HORTITEK®

LIGHT MANAGEMENT UNIT

CATALOGUE

INTRODUCTION

HORTITEK® LIGHT MANAGEMENT UNITS (LMU)

Enables gardeners to safely and easily control their grow lights.

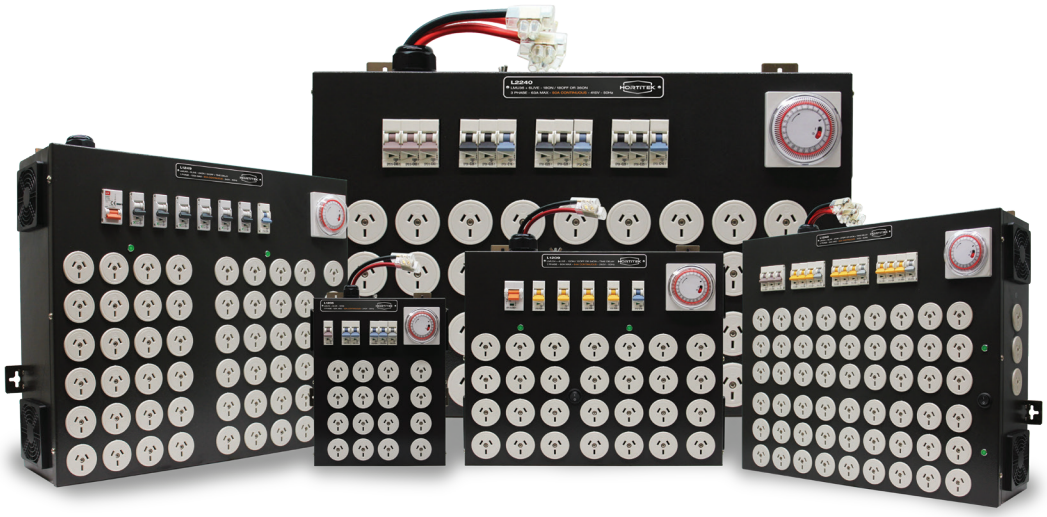
The LMU serves 3 main functions:

• **Time Control:** Hortitek LMU can simulate any light cycle by using the 24-Hour timer.

• **Power Control:** Hortitek LMU can control, distribute and protect the load by using the circuit breakers.

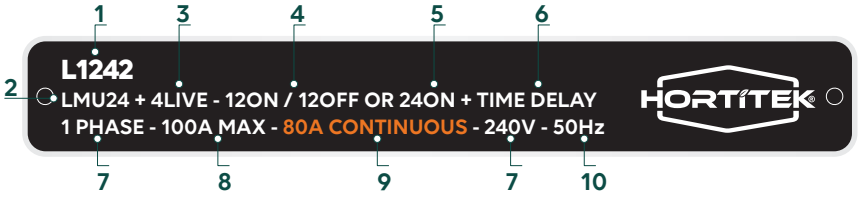
• **Time Delay:** This feature reduces the startup current and prevents voltage drop in the network by staggering the ignition of the load.

CONTENTS



KEY FEATURES

LMU LEGEND



1 - L1242: MODEL NUMBER

2 - LMU24: NUMBER OF TIMED SOCKETS
LMU24 = 24 timed sockets. These timed sockets control the light cycle of connected ballasts using the 24-Hour Timer.

3 - 4LIVE: NUMBER OF LIVE SOCKETS
4LIVE = 4 always-on LIVE sockets. These can be used for fans, pumps, heaters or other appliances.

4 - 12ON / 12OFF: SIDE A / SIDE B OPERATION
This indicates the number of HALF ON / HALF OFF sockets. 12ON / 12OFF = 12 times sockets are on while 12 time sockets are off.

5 - 24ON: ALL ON OPERATION
This indicates the number of ALL ON sockets. 24ON = 24 timed sockets will be on at once.

6 - TIME DELAY: LMU IS EQUIPPED WITH TIME DELAY.

7 - 1 PHASE/240V: INCOMING VOLTAGE TYPE
This indicates the incoming voltage type of the LMU, either 1 PHASE/240V or 3 PHASE/415V.

8 - 100A MAX: MAXIMUM PEAK CURRENT RATING
This is the maximum load that can be safely supported by the LMU. This maximum should only be sustained for 4 hours.

9 - 80A CONTINUOUS: MAXIMUM CONTINUOUS CURRENT RATING
This is the maximum load that can be safely supported by the LMU in continuous, 24-hour operation.

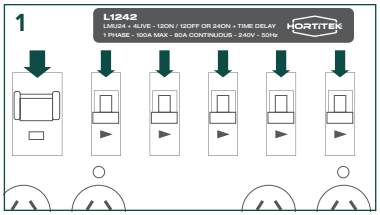
10 - 50Hz: INCOMING POWER FREQUENCY
Both 1 PHASE and 3 PHASE power has a frequency of 50Hz in Australia and New Zealand.

LMU SELECTION GUIDE

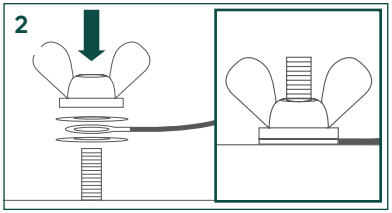
HORTITEK LMU SELECTION GUIDE

1 PHASE/ 3 PHASE	INCOMING CABLE SIZE (mm^2)	MAX AMP (MAIN CB)	MAX NUMBER OF LAMPS				RECOMMENDED LMU	IDEAL FOR (LAMP TYPE)
			315/ 400W	600W	800W	1000W		
1 Phase 230~240V	1.5mm^2 PVC	16A	6pcs	4pcs	3pcs	2pcs	J1508 (LMU4)	600W
	10mm^2 PVC 6mm^2 XLPE	40A	15pcs	10pcs	8pcs	6pcs	L1202 (LMU6)	1000W
		60A	20pcs	14pcs	12pcs	8pcs	L1203 (LMU8)	1000W
	16mm^2 PVC 10mm^2 XLPE	63A	20pcs	14pcs	12pcs	9pcs	L1205 (LMU12 + 4LIVE - 12 ON)	800W
							L1225 (LMU24 + 4LIVE - 12 ON/12 OFF)	800W
	25mm^2 PVC 16mm^2 XLPE	80A	28pcs	20pcs	16pcs	12pcs	L1209 (LMU24 + 4LIVE - 12 ON/12 OFF OR 24 ON)	12/12 Mode: 1000W 24 Mode: 315/400W
							L2002 (LMU32 + 4LIVE - 16 ON/16 OFF)	800W
							L1240 (LMU48 + 6LIVE - 24 ON/24 OFF)	315/400W
	35mm^2 PVC 25mm^2 XLPE	100A	36pcs	24pcs	20pcs	16pcs	L1242 (LMU24 + 4LIVE - 12 ON/12 OFF OR 24 ON)	600W
							L1235 (LMU32 + 4LIVE - 16 ON/16 OFF)	1000W
							L1249 (LMU48 + 6LIVE - 24 ON/24 OFF)	600W
3 Phase 400~415V	16mm^2 PVC 10mm^2 XLPE	63A	54pcs	36pcs	30pcs	24pcs	L1211 (LMU24 + 4LIVE - 12 ON/12 OFF OR 24 ON)	1000W
							L2240 (LMU36 + 6LIVE - 18 ON/18 OFF OR 36 ON)	600W
			60pcs	42pcs	36pcs	27pcs	L1243 (LMU54 + 6LIVE - 27 ON/27 OFF OR 54 ON)	27/27 Mode: 1000W 54 Mode: 315/400W
	25mm^2 PVC 16mm^2 XLPE	80A	81pcs	54pcs	45pcs	36pcs	L1244 (LMU54 + 6LIVE - 27 ON/27 OFF OR 54 ON)	600W
	35mm^2 PVC 25mm^2 XLPE	100A	108pcs	72pcs	60pcs	48pcs	L2020 (LMU72 + 6LIVE - 36 ON/36 OFF OR 72 ON)	600W

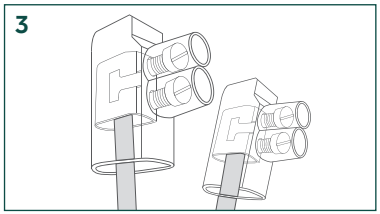
SET UP & OPERATION



Turn off all Circuit Breakers (CB) by pushing the switches downwards.

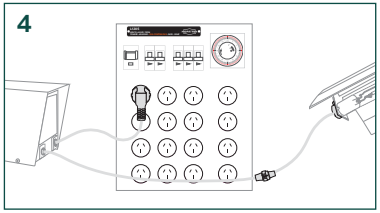


Connect and tighten the supply Earth to the LMU Earth lug.

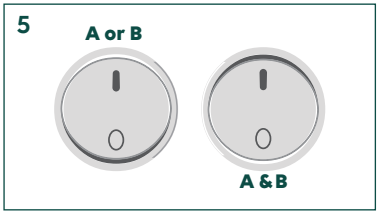


Have a licensed electrician connect the LMU supply wires to the incoming power

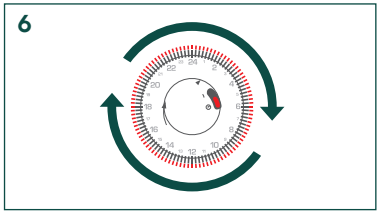
Note: When connecting the LMU supply wires, ensure that the incoming power supply wires are of equal or greater size/gauge.



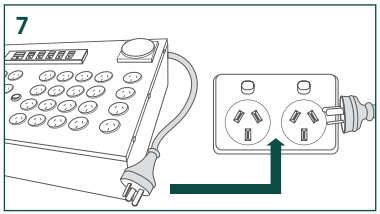
Connect all lamps to their respective ballast, then connect the ballasts to the LMU. Refer to the Lamp Distribution Guide provided with your LMU to prevent Overloading.



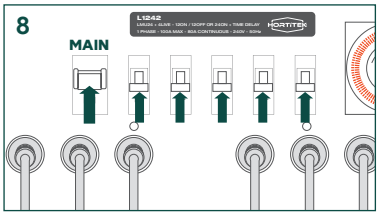
If applicable, set your desired LMU function using the selector switch (Refer to selector switch guide).



Set your desired light cycle by adjusting the 24-hour timer (Refer to 24-hour timer guide).



Connect the control cable to the Power Point and turn the switch ON.



Turn ON the Main Circuit Breaker, next turn on all other Circuit Breakers one-by-one with a 10-second delay between each, by pushing the switches upwards.

All Lamps will turn ON
Note: To prevent a voltage drop in the network, Hortitek LMUs are equipped with Time Delay.
This function staggers the ignition of lights sequentially by 1-2 minutes.

IMPORTANT NOTES

• Do not cover or obstruct ventilation openings

• Do not obstruct the Circuit Breakers with cables or other objects

• Do not store or operate the LMU outdoors or in a moist environment, or near water sources.

• To prevent exposing the LMU to high ambient temperatures (above 40°C), avoid placing the LMU in the same room as heat sources such as ballasts or lights

• Sudden voltage increases can cause damage to your LMU and related appliances. If you live in an area at high risk of lightning strikes, it is highly recommended that you have a licensed electrician install a surge protection device between the LMU and the Incoming Mains Supply cables.

• The surge protection device should be of the same current rating as the Main Circuit Breaker on the switchboard. (All LMU's are equipped with a fuse and MCB's to protect the unit and attached devices from short circuits and overloading.

• Dust build-up in unused sockets on the LMU can lead to reliability issues. Always ensure that unused sockets are sealed off to maximise the longevity of your Hortitek LMU.

• Always use a licensed electrician to connect your Hortitek LMU to the Mains Power Supply.

SELECTOR SWITCH GUIDE

For models that include a Selector Switch, it can be used to control how many lights are active in each on/off cycle. That is, gardeners can choose to have half of their lights on, while the other half are off.

This is highly useful in situations where gardeners have more than one grow room set up and wish to keep them on different light cycles to prevent excessive power draw. Other benefits include reduced heat generation, or simply to maximise their usage of their energy supply with lights operating all day as opposed to only half the day.

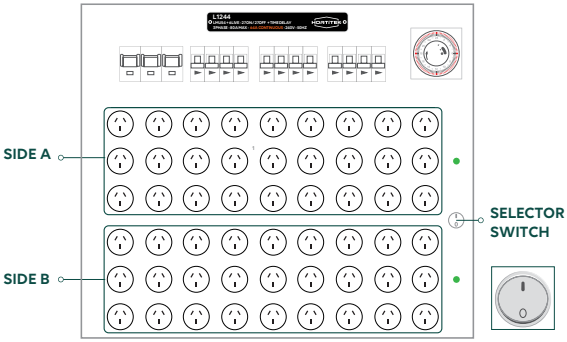
SELECTOR SWITCH - HALF ON / HALF OFF (A or B)

In the I position: The Timer will turn Side A sockets on and Side B sockets off. When the Timer turns Side B sockets on, Side A sockets will turn off.

SELECTOR SWITCH - ALL ON (A & B)

In the O position: The Timer will turn both Side A sockets and Side B sockets on simultaneously. It will also turn both Side A sockets and Side B sockets off simultaneously.

A Selector Switch will alter the way in which the Timer is used to control the light cycle. Further explanation is given in the following pages.



24-HOUR TIMER GUIDE

Hortitek LMU's 24-hour timer has 2 modes Automatic and Permanent.

I PERMANENT MODE

To override the timer, set the timer switch to Permanent Mode, this disregards the position of any pins and sets all LMU sockets on.

AUTOMATIC MODE

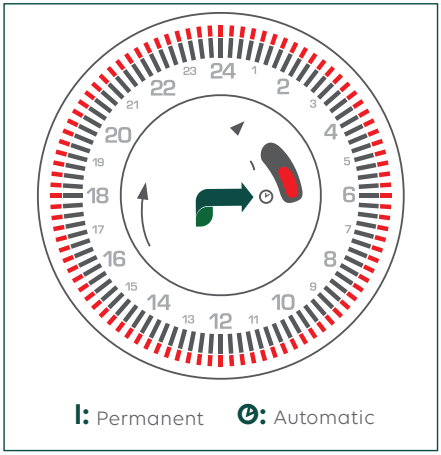
Ensure the timer switch is on Automatic Mode. This is the default and recommended setting when using Hortitek LMU.

Setting the time: Turn the timer clockwise and point the arrow on the face to the current time.

The Timers on Hortitek LMU's have 96 red pins, with each pin representing 15 minutes (4 pins = 1 hour). Use the red pins to set your 24-hour cycle.

When pins are facing inside, the sockets connected to the timer A and B are off; and when the pins are facing outside, they are on. This can be used to simulate day and night such as 12 hours on, 12 hours off continuously.

The operation of the Timer depends on which function the Hortitek LMU selector switch is set.

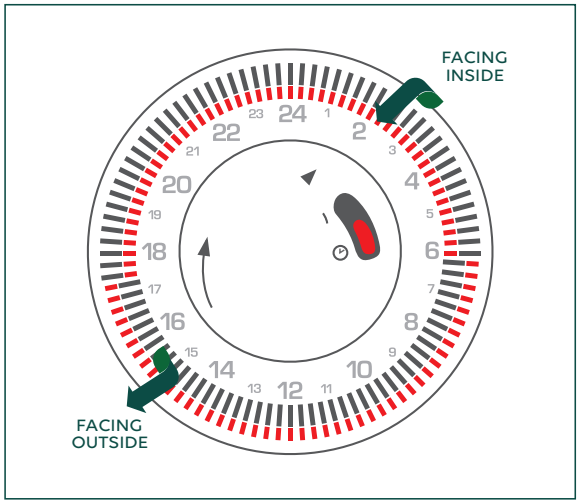


SELECTOR SWITCH - HALF ON / HALF OFF

Red pins facing inside will cause Side A to turn off, and Side B to turn on.

Red pins facing outside will cause Side A to turn on, and Side B to turn off.

For example, the Timer below shows 48 pins facing Inside, and 48 pins facing Outside. This means that one side (Side A or Side B) is on for 12 hours, while the other side is off for 12 hours.

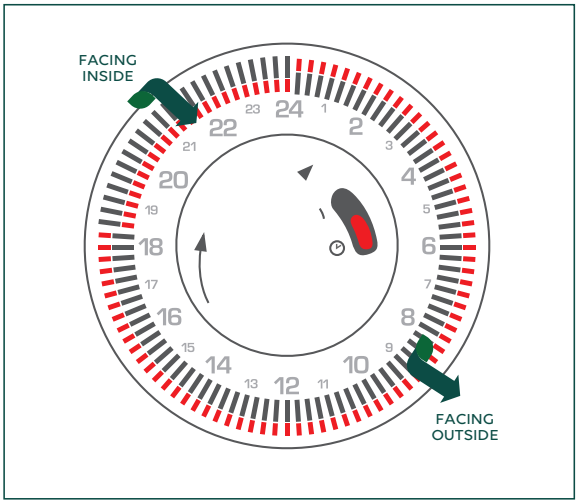


SELECTOR SWITCH - ALL ON

Red pins facing outside will cause all sockets to turn on.

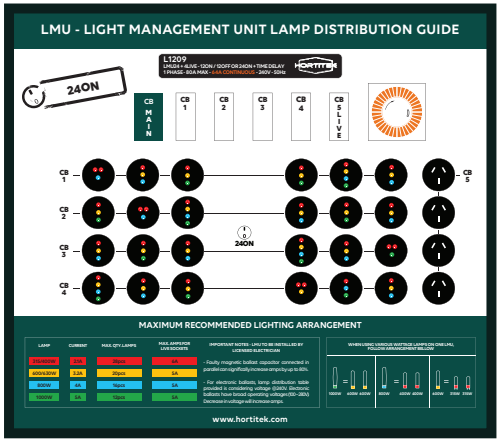
Red pins facing inside will cause all sockets to turn off.

For example, the Timer below shows 24 pins facing Inside, and 72 pins facing Outside. When the Timer is on the Outside pins, all sockets will be on for 18 hours. When the Timer is pointing to the Inside pins, all sockets will be off for 6 hours.



HOW TO READ THE DISTRIBUTION GUIDE

The Distribution Guides included with all Hortitek LMU's have been specially designed to distribute the power evenly on the LMU and protect against overloading. It eliminates the guesswork in setting up your lighting system.



Each lamp has been colour-coded:

RED = 315/400W | YELLOW = 600/630W

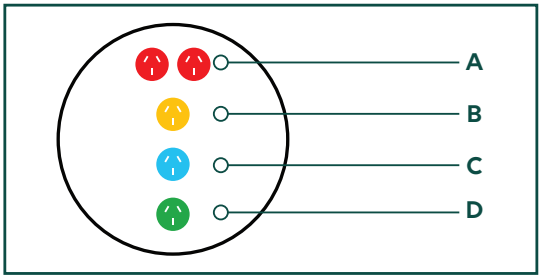
BLUE = 800W | GREEN = 1000W

EXAMPLE:
MAXIMUM RECOMMENDED LIGHTING ARRANGEMENT

LAMP	CURRENT	MAX. QTY. LAMPS	MAX. AMPS FOR LIVE SOCKETS
315/400W	2.1A	36pcs	6A
600/630W	3.2A	24pcs	6A
800W	4A	20pcs	6A
1000W	5A	16pcs	5A

• If using 600/630W lamps, the maximum number of lamps allowed to this LMU's timed sockets are 24pcs and 6A maximum for the live sockets.

TIMED SOCKET



A- If using 315/400W lamps, the maximum number of lamps allowed to this socket is 2.
B- If using 600/630W lamps, the maximum number of lamps allowed to this socket is 1.
C- If using 800W lamps, the maximum number of lamps allowed to this socket is 1.
D- If using 1000W lamps, the maximum number of lamps allowed to this socket is 1.

SAFETY PRECAUTIONS

• Connecting more lamps than suggested in your model's lamp Distribution Guide may cause overloading.

• If faulty ballasts are connected to the LMU, this will increase the current (Amps) drawn and will cause overloading.

• Overloading of the LMU causes high temperatures within the unit and puts a lot of strain on all of the components. As a result, it will damage the LMU and decrease its service life.

• Do not mount the LMU in an enclosed space.

• Ambient temperatures for safe operation of the LMU must be lower than 40°C.

When connecting a ballast to its socket on the LMU, follow these steps:

• Turn off the related Circuit Breaker (CB) by pushing the switch downwards.

• Connect the ballast to the Socket.

• Turn on the related Circuit Breaker (CB) by pushing the switch upwards.

Always use a licensed electrician.

TROUBLE SHOOTING

While Hortitek® LMUs have been designed with ease-of-use in mind, there are occasions when things may not work as planned. If you are experiencing difficulties, refer to the guide below for a list of possible solutions.

MY LMU HAS POWER BUT MY APPLIANCES DON'T.

Solution:

Ensure that the male plug of the appliance(s) is firmly connected to the female LMU socket.

MY LMU SOCKETS DON'T HAVE POWER?

Solutions:

• Check that the Main Circuit Breaker and Output Circuit Breakers are ON by pushing the switches upwards (see the Installation – Step 6 & 7 sections of this manual).

• Check that the 24-Hour Timer is set correctly, and that the sockets should be ON according to the set program (see the Operating Instructions – Using the 24-Hour Timer section of this manual).

• Ensure that the LMU Control Cable is firmly connected to a functioning power supply outlet (see the Installation – Step 4 section of this manual).

• If your LMU has a Selector Switch, ensure that it is in the correct position (see the Operating Instructions – Using the Selector Switch section of this manual).

• If your LMU is fitted with the Time Delay feature, note that each grouping of sockets will switch on with 2 minute intervals.

• Ensure that the connection between the Incoming Mains Power Supply and the LMU Supply Wires is compliant with electrical standards (see the Installation – Step 4 section of this manual).

NOTHING HAPPENS WHEN I PLUG IN THE LMU CONTROL CABLE.

Solutions:

• Ensure that the LMU Control Cable is firmly connected to a functioning power supply outlet (see the Installation – Step 2 section of this manual).

• Check that the power supply socket (to which the LMU Control Cable is connected) and the relevant circuit breaker on the Mains Power Switchboard are operating correctly.

• Ensure that the Control Cable of the LMU is supplied by the Main Circuit Breaker (MCB) and not the Residual Current Device (RCD). Our recommendation is to connect the Control Cable to a non-RCD supply in order to avoid disruption to the operation of the LMU in the event of a fault with the RCD.

• Ensure that the panel-mounted fuse is serviceable and has not blown.

THERE IS NO POWER TO MY LMU WIRES.

Solutions:

• Ensure that the Incoming Mains Supply cables to the LMU are the same gauge (or larger) than the LMU Supply Wires (see the Choosing an LMU section of this manual).

• Ensure that the connection between the Incoming Mains Power Supply and the LMU Supply Wires is compliant with electrical standards (see the Installation – Step 4 section of this manual).

• The maximum current rating of the LMU's Main Circuit Breaker (MCB) should be less than that of the Incoming Power Supply (see the Choosing an LMU section of this manual).

MY LMU OUTPUT CIRCUIT BREAKERS ARE TRIPPING.

Solutions:

• Ensure that the LMU is being operated in an ambient temperature of less than 40°C.

• Ensure that you have not exceeded the maximum supported lighting arrangements for your LMU as defined by the Distribution Guide (see the Operating Instructions – Using the Distribution Guide section of this manual).

• If magnetic ballasts are being used, ensure that the ballast does not have a faulty capacitor (applicable when the capacitor is connected in parallel).

• Ensure that isn't a voltage drop from the Output Socket to the connected ballast (applicable for digital ballasts with a low operating voltage).

MY LMU MAIN CIRCUIT BREAKER (MCB) IS TRIPPING.

Solutions:

• Ensure that the LMU is being operated in an ambient temperature of less than 40°C.

• Ensure that the Incoming Mains Supply cables to the LMU are the same gauge (or larger) than the LMU Supply Wires (see the Choosing an LMU section of this manual).

• Ensure that you have not exceeded the maximum supported lighting arrangements for your LMU as defined by the Distribution Guide (see the Operating Instructions – Using the Distribution Guide section of this manual).

TECHNICAL DATA

MODEL L1202

LMU with 6 timed sockets.

Phase: 1 Phase

Max Amps: 40A

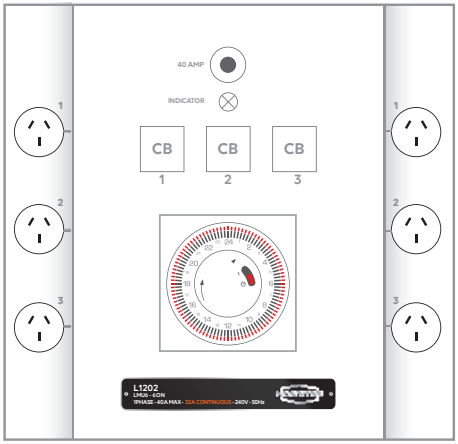
Note: Max time for operation using 40A is 4 hours. If used for more than 4 hours at Max Amps, it will damage the LMU and decrease its service life.

Continuous Amps: 32A

Note: this LMU can supply up to 32A load for 24hrs operation.

Voltage: 240VAC

Frequency: 50Hz



MODEL L1203

LMU with 8 timed sockets.

Phase: 1 Phase

Max Amps: 60A

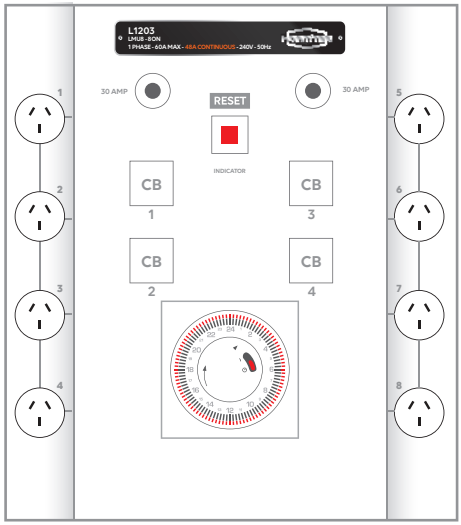
Note: Max time for operation using 60A is 4 hours. If used for more than 4 hours at Max Amps, it will damage the LMU and decrease its service life.

Continuous Amps: 48A

Note: this LMU can supply up to 48A load for 24hrs operation.

Voltage: 240VAC

Frequency: 50Hz



MODEL L1205

LMU with 12 timed + live sockets.

Phase: 1 Phase

Max Amps: 63A

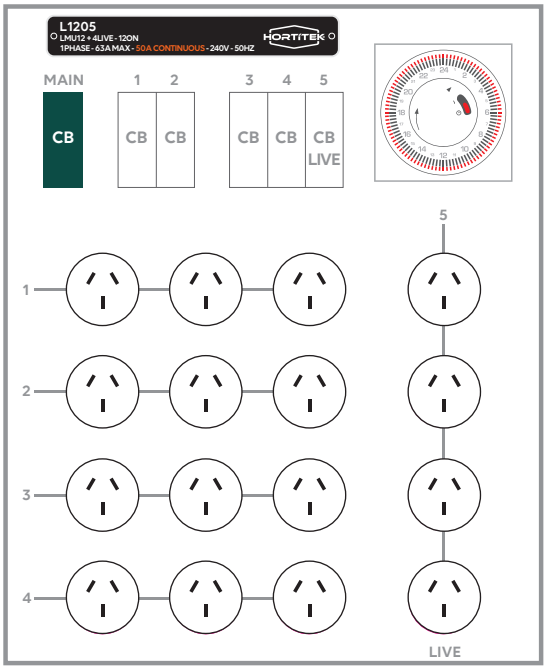
Note: Max time for operation using 63A is 4 hours. If used for more than 4 hours at Max Amps, it will damage the LMU and decrease its service life.

Continuous Amps: 50A

Note: this LMU can supply up to 50A load for 24hrs operation.

Voltage: 240VAC

Frequency: 50Hz



MODEL L1208

LMU with 24 timed + 4 live sockets. 12ON/12OFF operation.

Phase: 1 Phase

Max Amps: 63A

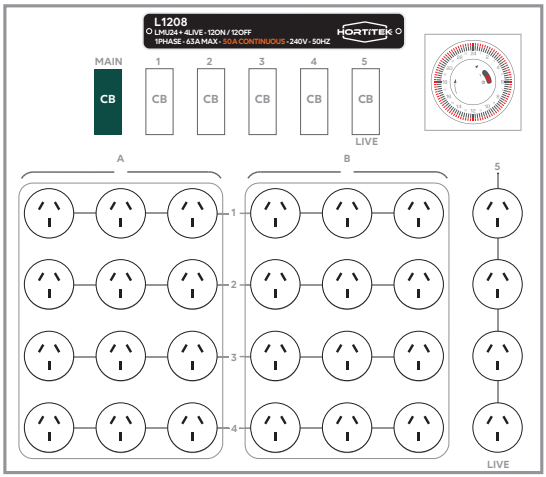
Note: Max time for operation using 63A is 4 hours. If used for more than 4 hours at Max Amps, it will damage the LMU and decrease its service life.

Continuous Amps: 50A

Note: this LMU can supply up to 50A load for 24hrs operation.

Voltage: 240VAC

Frequency: 50Hz



MODEL L1225

LMU with 24 timed + 4 live sockets. 12ON/12OFF operation with Time Delay to stagger ignition of lamp sockets when turning on.

Phase: 1 Phase

Max Amps: 63A

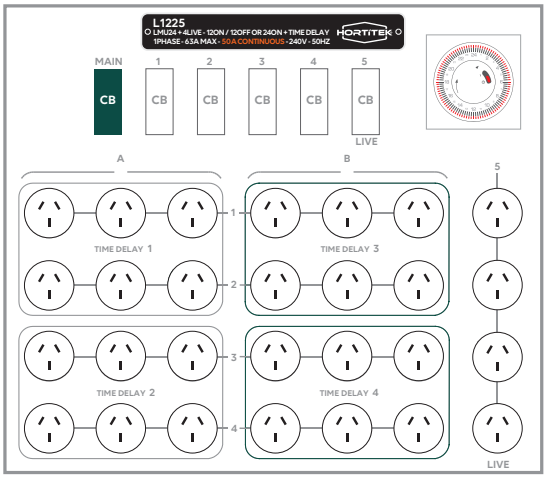
Note: Max time for operation using 63A is 4 hours. If used for more than 4 hours at Max Amps, it will damage the LMU and decrease its service life.

Continuous Amps: 50A

Note: this LMU can supply up to 50A load for 24hrs operation.

Voltage: 240VAC

Frequency: 50Hz



MODEL L1211

LMU with 24 timed + 4 live sockets. Selectable 12ON/12OFF or 24ON operation with Time Delay to stagger ignition of lamp sockets when turning on.

Phase: 3 Phase

Max Amps: 63A

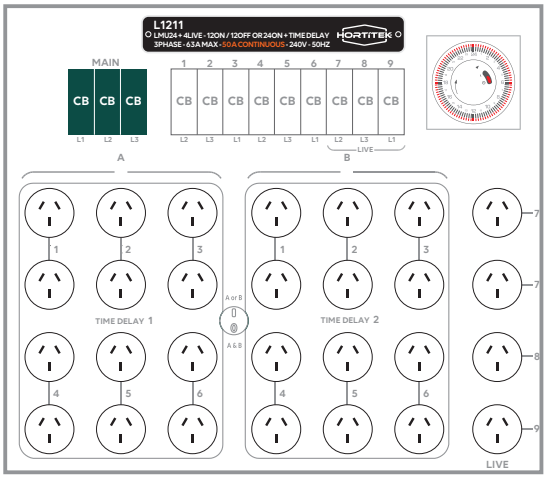
Note: Max time for operation using 63A is 4 hours. If used for more than 4 hours at Max Amps, it will damage the LMU and decrease its service life.

Continuous Amps: 50A

Note: this LMU can supply up to 50A load for 24hrs operation.

Voltage: 415VAC

Frequency: 50Hz



MODEL L1209

LMU with 24 timed + 4 live sockets. Selectable 12ON/12OFF or 24ON operation with Time Delay to stagger ignition of lamp sockets when turning on.

Phase: 1 Phase

Max Amps: 80A

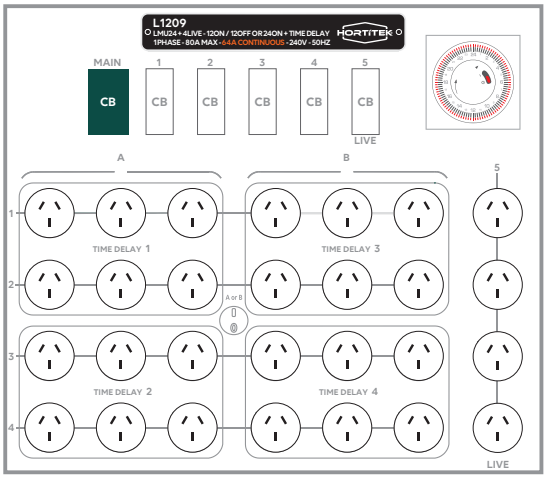
Note: Max time for operation using 80A is 4 hours. If used for more than 4 hours at Max Amps, it will damage the LMU and decrease its service life.

Continuous Amps: 64A

Note: this LMU can supply up to 64A load for 24hrs operation.

Voltage: 240VAC

Frequency: 50Hz



MODEL L1242

LMU with 24 timed + 4 live sockets Selectable 12ON/12OFF or 24ON operation with Time Delay to stagger ignition of lamp sockets when turning on.

Phase: 1 Phase

Max Amps: 100A

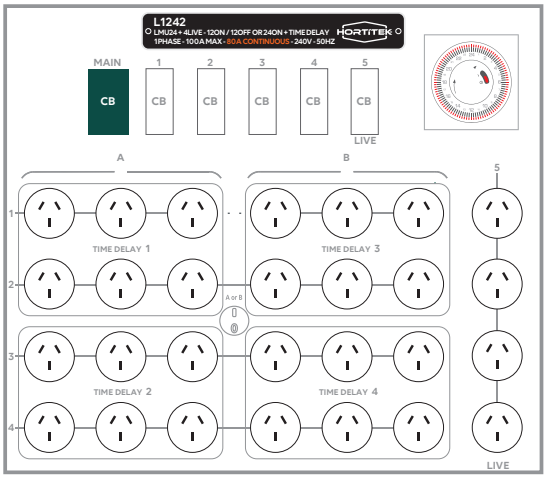
Note: Max time for operation using 100A is 4 hours. If used for more than 4 hours at Max Amps, it will damage the LMU and decrease its service life.

Continuous Amps: 80A

Note: this LMU can supply up to 80A load for 24hrs operation.

Voltage: 240VAC

Frequency: 50Hz



MODEL L2002

LMU with 32 timed + 4 live sockets. 16ON/16OFF operation with Time Delay to stagger ignition of lamp sockets when turning on.

Phase: 1 Phase

Max Amps: 80A

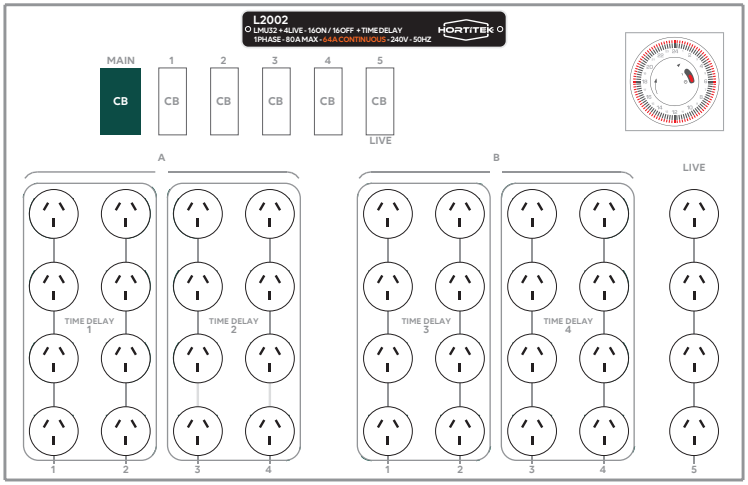
Note: Max time for operation using 80A is 4 hours. If used for more than 4 hours at Max Amps, it will damage the LMU and decrease its service life.

Continuous Amps: 64A

Note: this LMU can supply up to 64A load for 24hrs operation.

Voltage: 240VAC

Frequency: 50Hz



MODEL L1235

LMU with 32 timed + 4 live sockets. 16ON/16OFF operation with Time Delay to stagger ignition of lamp sockets when turning on.

Phase: 1 Phase

Max Amps: 100A

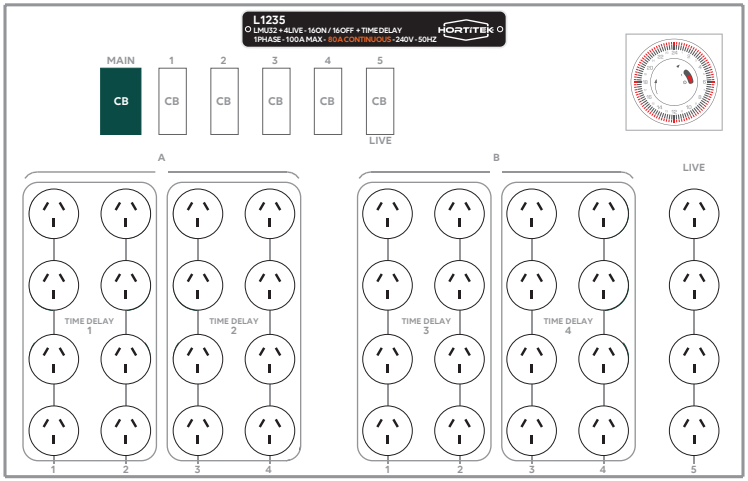
Note: Max time for operation using 100A is 4 hours. If used for more than 4 hours at Max Amps, it will damage the LMU and decrease its service life.

Continuous Amps: 80A

Note: this LMU can supply up to 80A load for 24hrs operation.

Voltage: 240VAC

Frequency: 50Hz



MODEL L2240

LMU with 36 timed + 6 live sockets. Selectable 18ON/18OFF or 36ON operation with Time Delay to stagger ignition of lamp sockets when turning on.

Phase: 3 Phase

Max Amps: 63A

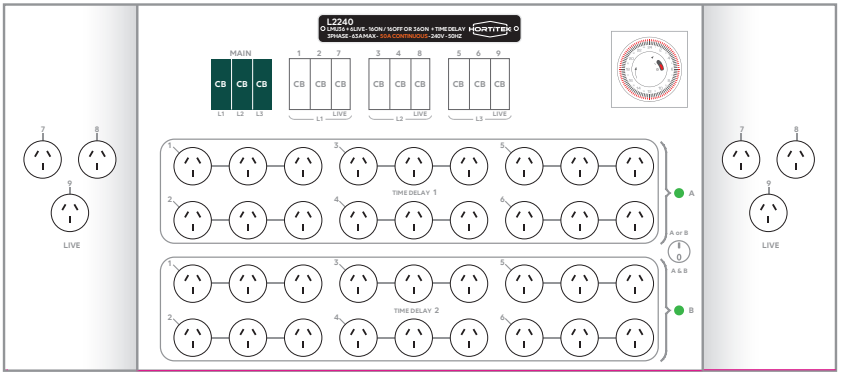
Note: Max time for operation using 63A is 4 hours. If used for more than 4 hours at Max Amps, it will damage the LMU and decrease its service life.

Continuous Amps: 50A

Note: this LMU can supply up to 50A load for 24hrs operation.

Voltage: 415VAC

Frequency: 50Hz



MODEL L1240

LMU with 48 timed + 6 live sockets. 24ON/24OFF operation with Time Delay to stagger ignition of lamp sockets when turning on.

Phase: 1 Phase

Max Amps: 80A

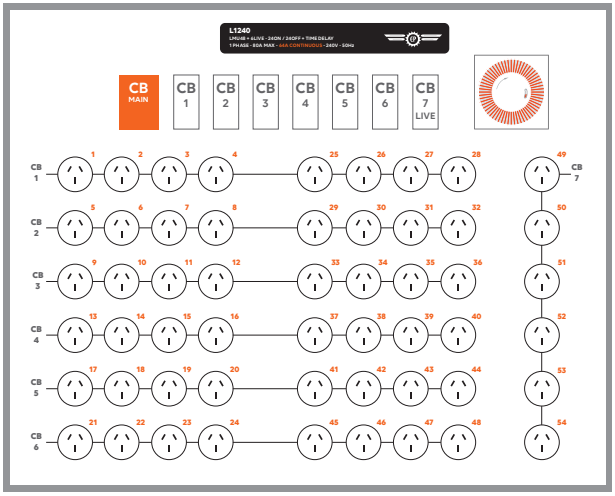
Note: Max time for operation using 80A is 4 hours. If used for more than 4 hours at Max Amps, it will damage the LMU and decrease its service life.

Continuous Amps: 64A

Note: this LMU can supply up to 64A load for 24hrs operation.

Voltage: 240VAC

Frequency: 50Hz



MODEL L1249

LMU with 48 timed + 6 live sockets. 24ON/24OFF operation with Time Delay to stagger ignition of lamp sockets when turning on.

Phase: 1 Phase

Max Amps: 100A

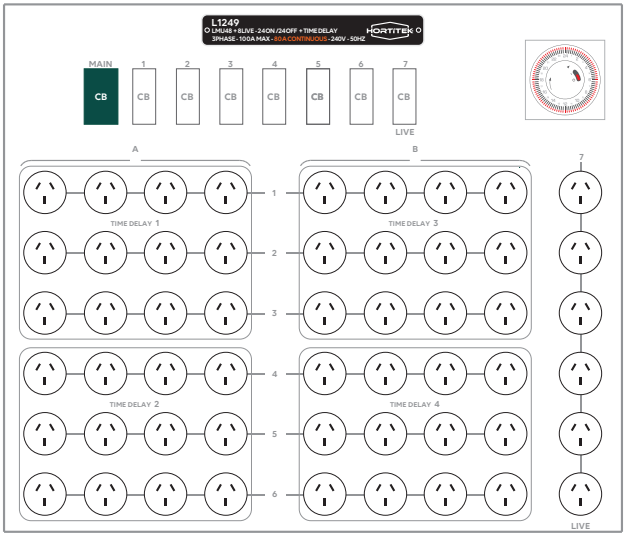
Note: Max time for operation using 100A is 4 hours. If used for more than 4 hours at Max Amps, it will damage the LMU and decrease its service life.

Continuous Amps: 80A

Note: this LMU can supply up to 80A load for 24hrs operation.

Voltage: 240VAC

Frequency: 50Hz



MODEL L1243

LMU with 54 timed + 6 live sockets. Selectable 27ON/27OFF or 54ON operation with Time Delay to stagger ignition of lamp sockets when turning on.

Phase: 3 Phase

Max Amps: 63A

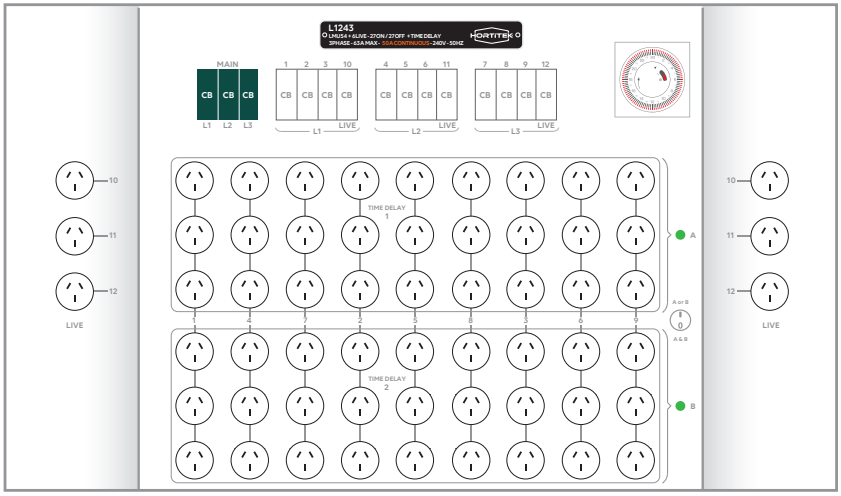
Note: Max time for operation using 63A is 4 hours. If used for more than 4 hours at Max Amps, it will damage the LMU and decrease its service life.

Continuous Amps: 50A

Note: this LMU can supply up to 50A load for 24hrs operation.

Voltage: 415VAC

Frequency: 50Hz



MODEL L1244

LMU with 54 timed + 6 live sockets. Selectable 27ON/27OFF or 54ON operation with Time Delay to stagger ignition of lamp sockets when turning on.

Phase: 3 Phase

Max Amps: 80A

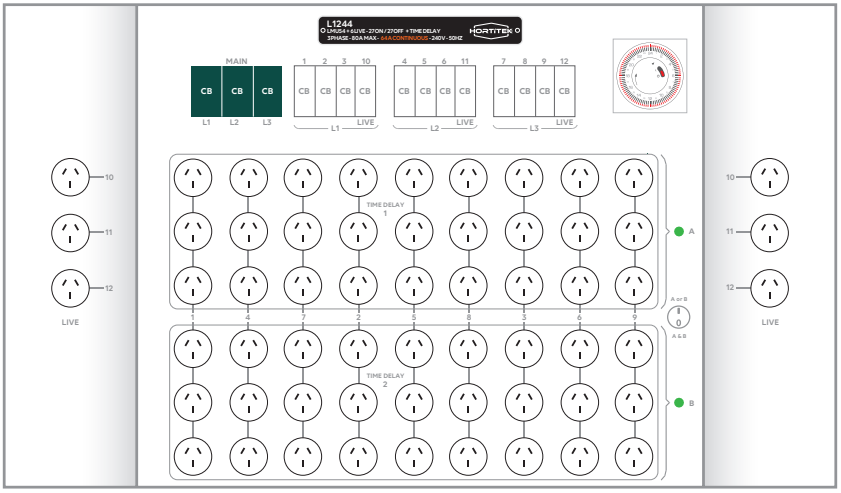
Note: Max time for operation using 80A is 4 hours. If used for more than 4 hours at Max Amps, it will damage the LMU and decrease its service life.

Continuous Amps: 64A

Note: this LMU can supply up to 64A load for 24hrs operation.

Voltage: 415VAC

Frequency: 50Hz



MODEL L2020

LMU with 72 timed + 6 live sockets. Selectable 36ON/36OFF or 72ON operation with Time Delay to stagger ignition of lamp sockets when turning on.

Phase: 3 Phase

Max Amps: 100A

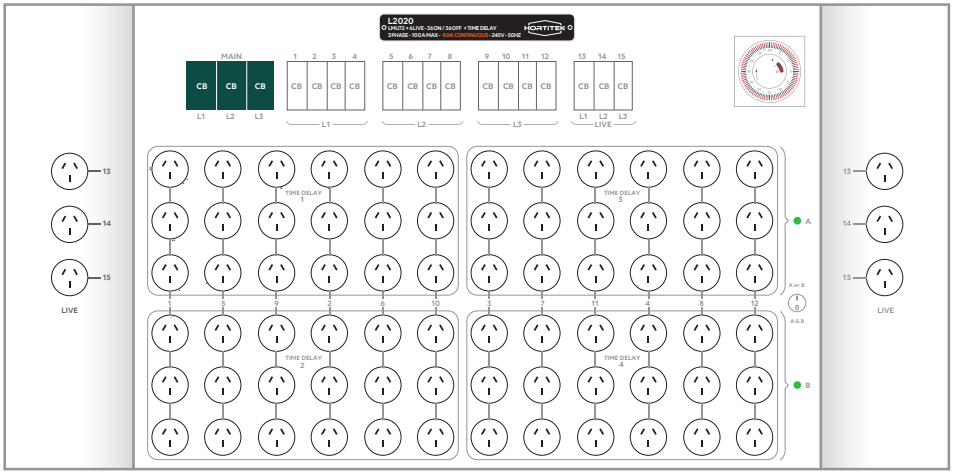
Note: Max time for operation using 100A is 4 hours. If used for more than 4 hours at Max Amps, it will damage the LMU and decrease its service life.

Continuous Amps: 80A

Note: This LMU can supply up to 80A load for 24hrs operation.

Voltage: 415VAC

Frequency: 50Hz



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