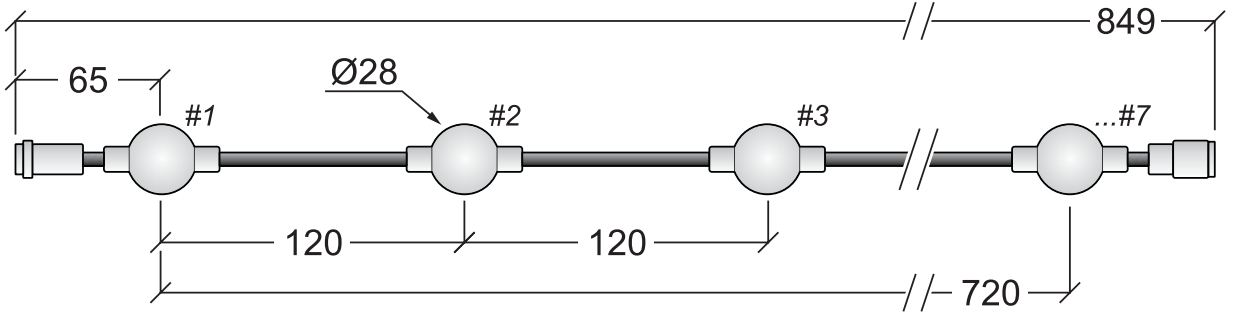
SGM®

LB-100
LED BALLS

Dimensions of LB-100 LED Balls



All dimensions in mm.
Drawing not to scale.

LB-100 LED BALLS
USER MANUAL REV. 2

LB-100 LED Balls uk

Contents

Safety Information

WARNING! *Read the safety precautions in this section before installing, powering, operating or servicing this product.*

- **This product is for professional use only. It is not for household use.**
- This product presents risks of severe injury or death due to fire hazards.
- When using a 12V DC custom power supply, always use an AC power source that complies with local building and electrical codes and has both overload and earth leakage protection.
- Never attempt to bypass the fuse. Always replace defective fuses with ones of the specified type and rating.
- Verify that the power feed cable is rated for the current draw of all connected fixtures. See application information on page 11.
- Do not modify the fixture or install other than genuine SGM parts.
- Do not operate the system if the ambient air temperature (Ta) exceeds 40 ˚C (104 ˚F)

Read the manual

Read this manual before installing, powering or servicing.

Read this manual before installing or powering the LED Balls, and follow the safety precautions.
Always observe all warnings in this manual and printed on the system. If you have questions about how to operate the system safely, please contact your SGM representative.

Protection from injury

- Ensure that any structure used for support as well as all fastened and connected hardware can hold at least 10 times the weight of all supported devices and equipment.
- Use a minimum of two approved secondary attachments (such as safety wires) to secure each product as described in this manual. Safety wires must be approved by an official body such (e.g. TÜV) as a safety attach ment for the weight of all the products it secures. Safety wires must be capable of supporting a static suspended load ten times the weight of the product.
- Check that all external covers and rigging hardware are securely fastened.
- Block access below the work area and work from a stable platform whenever installing, servicing or moving the product.

Introduction

Parts identification and terminology

See Fig. 1 for part terminology and identification.

A. One string LED Balls (7 LED balls)

B. One row of LED Balls consisting of 1 to 8 strings
(Max. 56 LED balls).

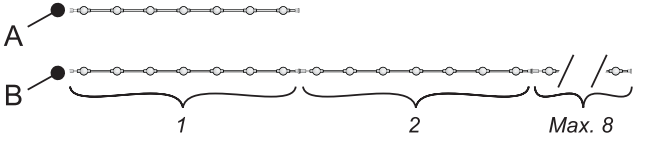


Fig. 1

Features

The SGM LED Balls form a modular semi-transparent LED video curtain with a 12cm pixel pitch, which can be viewed in a 360° angle. One LED Ball driver is capable of producing a seamless image of 6.6 meters vertically and for as long in the horizontal direction as the number of drivers permit (Fig.2).

The system features

- 12cm pixel is capable of producing a seamless image at 3.96m^2 per Touring LED driver.
- Rich RGB color
- Color resolution of 8 bits per color
- 360° viewing angle

Each string consists of 7 balls with RGB color LEDs and each string connects to both the driver as well as to the corresponding string with 4 pin RJ765 connectors. As many as 8 strings can be linked to form a row of strings with a total of 56 balls on each row.

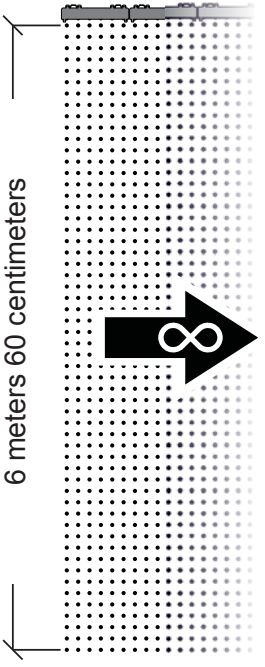


Fig. 2

Connections Overview

The LED ball string has a female 4 pin RJ765 connector at the inlet (before ball 1), and a male 4 pin RJ765 connector at the outlet (after ball 7). Fig. 3 shows the pin layout.

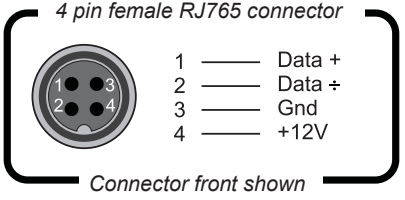
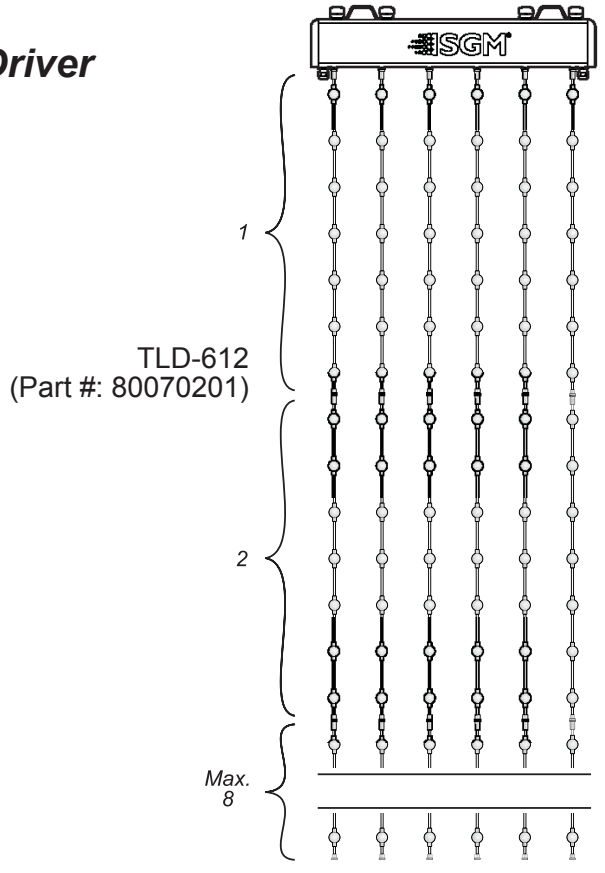


Fig. 3

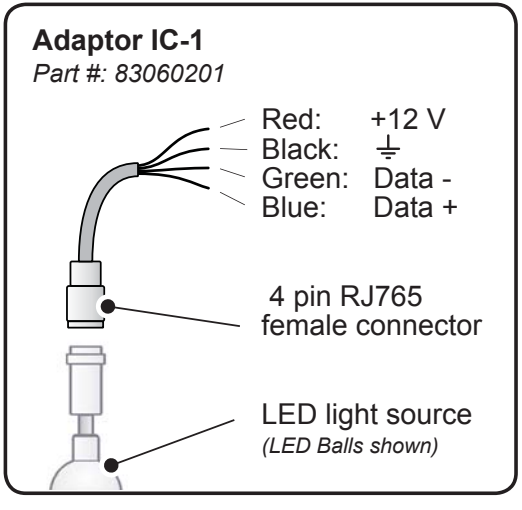
Connecting to SGM Touring LED Driver TLD-612



Using Custom power supply and SGM adaptor cable

When extending the supply cable between the adaptor (Part #: 83060201) and a user specified 12VDC PSU, make sure to use cables according to specifications in the table below.
When using a 12V DC custom power supply, it must be protected with a T12.5A fuse.
Use only an AC power source that complies with local building and electrical codes and has both overload and earth leakage protection.

Cable length *(meters)*	Cross sectional area *(mm^2)*
0 - 3	0,5
3 - 4,5	0,75
4,5 - 6	1
6 - 9	1,5
9 - 12	2
12 - 15	2,5
15 - 18	3
18 - 22	4
22 - 28	5
28 - 32	6



Service

Cleaning

Regular cleaning is essential for the LED Balls performance. Accumulation of dust and dirt degrades the LED light output.

Cleaning schedules will vary greatly depending on the operating environment, and the installation should therefore be checked at frequent intervals within the first few weeks of operation to see whether cleaning is necessary. This procedure will allow you to assess cleaning requirements in your particular situation. If in doubt, consult your SGM dealer for a suitable maintenance schedule. Clean the LED Balls with a soft cloth dampened with a solution of water and a mild detergent such as car shampoo. Do not use products that contain solvents, abrasives or caustic agents for cleaning, as they can cause damage to the surface of the balls.

Troubleshooting

Problem	Probable cause(s)	Remedy
No light in one LED ball	No DMX signal is received from source	Replace DMX source
		Check addresses and protocol settings
	Defective DMX source	Replace DMX source
	Incorrect addressing	Check addresses and protocol settings
	Defective LED	Replace LED string
No light in one string of LED balls	Defective DMX source	Replace DMX source
	Bad data link	Inspect RJ765 connectors and correct poor connections
	Short circuit at end connector	Remove any metal parts causing short circuit at the last RJ769 4 pin connector in string
	Incorrect addressing	Check addresses and protocol settings
	Defective LED	Replace LED string
Low light output from LED balls near end of string	Insufficient voltage from power source	Check power source specifications and replace power source if necessary
		Inspect power source for defects and repair or replace power source
		If extension cables are used, make sure that they comply with the specifications described in this manual

Specifications *LB-100 (Part #: 80080001)*

BALL DIMENSIONS

Diameter.....28mm
Pixel pitch.....12cm
7 balls string length (Balls CC).....72cm
Ball / Pixel weight.....20g

INSTALLATION

Orientation.....Any

AMBIENT OPERATING CONDITIONS

Maximum ambient temperature (T_a).....40 °C (104 °F)
Minimum ambient temperature (T_a).....-10 °C (14 °F)
Operating humidity.....100%
IP rating.....IP 65

SIGNAL SOURCE

According to standard.....USITT DMX 512

CONNECTIONS

Data input.....Male locking 4 pin RJ765 socket

Data output.....Female locking 4 pin RJ765 socket

ELECTRICAL

Power supply voltage.....12V +-0.2V

Power consumption per LB-100 (7 pixels).....5.4W

APPROVALS

Safety.....EN 60950-1

EMC.....EN 55103-1, EN 55103-2

INCLUDED PARTS

- LED Balls string, LB-100 (Part #: 80080001)
- User manual

ACCESSORIES

IC-1, Power adaptor cable.....Part #: 830060201

Specifications subject to change without notice

Users notes

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