

**Mono** IP54 **CE** **RoHS**

Each Flex Panel includes twelve integrated 2-pin connection blocks and an Accessory Pack. Review the contents of the Flex Panels Accessory Pack before beginning and become familiar with the use and intent of each item.



## DESCRIPTION

PART	DESCRIPTION	QTY
1	Flex Panel with 3M adhesive backing and twelve integrated 2-pin connection blocks	1
PART	ACCESSORY PACK CONTENTS	QTY
2	Sheet-to-sheet connection wires for aligned 2-pin connection blocks, 20AWG, 95mm length	2
3	Power lead with connector on one end and stripped on the other end, 20 AWG, 1 meter	1
4	Protective Bumpers	8



Do not keep any materials on the top of flex panels during installation, which can damage the product

Inspect the product before installation for any physical damages occurred during the logistics

## SAFETY INFORMATION

This product to be installed by certified electrician. Follow instructions as per the installation manual and Local electrical codes

\*\* To avoid risk of fire, electric shock or injury to persons, pay attention to this manual and stay within its guidelines when using this product. Do not connect flex panels to line voltage 120 or 240 VAC. USE ONLY with 24VDC

\*\* This product can cause fire hazard, if it is not installed as per the standards and safety measures.

\*\* Use only with approved class 2, low voltage power supply. Do not exceed maximum no of panels per circuit. Follow instruction from Power supply Manufacturer.

\*\* Maximum no of Flex panels should be less than 120W load as per Class 2 regulations

\*\* This product is rated for indoor and outdoor application, wet rated areas, but should not be installed where water accumulate.

\*\* 2 pin connectors are rated for maximum load of 4A. do not exceed more than 4 A in any configuration

## INSTALLATION PRACTICES

- \*\* To Avoid brightness difference due to voltage drop between the panels, please follow similar installation distance from power supply to panels for all the panels in one location.
- \*\* Flex Panels are designed for back lighting the diffused area, so please make sure the lighting diffusions before permanent fix.
- \*\* Horizontal applications require a completely flat mounting surface. Any deviations could result in the forward facing material(s) being damaged.
- \*\* Do Not drag or touch heavy materials over the Flex panels, it might damage LEDs or electronics components
- \*\* Do not fold Flex Panels back-to-back.
- \*\* Do not install on gates or doors, or where subject to flexing.

ELECTRICAL	
Input Voltage	24 Volt DC -Constant Voltage
Input Power	12Watt/ sheet . includes 10% headroom for power supply
Wire Size	20AWG 2 wire ( Grey Strip +, Solid White- )
Wiring	Up to 7 sheets can be powered by one Class 2 power supply
Wire Length	1 meter length 20AWG power lead is included with each sheet
Connector	95mm length 20AWG power lead is included with each sheet
PHYSICAL	
Mounting	3M® adhesive backing on the Flex Panels is provided as a supplementary installation aid. Use the appropriate method or combination of methods depending on the type of mounting surface and its orientation.
Operating Temp.	-30 °C (-22 °F) ~ +60 °C (+122 °F)
Environment	Wet location (IP54 rated)

## FLEX PANEL DRY FITTING, CUTTING\* AND FOLDING

Dry fit the sheets and connection wires before mounting the Flex Panels to the substrate. Always test function before installing the translucent material.

To make a fold in an Flex Panel , bend the sheet along one of the dotted lines marked on the sheet, then crease along this line, then relax the crease into a 90° (or other desired) angle. Be careful about folding where an LED is attached to the sheet since LEDs can break if forced over an edge. Do not repeatedly fold and unfold along the same line as this will weaken the flexible PCB. Do not fold a Flex Panels back onto its self, however two separate Flex Panels can be attached back- t -back.

To make a cut in an Flex Panel , use shears, scissors, utility knife and/or a precision/craft knife. Cut on horizontal, vertical and/or diagonal lines. Deviating from the lines could cut off power to one of more LEDs. If one or more 2-pin connection blocks exist on a cut/fold line, it is best to remove the connection block\* to make a clean fold or cut. Using a pair of slipjoint pliers (see image at right), grasp the connection block firmly and rotate it either clockwise or counterclockwise while holding the Flex Panels in place. The connection block will unseat from the solder. Repeat for other connection blocks as needed and discard the removed block(s).

## USING FLEX PANEL ACCESSORIES

Sheet-to-sheet connectors(Jumper cable) (2): When adjacent Flex Panel are mounted side-by-side with connection blocks aligned, the Sheet-to-sheet connection wires (2) should be used to interconnect multiple sheets. Their lengths are optimized so sheets align snugly. See Figure 1. When connecting Flex Panels that are already mounted to a fixed surface, the connection wires (2) will need to be shaped as shown in Figure 2 prior to pushing into connection blocks. Best practices include using two sheet-to-sheet connection wires for all adjacent Flex Panels in each Class 2 circuit to minimize voltage drop. Dry-fit test for proper illumination prior to mounting Flex Panels to the mounting surface and again before the forward facing material is installed.

## BEST PRACTICES

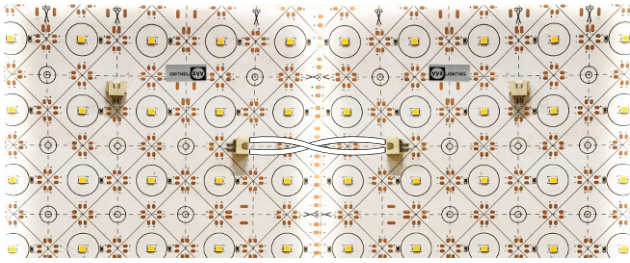


Figure-1

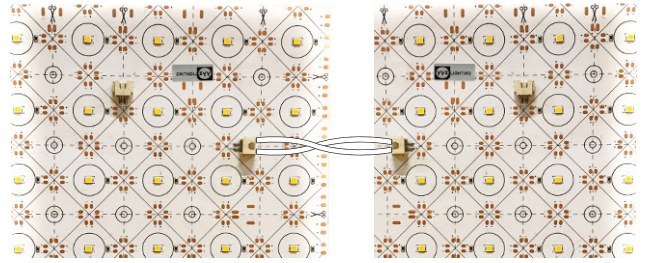


Figure-2

When connected, sheet-to-sheet connection wires have a twist (as shown in the illustrations) in order to maintain proper polarity.

## POWER INPUT

To avoid visible brightness variances due to voltage drop, the total distance should not exceed 6.5 feet (2 meters) from the power input to the sheet to the farthest end of any interconnected sheet. Use only with Class 2 power unit(s). Use a centrally located power supply to power interconnected sheets (see Figure 4) or split the length in two and power each with its own power supply, making sure the two sections are not connected electrically.

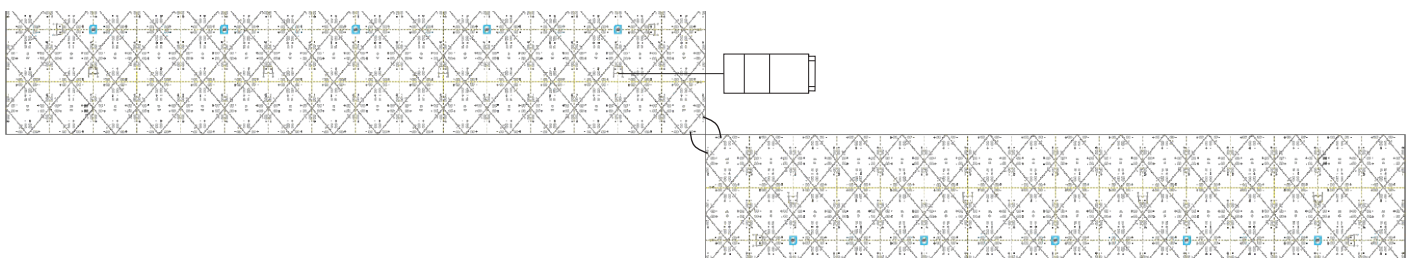
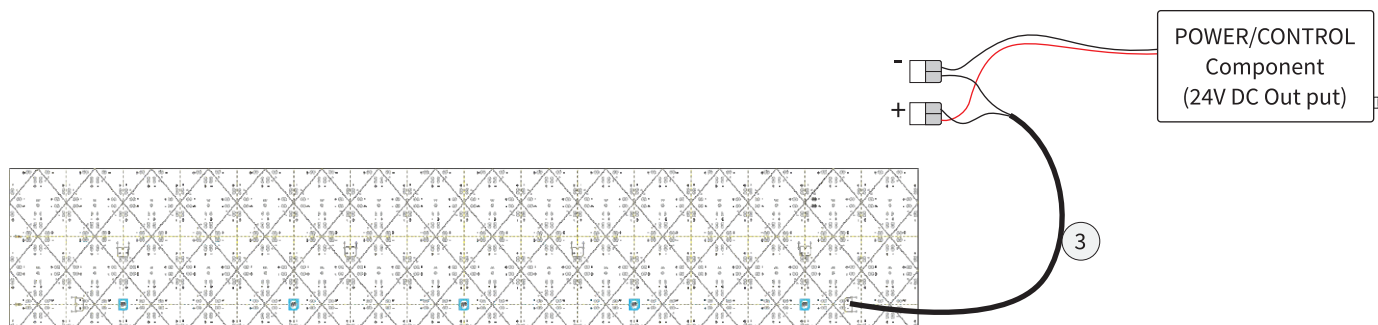


Figure-4

The Flex Panels 2-pin connection blocks each have a 4A capacity. Each Flex Panels consumes Max.12 watts. Do not exceed the 4A maximum load capacity of a 2-pin connection block in any configuration nor interconnect more than three sheets (120W total).

Flex Panels are dimmable via 120/240V standard dimmers, 0-10V dimmers and various Radio Frequency and Wireless controls. Contact YYZ Lighting Systems Integration Specialist for optimal power and control solutions to fit the project needs.



**Figure-5**

**MOUNTING FLEX PANELS**

3M adhesive tape on the rear is used to secure the Flex Panels to the mounting surface after the dry-fit and operation tests are complete.

**PRODUCT HANDLING INSTRUCTION**

YYZ Lighting’s experience in providing backlighting solutions to its customers has provided us with a unique perspective on the characteristics and underlying intuitive knowledge necessary to complete a successful installation of Flex Panel. YYZ Lighting is committed to educating and supporting all our customers so that every installation proceeds as smoothly as possible. Most installations offer their own unique challenges; we hope by making you aware of the following handling and installation guidelines that the basics of the installation do not become issues that complicate this process. As always, your YYZ Lighting Systems Integration Specialist or any of our staff are ready to assist you and answer any questions you have or address any issues that arise during your installation.

	<p><b>TEST BEFORE INSTALLING</b></p>	<p>Our production process going through detailed inspection and tests. Due to unforeseen issues with the shipping and logistics, please test flex sheets before actual installations.</p>
	<p><b>DO NOT CONNECT TO AC POWER</b></p>	<p>Do not connect 120/240VAC directly to Flex panels. This product is designed for operating with low voltage power supplies rated with 24V</p>
	<p><b>POWER, CONTROL &amp; WIRING</b></p>	<p>For optimal power distribution and to minimize voltage drop, it is recommended that multi-strand, high strand count wiring be used for all low voltage DC connections. Wire gauge should be appropriate based upon system voltage and wire lengths to further minimize voltage drop. Power supplies, drivers and controls should be installed in well ventilated enclosures and/or per manufacturers recommendations. It is the customer’s responsibility to ensure all components and installation practices meet or exceed local codes and requirements.</p>

	<b>FRAGILE 2-PIN CONNECTION BLOCKS</b>	<p>DISCONNECT POWER AT THE SOURCE BEFORE REMOVING ANY 2-PIN CONNECTION BLOCKS. The integrated 2-pin connection blocks are made of plastic which can be damaged if made to bear weight.</p>
	<b>CUTTING ADVISORY</b>	<p>DISCONNECT POWER AT THE SOURCE BEFORE ALTERING THE SHEET IN ANY WAY. NEVER CUT FLEX PANEL WHILE POWERED. LEDs can lose input power if cut lines are not followed.</p>
	<b>WET LOCATION USE</b>	<p>Flex Panel are rated IP54. This rating is total protection against dust ingress as well as water projected by a nozzle against the enclosure from any direction for a limited time and may be used in wet locations, but not where standing water can accumulate. Cut edges of IP54 can optionally be sealed from moisture with an RTV Silicone Sealant or conformal coating.</p>
	<b>INSTALLATION TEMPERATURE</b>	<p>Due to the characteristics of the 3M adhesive that is used for our Flex Panels, installation environments and locations should be taken into consideration. Low temperatures can cause longer cure times for permanent adhesion</p>
	<b>DO NOT FOLD BACK - TO - BACK</b>	<p>There is no minimum bending radius for Flex Panel , however a single sheet may not be folded on itself because this could disrupt the flow of electricity through the folded sheet. Two separate sheets may be attached back-to-back with a non-conductive barrier placed between them to minimize the possibility of creating a short if the back protective coating is scratched off in any way.</p>
	<b>STORAGE ADVISORY</b>	<p>Flex panels are to be stored in Clean and dry locations. Storage Temperature should be in the range of 0-70 degree.</p>
	<b>SOLDERING ADVISORY</b>	<p>Disconnect from power before soldering and altering the sheet. Use 20AWG copper wires for the connections. Make sure to use good quality soldering equipments and accessories for the soldering. Only Certified or experienced technician do this alterations.</p>