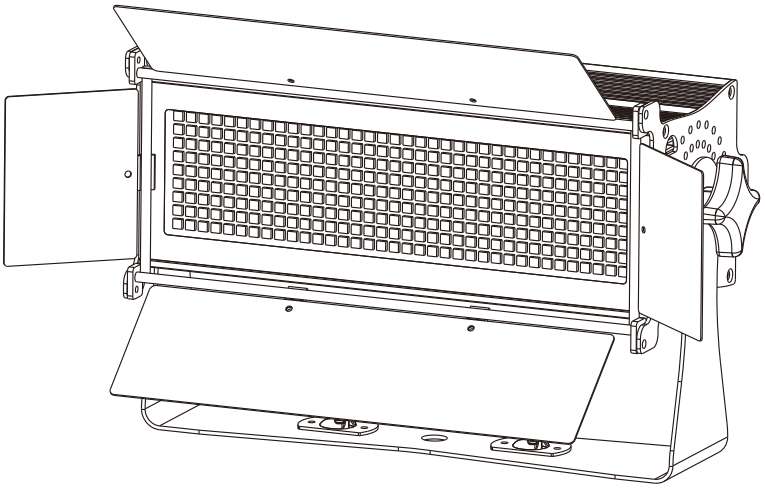
EL 150.TW

USER MANUAL



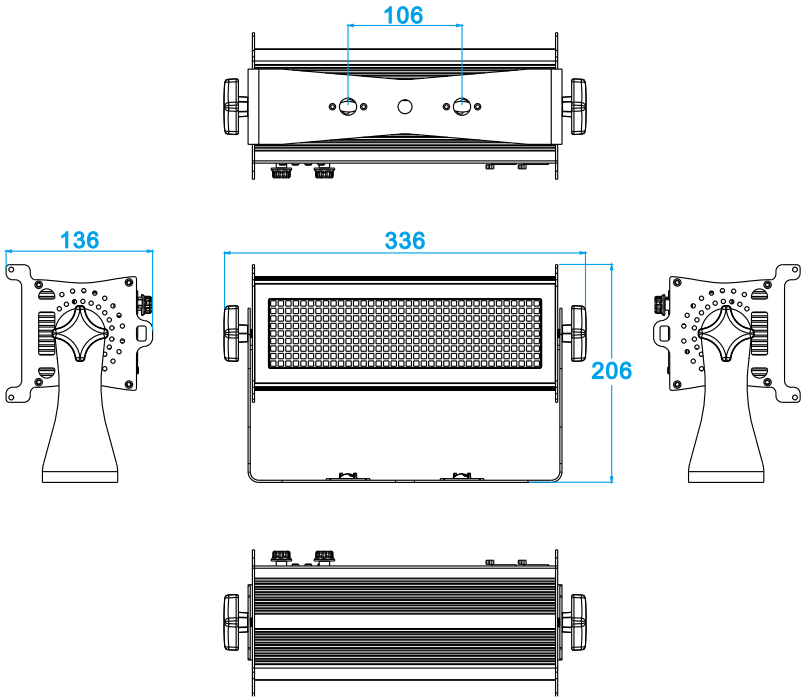
Pre-programmed

LINKABLE STAND / ALONE

DMX 512

DIMENSIONS

ALL DIMENSIONS ARE IN MILLIMETERS



SAFETY INFORMATION

WARNING!
Read the safety precautions in this section before installing, powering, operating or servicing this product

The following symbols are used to identify important safety information on the product and in this manual:


DANGER! Safety hazard. Risk of severe injury or death.


DANGER! Hazardous voltage. Risk of lethal or severe electric shock.


WARNING! Fire hazard.


WARNING! LED light emission. Risk of eye injury.


WARNING! Burn hazard. Hot surface. Do not touch.


WARNING! Wear protective eyewear.


WARNING! Refer to user manual.

Warning! Risk Group 3 (high risk) LED product according to EN 62471. Do not look into the beam at a distance of less than 3 meters from the front surface of the product. Do not view the light output with optical instruments or any device that may concentrate the beam.

This product is for professional use only. It is not for household use.

This product presents risks of severe injury or death due to fire and burn hazards, electric shock and falls.

Read this manual before installing, powering or servicing the fixture, follow the safety precautions listed below and observe all warnings in this manual and printed on the fixture. If you have questions about how to operate the fixture safely, please contact your supplier.

PROTECTION FROM ELECTRIC SHOCK

- Disconnect the fixture from AC power before removing or installing any cover or part and when not in use.
- Always ground (earth) the fixture electrically.
- Use only a source of AC power that complies with local building and electrical codes and has both overload and ground-fault (earth-fault) protection.
- Before using the fixture, check that all power distribution equipment and cables are in perfect condition and rated for the current requirements of all connected devices.
- Power input and through out cables must be rated 16A minimum, have three conductors 1.5 mm² minimum conductor size and an outer cable diameter of 5 - 15 mm . Cables must be hard usage type and heat-resistant to 90° C minimum.
- Use only PowerCON cable connectors to connect to power input sockets. Use only PowerCON cable connectors to connect to power through put sockets.
- Isolate the fixture from power immediately if the power plug or any seal, cover, cable, or other component is damaged, defective, deformed, wet or showing signs of overheating. Do not reapply power until repairs have been completed.

- REFER ANY SERVICE OPERATION NOT DESCRIBED IN THIS MANUAL TO A QUALIFIED TECHNICIAN.
- Socket outlets used to supply the fixture with power or external power switches must be located near the fixtures and easily accessible so that the fixtures can easily be disconnected from power.

PROTECTION FROM BURNS AND FIRE

- The exterior of the fixture becomes hot during use. Avoid contact by persons and materials. Allow the fixture to cool for at least 10 minutes before handling.

- Keep all combustible materials (e.g. fabric, wood, paper) at least 100 mm away from the fixture.
- Keep flammable materials well away from the fixture.
- Ensure that there is free and unobstructed airflow around the fixture.
- Do not illuminate surfaces within 200 mm of the fixture.
- Do not attempt to bypass thermostatic switches or fuses.

- If you relay power from one fixture to another using power throughput sockets, do not connect more than ten the fixture in total to each other in an interconnected chain.
- Connect only other the fixture to fixture power throughput sockets. Do not connect any other type of device to these sockets.
- Do not connect any other type of device to these sockets.
- Do not modify the fixture in any way not described in this manual.
- Do not use fixture on a dimmer.

PROTECTION FROM INJURY

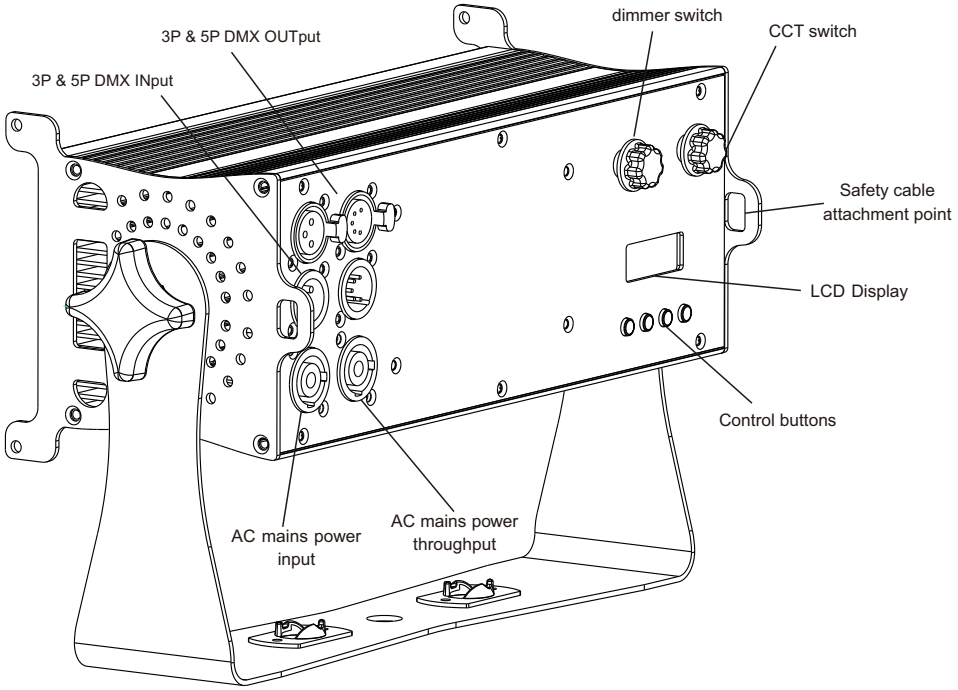
- Do not look continuously at LEDs from a distance of less than 3 meters from the front surface of the fixture without protective eyewear such as shade 4-5 welding goggles. At less than this distance, the LED emission can cause eye injury or irritation. At distances of 3 meters and above, light output is harmless to the naked eye provided that the eye's natural aversion response is not overcome.
- Do not look at LEDs with magnifiers, telescopes, binoculars or similar optical instruments that may concentrate the light output.

- Ensure that persons are not looking at the LEDs from within 3 meters when the product lights up suddenly. This can happen when power is applied, when the product receives a DMX signal, or when SERVICE menu items are selected.
- Fasten the fixture securely to a fixed surface or structure when in use.

- Ensure that any supporting structure and/or hardware used can hold at least 10 times the weight of all the devices they support.
- Allow enough clearance around the fixture to ensure that it cannot collide with an object or another fixture when it moves.
- Check that all external covers and rigging hardware are fastened securely.

- Block access below the work area and work from a stable platform whenever installing, servicing or moving the fixture.
- Do not operate the fixture with missing or damaged covers, shields or any optical component.

FIXTURE OVERVIEW



USING FOR THE FIRST TIME

Warning! Read "Safety Information" on page 2 before installing, powering, operating or servicing the fixture. Before applying power to the fixture:

- Check that the local AC mains power source is within the fixture's power voltage and frequency ranges.
- See "Power cables and power plug" on page 6. Install a PowerCON power input connector on a suitable power cable.

AC POWER

Warning! Read "Safety Information" starting on page 2 before connecting the fixtures to AC mains power.

Warning! For protection from electric shock, the fixture must be grounded (earthed). The power distributioncircuit must be equipped with a fuse or circuit breaker and ground-fault (earth-fault) protection.

Warning! Socket outlets or external power switches used to supply the fixture with power must be located near the fixture and easily accessible so that the fixtures can easily be disconnected from power.

Important! Do not insert or remove live PowerCON connectors to apply or cut power, as this may cause arcing at the terminals that will damage the connectors.

Important! Do not use an external dimming system to supply power to the fixture, as this may cause damage to the fixture that is not covered by the product warranty.

The fixture can be hard-wired to a electrical installation if you want to install it permanently, or a power plug that is suitable for the local power outlets can be installed on the power cable.

POWER VOLTAGE

Warning! Check that the voltage range specified on the fixtures label matches the local AC mains power voltage before applying power to the fixture.

The fixtures accepts AC mains power at 100-240 V nominal, 50/60 Hz. Do not apply AC mains power to the fixture at any other voltage than specified.

POWER CABLES

Power input and throughput cables must be rated 16A minimum, have three conductors 1.5 mm² minimum conductor size and an outer cable diameter of 5 - 15 mm. Cables must be hard usage type and heat- resistant to 90°C minimum. In the EU the cable must be HAR approved or equivalent.

If you install a power plug on the power cable, install a grounding-type (earthed) plug that is rated 16A minimum. Follow the plug manufacturer's instructions. Table 1 shows standard wire color-coding schemes and some possible pin identification schemes; if pins are not clearly identified.

Wire Color (EU models)	Wire Color (US models)	Conductor	Symbol
Brown	Black	Live	L
Blue	White	Neutral	N
Yellow/Green	Green	Ground (earth)	⏚ or ⏚

Table 1 : Wire color-coding and power connections

RELAYING POWER TO OTHER DEVICES

Warning! Do not connect more than ten fixtures in total to AC mains power in one interconnected chain. Power can be relayed to another device via the PowerCON throughput socket.

If you daisy chain the fixtures in a chain so that they all draw AC mains power via the first fixture, certain points must be respected:

• A heavy duty, three-conductor, 1.5 mm^2 cable must be used to connect the first fixture to AC mains power.

• PowerCON connectors must be used to draw AC mains power from the fixtures power throughput sockets and yellow PowerCON connectors must be used to supply power at the fixture's power input sockets.

• No matter what the AC mains power voltage is, do not connect more than ten the fixture in total (including the first fixture) to AC mains power in one interconnected daisy chain using power input and through out connectors.

DATA LINK

A DMX 512 data link is required in order to control a fixture via DMX. The fixture has 3 & 5-pin XLR connectors for DMX data input and output. The pin-out on all connectors is pin 1 = shield, pin 2 = cold (-), and pin 3 = hot (+) Pins 4 and 5 in the 5-pin XLR connectors are not used.

TIPS FOR RELIABLE DATA TRANSMISSION

To connect the fixture to data:

1. Connect the DMX data output from the controller to the 3 or 5-pin XLR connector of the nearest fixture.
2. Connect the DMX output of the fixture closest to the controller to the DMX input of the next fixture and continue connecting fixtures output to input.

PHYSICAL INSTALLATION

Warning! The fixture must be either fastened to a flat surface such as a stage or wall, or clamped to a truss or similar structure in any orientation using a rigging clamp.

Warning! If the fixture can cause injury or damage it if falls, attach an approved safety cable to one of the safety cable attachment points on the base (see “Fixture overview” on page 4).

Check that all surfaces to be illuminated are minimum 200 mm. from the fixture, that combustible materials (wood, fabric, paper, etc.) are minimum 100 mm. from the fixture, that there is free airflow around the fixture and that there are no flammable materials nearby.

FASTENING THE FIXTURE TO A FLAT SURFACE

The fixture can be fastened to a fixed flat surface that is oriented at any angle. Check that the surface can support at least 10 times the weight of all fixtures and equipment to be installed on it.

Warning! The supporting surface must be hard and flat or air vents in the base may be blocked, which will cause overheating. Fasten the fixture securely. Do not stand it on a surface or leave it where it can be moved or can fall over. Attach a securely anchored safety cable to the safety cable attachment point (see “Fixture overview” on page 4) if the fixture is to be installed in any location where it may fall and cause injury or damage if the primary attachment fails.

1. Block access under the work area. Working from a stable platform, hang the fixture on the truss. Tighten the rigging clamp.

2. Secure the fixture against clamp failure with a secondary attachment such as an approved safety cable that is rated for the weight of the fixture using one of the attachment points at the edges of the housing (see “Fixture overview” on page 4). Do not use any other part of the fixture as a safety cable attachment point.

SETUP

Warning! Read “Safety Information” on page 2 before installing, powering, operating the fixture.

CONTROL PANEL AND MENU NAVIGATION

The onboard control panel and backlit graphic display are used to set the fixture’s DMX address, configure individual fixture settings (personality), read out data and execute service utilities. See “Onboard control menus” on page 9 for a complete list of menus and commands.

Using the control buttons

- To enter the menu select [MODE].
- Press [UP] and [DOWN] to scroll within a menu or adjust values.
- To enter a menu, select a function or apply a selection, press [ENTER].
- To escape a function or move back one level in the menu structure, press [MODE].

DMX ADDRESS SETTING

The DMX address, also known as the start channel, is the first channel used to receive instructions from the controller.

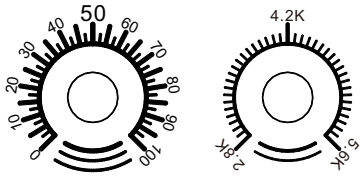
For independent control, each fixture must be assigned its to a separate channel .

The DMX address can be configured by using the DMX ADDRESS menu in the control panel. For setting the DMX address press [ENTER] before you can change the address.

- The main screen will show a 'dot' and the backlight will be switched off when a DMX signal is detected.
- The fixture is fully RDM ready. So when you are using a RDM ready console you can address the unit and read out its complete status. For RDM functions please refer to the ANSI/ESTA E1.20-2006 standard

ONBOARD CONTROL MENUS

NO.	Main Menu	Menu level 2	Menu level 3	Remark
1	DMX	001-512		Default 001
2	MODE	2CH	1.Cool white, 2.warm white	Default： 5CH
		3CH	1.Dimmer, 2.Cool white, 3.warm white	
		4CH	1.Dimmer, 2.Cool white, 3.warm white, 4.CCT	
		5CH	1.Dimmer, 2.Cool white, 3.warm white, 4.CCT, 5.Strobe	
		6CH	1.Dimmer, 2.Cool white, 3.warm white, 4.CCT, 5.Strobe. 6,Dimmer speed	
3	SET	D.speed	Off	Default： Off
			Speed 1 / Speed 2 / Speed 3 / Speed 4	
		D.curve	linear	Default： linear
			Square (Square law)	
			INV Sq (INV Square law)	
			S-Curve	
			Special	
		KEYLOCK	ON	Password:MENU, UP, DOWN, MENU, UP, DOWN,ENTER
			OFF	
		REFRESH	600 / 1200 / 2400 / 4800 Hz	Default： 600 Hz
		MASTER	Master	Default：Slave
			Slave	
4	CCT	2800K,3200K,3500K,3800K,4200K,4500K,4800K,5000K,5600K		Default：2800K
5	INFO	VERSION	VX.XX	
		USAGE.T	Xxxx H	
			RESET	Use time reset (password)
		TEMP	XXX℃	
		RDM.UID	xxxxxxxxxxxx	
6	FACTORY	LOAD	Please reboot power before reset takes effect!	



Select **dimmer** switch 0-100%

Select **CCT** switch 2800K to 5600K white

Signal priority after boot:

1. DMX mode:

If the EL 150.TW detect an DMX signal, it will be controlled by this signal.

2. Master/Slave

The master is controlled by the dimmer switch + CCT switch and controls all connected slaves. To change a slave to master use the onboard control menu (Set/Master/Master) or turn the dimmer switch to 0%, pause 1 sec, turn it to 100% and pause 1 sec. This function will be disabled 60 sec. after boot.

3. Stand alone / No signal

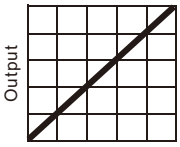
The lamp is controlled by the position of the dimmer switch & the CCT switch.

Troubleshooting:

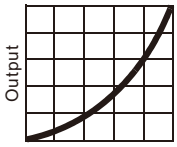
If there are more than one master in the line, than it is possible to force the other masters to change remotely to slaves. This could be done by turning the dimmer of the selected master to 0%, wait 1sec, turn it to 100% and wait again 1sec. Then all other masters switch remotely to slaves.This function will be disabled 60 sec. after boot.

DIMMER MODE

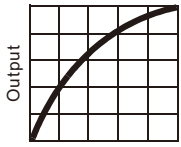
provides five dimming options (see picture below):



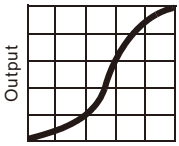
LINEAR



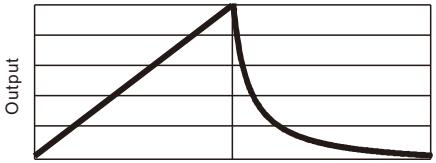
SQUARE LAW



INVERSE SQUARE LAW



S-CURVE



SPECIAL

- **LINEAR** – the increase in light intensity appears to be linear as DMX value is increased.
- **SQUARE LAW** – light intensity control is finer at low levels and coarser at high levels.
- **INV Square law** – light intensity control is coarser at low levels and finer at high levels.
- **S-CURVE** – light intensity control is finer at low levels and high levels and coarser at medium levels.
- **Special** – the light intensity was linear increase with DMX value , and light intensity control is finer at low level with DMX values decrease , the dimmer speed will also has effect on it

Whichever **DIMMER CURVE** option you select, you can choose between **Off** or **Speed 1 / 2 / 3 / 4** dimming settings:

- **Off** is the default setting. It gives a virtually instantaneous reaction when you dim from one intensity to another, but dimming slowly from one intensity to another may appear slightly uneven.
- The **Speed 1 / 2 / 3 / 4** setting gives smoother dimming during slow changes in intensity, but it limits the speed of dimming changes slightly. This makes it ideal for slow, smooth dimming, but a short time-lag may be noticeable if you try to dim quickly from one intensity to another.

DMX PROTOCOLS

2 CHANNELS:

2CH	Function	Value	Setting	Remark
1	Cool white	000 - 255	0 - 100%	
2	Warm white	000 - 255	0 - 100%	

3 CHANNELS:

3 CH	Function	Value	Setting	Remark
1	Dimmer	000 - 255	0 - 100%	
2	Cool white	000 - 255	0 - 100%	
3	Warm white	000 - 255	0 - 100%	

4 CHANNELS:

4 CH	Function	Value	Setting	Remark
1	Dimmer	000 - 255	0 - 100%	
2	Cool white	000 - 255	0 - 100%	
3	Warm white	000 - 255	0 - 100%	
4	CCT	000 - 255	2800k - 5600k	

5 CHANNELS:

5 CH	Function	Value	Setting	Remark
1	Dimmer	000 - 255	0 - 100%	
2	Cool white	000 - 255	0 - 100%	
3	Warm white	000 - 255	0 - 100%	
4	CCT	000 - 255	2800k - 5600k	
5	Strobe	000 - 024 025 - 064 065 - 069 070 - 084 085 - 089 090 - 104 105 - 109 110 - 124 125 - 129 130 - 144 145 - 149 150 - 164 165 - 169 170 - 184 185 - 189 190 - 204 205 - 209 210 - 224 225 - 229 230 - 244 245 - 255	ON Strobe 1 (fast → slow) ON Strobe 2: opening pulse (fast → slow) ON Strobe 3: closing pulse (fast → slow) ON Strobe 4: random strobe (fast → slow) ON Strobe 5: random opening pulse (fast → slow) ON Strobe 6:random closing pulse (fast → slow) ON Strobe 7: burst pulse (fast → slow) ON Strobe 8: random burst pulse (fast → slow) ON Strobe 9:sine wave (fast → slow) ON Strobe 10: burst (fast → slow) ON	

DMX PROTOCOLS

6 CHANNELS:

6 CH	Function	Value	Setting	Remark
1	Dimmer	000 - 255	0 - 100%	
2	Cool white	000 - 255	0 - 100%	
3	Warm white	000 - 255	0 - 100%	
4	CCT	000 - 255	2800k - 5600k	
5	Strobe	000 - 024 025 - 064 065 - 069 070 - 084 085 - 089 090 - 104 105 - 109 110 - 124 125 - 129 130 - 144 145 - 149 150 - 164 165 - 169 170 - 184 185 - 189 190 - 204 205 - 209 210 - 224 225 - 229 230 - 244 245 - 255	ON Strobe 1 (fast → slow) ON Strobe 2: opening pulse (fast → slow) ON Strobe 3: closing pulse (fast → slow) ON Strobe 4: random strobe (fast → slow) ON Strobe 5: random opening pulse (fast → slow) ON Strobe 6:random closing pulse (fast → slow) ON Strobe 7: burst pulse (fast → slow) ON Strobe 8: random burst pulse (fast → slow) ON Strobe 9:sine wave (fast → slow) ON Strobe 10: burst (fast → slow) ON	
6	Fade	000 - 255	dimmer speed (fast → slow)	

SPECIFICATIONS

Physical	
Length	336mm
Width	136mm
Height	206mm
Weight	3.25 kg
Optics	
Light source	324 x SMD 5050
beam angle	120°
Control and Programming	
Control	DMX512-A
DMX channels	2 / 3 / 4 / 5 / 6
Setting and addressing	Control panel with backlit LCD graphic display
Protocol	RDM, USITT DMX512-A
CONSTRUCTION	
Color	Black
Housing	metal
Protection rating	IP 20
Installation	
Orientation	Any
Minimum distance to combustible materials	100 mm. from fixture
Minimum distance to illuminated surfaces	200 mm. from fixture
Connections	
AC power input	PowerCON input socket
AC power throughput	PowerCON output socket
DMX data in/out	3 & 5 pin locking XLR
Electrical	
AC power	100-240 V nominal, 50/60 Hz
Maximum total power consumption	240 W
Power supply unit	Auto-ranging electronic switch mode
Power consumption, zero light output	<15 W
Cooling	active