ABSTRACT®

LUD48-D
LUD48-4
LUD192-D

USER MANUAL
V-4.1

TECHNICAL SPECIFICATIONS

LUD48-D

Output Current **350mA**

LED Outputs **1**

Max Voltage **48V**

Power Consumption **60W**

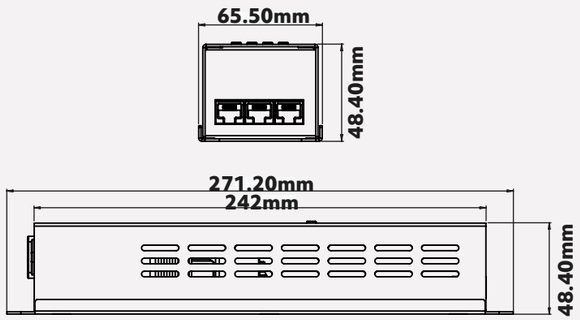
Channels **1-4Ch (RGB[W])**

Power Input Mains **100-240VAC**

Data & LED Connections **RJ45**

Operating Temp Range **-20 to 50 °C**

DIMENSIONS



LUD48-4

Output Current **350mA**

LED Outputs **4**

Max Voltage **48V**

Power Consumption **75W**

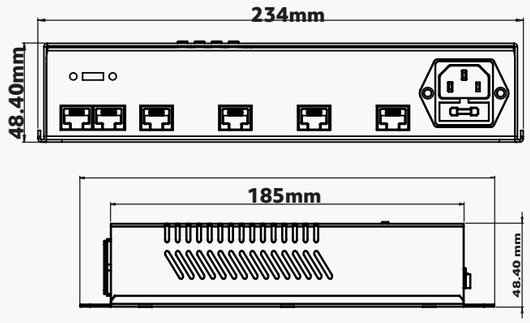
Channels **1-16Ch (RGB[W])**

Power Input Mains **100-240VAC**

Data & LED Connections **RJ45**

Operating Temp Range **-20 to 50 °C**

DIMENSIONS



LUD192-D

Output Current **350mA**

LED Outputs **4**

Max Voltage **48V**

Power Consumption **240W**

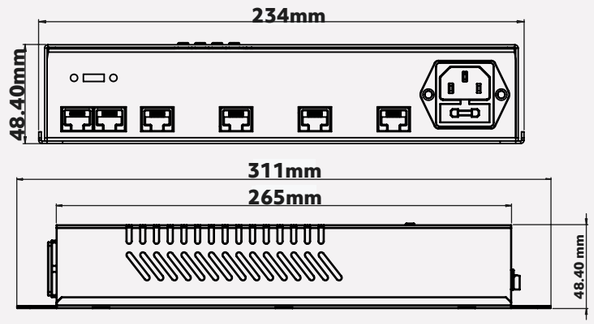
Channels **1-16Ch (RGB[W])**

Power Input Mains **100-240VAC**

Data & LED Connections **RJ45**

Operating Temp Range **-20 to 50 °C**

DIMENSIONS



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COMPATIBLE PRODUCTS & LOADS

LUD48-D

	Output 1
CS4 	x 12
CS16 / SL4 / LUS400 	x 3
SL8 / LUS800 	x 1
SL12 / LUS1200 	x 1

LUD48-4

	Output 1	Output 2	Output 3	Output 4
CS4	x 3	x 3	x 3	x 3
CS16 / SL4 / LUS400	x 1	x 1	x 1	x 1
SL8 / LUS800	-	-	-	-
SL12 / LUS1200	-	-	-	-

LUD192-D

	Output 1	Output 2	Output 3	Output 4
CS4	x 12	x 12	x 12	x 12
CS16 / SL4 / LUS400	x 3	x 3	x 3	x 3
SL8 / LUS800	x 1	x 1	x 1	x 1
SL12 / LUS1200	x 1	x 1	x 1	x 1

LUD48-D

WARNING: Although this unit uses similar connectors to a computer network, it is not compatible. Network equipment may be damaged if you connect this unit to a computer network.

RJ45 (LED)

Pin 1: Red LED +
Pin 2: Green LED +
Pin 3: Blue LED +
Pin 4: White LED +
Pin 5: Red LED -
Pin 6: Green LED -
Pin 7: Blue LED -
Pin 8: White LED -

RJ45 (DMX)

Pin 1: Data +
Pin 2: Data -
Pin 3: Ground
Pin 4: 48V (switchable)
Pin 5: 48V (switchable)
Pin 6: 48V (switchable)
Pin 7: Ground
Pin 8: Ground

Mains IEC

90-252VAC

RJ45 (DMX)

Connect in/out for continuous data if more drivers are required.

RJ45 (LED)

Connect to desired LED unit.

LUD48-4 / LUD192-D

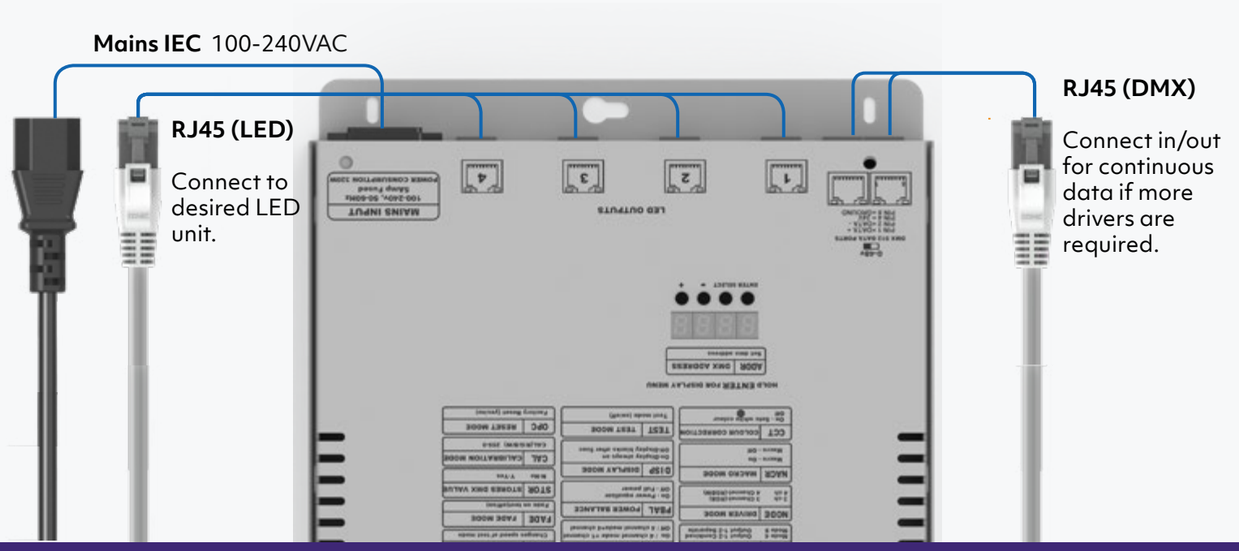
WARNING: Although this unit uses similar connectors to a computer network, it is not compatible. Network equipment may be damaged if you connect this unit to a computer network.

RJ45 (LED)

Pin 1: Red LED +
Pin 2: Green LED +
Pin 3: Blue LED +
Pin 4: White LED +
Pin 5: Red LED -
Pin 6: Green LED -
Pin 7: Blue LED -
Pin 8: White LED -

RJ45 (DMX)

Pin 1: Data +
Pin 2: Data -
Pin 3: Ground
Pin 4: 48V (switchable)
Pin 5: 48V (switchable)
Pin 6: 48V (switchable)
Pin 7: Ground
Pin 8: Ground



Mains IEC 100-240VAC

RJ45 (LED)

Connect to desired LED unit.

RJ45 (DMX)

Connect in/out for continuous data if more drivers are required.

IMPORTANT

All work involving electrical components should be carrieD out by a competent qualified electrical professional in accordance to IET BS 7671 and any local by-laws.

All mains power MUST be turned off before starting installation or maintenance; and MUST remain off for the duration of installation or main-tenance.

Equipment may become hot to the touch when used for periods of time. Ensure equipment is off and cooled before carrying out maintenance.

DO NOT connect or disconnect LED units while mains power is connected. All RJ45 connections MUST be made before mains power is connected. Failure to do so may result in catastrophic failure of the LED.

You can install any combination of LED units from a single 'LED' output on the Driver, ensuring the total combined forward voltage of the fittings
connected to any single 'LED' output DOES NOT EXCEED 48V and is NO LESS THAN 8V.

TESTING

You should test each fitting in isolation before continuing installation.

1. Disconnect the Driver from mains power.
2. Connect LED unit to the 'LED' socket of the Driver in isolation.
3. Power up the Driver.
4. Press 'ENT' continuously to select RED, GREEN, BLUE and WHITE.
5. Repeat steps 1 to 4, for each fitting.

If each LED unit lights up and displays each colour you can continue with your installation.

If a LED unit does not light up or display each colour please contact us for help. Do not continue your installation.

CONNECTING INDIVIDUAL LED UNITS

Ensure you have carried out the testing before installation.

1. Disconnect the Driver from mains power.
2. Using a RJ45 patch lead connect from 'LED' socket of the Driver to 'IN' socket of In-line connector.
3. Connect the RJ45 of LED unit to 'OUT' socket of In-line connector. (1x 'IN' socket, 1x 'OUT' socket).

CONNECTING MULTIPLE LED UNITS

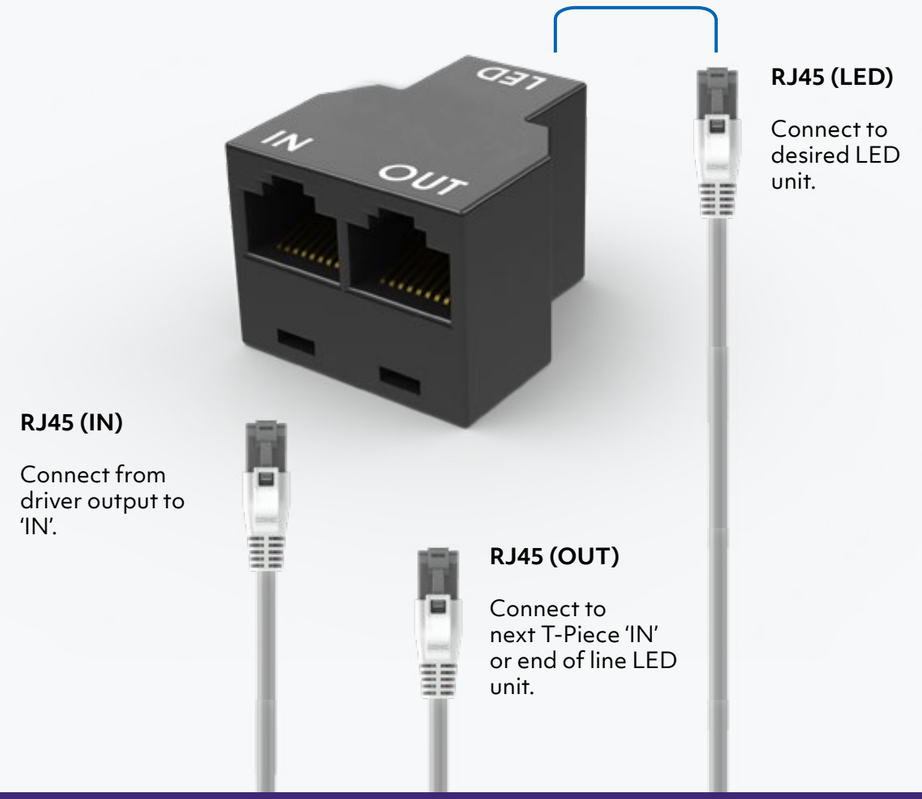
Ensure you have carried out the testing before installation.

1. Disconnect the Driver from mains power.
2. Using a RJ45 patch lead connect from 'LED' socket of the Driver to 'IN' socket of T-Piece.
3. Connect the RJ45 of LED unit to 'LED' socket of T-Piece (1x 'LED' socket, 1x 'IN' socket, 1x 'OUT' socket).
4. Connect a RJ45 patch lead from 'OUT' socket of T-Piece to 'IN' socket of next T-Piece.
5. Repeat steps 3. and 4 for each fitting, ensuring you do not exceed a total forward voltage of 48V to each 'LED' output of the Driver.
6. The last LED unit should be terminated with an In-line connector in place of the last T-Piece. (1x 'IN' socket, 1x 'OUT' socket).

IMPORTANT: WHEN CONNECTING THE LAST LED UNIT, PLEASE ENSURE THAT YOU LEAVE NO OPEN RJ45 CONNECTIONS ON THE CIRCUIT BY TERMINATING WITH IN-LINE CONNECTOR. LEAVING OPEN TERMINALS WILL LEAVE THE CIRCUIT INCOMPLETE.

T-PIECE WIRING

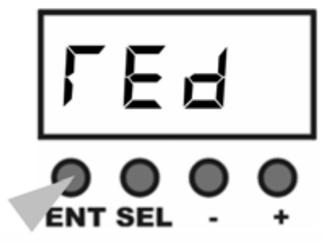
(FOR MULTIPLE UNITS ON DRIVER OUTPUT)



Test operating mode

When the unit powers up for the first time, or after being reset to factory defaults, it runs a simple option system giving various static colours and fades. The Test Mode setting is remembered after a power off.
Press ENT to change to the next option or SEL to go back to the previous option.

> ➢ TEST mode does not operate when DMX is present. To use TEST mode ensure all DMX is disconnected.

	Runs a simple R-G-B fade (if the user changes the PATT settings then TEST will run this pattern instead- this can also be useful for setting an emergency fall-back program)
	As above but runs a pale (pastel) version of the R-G-B fade
	RED / GRN / BLU / ORNG / CYAN / PURP/ WHIT: sets these colours. The + and – buttons can be pressed to change the intensity of the colours.

Operation in DMX mode

In its normal mode, the unit is controlled by sixteen DMX channels:

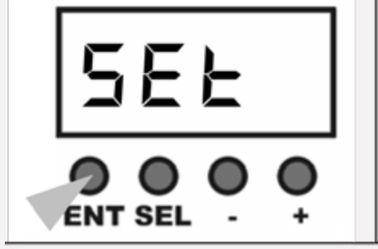
1	Output 1 Red
2	Output 1 Green
3	Output 1 Blue
4	Output 1 White
5	Output 2 Red
6	Output 2 Green
7	Output 2 Blue
8	Output 2 White
9	Output 3 Red
10	Output 3 Green
11	Output 3 Blue
12	Output 3 White
13	Output 4 Red
14	Output 4 Green
15	Output 4 Blue
16	Output 4 White

You set the base DMX address using the ADDR option (hold the left hand button for 3 sec).
The display will show the base DMX address, with a rotating status symbol when DMX is being received.

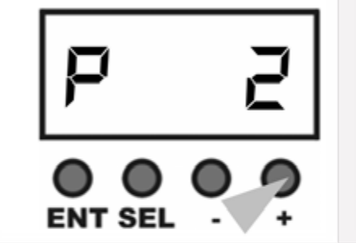
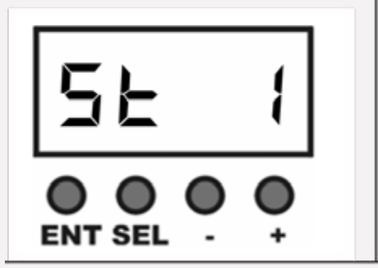
The following options affect DMX operation:

- OUTP may be set to 4 channel or 3 channel. “3CH” disables the White channel and reduces the DMX channel usage to 12.
- MODE may be set to RGBD, RGB, HSL or SNGL. RGB disables the dimmer channel. HSL changes the control mode to Hue (colour), saturation (depth of colour) and Luminance (intensity). SNGL makes the unit a 4 channel dimmer with each output controlled by one DMX channel.
- COND (condensed) mode sets all 4 LED ports to be controlled by the DMX for the first port.

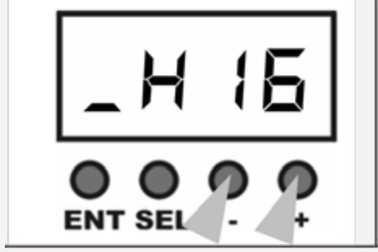
The following table shows how the DMX control channels are used in the different configurations.

	Press the ENT button to store the pattern number

Enter Record Mode

	Press the ENT button once to get to the REC option. If you go past the REC option you can press SEL to go back.
	Press the + button to start recording the pattern. The display shows the Pattern number you are recording.
	The display shows the the step number.

Set the output for the first step

	Select the Hue (colour) for the first step using the + and – buttons. Hold down the button to change colour faster.

DMX control options

To enter the option menu, hold the ENT button for 3 sec. Press ENT to go to the next option, or SEL to go back to the previous option.

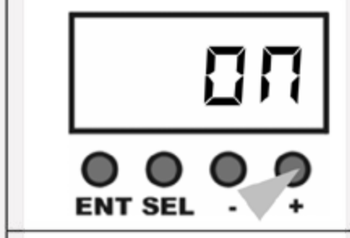
DMX address

Sets the DMX address the unit is to respond to

	Hold down the ENT button to get to the ADDR option.
	Use the three right hand buttons to set the digit above them (hundreds, tens and units)
	Press the ENT button to store the DMX address.

Condensed mode

Makes all four output ports do the same thing.

	Keep pressing the ENT button to get to the COND option.
	Use the + button to set ON or OFF. If set to ON, output ports 2, 3, 4 will be controlled by the same DMX as output port 1.
	Press the ENT button to store condensed mode.

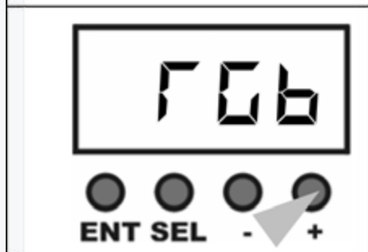
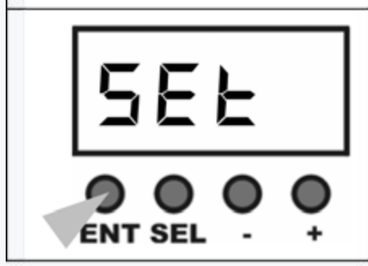
When Condensed mode is enabled, the unit will only receive DMX for the first output port, so the DMX channel usage is as follows:

Outp	3CH	3CH	3CH	**4CH**	4CH	4CH	*	*
Mode	RGB	RGBD	HSL	**RGB**	RGBD	HSL	SNGL	*
DMX chan				default				macro >50%
1	R	R	H	**R**	R	H	D	Pa
2	G	G	S	**G**	G	S	m	Sp
3	B	B	L	**B**	B	L		Xf
4	m	D	m	**W**	W	m		
5		m		**m**	D			?
6					m			

"m" channel only received if MACR is set to ON.

Control mode

Sets the control mode for the unit – you can either control each channel individually or use the colour mix mode (HSL).

	Keep pressing the ENT button to get to the MODE option.
	Use the + button to set the control mode. Modes are listed below.
	Press the ENT button to store the control mode.

The available options, selected using the right hand button, are

- RGBD – individual control of each channel with overall master dimmer.
- RGB – default – individual control but no master dimmer
- HSL (hue, saturation, luminance – colour mix mode. Hue sets the colour from all available colours in the spectrum. Saturation sets the strength of the colour, from full colour at the bottom, through pastel colours, to white at the top. Luminance sets the brightness (dimmer control) for the colour.
- SNGL – all colours on each port are controlled by a single DMX channel. Used when single-colour fixtures are being controlled. Uses one DMX channel per port only.

➢ Macro mode will not operate while you are in the configuration menu. Hold down the ENT button to leave the menu before trying to start a macro.

Other configuration

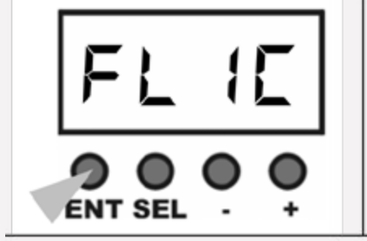
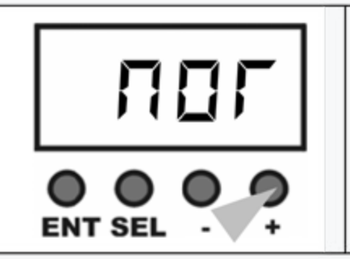
Option Clear to factory defaults

Resets all options and patterns to factory defaults when you press the right hand button. This will erase any patterns you have programmed.

	Keep pressing the ENT button to get to the OPCL option.
	Press the + button. The display will show WAIT while the memory is cleared.

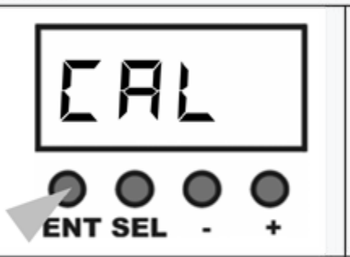
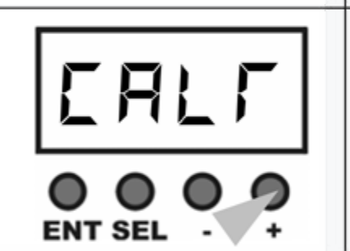
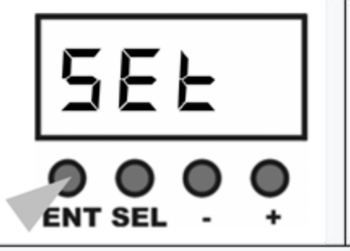
Flicker reduction mode

Sets a reduced flicker mode (by increasing the dimming frequency of the LEDs). This can be needed when TV cameras are in use. When set to LO, dimming at low levels is slightly more "steppy".

	Keep pressing the ENT button to get to the FLIC option.
	Press the + button to select NOR (normal) or LO (low flicker mode).

Colour calibration

The CAL option allows you to calibrate the colour output/white balance of the unit, by setting the maximum brightness of each colour.

	Keep pressing the ENT button to get to the CAL option.
	Press the + button to enter CAL mode. Then press the ENT/SEL buttons to select CALR, CALG, CALB or CALU (red, green, blue or white)
	Press the + or – buttons to set the calibration. 255 is the default setting (no change to the output)
	Press the ENT button to store the calibration setting.

Press the ENT button to store the calibration setting. Then to exit CAL mode, hold down ENT, or press ENT/SEL to calibrate another colour.

NOTE: setting the calibration to 0 or a low number will turn off the output completely.

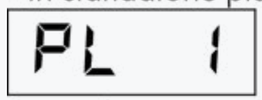
The calibration is the same for all 4 outputs of the driver (ie all reds are calibrated the same, all greens are the same etc). You cannot independently calibrate each output.

Status displays

In DMX mode the display shows

The _ is replaced by a rotating circle if DMX is being received.

In standalone playback mode the display shows



(1 is the pattern number). This display also shows if Macro playback is selected by DMX.

To enter the menu system hold the ENT button (above the _)