

Starfield Power & Data Distribution System, LED Driver, 800mA



Model No: TBC

DATASHEET

Introduction

A compact, multi-channel LED driver which accepts an incoming CAT5e/6 feed from the Starfield Distribution Unit and uses the combined power and control to drive the Atlas and Starfield LED luminaires. An output connector is also present to allow the power & data feed to continue to the next driver.

Key features

- 4-Channel constant voltage output for RGBW ring and additional constant current white channel
- Simple connectivity using standard RJ45 connectors
- Compact design for discreet installation
- Auto discovery and addressing via the Starfield Distribution unit
- RDM compatibility via the Starfield Distribution Unit
- Analogue dimming option for flicker-free operation
- Device voltage monitoring for system analysis



Specifications

Size	147 x 84 x 29mm
Approximate Weight (g)	TBC
Finish	Black Powder Coat
IP Rating	IP20
Operating Temp (°C)	-20 to +40

Constant Voltage Outputs			
Channel	Output Voltage (V)	Output Current (mA, max.)	Max. Power (W)
Red	35	40	1.4
Green	35	40	1.4
Blue	35	40	1.4
White	35	40	1.4

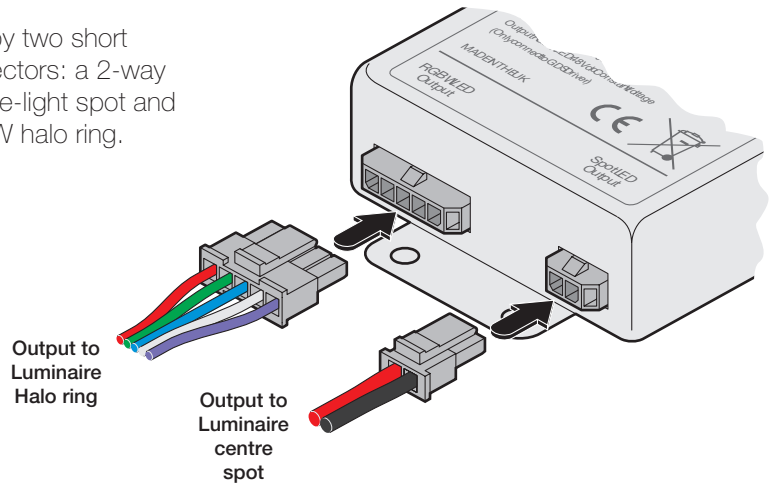
Constant Current Output	
Output Voltage (V)	12-48
Output Current (mA, max.)	800
Total Power Max (W)	28 (800mA @ 36V)

Driver Connection

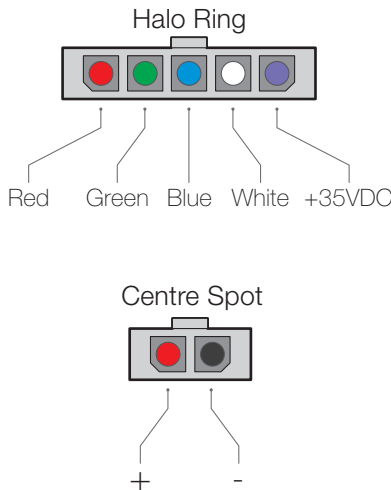
Driver input voltage:	48VDC (From distribution unit)
Driver maximum power:	32.8W
Driver connector(s):	RJ45 (2 off)
	Molex Micro-Fit (single-row) 2-way
	Molex Micro-Fit (single-row) 5-way

Driver to Luminaire connection

Each driver is linked to its accompanying luminaire by two short leads which are terminated in Molex Micro-Fit connectors: a 2-way connector (Molex #43645-0200) for the central white-light spot and a 5-way version (Molex #43645-0500) for the RGBW halo ring.



Luminaire connector pin-outs



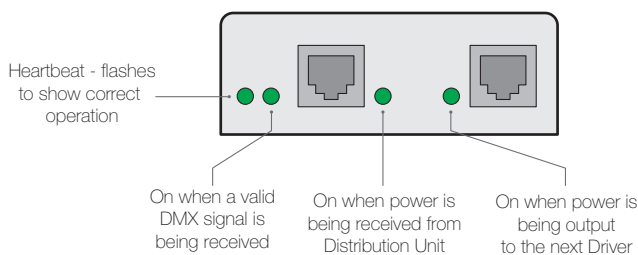
Luminaire DMX Address layout

Each driver requires six DMX channels, which are designated as follows:

DMX Channel	Function
Start Address	Centre spot: PWM dimming
Start Address + 1	Centre Spot: CC Adjust
Start Address + 2	Halo ring: Red
Start Address + 3	Halo ring: Green
Start Address + 4	Halo ring: Blue
Start Address + 5	Halo ring: White

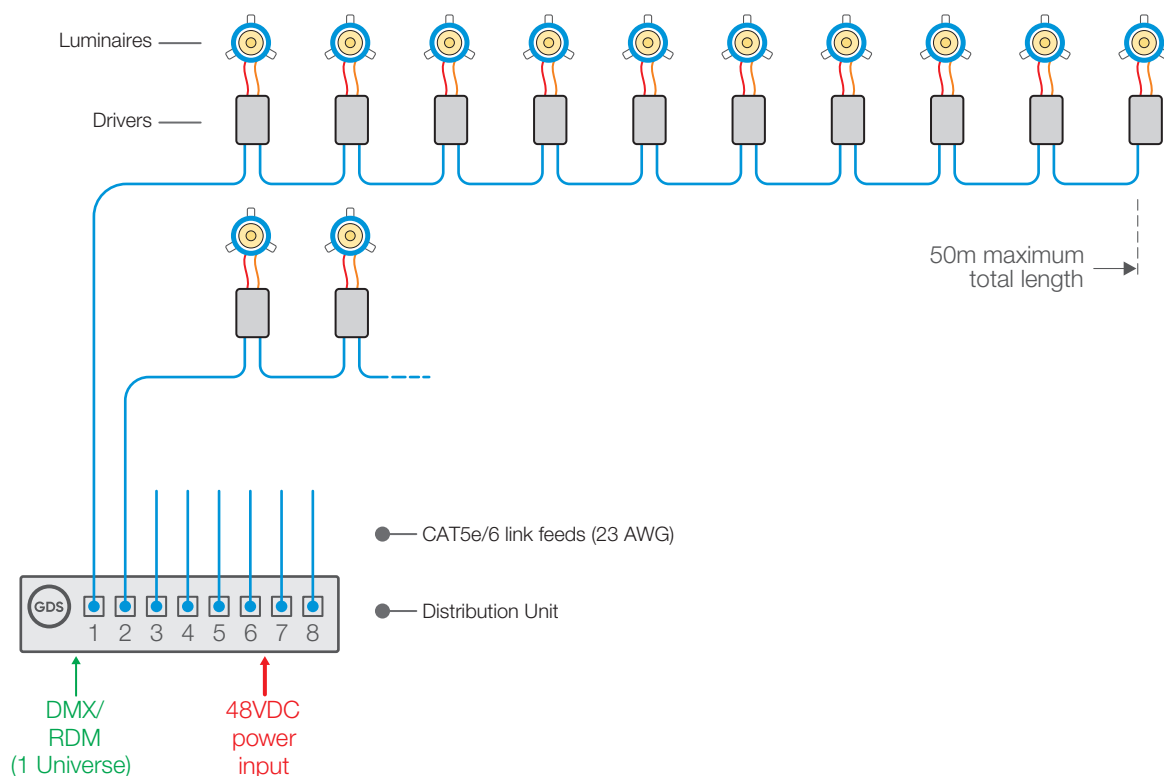
The second DMX channel (Centre spot: CC adjust) provides an alternative way to dim the centre spot without using Pulse Width Modulation (as used by the first channel). The CC adjust method varies the constant current supply to the emitter (more akin to an analogue fader), thereby eliminating any chance of PWM flicker in certain applications, particularly at low intensity levels.

Driver status indicators



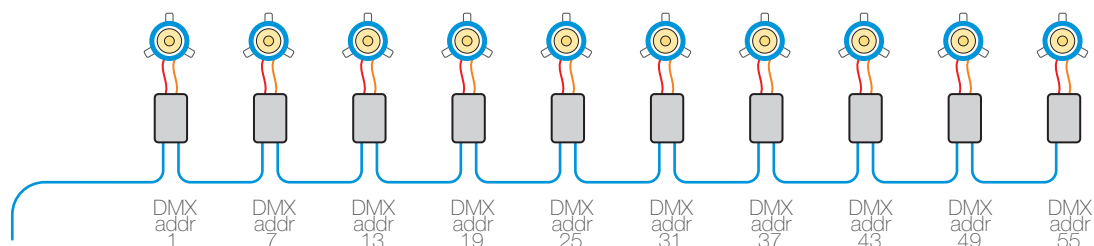
*Specifications are subject to change without notice.

System Connection



Configuration

To ensure maximum speed and efficiency during installation, the system employs automated addressing and active power management. Once the Driver and Luminaire runs are connected and power is applied, the commissioning engineer will press the DISCOVERY button located on the Distribution Unit circuit board. The Distribution Unit will initiate a search process whereby the Drivers are polled in sequence and given unique addresses:



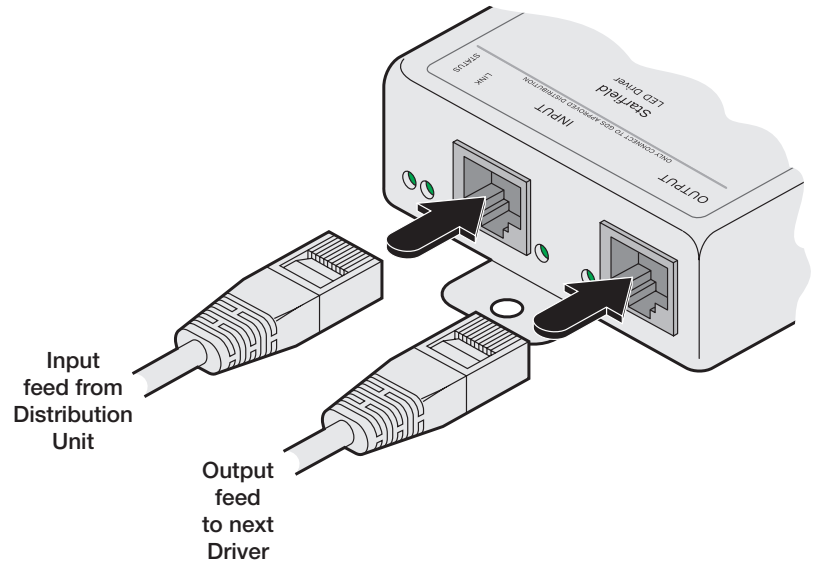
As each Driver is configured, the Distribution Unit will maintain a tally of power requirements in order to ensure that no daisy-chain can be accidentally overloaded. Once the maximum limit of Drivers have been configured in a line, no attempt will be made to contact or enable further units.

When the initial configuration has been completed, the Distribution Unit will commence directly with operation whenever power is re-applied.

RJ45 Connection

Drivers will be daisy-chained together using standard CAT5e/6 cabling and RJ45 connectors:

Pin	Function
1	Data +
2	Data -
3	0V
4	+48V
5	+48V
6	+48V
7	0V
8	0V



RDM Support

The following RDM fixture parameters are remotely configurable from the controller via the DMX/RDM link:

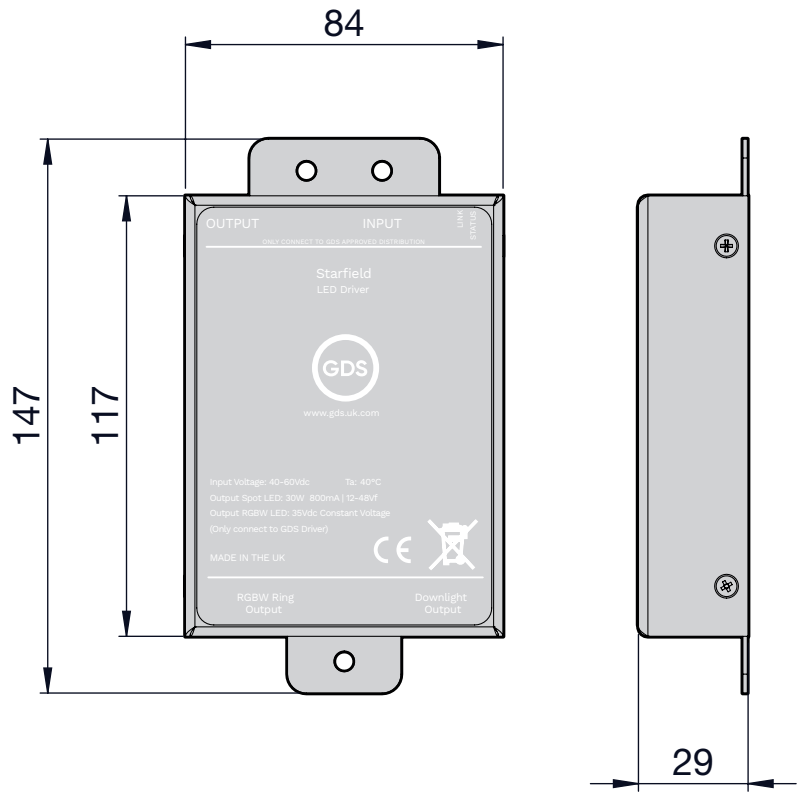
Dimming curve:	Linear, Square Law, GDS Incandescent
PWM frequency:	300Hz, 600Hz, 1200Hz, 19.2kHz
Response Time (mS):	0, 50, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000
Minimum output level:	0 to 255
Maximum output level:	0 to 255

Strain Relief Option

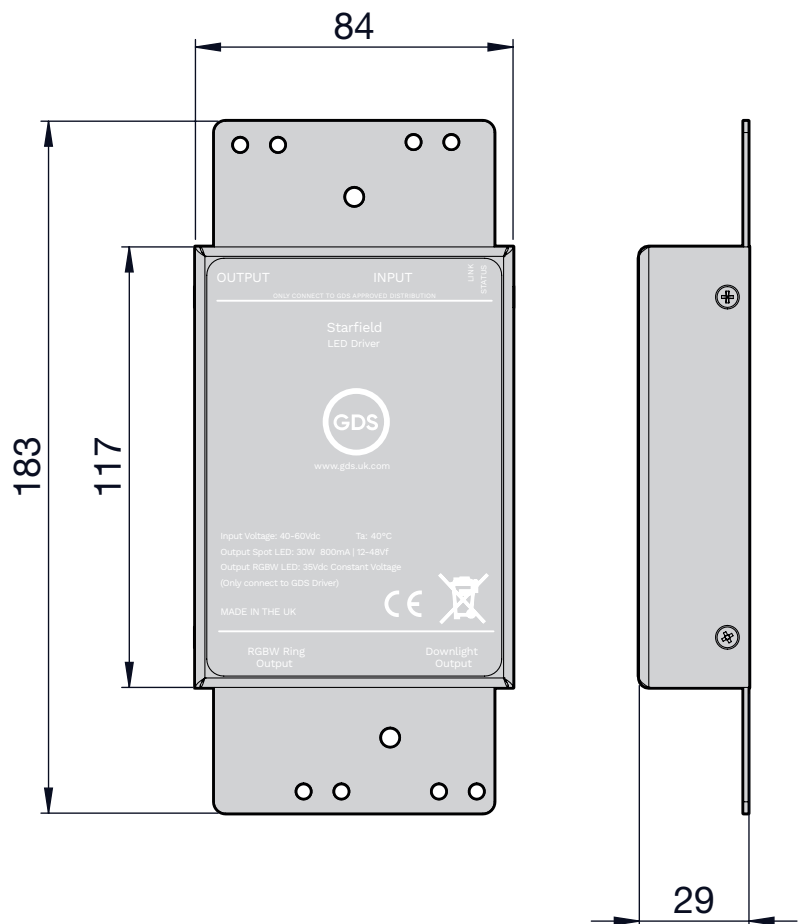
A modified housing option is available whereby the base plate allows for cable ties to be installed on the input and output cables to allow for strain-relief:



Dimensions



Strain Relief Option



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