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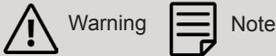
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Micro Star™ Installation Instructions for SunRail™ Systems

The Micro Star LED Light is the smallest self-contained LED on the market. These LED lights are available in 12v and each draws only .02 amps. Being completely waterproof and encased in a type 316 stainless steel housing, these lights are able to stand up to the most demanding environments. The Micro Star LED Light is both a functional and creative lighting alternative.

The following guide will take you step-by-step through the process of installing Micro Star LED lights on a SunRail system.

Tools

Required & Recommended



Gloves



Safety Glasses

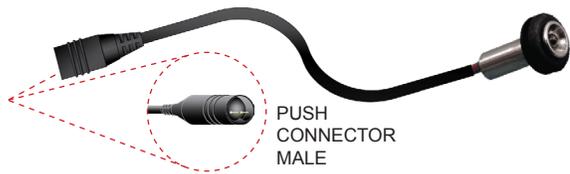
Tips for a Successful Installation

- Read the instructions completely before beginning the installation.
- Check carton(s) to determine part count is complete.



ALWAYS USE WORK GLOVES AND WEAR SAFETY GLASSES TO PROTECT YOUR HANDS AND EYES.

Micro Star Components



S0801-PC01 Micro Star LED Light with Push Connector (Male)



S0832-0001 Micro Star Transformer (1 amp)
S0825-TF160 Transformer (Screw Lugs) to Wiring Harness (1 amp)



S0832-0005 Micro Star Transformer (5 amps)
S0825-TW560 Transformer to Wiring Harness (5 amps)



S0825-JMPR-SC Micro Star Jumper (12")

Micro Star Transformer Calculator

You may use 1 or more 1 Amp or 5 Amp transformers in any combination as long as the total "mA" count is equal to or less than the maximum mA of the transformer(s) you choose. Do not exceed the maximum distance of the mA. If sections are spaced greater than 10 feet, it is recommended to install an additional transformer. When lighting will be a continuous string, use the least number of transformers. mA count determines which transformer to use. Generally 5 Amp is recommended.

1 Amp Transformer = Max 900 mA

5 Amp Transformer = Max 4000 mA

Micro Star Transformer Specifications

PART NUMBER	AMP(S)	MAX mA	MAX DISTANCE	MAX LED LIGHTS (SINGLE)
S0832-0001	1	900	40 feet	30
S0832-0005	5	4000	100 feet	100

Micro Star Lighting Milliamps (mA)

PART NUMBER	DESCRIPTION	# OF LIGHTS	mA EACH	* = "X" mA
S0801-PC01*	Micro Star LED Light		30	
Total mA Needed:				

* NOTE: Micro Star™ LED Light fits a maximum wall thickness of 3/32". Special grommets are required for thicker wall material.

Micro Star Transformer Milliamp Distance Adjustment (Increase)

PART NUMBER	AMP(S)	NO ADJUSTMENT	DISTANCE ADJUSTMENT	TOTAL FEET	mA ADJUSTMENT
S0832-0001	1	less than 20 feet	10% per additional 10 feet		
S0832-0005	5	less than 40 feet	10% per additional 20 feet		
Adjusted mA:					

* NOTE: When the mA and distance value both exceed 80% of maximum, you must add a transformer or increase to a larger size transformer.



REFER TO THE MICRO STAR PROJECT PLANNER FOR ADDITIONAL INFORMATION.

Connect Rails with Screw Connectors

Beginning with the end post closest to the transformer, connect rails sequentially with the screw connector male / female (See Figure C). Install rails as they are connected according to the applicable SunRail system installation instructions.

Connect Micro Star LED Lights with Push Connectors

Atlantis Rail pre-installs Micro Star lights and wiring in the rails before shipping to a customer. If a connection comes undone reconnect the push connectors male / female (See Figure D).



ATLANTIS RAIL CHECKS EACH LIGHT IN OUR SHOP TO BE SURE THAT IT IS FUNCTIONING ACCORDING TO SPECIFICATIONS. HOWEVER, IT IS A GOOD IDEA TO CHECK THE LIGHTS ON-SITE TO BE SURE THAT NO WIRING CAME LOOSE IN TRANSIT.



DO NOT EXCEED 5 AMPS FOR A POWER SOURCE. DO NOT USE AN AUTOMOTIVE, MARINE OR MOWER BATTERY AS THIS MAY DAMAGE THE WIRING. BEFORE APPLYING LOCTITE THREADLOCKER BLUE 242 BRAND ADHESIVE TO FITTINGS AND TUBING, BE SURE TO TEST EACH CONNECTION ON BOTH ENDS OF THE TUBE. IF ANY ADDITIONAL WIRING AND CONNECTIONS ARE REQUIRED, WIRE USING A "PARALLEL" CIRCUIT. USING A "SERIES" CIRCUIT IS NOT RECOMMENDED.



12 VOLT DC POWER SOURCE ONLY. MICRO STAR LED LIGHTS ARE USED WITH DIRECT CURRENT TRANSFORMERS ONLY. USING AN ALTERNATING CURRENT TRANSFORMER OR A TRANSFORMER OVER 12 VOLTS WILL CANCEL ALL WARRANTY CLAIMS AND CAUSE THE LIGHTS TO BURN OUT PREMATURELY.



Figure C. Run supplied jumper wires between all fittings, including tees, elbows and 3-way corners. Adjustable fittings and dovetails should already have jumpers installed for your convenience.

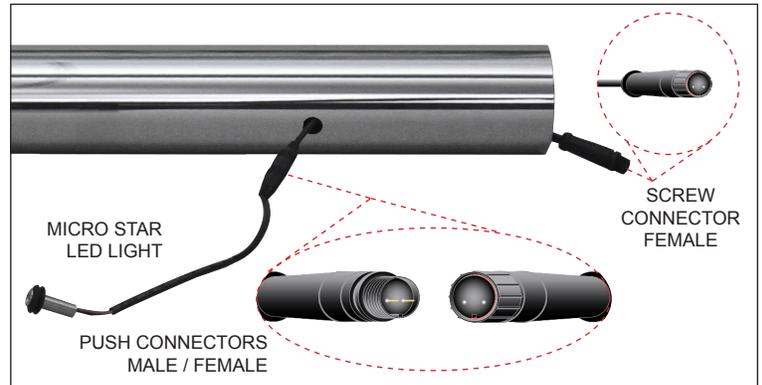


Figure D. Atlantis Rail pre-installs Micro Star lights and wiring in the rails before shipping to a customer.

Installing Micro Star LED Lighting

Micro Star LED Lighting

The Atlantis Railing Micro Star LED light is the smallest self-contained LED on the market (See Figure A) and come pre-installed in the top rails.

Install the Transformer

Mount the Micro Star transformer near a 110v, power outlet but leave transformer unplugged until it is needed (See Figure B). Select the end post closest to the outlet in order to connect to the transformer. You will need to run the low voltage wire down this post so plan accordingly. You may need to drill an additional hole in the decking beneath this post to run the low-voltage wire to keep it hidden. The transformers are available in 1 amp and 5 amps models.



USE DC TRANSFORMER ONLY!

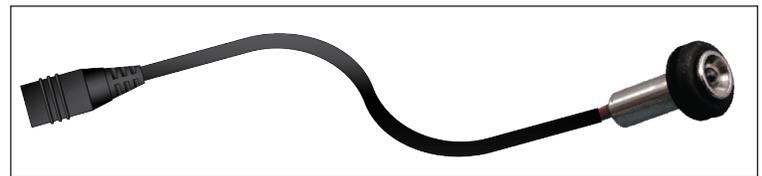


Figure A. Micro Star LED light with Push Connector (Female).



Figure B. DC transformers are comprised of heavy-duty water resistant material.

Install the Jumpers

Run supplied Micro Star Jumpers (S0825-JMPR-SC) between all fittings. This includes tees, elbows and 3-way corners. Adjustable fittings and dovetails should already have jumpers installed for your convenience.

Micro Star Specifications

The patented Micro Star series is a complete line of lighting options for railings, fencing, steps and many other indoor or outdoor applications. The Micro Star LED Lights are available in 12v and each draws only .02 amps.

Micro Star Product Specifications

Components

Product	Description	Dimensions	Fasteners	Notes
S0832-0001	Micro Star Transformer - 1 amp	100-240Vac - 50/60HZ	--	--
S0832-0005	Micro Star Transformer - 5 amps	100-240Vac - 50/60HZ	--	--
S0801-PC01	Micro Star LED Light with Push Connector	12 Volt DC	Push Connector (Male)	Color: White
S0825-H048	Micro Star Wire Harness	4' Handrail	Screw Connectors (M/F) Push Connector (Female)	Factory pre-installed
S0825-H060	Micro Star Wire Harness	5' Handrail	Screw Connectors (M/F) Push Connector (Female)	Factory pre-installed
S0825-3000-PT	Micro Star 3-Way Branch	12"	Push Connectors (M/F)	--
S0825-3000-SC	Micro Star 3-Way Branch	12"	Screw Connectors (M/F)	--
S0825-JMPR-SC	Micro Star Jumper	12"	Screw Connectors (M/F)	--
S0825-EX60-PT	Micro Star Extension	5'	Push Connectors (M/F)	--
S0825-EX60-SC	Micro Star Extension	5'	Screw Connectors (M/F)	--
S0825-EX300-SC	Micro Star Extension	25'	Screw Connectors (M/F)	--
S0825-TF160	Micro Star Transformer to Wiring Harness	66"	Screw Connector (Female)	1 amp
S0825-TW560	Micro Star Transformer to Wiring Harness	64"	Screw Connector (Female)	5 amps

IP61: Screw and Push Connectors are protected from total dust ingress and from condensation.