANS. vpd is set to 0.2kpa, and the atmospheric pressure is set to 0.2kpa. When the atmospheric pressure reaches 0.2kpa, the fan gear is triggered to start at gear 1. When the atmospheric pressure reaches 0.4kpa, the fan gear changes to gear 2, and so on to the gear set in "ON" mode. If it is set to 0, the gear set in "ON" mode is directly triggered.



#### Buffer temperature setting

The buffer value will create a trigger off point that is lower than the set trigger point to prevent your device from shutting down too quickly or working repeatedly between on and off. Press ④ or ⑤ buttons to adjust, setting range: 0°F to 9°F for Fahrenheit, 0°C to 5°C for Celsius).

With a HIGH TEMP trigger, your device will turn on and will only turn off when the temperature drops below your buffer setting.

With a LOW TEMP trigger, your device will turn on and will only turn off when the temperature rises above your set buffer setting.



#### For example:

BUFF. T° is set to 2°C, and the trigger temperature is 40°C. When the temperature reaches 40°C, the device is triggered to turn on, and when the temperature drops to 38°C, the device is triggered to turn off. If it is LOW TEMP, the device will not turn off until the temperature rises to the set buffer value.



#### **Buffer Humidity Setting**

The buffer figure will create a trigger-off point below your set trigger point to prevent your device from shutting off too quickly. Press the up or down button to cycle through buffer range from 0% to 10%.

In high humidity triggers, your device will turn on, only turning off when the humidity falls below your buffer setting.

In low humidity triggers, your device will turn on, only turning off when the humidity rises above your set buffer setting.





LOW HUMIND:70%+5%=75%

#### For example:

BUFF. H% is set to 5%, the humidity that triggers the device to turn on is 70%, the device turns on when the humidity reaches 70%, and the device turns off when the humidity drops to 65%; If it is LOW HUMID, the device will turn off only when the humidity rises to the set buffer value.

#### **BUFFER VPD SETTING**

The buffer figure will create a trigger-off point below your set trigger point to prevent your device from shutting off too quickly. Press the up or down button to cycle through buffer range from 0.1 kPa and 1.0 kPa.

In high VPD triggers, your device will turn on, only turning off when the VPD falls below your buffer setting. In low VPD triggers, your device will turn on, only turning off when the VPD rises above your set buffer setting.





#### Other settings

#### 1、Restore initial settings



Press and hold (3+6) button for 5 seconds to reset the controller and clear all user settings.

2、Lock and manually turn off the screen

Long pressing the ③ button for 3 seconds will lock the controller in the current state. After locking, all buttons cannot be adjusted. Press and hold the ③ button again for 3 seconds to unlock;

When the controller is locked, short press the ③button and the screen will turn off completely. Short

press the ③ button again and the screen will light up;

3、Jump to OFF mode with one click

In light mode, press and hold the <sup>(6)</sup> button for 3 seconds. No matter what mode you are in, it will automatically switch to the off mode.

In device mode, press and hold the (6) button for 3 seconds. No matter what mode you are in, it will automatically switch to the off mode.

&After the above operations are successful, there will be a sound prompt

## **FCC Warning**

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna.

-Increase the separation between the equipment and receiver.

-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

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