

CONTROLLER

OPERATING MANUAL

ION EB-L2-W | 0-10V COMPATIBLE

PLEASE READ THESE INSTRUCTIONS BEFORE INSTALLATION AND USE

PRODUCT COMPONENTS



Controller EB-L2-W



5V DC power adapter (2A)



2x Temperature sensor with cable (5m/16ft)



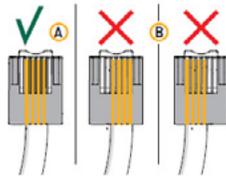
2x Controller cable (5m/16ft)



Bracket

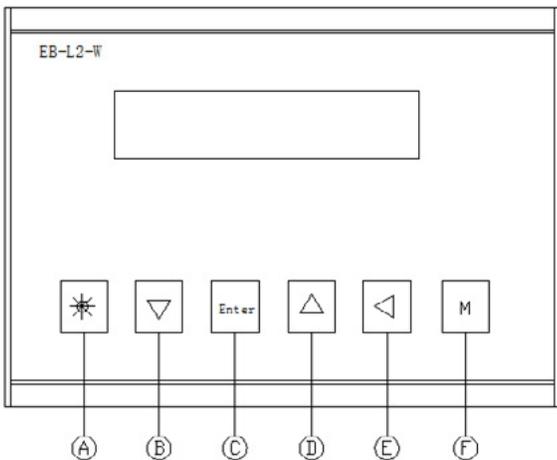
RJ9 (4P4C) plug (connect to controller)

RJ14 (6P4C) plug (connect to ballasts)



Push the four wires into the middle openings of a RJ14 plug. The orientation of the plug does not matter as long as the wires are entered in the central four openings.

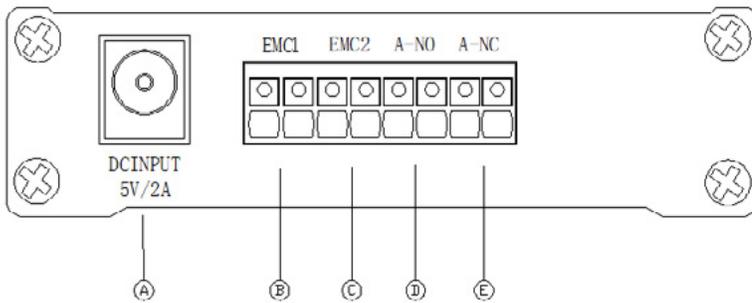
CONTROLS



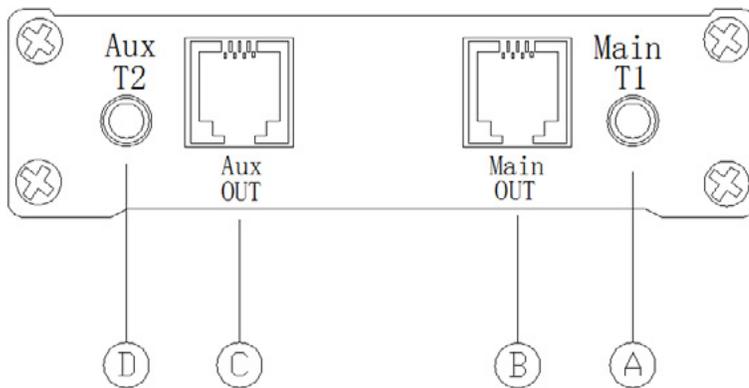
	KEY	
A	Quick-key	View and adjust output level
B	Down	Navigate down in menu/decrease value
C	Enter	Go to menu/confirm
D	Up	Navigate up in menu/increase value
E	Back	Navigate back in menu/cancel/reset
F	M	0-10V main menu and PLC main menu conversion



CONNECTIONS



- A. 5V DC input
- B. Cage clamp connector ECM1 (output is active when main channel is on)
- C. Cage clamp connector ECM2 (output is active when main channel is off)
- D. Cage clamp alarm normally open (potential free contact)
- E. Cage clamp alarm normally closed (potential free contact)
- F. Antenna



- A. 3.5 mm jack main temperature sensor (T1)
- B. RJ9 (4P4C) Main port for controlling up to 40 ballasts
- C. RJ9 (4P4C) Auxiliary port for controlling up to 40 ballasts
- D. 3.5 mm jack auxiliary temperature sensor (T2)

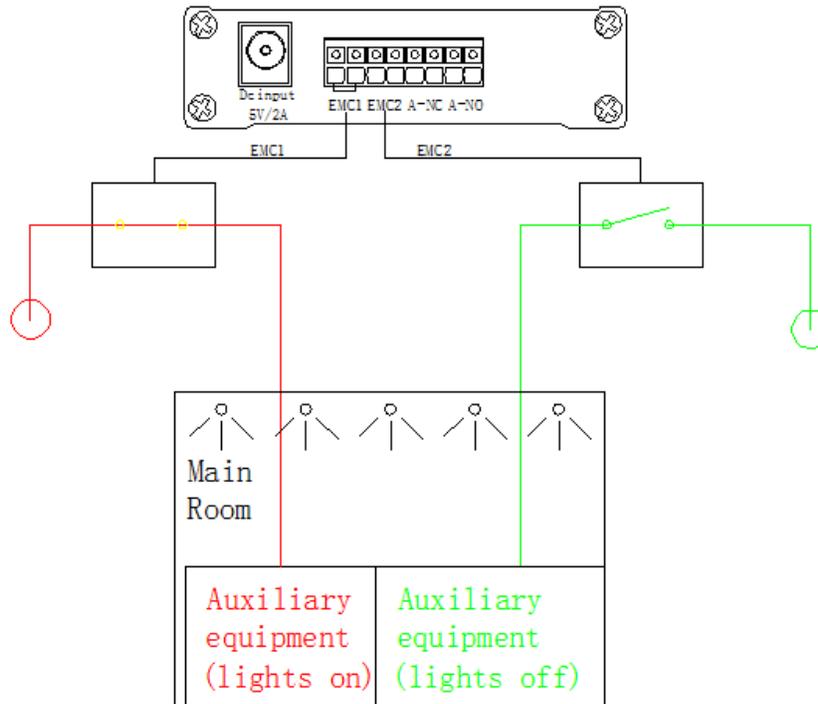
CONNECTING THE CONTROLLER TO EXTERNAL CONTACTOR MODULES

	OUTPUT MODE										
	OFF	ON	INVERSE MODE				FOLLOW MODE				
			MAIN WORK		AUX WORK		MAIN AND AUX WORK		MAIN (AUX) NO WORKING		
			OK	A TEMP SHUTDOWN A SENSOR FAILURE NO POWER	OK	A TEMP SHUTDOWN A SENSOR FAILURE NO POWER	OK	A TEMP SHUTDOWN A SENSOR FAILURE NO POWER	OK	A TEMP SHUTDOWN A SENSOR FAILURE NO POWER	
EMC1	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
EMC2	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	ON	OFF
A-NO	OFF	OFF	OFF	ON	OFF	ON	OFF	ON	OFF	OFF	ON

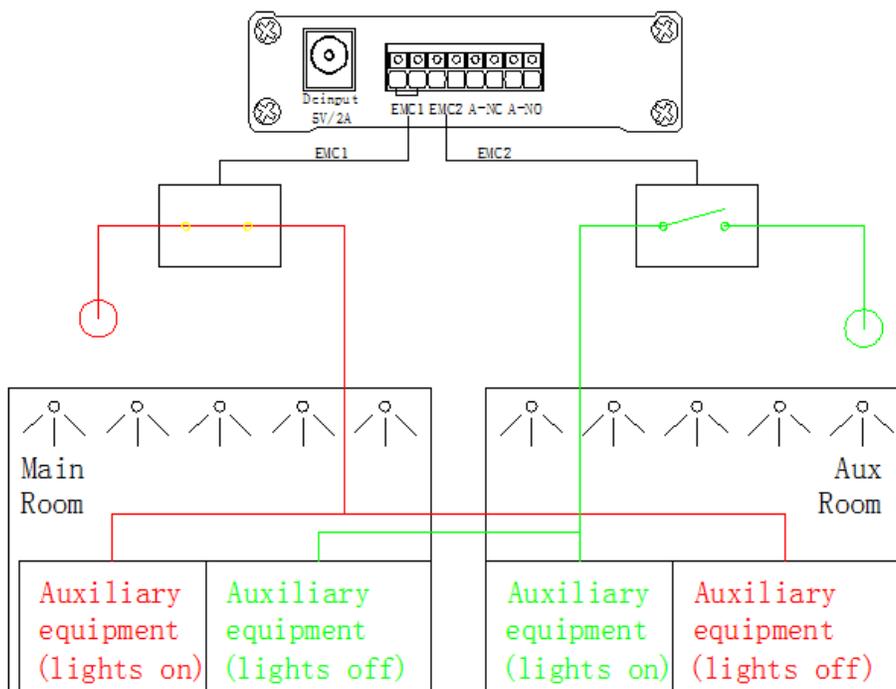
NOTE: A CO2 SOURCE, LIGHT OR WATERING UNIT MAY BE ACTIVATED DURING LIGHTS-ON PERIODS. **NOTE:** A HEATER MAY BE ACTIVATED DURING LIGHTS-OFF PERIODS.



CONTROLLING AUXILIARY EQUIPMENT IN "FOLLOW MODE" (ONE ROOM)

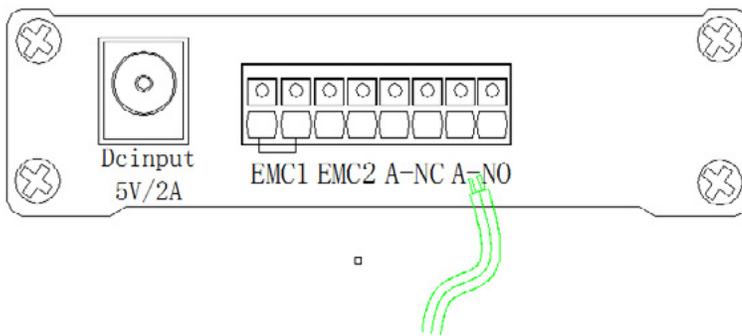


CONTROLLING AUXILIARY EQUIPMENT IN "FOLLOW MODE" (ONE ROOM)





CONNECTING A TEMPERATURE SHUTDOWN, SENSOR FAILURE OR POWER-OFF ALARM TO THE CONTROLLER



The controller has two pairs of cage clamps marked "A-NC" (normally closed) and "A-NO" (normally open). When a temperature shutdown, sensor failure, or power failure occurs, the "A-NC" contact opens and the "A-NO" contact closes. Both pairs of cage clamps may be connected to an alarm installation or a text messaging module.

Warning! The alarm feature only works in the "auto" mode

PREPARATIONS BEFORE USE

Note: after 60 seconds of inactivity the controller interface will return to the main menu.

Note: to leave any screen without saving changes, press the arrow key ◀

1. SETTING THE TIME

- Press "enter", the controller menu will open
- Press the arrow keys ▲▼ to locate "System time" and press "enter". The "System Time" screen (18) will open. In this screen the "hour" indication will start blinking
- Press the arrow keys ▲▼ to select the correct hour press "enter" to confirm.
- Use the same procedure ▲▼ to set the "minutes" press "enter" to confirm your choice and return to the controller menu.



2. SWITCH TEMPERATURE UNITS BETWEEN °F & °C

- Press "enter", the controller menu will open.
- Press the arrow keys ▲▼ to locate "Temp units" and press "enter." The "temperature units" screen will open.
- Press the arrow keys ▲▼ to switch between °F and °C. Press "enter" to confirm your choice and return to the controller menu.





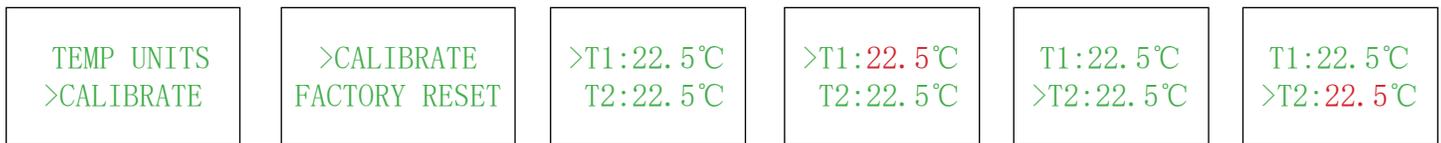
3. SWITCH PERCENT MODE BETWEEN 115% AND 100%

- Press "enter", the controller menu will open.
- Press the arrow keys ▲▼ to locate "100%" or "115%" and press "enter." The "100%" or "115%" screen will open.
- Press the arrow keys ▲▼ to switch between "100%" and "115%". Press "enter" to confirm your choice and return to the controller menu.



4. CALIBRATING THE TEMPERATURE SENSOR(S)

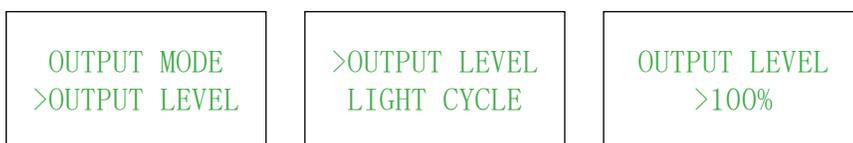
- Press "enter", the controller menu will open
- Press the arrow keys ▲▼ to locate "Calibrate" and press "enter". The "Calibration" screen will open (21). This screen displays the temperature measured by the main temperature sensor "T1" and auxiliary temperature sensor "T2". If one or both temperature sensors are not displayed, or incorrectly connected, the text "failure" will be displayed behind the applicable temperature sensor.
- Use the arrow keys to switch between "T1" or "T2" and press "enter" to select the temperature value you wish to adjust.
- Use the arrow keys to adjust the temperature to the desired value and press "enter" to confirm your choice.
- Note: The calibrated temperature values are stored in the internal memory of the controller. Resetting the controller will restore these values



PROGRAMMING AND USING THE CONTROLLER

1. CALIBRATING THE TEMPERATURE SENSOR(S)

- The controller can set the output of a ballast between 50 and 100 percent (50 and 115 percent). Adjusting this ballast output enables the user to change the light intensity in the climate room.
- Press the quick-key ✱, the "output level" screen opens.
- Press the arrow keys ▲▼ to set the ballast output between 50 and 100 or 50 and 115 percent.
- Press "enter" to confirm your choice.

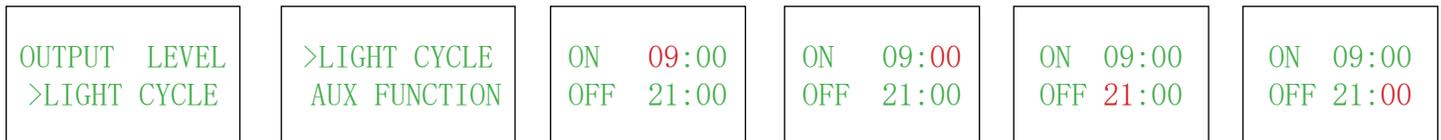


Note: the output level can also be found in the general menu.



2. PROGRAMMING A LIGHT CYCLE

- Press "enter", the controller menu will open.
- Press the arrow keys ▲▼ to locate "Light Cycle" and press "enter". The "Light Cycle" screen will open. (23) In this screen the hour indication behind "ON" blinks
- Press the arrow keys ▲▼ to select the hour the lights are to be activated and press "enter" to confirm your choice.
- Use the same procedure to set the minute the lights are to be activated as well as the hour and minute the lights must be deactivated.



3. SET FOLLOW OR INVERSE MODE (AUX FUNCTION)

- The controller can be set to activate and deactivate all ballasts connected to it simultaneously. In this manual, this mode will be referred to as the "Follow Mode".
- The controller may also be set to invert the output of its main and the auxiliary channel. This means the auxiliary channel, and the ballasts connected to it, are switched off when the main channel and the ballasts connected to it are switched on. An inverted light cycle may be used to alternate light between two rooms in a 12/12 hour system. Such a system may be used in the generative phase to optimize power utilization. In this manual this mode will be referred to as the "Inverse Mode".
- Caution! Always set the light interval to 12 hour periods in the "Inverse mode".
- Press "enter", the controller menu will open.
- Press the arrow keys ▲▼ to locate "Aux function" and press "enter".
- The "Aux Function" screen opens.
- Press the arrow keys ▲▼ to switch between "follow" and "inverse".
- For the "Inverse mode", select "inverse" and press "enter". The output of the Aux channel will now be off when the main channel is on.
- Set the light interval to 12 hour periods to ensure both climate rooms are equally lit. The selected "ON"/"OFF" period will be set for the main channel. (The aux channel operates inverse of the main channel).



4. SETTING THE AUTO-DIM TEMPERATURE

Note: The default auto-dim temperature is set at 30 °C / 86°F

Note: The auto-dim temperature cannot be set higher than the shutdown temperature.

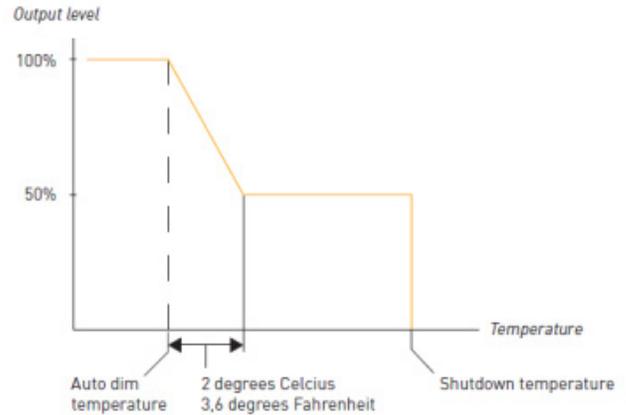
Note: The auto-dim will decrease the light intensity to 50% over a span of 2 degrees Celsius or 3.6 degrees Fahrenheit



- Press "enter", the controller menu will open.
- Press the arrow keys ▲▼ to locate "Auto-Dim Temp" and press "enter".
- The auto-dim temperature screen opens.
- Press the arrow keys ▲▼ to increase or decrease the temperature.
- Press "enter" to confirm.

WARNING!

Always set the auto-dim temperature at least 2 degrees Celsius / 3.6 degrees Fahrenheit above the temperature of the climate control system. This will prevent the controller from interfering with the climate control.



- Once the auto-dim temperature is reached, the controller will automatically start dimming the lights. No auto-dim will occur if the shutdown temperature is set at the auto-dim temperature.

AUX FUNCTION >AUTO-DIM TEMP	>AUTO-DIM TEMP SHUTDOWN TEMP	AUTO-DIM TEMP >30.0°C
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Note: the auto-dim will stay on until 0.5 degrees Celsius / 0.9 degrees Fahrenheit under the set temperature.

5. SETTING SAFETY SHUTDOWN TEMPERATURE

Note: The default shutdown temperature is set at 35 °C / 95°F

Note: The safety shutdown temperature of the controller cannot be set lower than the auto-dim temperature.

Warning! Always set the shutdown temperature so it does not accidentally deactivate the lights.

Warning! After a shutdown, wait for 10 minutes to reset or a manual reset is required.

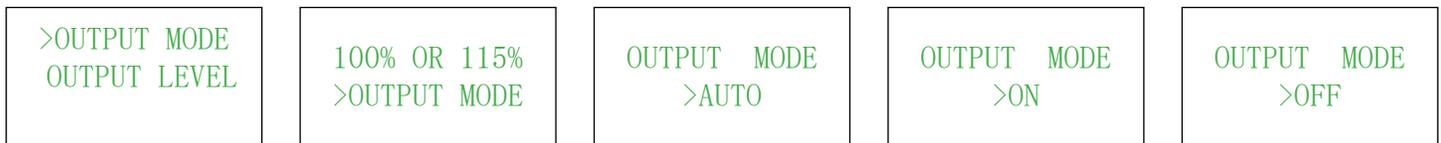
AUTO-DIM TEMP >SHUTDOWN TEMP	>SHUTDOWN TEMP SYSTEM TIME	SHUTDOWN TEMP >35.0°C
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- Press "enter", the controller menu will open.
- Press the arrow keys ▲▼ to locate "Shutdown Temp" and press "enter".
- The "Shutdown temperature" screen opens.
- Press the arrow keys ▲▼ to increase or decrease the temperature.
- Press "enter" to confirm.
- Once the shutdown temperature is reached (20), the controller will automatically shut down all the lights and all the equipment connected to the ECMs. The A-NC and A-NO alarm contacts will also switch.



6. ACTIVATE OR DEACTIVATE THE LIGHTS MANUALLY OR SET AUTOMATIC MODE

- Press "enter", the controller menu will open.
- Press the arrow keys ▲▼ to locate "Output mode" and press "enter".
- Press the arrow keys ▲▼ to switch between "auto", "on" and "off"
 - Select "on" to turn all the lights on. This setting will ignore temperature safety settings.
 - Select "off" to turn all the lights off.
 - Select "auto" to follow the programmed light cycle and temperature safety settings).
- Press "enter" to confirm your choice.

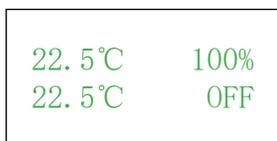


7. RESETTING THE CONTROLLER TO FACTORY SETTINGS

- Press "enter", the controller menu will open.
- Press the arrow keys to locate "Factory Reset" and press "enter".
- The "Factory Reset" screen opens.
- Press the arrow keys to switch to "yes" and press "enter".
- The controller is now reset to factory settings.

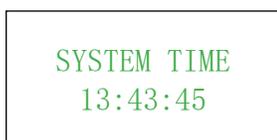


8. READING THE DEFAULT SCREEN



9. SHOW SYSTEM TIME

- Press an arrow key ▲ or ▼ in the default screen to show the system time.



- Press an arrow key ▲ or ▼ again to return to the default screen.



INTERPRETING DISPLAY MESSAGES

1. SENSOR DISCONNECTED

SENSOR FAILURE	<-	0°C OFF
22.5°C OFF	->	22.5°C OFF

- The message "Sensor failure" appears when the T1 temperature sensors are not plugged in.
- The devices connected to the controller are deactivated.
- Plug in the missing sensor to resolve.

2. AUTO-DIM

AUTO-DIM 90%	<-	32.5°C 90%
22.5°C OFF	->	22.5°C OFF

- When the auto-dim temperature has been exceeded, the message "auto dim" will appear on the display next to the corresponding channel.

3. TEMP ALARM

SHUTDOWN TEMP	<-	35.5°C OFF
22.5°C OFF	->	22.5°C OFF

- When the shutdown temperature has been exceeded, the message "Temp alarm" will appear on the display and the devices connected to the controller are deactivated.
- The controller must be reset:
 - Ensure the temperature of the room is below the shutdown. temperature. If the temperature is still above shutdown temperature, the controller cannot be reset.
 - Hold the reset button for three seconds to reset the controller or after 10 minutes, the controller is reset automatically.