

The Dynalite Driver

The Dynalite driver connects to a Philips Dynalite lighting system. The driver can be used to control lighting areas and their channels within a DyNet system. Available for ObSys and Commander.

This document relates to Dynalite driver version 1.0

Please read the *Commander Manual* or *ObSys Manual* alongside this document, available from www.northbt.com

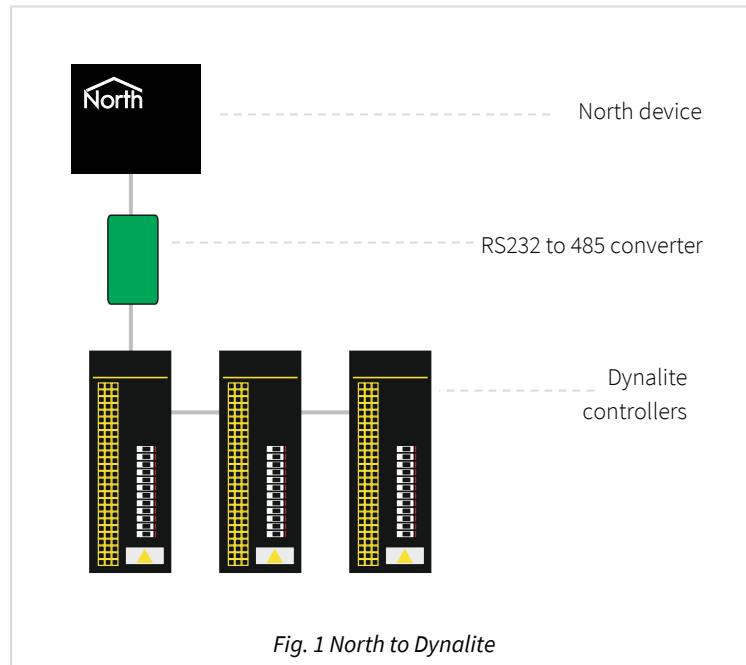
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Compatibility with the Dynalite System

The Dynalite driver allows North to interface with the Philips Dynalite lighting system. The driver can be used to control lighting areas and their channels within a DyNet system.

The driver connects, via an RS485 serial connection, to a Dynalite controller (Fig. 1). Multiple controllers can be networked together, and accessed across the DyNet system.



Equipment

Dynalite load controllers supporting the DyNet 1 protocol are compatible with the driver.

Values

The driver can typically access the following values:

- Area preset level
- Area on or off
- Area fade level (%)
- Area channel preset level
- Area channel on or off
- Area channel fade level (%)
- Breaker state

Prerequisites

An RS232-485 adapter is required and must be set to 9600 baud, 10 bits.

The driver uses the Dynalite default fade rate of 2 seconds.

Using the Driver

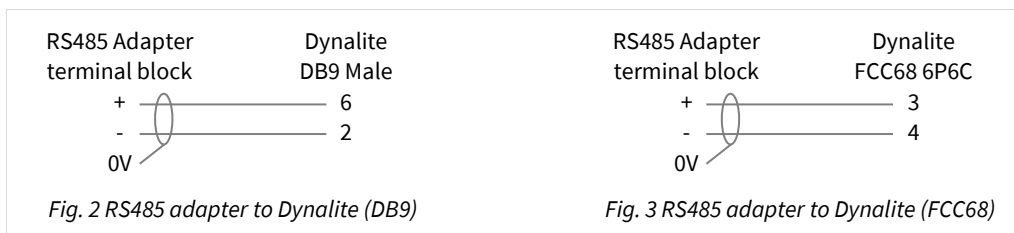
On ObSys, the Dynalite is pre-installed. On Commander, the driver is available to download in the file 'Bank6 Dynalite.cdm'. On all of these North devices, you can use the driver to create an interface to Dynalite. Once started, you will need to set up the driver before it can communicate with the Dynalite system.

Making the Cable

Connect the North Device COM port to an RS232 to RS485 adapter.

Using the RS485 cable specification (Fig. 2 & 3), connect the RS485 adapter to the Dynalite controller.

The earthing screen or braid of the RS485 cable should be connected as close as possible to the 0V terminal at one end only. Do not connect the earthing braid of a single cable run to more than one unit, be it converter or device.



RS485 adapters are available from North, order code MISC/RS232/485.

Starting the Interface

- 📖 To start an interface using the Dynalite driver, follow these steps:
 - **Start Engineering** your North device using ObSys
 - Navigate to **Configuration, Interfaces**, and set a unused **Interface** to 'Dynalite' to start the particular interface
 - Navigate to the top-level of your North device, then rescan it.

The driver setup object (Mc), labelled **Dynalite Setup**, should now be available. If this object is not available, check an interface licence is available and the driver is installed.

Setting up the Driver

- 📖 To set up the driver, follow these steps:
 - Navigate to the **Dynalite Setup** object (Mc). For example, if you started interface 1 with the driver earlier, then the object reference will be 'M1'
 - Set the **RS232 Com Port** (RS.COM) to select which serial port on the North Device the Dynalite system is connected
 - If alarm events for breaker states are required, set the **Unit Address** table (Ux) with a list of controller addresses to monitor on the network.

Alarms

If the Dynalite system has been configured to send an event when a breaker changes state, and its address is configured in the Driver Setup, then the driver sends a North-format alarm to the device's alarm processing.

Format

North-format alarms contain six text fields. The Dynalite driver places the following information into these fields:

System – copied from System Label object (DL) within driver setup

Point – 'Unit' + *unit number* + 'Breaker' + *breaker number*

Condition – 'Trip' or 'OK'

Priority – '3'

Date & Time – from North Device.

Examples

System	Point	Condition	Priority	Date	Time
Dynalite System	Unit 10 Breaker 2	Trip	3	05/10/20	14:29:48
Dynalite System	Unit 10 Breaker 2	OK	3	05/10/20	14:55:12

Object Specifications

Once an interface is started, one or more extra objects become available within the top-level object of the device. As with all North objects, each of these extra objects may contain sub-objects, (and each of these may contain sub-objects, and so on) - the whole object structure being a multi-layer hierarchy. It is possible to navigate around the objects using the ObSys Engineer.

Each object is specified below, along with its sub-objects.

Example Object Reference

An example of a reference to an object in the same device: the Dynalite System (S1) contains Area 1 (A1), which itself contains a Channel (C1) that in itself contain a Fade level (L). Therefore, the complete object reference is 'S1.A1.C1.L'.

An example of a reference to an object in a different device: the IP network object (IP) contains Default Commander object (CDIP), which contains the object above (S1.A1.C1.L) – therefore the complete object reference is 'IP.CDIP.S1.A1.C1.L'.

Device Top-Level Objects

When an interface is started using the Dynalite driver, the objects below become available within the top-level object of the device. For example, if interface 1 is started, then the object references 'M1' and 'S1' become available.

Description	Reference	Type
Dynalite Setup Set up the Dynalite driver, started on interface <i>c</i> (<i>c</i> is the interface number)	Mc	Fixed container: On the Commander platform this will be <i>[CDM v20\Dynalite v11]</i> On the ObSys platform this will be <i>[OSM v20\Dynalite v11]</i>
Dynalite System Access Dynalite system connected to interface <i>c</i> (<i>c</i> is the interface number)	Sc	Variable container: <i>[Dynalite v11]</i>

Dynalite Driver Setup

Object Type: [OSM v20\Dynalite v11]

Object Type: [CDM v20\Dynalite v11]

The Dynalite driver contains the following objects:

Description	Reference	Type
RS232 COM Port	RS.COM	Obj\Num: 0...8; Adjustable
Device Label	DL	Obj\Text: 20 chars; Adjustable
Unit x Address The unit number, <i>x</i> , is in the range 1...40. Set the address of each breaker unit the driver should monitor and generate alarm events for. The Dynalite system will also require configuring to send breaker events.	Ux	Obj\Num: 0...255, Adjustable

Dynalite System

Object Type: *[Dynalite v11]*

The Dynalite system contains the following objects:

Description	Reference	Type
Area a The lighting area address, a , can be in the range 1...255	Aa	Fixed Container: <i>[Dynalite v11\Area]</i>
Unit x The breaker unit address, x , is in the range 1...255	Ux	Fixed Container: <i>[Dynalite v11\Unit]</i>

Area

Object Type: *[Dyalite v11\Area]*

An Area is a Dyalite lighting area. Where applicable, the Dyalite default fade rate of 2 seconds is used.

The DyNet protocol does not send an acknowledgement when a write is performed, therefore the driver assumes that all writes are successful.

An area contains the following objects:

Description	Reference	Type
Channel c The channel address, c, can be in the range 1...255	Cc	Fixed Container: <i>[Dyalite v11\Channel]</i>
Preset Select a preset lighting level	P	Obj\Num: 1...98; Adjustable
Fade Level Fade the lighting level to a percentage value	L	Obj\Num: 0...100%; Adjustable-only 0%=fully off, 100%=fully on
Fade State Fade the lighting level between to off or fully on	S	Obj\OffOn; Adjustable-only
Fade Stop Stop the fade transitioning any further, leaving the lighting at its current level.	FS	Obj\Num; Adjustable-only Set to any value
Adjust Increase or decrease the lighting from its current level. For example, a value of 1 will increment the lighting level 1, a value of -2 will decrement the lighting level by 2	A	Obj\Num: -100...100; Adjustable-only

Channel

Object Type: *[Dyalite v11\Channel]*

A Channel is a Dyalite lighting channel within an area.

The DyNet protocol does not send an acknowledgement when a write is performed, therefore the driver assumes that all writes are successful.

Description	Reference	Type
Fade Level Fade the lighting level to a percentage value	L	Obj\Num: 0...100%; Adjustable 0%=fully off, 100%=fully on
Fade State Fade the lighting level between to off or fully on	S	Obj\OffOn; Adjustable-only
Fade Stop Stop the fade transitioning any further, leaving the lighting at its current level.	FS	Obj\Num; Adjustable-only Set to any value
Adjust Increase or decrease the lighting from its current level.	A	Obj\Num: -100...100; Adjustable-only

Unit

Object Type: [Dyalite v11\Channel]

A Unit is a Dyalite breaker unit.

Description	Reference	Type
Breaker y State The breaker number, y, is in the range 1...12	By.S	Obj\Enum Values: 0=Tripped, 1=Ok

Driver Versions

Version	Build Date	Details
1.0	06/01/2000	Driver released
1.1	16/06/2000	Mod: added support for breaker status Mod: Allow full range of preset numbers
1.1	23/08/2000	Mod: Added Unit Address (Ua) driver object to limit alarms from required breaker units
1.1	14/12/2005	Fix: Unable to set Unit Address (Ua) driver object = 0 when restoring from backup
1.1	02/11/2006	Modified for compatibility with Dynalite RS232 bridge that sends echo, and resolved timing compatibility issue.
1.1	07/08/2013	Released for Commander

Next Steps...

If you require help, contact support on 01273 694422 or visit www.northbt.com/support



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