

## OriDIM volt-free-contact input unit

### Overview



The 0041636 Input Unit provides a control interface between a OriDIM lighting control system and external devices such as:

- Buttons/switches
- Security systems
- AV equipment
- Volt-free contacts on BMS systems

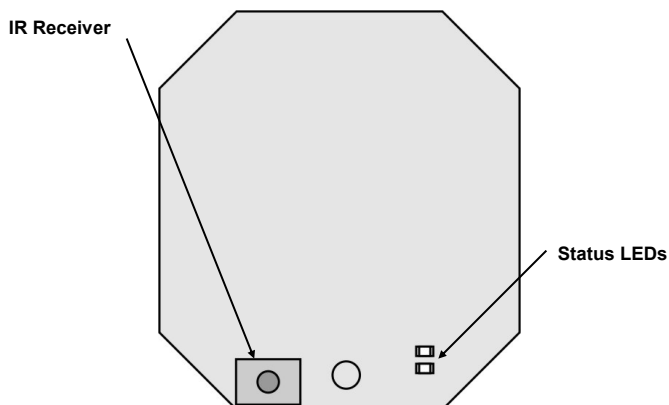
The unit features seven Volt-free switch inputs that can be activated by the contact closure of push-buttons, switches, or relays.

Activating an input causes the unit to transmit a scene, raise or lower light levels messages to the OriDIM system.

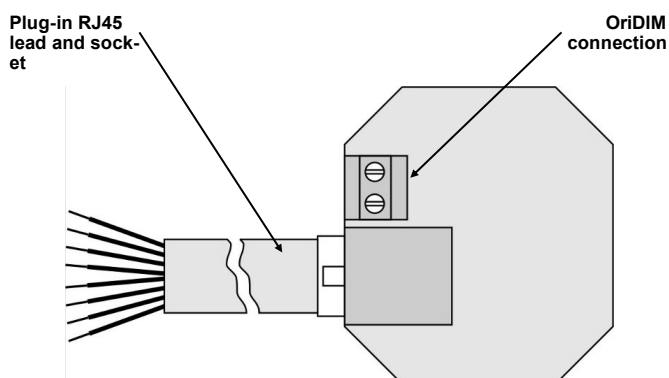
Scene programming is via the LCD Programming Handset (code 0041562).

### Features

#### Front features



#### Back features





#### IR Receiver

Receives control and programming commands from an IR (infrared) handset.

#### Status LEDs

The LEDs flash **Green** or **Red** to indicate the following:

<i>Valid setting received</i>	
<i>Button press / release</i>	

#### OriDIM connection

Connection to the OriDIM bus. The OriDIM bus is polarity insensitive.

#### Plug-in RJ45 lead and socket

A short 8 core flat cable with plug that is supplied with each unit, used to connect the inputs to external devices.

OriDIM is a Lighting Control System suitable for small to medium scale applications offering the following key features:

- 4 independently dimmable lighting circuits. *An additional 11 circuits can be programmed via the UNLCDHS, see System manual for details.*
- Scene setting - 4 user programmable scenes (plus an 'off' scene) per Scene plate.
- Scene recall via push-button Scene Plates, Input Units or IR handsets
- Presence and absence operation using PIR or Microwave detectors
- Lux switching and lux dimming (maintained illuminance) operation

## Introduction

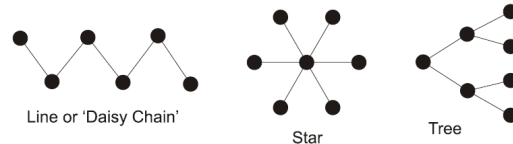
Devices within the OriDIM system communicate via a simple two wire data bus. The bus is powered via the OriDIM PSU.

The bus operates at a nominal voltage of 16 Volts DC which serves to provide operating power to each device connected to the bus. A maximum current of 200mA is available from the PSU. Therefore, in any OriDIM system, the maximum number of devices will be dependant on the total current consumption of all devices, including ballasts (see table below). Only one PSU is permitted per system.

*Note: The use of additional OriDIM PSUs or third party PSUs with a higher current rating is not permitted.*

The output from the PSU is fully isolated from the mains input and may be regarded as an SELV device. However, as DALI ballasts only offer basic insulation, all devices on the OriDIM bus must be wired as if carrying mains potential.

Data bus connections between devices must be made using suitable mains-rated two-core cable, such as two-core flex or bell wire. The minimum recommended core size is 0.75mm<sup>2</sup> for most applications. The data bus may be wired using any convenient network topology (e.g. line, star or tree). No loops/rings are permitted. Whichever topology is used, the total length of all cable (including spurs) within a system should not exceed 200m. There is no requirement to use screened cable. However, the routing of cables through electrically 'noisy' environments should be avoided to prevent possible interference on the bus.



## System Bus Current

Item	mA
( PSU	200 )
Sensor	8
Control Plate	16
Addresser	8
Switch input module	6
Ballast	2

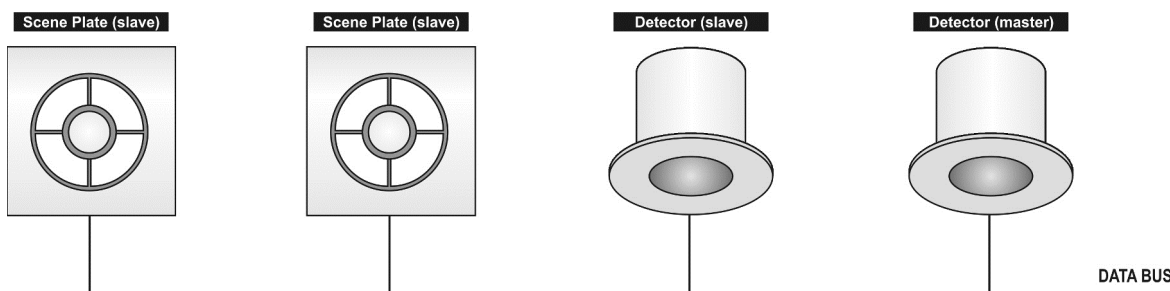
The data bus/power connections to all OriDIM devices are designed to operate correctly with reversed polarity. However, it is good practice to ensure all devices are wired with correct polarity.

DALI and DSI ballasts are tolerant to reversed polarity, however, 1-10V ballasts are not.

## Multiple Device Control (Master and Slaves)

It is possible to use multiple OriDIM control devices, such as detectors and plates in a system. For example there may be a need to have two plates in a room where the master plate controls all the circuits in the room but the slave plate is used to control a subset of circuits. An application of this would be where there are two detectors in a large room, where one would be the master and the other the slave.

Where multiple control devices are used on the same circuit, one device must be designated the 'master'. This is the device that is responsible for sending control messages to the Addressers. The master device also stores the levels for each Scene for the circuit(s) it controls. The other control devices on that circuit must be designated as 'slaves'. These do not control the Addressers directly, but send messages to the master device which then sends messages to the Addressers. Where a detector exists on a circuit it must always be the master device, with any additional detectors or scene plates configured as slaves. Where a single detector is used with one more scene plates, it will automatically set the plates to slaves for the corresponding circuits. When there are no detectors in a system and only plates or input units, one of the plates or input units will need to be set as the master. To set the input unit as a master see page 7.



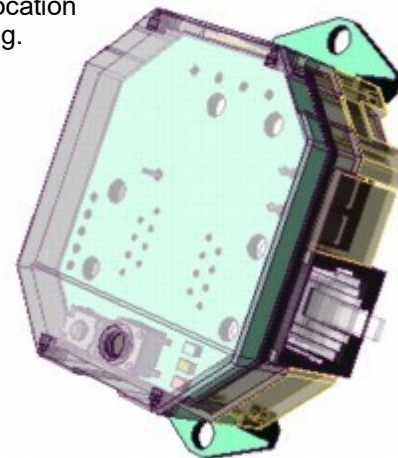
The 0041636 Input Unit can either be mounted to any suitable solid surface or concealed inside a backbox.

## Surface Mounting Method

Fit the two snap-on mounting brackets on the back side of the unit as shown.

Use the holes in the mounting brackets to affix the unit to a wall or other solid surface using suitable screw fixings.

Mounting bracket location for surface mounting.



## Backbox Mounting Method

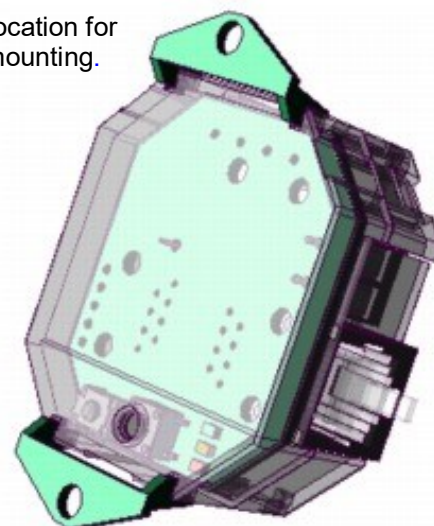
For **unsecured** fixing, the unit can be simply placed inside a UK or European backbox (without fitting the snap-on mounting brackets). This enables a proprietary switch plate to be connected and screwed to the backbox.

Alternatively, for **secured** fixing, fit the two snap-on mounting brackets on the front side of the unit as shown. The unit can then be secured to the backbox using suitable fixing screws (up to M3.5).

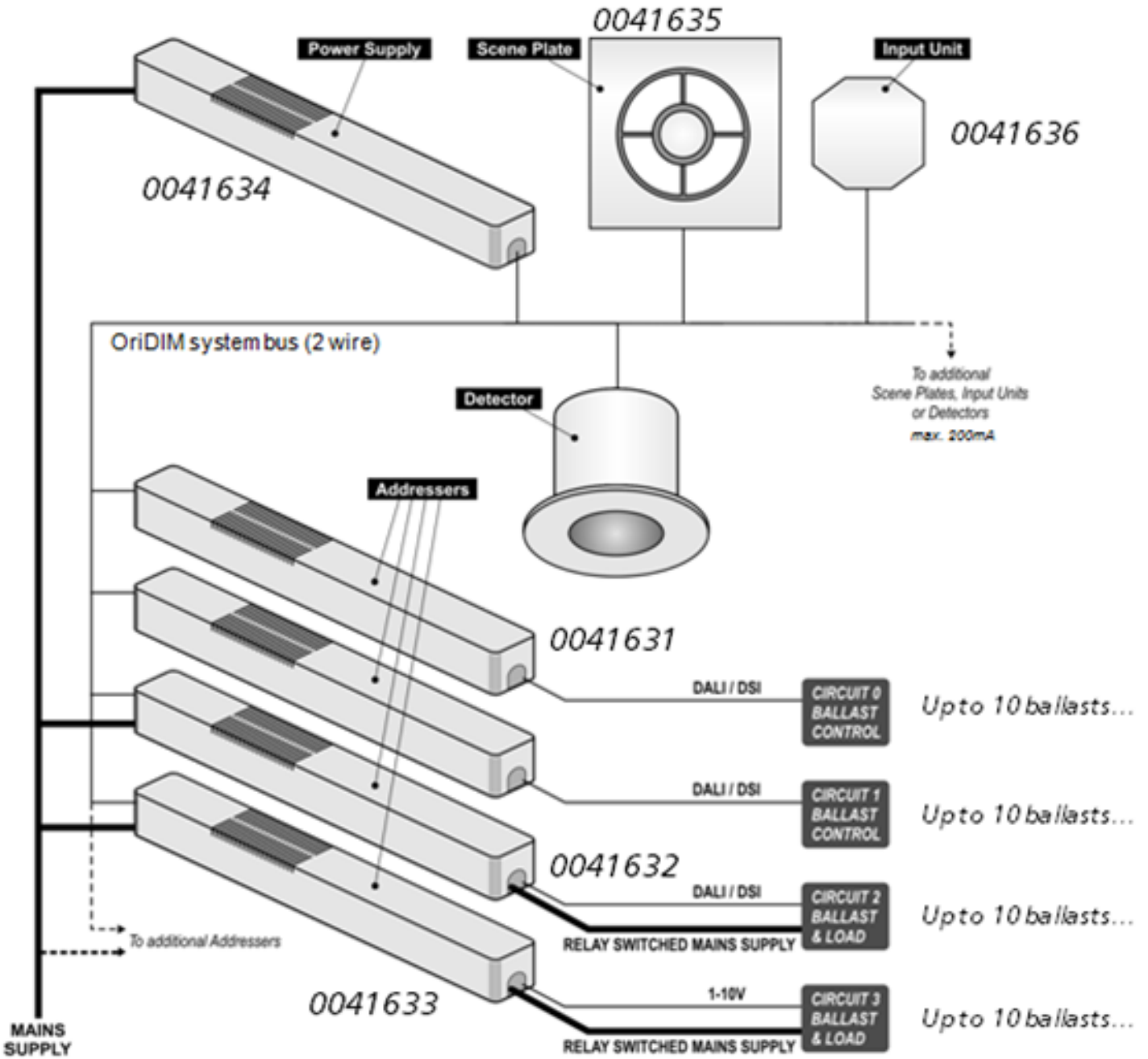
**NOTE:** *The mounting bracket holes are spaced to suit either a UK (60.3mm pitch) or European (60mm pitch) backbox.*

**CAUTION:** *Do not over tighten the fixing screws as this may cause the brackets to split.*

Mounting bracket location for secured backbox mounting.



# System wiring example



Input connections to the 0041636 Input Unit are made via the RJ45 lead supplied. The lead has 8 wires, comprising 7 switch inputs plus a common connection .

Connect the lead wires to suitable push-buttons or switches as required (see wiring examples below)

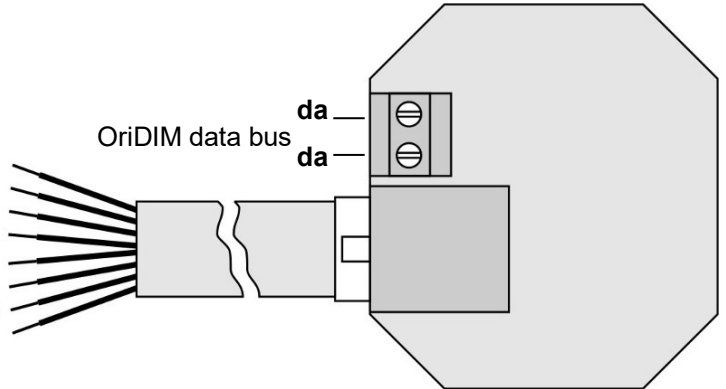
The inputs are mapped to the following functions.

Connections to the OriDIM data bus are shown below right.

Input	Function
1	Scene 1
2	Scene 2
3	Scene 3
4	Scene 4
5	Raise
6	Lower
7	Off

### Input connection identification

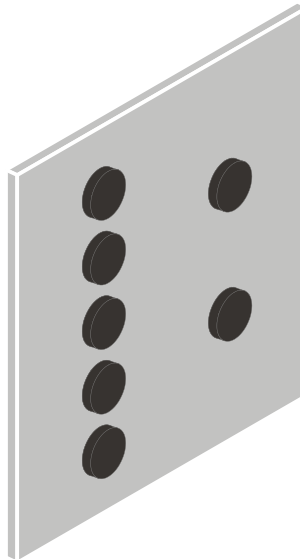
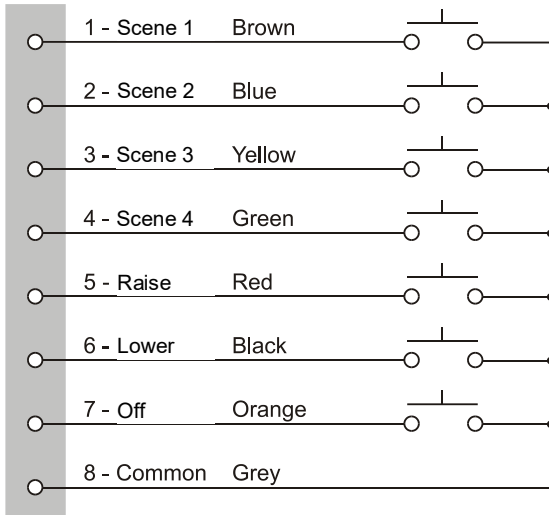
- 1 - Switch 1 - Brown
- 2 - Switch 2 - Blue
- 3 - Switch 3 - Yellow
- 4 - Switch 4 - Green
- 5 - Switch 5 - Red
- 6 - Switch 6 - Black
- 7 - Switch 7 - Orange
- 8 - Common - Grey



*Note. The use of latching switches are not recommended*

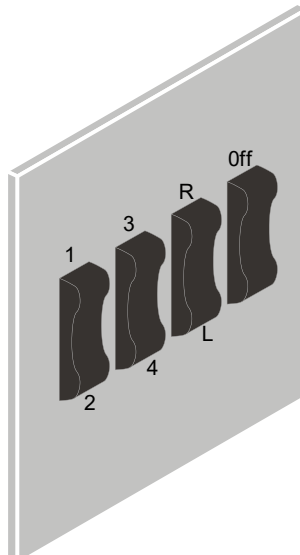
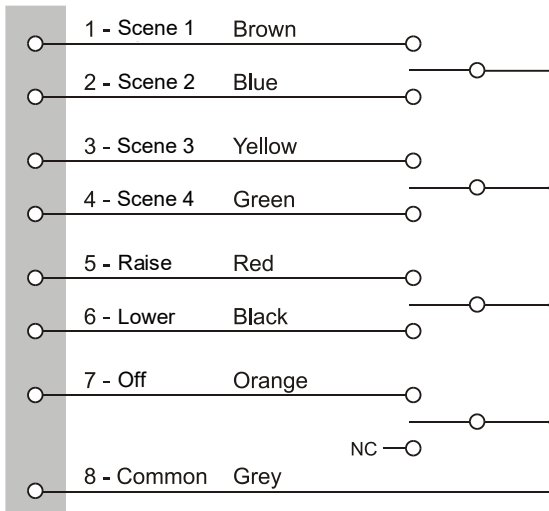
## Using individual push-buttons

### RJ45 Lead



## Using centre retractive switches

### RJ45 Lead



## Basic programming (using basic IR control 0041546)



The 0041546 handset has limited functionality when used with the 0041636.

Point the handset at the input unit and send the required programming commands to the unit as shown below. Ensure that the IR receiver is not covered.

Valid commands will be indicated by a green LED flash.



Parameter Name	Default Value	Number of Shift key presses				0041546 Handset Graphics	Description
		0 SHIFT 1 SHIFT 2	1 SHIFT 1 SHIFT 2	2 SHIFT 1 SHIFT 2	3 SHIFT 1 SHIFT 2		
<b>Button Activation</b>							
On / Raise		On	Raise				Turn lights on or to raise lights.
Off / Lower		Off	Lower				Turn lights off or to lower lights.
Scene lock <i>(Walk test button)</i>	Off	On	Off				Locks / unlocks the input unit so that Scenes cannot be saved. To prevent scenes being overwritten.
Defaults				D			Returns the unit to the default settings.
Burn-in <i>(Only use when input unit is a master)</i>	0	0	50	100			Determines how long the output will be at 100% so that lamps 'burn-in'. The 'burn-in' time is not affected by power supply interruptions.
Preset ABS	Master	A	B	Capped mode R/L (default, see p7)			2 presets for Master / Slave configuration: • A: Master • B: Clear Master
Preset PRS		A	B	Broomstick mode R/L (see p7)			2 presets for Master / Slave configuration: • A: Slave • B: Clear Slave

## Default scene levels

The OriDIM system is factory-set to provide the following scene levels:

- Scene 1 – all circuits at 100%
- Scene 2 – all circuits at 75%
- Scene 3 – all circuits at 50%
- Scene 4 – all circuits at 25%

To change scene levels see page 7.

## Master input unit activation

When there is a system that has no detectors but has multiple plates and / or input units, one will need to be set as the master. To effect this, either:

- Use the 0041546 to set the unit as a slave using the method above, or
- Use the LCD Programming Handset (0041562) to set the master, slave configurations (see advanced programming section).

## Advanced programming (using LCD Handset 0041562)

Parameter Name	Default Value	Range / Options	Description	0041636	0041562
Absence Time Out (Time adjustment)	30 seconds	0-999 seconds	If the lights are turned on and no activity is detected within the Absence Time out the lights will turn off.	✘	✔
IR Enabled	N	Y or N	Enable or disable device control or programming by IR handset.	✘	✔
Burn-in (Only use when plate is a master)	0	0 (disabled) or 1 to 999 hours	Determines how long the output will be at 100% so that lamps 'burn-in'. The 'burn-in' time is not affected by power supply interruptions.	✔	✔
Fade Time	2 (1 second)	1 (0.7s) 2 (1.0s) 3 (1.4s) 4 (2.0s) 5 (2.8s) 6 (4.0s) 7 (5.7s) 8 (8.0s)	Sets the default fade rate for circuits using DALI ballasts. Value is sent to all Addressers on Detector/Plate power up and when changed, and must be set to the same value for all devices.	✘	✔
Max Value	99	0-99%	Sets the maximum light level for all circuits.	✘	✔
Min Value	1	0-99%	Sets the minimum light level for all circuits.	✘	✔
Master Circuit Ch1	0	0-14	First circuit number that device is a master of	✘	✔
Master Circuit Ch2	1	0-14	Second circuit number that device is a master of	✘	✔
Master Circuit Ch3	2	0-14	Third circuit number that device is a master of	✘	✔
Master Circuit Ch4	3	0-14	Fourth circuit number that device is a master of	✘	✔
Slave Circuit Ch1	0	0-14	First circuit number that device is a slave of	✘	✔
Slave Circuit Ch2	1	0-14	Second circuit number that device is a slave of	✘	✔
Slave Circuit Ch3	2	0-14	Third circuit number that device is a slave of	✘	✔
Slave Circuit Ch4	3	0-14	Fourth circuit number that device is a slave of	✘	✔
Scene 0 Levels Ch1-4	0	0-100%	Levels applied to each of the four channels (circuits) when Scene 0 (off scene) is selected.	✘	✘
Scene 1 Levels Ch1-4	100	0-100%	Levels applied to each of the four channels (circuits) when Scene 1 is selected.	✘	✔
Scene 2 Levels Ch1-4	75	0-100%	Levels applied to each of the four channels (circuits) when Scene 2 is selected.	✘	✔
Scene 3 Levels Ch1-4	50	0-100%	Levels applied to each of the four channels (circuits) when Scene 3 is selected.	✘	✔
Scene 4 Levels Ch1-4	25	0-100%	Levels applied to each of the four channels (circuits) when Scene 4 is selected.	✘	✔
Scene 5-9 Levels Ch1-4	100	0-100%	Levels applied to each of the four channels (circuits) when Scene 5, 6, 7, 8 or 9 are selected.	✘	✔

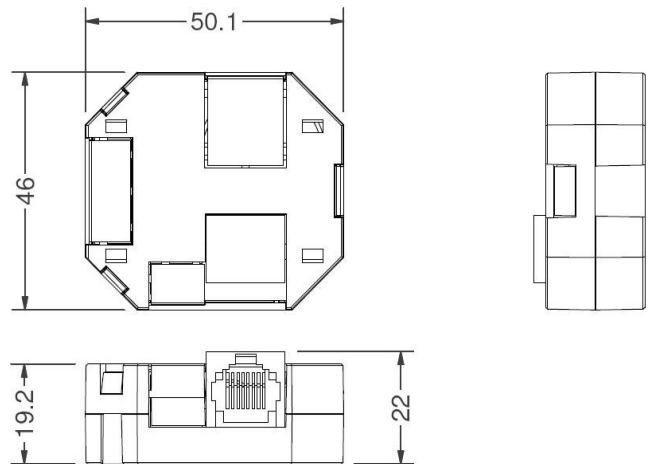
<b>User Modes</b>					
On			Selects last Scene.	✔	✔
Off			Turns lights off.	✔	✔
Raise	-	-	Increase light level. Reverts when occupancy cycle complete.	✔	✔
Lower	-	-	Decrease light level. Reverts when occupancy cycle complete.	✔	✔
Scene up	-	-	Steps up between 9 pre-defined scenes.	✘	✔
Scene down	-	-	Steps down between 9 pre-defined scenes.	✘	✔
Select Scene	-	0-9	Select the individual scene.	✘	✔
Circuit Number	1	1-4	Select the circuit to adjust level of.	✘	✔
Circuit Level	99	0-99%	Set the circuit level for the circuit above. <i>Note; only operates if the Scene Plate is the Master.</i>	✘	✔
Save Scene	-	-	Saves the set levels in the selected scene. <i>Note; only operates if the Scene Plate is the Master.</i>	✘	✔
Raise from off	Y	Y/N	When scene raising, parameter allows outputs which are off to switch on, as opposed to staying off. Useful for switched loads.	✘	✔
Lower to off	Y	Y/N	When scene lowering, parameter allows outputs to go completely off as opposed to staying at minimum.	✘	✔
Broomstick R/L	N (Capped)	Y/N	Broomstick mode keeps the difference in a scene's channel levels during scene raising lowering and maintained illuminance. <i>Note; that when the lead channel reaches either 100% or 0% the differentials will reduce till the last channel reaches 100% or 0% .</i>	✔	✔

## Technical data

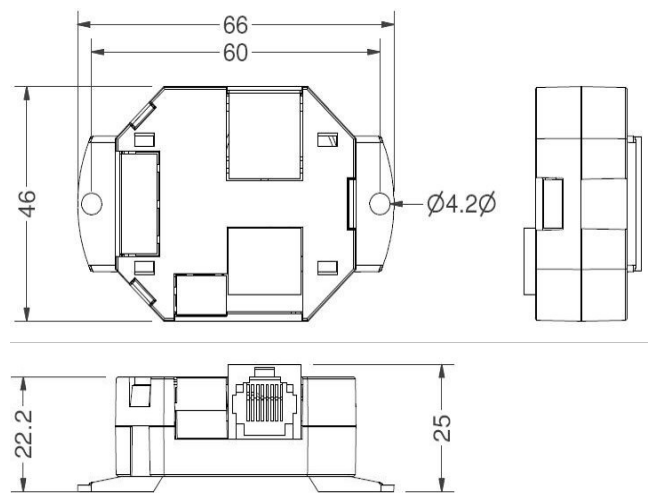
Dimensions	See diagrams opposite
Weight	0.03kg
Supply Voltage	9.5VDC—22.5VDC via DALI
Supply Current	6mA
OriDIM bus	Cannot be considered as SELV since DALI, DSI and 1-10V ballasts only offer basic insulation, therefore all devices on the OriDIM bus must be wired as if carrying mains potential.
Terminal Capacity	2.5mm <sup>2</sup>
Fixing method	Surface fixing 35mm deep plastic surface mount moulded box. Flush fixing 25mm steel backbox or 25mm deep cavity backbox.
Temperature	-10°C to 35°C
Humidity	5 to 95% non-condensing
Material (casing)	Flame retardant PC
Type	Class 2
IP rating	IP40
Compliance	EMC-2014/30/EU LVD-2014/35/EU



Dimensions - without brackets



Dimensions - with brackets



## Part numbers

	Part number	Description
Input unit	0041636	Switch Input Unit
Accessories	0041546	IR programming handset
	0041638	IR user handset
OriDIM Range	0041562	Universal LCD programming handset
	0041630	Ceiling PIR Sensor
	0041631	DALI / DSI Channel
	0041632	DALI / DSI Channel with Relay
	0041633	Analogue (1-10v) Channel with Relay
	0041634	Power Supply (200mA)
	0041635	OriDIM scene plate - white

**SYLVANIA**

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See website for local sales/  
support office contact details.

### IMPORTANT NOTICE!

This device should be installed by a qualified electrician in accordance with the latest edition of the local wiring regulations and any applicable Building Regulations.