



# High End Systems SolaFrame 3000

## Automated Luminaire User Manual

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# Introduction

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Congratulations on your purchase of the SolaFrame 3000 automated framing fixture. This manual provides important information for the safe installation, configuration, and maintenance of your SolaFrame 3000 fixture.

## Important Safety Information

Please read all instructions prior to assembling, mounting, and operating this equipment. Continued and safe operation of this fixture is the responsibility of the operator. This manual will give tips for that continued safe operation. At any time please contact Technical Services for any safety concerns.

The following international note, caution, and warning symbols appear in margins throughout this manual to highlight important messages.



**Note:** *Notes are helpful hints and information that is supplemental to the main text.*

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**CAUTION:** *Hot Surfaces. This statement indicates that while operating, equipment surfaces may reach very high temperatures. Allow the fixture to cool before handling or servicing.*



**CAUTION:** *A Caution statement indicates situations where there may be undefined or unwanted consequences of an action, potential for data loss or an equipment problem.*

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**WARNING:** **A Warning statement indicates situations where damage may occur, people may be harmed, or there are serious or dangerous consequences of an action**

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**WARNING: RISK OF ELECTRIC SHOCK!** This warning statement indicates situations where there is a risk of electric shock.

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## Help from Technical Services

If you are having difficulties and your problem is not addressed by this document, try the ETC support website at [support.etcconnect.com](https://support.etcconnect.com) or the High End Systems product website at [etcconnect.com/Products/Live-Events](https://etcconnect.com/Products/Live-Events). If none of these resources are sufficient, contact ETC Technical Services directly at one of the offices identified below. Emergency service is available from all offices outside of normal business hours.

When calling for help, take these steps first:

- Prepare a detailed description of the problem
- Go near the equipment for troubleshooting
- Find your notification number if you have called in previously

### ETC, Inc.

#### *Americas*

Technical Services Department  
3031 Pleasant View Road  
Middleton, WI 53562  
800-775-4382 (USA, toll-free)  
+1-608 831-4116  
[service@etcconnect.com](mailto:service@etcconnect.com)

### ETC Austin

#### *High End Systems Products*

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+1-512 836-2242  
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Room 1801, 18/F  
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Kowloon Bay, Kowloon, Hong Kong  
+852 2799 1220  
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# Safety Considerations

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To ensure safe operation, follow the safety instructions and warning notes in this user manual.

- The SolaFrame 3000 is intended for professional use only. Not for residential use. Read the entire manual before using this equipment.
- Contact your ETC authorized dealer or Technical Services before performing any service in order to maintain warranty coverage.

	The luminaire must be installed at least 2.0 m (6.56 ft) away from all lighted objects.	Le luminaire doit être installé à au moins 2.0 m (6,56 pi.) de tout objet éclairé.
	General warning	Avertissement général
	Do not stare at the operating light source.	Ne pas regarder la source de lumière lorsqu'elle fonctionne.
	This product should not be discarded as unsorted waste but must be sent to separate collection facilities for recovery and recycling.	Ce produit ne doit pas être jeté avec les déchets ménagers mais doit être déposé dans une collecte de déchets électroniques ou dans un point de collecte.
	Operate indoors only, not where this product would be exposed to the weather.	Ne fonctionne qu'à l'intérieur, pas là où ce produit serait exposé aux intempéries.



## **WARNING:** Note the following safety warnings before use:

- This equipment is designed for operation by qualified personnel only.
  - Replace fuses with the specified type and rating only. See [page 27](#).
  - Make sure that the available voltage is within the stated range. See [page 10](#).
  - Do not use this fixture with a damaged power lead (cord set). If the lead is damaged, it must be replaced by a qualified technician with an equivalent type before use. Contact your local authorized dealer for spare power leads.
  - Do not use this fixture if the lens, protection screen, or ultraviolet screen is damaged. Damaged lenses must be replaced before use. Contact your local authorized dealer for a replacement.
  - Do not mount the fixture on or near flammable surfaces.
  - Minimum distance from fixture head to combustible materials: 0.1 m (4.0 in).
  - Minimum distance to lighted objects: 2.0 m (6.56 ft).
-



**AVERTISSEMENT :** Pour votre sécurité, lisez les mises en garde et les avis suivants avant toute utilisation :

- Cet équipement est conçu pour être utilisé par un personnel qualifié uniquement.
- Remplacez les fusibles uniquement par le type et le calibre indiqués. Voir [page 27](#).
- Veillez à ce que la tension disponible soit dans la plage indiquée. Voir [page 10](#).
- N'utilisez pas ce projecteur avec un cordon d'alimentation endommagé (fils électriques). Si le cordon est endommagé, un technicien qualifié doit le remplacer par un cordon de type équivalent avant que l'appareil ne puisse être utilisé. Contactez votre distributeur agréé local pour obtenir des cordons d'alimentation de rechange.
- N'utilisez pas ce projecteur si la lentille, l'écran de protection ou l'écran ultraviolet sont endommagés. Les lentilles endommagées doivent être remplacées avant d'utiliser l'appareil. Contactez votre distributeur local agréé pour les remplacer.
- Ne pas installer le projecteur sur ou à côté d'une surface inflammable.
- Distance minimum entre la tête du luminaire et les matériaux combustibles : 0.1 m (4.0 in).
- Distance minimale avec les objets éclairés : 2.0 m (6.56 ft).



**WARNING: RISK OF ELECTRIC SHOCK!**

- Do not operate this device with the cover open.
- Disconnect the fixture from power and DMX and allow it to cool before performing any cleaning and maintenance.



**AVERTISSEMENT : RISQUE DE CHOC ÉLECTRIQUE!**

- N'utilisez pas cet appareil avec le couvercle ouvert.
- Débrancher la lampe de son alimentation et du DMX et la laisser refroidir avant d'effectuer un nettoyage ou un entretien.



**RISK GROUP 2: CAUTION.** *Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to the eyes.*

**GROUPE DE RISQUE 2 (RISQUE MODÉRÉ) : ATTENTION.** *Rayonnement optique potentiellement dangereux émis par ce produit. Ne regardez pas la lampe en fonctionnement. Peut être nocif pour les yeux.*



**CAUTION:** *Hot Surfaces. Allow the device to cool completely before handling and servicing.*



**ATTENTION :** *Surfaces chaudes. Laissez le luminaire refroidir complètement avant de le manipuler et de procéder à son entretien.*



**Note:** *The light source of this fixture is not replaceable. When the light source reaches its end of life, replace the fixture.*

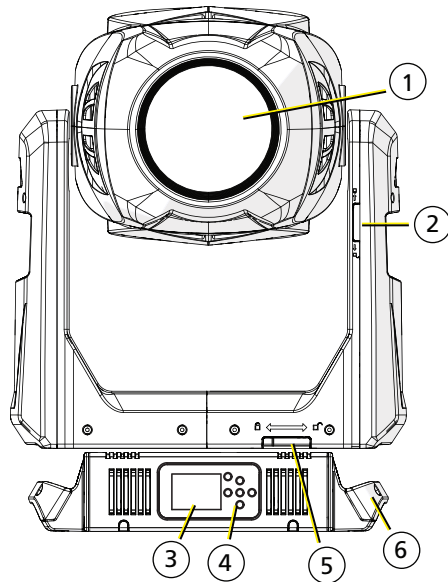


## General Operation and Use Guidelines

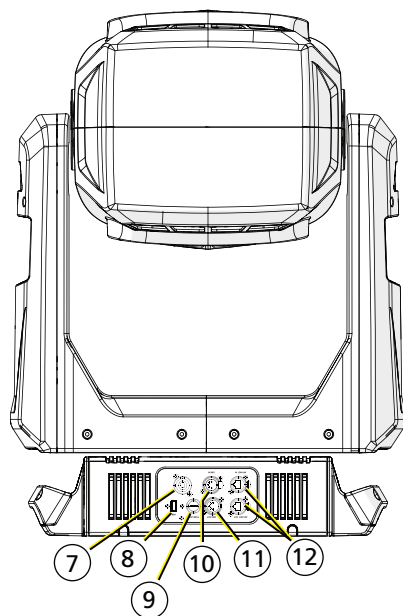
- This fixture is only allowed to be operated with the maximum alternating current that is stated in the technical specifications label provided on the fixture.
- Lighting effects are not designed for permanent operation. Consistent operation breaks may ensure that the fixture will function for a long time without defects.
- When choosing the installation location, make sure that the fixture is not exposed to extreme heat, moisture, or dust.
- If using the supplied Omega™ brackets with quick-locking thumb screws for fixture hanging, ensure that the thumb screws have engaged a complete 90-degree positive latch.
- Operate the fixture only after having familiarized yourself with its functions. Do not permit persons who are not qualified and familiar with its functions to operate the fixture.
- Do not modify the fixture. Any modifications will void the warranty.
- This manual describes the proper installation and operation of this fixture. Using this fixture in any way other than the intended use may cause damage and void the warranty.
- When the fixture has been stored or transported in cold temperatures, allow it to warm to room temperature for a minimum of one hour before applying power. Applying power to a cold fixture may cause damage to the fixture and void the manufacturer warranty.
- When you power on the fixture, you may notice smoke or odor. This is normal and should decrease gradually. If smoke or odor persists, disconnect the fixture from power and contact your ETC dealer or Technical Services.
- Please use the original packaging if the fixture is to be transported. ETC will not be responsible for the fixture if packaging other than manufacturer provided packaging is used.
- If you do not provide power to the fixture, the battery on the SolaFrame 3000 may drain fully after 7-10 days. After you provide power to the fixture, the battery will recharge within 3-4 hours.

# Fixture Overview

For technical specifications of the SolaFrame 3000 fixture, see the technical data sheet:  
[etcconnect.com/Products/Live-Events/Lighting-Fixtures/SolaFrame/3000/Documentation.aspx](http://etcconnect.com/Products/Live-Events/Lighting-Fixtures/SolaFrame/3000/Documentation.aspx)



- 1: Lens
- 2: Tilt lock
- 3: Display
- 4: Navigation controls
- 5: Pan lock
- 6: Handle
- 7: Power In
- 8: USB
- 9: Fuse
- 10: DMX In
- 11: DMX Out
- 12: Ethernet ports (x2)



# Install the Fixture

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## **WARNING:**

- NEMA Type 1 enclosure, indoor use, dry locations only. Do not use outdoors. This fixture is intended for use where humidity does not exceed 90% (non-condensing).
  - The installation must always be secured with a secondary safety attachment. An appropriate safety cable is supplied.
  - Safety cable attachment must be rated by a safety factor of 10.
  - Use of third party clamps are permitted, but they should comply with, and be approved by, the Authority Having Jurisdiction (AHJ).
  - A supportive and stable surface must be used when the fixtures are placed on the feet.
  - The operating temperature range for this fixture is -10°C–45°C (14°F–113°F). Do not operate the fixture outside of this range.
  - Never stand directly below the installed fixture when mounting, removing, or servicing the fixture.
  - All safety and technical aspects of fixture installation must be approved by a qualified personnel before operation.
  - The installation must be regularly inspected by qualified personnel.
  - Overhead rigging must be performed by qualified personnel.
- 



## **AVERTISSEMENT :**

- Boîtier NEMA de type 1, utilisation en intérieur, emplacements secs uniquement. Ne l'utilisez pas en extérieur. Ce projecteur est conçu pour être utilisé dans des environnements où l'humidité ne dépasse pas 90 % (sans condensation).
  - L'installation doit toujours être sécurisée par une fixation de sécurité auxiliaire. Un câble de sécurité approprié est fourni.
  - La fixation du câble de sécurité doit être classée avec un facteur de sécurité de 10.
  - Il est permis d'utiliser des pinces provenant de tiers, mais elles doivent être conformes et approuvées par l'Autorité compétente (AC).
  - Une surface d'appui stable doit être utilisée quand les projecteurs sont placés sur pieds.
  - La plage de température de fonctionnement de ce projecteur est de -10°C–45°C (14°F–113°F). Ne faites pas fonctionner le projecteur au-delà de cette plage.
  - Ne vous placez jamais directement sous le projecteur lors du montage, du démontage ou de son entretien.
  - Tous les aspects techniques et de sécurité de l'installation du projecteur doivent être approuvés par un personnel qualifié avant qu'il ne soit utilisé.
  - L'installation doit être régulièrement inspectée par du personnel qualifié.
  - La fixation en hauteur doit être effectuée par du personnel qualifié.
-

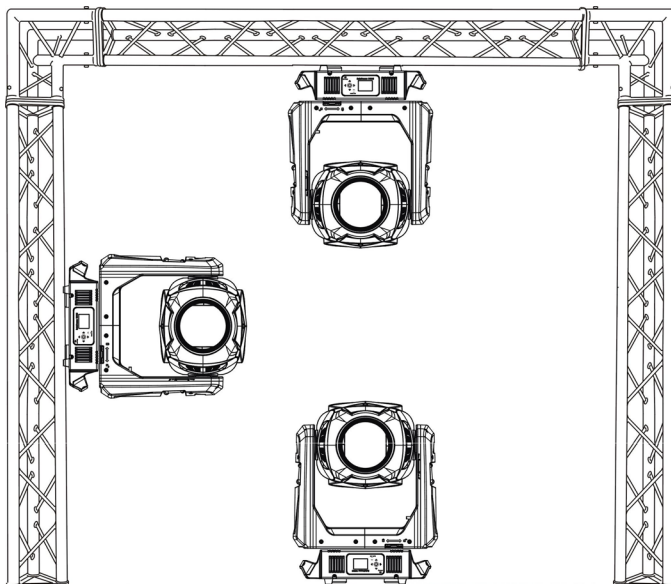


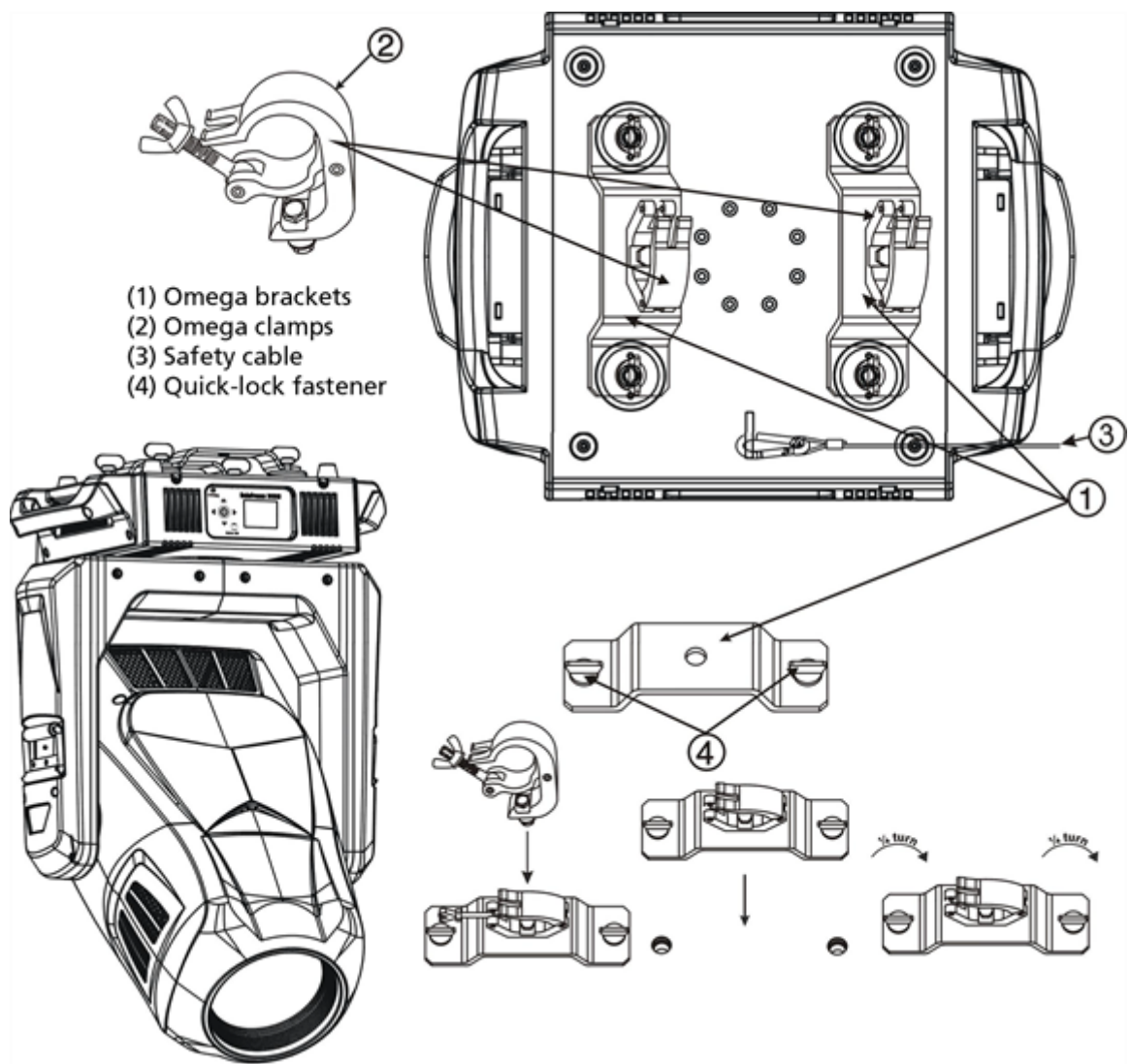
**CAUTION:** *Follow all local codes and recommended practices by the Authority Having Jurisdiction. The installation must only be carried out by qualified personnel.*

**ATTENTION :** *Respectez tous les règlements locaux et toutes les pratiques recommandées par l'autorité compétente. L'installation doit être effectuée uniquement par du personnel qualifié.*

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You can install the fixture in any of the orientations shown below.





1. Assemble the clamp (provided by others) to the Omega bracket and secure together using appropriately sized hardware (not provided).
2. Align the assembled Omega bracket and quick-lock fasteners into the respective holes on the bottom of the fixture upper enclosure.
3. Tighten each of the quick-lock fasteners fully, turning clockwise. You will hear and feel a click when the fastener is fully secured.
4. Repeat steps 1 through 3 for the second clamp and bracket.
5. Attach the provided safety cable through the attachment point on the bottom of the fixture upper enclosure and secure to the trussing system or other safe installation point. Follow local codes and recommended safety standards for securing the fixture to the installation location.
6. Attach the fixture to the installation location using the installed clamps, using the clamp manufacturer's instructions for a secure fit. When using the Omega clamp, close the safety and fully tighten the clamp wing nut until secure.
7. Inspect the installation prior to lifting the fixture overhead.

# Power

## Input and Power Factor

VAC	Amps	Hz	Watts	VA	PF
100	14.7	50	1471	1461	0.99
120	11.8	60	1420	1416	0.99
200	6.6	50	1323	1322	0.99
208	6.3	60	1322	1326	0.99
220	6.0	50	1321	1346	0.99
240	5.5	60	1316	1324	0.98



**CAUTION:** Using this fixture below 100 V on a 15 A breaker may cause the breaker to trip. Ensure that the circuit can handle the fixture's maximum potential draw before you connect it.

## Connector Specification



**WARNING:** Risk of Shock and Fire. Assemble a grounding-type attachment plug with integral cord grip that is within the voltage and amperage rating of this luminaire.

**AVERTISSEMENT :** Risque de choc et d'incendie. Assurez-vous d'utiliser une prise de mise à la terre avec décharge de traction intégrée qui respecte la tension et l'ampérage de ce luminaire.

A power input cable with powerCON® TRUE1® TOP input to bare ends is provided. Install a suitable connector to meet the installation requirements. See the following wire color code chart:

Wire Color Code (EU)	Wire Color Code (US Standard)	Connection type	Terminal
Green/Yellow	Green	Earth/Ground	
Blue	White	Neutral	N
Brown	Black	Line (Live)	L

# DMX Control

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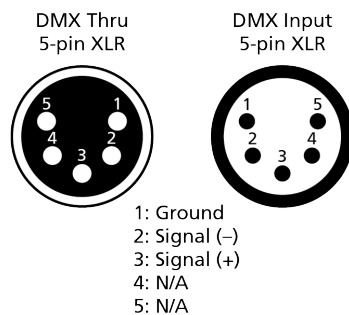
The SolaFrame 3000 fixture operates on standard DMX-512 control bus, controlled by a DMX console. The fixture requires 49 channels of DMX-512 in standard mode.

Attach the fixture to the control bus using a two-core, shielded cable with a 5-pin XLR connector (Belden 9729 is preferred).

Two XLR termination receptacles are available: one for connection of DMX Input, and one for DMX Out (used when daisy-chaining to additional fixtures on the DMX control bus).

## DMX Connector Pinout

For DMX Input, the DMX cable must have a XLR plug connector on one end of the cable that connects to the fixture. When daisy-chaining DMX to the next device, prepare a DMX cable with a XLR socket connector on one end and a XLR plug connector on the other end. Terminate the cable ends as indicated in the pinout image below.



## Connect DMX Cables to Fixture

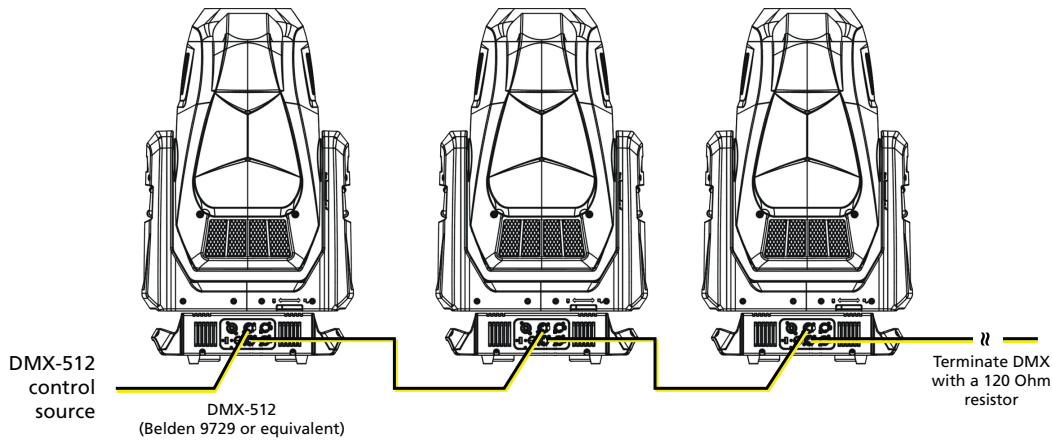
The following instructions are guidelines for connecting DMX to your fixture. Your installation may vary.

1. Connect the XLR plug connector of a DMX data cable to the DMX Out connector on the DMX control source.
2. Connect the XLR socket connector of the DMX data cable to the DMX In connector of the first fixture on the DMX control run.
3. Continue linking the remaining fixtures by connecting a cable from the DMX Out connector of a fixture to the DMX In connector of the next fixture on the control run.



**Note:** A maximum of 32 DMX devices may be connected in any one DMX data run when installed in a daisy-chain fashion.

---



## DMX Control and Ethernet Output

You can use DMX-512 control and Ethernet output. When a fixture is set up to receive DMX-512 control input, it converts the signal to Art-Net on IP10 and sends the signal to the Ethernet port, continuing the Art-Net on IP10 signal to the next fixture in the control run.

## Terminate DMX

Use a DMX terminator or install a resistor on the last fixture of the DMX control run to prevent corruption (data reflection) of the digital control signal by electrical noise.

A DMX terminator is an XLR plug with a 120  $\Omega$  resistor connected between pins 2 and 3 that can be installed into the DMX output receptacle of the last fixture in the DMX control run. This plug is available and sold separately. Contact your authorized dealer or ETC for ordering information ([etcconnect.com/contactETC/](http://etcconnect.com/contactETC/)).



## Set the DMX Start Address

Give each fixture a unique DMX starting address so that the correct fixture responds to the control signals. This DMX start address is the channel number from which the fixture starts to “listen” to the digital control information sent out from the control source.

Modify the fixture DMX start address on the user interface, located on the upper enclosure. See [DMX Address on page 17](#).



**Example:** The SolaFrame 3000 has 49 channels. If you set the DMX starting address of the first fixture to 1, you could set the second fixture to 50 (49+1), the third to 99 (49+50), and so on.

## DMX Channels

The most current DMX Map data for the SolaFrame 3000 can be found on the ETC website:

[etcconnect.com/Products/Live-Events/Lighting-Fixtures/SolaFrame/3000/Documentation.aspx](http://etcconnect.com/Products/Live-Events/Lighting-Fixtures/SolaFrame/3000/Documentation.aspx)

# Ethernet Control

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The SolaFrame 3000 fixture includes two Ethernet ports that allow sending and receiving of control signals using the Art-Net protocol or sACN.

Use a Cat5e (or better) cable and terminate to RJ45 connectors following the TIA/EIA 568B wiring standard.

## Connect Ethernet Cables to a Fixture

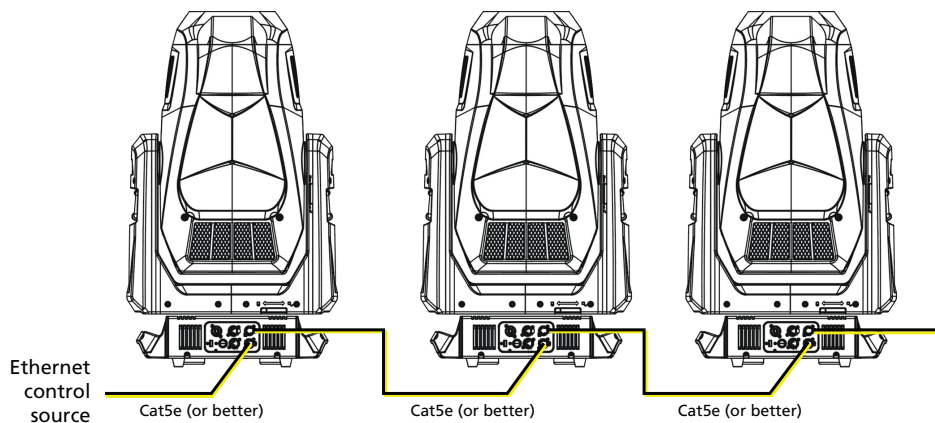
The following instructions are guidelines for connecting Ethernet to your fixture. Your installation may vary.

1. Connect a cable from the Ethernet control source to one of the Ethernet ports on the first fixture in the Ethernet control run.
2. Connect the first fixture to a second fixture by connecting a cable from the second Ethernet port on the first fixture to one of the Ethernet ports on the second fixture.
3. Continue linking the remaining fixtures by connecting a cable from Ethernet port to Ethernet port on the fixtures on the control run.



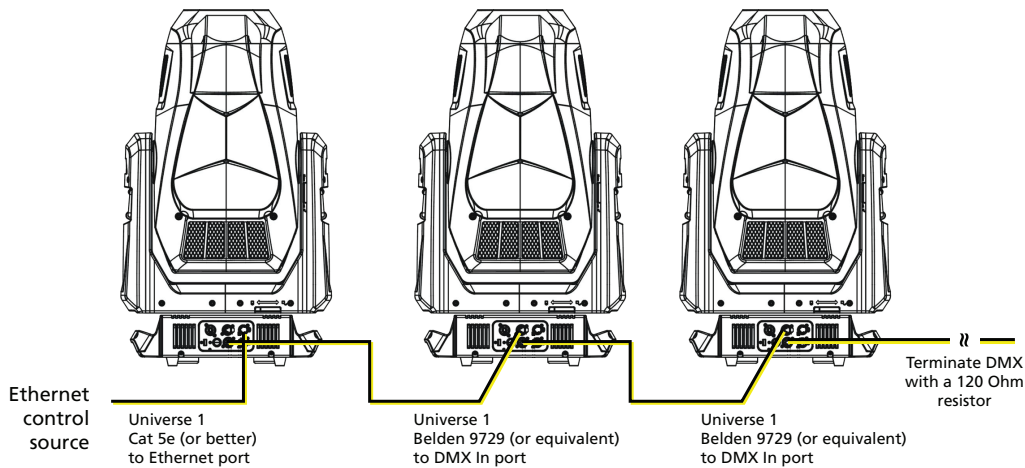
**Note:** *The Cat5e cable distance should not exceed 100 m (328 ft), and you should not connect more than 20 fixtures in one Ethernet control run when the fixtures are linked together.*

---



## Ethernet Control and DMX Thru

You can use Ethernet control and DMX Thru. When a fixture is set up to receive Ethernet control input, it automatically distributes DMX via the DMX Thru port. The DMX-512 signal is sent as a single universe that corresponds to the universe of the fixture that is receiving Ethernet control.



## Terminate DMX

Use a DMX terminator or install a resistor on the last fixture of the DMX control run to prevent corruption (data reflection) of the digital control signal by electrical noise.

A DMX terminator is an XLR plug with a 120  $\Omega$  resistor connected between pins 2 and 3 that can be installed into the DMX output receptacle of the last fixture in the DMX control run. This plug is available and sold separately. Contact your authorized dealer or ETC for ordering information ([etcconnect.com/contactETC/](http://etcconnect.com/contactETC/)).

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Modify the fixture DMX start address on the user interface, located on the upper enclosure. See [DMX Address on page 17](#).



**Example:** The SolaFrame 3000 has 49 channels. If you set the DMX starting address of the first fixture to 1, you could set the second fixture to 50 (49+1), the third to 99 (49+50), and so on.

## Set the Control Input and Universe

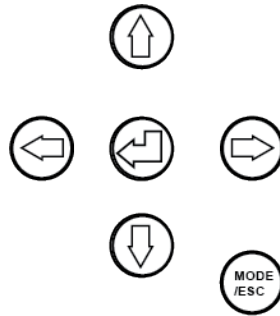
For Ethernet control, you must configure the control input (Art-Net on IP2, Art-Net on IP10, or sACN) and set a universe for each fixture. See [Select Input on page 20](#) and [Set Universe for Art-Net and sACN on page 20](#) for details.



# Configure the Fixture

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You can configure SolaFrame 3000 fixtures through the onboard user interface.

## Navigate the User Interface



1. Press and hold the [MODE/ESC] button until the display flashes. (The display is powered by battery when the fixture has no power.)
2. Browse the menu by pressing the up, down, left, or right navigation buttons.
3. Press the Enter button  to select a menu item.
4. Modify the selection by pressing the up, down, left, or right navigation buttons according to the selection.
5. Press the Enter button  to confirm a modified selection.
6. To exit the menu, press the [MODE/ESC] button.



**Note:** *If you press the Enter button to confirm a selection and push no other buttons, the user interface returns to the default display after 10 seconds.*

---

## Set Fixture Parameters

This section provides instructions to configure and set up the SolaFrame 3000. See [Navigate the User Interface on the previous page](#) for information about the navigation buttons.

Provide power to the fixture before configuring it. If you do not provide power, the fixture will use battery power to power the user interface.

### DMX Address

**Navigate:** Main Menu → Address

Set the DMX address for the fixture. The default value is 001.

### Info Menu

#### *Set the Time Information*

**Navigate:** Main Menu → Info → Time Info

Parameter	Value	Description
Current Time	XXXX (Hours)	Running time of the fixture from the last time that the fixture was powered on, shown in hours (h). The counter resets after the fixture is turned off.
Ttl Life Hrs	XXXX (Hours)	Total running time of the device, shown in hours (h).
Last Run Hrs	XXXX (Hours)	Running time of the fixture from the last time that the run time value was reset, shown in hours (h).
LED Hours	XXXX (Hours)	Total running time of the fixture LEDs, shown in hours (h).
Timer PIN	Timer PIN XXX	You must enter the Timer PIN in order to access the Clr Last Run menu item. The default Timer PIN is 038.
Clr Last Run	<ul style="list-style-type: none"><li>• ON</li><li>• OFF</li></ul>	<p>This password-protected menu item resets the Last Run Hrs value. You must enter the Timer PIN to access this menu item.</p> <p>Select ON to clear the value for the Last Run Hrs parameter for the fixture.</p>
LED Time PIN	LED Time PIN XXX	You must enter the LED Time PIN in order to access the Clear LED Time menu item. The default LED Time PIN is 038.
Clear LED Time	<ul style="list-style-type: none"><li>• ON</li><li>• OFF</li></ul>	<p>This password-protected menu item resets the LED Hours value. You must enter the LED Time PIN to access this menu item.</p> <p>Select ON to clear the value for the LED Hours parameter.</p>

#### *View Fixture Errors*

**Navigate:** Main Menu → Info → Error Info

Displays any current fixture errors. See [Error Codes on page 24](#) for information about the errors.

## ***View DMX Values for Channels***

**Navigate:** Main Menu → Info → DMX Value

View the DMX value of each of the fixture's channels (parameters of the fixture). Scroll to the parameter that you want to view (Pan, Tilt, etc.) and view the value. The DMX value that you view is the DMX value that displays on the main window of the UI until you select a different DMX value to view.

## ***View Fixture Head Temperature***

**Navigate:** Main Menu → Info → Head Temp

Displays the current fixture temperature as read from the fixture head (near the CMY filter).

## ***View Power Temperature***

**Navigate:** Main Menu → Info → Power Temp

Displays the current temperature as read from the power supply in the fixture base, which can help you to determine if the power supply is overheating.

## ***View Fan Speeds***

**Navigate:** Main Menu → Info → Fan Speed

Displays the speeds of the fixture's fans (in RPM).

## ***View Sensor Status***

**Navigate:** Main Menu → Info → LED Sensor

Displays the status of the sensors, which can help you to determine whether the fixture is recognizing the movement and position of the wheel. The display toggles between ON and OFF as the magnet passes the sensor.

## ***View Ethernet IP Address***

**Navigate:** Main Menu → Info → Ethernet IP

Displays the Ethernet IP address for the fixture. You can modify this value in the Set menu. See [Access Service Settings on page 20](#).

## ***View Software Version***

**Navigate:** Main Menu → Info → Software Ver

Displays the software version for the fixture.

## **Set Menu**

### ***Set the Status Options***

**Navigate:** Main Menu → Set → Status

Parameter	Value	Description
No DMX Mode	<ul style="list-style-type: none"><li>• Close</li><li>• Hold</li><li>• Auto</li></ul>	Control mode when DMX is absent. The default value is Hold.
Pan Reverse	<ul style="list-style-type: none"><li>• ON</li><li>• OFF</li></ul>	Reverse the pan movement of the fixture. The default value is OFF.

Parameter	Value	Description
Tilt Reverse	<ul style="list-style-type: none"> <li>• ON</li> <li>• OFF</li> </ul>	Reverse the tilt movement of the fixture. The default value is OFF.
Pan Degree	<ul style="list-style-type: none"> <li>• 630</li> <li>• 540</li> </ul>	Change the pan rotation of the fixture from the default setting of 540 degrees to 630 degrees.
Encoders	<ul style="list-style-type: none"> <li>• ON</li> <li>• OFF</li> </ul>	Turn on or off the encoder feedback for pan and tilt movement. You may want to turn off encoders when working on a fixture so that you can move pan and tilt without the fixture automatically moving back to position.
Pan/Tilt Spd	1–4	Set the speed (scan mode) of pan and tilt movement. The default value is 1. Use this parameter to make fine adjustments to pan and tilt movement in order to correct for mis-stepping when the fixture is installed on its side (side-hung, or "Outrig").
Hibernation	<ul style="list-style-type: none"> <li>• OFF</li> <li>• 1–99 minutes</li> </ul>	Hibernation mode forces the LEDs and stepper motors to power off when the fixture loses DMX control signal for a set period of time. The default time setting is 15 minutes.
Defogger	<ul style="list-style-type: none"> <li>• Defog OnOP</li> <li>• Defog OnPwr</li> <li>• Defog Off</li> </ul>	<p>Set when the Defogger (heater for the front lens) is turned on:</p> <ul style="list-style-type: none"> <li>• Defog OnOP: Turn on Defogger when LEDs are above 0% intensity</li> <li>• Defog OnPwr: Turn on Defogger when the fixture is powered (default value)</li> <li>• Defog Off: Turn off Defogger</li> </ul>
Dimming Mode	<ul style="list-style-type: none"> <li>• Standard</li> <li>• Theatrical</li> </ul>	Set the dimming curve and pulse width modulation (PWM) frequency. The PWM frequency is 16 kHz in Standard mode and 2.4 kHz in Theatrical mode. The default value is Standard.
Out Rig Mode	<ul style="list-style-type: none"> <li>• ON</li> <li>• OFF</li> </ul>	Turn on when the fixture is installed on its side (side hung, or "Outrig"). This parameter reduces the speed of pan and tilt movement to correct for mis-stepping.
P/T Home Mode	<ul style="list-style-type: none"> <li>• Standard</li> <li>• Tilt First</li> <li>• Pan First</li> </ul>	<p>Set the order in which pan and tilt homing is performed.</p> <ul style="list-style-type: none"> <li>• Standard: the pan and tilt home procedures run simultaneously.</li> <li>• Tilt First: the tilt home procedure runs to completion, then the pan home procedure begins.</li> <li>• Pan First: the pan home procedure runs to completion, then the tilt home procedure begins.</li> </ul>
Prism/Frost Sel	<ul style="list-style-type: none"> <li>• Prism Mode</li> <li>• Dual Frost Mode</li> </ul>	If you have installed a frost in the prism slot, select Dual Frost Mode so that the fixture will home appropriately. The default setting is Prism Mode.

## Select Input

**Navigate:** Main Menu → Set → Select Input

Select the control input for the fixture:

- DMX Only
- Art-Net on IP2
- Art-Net on IP10
- sACN

## Set Universe for Art-Net and sACN

**Navigate:** Main Menu → Set → Set Universe

When using Art-Net control input, set a universe value of 000–255.

When using sACN control input, set a universe value of 001–255.

## Access Service Settings

**Navigate:** Main Menu → Set → Service Setting

Parameter	Value	Description
Service PIN	Service PIN XXX	You must enter the Service PIN in order to access the other Service Setting parameters. The default Service PIN is 050.
Ethernet IP	XXX.XXX.XXX.XXX	This password-protected menu item lets you modify the IP address. You must enter the Service PIN to access this menu item.  The default IP address is 002.142.058.034.
Ethernet Mask IP	XXX.XXX.XXX.XXX	This password-protected menu item lets you modify the IP subnet mask. You must enter the Service PIN to access this menu item.  The default IP subnet mask is 255.000.000.000.
Clr Err Info	<ul style="list-style-type: none"><li>• ON</li><li>• OFF</li></ul>	This password-protected menu item lets you clear error messages after you have fixed the errors. You must enter the Service PIN to access this menu item.  Set this parameter to ON in order to clear the error messages. The default setting is OFF.

## Set the Fans Mode

**Navigate:** Main Menu → Set → Fans Mode Setting

Select the fan mode for the fixture:

- Standard
- Studio (reduces fan noise, but decreases fixture output by ~20%)
- Continuous



## Set Display Settings

**Navigate:** Main Menu → Set → Disp. Setting

Parameter	Value	Description
Shutoff Time	02–60 minutes	Enter the amount of time the fixture waits after the last user interface button press until the display goes to sleep. The default value is 5 minutes.
Flip Display	<ul style="list-style-type: none"><li>• ON</li><li>• OFF</li></ul>	Flip the display 180° when the fixture is mounted vertically. The default value is OFF.  Shortcut: With the main UI window displayed, press [>] to flip the display 180°. Press [<] to flip it back to its original orientation.
Key Lock	<ul style="list-style-type: none"><li>• ON</li><li>• OFF</li></ul>	Lock the user interface. The default value is OFF. To unlock the user interface buttons, press and hold the [MODE/ESC] button for three seconds.

## Set the Temperature Scale

**Navigate:** Main Menu → Set → Temp. C/F

Select the temperature scale for the fixture:

- Celsius (default value)
- Fahrenheit

## Update Fixture Firmware Using the USB Port

**Navigate:** Main Menu → Set → USB Update

Fixture firmware updates are available on the ETC website at [etcconnect.com/Products/Live-Events](http://etcconnect.com/Products/Live-Events).

1. Save the firmware update file to a USB drive.
2. Insert the USB drive in the fixture base (see [Fixture Overview on page 6](#) for the USB port location).
3. On the **Main Menu**, select **Set → USB Update**. The fixture reads the USB drive and displays a list of any firmware update files on the USB drive.
4. Select the appropriate file and then press the Enter button.
5. The software prompts you to confirm the update with the message "Update fixture?" Use the navigation buttons to select "Yes," and then press the Enter button.
  - The firmware update begins. A progress monitor shows you the progress of the update.
  - The fixture restarts when the update is complete, and the fixture performs a data check to verify the update.
  - The firmware update is complete when the display returns to its default state.
6. Remove the USB drive from the fixture.

## ***Set the Protocol***

**Navigate:** Main Menu → Set → Protocol

Select the DMX protocol:

- **Standard** (default)
- **Enhanced** (includes two additional channels that allow the animation wheel to be gradually inserted into the light path)
- **Enhanced Dual Frost** (includes two additional channels that allow:
  - the prism to function as a second frost if you have installed a frost in the prism slot, and
  - the animation wheel to be gradually inserted into the light path)

## ***Reset Fixture to Factory Default Settings***

**Navigate:** Main Menu → Set → Reset Default

Select ON to reset the fixture to the factory default settings.

## **Test Menu**

### ***Reset (Home) the Mechanical Positions on the Fixture***

**Navigate:** Main Menu → Test → Home

Reset ("home") all features on the fixture, including, pan, tilt, colors, gobos, etc.

### ***Test the Fixture***

**Navigate:** Main Menu → Test → Self Test

Run a self-test program on the fixture. When you run the test, the display indicates "Running" and the fixture automatically runs a self-test procedure, testing each of the functions. Press [MODE/ESC] button to end the self-test and return the display to the previous menu.

### ***Test an Individual Channel***

**Navigate:** Main Menu → Test → Test Channel

Run a self-test program on individual channels. The default value is Control. Select a different channel to run a self-test on that channel.

### ***Manually Set an Individual Channel***

**Navigate:** Main Menu → Test → Manual Ctrl.

Select an individual channel on the fixture and manually set the channel value. While in Manual Control mode, all effects are canceled, the shutter opens, and the dimmer intensity is set to 100%.

### ***Re-Calibrate an Individual Feature***

**Navigate:** Main Menu → Test → Calibration

Please contact Technical Services before using this parameter. See [Help from Technical Services on page 2](#).

You must enter the Calibration PIN in order to access the Calibration menu items. The default Calibration PIN is 050.

Once you have accessed the Calibration menu, select an individual feature on the fixture and manually calibrate it to a new "home" setting.

## Preset Menu

**Navigate:** Main Menu → Preset

Presets are built by combining scenes into programs and then assigning the programs to Program Partitions for playback. For information about the **Preset** menu, access the *High End Systems Preset Menu Guide* from the ETC website: [support.etcconnect.com/Source\\_Articles/HES/Sola\\_Series\\_Fixtures/High\\_End\\_Systems\\_Preset\\_Menu\\_Guide](https://support.etcconnect.com/Source_Articles/HES/Sola_Series_Fixtures/High_End_Systems_Preset_Menu_Guide).

# Error Codes

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When you apply power to the fixture, it runs a calibration (homing) sequence and displays any errors that it detects.



**Example:** When the display shows “Err channel: Pan Movement”, it means there is an error in channel 1. When multiple errors are present they will cycle on the display twice, and then the fixture will reset (restart). Any errors that remain after two reset cycles are not correctable by reset alone and will require service. Please contact Technical Services for assistance.

## ***Animation***

This message displays after the reset of the fixture if any of the following conditions exist:

- the magnetic-indexing circuit malfunctions (optical or magnetic sensor failure)
- the stepper motor is defective or the related IC driver on the main PCB has failed
- the Animation wheel is not located in the default position after the reset

## ***Animation\_Rot***

This message displays after the reset of the fixture if any of the following conditions exist:

- the magnetic-indexing circuit malfunctions (optical or magnetic sensor failure)
- the stepper motor is defective or the related IC driver on the main PCB has failed
- the Animation Rotating wheel is not located in the default position after the reset

## ***Blade Rot***

This message displays after the reset of the fixture if any of the following conditions exist:

- the magnetic-indexing circuit malfunctions (optical or magnetic sensor failure)
- the stepper motor is defective or the related IC driver on the main PCB has failed
- the Blade rotation is not located in the default position after the reset

## ***Color***

This message displays after the reset of the fixture if any of the following conditions exist:

- the fixture head's magnetic-indexing circuit malfunctions (optical or magnetic sensor failure)
- the stepper motor is defective or the related IC driver on the main PCB has failed
- the Color wheel is not located in the default position after the reset

## ***CMY***

This message displays after the reset of the fixture if any of the following conditions exist:

- the fixture head's magnetic-indexing circuit malfunctions (optical or magnetic sensor failure)
- the stepper motor is defective or the related IC driver on the main PCB has failed
- the CMY wheel is not located in the default position after the reset

## ***CTO***

This message displays after the reset of the fixture if any of the following conditions exist:

- the fixture head's magnetic-indexing circuit malfunctions (optical or magnetic sensor failure)
- the stepper motor is defective or the related IC driver on the main PCB has failed
- the CTO wheel is not located in the default position after the reset

## ***Focus***

This message displays after the reset of the fixture if any of the following conditions exist:

- the magnetic-indexing circuit malfunctions (optical or magnetic sensor failure)
- the stepper motor is defective or the related IC driver on the main PCB has failed
- the Focus wheel is not located in the default position after the reset

## ***Frost***

This message displays after the reset of the fixture if any of the following conditions exist:

- the magnetic-indexing circuit malfunctions (optical or magnetic sensor failure)
- the stepper motor is defective or the related IC driver on the main PCB has failed
- the Frost wheel is not located in the default position after the reset

## ***Gobo 1***

This message displays after the reset of the fixture if any of the following conditions exist:

- the magnetic-indexing circuit malfunctions (optical or magnetic sensor failure)
- the stepper motor is defective or the related IC driver on the main PCB has failed
- Gobo Wheel 1 is not located in the default position after the reset

## ***Gobo 2***

This message displays after the reset of the fixture if any of the following conditions exist:

- the magnetic-indexing circuit malfunctions (optical or magnetic sensor failure)
- the stepper motor is defective or the related IC driver on the main PCB has failed
- Gobo Wheel 2 is not located in the default position after the reset

## ***Gobo Rot 1***

This message displays after the reset of the fixture if any of the following conditions exist:

- the magnetic-indexing circuit malfunctions (optical or magnetic sensor failure)
- the stepper motor is defective or the related IC driver on the main PCB has failed
- Gobo Rotating Wheel 1 is not located in the default position after the reset

## ***Pan movement***

This message displays after the reset of the fixture if any of the following conditions exist:

- the yoke's magnetic-indexing circuit malfunctions (optical or magnetic sensor failure)
- the stepper motor is defective or the related IC driver on the main PCB has failed
- the Pan movement is not located in the default position after the reset

## ***Prism***

This message displays after the reset of the fixture if any of the following conditions exist:

- the fixture head magnetic-indexing circuit malfunctions (optical or magnetic sensor failure)
- the stepper motor is defective or the related IC driver on the main PCB has failed
- the fixture has a frost installed in the prism slot and the Prism/Frost Sel parameter is not set to "Dual Frost Mode"
- the Prism wheel is not located in the default position after the reset

## ***Prism1\_Rot***

This message displays after the reset of the fixture if any of the following conditions exist:

- the fixture head magnetic-indexing circuit malfunctions (optical or magnetic sensor failure)
- the stepper motor is defective or the related IC driver on the main PCB has failed
- the fixture has a frost installed in the prism slot and the Prism/Frost Sel parameter is not set to "Dual Frost Mode"
- the Prism wheel is not located in the default position after the reset

## ***Tilt movement***

This message displays after the reset of the fixture if any of the following conditions exist:

- the fixture head magnetic-indexing circuit malfunctions (optical or magnetic sensor failure)
- the stepper motor is defective or the related IC driver on the main PCB has failed
- the Tilt movement is not located in the default position after the reset

## ***Zoom***

This message displays after the reset of the fixture if any of the following conditions exist:

- the magnetic-indexing circuit malfunctions (optical or magnetic sensor failure)
- the stepper motor is defective or the related IC driver on the main PCB has failed
- the Zoom wheel is not located in the default position after the reset

# Maintenance

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**CAUTION:** *RISK OF ELECTRIC SHOCK! Disconnect power before servicing.*

**ATTENTION :** *RISQUE DE CHOC ÉLECTRIQUE! Couper l'alimentation avant l'entretien.*

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Keep the following in mind during regular service and inspection:

- All screws for installing the fixture or parts of the fixture must be tightly connected and must not be corroded.
- There must not be any deformations to the housing, lenses, rigging, and installation points (ceiling, suspension, trussing).
- Moving parts must not show any signs of wear and must move smoothly without issue.
- The power supply cables must not show any damage, material fatigue, or sediment.
- If spare parts are required, order only genuine parts from your local authorized dealer.

To ensure that the fixture remains in good working condition and does not fail prematurely, regular maintenance is recommended.

## Clean the Fixture

1. Clean the inside and outside of the lens regularly using a damp, lint-free cloth to avoid loss of output due to accumulation of dust/dirt on the lens. Never use alcohol or solvents.
2. Clean the fans regularly to ensure maximum airflow and efficient cooling. This will ensure that the light source operates in the best possible condition.

## Replace the Fuse

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**WARNING:** Replace fuses with the specified type and rating only.

**AVERTISSEMENT :** Remplacez les fusibles uniquement par le type et le calibre indiqués.

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**CAUTION:** *RISK OF ELECTRIC SHOCK! Disconnect power before servicing.*

**ATTENTION :** *RISQUE DE CHOC ÉLECTRIQUE! Couper l'alimentation avant l'entretien.*

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Supplies needed:

- Flatblade screwdriver
- One replacement fuse: 20 A 250 V 6x32 mm VDE slow-blow ceramic

A replaceable AC line fuse is provided in the fixture to prevent overload.

1. Disconnect power to the fixture.
2. Using a flatblade screwdriver, push the fuse holder in and twist it to remove it from the fixture. (See [Fixture Overview on page 6](#) for the location of the fuse holder.)
3. Remove the blown fuse from the holder and replace it only with another 20 A 250 V 6x32 mm VDE slow-blow ceramic fuse.
4. Reinstall the fuse holder. Using a flatblade screwdriver, push the holder in and twist it until it is secure.

# Compliance

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For current and complete compliance information, view the SolaFrame 3000 datasheet:

[etcconnect.com/Products/Live-Events/Lighting-Fixtures/SolaFrame/3000/Documentation.aspx](http://etcconnect.com/Products/Live-Events/Lighting-Fixtures/SolaFrame/3000/Documentation.aspx)

## FCC - Part 15 Class A

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received; including interference that may cause undesired operation.

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**Note:** *This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.*

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# Declarations of Conformity



## EC DECLARATION OF CONFORMITY



We, Electronic Theatre Controls France SAS

declare under sole responsibility that the product(s):

**Product series:** High End Systems Sola LED luminaire

**Product type/model:** SolaSpot 3000, SolaFrame 3000 and variants.

to which this declaration relates is/are in conformity with the following Directives by the application of the quoted Standards.

### Low Voltage Directive (LVD) 2014/35/EU:

EN 60598-1:2015	Luminaires. General requirements and tests
EN 60598-2-17:1989	Luminaires. Particular requirements. Specification for luminaires for stage lighting, television, film and photographic studios (outside and indoor)
EN 62471:2008	Photobiological safety of lamps and lamp systems
EN 61347-1:2015	Lamp controlgear. General and safety requirements
EN 61347-2-13:2014	Lamp controlgear. Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules

### Electromagnetic Compatibility Directive (EMCD) 2014/30/EU:

EN 55015:2013+A1:2015	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
EN 61547:2009	Equipment for general lighting purposes. EMC immunity requirements
EN 61000-3-2:2014	Electromagnetic compatibility (EMC). Limits. Limits for harmonic current emissions (equipment input current up to and including 16 A per phase) Class A
EN 61000-3-3:2008	Electromagnetic compatibility (EMC). Limits. Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection

### Artificial Optical Radiation Directive (AORD) 2006/25/EC:

**EN 62471:2008** Photobiological safety of lamps and lamp systems

### Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Directive (RoHS2) 2011/65/EU:

These product(s) do not contain any of the following substances, or they contain trace amounts below allowable or measurable levels in each component or mechanically separable part:

**Lead (Pb), Mercury(Hg), Cadmium (Cd), Hexavalent Chromium (Cr6+), Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ether (PBDE)**

Informational notes: The product(s) named herein have been found to comply with the testing and marking requirements of Australia and New Zealand and are suitable for importation into those countries.

To ensure Compliance of this product with the stated Directives it must be installed and operated for its intended use according to the manufacturer's instructions

Saint-Denis, France

(Place of issue)

M. LIABEUF Nicolas

(Name of authorised person)

11th Jan 2021

(Date of Issue)

(Signature of authorised person)

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visual environment technologies



## UK DECLARATION OF CONFORMITY



We, Electronic Theatre Controls Limited

declare under sole responsibility that the product(s):

**Product series:** High End Systems Sola LED luminaire

**Product type/model:** SolaSpot 3000, SolaFrame 3000 and variants.

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EN 62471:2008	Photobiological safety of lamps and lamp systems
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Mr. Adam Bennette  
(Name of authorised person)

  
(Signature of authorised person)

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