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# User's Guide

HID Electronic Ballast with Timer and Remote Control

**Thank you for purchasing this product.  
You will enjoy the convenience of remote control.**

The ballast can be defined to work in two modes via simple setting.

**Timer mode:** ballast with timing control function.

**Bypass mode:** regular ballast with no timing control function.

## 1. Introduction

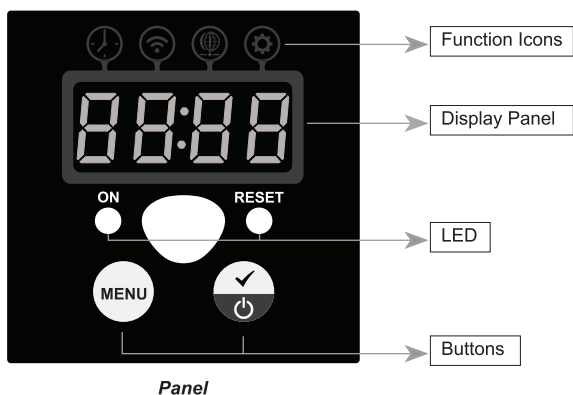
### 1.1 Operating Parameters of the Electronic Ballast

Input voltage range:	180Vac-265Vac
Rated input current:	2.8A@240Vac
Time for igniting after power on:	≤15s
Minimum timing interval:	1min
Working temperature:	-20°C to +50°C (-4°F to +122°F)

### 1.2 Operating Parameters of the Remote Control

Dry battery:	AAA*2, DC3V
Completely standby current:	<8uA
Working temperature:	0°C to +50°C (+32°F to +122°F)
Infrared transmission carrier frequency:	38KHz
Maximum distance:	24feet
Clock mode:	24-hour

### 1.3 Electronic Ballast













Panel



Adjusting Knob

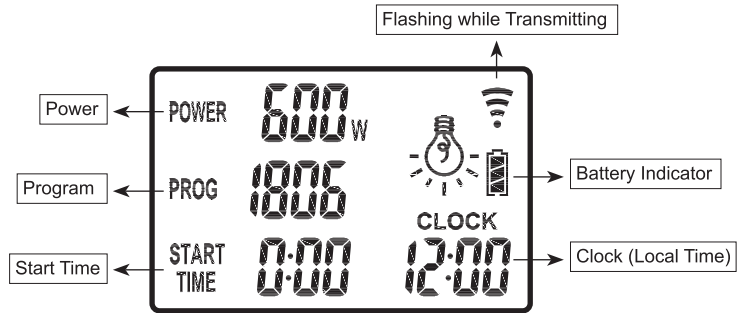


Character	Representative Letters	Meaning
	ByPA	Bypass
	ST--	Hold the current Start Time.
	ST13	Set the Start Time to be 13 hours after the current time. There are 24 options from ST00 to ST23.
	SF_y	Sun Function Enable
	SF_n	Sun Function Disable
	Err3	Error code: there are 6 error codes from Err3 to Err8.
	Null	Startup image after the ballast is power on, or display after receiving remote control signals.
	----	Display in sequence, which indicate the ballast is automatically lighting again.

	Press to enter the parameter setting. Press to cancel the modification of the current item and enter next item.
	Press it for parameter check. Confirm setting and switch to next item in the setting state. Used as an ON or OFF switch with long-press.
Adjusting knob	Adjusting the output wattage. Adjusting parameters in the setting state.

ON (Green)	RESET (Red)	Status
On		The HID lamp is ON.
Blink		The HID lamp is ON, and the Sunrise or Sunset phase of the Sun Function is operating.
Off		The HID lamp is OFF.
	Blink	The Start Time is changed, and the parameters of the Timer should be reset.

## 1.4 Remote Control




Display of Remote Control

### Buttons of Remote Control

Button	Function
CLOCK/CHECK	<ol style="list-style-type: none"> <li>1. In the non-setting state, long-press to enter Clock modification.</li> <li>2. Check the parameters of the ballast.</li> <li>3. Cancel the alarm when it is launched.</li> </ol>
ON	Immediately send commands and turn on the HID lamp.
OFF	Immediately send commands and turn off the HID lamp.
MAX	Select and send the maximum power 660W.
MIN	Select and send the minimum power 250W.
MENU	<ol style="list-style-type: none"> <li>1. In the non-setting state, press to enter all parameters display or setting all parameters.</li> <li>2. In the non-setting state, long-press to select enable /disable Sun Function.</li> <li>3. In the setting state, press to exit setting without saving modification.</li> </ol>
TIMER	In the non-setting state, press to enter Timer parameter setting.
▲ and ▼	<ol style="list-style-type: none"> <li>1. In the setting state, press to adjust the parameter of the setting items.</li> <li>2. In the non-setting state, press to enter the single power setting.</li> </ol>
◀ and ▶	In the setting state, select the setting items (shifting).
☑	Confirm the modification during setting, and send out the parameters on the screen, it can also copy and send same signal to other ballasts.

## 2. Function Description

You can select the Timer mode or Bypass mode of the ballast depending on the application. When you select the Timer mode, the ballast will start working according to your further settings automatically. The HID lamp will be ON at the Start Time and OFF at the Stop Time. Moreover, the automatic operation of the Sun Function can be determined within the ON time of the lamp according to the settings, to simulate the process from Sunrise to Sunset. When you select the Bypass mode, the Timer function of the ballast will be ignored. Moreover, the lamp will be automatically ON once the ballast is ignited each time, no matter whether the HID lamp is turned off before power-down. Certainly, you can adjust the output power within the safety range via the knob or remote control of the ballast in the Timer mode or Bypass mode. You can also turn on or off the HID lamp via the button  of the ballast or the  ON or  OFF button of the remote control.

### 2.1 Select the Timer mode

#### 2.1.1 Application:

Under no external controller or timer, the ballast is automatic operation according to the Start Time and Stop Time.

#### 2.1.2 Enabling method:

Set the Program in the non-bypass mode, 23 parameter options are provided from 0123 to 2301.

#### 2.1.3 Setting the Start Time and Stop Time:

The Start Time and Stop Time can be calculated automatically by the ballast via the combination of the Program and Start Time parameter. The Program parameter consists of four digits, the first two of which indicate the lasting hours of the ON state of the lamp, and the latter two of which indicate the lasting hours of the OFF state of the lamp. The sum of the first two and the latter two is 24, that is, the Program runs with 24 hours as a cycle. The Start Time parameter is demonstrated in two types: when the setting is performed via the remote control, the Start Time parameter is mainly demonstrated in the time form, i.e. The lamp is ON at XX: XX; and when the setting is performed via the ballast, the Start Time parameter is mainly demonstrated in the STXX form, which means that after XX hours, ballast enters the Start Time.



#### **EXAMPLE 1: Setting via the remote control**

Program: 1410      Start Time: 8:00  
Current time: 6:00

#### **The calculated Start Time and Stop Time:**

Start Time: 8:00      Stop Time: 22:00

**Result:** The lamp can be lighted from 8:00 to 22:00 each day, after 10 hours, it can be turned on again at 8:00 next day. The cycle is repeated.



#### **EXAMPLE 2: Setting via the ballast**

Program: 1410      Start Time: ST02  
Current time: 6:00

#### **The calculated Start Time and Stop Time:**

Start Time: 8:00      Stop Time: 22:00

**Result:** The lamp can be lighted from 8:00 to 22:00 each day, after 10 hours, it can be turned on again at 8:00 next day. The cycle is repeated.

**Notes:**

- When the remote control is not available, you can select the Start Time and Stop Time of each day by operating the ballast.
- When the ballast receives the latest Program or Start Time, it will run the latest Start Time and Stop Time.
- The Start Time can be set as ST00 via the ballast or the remote control, which indicates that the current time is defined as the Start Time.
- The Start Time can be set as ST-- via the ballast or the remote control, which indicates that the existing Start Time will not be changed. If the Program is changed, only the Stop Time changed.

**2.1.4 Sun Function:**

This can be used only in the Timer mode, and works within the Start Time defined by the first two digits of the Program parameter. When the HID lamp is turned on within the first 10% ON time, the output power gradually increases from 250W to the target power. The target power will be maintained in the following 80% ON time. In the last 10% ON time, the output power will gradually decrease to 250W, then the HID lamp will be turned off. The Sun Function simulates three phases from sunrise to sunset. Meanwhile, the ON indicator of the ballast will flash in the Sunrise and Sunset phase and keeps ON in the maintenance phase to indicate that the target power is being output. When the Sun Function is enabled, the target power can be changed at any time, and the ballast will automatically recalculate and adjust the output power according to the current phase.

**2.1.5 Reception of ON/OFF commands during operation of the Program:**

refer to Table 5 and 6.

**Table 5: Reception of ON Command during operation of Program**

Program Operation Phase	Ballast Reaction	Start Time & Stop Time
Lamp ON	Ignore the command.	No change
Lamp OFF	Turn on the HID lamp immediately, keep the ballast latest program to run the Start Time and Stop Time.	No change

**Table 6: Reception of OFF Command during operation of Program**

Program Operation Phase	Ballast Reaction	Start Time & Stop Time
Lamp ON	Turn on the HID lamp immediately, keep the ballast latest program to run the Stop Time and Start Time.	No change
Lamp OFF	Ignore the command.	No change

## 2.2 Select the Bypass mode

### 2.1.1 Application:

When used with external controller or timer, the ballast is the same as the regular electronic ballast with no imbedded timer.

**2.1.2 Enabling method:** Set the Program in the Bypass mode.

**2.2.3 Reception of ON/OFF commands:** The HID lamp is turned on/off immediately.



**2.2.4 Power-up again after power failure:** The ballast lamp keeps ON.







#### Notes:

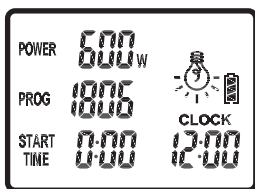
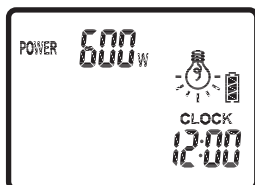
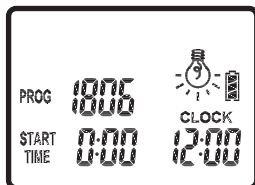
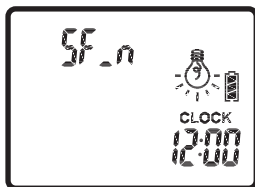
- When the ballast operates in the Bypass mode in the non-setting state, the panel screen displays the target power and "ByPA" alternately.
- It is strongly recommended set the ballast in the Bypass mode when the ballast is controlled by the external controller or timer. The Timer mode can still be set, but the Timer control of the ballast may be subject to conflict against the external power supply control equipment.

## 3. Operation Instructions

Both the ballast and the remote control have two states: setting state and non-setting state. In the setting state, the relevant parameters will flash, which indicates that they can be modified. You can enter the setting state from the non-setting state by pressing the corresponding buttons to further modify relevant parameters, confirm whether the parameters are effective or not, then exit the setting state.

In the non-setting state, you can press **[MENU]** to enter the setting state to set the "Program", "Start Time" and "Sun Function". The knob can adjust the flashing parameter. Press  to confirm relevant setting. Press **[MENU]** to give up relevant setting and enter next parameter adjustment "Sun Function", you can press  or **[MENU]** again to exit the setting state and return to non-setting state. The confirmed parameter will take effect immediately, the unconfirmed parameter will keep previous setting. In setting state, if you don't press any buttons after a while, the ballast will exit the setting state automatically. Accordingly, the confirmed parameter will take effect immediately, the unconfirmed parameter will keep previous setting.


There are four interfaces of remote control: "Full Information", "Power Adjustment", "Timer Adjustment" and "Sun Function". In the non-setting state, you can switch to other interfaces by pressing relevant buttons. If you switch to the other three interfaces except the "Full Information", you will directly enter the setting state; otherwise, the remote control is in the non-setting state. In the non-setting state of the "Full Information", press **[MENU]** to enter the "Full Information" setting state. You cannot switch to other interfaces in the setting state, but you can press  and  to adjust the flashing parameter, press  and  to change the setting items, and press  to confirm the modification, send the parameters on the screen and return to non-setting state. Then you can press  to copy and send same signal to other ballasts.

**Full Information****Entering setting:** MENU**Purpose:** one-time main parameters setting (Sun Function not included), send/copy.**Note:** Press MENU in the setting state, the modification will not be saved, and the remote control will exit the setting state automatically.**Power Adjustment****Entering setting:** ▲ ▼**Purpose:** power setting, send/copy.**Note:** Press MENU in the setting state, the modification will not be saved, and the remote control will exit the setting state automatically.**Timer Adjustment****Entering setting:** TIMER**Purpose:** Timer parameter setting, send/copy.**Note:** TIMER or MENU in the setting state, the modification will not be saved, and the ballast will exit the setting state automatically.**Sun Function****Entering setting:** Long-press MENU**Purpose:** Sun Function setting, send/copy.**Note:** Press MENU in the setting state, the modification will not be saved, and the remote control will exit the setting state automatically.**Notes:**

- The Send icon on the upper right part of the screen will flash during sending.
- When the remote control is not operated after a while in the setting state, the remote control will exit to the non-setting state automatically, and the previous modification will not be saved.
- When the remote control is not operated after a while in the non-setting state, the remote control will enter the power saving mode automatically, the screen will be turned off. You can press any button to return to the previous image.



### 3.1 ON/OFF commands:

You can long-press  in the non-setting state to switch to the ON/OFF state of the ballast. You can press  or  of the remote control to send ON or OFF commands, and the lamp icon on the screen will show ON or OFF. The ON indicator on the panel will indicate the working state of the ballast. Refer to Table 3.

### 3.2 Power adjustment:

The output power of the ballast can be adjusted by the knob in the non-setting state. You can enter "Full Information" and "Power Adjustment" of the remote control to adjust the power. Long-press  or  to increase/decrease power rapidly. You can also press  or  to directly set the maximum or minimum power and send to the ballast.

### 3.3 Clock modification of the remote control:

You can long-press  to adjust the Clock by  or  and  or  and press  to confirm the modification and exit setting, press  to exit setting without saving modification. The "CLOCK" and "12:00" on the screen will flash after batteries replacement, indicating that the Clock should be reset.

**Notes:**

- Clock/Start Time of Remote Control is 24-hour mode.
- Please set the Clock as correct local time to ensure the ballast ON/OFF time.



### 3.4 Working mode and operating parameters modification of the ballast:

Press the buttons on the panel to enter the setting state, modify the "Program", "Timer" and "Sun function", and then select to confirm and make it effective. You can also modify and confirm the parameters and send such parameters to the ballast by remote control.

**Notes:**

- The ballast will not receive any remote control information to avoid conflicts in the setting state.







### 3.5 Check the working parameters of the ballast:

In the non-setting state of the ballast, you can press  to check the Program parameter, press it again to check the Sun Function parameter, press it once more to exit the check state. If there is no instructions in the check state after a while, the ballast will exit the check state automatically and return to the non-setting state. Similarly, you can press  in the non-setting state of the remote control to achieve the same effects as  of the ballast.


## 4. Troubleshooting

### 4.1

In case of failure, the ballast will stop working, the screen will show the error code (refer to Table 7), and alarm about 1 min..To stop the alarm, you can either press any buttons on the ballast or press **CLOCK/CHECK** on the remote control in the non-setting state.

Error Code	Display Icons	Possible Reason	Troubleshooting
Err3		Over-voltage.	Cut off the electricity, check the input voltage of the local power grid, and then power up the ballast again.
Err4		Under-voltage.	Cut off the electricity, check the input voltage of the local power grid, and then power up the ballast again.
Err5		Lamp over-heating, or poor connection	Cut off the electricity, check connecting wire or replace the lamp, and then power up the ballast again.
Err6		Over-temperature of ballast	Cut off the electricity, and power up the electronic ballast after it is completely cooled.
Err7		Short circuit of the lamp or output circuit	Cut off the electricity, check the lamp and connection, and then power up the ballast again.
Err8		Error of the timer panel module and the communication of the electronic ballast	Cut off the electricity, check the connection to ensure that the two parts are fitted with each other, and then power up the ballast again.

### 4.2

If the lamp cannot be turned on as a result of over-heating, you need to wait to light up again until the lamp is cooled. And the screen display  in sequence. When the lamp is turned on successfully again, the screen will be recovered. During the waiting period, the ON indicator on the panel will be ON, indicating that the ballast is in the ON phase at present. If the lamp cannot be turned on successfully after a while, the ballast will alarm.

## 5. Default Settings

### 5.1 Electronic Ballast:

Program will be Bypass, Power will be 600W, Disable Sun Function.

### 5.2 Remote Control (including batteries replacement):

Program will be Bypass, Power will be 600W, Clock will be 12:00, Disable Sun Function.

### WARNINGS

- The output power cannot be adjusted to exceed 110% of the rated power of the lamp for safety reason. For example, when the 400W lamp is used, the output power of the ballast cannot exceed 440W; otherwise, the lamp will be damaged.
- When the ballast operates in the Timer mode, the Start Time and Stop Time will not be maintained in the following cases, but the Program parameter will be maintained. The default power-up time of the ballast is the new Start Time. Then the RESET indicator will flash to remind you to reset the Start Time.
  - When the duration of power failure exceeds 5 hours and the ballast is powered up again.
  - When the duration of power failure exceeds 5 hours, power failure occurs again within 1 hour after being powered up again, and the ballast is powered up again regardless of the duration of the second power failure.
- Pictures for reference only, please subject to our available products.



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