

ArcSystem

D1 Driver Control



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| | Project | Type | Catalogue Number |
|----------------------|---------|------|------------------|
| Technical Data Sheet | | | |



The D1 Driver forms part of the ArcSystem range of drivers for dimming ArcSystem 1 cell and MR16 LED light fittings.

It creates a 100% to absolute zero dimming system using wired DMX or wireless ArcMesh protocol.

The driver is configured using the ARCMCT commissioning tool via wireless, see separate data sheet.

The D1 driver is a constant current type driver and can drive other manufacturers LED light fittings, please contact GDS for further information.

Technical Datasheet.

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D1 Driver Control



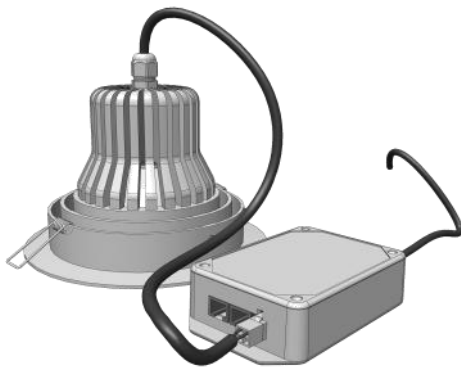
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General Information

A compact convection cooled LED driver delivering accurate dimming to absolute zero. The driver has RJ45 in/out connections for local DMX and comes complete with wireless capability for control using the ArcMesh wireless protocol.

2 x GDS MR16 or 1 x GDS pro/décor 1 cell fitting connect to a D1 driver, refer to the light fitting datasheets for connection information.

The ArcSystem has been specifically developed for auditorium lighting applications where high quality extremely accurate and smooth dimming is required. The use of onboard Device Management allows all fittings to be addressed remotely using the ARC-CT (commissioning tool) with the ARC-TX1 (Wireless Gateway) ensuring installation is fast and simple for electrical contractors.



80 Degree Pro 1 Cell with D1 driver



D1 driver

Key Points:

- Wired DMX or Wireless (ArcMesh) control protocols
- Addressing of wireless or wired fittings is achieved using the gateway and commissioning tool, please see separate data sheet.
- Step less smooth dimming to absolute zero
- Universal Mains input = 90-264VAC 50/60Hz
- Full load power consumption 20 Watts
- Standby Current <1W
- Convection Cooled
- Silent operation
- High Frequency Dimming Control (flicker free)
- Compliant with Part L of building regulations and proposed efficiency levels for energy saving incentives (UK)

Note:

The D1 driver requires the use of a wireless gateway and commissioning tool to set DMX addresses, even if the unit is being controlled from DMX only.

To specify state:

A high performance LED driver having 100% to absolute zero dimming, controllable from local DMX or ArcMesh wireless protocol. Configured using the GDS ARCMCT commissioning tool. Designed for pro or décor 1 cell unit, or 2 x MR16.

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Options Matrix

| | |
|--------------------|--------------------------|
| Order Code: | ARCMD1D |
| Description | D1 Driver, Non Emergency |

| | |
|--------------------|-----------------------------------|
| Order Code: | ARCMD1DE |
| Description | D1 Driver, Emergency (Dual Input) |



Accessories

Extension Cables.

Used between the ARCMD1D driver and the pro range 1 cell light fitting.

| Part Number | Description |
|-------------|---------------------|
| ARCDAHBC1 | 1M Extension Cable |
| ARCDAHBC2 | 2M Extension Cable |
| ARCDAHBC3 | 3M Extension Cable |
| ARCDAHBC5 | 5M Extension Cable |
| ARCDAHBC10 | 10M Extension Cable |



Y Split Adapter.

The Y split adapter is used when 2 x MR16 units are to be used on 1 x ARCMD1D (Driver Unit). No other cables are required as all MR16 units come with fixed cables fitting with connector plug.

| Part Number | Description |
|-------------|--------------------|
| ARCDA MYSA | MR16 Y Split cable |



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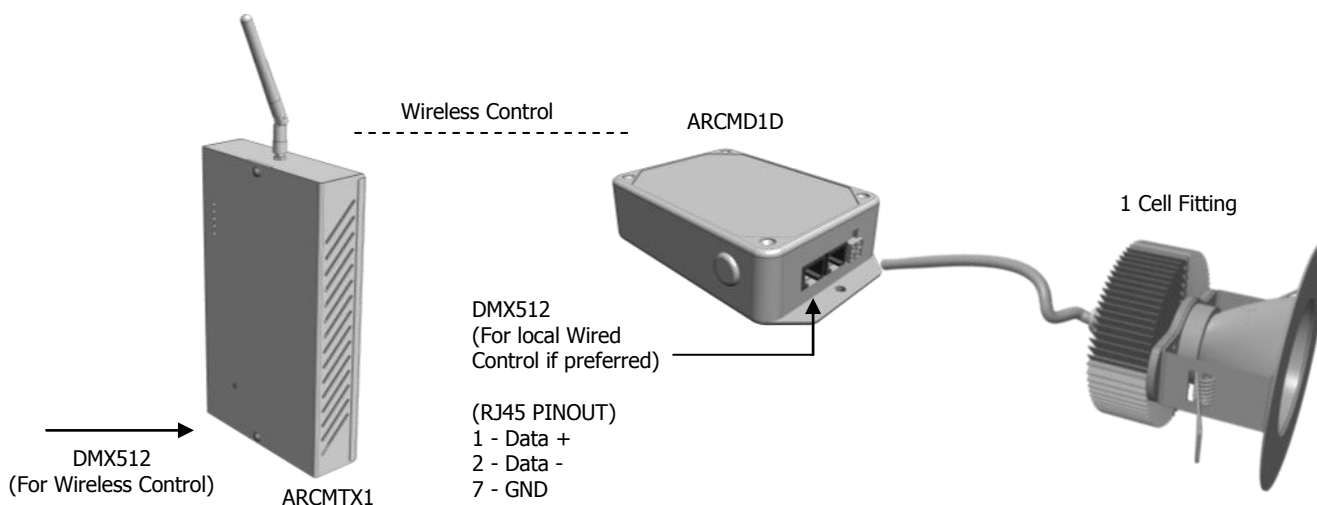
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Control using the D1

If using wireless control with the D1 driver, a wireless gateway will be required, part number ARCMTX1. When using the wireless control option, the system can be configured using the software and USB dongle (ARCMCT). In this case, DMX is connected to the gateway and then the fittings are controlled wirelessly. The ARCMTX1 allows for other settings to be configured as listed below:

- Patching of groups of light fittings to DMX channels.
- Minimum and maximum dimming levels per group
- Power fail/recovery options per group
- Preset recall when using button panels such as the ARCMCP8

If using the wired control option, DMX can be wired directly to the D1 driver using RJ45 connectors. Each driver has IN and THRU options, using 2 separate connectors. The commissioning tool along with the gateway allows for addressing of each driver remotely. Note, if using wired only option, a commissioning tool and wireless gateway will still be required for DMX addressing. This can then be removed from the system once addresses have been set.



Basic Physical Information

- 140mm / 5.5" x 85mm / 3.35" x 34mm / 1.34"

Note:

Driver unit comes with 1M / 39.37" of fixed 2-core mains cable with bear ends.

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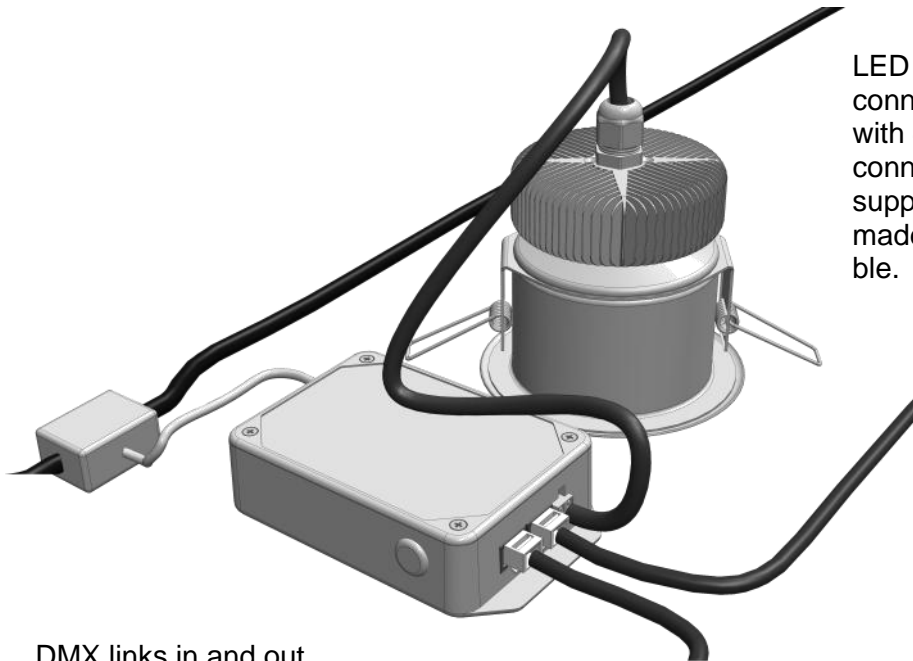
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1 Cell Installation example

ArcSystem Wired Configuration

When using wired control, the driver unit offers the opportunity for ease of installation by using RJ45 connectors for the DMX cabling. Standard patch leads can be used between fittings so that each light fitting can be installed easily and quickly without the need for onsite termination engineers.

The below example details a typical linear ceiling installation arrangement.



LED Head unit connects to driver with 4 pole locking connector. Head is supplied with pre-made 500mm cable.

DMX links in and out using standard RJ45 connectors. UTP/FTP pre-made patch leads can be used.

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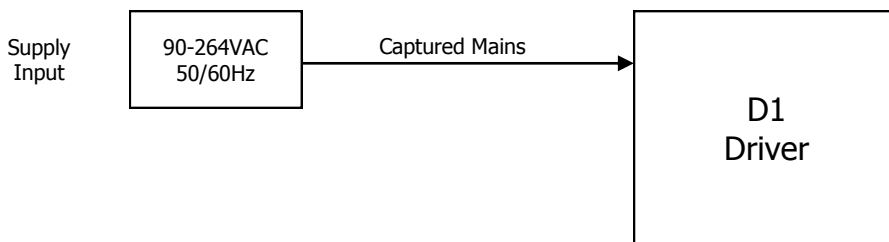
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Non Emergency Connection

Non Emergency D1 drivers have 1 x mains connection. This connects to a normal mains supply and in the event of power failure the driver will naturally turn off as there is now no power to the driver. However, the driver can be set to recall a level in the event of losing a wireless or DMX signal using the commissioning tool options.

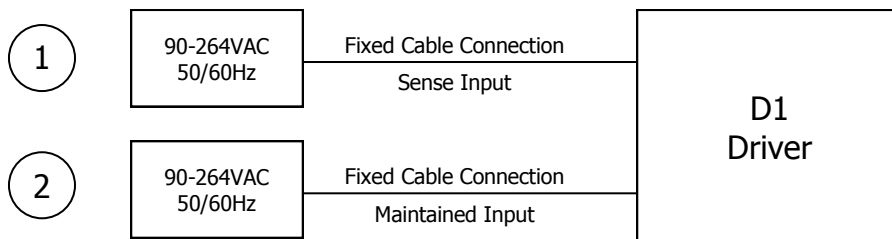


Emergency Connection

Emergency D1 drivers have 2 x mains leads that come fixed to the driver, these have the following functions:

1. Mains sense
2. Maintained supply

Note: Input 2 (Maintained supply) circuit must be wired in fire rated cable to the driver connection point. Please consult with a qualified electrical engineer for correct installation procedures.



Note:
For reliable emergency operation, when the mains sense input power is lost, the driver will bypass all electronic processing from the wireless/DMX system.

The mains sense is used to detect whether the power has been lost. This will force the light fitting to a full on state running from the maintained supply. There is no control of the light fitting from the Wireless or DMX until the Mains sense input is turned back on.

This configuration will be sufficient for a central battery system that provides a maintained supply at input 2 regardless of whether power has been lost or not.

If the central battery system only provides power upon mains failure at input 2, a change over relay will be required to switch the maintained input from a normal supply over to the battery system. This is required as the light fitting always requires power at the maintained input for correct operation.

In this case, please see the information below.

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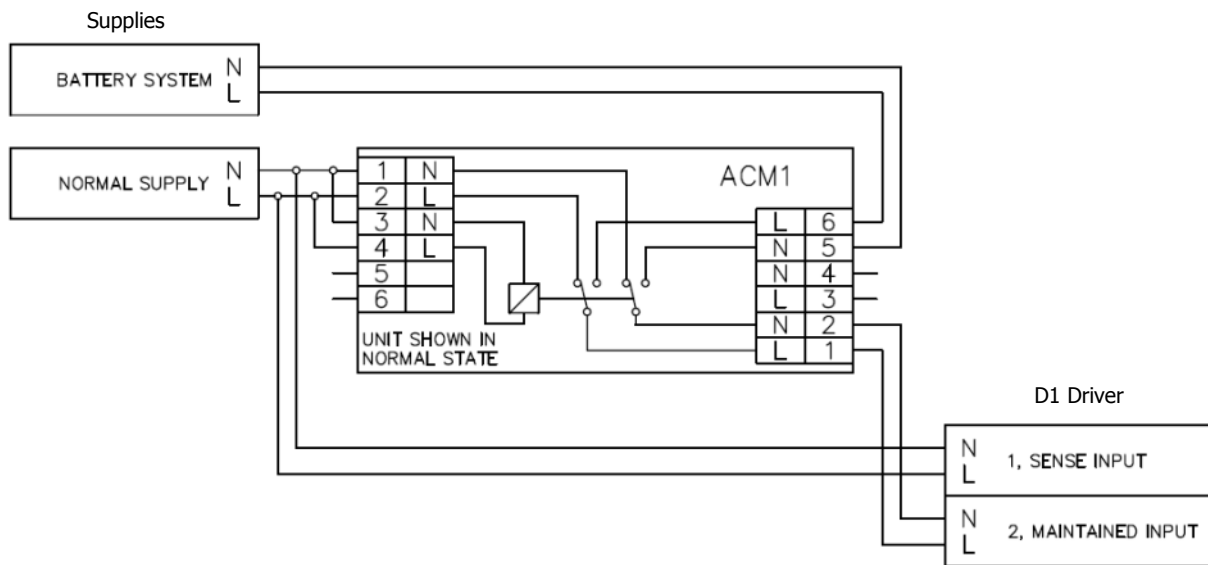
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Emergency Connection - Cont

The below example shows a typical changeover relay (Cooper Controls ACM1) being used to ensure the driver always has constant power at the maintained input ensuring correct operation. This is required if the central battery system does not provide power in normal operating conditions.



Please see Appendix 1 for ACM1 manufacturers data sheet

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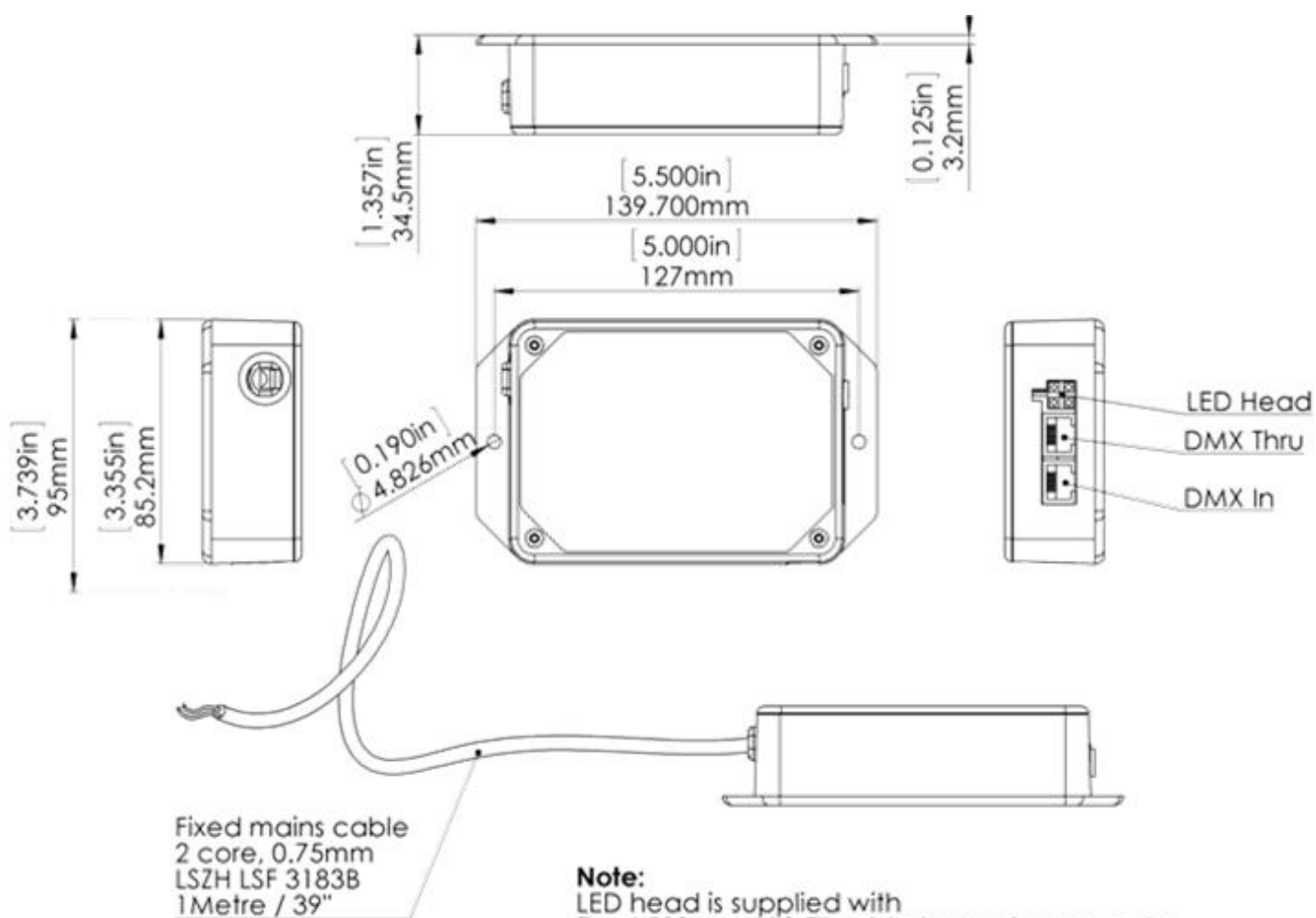
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Dimensional Data - Driver Module



Note:
LED head is supplied with fixed 500mm / 19.7" cable to 4 pole connector for connection to driver. Extension cables are available.