DALI-RD20-M

DALI Broadcast Controller

Installation
Manual

 THE DALI-RD20-M MUST BE INSTALLED BY A LICENSED ELECTRICIAN

IMPORTANT INFORMATION

ELECTRICIANS MUST READ PRIOR TO INSTALLATION

- This product must only be installed by persons who are appropriately licensed by the applicable State regulatory body.
- This product must be connected to circuits that incorporate 10 A rated circuit breaker protection.
- Hazardous voltage exists at the terminals of this product. Ensure the circuit is isolated before removing this product from the wall or electrical enclosure.
- Damage caused by incorrect installation, force-majeure, electrical surges, lightning, power grid fluctuations, water or by connection to alternative power supply sources (such as solar inverters, etc.) is not eligible for warranty repair.

Device Overview

The DALI P20 is a DALI broadcast controller for control of up to 20 DALI fittings. Its integral DALI power supply means no other hardware is required for this controller to operate.

With an input for a movement detector and programmable options for Turn on Level, Sensor mode, Run on Timer and Minimum Level the DALI P20 is not only simple to install and use but also extremely flexible in its functionality.

Installation Instructions

Before   installing this product read all instructions carefully and please keep this installation manual for future reference.
WARNING: To prevent electric shock, please ensure that power is isolated before installation.

This product is designed for indoor use only.

The DALI-RD20-M is designed to be mounted in the ceiling (typically near the first fitting) with the supplied cable run down to the switch plate mounted rotary encoder. Suitable switch plate is provided by the installer.
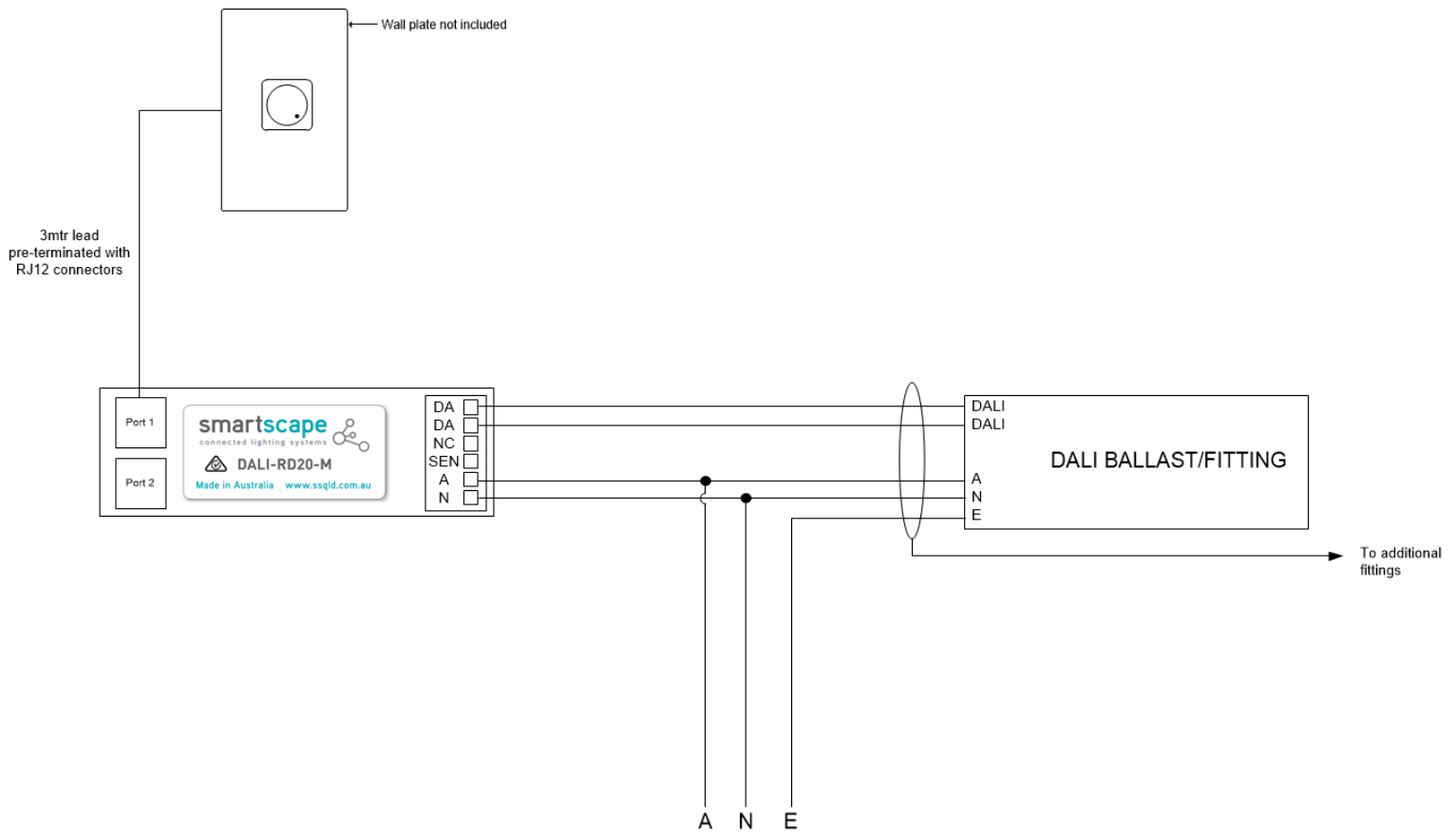
Installation must be carried out by a qualified electrician in accordance with National Wiring Regulations and other applicable regulations. Compliance to Low Voltage Directives may be invalidated if not used or installed according to the published specification.
The DALI-RD20-M contains no user serviceable parts and should be returned to the manufacturer for repair.
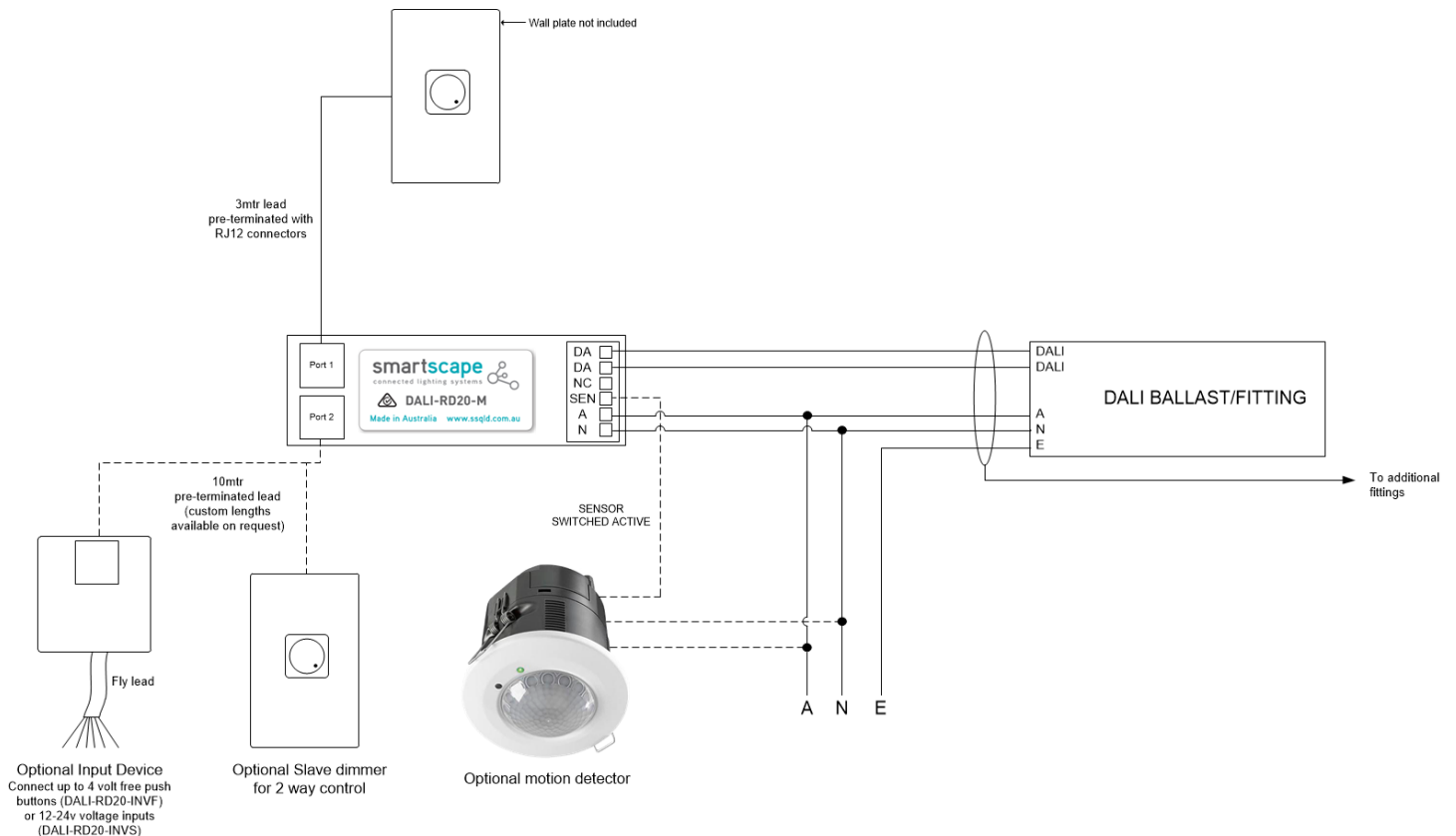
Rotary Encoder
The encoder is an ELV device and connected with an ELV cable. The installer must adhere to Australian electrical standards when installing this device near LV cables and devices.

Wiring Diagram – Basic Setup

Wall plate not included

3mtr lead
pre-terminated with
RJ12 connectors

Port 1

Port 2

smartscape
connected lighting systems

DALI-RD20-M
Made in Australia   www.ssqld.com.au

DA
DA
NC
SEN
A
N

DALI
DALI

DALI BALLAST/FITTING

A
N
E

To additional
fittings

A   N   E

Wiring Diagram – with Optional Extras

Wall plate not included

3mtr lead
pre-terminated with
RJ12 connectors

Port 1

Port 2

smartscape
connected lighting systems

DALI-RD20-M
Made in Australia   www.ssqld.com.au

DA
DA
NC
SEN
A
N

DALI
DALI

DALI BALLAST/FITTING

A
N
E

To additional
fittings

SENSOR
SWITCHED ACTIVE

10mtr
pre-terminated lead
(custom lengths
available on request)

A   N   E

Fly lead

Optional Input Device
Connect up to 4 volt free push
buttons (DALI-RD20-INVF)
or 12-24v voltage inputs
(DALI-RD20-INVS)

Optional Slave dimmer
for 2 way control

Optional motion detector

**Input device or slave dimmer can be used
on 2nd port of control unit, not both.

The Supply end of the DALI-RD20-M has a terminal block that accommodates up to 1.5mm^2 wire for electrical and DALI cable connection.

Connection		Description
240V	N	Electrical Neutral
	A	Electrical Active
	SENSOR	Sensor Input (220-240VAC trigger input)
	NC	not connected
DALI	-	DALI Data -
	+	DALI Data +

The rotary encoder end has two RJ12 sockets for connection to the rotary encoder/s. Two encoders are used when 2-way switching/control is required.

DALI TECHNICAL INFORMATION

Installer technical information for DALI based products:

- DALI requires 2 wires to connect between devices. These wires are not polarity dependant.
- These DALI wires are classed as FELV (functional Extra Low Voltage) and due to isolation issues should always be treated as being at mains potential, therefore requiring so a suitable mains rated
- DO NOT CONNECT 240V TO THIS CABLE
- Cable size

DALI Cable Run Length	Recommended Minimum DALI Cable Conductor Size
Less than 100 Meters	0.5mm²
100 to 150 Meters	0.75mm²
More than 150 Meters	1.5mm²
More than 300 Meters	Not recommended, avoid runs over 300 Meters

- DALI Standard – IEC 62386

SPECIFICATIONS

Electrical

Nominal Operating Voltage	220 to 240V a.c.
Nominal Operating Frequency	50Hz
Maximum Load	24VA
Maximum Wire Size	1.5mm^2

Environmental

Ambient Operating Temperature Range	0 to 50°C
Relative Humidity	5 to 95% non-condensing
Altitude	0 to 3000m MSL%

Control

Load Per DALI ballast	2mA
Maximum Number of DALI Ballasts	20
DALI Operating Mode	Broadcaster

DALI Data Encoding	Manchester
DALI Data Baud Rate	1200
DALI Data Cable Requirement	2 wire double insulated
Maximum DALI Cable Length	300m with 16AWG cable (2V line drop maximum)

Physical

Product Dimension	125mm (L), 40(W), 30mm (D)
Installation Cut-out	63mm (L), 50mm (W), 50mm (D)
(Switch plate supplied by others)	
Installation	Indoor Use Only

Programming Information

How to change programmable Options;

1. Press and hold the push button for 10 seconds to enter programming mode (at 5 seconds you will see one Blue flash, keep holding for 10 seconds). Once in programming mode;
   - The Blue LED will flash a number of times to indicate which programming option you have selected.
   - The Red LED will then flash a number of times to indicate what mode that option is set to.

2. Press the push button to change the current option to the next mode.
3. Rotate the knob a quarter turn clockwise to change to the next option or anticlockwise to change to the previous option.
4. To exit programming press and hold the push button for 10 seconds or wait 30 seconds and it will exit automatically.

List of Programmable options, modes of each and defaults.

Option 1. Turn on level
    Mode 1. 100% - default
    Mode 2. Last level
    Mode 3. User Defined
Option 2. Sensor mode.
    Mode 1. Manual on, Auto off - default
    Mode 2. Auto on, Auto off
    Mode 3. Disabled
Option 3. Sensor run on time.
     (Amount of extra time after no 240 input from sensor)
    Mode 1. 0 Minutes - default
    Mode 2. 15 Minutes
    Mode 3. 30 Minutes
    Mode 4. 60 Minutes
Option 4. Minimum Level.
    Once this mode is selected (flashes twice for the mode) rotate the knob to the desired minimum level and press the knob again to save this level.
    Default is 1% but many fittings show little result below 15-20%
Option 5. Power-on state
    Mode 1. Do Nothing
    Mode 2. Force to 0%
    Mode 3. Force to 100%
    Mode 4. Force to last known level - default
Blue flashes = Option #.   Red flashes = Mode #.

Optional input board – DALI-RD20-INVF & DALI-RD20-INVS

-INVF = Volt fee inputs for local push buttons
-INVS = 12-24VDC inputs for remote switching

Input wire colour codes;
Black and Green - 0V/Common
Input 1 – Brown
Input 2 – Red
Input 3 – Orange
Input 4 – Yellow

Function of Inputs set by Dip Switches.
Only 1 dipswitch to be on at a time.

Mode 1(default on INVS). Dip switch 1 on.
      Input 1 – On
      Input 2 – Off
      Input 3 – Toggle between On/Off
      Input 4 – Not used

Mode 2. Dip switch 2 on.
      Input 1,2,3,4 – Preset 1,2,3,4

Mode 3(default on INVF). Dip switch 3 on.
      Input 1 – Toggle between Preset 1/Off
      Input 2,3,4 – Preset 2,3,4

Mode 4. No dip switches on.
      Spare – no function implemented.

Preset Defaults:
Preset 1= 100%
Preset 2 = 75%
Preset 3 = 50%
Preset 4 = 25%

CONTACT DETAILS

Smartscape Connected Lighting Systems

Unit 1, 84 Newmarket Road,

Windsor Qld. 4030 Australia

Phone   +61 (07) 3357 1922

Website　　http://www.ssqld.com.au

Email　　info@ssqld.com.au

DISCLAIMER

Smartscape Qld Pty. Ltd. reserves the right to alter specifications and design without further notice. Smartscape Qld Pty. Ltd. will not be held responsible for the misinterpretation of printed material contained in this manual. Further enquiries should be directed to Smartscape Qld Pty. Ltd. using the listed contact details.