SYNAPSYS
BUILDING INTELLIGENCE

Dali Converter
Accessories Datasheet

INTRODUCTION

Synapsys Solutions provide a range of innovative interface products available for various applications and protocols. They have been developed to help reduce engineering time and cost, and to meet the demand for more information and better energy control.

These products, used in conjunction with a BACnet or Trend BMS, can help ensure a building complies with latest Part L2 Building regulations.

APPLICATION

This DALI Converter has been developed to provide an easy interface between a single Dali lighting loop and any lighting application controller, i.e. Open Technology LiGO controller.

DALI provides ideal support for building control systems and enables each light source to be individually addressed, making it compatible with even small installations. DALI can be used in such installations as an independent lighting management system.

Note **Digital Addressable Lighting Interface (DALI) is a lighting control method that allows for the remote switching and dimming of individual luminaires.**

Features

Compatible with our preferred PSU

Compatible with application controllers

Small footprint

Hardware

- LEDs - Power, Bus OK, Bus activity and Comms activity
- 1 x RS232 connection
- 1 x RS485 connection
- 1 x DALI connection

Software

- RS485: 1200 Bit/s
- RS232: 1200 Bit/s

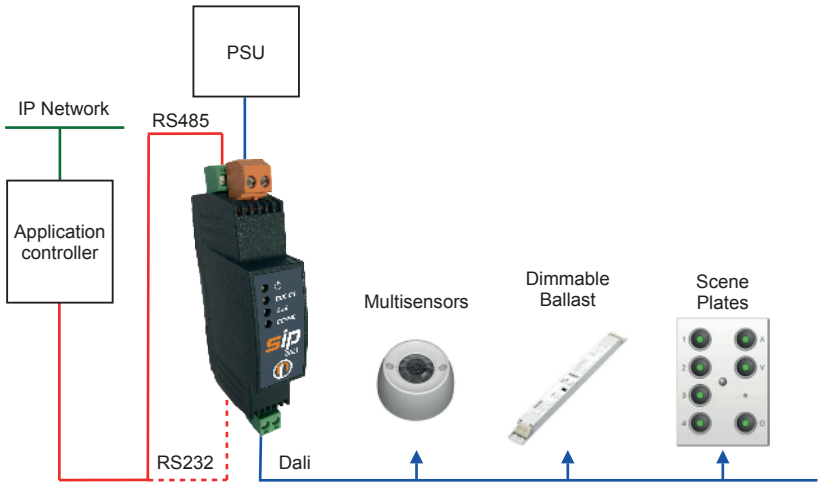
DESIGN AND FUNCTION

The DALI Converter has been designed for receiving and transmitting data via the control network to individual luminaries, or groups of luminaries, to switch them on or off and/or to dim them, according to the defined BEMS protocol.

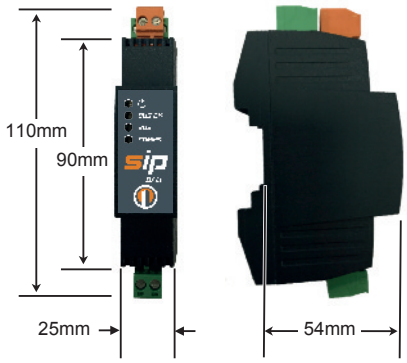
This product supports DALI communications as an RS232 or RS485 connection from an application controller and using an asynchronous, half-duplex, serial protocol over a two-wire DALI Bus (Dali Loop), with a fixed data transfer rate of 1200 bit/s. It allows a max 64 devices (e.g. electrical ballasts, sensors and dimmers) per 300m DALI Network using any topology (star, daisy-chain, etc).

DALI compliant luminaries are able to send status information (ECG errors/ lamp errors) back up to the next level control system. It is resistant to sustained short circuit and requires 24VDC power supply.

SYSTEM OVERVIEW



Note **The RS485 connection does NOT support multidrop networks. Requires a 1A PSU (as supplied by Synapsys Solutions).**



SPECIFICATION

Dimensions

25W x 90H (110 with connectors) x 54D mm
100g (2.5lbs)

Power Input

Input Voltage Range: 24VDC
Power Consumption: 200 mA

Dali Voltage

All variants: 33.5V exc. load

Environmental

Operating Temp: 0 to 70°C (32 to 158°F), 0 to 90% RH
Storage Temp: -25 to 85°C (-13 to 185°F), 0 to 90% RH

Connections

Serial

1 x RS232 port
1 x RS485 port

INSTALLATION

DIN rail mounting (TS35) only.

Caution **When the maximum cable length is calculated the contact resistance must also be taken into account.**
A voltage drop of 2 V must not be exceeded!

Dali protocol states

- up to 64 devices per loop, arranged in a daisy-chain, or star topology, or a combination of both
- asynchronous, half-duplex, serial protocol over a two-wire bus (min. 1 mm cross-section cable)
- fixed data transfer rate of 1200 bit/s
- mains-rated, with 600 V isolation, and a max drop of 2 volts along the cable (max 300m)

Note **Contact the lighting device manufacturer for termination and cable recommendations.**

CONFIGURATION

Each DALI Converter supports a 64 addresses.

Tip! **Some devices require more than 1 (one) device address.**

PRODUCT CODES

PART NO.	DESCRIPTION
SYN/DALI/CONV	Supports a maximum of 64 addresses
PSU/24VDC/1A	24V 1A DC Power Supply

REGULATIONS

TBC

With a comprehensive range of interface products for BACnet, M-Bus, ModBus, SNMP and Trend protocols we can help you easily link meter, sub-meters and plant to Trend or BACnet BeMS systems with energy management and monitoring functionality, and virtual metering.

Download brochures and datasheets from our website. Alternatively, contact us for more information or to request a quote.

No.1 Woodlands Court, Albert Drive, Burgess Hill, West Sussex, RH15 9TN
International - Tel: +44(0)1444 246128 - Fax: +44(0)1444 239527
Sales: sales@synapsys-solutions.com **Orders:** orders@synapsys-solutions.com
Support: support@synapsys-solutions.com
Web: http://www.synapsys-solutions.com

Issue 1, Apr. 2017