

GRACE / CRYSTAL LIGHT INSTALLATION INSTRUCTIONS

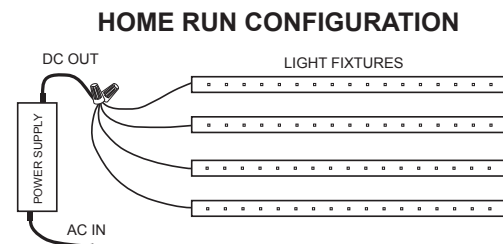
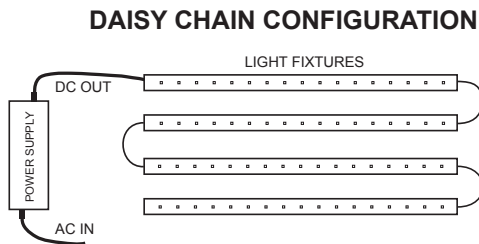
Installing Grace/Crystal Light

The Grace and Crystal Light are low-voltage direct-current light fixtures intended for indoor use and dry location. While the light fixtures do not require a certified electrician for installation, you may wish to consult with a professional installer if you are not familiar with basic low voltage wiring. For typical installations follow these suggested steps:

1. Confirm fixture, power supply and control locations and run low voltage wiring
2. Connect fixtures to wiring and test system functionality
3. Position fixtures using self-adhesive tape (attached) to confirm lighting effect
4. Permanently fasten fixtures using self-tapping screws (included), staples or polyurethane adhesive
5. Dress wiring as required

Power Requirements

Light fixtures are low voltage 15V DC. Applying any other power voltage will destroy the product immediately and void the warranty. Use only Class 2 VDC regulated power supplies offered by The Lighting Division as they include many beneficial features for the long life and designed operation of your light fixtures. Multiple fixtures may be powered by a single supply, with the combined wattage of light fixtures not to exceed the wattage capacity of the power supply. Consult the power chart for more details.



Voltage Drop

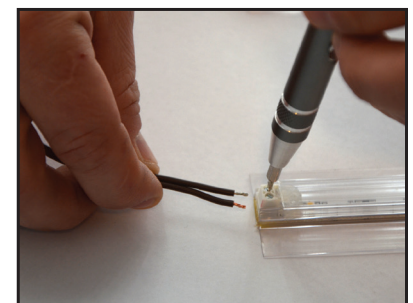
As with any low voltage lighting product, reduced light output can occur if installations do not account for the effect of voltage drop over long runs of fixtures or wire. Since light fixtures are LED, the voltage drop per fixture is far less than other light sources. Most installations do not need to factor in this concern. Long runs and large distances from the power supply (remote location) to fixtures do require consideration of wire gauge and component location. Please contact the manufacturer if your application exceeds these tables:

Grace/Crystal Fixture Wattage								Max Continuous Fixture Run per Drop		Max Distance from Power Supply							
Task		Activity		Accent		Crystal - Task		Grace Fixture type	Linear Feet	Fixture Load	Distance from power supply	Recommended Wire Gauge					
Fixture	Watts	Fixture	Watts	Fixture	Watts	Fixture	Watts										
LBT-060	3	LBQ-060	1.5	LBI-060	0.8	CBT-070	2	LBT	12	24W	125 ft.	18 AWG					
LBT-120	6	LBQ-120	3	LBI-120	1.6	CBT-120	3										
LBT-180	9	LBQ-180	4.5	LBI-180	2.4	CBT-170	4.5										
LBT-240	12	LBQ-240	6	LBI-240	3.2	CBT-220	6										
LBT-300	15	LBQ-300	7.5	LBI-300	4	CBT-280	7										
LBT-360	18	LBQ-360	9	LBI-360	4.8	CBT-330	8										
LBT-420	21	LBQ-420	10.5	LBI-420	5.6	CBT-380	9.5										
LBT-480	24	LBQ-480	12	LBI-480	6.4	CBT-430	11										
													LBT	20	60W	75 ft.	18 AWG
													LBI	30			
													CBT	16			
										75W	25 ft.	18 AWG					
										90W	25 ft.	18 AWG					

Wiring Light Fixtures

Each end of the light fixture has wiring terminals; however, connection to only one end is required to power a single fixture. You may use any wire suitable for low-voltage direct-current, as the terminal will accept 16-24 AWG. For fixture-to-fixture connections, we recommend the use of 20 AWG for light fixtures. (Please refer to local building codes.)

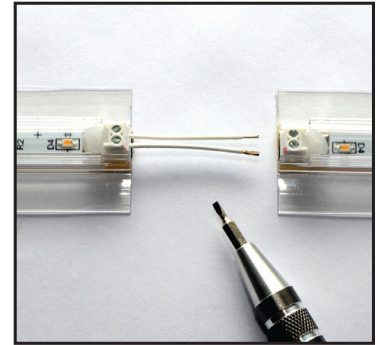
Note the red mark to one side of the terminal. This indicates the positive voltage wire position. Simply strip 3/16" of the insulation from your wire; insert the wire into the opening immediately below the screw head, and secure by turning the screw clock-wise with a suitable screwdriver. When the screw stops turning, tug lightly on the wire to check retention. To remove the wire from the terminal, back out the screw with the screwdriver by turning in the counter clock-wise direction. Secure the negative wire in the same fashion to the other position in the terminal.



When connecting a second light fixture, you may connect to the opposite end of an adjacent light fixture. Be sure to keep the same wire on the red indication for both fixtures. End-to-end fixture connections may be done with un-insulated solid wire cut to 9/16" length. Finally, to connect power simply place the stripped end (positive +) of the power supply wire into the end of an open light fixture terminal and secure as above. During installations, connections can be verified by energizing after each fixture is installed. Power supplies from The Lighting Division include intelligent features which aid in the electrical installation of your system, such as short circuit protection, thermal protection and over-capacity indicator.

Jumper Instructions – for wiring light fixtures end-to-end:

1. Insert a separate jumper wire into each terminal position (2 places) at the end of the first fixture. Secure with screwdriver.
2. Mount first fixture.
3. Insert jumpers from the first fixture into the second fixture, making sure to connect the red terminals together using the same jumper wire. Secure with screwdriver.
Important: Reversing polarity can damage fixtures and will terminate the installation.
4. Mount the second fixture.



Common Troubleshooting Issues:

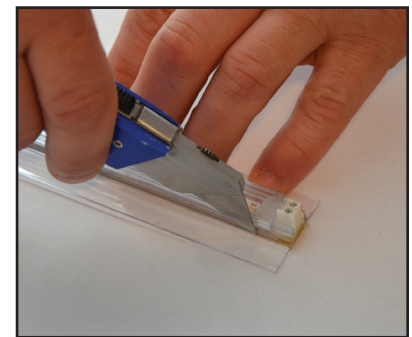
1. Fixtures do not light – confirm output of 15V DC from power supply and the line voltage into the power supply.
2. Fixtures no longer power on during installation – check the last connection made for polarity (confirm positive-to-positive terminal connections).
3. Fixtures blink on and off – the load has exceeded the capacity of the power supply. Review wattage load of fixtures and capability of power supply.

You can control your lights by:

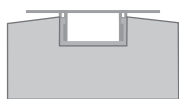
1. Switching the power on/off to power supply
2. Installing a low-voltage switch (TLD-SW1) between the power supply and the fixture(s)
3. Utilizing a TLD-approved dimming system (available from The Lighting Division)
NOTE: Dimmer controls for 110V AC incandescent lighting are not compatible with light fixtures.

Mounting Grace/Crystal Light

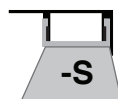
To mount the light fixture – simply remove the yellow liner on the adhesive strip and adhere the fixture to a clean, dry surface. The adhesive tape is meant strictly for positioning and temporary installation. After confirming the lighting effect, mechanically fasten the fixture using the screws provided, or use construction staples or polyurethane adhesive (Liquid Nails). Depending upon fixture enclosure type, one or both of the mounting wings can be removed. There is a small groove on the top of the fixture which once scored, allows the wings to be easily bent and peeled away. Removing one wing allows the light fixture to be placed tightly along an inside corner. Removing both wings creates the ability to recess the light into small pockets. You may bend the wings to mount in corners.



Grace Fixture Enclosure Options

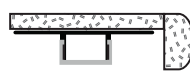


Standard

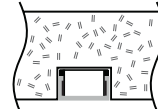


-S
Side Shield

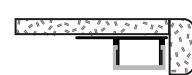
Flexible Mounting Wing Options



Standard Mount
(Both Wings Attached)



Recessed in Surface
(Both Wings Removed)



Under/Against
Trim Molding
(One Wing Removed)



Inner Corner Mount
(Wings Bent to Position)

Side-shield extrusions have only one wing which can be removed. The Side-Shield extrusion has the added feature of being able to control the spread of light on one side. Confirm placement of the fixture while lit prior to mechanical installation.

The Lighting Division



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