

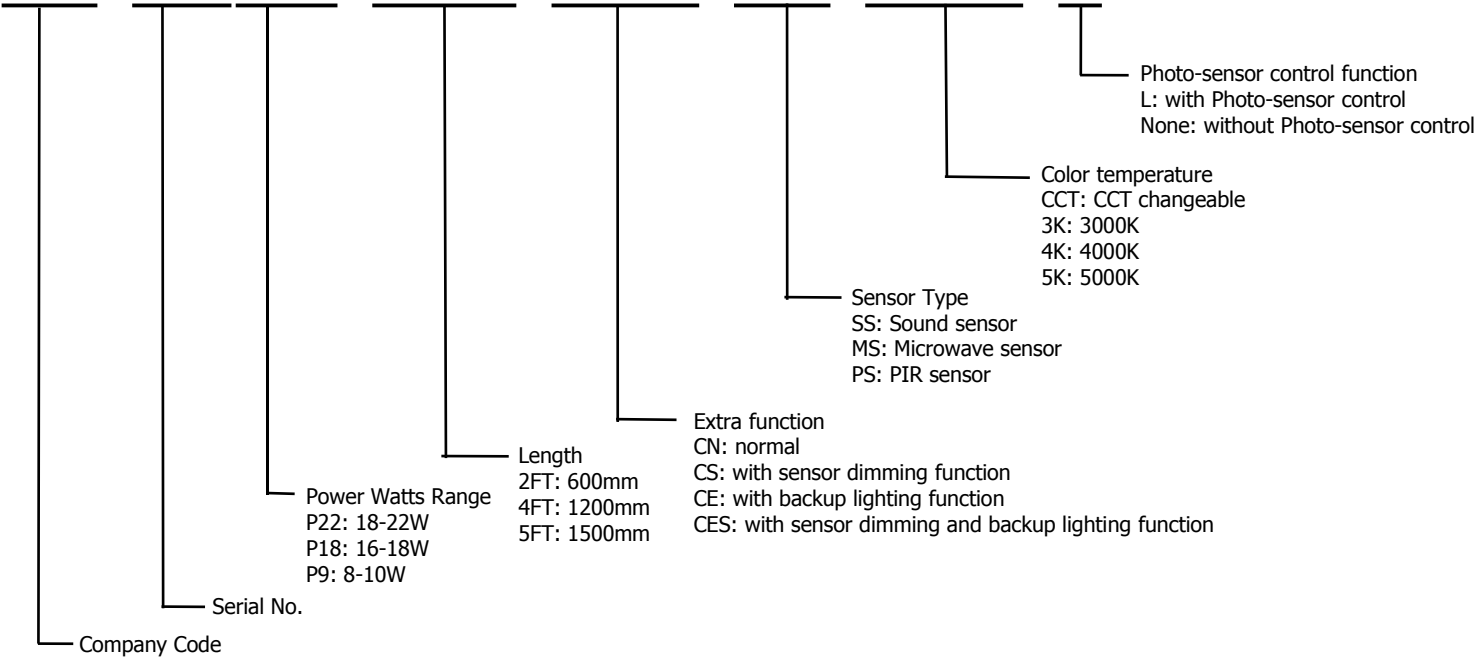
Important safeguard measurements

Precautions:

- 1. Please comply with the laws and regulations of associated countries and regions when installing this ULTIMATE T8 Tube.
- 2. Please turn off the power before installation or maintenance.
- 3. Proper grounding is required to ensure safety.
- 4. In order to prevent the risk of electric shock or fire, installation must be carried on professional operators with required electrical knowledge.
- 5. Please wear gloves before installing tubes, avoiding injury.
- 6. Please contact with seller/agent immediately if any damage happened during transportation.
- 7. Please carefully reading installation instruction and checking if no accessories is missing. Then following instruction steps to install the tube.
- 8. If smoke or spark are found during using, please immediately turn off the power and notify relevant person.
- 9. INGESTION HAZARD: If model contains a button cell or coin battery, please keep new and used batteries OUT OF REACH of CHILDREN. Death or serious injury can occur if ingested. Seek immediate medical attention if a battery is suspected to be swallowed or inserted inside any part of the body.
- 10. Backup tube lighting should be installed and powered within a reasonable time frame after purchased (within 6 months)as long time storage without recharging may shorten inside backup battery lifespan, even damage battery.
- 11. Leaving emergency backup battery in fully discharged state for long time will damage battery.

Model Description: ULTIMATE T8 LED Tube

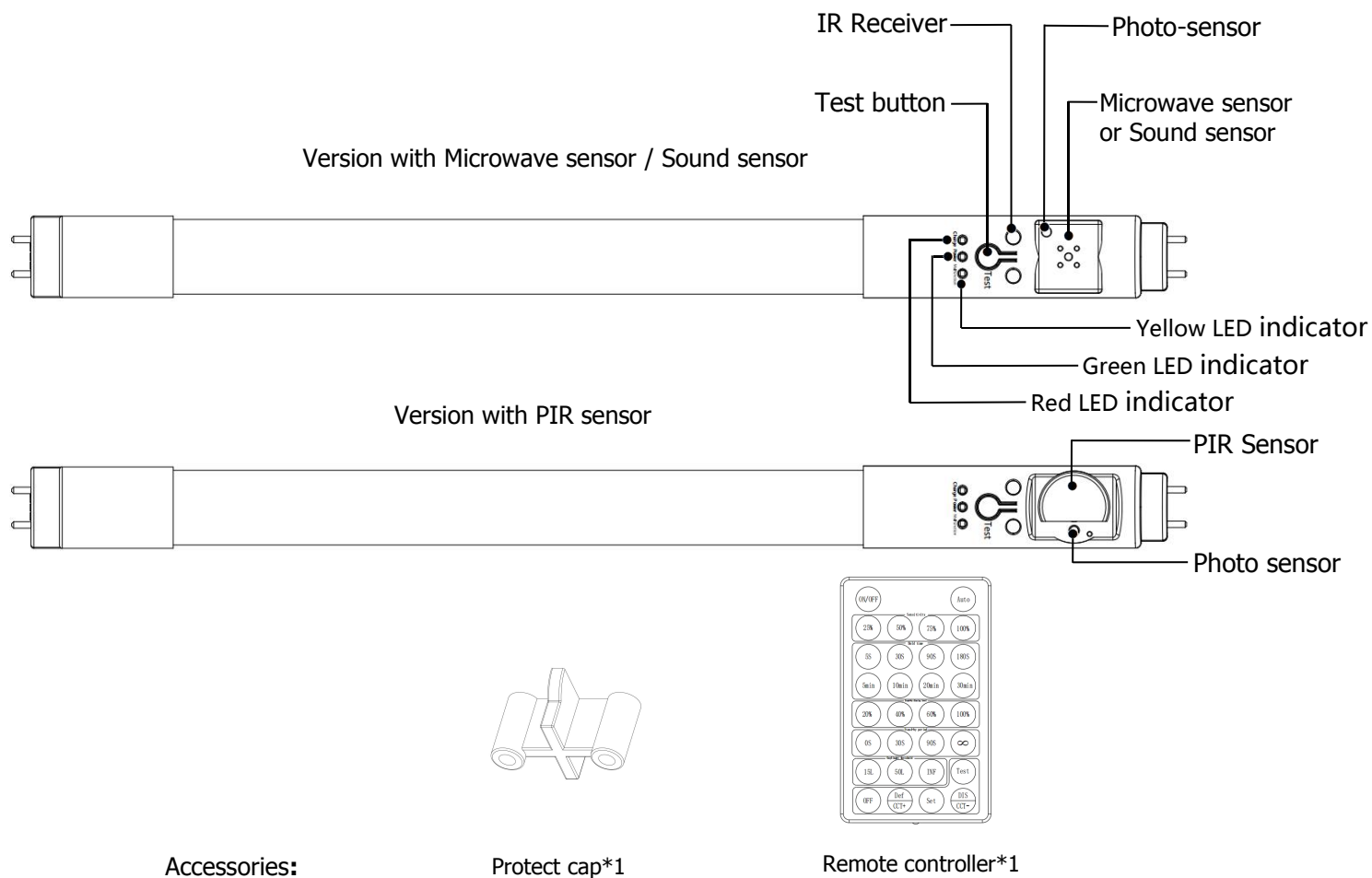
ZL-T1P9-2FT-CES-SS-CCT-L



Optional Functions(See Model Description):

- 1. Sensor dimming function
- 2. Color temperature changeable function
- 3. Backup lighting function
- 4. Photo-sensor control function

Only tubes with "CS" or "CES" in the model number are equipped with sensor.
Only tubes with "CE" or "CES" in the model number are equipped with emergency backup battery.
Only tubes with "CCT" in the model number are equipped with CCT changeable function.
Only tubes with "L" in the model number are equipped with photo-sensor control function.



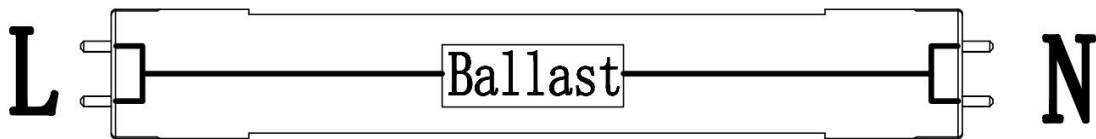
- 1, Green, Red, Yellow LED Indicators are for parameters setting indication and backup lighting indication(if has backup lighting function).
- 2, Test Button is for setting parameters and Emergency manual test(if has backup lighting function).
- 3, Photo sensor is for detecting ambient light .
- 4, PIR sensor is for detecting motion.
- 5, Microwave sensor is for detecting motion.
- 6, Sound sensor is for detecting ambient sound.
- 7, IR Receiver is for Remoter controller receiver.

Notice:

- 1, The Photo sensor detects the ambient lux. The factory default threshold is set to 15 lux and disable the Photo sensor control function. However, factors such as dust accumulation and covers may significantly affect this threshold value if enable the Photo sensor control function.
- 2, PIR motion sensor detects infrared waves of human body temperature, so if the ambient temperature is too high or close to human body temperature, PIR sensor detection sensitivity will be decrease and wrong detecting. Due to PIR motion sensor requests to exposed, **it is not recommended to install ULTIMATE T8 LED Tube with PIR motion sensor into housing with lampshade, as the lampshade will affect the detection of the PIR motion sensor.** It is recommended to use ULTIMATE T8 LED Tube with Microwave motion sensor if need installation into housing with lampshade.
- 3, Microwave motion sensor detects the reflected microwave signal echoes from moving objects. It is significantly different from traditional PIR passive motion sensors. It can be interfered by RF signals(such as WiFi router). Keep at least 1 meter distance from RF device. Vibrating devices may always trigger microwave sensor action (such as fan, vent, big machine), keep the vibrating devices outside of microwave sensor detection range when installation. Microwave signal can partly go through wooden, glass, plastic (except metal or concrete). Such as glass windows, wooden ceiling or wooden cabinet door. **Please avoid to install ULTIMATE T8 LED Tube with Microwave motion sensor on wooden/glass ceiling if movement or vibration may happened on top floor.**
- 4, The sound sensor detects ambient sounds within 20-20kHz, The factory default threshold is set to 40-50 decibels. However, due to varying levels of background noise and different sound frequencies, the threshold may change some bit in actual using. Due to sound sensor need pick up the ambient sounds, **it is not recommended to install ULTIMATE T8 LED Tube with sound sensor into housing with sealed lampshade,** as the sealed lampshade will affect sound detection.

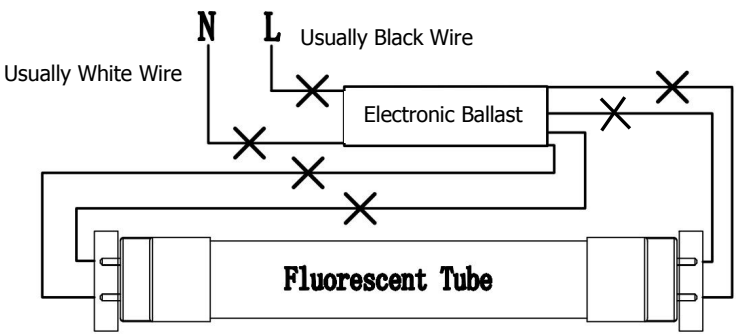
Wiring instruction:

L: Live line N: Neutral line

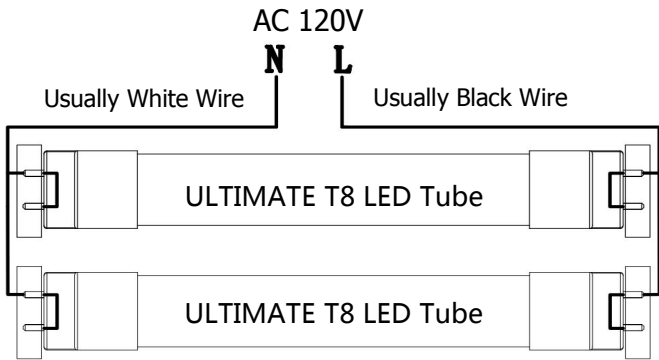
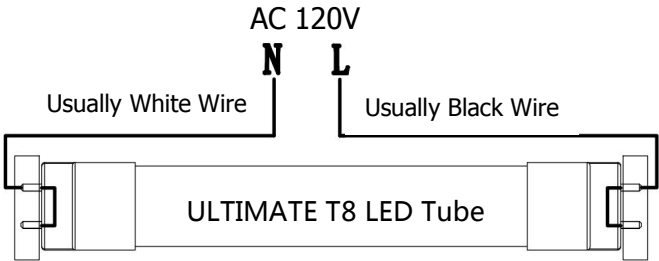


Inside wiring of ULTIMATE T8 LED Tube

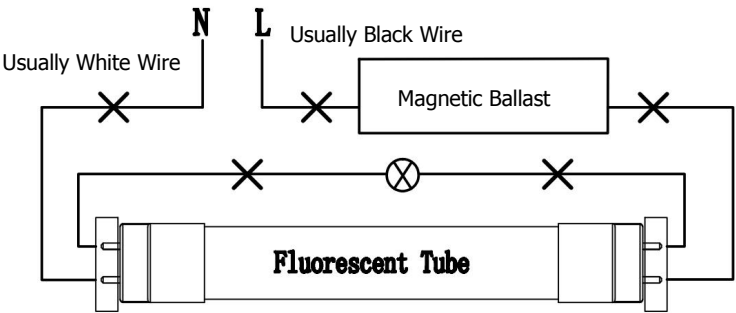
Electronic Ballast
Before



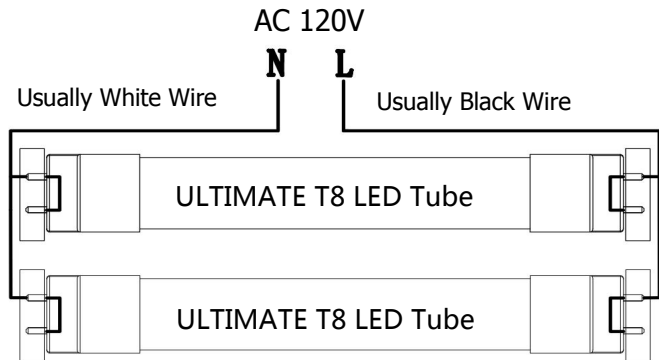
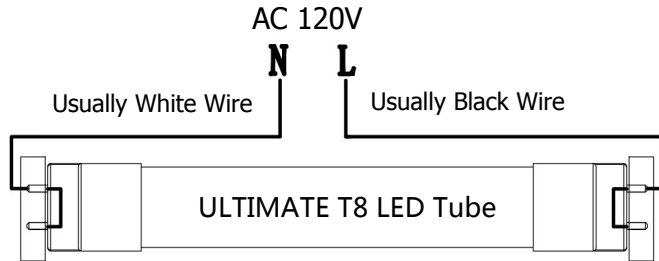
Electronic Ballast
After



Magnetic Ballast
Before



Magnetic Ballast
After



Installing instruction:

Please make sure the fixture or retrofit are already pre-wired in right suitable way according to above wiring instruction requirements and switch off the power before this installation.

Step 1: Remove the protect caps.(Figure 1)

Step 2: Check the label on ULTIMATE T8 LED Tube, see how the main power get into tube from G13 pins and also check if ULTIMATE T8 LED Tube match with above retrofit or fixture wiring(Figure 2).

Step 3: Insert one end of ULTIMATE T8 LED Tube diagonally into tombstone on retrofit or fixture, and rotate ULTIMATE T8 LED Tube to lock tube in tombstones. Don't touch G13 pins during installation.(Figure 3、 4)

Figure1

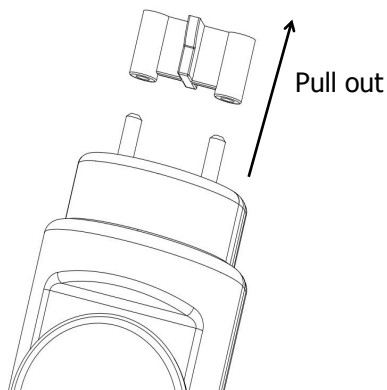


Figure2



Figure3

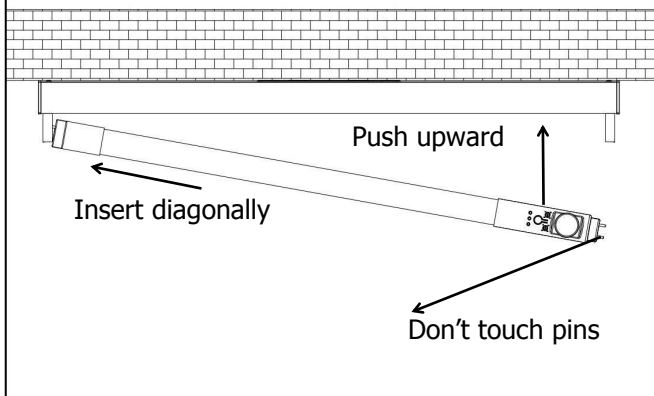
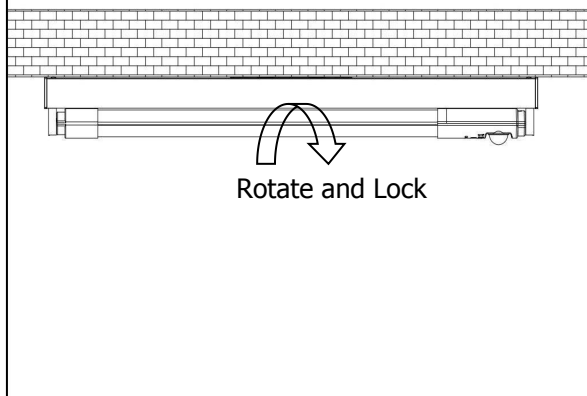


Figure4



Instruction of Remote controller:
(For Partial Models Only, See Model Description)

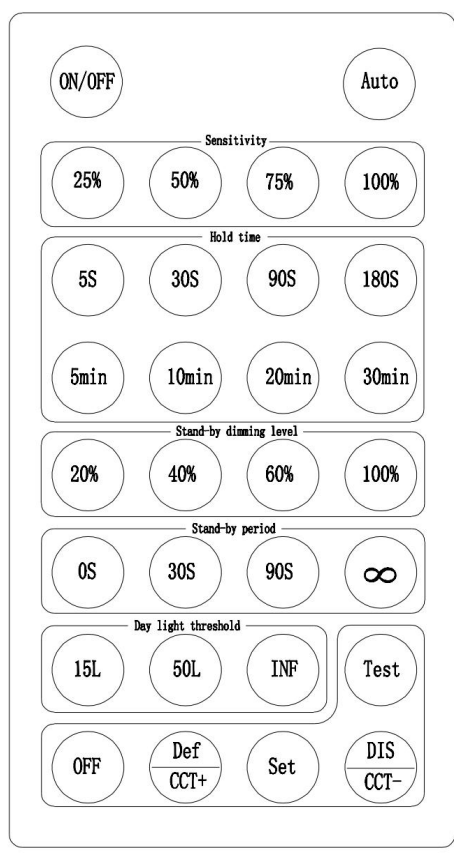
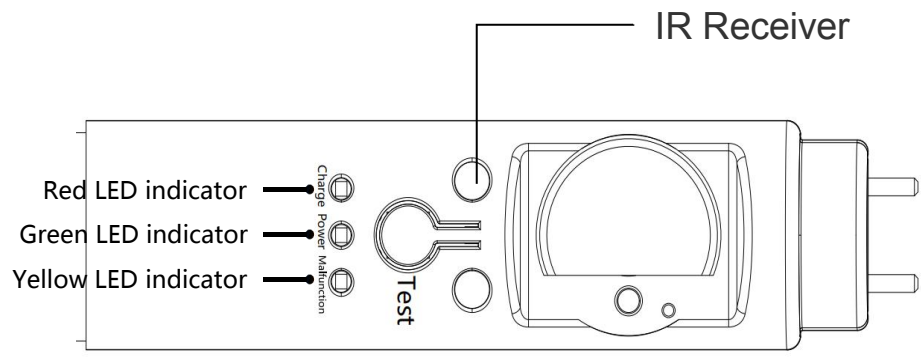


Figure5

Note: Parameters were successfully set if observing the luminaire flashing once after corresponding button on remote controller be pressed.

Remote controller size: 84.5*51.5*7.5mm
Powered with CR2025/3V Battery

Remote controller Instruction	Only models with corresponding functions can be set by the corresponding setting buttons(See Model Description).	
Normal lighting setting (only can be set under normal lighting mode)		
	Turn ON/OFF ULTIMATE T8 LED Tube function	
	Automatic Setting(short press this button to set all default parameters to ULTIMATE T8 LED Tube) Factory Default Parameters: Hold time: 30 seconds; (only for model with sensor dimming function) Twilight brightness percentage: 20%; (only for model with sensor dimming function) Twilight Stand-by time: infinity; (only for model with sensor dimming function) Color temperature: 5000K; (only for model with Color temperature changeable function) Photo sensor control function: disable; (only for model with Photo-sensor control function) Self-test period: Disable ; (only for model with backup lighting function) Self-test time standard: 90mins; (only for model with backup lighting function)	
Detection sensitivity setting	Detection sensitivity setting For setting the sensitivity of sensors detection, the lower of the sensitivity set, the short distance of sensor can detect.	
	For different models products, not used in this ULTIMATE T8 LED Tube.	
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Hold time setting	Hold time setting The time of ULTIMATE T8 LED Tube remain 100% brightness when moving objects or sound leave or stop.	
	Set the hold time to 5 seconds, if no movement or sound detected during this time, the ULTIMATE T8 LED Tube will switch to the twilight or switch off(depend on Stand-by period setting).	
	Set the hold time to 30 seconds, if no movement or sound detected during this time, the ULTIMATE T8 LED Tube will switch to the twilight or switch off(depend on Stand-by period setting).	
	Set the hold time to 90 seconds, if no movement or sound detected during this time, the ULTIMATE T8 LED Tube will switch to the twilight or switch off(depend on Stand-by period setting).	
	Set the hold time to 180 seconds, if no movement or sound detected during this time, the ULTIMATE T8 LED Tube will switch to the twilight or switch off(depend on Stand-by period setting).	
	Set the hold time to 5mins, if no movement or sound detected during this time, the ULTIMATE T8 LED Tube will switch to the twilight or switch off(depend on Stand-by period setting).	
	Set the hold time to 10mins, if no movement or sound detected during this time, the ULTIMATE T8 LED Tube will switch to the twilight or switch off(depend on Stand-by period setting).	
	Set the hold time to 20mins, if no movement or sound detected during this time, the ULTIMATE T8 LED Tube will switch to the twilight or switch off(depend on Stand-by period setting).	
	Set the hold time to 30mins, if no movement or sound detected during this time, the ULTIMATE T8 LED Tube will switch to the twilight or switch off(depend on Stand-by period setting).	
Twilight brightness level setting	Twilight brightness percentage setting Set percentage of full brightness when ULTIMATE T8 LED Tube dimming to twilight.	
	Set the twilight brightness percentage to 20% of full brightness when dim to twilight.	
	Set the twilight brightness percentage to 40% of full brightness when dim to twilight.	
	Set the twilight brightness percentage to 60% of full brightness when dim to twilight.	
	Set the twilight brightness percentage to 100% of full brightness when dim to twilight.	

Twilight Stand-by time setting	Twilight Stand-by time setting The time of ULTIMATE T8 LED Tube remain twilight before switch off.
0S	Set twilight stand-by time to 0 seconds, it means the ULTIMATE T8 LED Tube will directly switch off without entering into twilight step.
30S	Set twilight stand-by time to 30 seconds, the ULTIMATE T8 LED Tube will switch off from twilight if no movement or sound detected during this time.
90S	Set twilight stand-by time to 90 seconds, the ULTIMATE T8 LED Tube will switch off from twilight if no movement or sound detected during this time.
∞	Set twilight stand-by time to infinity, it means the ULTIMATE T8 LED Tube will always keep twilight if no movement or sound detected.
Photo sensor threshold setting	Photo sensor threshold value setting The value of photo sensor detecting ambient lumen when the ULTIMATE T8 LED Tube is off.
15L	Set 15lux as threshold value of ambient illuminance, the ULTIMATE T8 LED Tube will switch off when actual ambient illuminance is above 15lux even if the movement or sound was detected.
50L	Set 50lux as threshold value of ambient illuminance, the ULTIMATE T8 LED Tube will switch off when actual ambient illuminance is above 50lux even if the movement or sound was detected.
INF	Set infinity lux as threshold value of ambient illuminance. It means disable the Photo sensor control function.
Color temperature setting	Color temperature change setting Set normal lighting color temperature.
Def CCT+	Stepless CCT Increase Change The ULTIMATE T8 LED Tube will increase 10% color temperature towards 5000K when this button was short pressed.
SET	Quick CCT Change Setting The ULTIMATE T8 LED Tube will cycle through 3000K, 4000K and 5000K color temperatures setting with each time this button be short pressed(3000K-4000K-5000K-3000K)
DIS CCT-	Stepless CCT Decrease Change The ULTIMATE T8 LED Tube will decrease 10% color temperature towards 3000K when this button was short pressed.
TEST	Simulated backup lighting testing function: Short press this button,the ULTIMATE T8 LED Tube will simulate main supply failed and enter into backup lighting mode for 3 seconds then back to previous status.
Backup lighting setting (only can be set under backup lighting mode if model has this function)	
OFF	Switch off backup lighting when under backup mode(after AC power failed): Short press this button, the ULTIMATE T8 LED Tube will switch backup lighting off.
Def CCT+	Reset backup lighting setting(short press this button to reset backup lighting default parameters to ULTIMATE T8 LED Tube) backup lighting default parameters: Self-test period: Disable (disable self-test) Self-test time standard: 90mins
SET	Self-test period setting(operation with caution for non-specialists): all three LED indicators will flash 3 time synchronously when this button be short pressed and the ULTIMATE T8 LED Tube enter into Self-test period setting mode, the backup lighting will flash to indicate current Self-test period value as bellow: Disable-- flash once 1months--flash twice 6months--flash 3 times 12months--flash 4 times The Self-test period value will cycle through Disable, 1months, 6months and 12months setting with each time this button be short pressed during backup lighting flashing(Disable-1months-6months-12months-Disable, start from current time) After backup lighting flash 3 cycles in one certain setting without press this button, then all three LED indicators will flash 3 time synchronously and quit from setting mode, the ULTIMATE T8 LED Tube will back to previous status.
DIS CCT-	Self-test time standard setting(operation with caution for non-specialists): All three LED indicators will flash 3 time synchronously when this button be short pressed and the ULTIMATE T8 LED Tube enter into Self-test time standard setting mode, the backup lighting will flash to indicate current Self-test time standard value as bellow: 60mins--flash once 90mins--flash twice 120mins--flash 3 times 180mins--flash 4 times 3mins--flash 5 times The Self-test time standard value will cycle through 60mins,90mins,120mins,180mins and 3mins setting with each time this button be short pressed during backup lighting flashing(60mins-90mins-120mins-180mins-3mins-60mins). After backup lighting flash 3 cycles in one certain setting without press this button, then all three LED indicators will flash 3 time synchronously and quit from setting mode, the ULTIMATE T8 LED Tube will back to previous status.

Color Temperature Change Setting Instruction:

(For Partial Models Only, See Model Description)

- 1) By pressing different buttons on the remote controller, Color Temperature parameters can be precisely set by users for each specific application, see more details at remote controller instruction part.
- 2) Color temperature of ULTIMATE T8 LED Tube can be also cycle levels changed by using physical test button on tube, changing settings as follow:

(1) Press the test button 2 times within 3 seconds under Normal lighting state, all three LED indicators will flash 3 times synchronously and the ULTIMATE T8 LED Tube enter into color temperature change setting mode. Yellow and Green LED indicators will flash synchronously (Flash Pattern as below). Each flash pattern will keep 3 times, if no test button pressed then all three LED indicators will flash 3 times synchronously and quit from setting. If short press test button once during any flash pattern, it will cyclically change to another next flash pattern. Different flash pattern shows different color temperature setting was set and remembered.

Flash once (2 seconds ON, 1 seconds OFF) : CCT was set to: 3000K

Flash twice (2 seconds ON, 1 seconds OFF): CCT was set to: 3500K

Flash three times (2 seconds ON, 1 seconds OFF): CCT was set to: 4000K

Flash four times (2 seconds ON, 1 seconds OFF): CCT was set to: 4500K

Flash five times (2 seconds ON, 1 seconds OFF): CCT was set to: 5000K

Flash six times (2 seconds ON, 1 seconds OFF): CCT was set to: other CCT

(2) Wake up backup lighting when without AC powered (If model with backup lighting function, see backup lighting instruction). Press the test button 2 times within 3 seconds , all three LED indicators will flash 3 times synchronously and the ULTIMATE T8 LED Tube also enter into color temperature change setting mode. All other setting steps are same with above.

Photo-sensor control Setting:

(For Partial Models Only, See Model Description)

- 1) By pressing different buttons on the remote controller, Photo-sensor control parameters can be precisely set by users for each specific application , see more details at remote controller instruction part.
- 2) Photo-sensor control setting of ULTIMATE T8 LED Tube can be also changed by using physical test button under Normal lighting mode or backup lighting mode. Changing settings as follow:

(1) Press the test button 4 times within 3 seconds under Normal lighting mode, Green LED indicator will flash 3 times, the Photo-sensor control function will be disabled if current setting is enable or enabled if current setting is disable. Meanwhile Photo sensor threshold value be set at 15lux. Then automatically quit from setting.

(2) Wake up backup lighting when without AC powered (If model with backup lighting function, see backup lighting instruction). Press the test button 4 times within 3 seconds, Green LED indicator will flash 3 times, the Photo-sensor control function will be disabled if current setting is enable or enabled if current setting is disable. Meanwhile Photo sensor threshold value be set at 15lux, then automatically quit from setting.

Reset factory default parameters:

- 1) By pressing "  " button on the remote controller under normal lighting mode, factory default parameters will be reset, see more details at remote controller instruction part.
- 2) By pressing "  " button on the remote controller under backup lighting mode, factory default parameters related to backup lighting will be reset.
- 3) Parameters of ULTIMATE T8 LED Tube can be also reset by using physical test button under Normal lighting mode, press the physical test button 3 times within 3 seconds, Yellow and Red LED indicators will flash synchronously 3 times, the parameters will be reset as bellow table shows, then automatically quit from setting:

Paramaters	Default value
Color Temperature	5000K (only for model with Color temperature changeable function)
Sensor dimming Hold time	30S (only for model with sensor dimming function)
Sensor dimming Twilight standby time	Infinity (only for model with sensor dimming function)
Photo Sensor control	infinity(Disable) (only for model with Photo-sensor control function)
Self-test period	Disable (only for model with backup lighting function)
Discharge time standard	90mins (only for model with backup lighting function)

Mircowave/PIR/Sound Sensor Dimming Parameters Setting:

(For Partial Models Only, See Model Description)

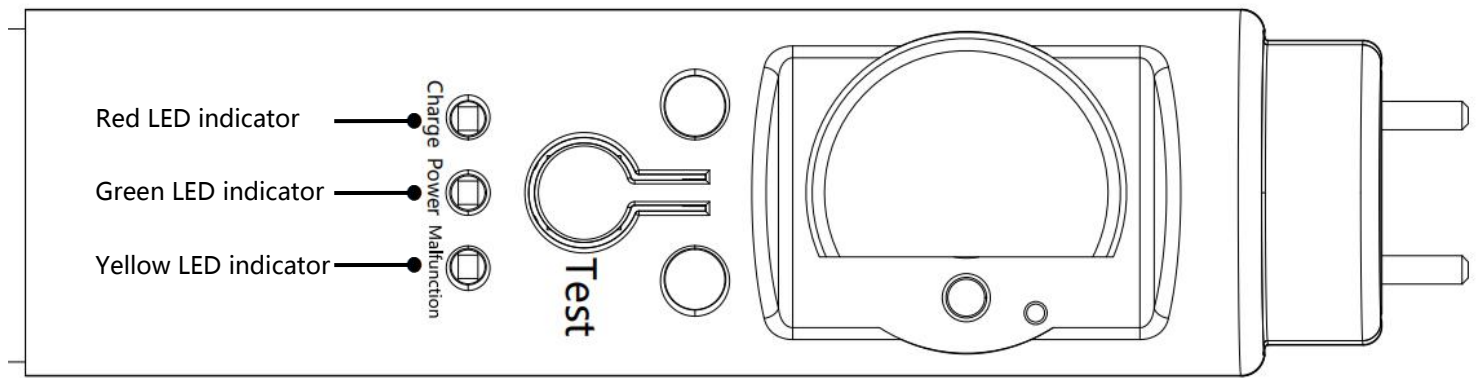
By pressing different buttons on the remote controller, sensor dimming parameters can be precisely set by users for each specific application, see more details at remote controller instruction part.

Here are typical examples of sensor dimming settings for some specific applications:

Luminaire brightness Mode	Setting Operation
Example 1 : Luminaire brightness Always 100% ON mode	press Hold time setting zone:  --->press Twilight brightness level setting zone:  ---> press Twilight Stand-by time setting zone:  Luminaire will always keep 100% brightness whatever movement or sound detected or not. (disable sensor dimming)
Example 2 : Luminaire brightness at 100%--twilight mode	press Hold time setting zone:  --->press Twilight brightness level setting zone:  ---> press Twilight Stand-by time setting zone:  Luminaire will always keep 20% brightness after 30 seconds if no movement or sound detected.
Example 3 : Luminaire brightness at ON--OFF mode	press Hold time setting zone:  --->press Twilight brightness level setting zone:  ---> press Twilight Stand-by time setting zone:  Luminaire will always keep OFF after 30 seconds if no movement or sound detected.
Example 4 : Luminaire brightness at 100%--twilight--OFF mode	press Hold time setting zone:  --->press Twilight brightness level setting zone:  ---> press Twilight Stand-by time setting zone:  The luminaire will switch to 20% brightness after 30 seconds when no movement or sound detected, then Luminaire will switch OFF after 30 seconds if still no movement or sound detected at 20% brightness state. If any movement or sound was detected, luminaire will switch to 100% brightness.

Backup lighting instruction:

(For Partial Models Only , See Model Description)



1, Green LED Indicator

LED On: Main supply on and battery was full charged or battery disconnected

LED Off: Main supply off or battery is in charging

2, Red LED Indicator

LED On: Main supply on and Battery is in charging

LED Off: Battery was full charged or Main supply off or battery disconnected

3, Yellow LED Indicator(fault indication)

LED Continuously On: indicates work normal

LED slow flash: indicates self-test carried out recently within 6 days and passed

LED fast flash: indicates latest self-test carried out recently and failed

LED Off: Main supply off

1) Slow flash(4 seconds ON, 1 second OFF) indicates self-test carried out within 6 days and self-test passed. This state will keep 6 days after last self-test finished. Then change to continuous on.

2) Fast flash(0.5 second ON, 0.5 second OFF) indicates latest self-test failed. This state will keep until next self-test passed.

(Self-test: the ULTIMATE T8 LED Tube will automatic discharge once every set Self-test period reached, discharge time will according to which Self-test time standard level was set. If discharge time more than set Self-test time standard, self-test passed otherwise self-test failed. Yellow LED Indicator will indicate this result after every self-test.)

4, Simulated backup lighting testing function

1) Short press the "Test" button on remoter controller once, the ULTIMATE T8 LED Tube will also simulate main supply failed and enter into backup lighting mode for 3 seconds, then auto quit from backup lighting mode.

2) Or press the physical test button on tube and hold on more than 1.5 seconds under Normal lighting mode, the ULTIMATE T8 LED Tube will simulate main supply failed and enter into backup lighting mode. Release test button, the ULTIMATE T8 LED Tube will quit from backup lighting mode.

5, Force self-test

Press the physical test button on tube and hold on more than 10 seconds under Normal lighting mode, the ULTIMATE T8 LED Tube will work under self-test mode. Release test button, the ULTIMATE T8 LED Tube will back to previous status until self-test finished. Force self-test result will be indicated by Yellow LED indicator after finished.

6, Switch off backup lighting when under backup lighting mode

- 1) Short press "OFF" button on remoter controller once, the ULTIMATE T8 LED Tube will switch backup lighting off after flash 3 times.
- 2) Or Within 30 minutes after main power failed, press the physical test button 3 times in 3 seconds, the ULTIMATE T8 LED Tube will switch backup lighting off after flash 3 times.

7, Wake up backup lighting when without AC powered

Short press physical test button on tube 3 times in 3seconds without AC powered, the ULTIMATE T8 LED Tube will enter into backup lighting mode for 5mins (it will automatically switch backup lighting off after 5mins or Short press test button 3 times in 3seconds to switch it off).

8, Shut off normal lighting by Wall Switch quickly OFF->ON action

When the ULTIMATE T8 LED Tube is powered on and working normally, quickly switch it OFF and then switch it ON again within 3 seconds, the ULTIMATE T8 LED Tube will turn off the normal lighting and maintain charging state, see bellow figures:

