## USERMANUAL

i-7 LINEAR SERIES


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This manual covers installation, use, and maintenance of the SGM i-7 Linear. A digital version is available at www.sgmlight.com or upon request via support@sgmlight.com. The information in this document is subject to change without notice. SGM and all affiliated companies disclaim liability for any injury, damage, direct or indirect loss, consequential or economic loss, or any other loss occasioned by the use of, inability to use, or reliance on the information contained in this manual. The SGM logo, the SGM name, and all other trademarks in this document pertaining to SGM services or SGM products are trademarks owned or licensed by

## DIMENSIONS

i-1 LINEAR / I-1 LINEAR X-4FT


i-1 LINEAR / I-7 LINEAR X - 2FT

i-1 LINEAR / I-1 LINEAR X - 1FT


All dimensions in millimeters and inches. Drawing not to scale

2 DIMENSIONS

$$
\begin{array}{ll}
2 & \mathrm{i}-1 \text { Linear / } \mathrm{i}-1 \text { Linear } \mathrm{X}-4 \mathrm{ft} \\
2 & \mathrm{i}-1 \text { Linear / i-1 Linear X-2ft } \\
2 & \mathrm{i}-1 \text { Linear / i-1 Linear X }-1 \mathrm{ft}
\end{array}
$$

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WARNING! READ THE FOLLOWING SAFETY PRECAUTIONS CAREFULLY BEFORE UNPACKING, INSTALLING, POWERING OR OPERATING THE DEVICE.

SGM fixtures are intended for professional use only. They are not suitable for household use.
 Les fixtures SGM sont impropre à l'usage domestique. Uniquement à usage professionnel.
This product must be installed in accordance with the applicable installation code by a person familiar with the construction and operation of the product and the hazards involved.

Ce produit doit être installé selon le code d'installation pertinent, par une personne qui connaît bien le produit et son fonctionnement ainsi que les risques inhérent.


## DANGER! RISK OF ELECTRIC SHOCK DO NOT OPEN THE DEVICE!

- Do not open the device; there are no user-serviceable parts inside.
- Disconnect power before installing or servicing to avoid electrical shock.
- Ensure that the device is electrically connected to earth (ground).
- Do not apply power if the device or mains cable is in any way damaged.
- Do not immerse the fixture in water or liquid


## WARNING! TAKE MEASURES TO PREVENT BURNS AND FIRE!

- Install in a location that prevents accidental contact with the device.
- Install only in a well-ventilated space.
- Install only in accordance with applicable building codes.
- Do not paint, cover, or modify the device, and do not filter or mask the light.
- Keep all flammable materials well away from the device.

ALLOW THE DEVICE TO COOL FOR 15 MINUTES AFTER OPERATION BEFORE TOUCHING IT CAUTION: EXTERIOR SURFACE TEMPERATURE AFTER 5 MIN . OPERATION $=29^{\circ} \mathrm{C}\left(84^{\circ} \mathrm{F}\right)$. STEADY STATE $=51^{\circ} \mathrm{C}\left(124^{\circ} \mathrm{F}\right)$.

## WARNING! TAKE MEASURES TO PREVENT PERSONAL INJURY. DO NOT LOOK DIRECTLY AT THE LIGHT SOURCE FROM CLOSE RANGE.

- Take precautions when working at height to prevent injury due to falls.
- For Permanent Outdoor Installations (POI), ensure that the fixture is securely fastened to a load-bearing surface with suitable corrosion-resistant hardware.
- Always comply with relevant load dimensioning, safety standards, and requirements.


## BEFORE INSTALLING THIS PRODUCT

Please visit the SGM official website at www.sgmlight.com for the latest version of this user manual/ safety information leaflet. Due to continuous improvements, the instructions may change without notice. SGM always recommends the latest available firmware version from www.sgmlight.com.

## VISUAL INSPECTION

All users of the SGM fixtures should regularly clean those parts of the fixture directly exposed to the elements, such as the external housing and front lenses. Additionally, all owners of the SGM fixtures must periodically check the external housing of the fixture for structural breaks, deterioration, cracked lenses, or loose screws. To ensure proper operation, but also to prevent the risk of potential accidents, do not use the fixture if the lens, housing, or power cables are damaged. If parts of the fixture appear to be missing, cease use immediately and contact SGM support.


## WIRING

When installing fixtures in a permanent installation, ensure power and data cable leads are installed as a service loop to an appropriately rated junction box using suitable cable strain reliefs/glands. All installed fixtures must be securely mounted, and service loop appropriately protected for installation location. All electrical wiring and connections should be completed by a qualified electrician.

Separation of field installed power limited circuit (dimming/control) wiring from the branch circuit wiring in the outlet box are to be made in accordance with local and/or national electrical installation codes.

## SAFETY PRECAUTIONS

When using electrical equipment, basic safety precautions should always be followed including the following:

- Do not mount near gas or electric heaters.
- Permanently installed equipment should be mounted in locations and at heights where it will not be readily subjected to tampering by unauthorized personnel.
. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
- Do not use this equipment for other than intended use.
- Refer service to qualified personnel or authorized service centers.
- Do not look directly into the beam for long periods of time, when the fixture is on.
- The fixture shall, under no circumstance, be covered with insulating material of any kind.

The i-1 Linear is a series of linear fixtures designed to provide even and powerful washes over various flat surfaces such as building facades. It is best thought of as a system including different fixture lengths, beam angles, LED engines and control protocols. i-1 is an exterior, IP66 rated product intended for permanent exterior surface mounting.

PLEASE NOTE! וֹוֹ LINEAR IS NOT RATED FOR IN-GROUND INSTALLATION.

## i-7 VARIANTS

| NAME | SIZE |
| :---: | :---: |
| $\mathrm{i}-1$ Linear 4 ft . | 4 ft . (1220mm) |
| $\mathrm{i}-1$ Linear $\times 4 \mathrm{ft}$. | (xyempogy |
| $\mathrm{i}-7$ Linear 2 ft . | $2 \mathrm{ft} . / 610 \mathrm{~mm}$. |
| $\mathrm{i}-1$ Linear $\times 2 \mathrm{ft}$. | (5xxymy |
| $\mathrm{i}-1$ Linear 1 ft . | $1 \mathrm{ft} . / 305 \mathrm{~mm}$. |
| $\mathrm{i}-1$ Linear X 7 ft . | (10) |

## LED ARRAYS

RGBW (4000K)
Tunable White (2700K-4000K)

## UNPACKING AND PREPARING FOR INSTALLATION

## UNPACKING

Before permanent mounting, ensure the fixture is not visibly damaged and that all parts and components are present. Testing the fixture for proper function is also recommended. During testing, configuration and addressing can be done. The $\mathrm{i}-7$ Linear is an addressable product and is most efficiently configured before final installation. This is especially true in installations where the fixtures will be in inaccessible areas.

The I-1 Linear is configured with the i-1 L Configuration Tool. See i-1 Configuration Tool Setup later in this manual for details.

If the i-1 Linear is used with the Power \& Data Manager, additional features and installation possibilities exist. See Use With Power \& Data Manager later in this manual for details.

All software is PC based and available for download from the SGM website. Once all fixtures, parts and software are available, configuration and installation can begin.

## APPLICATION CONSIDERATIONS

- It is situated away from public thoroughfares and protected from contact with people.
- It is not immersed in water.
- It has adequate ventilation

When using the fixture with a DMX controller, ensure that:

- According to RS485 standard, the DMX Out on the last fixture in line should be terminated with resistor end cap.


## POWER CAPACITIES

The total quantity of fixtures and cable able to be installed on a single power circuit is the sum of all components plugged together in an installation.

PLEASE NOTE! MAXIMUM FIXTURES WHICH CAN BE CONNECTED IN-LINE IS ALSO SUBJECT TO TOTAL POWER DRAW, CABLE LENGTH AND CONNECTION QUANTITIES. PLEASE CONTACT SGM LIGHT FOR MORE INFORMATION AND CALCULATIONS.

## CONTROL

The i-1 Linear is controlled directly with DMX 512/RDM (ANSI E1.20). This is compatible with a vast number of lighting controllers.

PLEASE NOTE! FIXTURES SHOULD BE PRE-SET WITH ANY CUSTOM CONFIGURATION AND PROGRAMMING BEFORE INSTALLATION.

ALTHOUGH MOST FUNCTIONS ARE POSSIBLE TO BE SET VIA RDM ONCE MOUNTED IN POSITION, IT IS EASIER TO DO CONFIGURATION AND ANY TROUBLESHOOTING BEFORE MOUNTING IS COMPLETE.

The i-1 Linear can be installed in any orientation, in any free-air cooled application. There are numerous mounting options via 3 adjustable brackets.

## Surface Mount



## Short Wall Mount



## Long Wall Mount



All brackets are designed to bolt together using one tool and use the i-1 Linear connection clamp.

## ADJUSTABLE WALL MOUNT (SHORT \& LONG)

Step 1 - Attach arm to wall. Ensure arm is level in all axis. Alignment of arms at the desired height above ground or finished floor should be measured. Use corrosion resistant connection hardware suitable for exterior use. Maximum bolt size M8 or 5/16. Use a washer to avoid scraping the surface of the anodized finish.


Step 2 - Use a 4 mm hex driver to ensure the tilt lock bolt on the lower part of the fixture clamp is tight (Component A). Attach fixtures to adjustable arm using the i-1 Linear Mounting Clamp and supplied bolts (Component B). Slide the Mounting Clamp into the i-7 extrusion body to the desired position, then tighten slightly with a 4 mm size hex driver. Align to the desired pivot angle. Available range is shown below. Tighten to 4.8 Nm torque and use a medium strength threadlocker. Two wall mounts must be used for 2 ft . and 4 ft . variants.


## ADJUSTABLE WALL MOUNT (SHORT \& LONG) CONT.

Step 3 - Focusing the fixtures. Using the locking bolts under the arm, extend to desired set-back distance from the wall or surface. Set-back ranges are shown below. Tighten with a 4 mm hex driver and use a medium strength threadlocker.


## Long Wall Mount



## Short Wall Mount

Step 4 - With the tilt lock bolt somewhat tight, rotate the fixture to the desired tilt angle. Then use a 4 mm hex driver to lock the fixture in place. Available range is shown below.


## SURFACE MOUNT

Step 1 - Attach surface mount to a fixture using the i-1 Linear Mounting Clamp and supplied bolts. Slide the Mounting Clamp into the $\mathrm{i}-1$ extrusion body to the desired position, then tighten slightly with a 4 mm size hex driver. Align to the desired pivot angle. Available range is shown below. Tighten to 4.8 Nm torque and use a medium strength threadlocker. Two surface mounts must be used for 2 ft . and 4 ft . variants. For these sizes, the Adjustable Surface Mount is supplied in pairs and has a left and right position for easier mounting.


Step 2 - Attach surface mount to a surface using corrosion resistant connection hardware suitable for exterior use. Maximum bolt size M8 or 5/16. Must use hardware with countersunk heads.


## SURFACE MOUNT CONT

Step 3 - With the tilt lock bolt somewhat tight, rotate the fixture to the desired tilt angle. Then use a 4 mm hex driver to lock the fixture in place. Available range is shown below.


## SPACING AND MOUNTING

It is recommended to install one mount and fixture at a time to ensure fixtures can be placed close together and be plugged together as a new fixture is mounted to an adjacent fixture. A minimum spacing between fixtures of 8 $\mathrm{mm}(0,315$ inches) must be maintained to ensure clearance for thermal expansion.


When using asymmetrical lenses, the default configuration has the cable input on left of the fixture or line of fixtures when looking at the surface to be illuminated.


Direction of asymmetrical lenses
i-1 Linear uses a combined power and signal cable. This cable is intended to be terminated in an equipment enclosure or junction box. Cables with bare ends which can be cut to length or pre-terminated and connectorized cables will be available.

## POWER

Power input range is $100-277$ VAC $50 / 60 \mathrm{~Hz}$. There is a maximum number of fixtures which can be connected in a line. This maximum is a function of the length of the cable and the number and size of fixtures combined. Contact
SGM Light customer care to determine maximum distances and fixture quantities.

Maximum power ratings are as follows:

| i-1 Linear 1 ft. | i-1 Linear 2 ft. | i-1 Linear 4 ft. | i-7 Linear X 7 ft. | i- 1 Linear $\times 2 \mathrm{ft}$. | i- 7 Linear $\times 4 \mathrm{ft}$. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 20 W | 40 W | 80 W | 35 W | 60 W | 115 W |

During configuration, it is possible to adjust each fixture to a lower power output. See configuration later in the manual.

On the facing and following pages are some sample calculations using variables for fixture quantity \& size, cable quantity \& size, along with breaker capacity \& inrush trip curve.
A variable which has a large effect on the overall flexibility of the system is the short circuit current of the electrical supply. Always contact SGM to produce a tailored system design using this variable. If short circuit current is not known, use the lowest figure listed in the corresponding charts for estimates.
The Power \& Data Manager accessory is included in the second set of calculation tables. This device expands the total system capacity by managing the electrical in-rush current of the connected load. Please refer the the SGM Light website at www.sgmlight.com for more information on the Power \& Data Manager

PLEASE NOTE: ALWAYS CONTACT SGM LIGHT CUSTOMER CARE TO DETERMINE MAXIMUM DISTANCES AND FIXTURE QUANTITIES.


## 120VAC / 15A-WIRING EXAMPLE I-1 LINEAR X/ 4FT WITH POWER INSERTER (PI)

| Maximum number of units on a Breaker 1 line |  |  |  |  115 W <br> Breaker Breaker <br> type type <br> 15AC 15 AB | 80 W  <br> Breaker Breaker <br> type type <br> 15AC $15 A B$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Power Source nominal voltage | Power Source Shortcircuit current | Cable between Breaker and 1. unit | Cable between each unit |  |  |  |
| 120 [V] | 500 [A] | 1 [m] | 0 [m] | 12 8 | 16 | 8 |
| 120[V] | 1000 [A] | 1 [m] | 0 [m] | 128 | 16 | 8 |
| 120[V] | 500 [A] | 10 [m] | 0 [m] | 12 8 | 12 | 8 |
| 120[V] | 1000 [A] | 10 [m] | 0 [m] | 12 8 | 16 | 8 |
| 120[V] | 500 [A] | 1 [m] | 2,5 [m] | 78 | 7 | 8 |
| 120[V] | 1000 [A] | 1 [m] | 2,5 [m] | 88 | 8 | 8 |
| 120[V] | 500 [A] | 10 [m] | 2,5 [m] | 48 | 4 | 8 |
| 120[V] | 1000 [A] | 10 [m] | 2,5 [m] | 68 | 6 | 8 |

PLEASE NOTE! IF BREAKER 2 IS LOCATED AT POWER INSERTER (AFTER THE HEAVY GAUGE CABLE), THE SECOND SECTION CAN HANDLE THE SAME NUMBER OF UNIT AS THE FIRST SECTION

| Maximum number of units on a Breaker 2 line |  |  |  |  115 W <br> Breaker Breaker <br> type type <br> 15AC 15 AB | 80W |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Power Source nominal voltage | Power Source Shortcircuit current | Cable between Breaker and 1. unit | Cable between each unit |  | Breaker type 15AC | Breaker type 15AB |
| 120 [V] | 500 [A] | 1 [m] | 0 [m] | 118 | 12 | 8 |
| 120[V] | 1000 [A] | 1 [m] | 0 [m] | 118 | 16 | 8 |
| 120[V] | 500 [A] | 10 [m] | 0 [m] | 58 | 5 | 8 |
| 120[V] | 1000 [A] | 10 [m] | 0 [m] | 98 | 9 | 8 |
| 120[V] | 500 [A] | 1 [m] | 2,5 [m] | 48 | 4 | 8 |
| 120[V] | 1000 [A] | 1 [m] | 2,5 [m] | 68 | 6 | 8 |
| 120[V] | 500 [A] | 10 [m] | 2,5 [m] | 28 | 2 | 8 |
| 120[V] | 1000 [A] | 10 [m] | 2,5 [m] | 38 | 3 | 8 |



208VAC / 15A-WIRING EXAMPLE I-1 LINEAR X/ 4FT WITH POWER INSERTER (PI)

| $(\mathrm{n})$ Maximum number of units on a Breaker 1 line |  |  |  | 115W |  | 80W |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Power Source nominal voltage | Power Source Shortcircuit current | Cable between Breaker and 1. unit | Cable between each unit | Breaker type <br> 15AC | Breaker type <br> 15AB | Breaker type 15AC | Breaker type <br> 15AB |
| 208 [V] | 250 [A] | 1 [m] | 0 [m] | 9 | 4 | 9 | 4 |
| 208 [V] | 1000 [A] | 1 [m] | 0 [m] | 9 | 4 | 9 | 4 |
| 208 [V] | 250 [A] | 10 [m] | 0 [m] | 9 | 4 | 9 | 4 |
| 208 [V] | 1000 [A] | 10 [m] | 0 [m] | 9 | 4 | 9 | 4 |
| 208 [V] | 250 [A] | 1 [m] | 2,5 [m] | 7 | 4 | 7 | 4 |
| 208 [V] | 1000 [A] | 1 [m] | 2,5 [m] | 9 | 4 | 9 | 4 |
| 208 [V] | 250 [A] | 10 [m] | 2,5 [m] | 5 | 4 | 5 | 4 |
| 208 [V] | 1000 [A] | 10 [m] | 2,5 [m] | 9 | 4 | 9 | 4 |

PLEASE NOTE! IF BREAKER 2 IS LOCATED AT POWER INSERTER (AFTER THE HEAVY GAUGE CABLE), THE SECOND SECTION CAN HANDLE THE SAME NUMBER OF UNIT AS THE FIRST SECTION

| $(\mathrm{P})$ Maximum number of units on a Breaker 2 line |  |  |  | 115W |  | 80W |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Power Source nominal voltage | Power Source Shortcircuit current | Cable between Fuse and 1. unit | Cable between each unit | Fuse type 15AC | Fuse type 15AB | Fuse type 15AC | Fuse type 15AB |
| 208 [V] | 250 [A] | 1 [m] | 0 [m] | 9 | 4 | 9 | 4 |
| 208 [V] | 1000 [A] | 1 [m] | 0 [m] | 9 | 4 | 9 | 4 |
| 208 [V] | 250 [A] | 10 [m] | 0 [m] | 5 | 4 | 5 | 4 |
| 208 [V] | 1000 [A] | 10 [m] | 0 [m] | 9 | 4 | 9 | 4 |
| 208 [V] | 250 [A] | 1 [m] | 2,5 [m] | 4 | 4 | 4 | 4 |
| 208 [V] | 1000 [A] | 1 [m] | 2,5 [m] | 9 | 4 | 9 | 4 |
| 208 [V] | 250 [A] | 10 [m] | 2,5 [m] | 2 | 4 | 2 | 4 |
| 208 [V] | 1000 [A] | 10 [m] | 2,5 [m] | 9 | 4 | 9 | 4 |

120VAC / 15A - WIRING EXAMPLE I-1 LINEAR X / 4FT



120VAC / 15A - WIRING EXAMPLE I-1 LINEAR X / IFT



208VAC / 15A - WIRING EXAMPLE I-1 LINEAR X / 2FT


208VAC / 15A- WIRING EXAMPLE I-ו LINEAR X / IFT


| Maximum number of units on a Breaker line |  |  |  | 30W |  | 20W |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Power Source nominal voltage | Power Source Shortcircuit current | Cable between Breaker and 1. unit | Cable between each unit | Breaker type <br> 15AC | Breaker type 15AB | Breake type <br> 15AC | Breaker type 15AB |
| 208 [V] | 250 [A] | 1 [m] | 0 [m] | 14 | 8 | 14 | 8 |
| 208 [V] | 1000 [A] | 1 [m] | 0 [m] | 14 | 8 | 14 | 8 |
| 208 [V] | 250 [A] | 10 [m] | 0 [m] | 14 | 8 | 14 | 8 |
| 208 [V] | 1000 [ A ] | 10 [m] | 0 [m] | 14 | 8 | 14 | 8 |
| 208 [V] | 250 [A] | 1 [m] | 2,5 [m] | 9 | 8 | 9 | 8 |
| 208 [V] | 1000 [A] | 1 [m] | 2,5 [m] | 14 | 8 | 14 | 8 |
| 208 [V] | 250 [A] | 10 [m] | 2,5 [m] | 6 | 8 | 6 | 8 |
| 208 [V] | 1000 [A] | 10 [m] | 2,5 [m] | 14 | 8 | 14 | 8 |

230VAC / 16A-WIRING EXAMPLE I-ו LINEAR X / 4FT


230VAC / 16A-WIRING EXAMPLE I-1 LINEAR X / 2FT


230VAC / 16A-WIRING EXAMPLE ו-ו LINEAR X / IFT


| (n) Maximum number of units on a Breaker line |  |  |  | 30W |  | 20W |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Power Source nominal voltage | Power Source Shortcircuit current | Cable between Breaker and 1. unit | Cable between each unit | Breaker type <br> 16AC | Breaker type <br> 16AB | Breaker type <br> 16AC | Breaker type <br> 16AB |
| 230 [V] | 250 [A] | 1 [m] | 0 [m] | 14 | 8 | 14 | 8 |
| 230 [V] | 1000 [A] | 1 [m] | 0 [m] | 14 | 8 | 14 | 8 |
| 230 [V] | 250 [A] | 10 [m] | 0 [m] | 14 | 8 | 14 | 8 |
| 230 [V] | 1000 [A] | 10 [m] | 0 [m] | 14 | 8 | 14 | 8 |
| 230 [V] | 250 [A] | 1 [m] | 2,5 [m] | 9 | 8 | 9 | 8 |
| 230 [V] | 1000 [A] | 1 [m] | 2,5 [m] | 14 | 8 | 14 | 8 |
| 230 [V] | 250 [A] | 10 [m] | 2,5 [m] | 5 | 8 | 5 | 8 |
| 230 [V] | 1000 [A] | 10 [m] | 2,5 [m] | 14 | 8 | 14 | 8 |



277VAC / 15A-WIRING EXAMPLE I-ו LINEAR X / IFT


| Maximum number of units on a Breaker line |  |  |  | 30W |  | 20W |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Power Source nominal voltage | Power Source <br> Shortcircuit current | Cable between Breaker and 1. unit | Cable between each unit | Breaker type <br> 15AC | Breaker type <br> 15AB | Breaker type <br> 15AC | Breaker type 15AB |
| 277 [V] | 250 [A] | 1 [m] | 0 [m] | 14 | 8 | 14 | 8 |
| 277 [V] | 1000 [A] | 1 [m] | 0 [m] | 14 | 8 | 14 | 8 |
| 277 [V] | 250 [A] | 10 [m] | 0 [m] | 14 | 8 | 14 | 8 |
| 277 [V] | 1000 [A] | 10 [m] | 0 [m] | 14 | 8 | 14 | 8 |
| 277 [V] | 250 [A] | 1 [m] | 2,5 [m] | 12 | 8 | 12 | 8 |
| 277 [V] | 1000 [A] | 1 [m] | 2,5 [m] | 14 | 8 | 14 | 8 |
| 277 [V] | 250 [A] | 10 [m] | 2,5 [m] | 9 | 8 | 9 | 8 |
| 277 [V] | 1000 [A] | 10 [m] | 2,5 [m] | 14 | 8 | 14 | 8 |

120VAC / 15A- WIRING EXAMPLE ו-ו LINEAR X / 4FT


120VAC / 15A- WIRING EXAMPLE I-1 LINEAR X / 2FT


120VAC / 15A- WIRING EXAMPLE I-1 LINEAR X / IFT


208VAC / 15A- WIRING EXAMPLE I-1 LINEAR X / 4FT


208VAC / 15A- WIRING EXAMPLE ו-ו LINEAR X / 2FT


208VAC / 15A- WIRING EXAMPLE I-1 LINEAR X / 1FT



## 230VAC / 16A- WIRING EXAMPLE I-ו LINEAR X / 2FT



230VAC / 16A- WIRING EXAMPLE ו-ו LINEAR X / 1FT



277VAC / 15A-WIRING EXAMPLE I-1 LINEAR X / 2FT


277VAC / 15A-WIRING EXAMPLE I-1 LINEAR X / 1FT


## CABLE, TERMINATION, AND INSTALLATION

## DATA

The fixture is compatible with DMX512/RDM (ANSI E1.11-2008) through the power and data cable only. This is compatible with a vast number of lighting controllers.

Using suitably rated terminals in an equipment enclosure, connect the data cables to the DMX negative (-) positive (+) and common/ground using the chart shown below.
The last fixture in line must have a DMX terminator installed. This is to terminate the DMX signal, like to RS-485 signal protocol.

Note that SGM fixtures provide a passive DMX Thru signal as DMX Out, instead of an active output signal.

- 3 lengths of extension cable are available; $1 \mathrm{~m}, 2.5 \mathrm{~m}$ and 5 m . However, it is possible to purchase a Custom Extension Cable Kit. This will be available, to make cables to custom lengths.
- A leader cable is available in 2.5 m and 10 m lengths with a female connector and bare-ends at the supply side. This leader cable supplies the first fixture in line and is terminated at a junction box or equipment enclosure.

|  | WIRE | COLOR | SYMBOL | CONDUCTOR |  |
| :---: | :---: | :--- | :---: | :---: | :---: |
| Data | AWG\#24 | Shield |  | Signal GND |  |
|  | AWG\#24 | White |  | Data- |  |
|  | AWG\#24 | Red |  | Data+ |  |
| Power | AWG\#14 |  | Black | L | phase |
|  | AWG\#14 | White | N | neutral |  |
|  | AWG\#14 | Green/Yellow | $\perp$ |  |  |

An installation can be visualized in two ways:

1. Version 1- Installation using DMX to control the fixtures. Configuration can be done using a PC with configurator or an RDM enabled DMX Controller

Power In DMX/RDM Data

2. Version2 - Standalone installation using Quick Color to control the fixtures. This requires a PC with the configurator, temporary connected to the installation, to perform initial setup.

Power In
120VAC-277VAC
With breaker sized per local code


PC with i-1
Configurator to
change settings

## CONFIGURATION

i-1 Linear is configured using the i-1 Linear Configuration Tool. This software is Windows $®$ PC based and connects to the fixtures via DMX512/RDM protocol. All settings are set using this software. All settings and configuration are done through this tool. Please note that any firmware update of the $\mathrm{i}-1$ Linear is done from a separate tool "SGM Firmware Tool". Both require Windows 10 or higher and can be downloaded from the SGM Light website.

The SGM USB POI uploader cable is needed to connect the i-7 linear to the computer in installations without a Data Inserter

SGM USB uploader cable, POI p/n: 83062067


The SGM USB uploader cable is needed to connect the $\mathrm{i}-1$ linear to the computer in installations with a Data Inserter

SGM USB uploader cable, p/n: 83062011


Attach the connector to a bare end leader cable as follows:

|  | Shield |  | Signal GND |
| :---: | :---: | :---: | :---: |
| $\square$ | White |  | Data- |
| $\square$ | Red |  | Data+ |

## USING THE CONFIGURATION SOFTWARE

Connect the USB uploader cable to a PC.

Connect i-1 Linear fixtures to the uploader and leader cable.
Launch the configuration tool on the PC.
The Device Configuration tab is the default view. Verify that there is a green tick mark in the lower right corner. This indicates that a USB connection has been established. The lower left corner has the number of discovered devices displayed.


Press the Identify button to identify each connected fixture. Each fixture will flash when the button is pressed.
One or multiple fixtures can be selected at a time. Selected fixtures are shown in Teal as shown above.
Available settings are as follows:
DMX Mode: Selects the DMX modes. (See DMX chart for details).

DMX Address: Inputs the start DMX address for the fixture.
White Calibration: Selects the standard color temperature, 4000 Kelvin (default) or 5600 Kelvin.

Power Limit: Sets maximum wattage. (The maximum power limit selection can vary for each fixture type.)

## DMX Loss Options:

- When DMX is lost, a static state is triggered.
- DMX hold - last received DMX is hold.
- All on - turn all LEDs on.
- Blackout - turn all LEDs off.
. Hold 5 min - Hold DMX for 5 minutes and thereafter slowly fade down until all LEDs are off.

Frequency Mode: Select either high or low LED PWM frequency range. (default is high range)
Frequency (Hz): Input desired LED PWM frequency. (default is 2441 Hz )
Dark boot: On/off. When set to "On" the start-up LED sequence is disabled. (default is "Off")

The Maintenance tab is where fixtures are added to the configuration tool, able to be re-booted, or defaulted.

| \#SCM |  |  |  | 1-1 Unear Contiguration lool 1.0 |  |  |  | $\square$ | $\times$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Device Configuration |  | Maintenance |  |  |  |  |  |  |  |
| Discover |  | tory Delault |  |  |  |  |  | Identify |  |
| Device model | FW Version | RDM-UID | Serial Number | DMX Address | DMX Mode | Power Limit | White Calibration | Frequency Mode | Freque |
| i-1 L RGBW 4ft | 1.16 | 267790228342611 | 123AH1233444 | 1 | 6 Channel CTC | Max / foot | SGM 4000K | 2441 -22220 Hz | 2441 |
| i-1 L RGBW 4 ft | 1.16 | 85202578655059 | 123AH1233333 | 1 | 6 Channel CTC | 25W / foot | SGM 4000K | $2441-22220 \mathrm{~Hz}$ | 2441 |

When no fixture(s) are selected the "Reboot" and Factory Default" buttons are grayed out.
Available functions are as follows:

Discover: Connected fixtures are automatically detected. To manually trigger a discovery process the button is pressed.

Reboot: Reboot selected fixtures.

Factory Default: Sets factory defaults on the selected fixtures. These are:

## FACTORY DEFAULT

| FEATURE | VALUE |
| :--- | :--- |
| DMX address | 1 |
| DMX Mode | 6 Channel CTC |
| DMX Loss | DMX hold |
| Frequency mode | High |
| Frequency | 2.441 KHz, PWM rate: $305 \mathrm{~Hz}-22220 \mathrm{~Hz}$ |
| Default CTC | 4000 Kelvin |
| Quick Color | All colors set to 0 |
| Dark Boot | Disabled |

The i-1 features are supported via various RDM functions.
RDM (Remote Device Management) is a protocol enhancement to USITT DMX512 that allows bi-directional communication between the fixtures and the controller over a standard DMX line. This protocol will allow configuration, status monitoring and management.

An RDM controller is needed to control the supported parameters. See the tables below for supported RDM functions.

| PID | ACTIONS ALLOWED | NAME |
| :--- | :--- | :--- |
| $0 \times 0082$ | GET/ SET | Device Label |
| $0 \times 0081$ | GET | Manufacturer Label |
| $0 \times 00 E 0$ | GET/ SET DMX | DMX Personality |
| $0 \times 00 E 1$ | GET DMX | DMX Personality Description |
| $0 \times 0200$ | GET | Sensor Definition |
| $0 \times 0201$ | GET/ SET | Sensor Value |
| $0 \times 0080$ | GET | Device Model Description |
| $0 \times 0400$ | GET/ SET | Device Hours |
| $0 \times 0401$ | GET/ SET | LED Hours |
| $0 \times 0051$ | GET | Parameter Description |
| $0 \times 0090$ | SET | Factory Defaults |
| $0 \times 1001$ | GET | Seset Device |
| $0 \times 0120$ | GET | Slot Description |
| $0 \times 0121$ | GET | Default Slot Value |
| $0 \times 0122$ | GET | Serial Nr. |
| $0 \times 8060$ | GET/SET | FAN 0=AUTO 1=LOW 2=HIGH 3=FULL |
| $0 \times 8625$ | GET/SET | DMX LOSS 0=HOLD 1=WHITE 2=OFF 3=HOLD 5 MINUTES |
| $0 \times 8634$ | GET | Active Error |
| $0 \times 8636$ | GET / SET | DARK-BOOT 0=DISABLE 1=ENABLE |
| $0 \times 863 F$ | GET / SET | POWER-LIMIT 0-5 |
| $0 \times 863 A$ | GET / SET | LED-PWM 305-22220Hz |
| $0 \times 8620$ | GET / SET | GASE-CTC 4000 5600 |
| $0 \times 8640$ | GET | SET |
| $0 \times 8641$ | $0 \times 8642$ |  |
|  |  |  |

## ANTI GLARE SHIELDS

## INSTALLATION

1. Mount i-1 Linear fixture in position.
2. Place surface component on the $\mathrm{i}-1$ linear glass ensuring the edge slots into the first extrusion rib of the fixture. (The piece with rubber feet)
3. Position the second component so that the two extended edge arms are inserted into the first extrusion rib of the fixture on the opposite side. Ensure the cutout on the surface component is matched to the profile of the second component to both components fit flush next to each other.
4. Using a screwdriver, attache both comopents together. Use no more than 3.0 Nm of torque.


## FIRMWARE UPDATES

Updates are done through the SGM Firmware Tool and an Uploader Cable. This is PC based software used with a SGM Light dongle.


Figure $X$ : SGM Uploader cable


Figure X: SGM Firmware tool

Follow the following procedure:

1. Install the SGM Firmware tool on a PC based computer.
2. Download latest firmware file from product web page on the SGM website
3. Connect the uploader cable to the $i-1$ Linear and the computer. See CABLE AND CONNECTOR PINOUT earlier in the manual for wire color codes.
4. Launch the SGM Firmware Tool.
5. Click "File" then "Open" and navigate to the firmware file needed, select it and click "Open".
6. The firmware is now loaded in the uploader, click "Upload Firmware"
The fixture will now update and reboot.

The latest firmware, manuals and the SGM Network Admin tools are all available for free download at www.sgmlight. com

## CLEANING

Cleaning the glass lens area may be needed occasionally to achieve the maximum light output after exposure to dust, sand, or dirt.

Whenever necessary, clean the exterior using a soft cloth dampened with water. For a thorough cleaning of the exterior, the use of a mild soap and water solution is recommended. Do not use products that contain solvents, abrasives, or caustic agents for cleaning, as they can cause damage to hardware, cables, and connectors.

## SUPPORT HOTLINE

SGM offers 24/7 technical support.
Worldwide: +45 38403840
US: +1 407-242-6217
support@sgmlight.com

## APPROVALS AND CERTIFICATIONS

Conforms to 2014/35/EU: Low Voltage Directive
Conforms to 2014/30/EU: EMC Directive

Conforms to 2017/65/EU: RoHS2 Directive

Conforms to UK SI 2016 No. 1101: The Electric Equipment (Safety) Regulations 2016

Conforms to UK SI 2016 No. 1091: Electromagnetic Compatibility Regulations 2016

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