



Lighting  
Intelligence  
Catalogue

Helvar

# Hello. We are Helvar.

At Helvar, we create Brighter Spaces.

We believe buildings need to be in tune with the people who use them — they're the ones who really matter.

Think about it. Where you work, learn, or relax, the place you're in makes a difference.

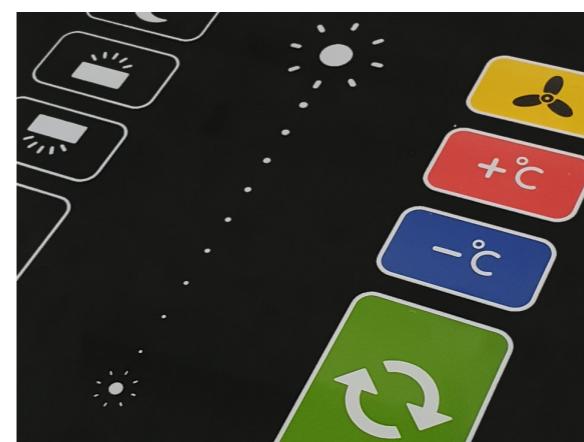
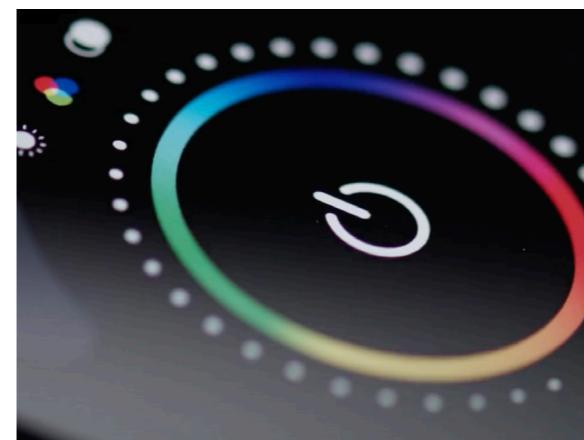
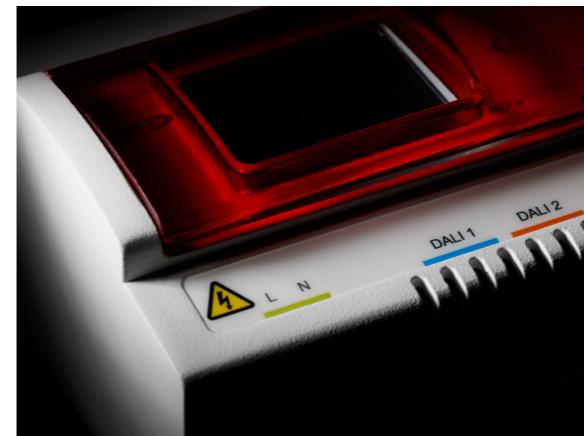
Whether enhancing wellbeing, boosting productivity, or just making you feel good.

Helvar solutions create smart environments built for the future, using information, and working seamlessly with other systems. Brighter Spaces that are intelligent, designed to save energy, and optimise the space to fit individual needs.

Well-designed spaces behave intuitively, discover preferences and adapt over their lifetime. By using artificial intelligence and machine learning we make buildings that think and remember.

So, when someone asks what it is Helvar does, you could say we make lighting controls. That's true, but it's just the start.

Because at Helvar, we turn everyday places into Brighter Spaces.



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# Global Lighting Solutions Experts

At Helvar, we create intelligent and energy-saving lighting solutions.

Intelligent lighting is essential to the wellbeing of employees, customers, visitors, patients... and helps you to achieve your sustainability targets.

Helvar lighting control solutions help to create smart environments built for the future, using information and working seamlessly with other systems.

With a wide range of lighting control solutions and luminaire components, we design open and flexible solutions for lighting to

suit your specific needs. We pride ourselves on being lighting experts - you can find our solutions in all sorts of places - offices, schools, hotels, hospitals among many others.

Our headquarters are located in Finland, as are our luminaire component development and manufacturing operations.

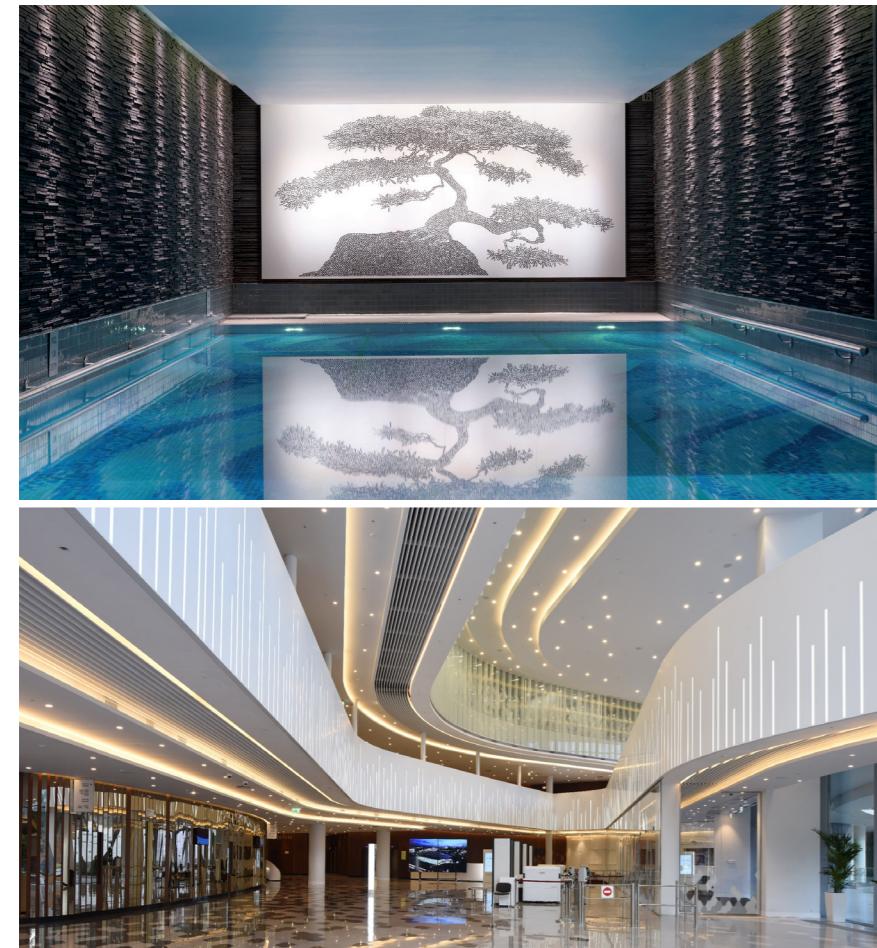
Our lighting control competence centre is in England. Worldwide, we serve our customers locally by our sales offices and our global

network of partners in over 50 countries.

## 99 years of Innovation and Leadership

Helvar was founded in 1921. Since then we have been in radio and TV businesses, electronics and from the 60s we have been contributing to the lighting industry.

Today, Helvar delivers advanced intelligent lighting solutions and luminaire components using wireless technologies, such as



Bluetooth mesh and the digital lighting standard, DALI, to support a variety of needs in different applications.

Adaptability is in our DNA. Buildings are continuously evolving. Helvar solutions help to create smart environments built for today and the data-driven future.

Helvar intelligent lighting controls integrate seamlessly with other building systems meaning our products deliver valuable data. We bring insights on how your building is used, helping you to optimise the maintenance and usage of your space throughout its lifetime.

## Lighting Intelligence for Wellbeing and Sustainability

Lighting should both energise and inspire. Our human-centric lighting solutions and luminaire components are designed with people in mind. With solutions that support your natural daily rhythm, they're designed to boost your wellbeing. Optimised light levels, light colour temperature and flicker-free lighting are essential for the comfort and safety in your space.

We provide solutions which boost building performance and minimise your energy usage, meaning you can do more, with less, helping you to meet your sustainability

targets. With our state-of-the-art intelligent lighting controls and LED luminaire components, we can help you achieve up to 75% energy savings.

## With You All the Way

Together with our partners, we're here to support you every step of the way. We're proud to have a global network of talented professionals with combined expertise in lighting controls, luminaire components and DALI.

As a family-owned company with a century of experience, we know that people should always come first. That's why we put our people at the heart of our company.

# Helvar in Offices

Lights to energise and inspire. Lights to boost health, mood and happiness. Cool blues for laser-sharp concentration. Warm tones to help you wind down. Our scalable, DALI-led open systems are future-proof and easy to use.

## Office Applications

- Single Office Space
- Open Plan Office
- Meeting Room
- Reception Area
- Corridors
- Stairs
- Canteen or Restaurant
- Lift Lobby

## Why choose Helvar?

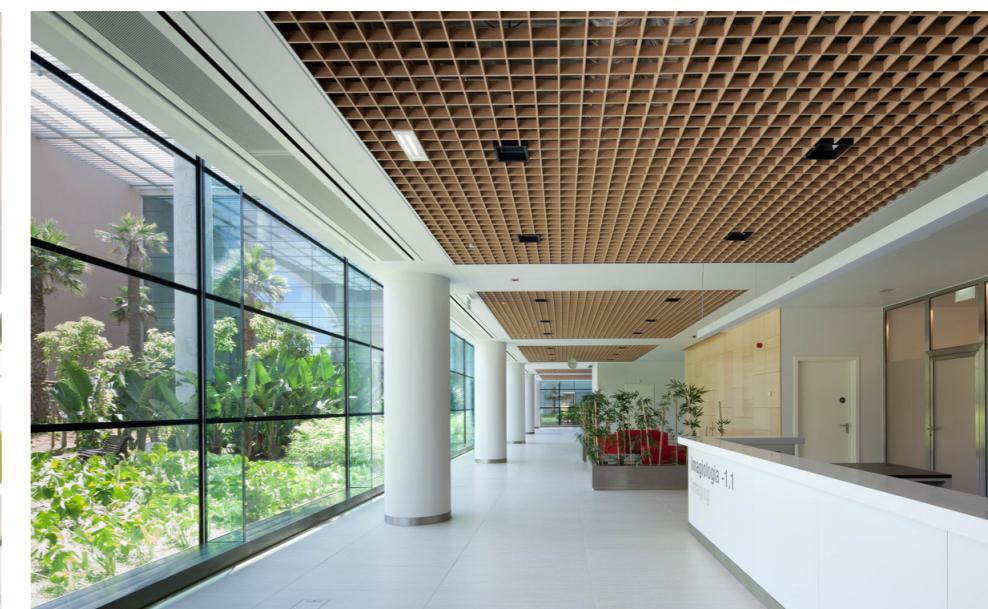
- Fully scalable solutions, ranging from a single meeting room to the entire building
- Daylight Harvesting for energy saving
- Corridor hold function for safety and comfort
- Presence and/or Absence Detection
- Intergration with Building Management Systems
- Integrations with Audio Visual Systems
- Energy Monitoring
- Control of multiple load types
- Intergration with Blind Control
- Graphical floorplan user interface
- Alert monitoring and remote maintenance

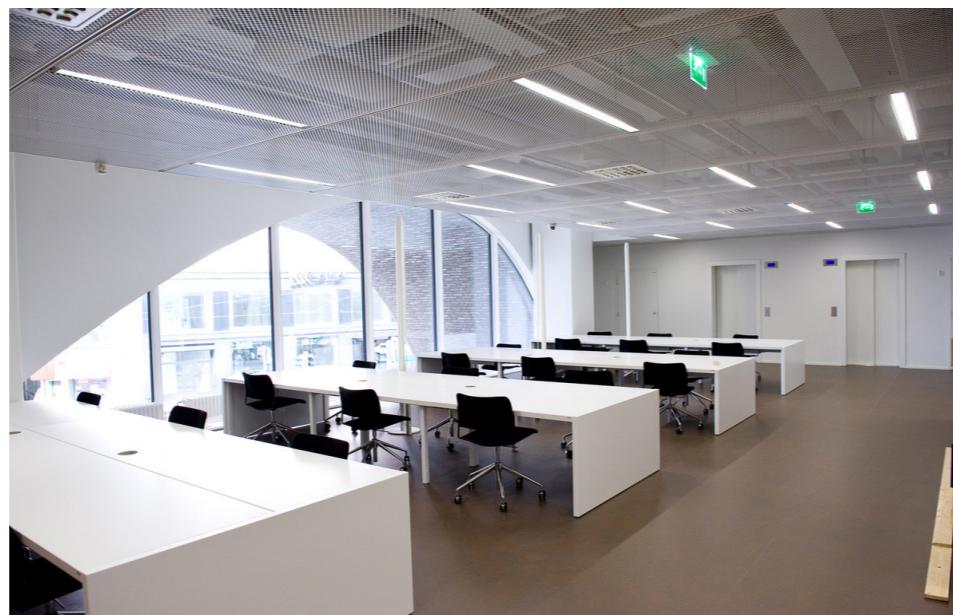
## Key Helvar Benefits

- Colour temperature and intensity change through the day, reflecting natural circadian rhythms.
- Room lights automatically switch on as you enter: useful when carrying files and a laptop.

## Key Helvar Solutions

- |                    |  |
|--------------------|--|
| <b>ActiveAhead</b> | An adaptable, easy and energy-saving solution for simple office spaces .   |
| <b>RoomSet</b>     | Smart lighting controls for repeatable office rooms.   |
| <b>Imagine</b>     | A lighting management solution with great integration possibilities, which also aids users circadian rhythms via the Light-Over-Time profiles. |





## Helvar in Education

Good light feeds growing minds. Flicker-free conditions help learners stay concentrated, and intelligent lux level monitoring efficiently harvests natural daylight to maintain the right level of light at any time of day. From controlling lights above whiteboards to connecting cross-campus buildings - Helvar speaks to your existing facilities and audio-visual systems, creating dazzling-free learning environments ideal for everyone.

### Education Applications

- Classrooms
- Canteen or restaurant
- Corridor
- Library
- Sports Arena
- Stairs

### Why choose Helvar?

- Student comfort
- Correct light level for every activity
- Classroom or whole building solution
- Integration with building management and audio-visual systems
- Automated or manual control
- Daylight harvesting and presence detection for energy saving
- Energy management
- Alert monitoring and remote maintenance
- Multi-site connectivity for campuses

### Key Helvar Benefits

- Helvar controls can be fully integrated with classroom audio-visual systems and with the building management system.
- Setting up a number of classrooms can be done in record timing through our drag, drop, repeat RoomSet app.

### Key Helvar Solutions

**ActiveAhead** An adaptable, easy and energy-saving solution ideal for spaces such as corridors and libraries.

**RoomSet** Smart lighting controls for repeatable classrooms.

**Imagine** The perfect choice for a building or a campus - full control and customisation with the option for integration with other building management systems.

# Helvar in Hospitality

Sleek spas. Relaxing restaurants. Rooms built to help you recharge. And all with an emphasis on award-winning style and energy-saving capabilities. We'll make sure you're being well served. The world's best hotels need to get the light right. For breathtaking scale or groundbreaking ambition, you're in good hands with Helvar. Day and night.

## Hospitality Applications

- Hotel Room
- Restaurant
- Fitness Centre and Spa
- Business Centre
- Lift Lobby
- Corridor
- Reception or Atrium

## Why choose Helvar?

- Scene selection to create the right ambience
- Fully scalable, from a single hotel room to an integrated lighting solution for the whole building
- Integration with room management system
- Integration with audio visual system
- Control of multiple load types
- Energy monitoring
- Power on to last level used
- Automated control of public spaces
- Alert monitoring and remote maintenance

## Key Helvar Benefits

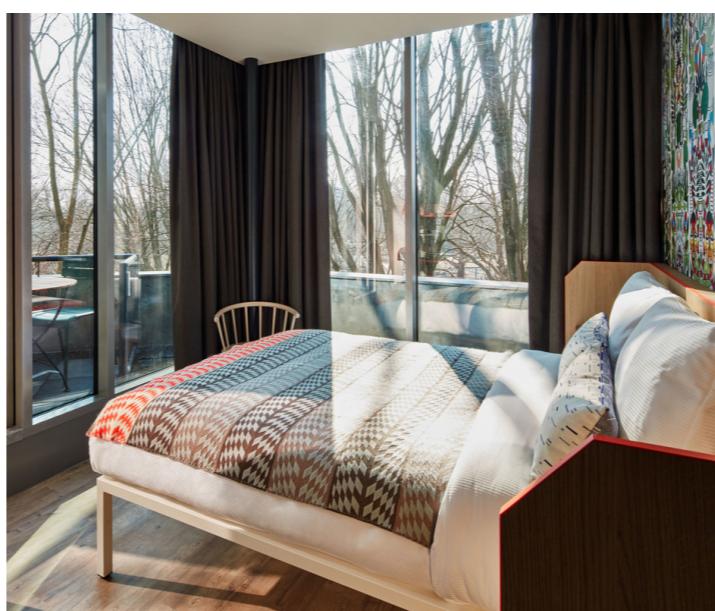
- We can combine vintage luminaires with the latest lighting control technology to create a contemporary and stylish atmosphere.

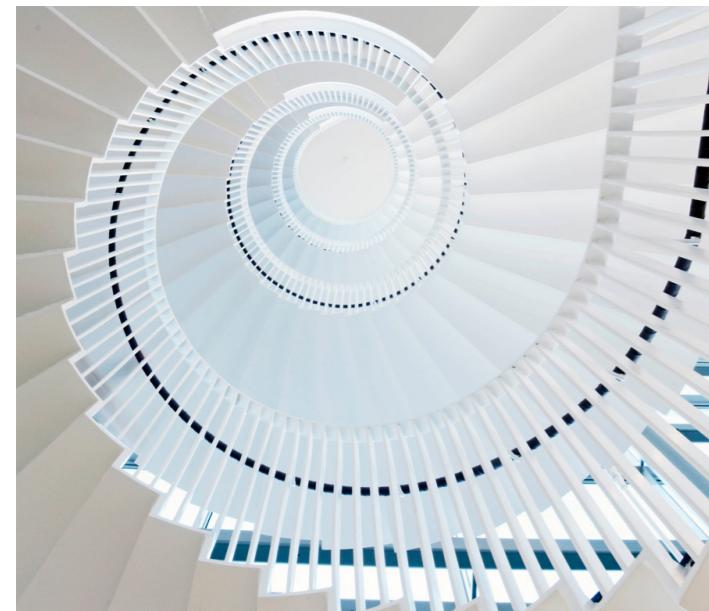
## Key Helvar Solutions

**ActiveAhead** An adaptable, easy and energy-saving solution ideal for spaces such as corridors .

**RoomSet** Smart lighting controls for repeatable hotel rooms.

**Imagine** The ideal option for full integration with the entire building management system controls, this solution provides users with full control and connectivity.





## Helvar in Healthcare

Light helps to heal body and soul. By putting people first, we lead the world in dynamic lighting. Based on people's natural circadian rhythms, Helvar lighting controls respond to the seasons and local environment. For surroundings that simply feel better. When lighting control feels this natural, you'll forget that it's there. Saving energy for your patients and people. And meaning everyone can focus on being well.

### Healthcare Applications

- Operating Theatre
- Reception
- Patient Room / Wards
- Corridor
- Restaurant
- Administration Area
- Waiting Room
- Stairs

### Why choose Helvar?

- Simple control for patient comfort
- Task lighting for medical personnel
- Automated control of public spaces
- Power on to last level used
- Presence/absence detection
- Fully scalable, from a bed to a building
- Integration with building management system
- Energy monitoring
- Alert monitoring and remote maintenance

### Key Helvar Benefits

- Improving comfort and saving energy, whilst offering full control in a number of buildings across hospital premises

### Key Helvar Solutions

**ActiveAhead** An adaptable, easy and energy-saving solution ideal for spaces such as corridors, wings and entrances.

**RoomSet** Smart lighting controls for repeatable wards.

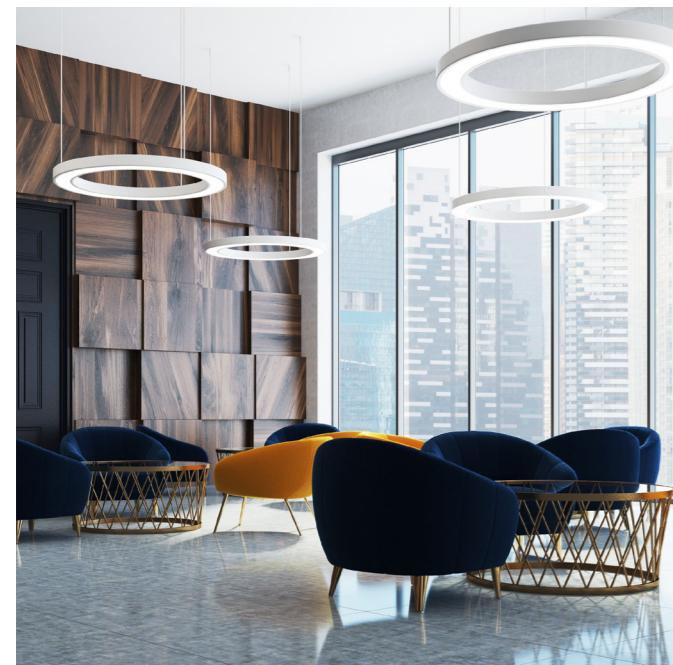
**Imagine** This dynamic solution is people-centric, enabling a functioning environment which helps patients feel relaxed and comfortable, aiding wellbeing and also providing the right light levels at the right time.

# Helvar Key Lighting Controls Solutions

From smart rooms to intelligent buildings — and much more

Helvar solutions are designed to be open. When you choose us, you're investing in scalable and future-proof kit. To help you find what you need more easily, we've grouped our key products into families.

Do you want lighting control for a campus, across an entire building, a whole floor, one room, or even a cruise liner? That's the first question we ask.



## Repeatable rooms

### **RoomSet**

- Drag, drop and repeat without a laptop
- Works straight out of the box
- Super simple set-up
- User friendly Bluetooth app, making even the largest of projects quick



## Predictive lighting

### **ActiveAhead**

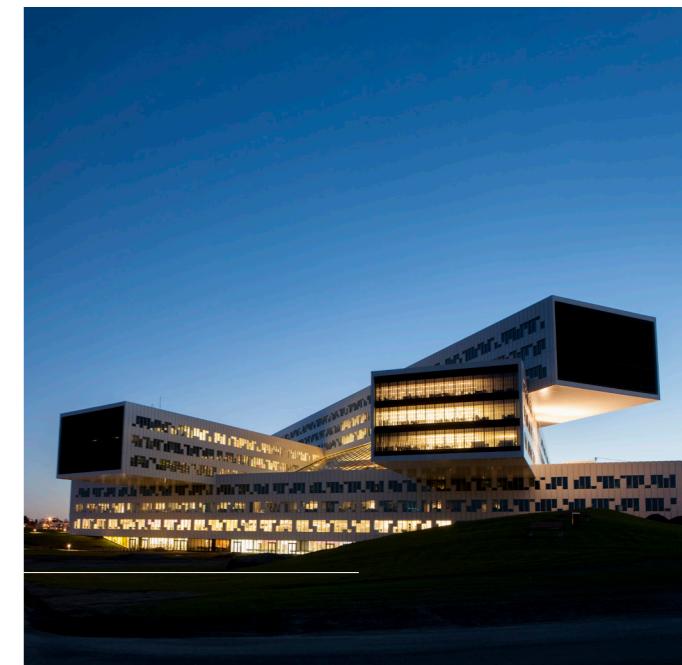
- Perfect for renovations
- Ready out of the box - simple installation, no wiring required
- Substantial energy savings
- Lighting controls that remember walkways and think ahead so you don't have to



## Simple efficiency and control

### **DIGIDIM**

- Program any section or area
- Control small rooms to very big spaces
- Stay comfortable and productive with tunable white control
- Speaks to AV systems and blinds



## Versatile site lighting controls

### **Imagine**

- The ultimate brighter space design
- Super-flexible — from single rooms to megastructures
- Realtime energy monitoring and app-based fine-tuning
- Bespoke automation, transitions and scenes

# RoomSet

## Intelligent Lighting for Repeatable Spaces

RoomSet is Helvar's state-of-the-art standalone lighting control solution, designed for repeatable spaces, including classrooms and meeting rooms.

Turning Everyday Places  
into Brighter Spaces.

### THE BENEFITS - RoomSet



#### EASY INSTALLATION

For the installer, the automatic preset programming allows for fast out-of-the-box installation, with no configuration needed - the system automatically finds all addressable DIGIDIM switches, sensors and DALI luminaires.



#### SCALABLE

With RoomSet, you can set up one room in a matter of minutes, and then thousands more with the swipe of a finger. Using the intuitive app on your tablet, scene setting couldn't be easier.



#### COST EFFECTIVE

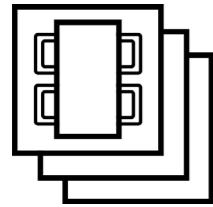
For commissioning a large number of rooms, the RoomSet app gives you the ability to duplicate room layouts, thus making the commissioning process faster and consequently more cost-effective.

#### Set up RoomSet in 5 easy steps

- 1 Switch on the power
- 2 Wait for the orange LED to turn off (takes up to 5 minutes)
- 3 Test the light panels work
- 4 Any problems? Check for missing or incorrect wiring
- 5 If everything's okay now, you're done.

## CHOOSE YOUR SET-UP

RoomSet is available in **three variants**, each tailored to different requirements - whether you're commissioning a new build, or a retro-fit arrangement.



### RoomSet Standard

**Intelligent repeatable lighting, made easy.**

**RoomSet Standard:** The perfect solution for retrofit applications, where you can make use of a room's existing wall panel with our Bluetooth multisensor and DALI power supply.

#### What's in the box?

**331**

Advanced Multisensor



The 331 Advanced Multisensor for RoomSet has a light sensor for constant-light control, and a PIR presence detector. See [page 69](#) for more information.

**407**

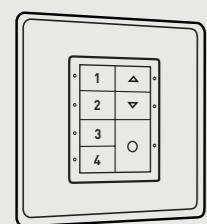
Compact DALI Power Supply

The Helvar 407 is a compact DALI power supply, designed to be easily installed. See [page 47](#) for more.

**444**

Mini Input Unit

The Mini Input Unit is a DALI-compatible interface, designed to incorporate switches, sensors and other control devices with a Helvar system. See [page 84](#).



### RoomSet with Scenes

**Presentation time? We've got you covered.**

**RoomSet with Scenes:** Ideal for brand new installations — with a seven-button panel that's perfect for setting personalised room scenes to fit every moment.

#### What's in the box?

**331**

Advanced Multisensor

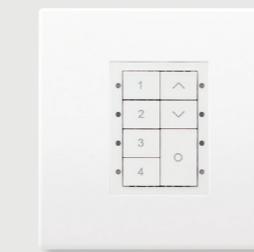


**135W**

Wall Panel

**+ 230S**

Panel Frame Kit



**407**

Compact DALI Power Supply



This RoomSet package comes with a 135W White 7-button Module, fitted with LED tellback and an infrared receiver, with a 230S white plastic panel. This panel features 4 customisable scene buttons, in addition to the Up / Down and Off buttons.

Fancy something different? Additional finishes are available separately. For the full range of panels and frame kits, see [page 76](#).



### RoomSet Wireless

**Rapid installation with wireless control.**

**RoomSet Wireless:** Our most advanced room solution that includes a wireless Bluetooth® control panel, giving you full lighting control from anywhere in the room with no extra wiring.

#### What's in the box?

**331**

Advanced Multisensor



**185W**

Wireless Control Panel



**407**

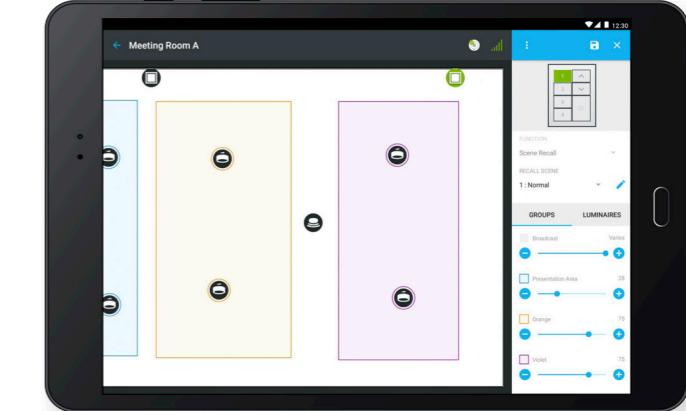
Compact DALI Power Supply

This Bluetooth® enabled Wireless Control Panel is an energy harvesting user interface which allows the recall of four configurable lighting scenes. The panel can be screwed to a wall, or adhered to any flat surface, including glass, giving you ultimate flexibility when it comes to panel placement. Please see [page 78](#) for details.

### The RoomSet App

There's no need to start up your laptop, since RoomSet configures **everything through Bluetooth** from your Android tablet.

It's so **easy to configure rooms** with RoomSet.



- Once you've installed the 331 multisensor, power supply, wall panels and DALI drivers, simply switch on the power and wait for the sensor's orange LED to stop flashing.
- Then in the RoomSet App, select one of the preset room templates, or create a new custom room layout and tap to identify all available devices.
- Next, just drag and drop each device into the room layout as desired, and your basic set-up is complete!
- If required, you can group devices together to create different lighting scenes, such as for presentations, and configure luminaires to come on automatically when someone enters a room.

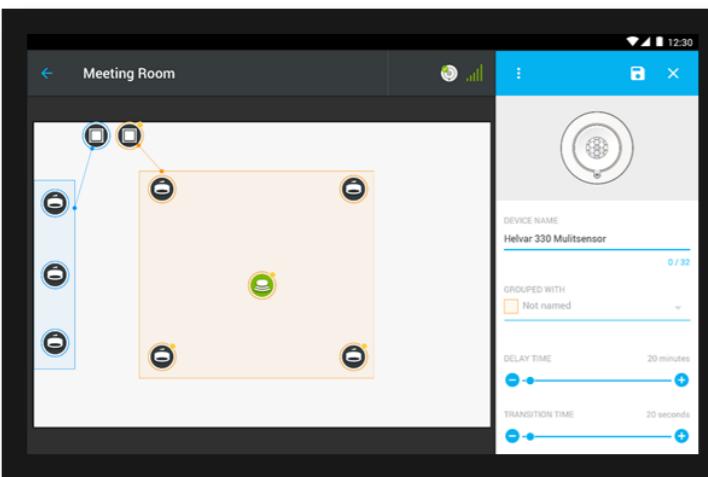
The RoomSet software **automatically updates with new features** - simply click the prompt in the RoomSet App to get the latest and greatest features sent straight to your tablet!

To see our RoomSet Walkthrough videos, search for '**Helvar RoomSet**' on YouTube, or visit our website.

## THE PERFECT ROOM SOLUTION

The installation and configuration of the RoomSet system couldn't be quicker or easier. The 331 multisensor and controller form the core of the installation. All existing DALI components are connected both to each other and to the 331 sensor. The sensor connects wirelessly via Bluetooth to a user-friendly app, and once connected, the DALI components can be fully configured via the app, meaning you can group luminaires and assign functionalities to a control panel in a matter of minutes.

### Android Tablet



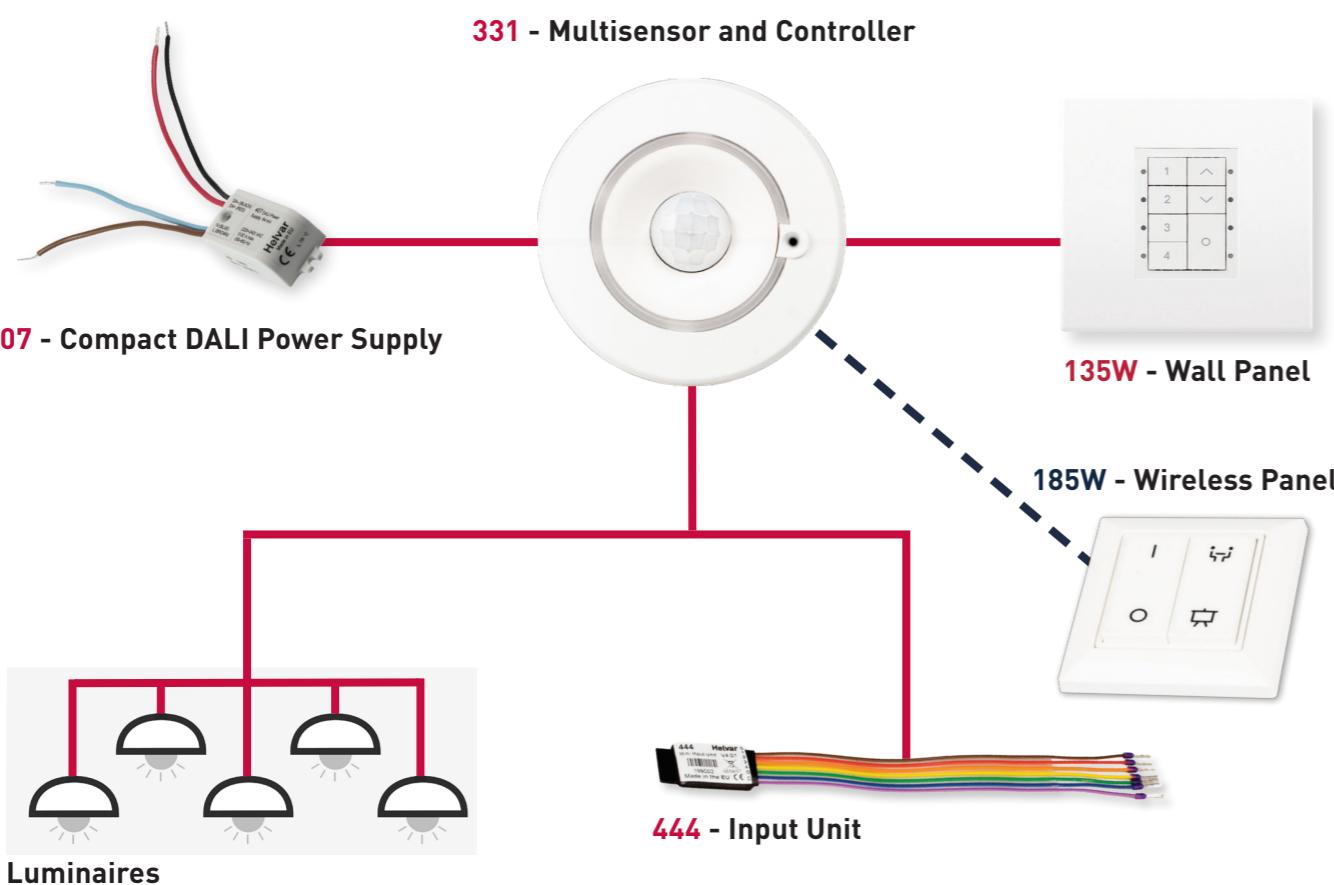
**3 IN 1**

### Easy installation & set-up

- Wireless configuration via an app
- All components connected to 1 DALI line

### 3-in-1 Package

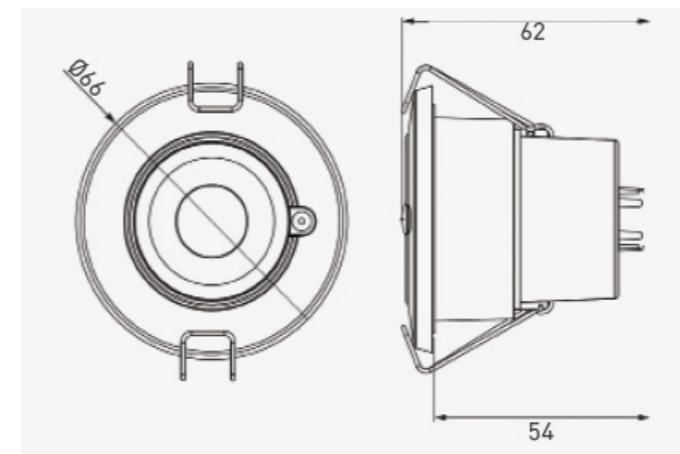
- 331 Multisensor
- 407 DALI Power Supply
- Choice of 135W/185W Wall Panels or 444 Input Unit



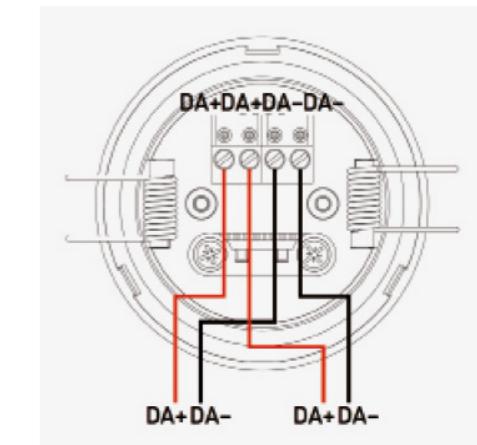
## 331 MULTISENSOR TECHNICAL DETAILS

For full technical information for each product in the RoomSet packages, please see their individual pages in this catalogue.

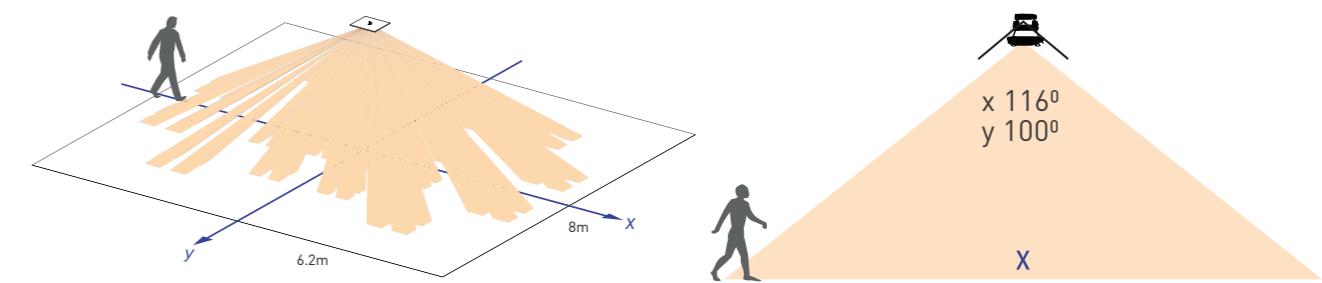
### Dimensions (mm)



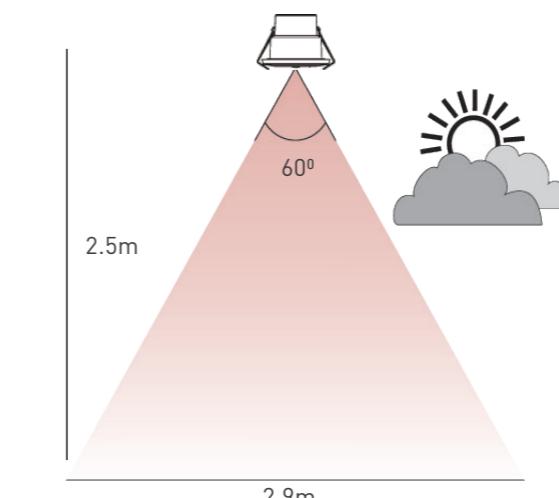
### Connections



### Presence Detection Coverage at 2.5m Height



### Constant Light Coverage



### Key features

- Excellent detection performance through high sensitivity and multidirectional coverage
- Programmable constant light control for energy efficiency
- Easily incorporated into RoomSet system/app.
- Simple "Over the Air" system upgrades with RoomSet
- Modern, compact and functional design

# ActiveAhead. Truly Intelligent Wireless Lighting Controls

Helvar ActiveAhead® is a truly intelligent and scalable wireless lighting solution.

It's unique self-learning capabilities give ultimate efficiency in setup and operations. ActiveAhead will continuously learn and generate insights, maximising positive impact on wellbeing and optimising your ever-evolving building.

It's the perfect solution for offices, warehouses, stairways and parking garages.

Turning Everyday Places into Brighter Spaces.

## THE UNIQUE BENEFITS • INTELLIGENCE



### SELF-LEARNING

Wirelessly networked ActiveAhead nodes use a smart algorithm to learn how the space is used. They also respond to the amount of natural light in the space.

The luminaires collect data from their own sensors as well as from the other luminaires that surround them. The nodes communicate with each other and learn the patterns of how the space is used. Due to its intelligence, the lighting level remains optimal for the user at all time, giving the right lighting at the right time and place.

### ALWAYS ADAPTING

ActiveAhead continuously adapts to possible changes, for example, a wall installation or removal, or a change in the layout of a space. Continuous learning means that system adjusts lighting automatically without the need of manual re-configuration.

### FORWARD-THINKING

Lower building operation costs and increase peace of mind via advanced data analytics. Increase security and wellbeing for occupants through smart lighting logic.

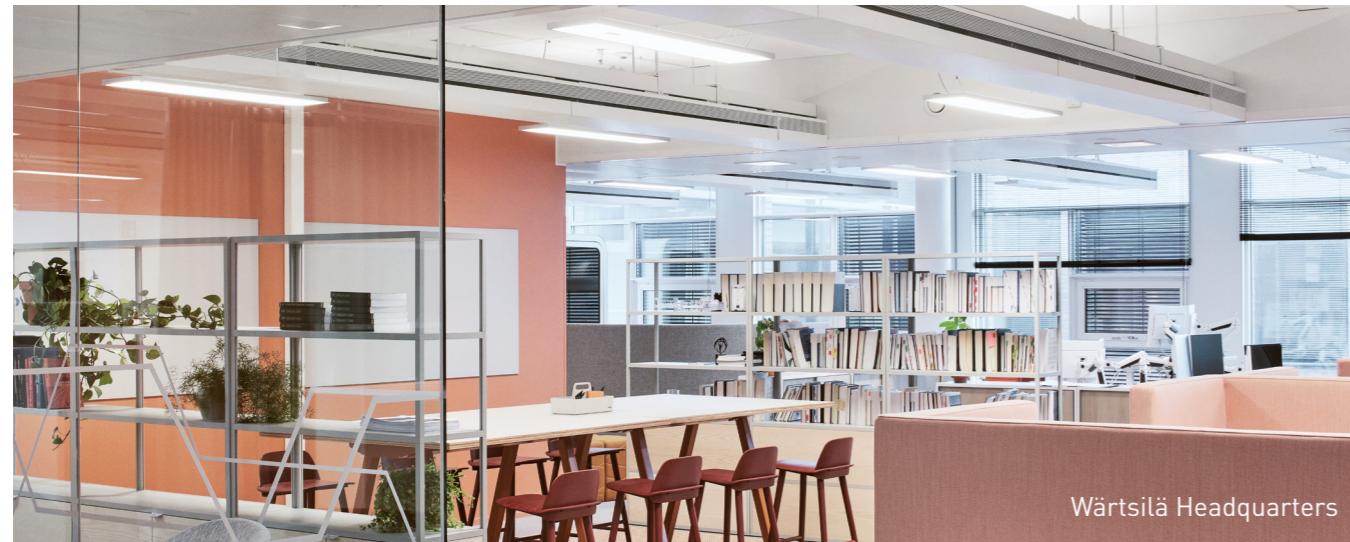
ActiveAhead is designed for a data-driven future. It enables services that will improve performance and ensure spaces remain comfortable with round the clock monitoring and maintenance.

**“** As we changed the layout of our office from a small-room office layout into an activity based open plan office, we wanted the lighting level to be the same in all areas when people move from one place to another. At the same time, we also wanted to be able to control the lighting system based on personal needs.

PIRJO PERNU - Director, Facilities at YIT

**”**

# EFFICIENCY



Wärtsilä Headquarters

## ENERGY SAVINGS

Compared to an LED-based switched luminaire, ActiveAhead takes comfort to a totally new level while offering substantial energy savings. In addition to increasing the lights in a predictive manner, the nodes dim the lights in a smart way depending on the space usage, thus helping to save energy.

## SIMPLE INSTALLATION

Luminaires fitted with ActiveAhead are extremely easy to install. Just fix the luminaires to their intended position and switch on the mains. No control wiring, programming or configuration is needed. Optional customisation and grouping is possible using the ActiveAhead mobile app.

“

Our YIT-staff have been really happy with this steady level of lighting and when they've been told that the lighting system is actually adjusting itself based on daylight, it has pleased them further.

”

# WELLBEING

## ENHANCED COMFORT

An ActiveAhead node starts learning from the moment it's powered up and it never stops.

With ActiveAhead, your building will always stay one step ahead. It identifies your regular patterns and routes and automatically turns on the lights as you go along. With predictive lighting, lights can be automated, and can be switched on before you arrive.

## PERSONAL LIGHTING

You can also tune the light settings on your very own desk according to your needs, allowing you to manage the light settings you prefer. This can result in a boost in satisfaction and productivity, since we all feel better in environments that are tuned to our own needs.



YIT chose ActiveAhead lighting control solution for their renovation due to the savings in time, money and total cost of ownership.

## ACTIVEAHEAD CASE STUDIES

### Ramboll Headquarters

Ramboll, a leading engineering, design and consultancy company, wanted to build a truly modern data driven headquarters.

Wireless, self-learning and future-proof lighting control solution ActiveAhead was selected to cover the office floors as well as the parking garage with a total of around 3000 ActiveAhead Control Units installed.

The rest of the building is controlled by the Helvar Imagine Router, making the entire site a perfect example of a hybrid wired and wireless solution. Digital services complete the Helvar offering at the Ramboll Headquarters.

### YIT Headquarters

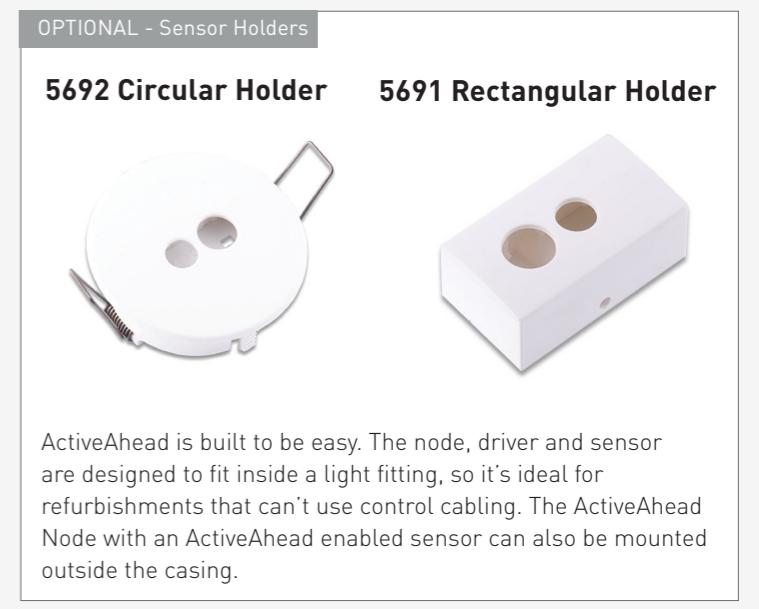
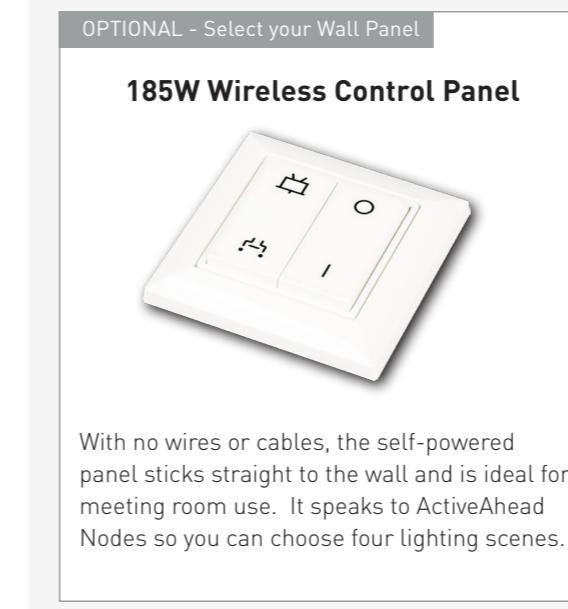
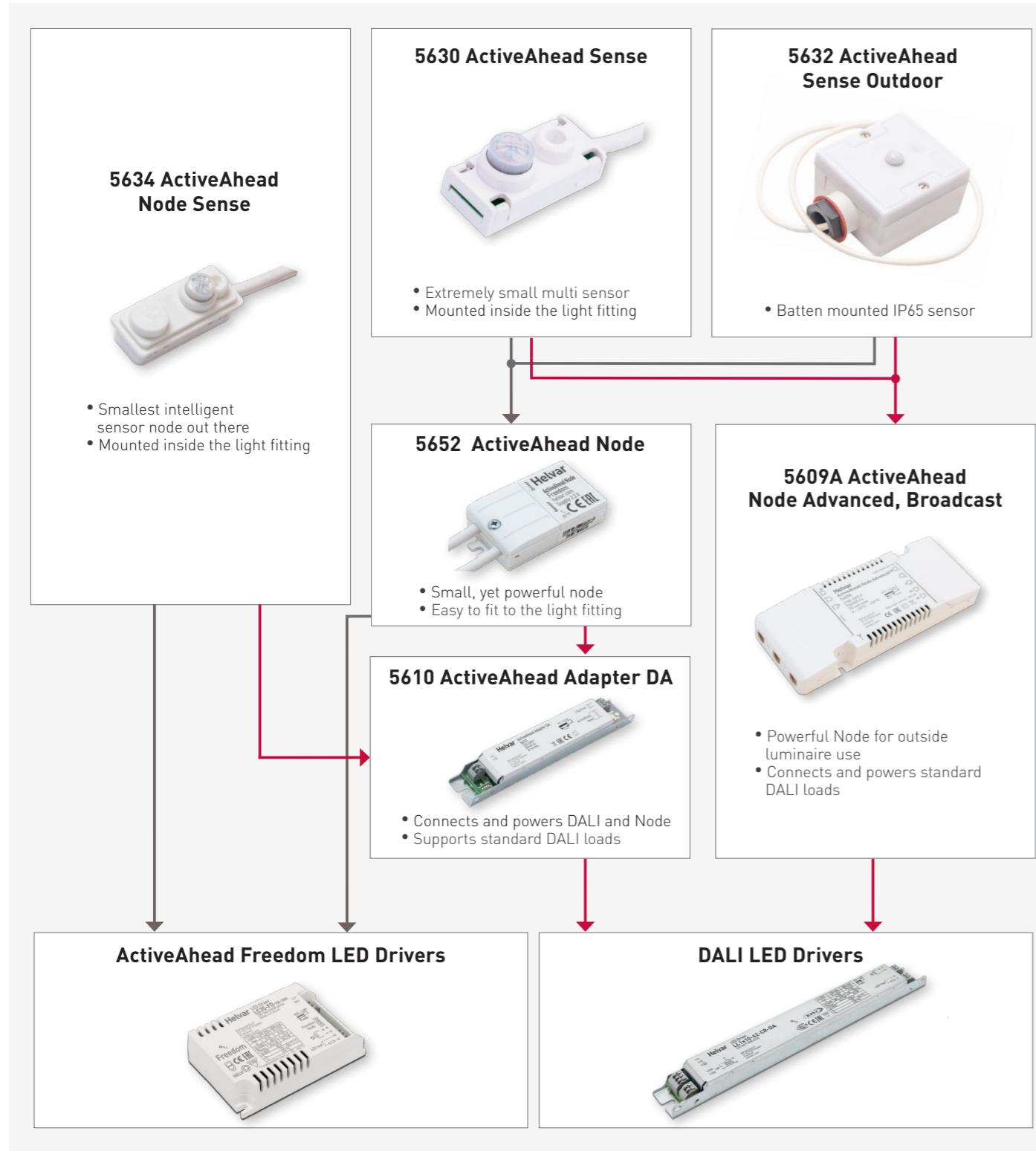
YIT, one of the largest North European construction companies, chose ActiveAhead when their headquarters was renovated.

The easy installation, setup and flexibility of the ActiveAhead solution was greatly appreciated by YIT, which is why they chose ActiveAhead also for the second part of their headquarters renovation.

These two interlinked buildings were renovated in 2018 and 2019 with over a thousand ActiveAhead Control Units per building.

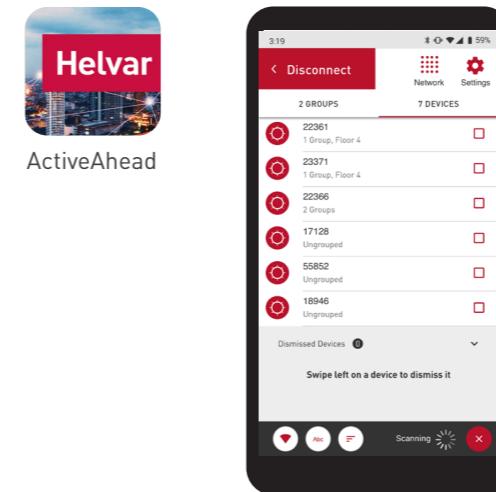
# CHOOSING YOUR SETUP

Choosing the right setup for your project is easy. Based on the space and luminaire types, select the Node and the corresponding suitable LED driver. When needed pick the sensor and a possible holder for it. For spaces such as meeting rooms, add the wireless control panel and you're good to go. If necessary, fine-tune the configuration on site using the ActiveAhead mobile app.



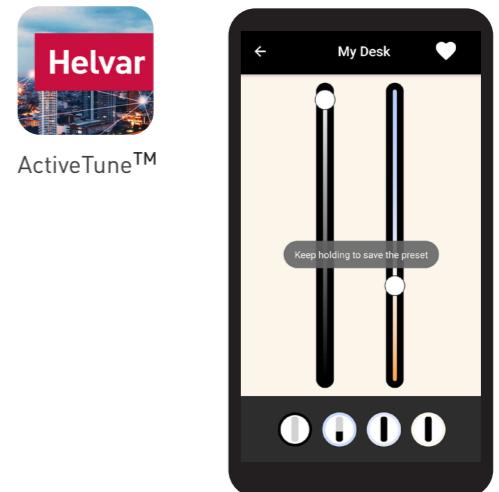
## Helvar ActiveAhead App

Download the ActiveAhead app to manage your ActiveAhead luminaires from your device.



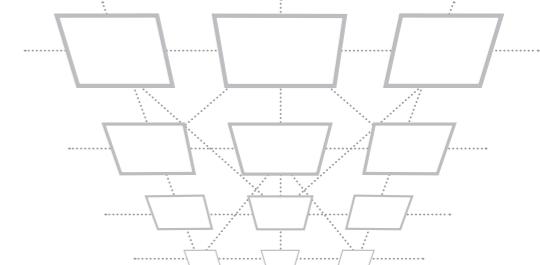
## Helvar ActiveTune™

With Helvar ActiveTune™ you can tune the light settings at your desk using your mobile phone.



## Bluetooth Mesh Network

Nodes connect through a Bluetooth Mesh network, a protocol based upon Bluetooth Low Energy that allows for many-to-many communication over Bluetooth radio, meaning devices can quickly transfer information between each other.



# Helvar

DIGIDIM

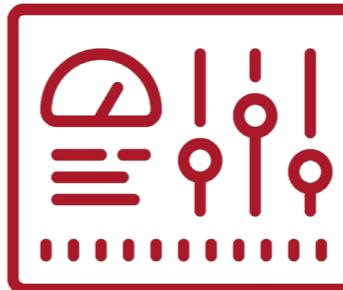
## DIGIDIM. Flexible & programmable lighting solutions

As a programmable DALI lighting system, DIGIDIM offers flexibility in the design of modern lighting solutions.

With a wide range of user and load interfaces, DIGIDIM allows you to tailor intelligent lighting control for many applications ranging from education to open plan offices.

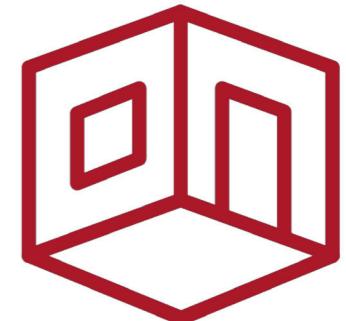
Turning Everyday Places into Brighter Spaces.

### THE BENEFITS - DIGIDIM



#### SMART PROGRAMMABLE AREA CONTROL

Our easy to use Toolbox software makes programming quick and simple



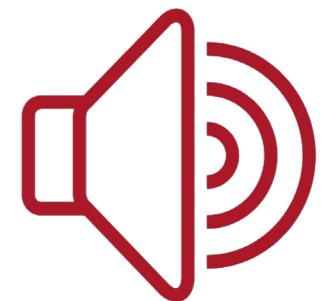
#### FROM ROOMS TO LARGE AREAS

Go beyond a single space and scale up to 16 groups and 64 devices



#### ENERGY EFFICIENCY & IMPROVED WELLBEING

Presence and daylight sensors can give save up to 40% energy savings, whilst ILLUSTRIUS panels can provide added comfort with tuneable white or full colour control



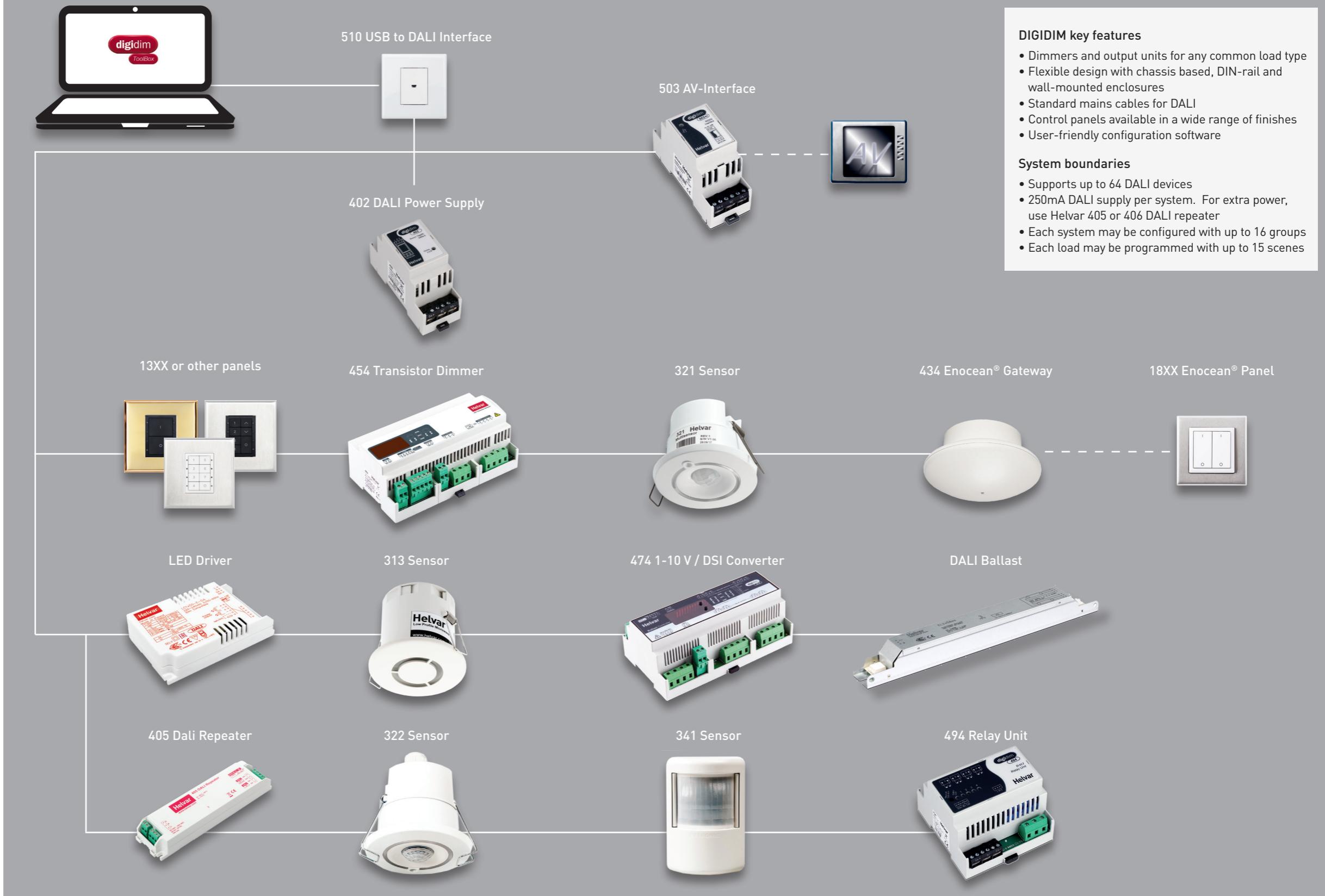
#### INTEGRATION WITH AV SYSTEMS

Create smart scenes beyond lighting by incorporating other room systems such as AV and blinds

**digidim**

Tailor intelligent lighting control with this programmable DALI-based system.

From single rooms to large areas, DIGIDIM has a wide range of load and user interfaces. Versatile enough for everything from education to open-plan offices.

**Example configuration - Note, DIGIDIM system is compatible with a wider selection of components**

# Imagine Endless Possibilities

Helvar Imagine brings wellbeing and intelligence into your space, offering efficiency and scalability for a wide variety of applications.

Imagine builds upon industry standards for easy installation and integration to provide a truly leading lighting control and management solution.

Turning Everyday Places into Brighter Spaces.

IMAGINE

## THE BENEFITS - Imagine

**HELVAR IMAGINE** is a complete lighting control and management solution. Built on top of open protocols such as DALI-2 and Ethernet, Imagine maximises on industry standards for easy installation and integration. It offers true scalability from a single room to entire buildings or campuses.



### WELLBEING

Helvar's Imagine solution is designed around people. Lighting plays a big role in working, learning and patient environments. Imagine balances comfort and efficiency through user orientated automation and interfaces.



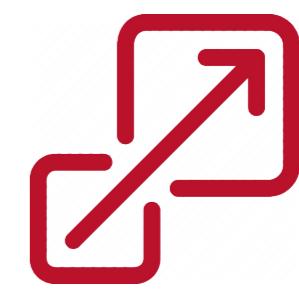
### EFFICIENCY

The Imagine solution introduces features such as presence detection and daylight harvesting to reduce energy usage, and when coupled with Helvar Digital Services, the system provides intelligent insight reports to highlight where spaces can be further optimised.



### INTELLIGENCE

Easily integrate with other systems at a building or cloud level to gain ultimate control of your spaces - both on-site and remotely. With intelligent features such as PIR timeout reports, learn how spaces are used and make changes based on both efficiency and people's wellbeing.



### SCALABLE

The router is the heart of the Imagine system. It provides the features of a total lighting management system all in a single product, greatly reducing complexity and cost whilst giving the flexibility to adapt and expand to client needs - from a single room to an entire building.

# Imagine

From energy-efficient offices to world-famous architectural sites, our router systems are made for scale and flex.

The Helvar 905, 910, 920 and 950 allow a modular approach to system design. Built on industry standard communications, implementation stays as easy as can be.

The 950 can provide 4 x powered DALI-2 Multi-master subnets supporting up to 512 devices.

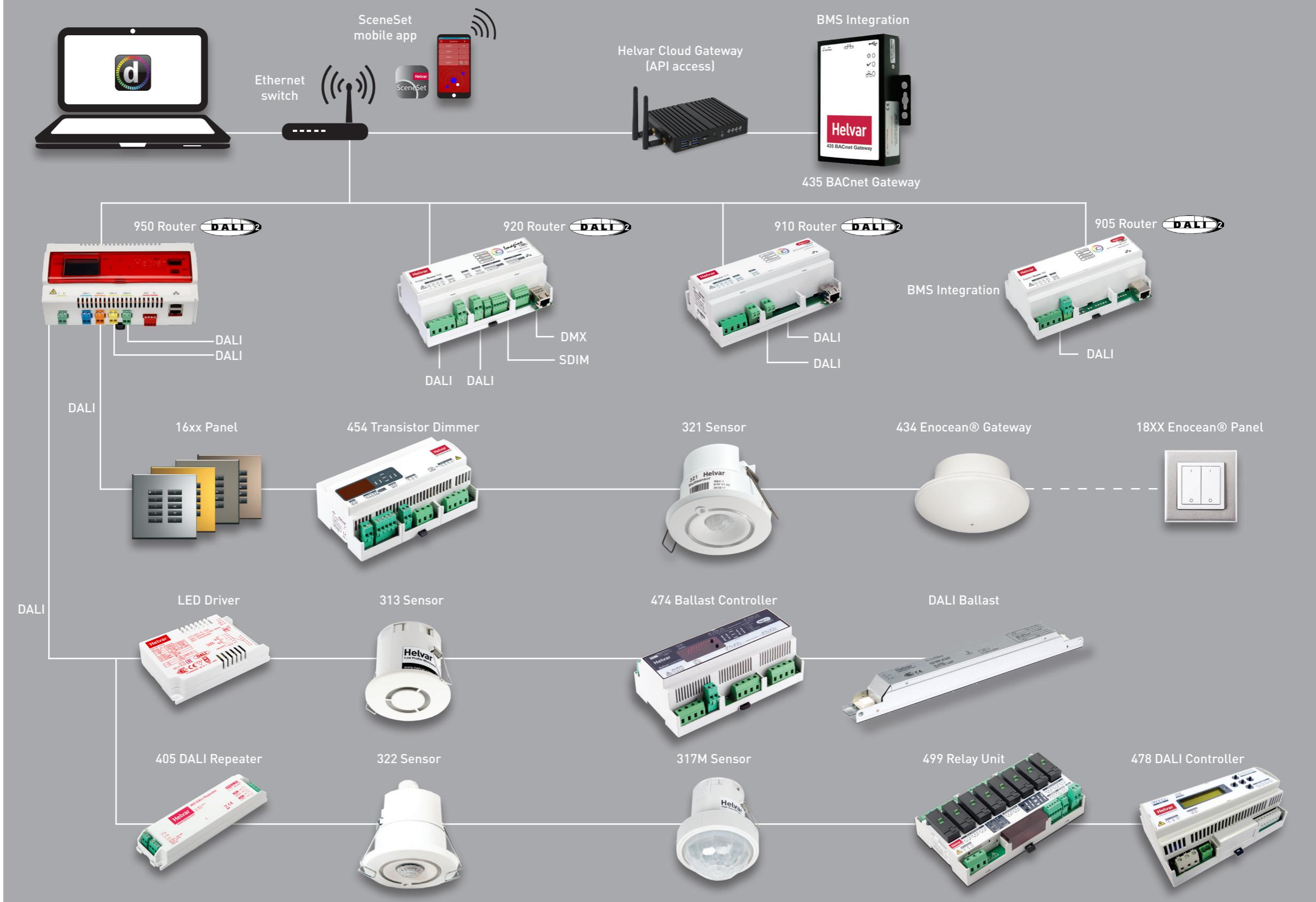
The 905, 910 and 920 can provide 2 x powered DALI-2 Single-master subnets support up to 128 devices. The 920 then adds 252 S-DIM channels and 512 DMX in or out channels.

And you can network multiple routers using Ethernet switches to accommodate your grandest designs.

## The best choice for lighting design:

- From one room to multiple sites
- Live energy monitoring
- A range of user interface options
- Lighting transitions and scenes
- Automated control
- Colour temperature control
- Integrates with building automation systems

## Example configuration - Note, the Imagine system is compatible with a wider selection of components

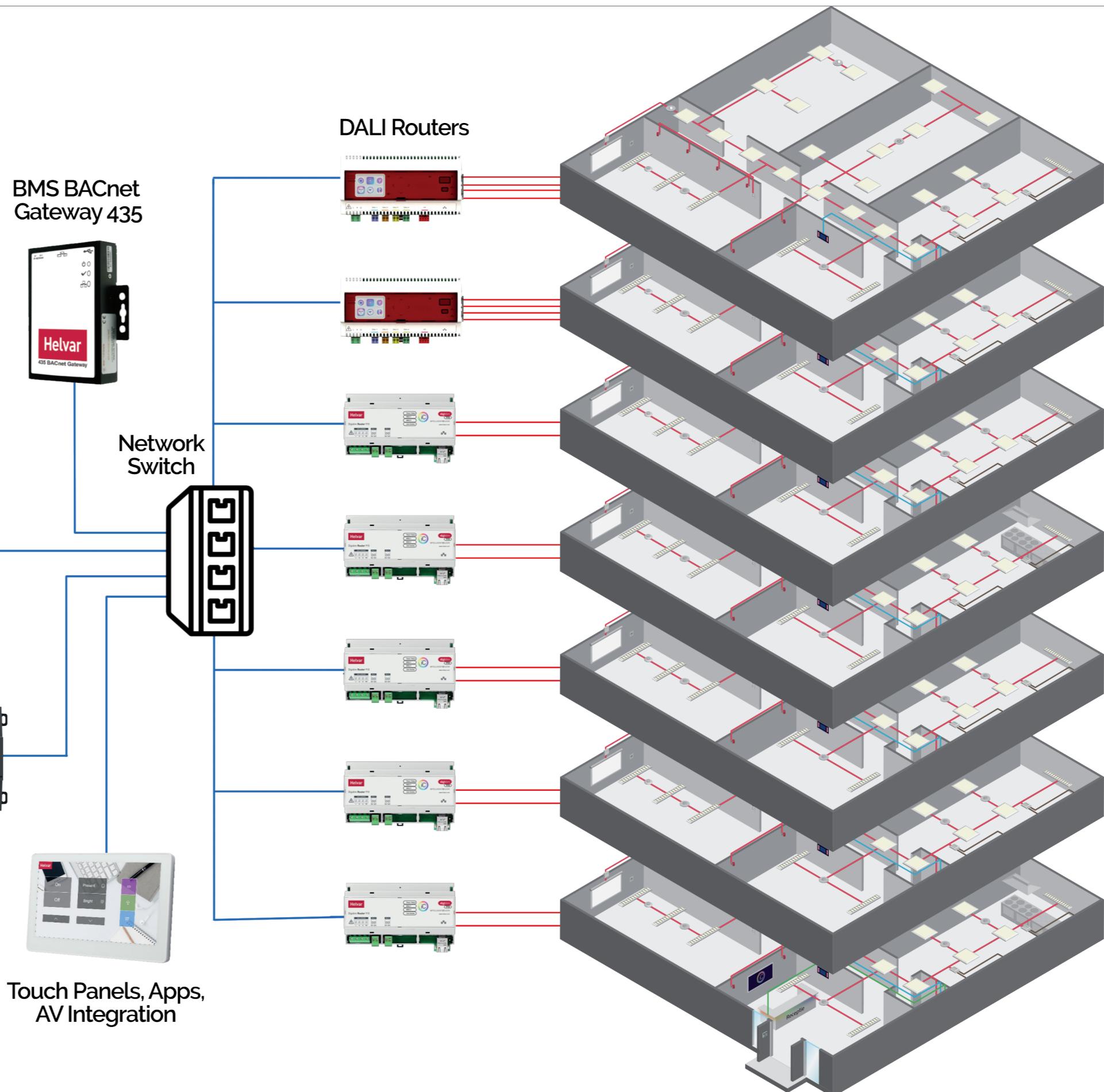
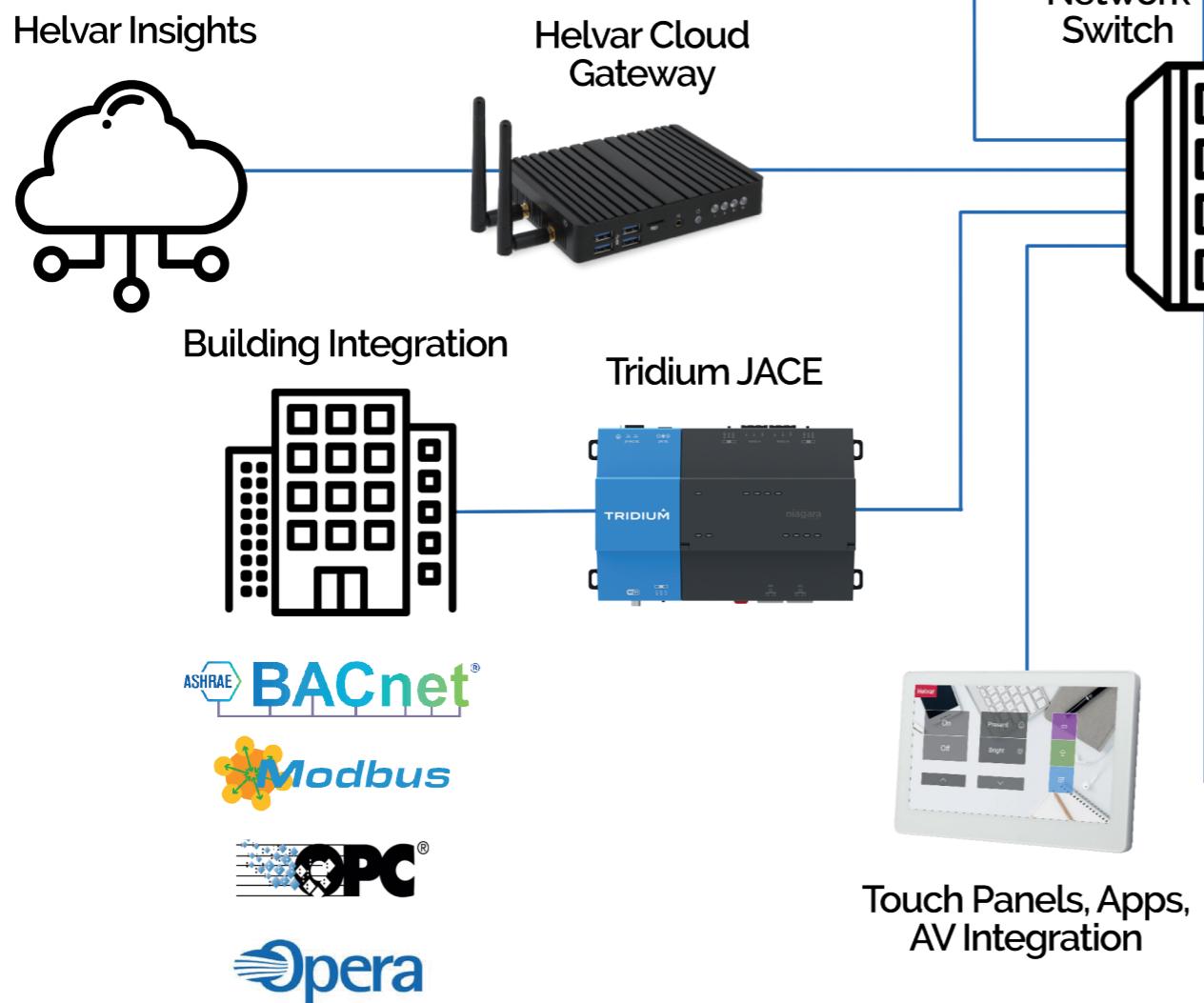


## IMAGINE ROUTER SYSTEM

Lighting management is increasingly becoming an important element of intelligent construction.

Service and monitoring of lighting from the level of the building management system enables quick access to current energy consumption, working hours and error messages.

Automated lighting control in the building improves energy efficiency at the same time increasing the user's work comfort.



# DYNAMIC LIGHTING

## With Tunable White

People feel better in the right kind of light. Changes to colour and intensity work in harmony with natural rhythms.

Dynamic Tunable White helps us energise at the start of the day. And wind down with warmer tones towards dusk.

Improve comfort and wellbeing. Enhance concentration and productivity. And restore patients' health more quickly.

Our Intelligent Colour lighting system works with DALI type 8 - letting you control multiple LED output channels from one DALI address.



Offices



Education

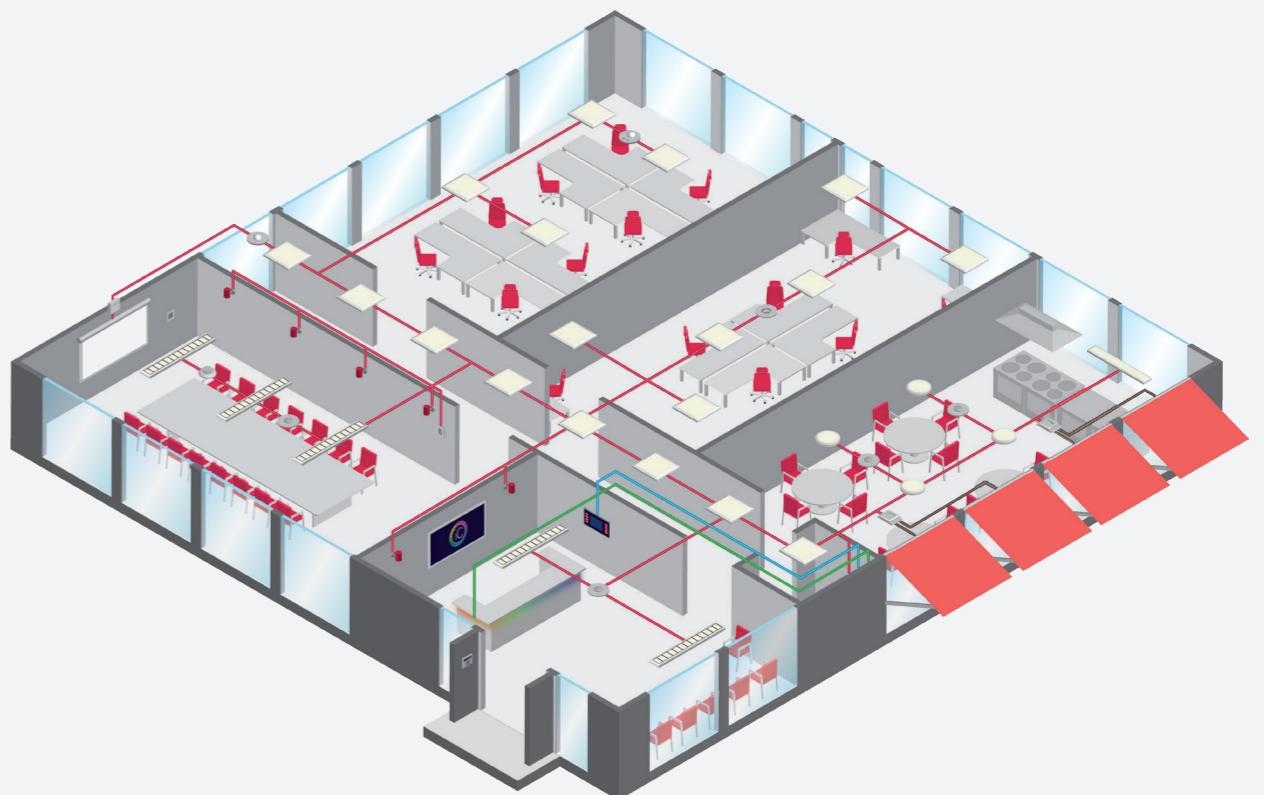


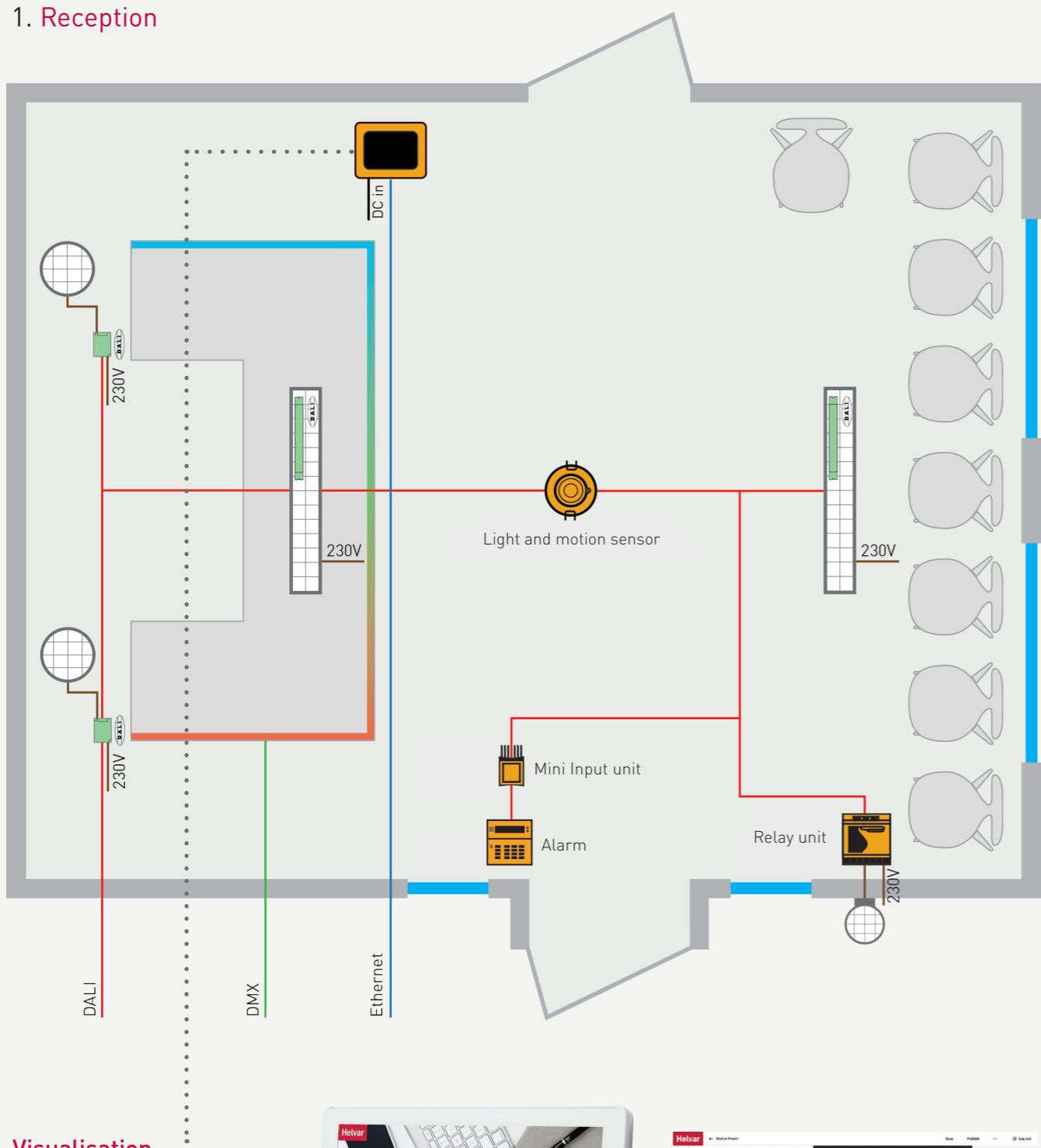
Healthcare

## TYPICAL APPLICATIONS

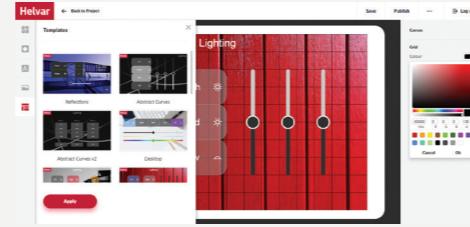
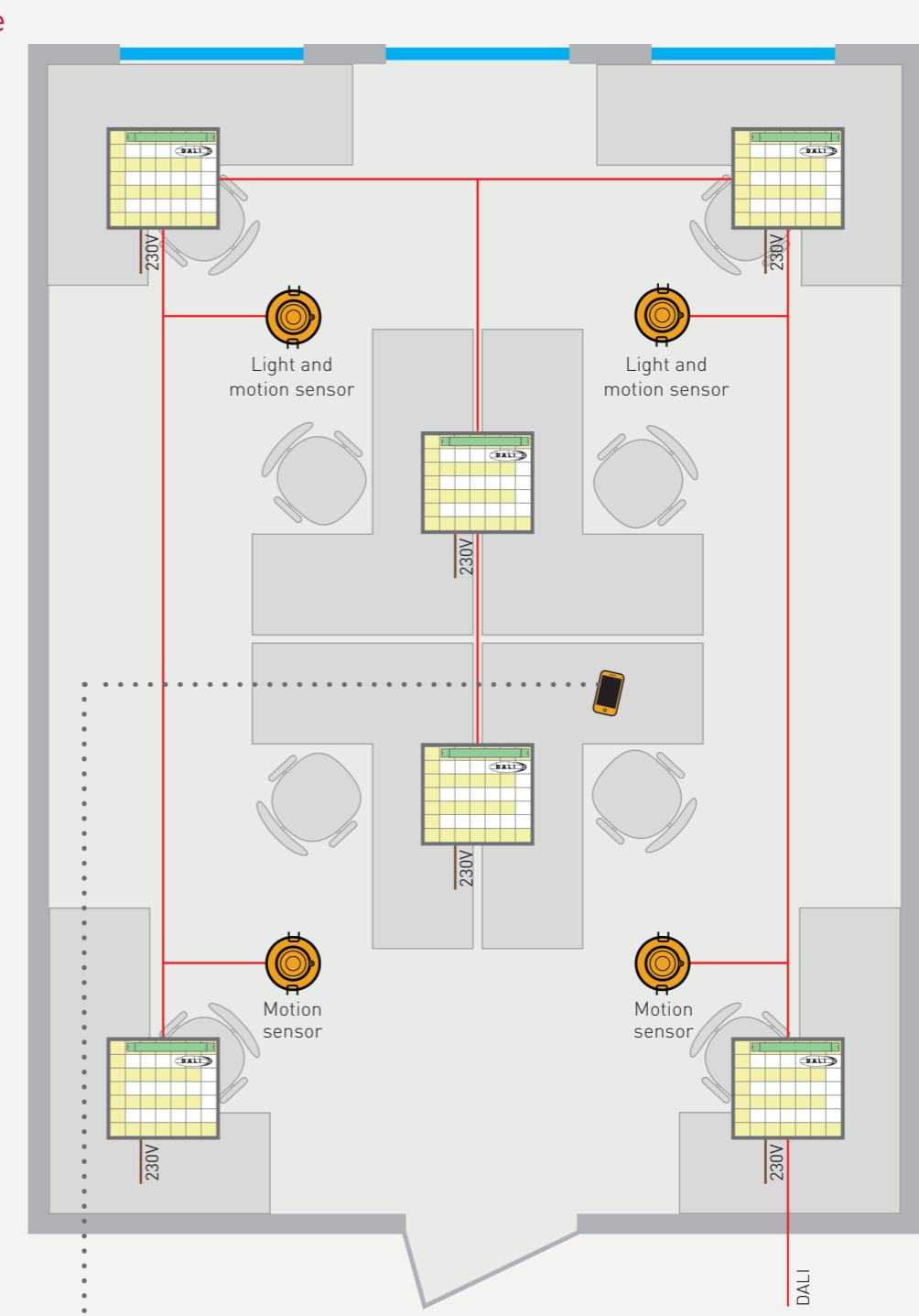
### Building spaces

How do our DALI lighting control systems work?  
Here are six popular set-ups.



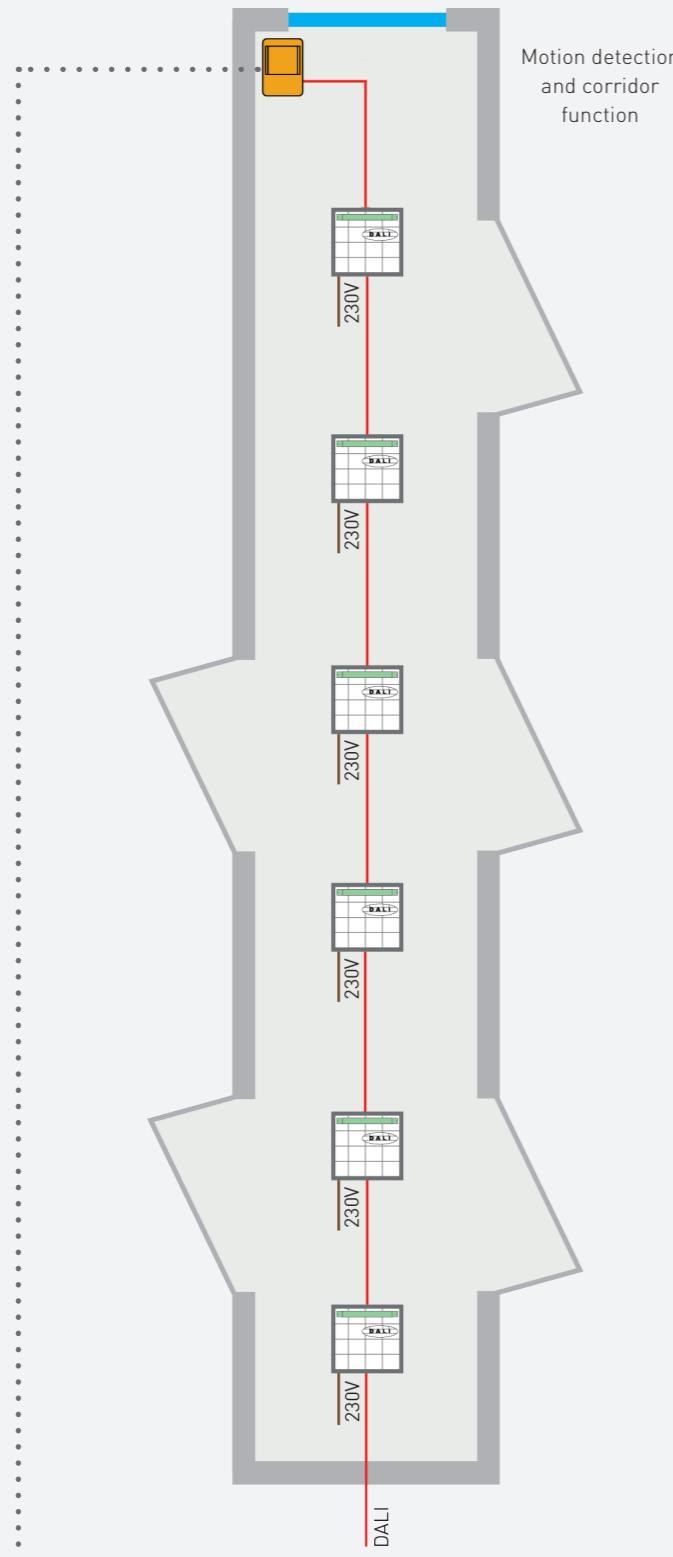
**1. Reception****Visualisation**

Personalise your user interface, to have a unique look and feel that fits your needs.

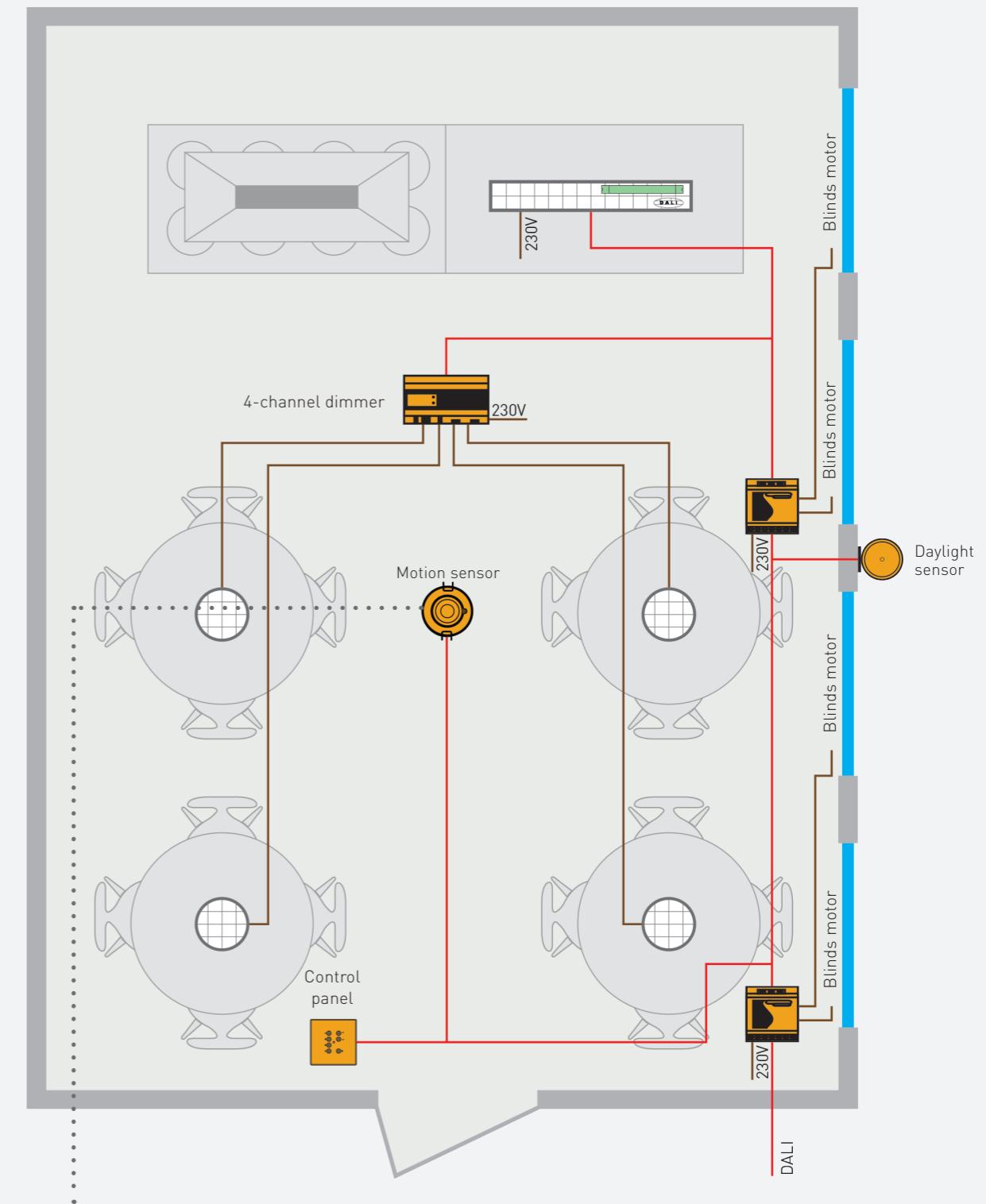
**2. Office****Sceneset**

SceneSet lets you give anyone on your network the power to control lighting through an Apple or Android device. It's compatible with RGB luminaires and tunable white.



**3. Corridor****Corridor function**

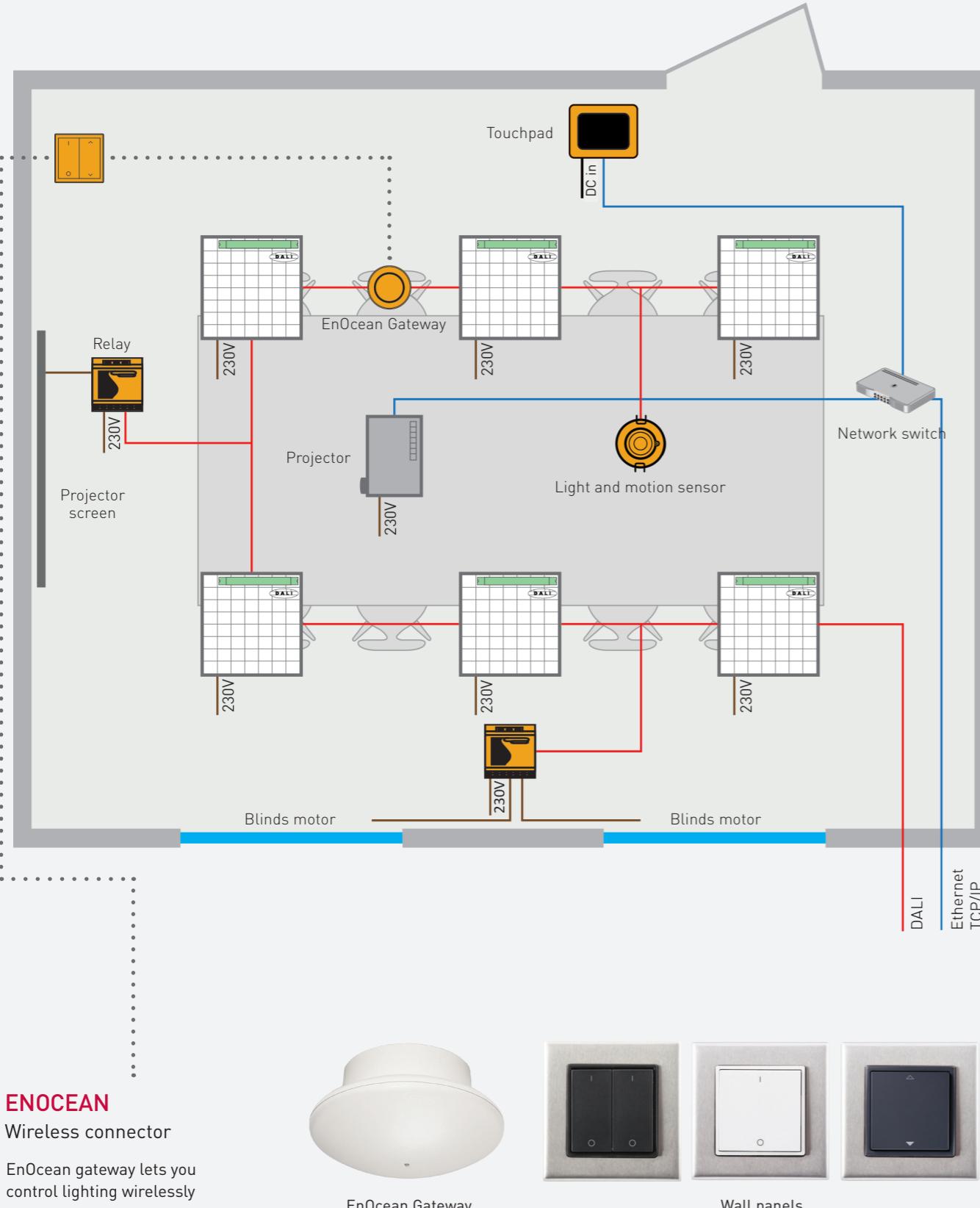
A special mode allowing offices with corridors to connect to each other with software. Corridor lighting turns on or off depending on how you use the space. It's completely automatic, saving energy and improving safety.

**4. Canteen****Timer control**

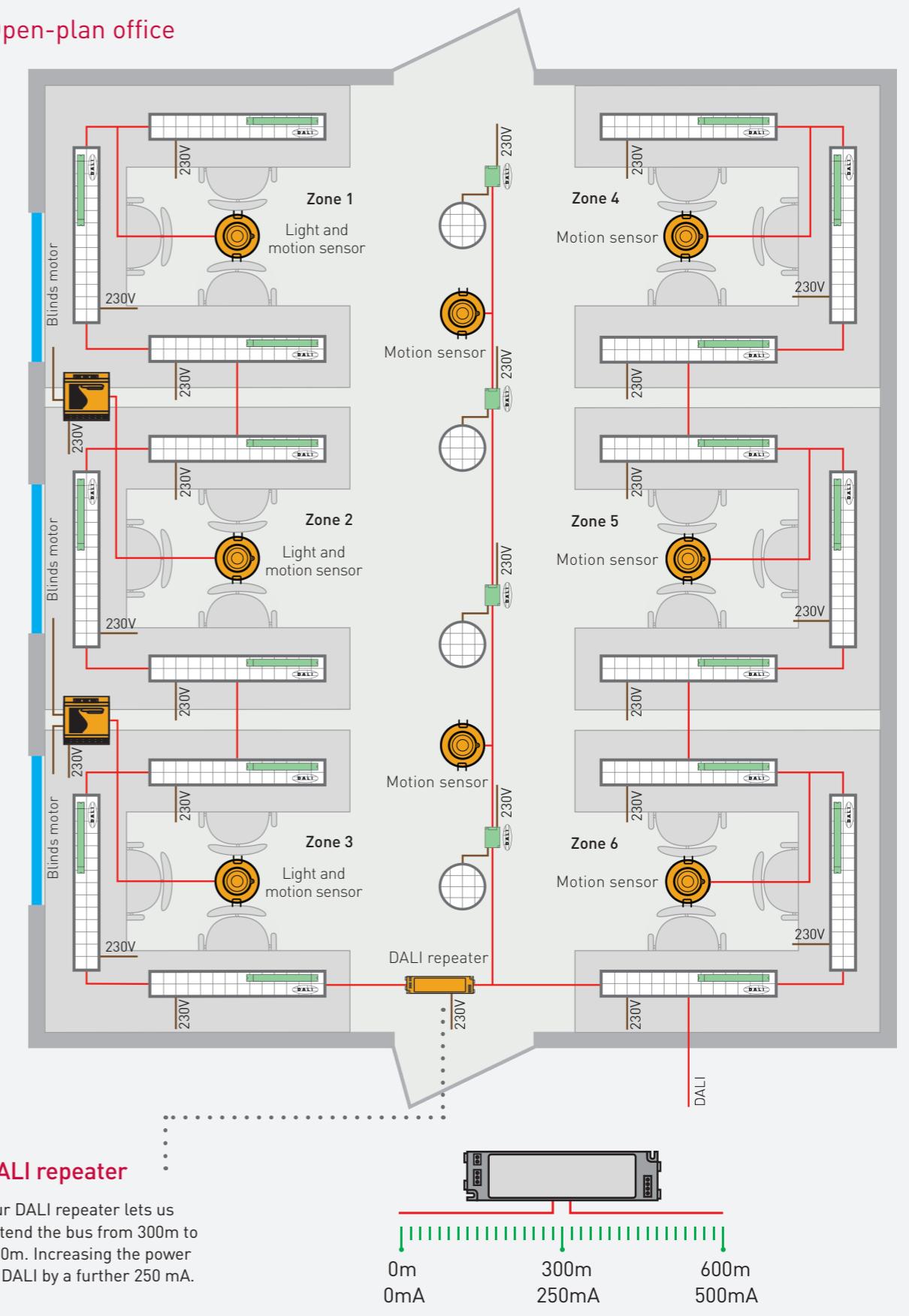
Save maximum energy with our intelligent timer control. Program lights to switch on or off and adjust automatically and in response to the in-built astronomical clock in Router deployments.

Scheduler					
Start up	Description	Trigger	Action	Condition	Status
1. Winternacht		At 03:00:00	Activates Daylight Saving	Weekend	At 03:00:00
1. Zomeravond		At 02:00:00	Enables Daylight Saving	Weekend	At 02:00:00
Auto man		At Sunset	Call Group 7 Scene 1.6	Always	Less than 12 hours remaining
Astro trappenhuis 1		At Sunrise	Call Group 8 Scene 1.5	Always	At Sunrise
Astro trappenhuis 2		At Sunset	Call Group 8 Scene 1.2	Always	Less than 12 hours remaining
Astro ut		At Sunrise	Call Group 7 Scene 1.15	Always	At Sunrise

## 5. Conference room



## 6. Open-plan office



## 402 DIGIDIM Power Supply Unit

A fully DALI-compatible power supply, designed to give a DALI system the 250 mA it needs. DIN rail mounted.

### Key features

- Supplies power to a DIGIDIM system up to a maximum of 250 mA
- DALI short circuit protected
- DALI status LED
- Universal voltage supply



### Technical data

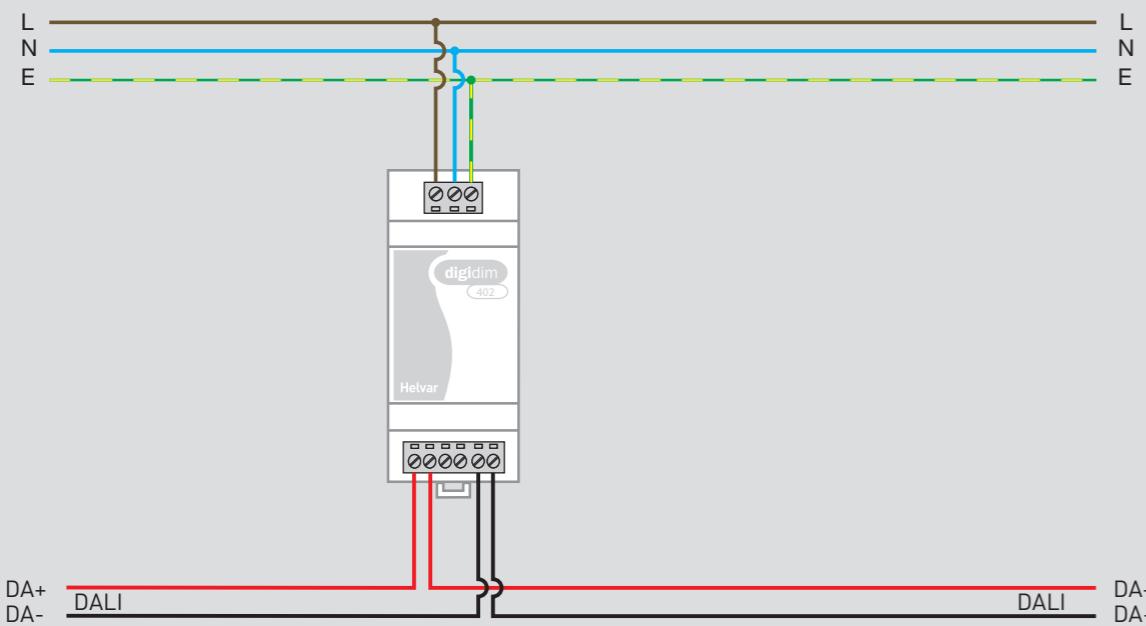
Mains supply.....	100 VAC – 240 VAC (nominal) 45 Hz – 65 Hz
Power consumption.....	1.6 W
DALI supply.....	20 VDC (nominal), 250 mA
Ambient temperature.....	0 °C to +40 °C
Degree of protection.....	IP30
Number of DALI addresses.....	0

### Dimensions (mm)



DIN rail housing; Width of 2 modules. Weight 80 g

### Wiring diagram



## 407 Compact DALI Power Supply

A super-compact DALI power supply with 64 mA DALI output. Perfect for placing in a flush-mounted box.

### Key features

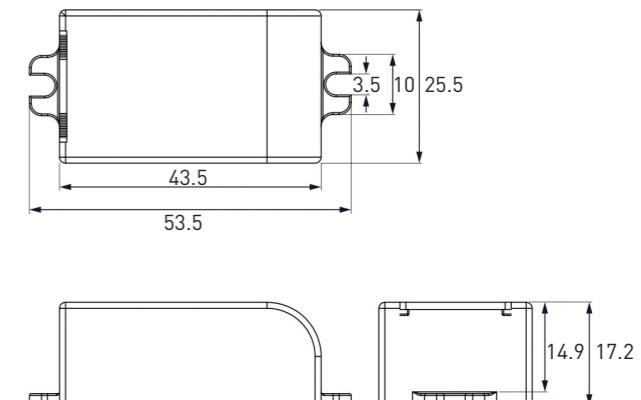
- Super-compact footprint
- 64 mA DALI supply
- DALI short circuit protected
- Flying leads for easy and flexible connection



### Technical data

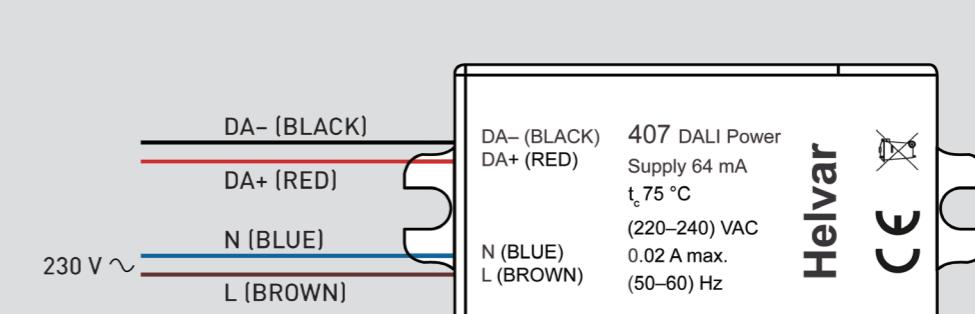
Mains supply.....	220 VAC – 240 VAC, 50 Hz – 60 Hz
DALI supply output.....	64 mA
Ambient temperature.....	0 °C to +50 °C
Degree of protection.....	IP30
Number of DALI addresses.....	0

### Dimensions (mm)



Weight 20 g

### Wiring diagram



## 905 Router

Handles up to 64 DALI devices from just one DALI interface.  
Create advanced lighting systems by connecting routers through standard Ethernet TCP and IP links.

### Key features

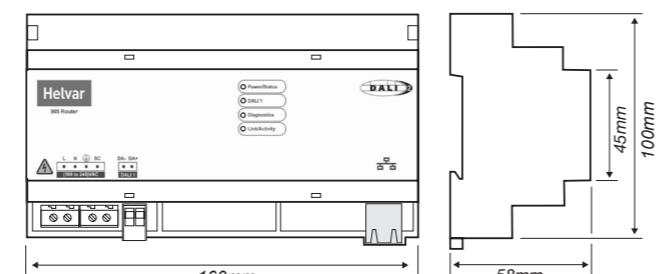
- Support for 64 DALI devices.
- Built-in real-time clock.
- Can be networked together to form large scalable systems.
- Provides local as well as central control if required.
- Compatible with other Helvar routers (910/920/950).
- Integration with other building systems.
- Universal supply input.
- LightOverTime Bio-Rhythm control
- No central database required for system operation
- DALI-2 Certified single-master application controller



### Technical data

Power supply..... 100 VAC - 240 VAC 45 Hz - 65 Hz  
Power consumption..... 13 W (DALI subnet fully loaded)  
Ambient temperature..... 0 °C to +40 °C  
Degree of protection..... IP30 (except connectors)

### Dimensions (mm)



DIN rail housing; Width of 9 modules. Weight 250 g

## 910 Router

The 910 router has two DALI interfaces that can handle up to 128 DALI devices. You can join routers using standard Ethernet TCP and IP links. Giving you the ability to create large and complex lighting control systems.

### Key features

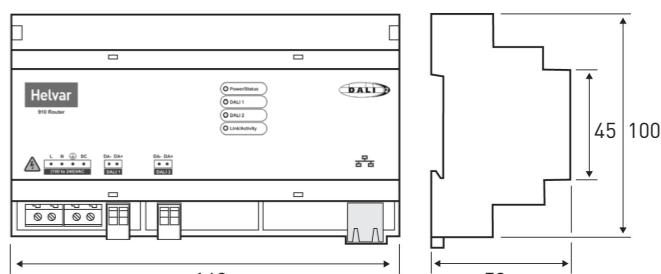
- Support for 128 DALI devices (64 DALI devices on each subnet).
- Built-in real-time clock.
- Can be networked together to form large scalable systems.
- Provides local as well as central control if required.
- Compatible with other Helvar routers (905/920/950).
- Integration with other building systems.
- Universal supply input.
- LightOverTime Bio-Rhythm control
- No central database required for system operation
- DALI-2 Certified single-master application controller



### Technical data

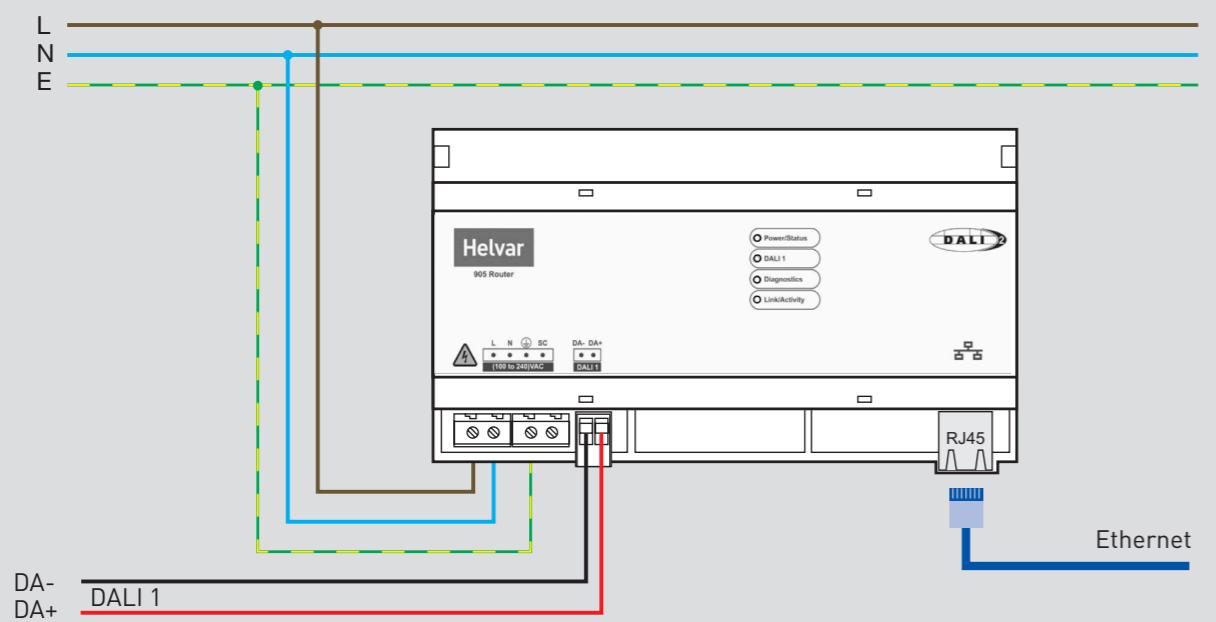
Power supply..... 100 VAC - 240 VAC 45 Hz - 65 Hz  
Power consumption..... 23 W (DALI subnet fully loaded)  
Ambient temperature..... 0 °C to 40 °C  
Degree of protection..... IP30 (except connectors)

### Dimensions (mm)

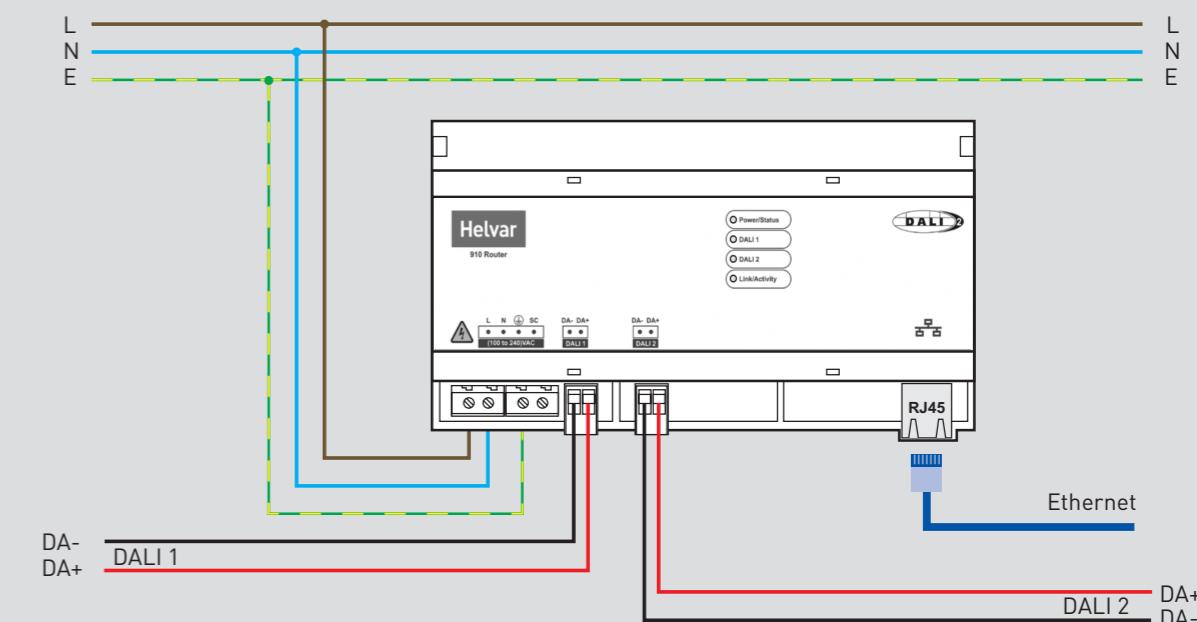


DIN rail housing; Width of 9 modules. Weight 260 g

### Wiring diagram



### Wiring diagram



## 920 Router

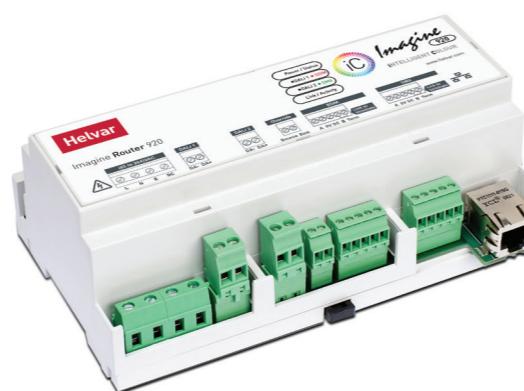
Our 920 Router has two DALI interfaces that can handle up to 128 DALI, DMX and S-DIM devices. Making it easy to create extensive lighting control systems by connecting routers through Ethernet TCP and IP links.

### Key features

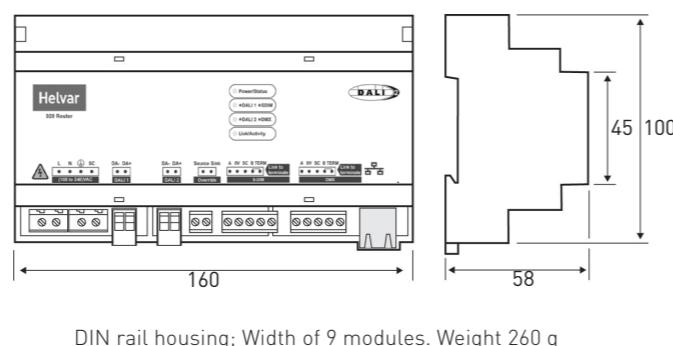
- Support for 128 DALI devices (64 DALI devices on each DALI subnet).
- 512 Channels of DMX In or Out
- 252 Channels of SDIM
- Built-in real-time clock.
- Can be networked together to form large scalable systems.
- Provides local as well as central control if required.
- Compatible with other Helvar routers (905/910/950).
- Integration with other building systems.
- Universal supply input.
- The function of recovering settings after a power failure
- LightOverTime Bio-Rhythm control
- No central database required for system operation
- DALI-2 Certified single-master application controller

### Technical data

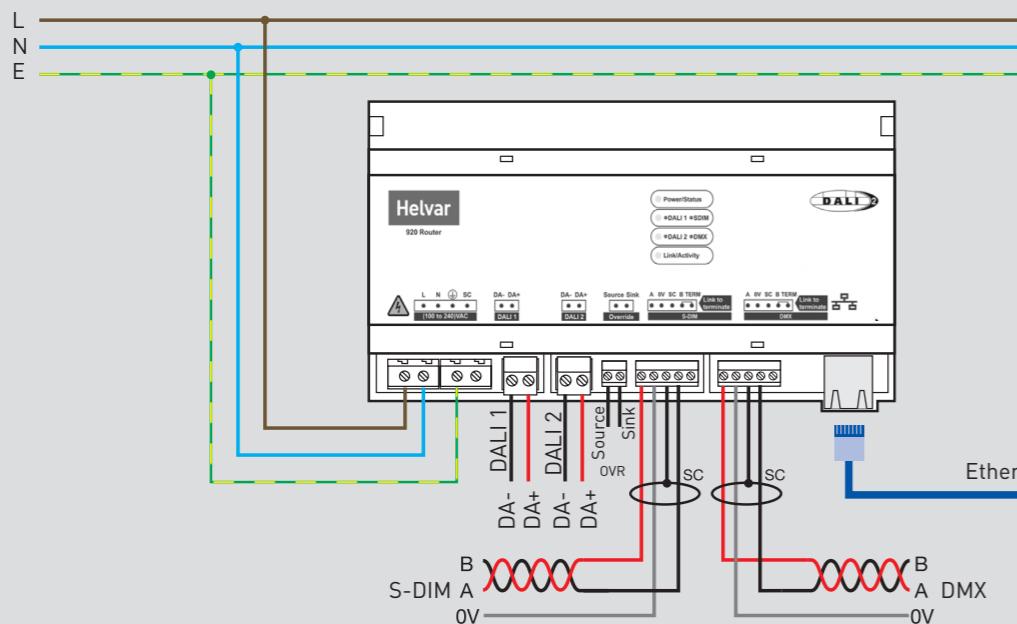
Power supply	100 VAC - 240 VAC 45 Hz - 65 Hz
Power consumption	23 W (DALI subnet fully loaded)
Ambient temperature	0 °C to 40 °C
Degree of protection	IP30 (except connectors)



### Dimensions (mm)



### Wiring diagram



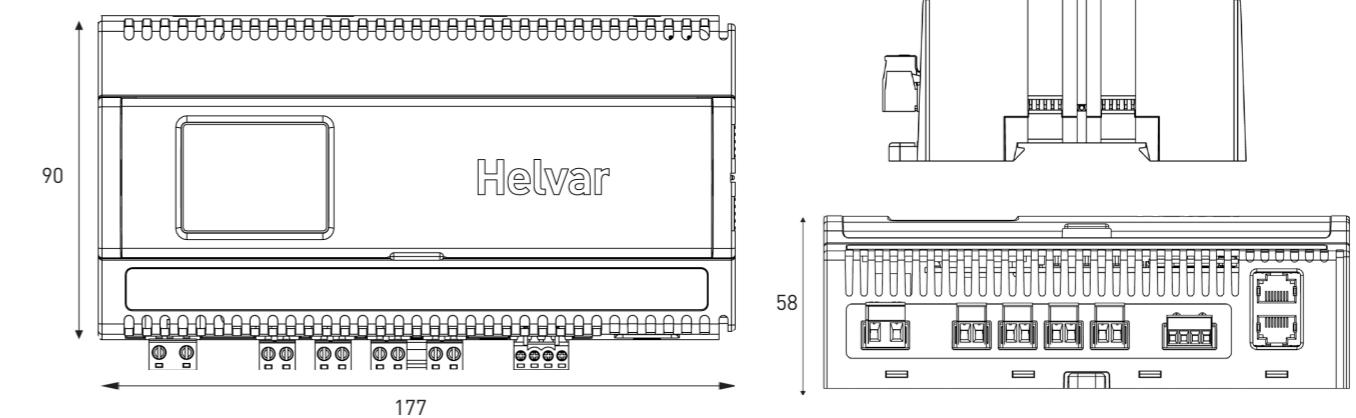
## 950 Router

The 950 Router has four DALI interfaces that can handle up to 512 DALI devices. You can join routers using standard Ethernet TCP and IP links, giving you the ability to create large and complex lighting control systems.

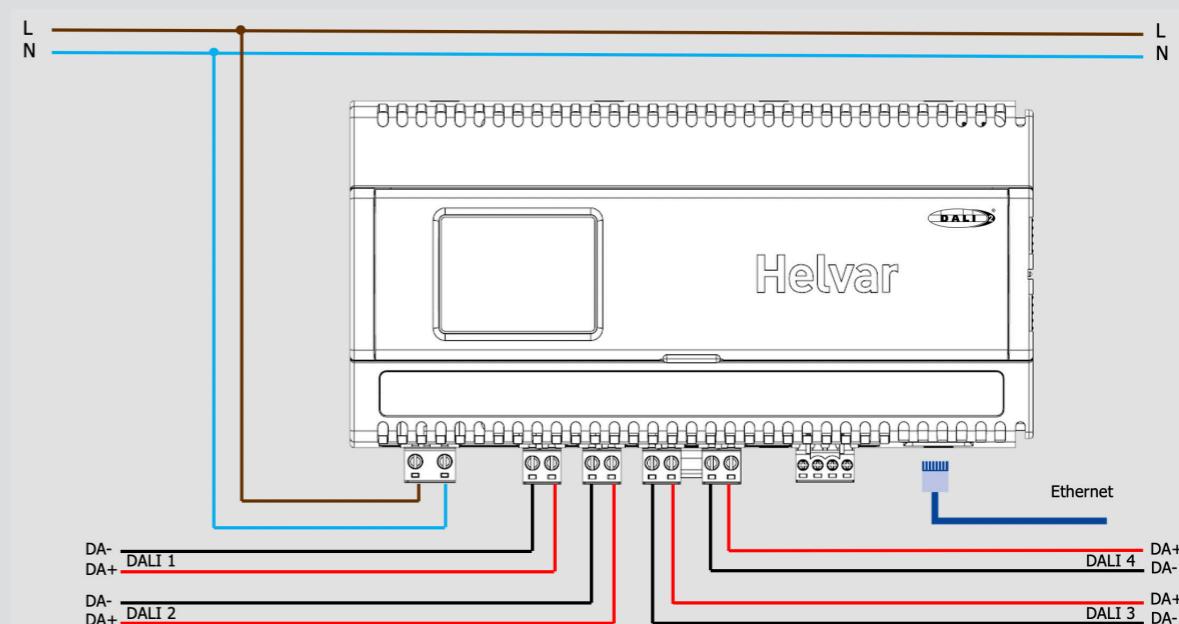
### Key features

- Support for 512 DALI devices (128 DALI devices on each DALI subnet).
- Built in LCD for DALI network testing and alerts display.
- Built in real-time clock.
- Can be networked together to make large scalable systems.
- Provides local as well as central control if required.
- Compatible with other Helvar routers (905/910/920).
- Integration with other building systems.
- LightOverTime Bio-Rhythm control.
- No central database required for system operation.
- DALI-2 Certified Multi-master application controller.

### Dimensions (mm)



### Wiring diagram



## 405 DALI Repeater

This DALI repeater increases the maximum bus length from 300m to 600m and provides an additional 250 mA. But it doesn't add extra DALI addresses — the 64-address limit stays the same.

You can also use this as a standalone power supply for your DALI system, and connect DALI repeaters in parallel through the DALI-IN input.

### Key features

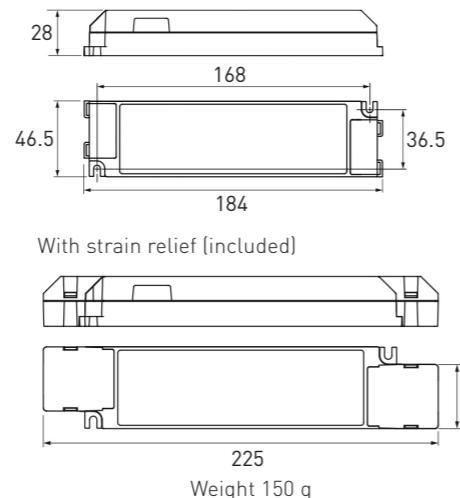
- Extends the maximum DALI line length from 300 m to 600 m.
- Provides 250 mA current at the DALI-OUT side.
- Messages are unfiltered.
- No isolation between DALI IN and DALI OUT. Both are isolated from the mains input.
- Click-on strain relief for standalone installation (included).



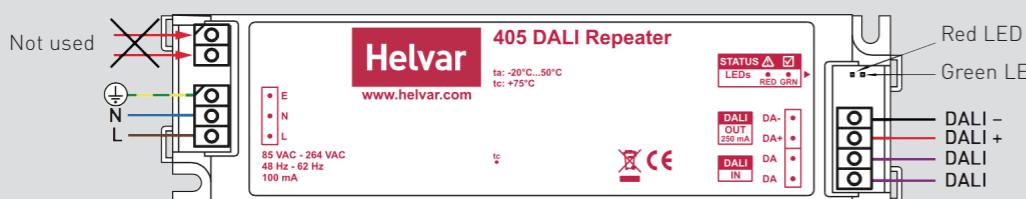
### Technical data

Power supply	100 VAC - 240 VAC 45 Hz - 65 Hz
Power consumption in standby mode	0.6 W
Power consumption	1.6 W
Power consumption from the DALI bus	2 mA
Ambient temperature	-20 °C to 50 °C
Degree of protection	IP20
Number of DALI addresses	0

### Dimensions (mm)



### Wiring diagram



## 406 DALI Repeater

This DIN-rail mounted DALI repeater increases the maximum bus length from 300m to 600m and provides an additional 250 mA. But it doesn't add extra DALI addresses — the 64-address limit stays the same.

You can also use this as a standalone power supply for your DALI system, and connect DALI repeaters in parallel through the DALI-IN input.

### Key features

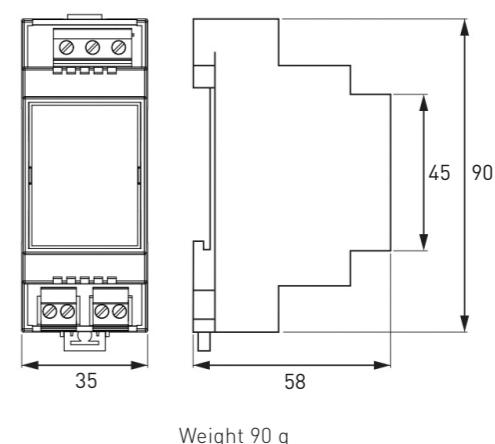
- Extends the maximum DALI line length from 300 m to 600 m.
- Provides 250 mA current at the DALI-OUT side.
- Messages are unfiltered.
- No isolation between DALI IN and DALI OUT. Both are isolated from the mains input.



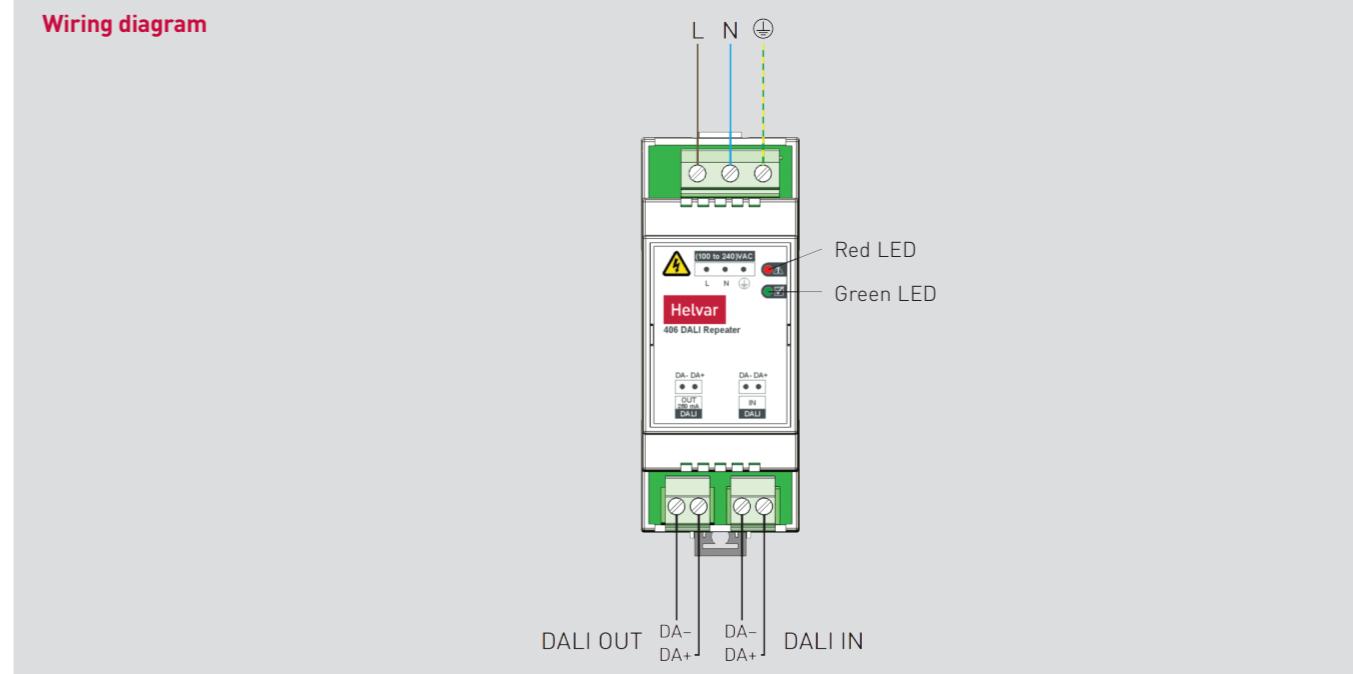
### Technical data

Power consumption from the DALI bus	2 mA
Power supply	85-264 VAC, 48-62 Hz
Power consumption in ready state	0.6 W
Ambient temperature	-20 °C to 50 °C
Degree of protection	IP20
Number of DALI addresses	0

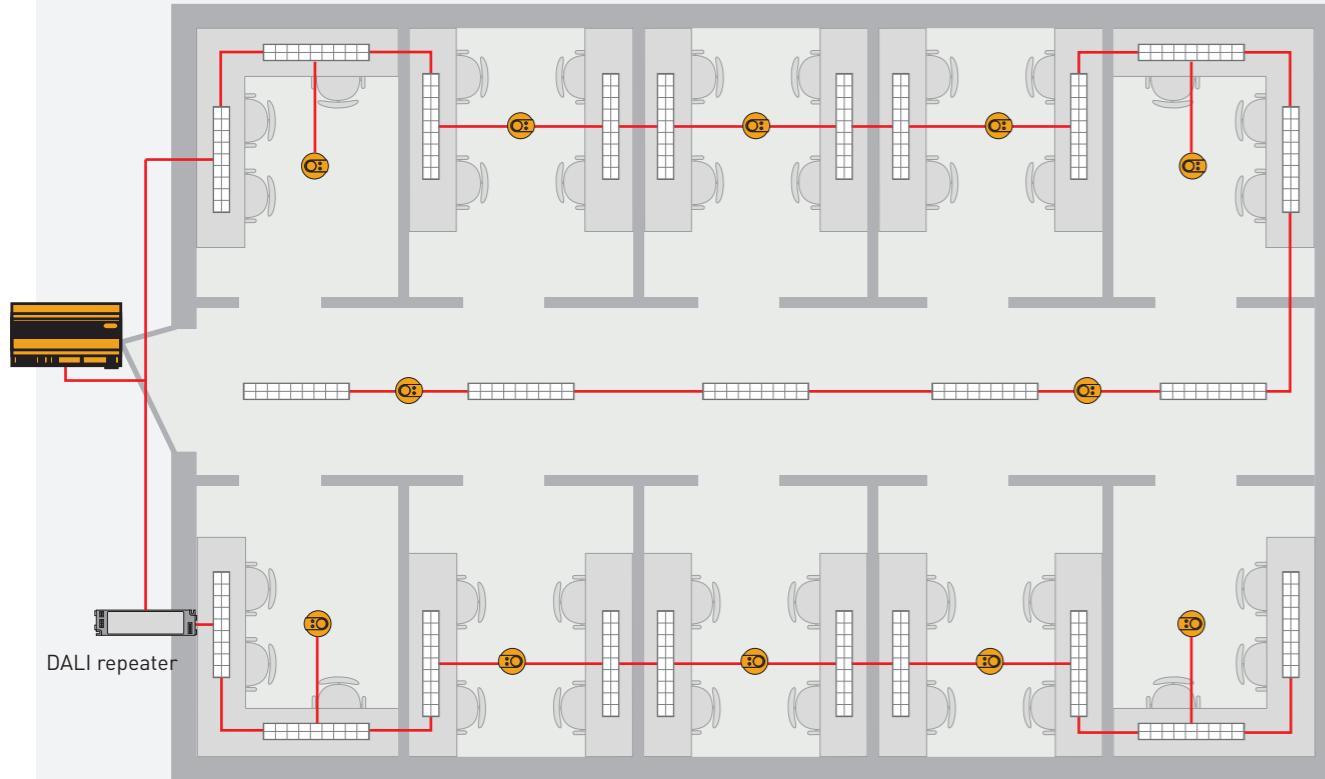
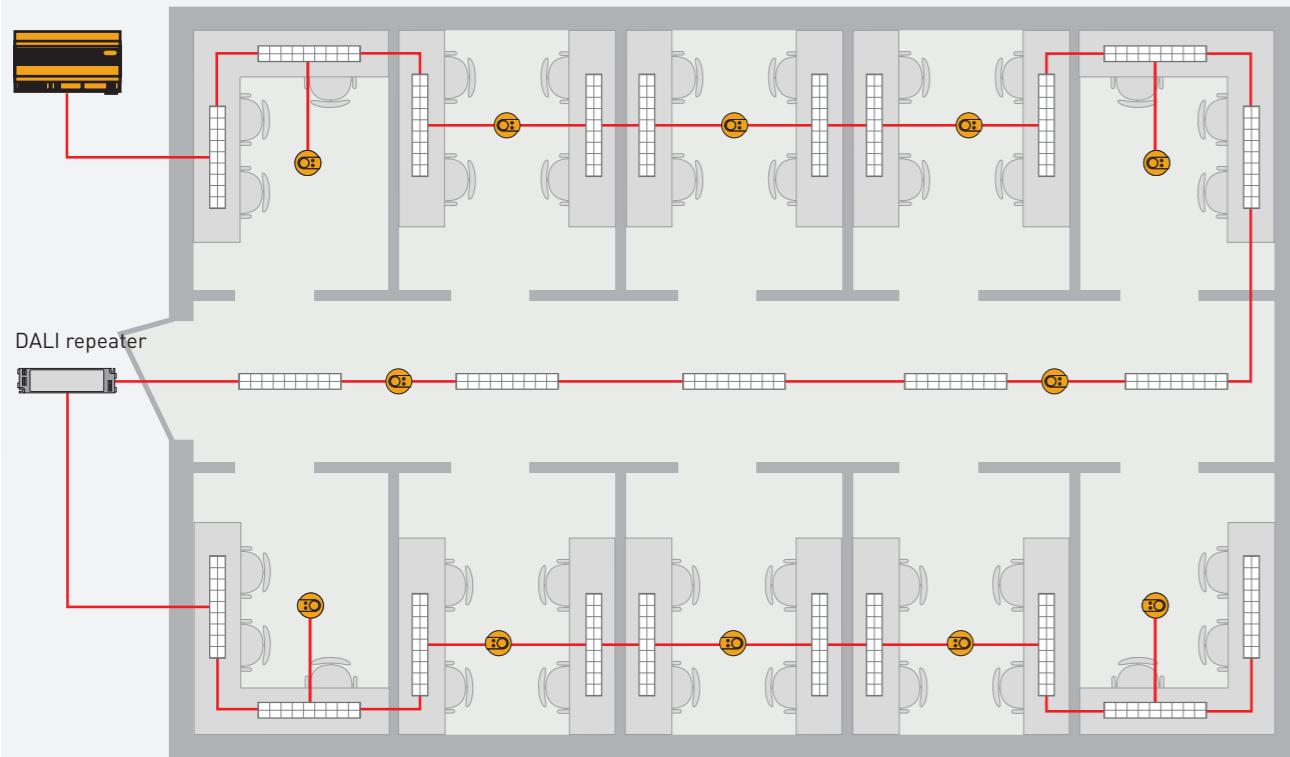
### Dimensions (mm)



### Wiring diagram



### Example Using our DALI Repeater



### ST7-X SCENETOUCH

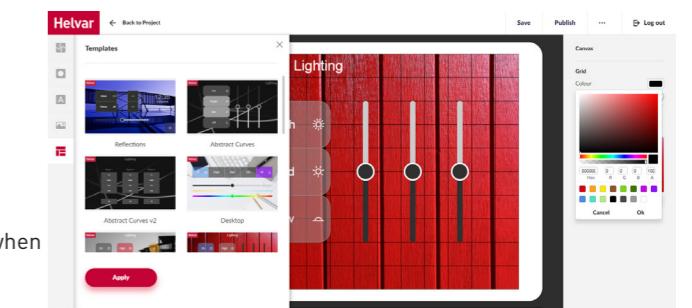
The SceneTouch7 Panel is a 7" capacitive touch, full-colour, high-resolution lighting control panel designed to work seamlessly with Helvar's router system. An easy-to-use, gesture-controllable and intuitive interface that is customisable to different applications via the SceneStudio online design tool. The product can be installed in solid or plasterboard walls using the supplied metal back box.

#### Key features

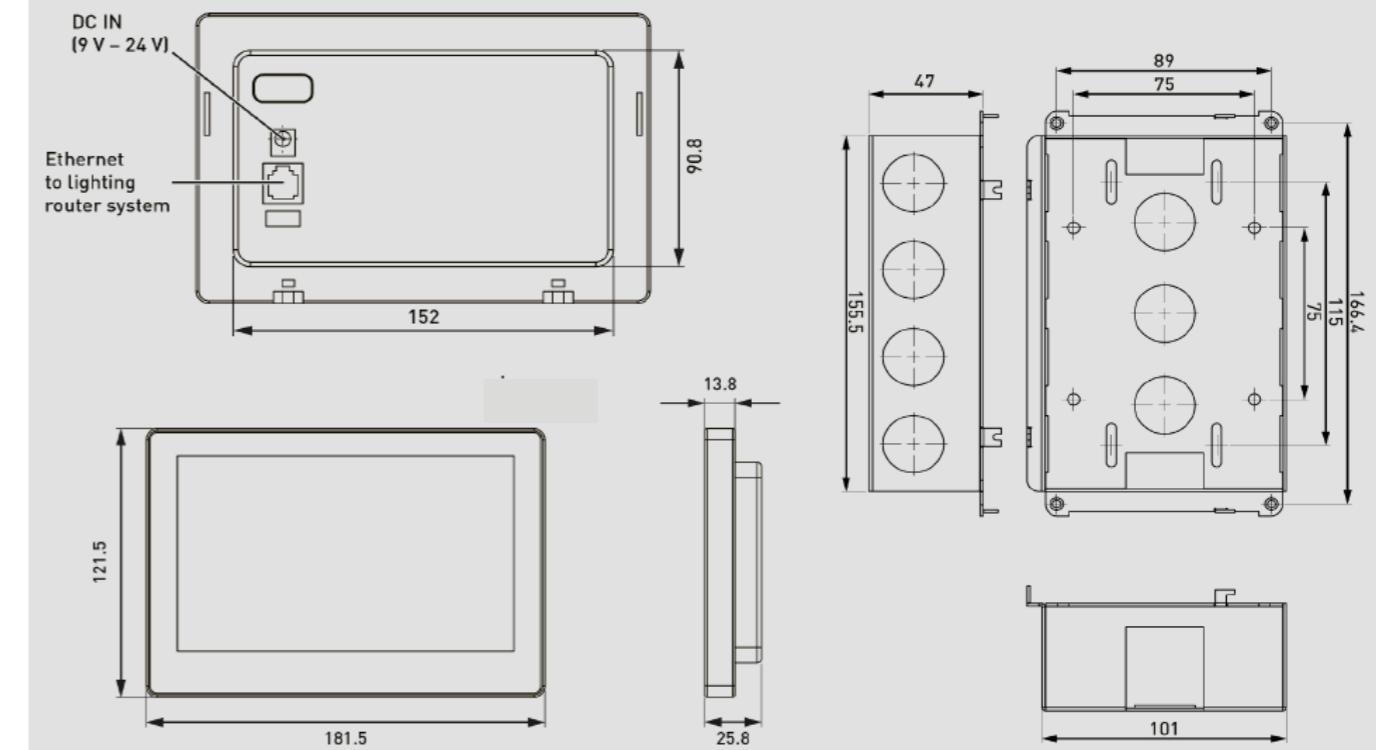
- Updates via the cloud
- Standard layouts are available but the layout can also be fully personalised
- Ethernet and WiFi
- Available in white and black

#### Technical data

Input supply.....	9 VDC - 24 VDC
Typical Power Consumption .....	6 W
Resolution .....	1024 x 600
Ambient Temperature .....	0 °C to +40 °C
Dimensions.....	181.5 x 121.5 x 25.8 mm
Weight.....	350g
Degree of protection.....	IP40 (accessible front parts when installed)



#### Dimensions and Connections



## 435 BACnet Gateway

Manage BACnet and building management system lighting data with this dependable interface for router systems.

### Key features

- Operates as BACnet server
- Helvar workgroup discovery tool
- Helvar router selector
- Automatic Helvar point identification
- BACnet/IP compatible
- Automatic BACnet instance labelling
- COV (change of value) BACnet feature
- Power supply included
- Browser programming interface

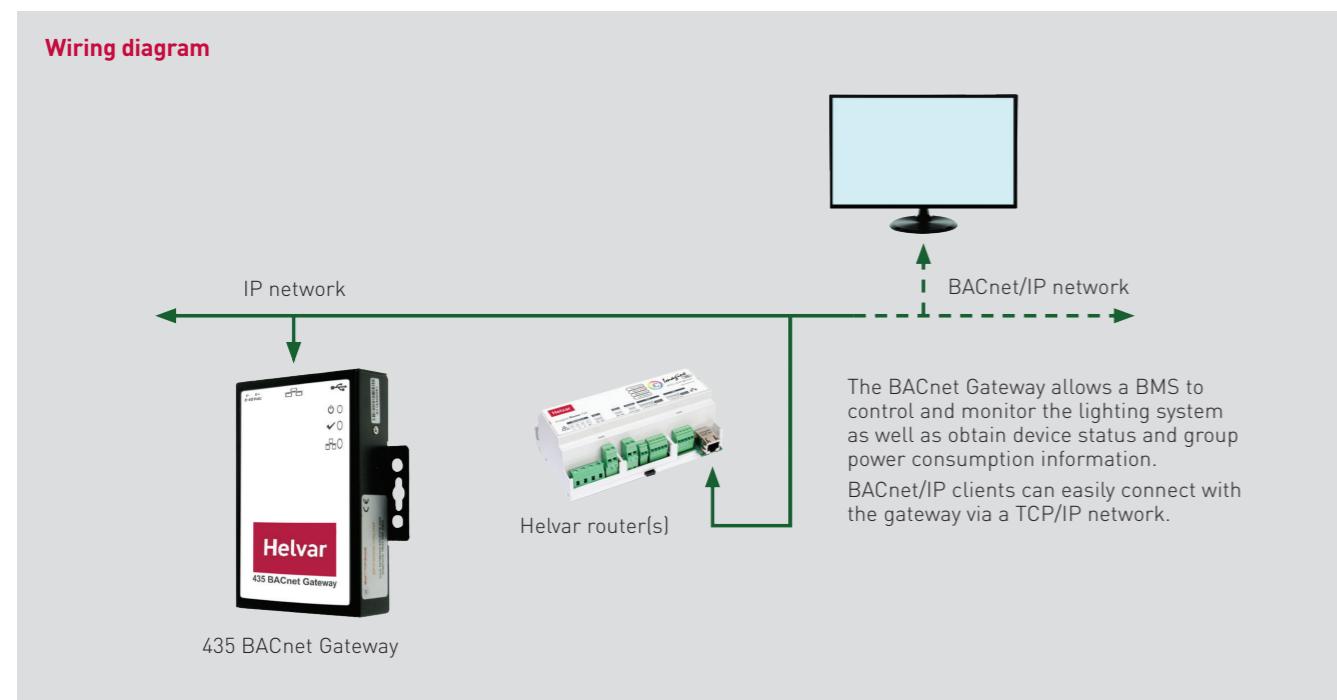
### Technical data

Power supply.....	9 VDC - 40 VDC
Power consumption.....	300 mA, 12 VDC 150 mA, 24 VDC
Operation in ambient temperature.....	0 °C to + 70 °C
Degree of protection.....	IP20

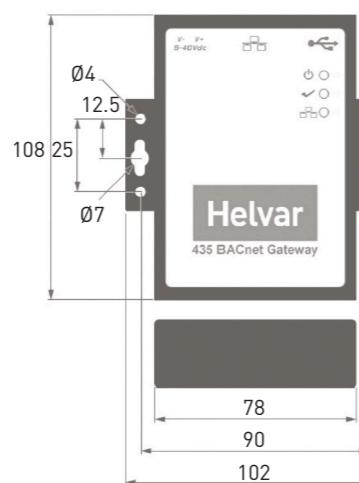
### Device limits

- Single workgroup
- 20 routers
- 300 groups
- 2000 BACnet / IP points

### Wiring diagram



### Dimensions (mm)



## HCG Helvar Cloud Gateway

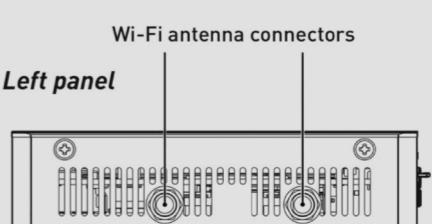
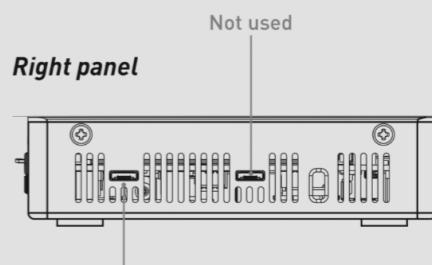
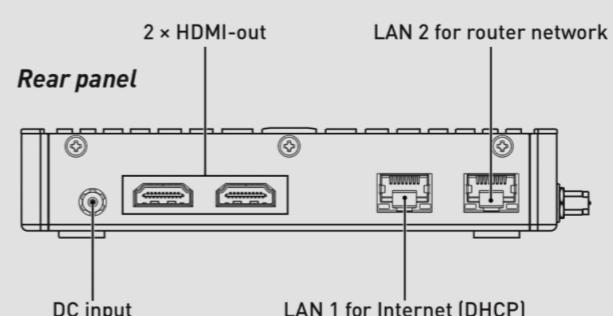
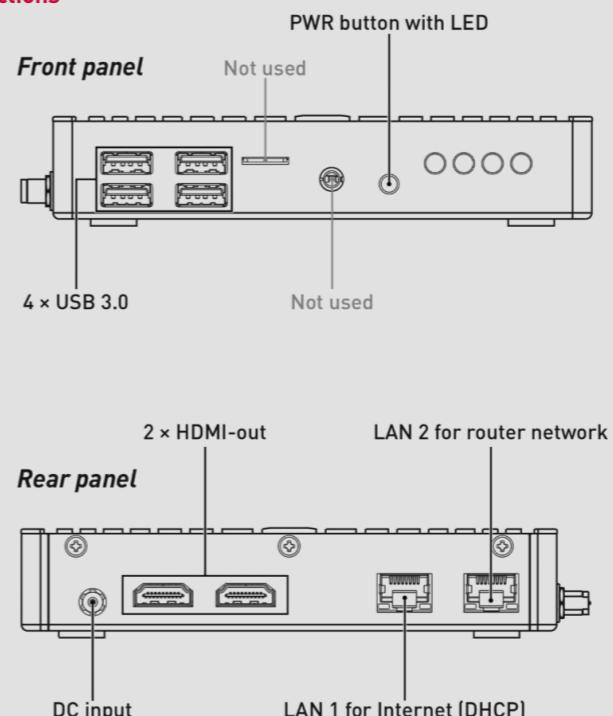
The Helvar Cloud Gateway (HCG) is a small-form-factor computer with leading performance and security. This is the device that uploads the data from the lighting system to Helvar's Cloud Platform via Ethernet or Wi-Fi. Authorised users can access the lighting system data via a browser-based web interface or a REST API.

### Key features

- Connectivity to Helvar Cloud Platform
- Easy setup and configuration
- Secure connection
- DIN-rail mounting option
- 12 VDC, 30 W AC/DC DIN-rail power supply included
- Screw connectors for desired cable length between HCG and PSU
- Power supply included



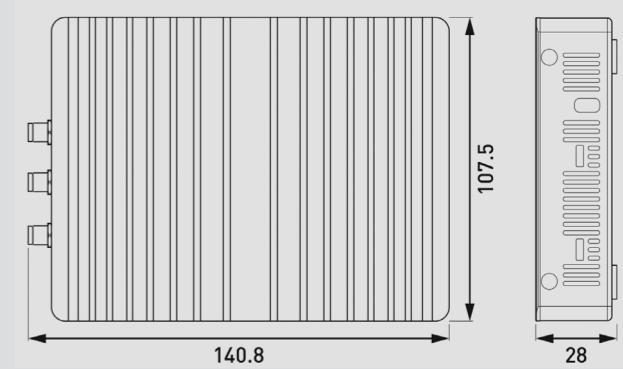
### Connections



### Technical Details

Input Voltage.....	12 VDC - 19 VDC
LAN 1.....	10/100/1000 Mbps Intel I210 GbE for router network.
LAN 2.....	10/100/1000 Mbps Intel I210 GbE.Wi-Fi..... 2 x Wi-Fi antenna
Dimensions .....	140.8 mm x 107.5 mm x 28 mm
Ambient Temperature.....	0°C to 40°C
Weight .....	0.56kg
Degree of protection .....	IP20

### Dimensions (mm)

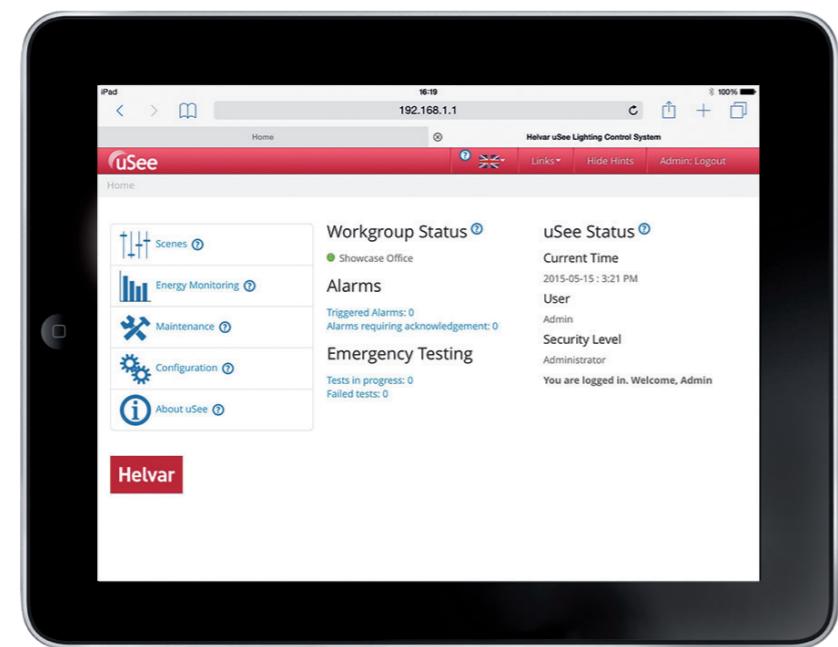




An easy-to-use, web-based visualisation tool for the monitoring and control of Helvar router-based systems.

uSee gives non-experts real power. It lets anyone adjust lighting scenes and create energy use reports through a simple, intuitive interface.

There's no Designer programming involved. The app scans your lighting system's Designer settings and translates them into various languages with just a tap.



## DALI SENSORS

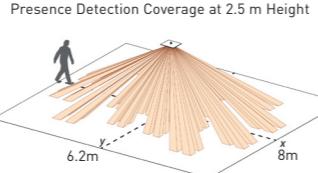
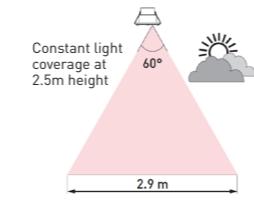
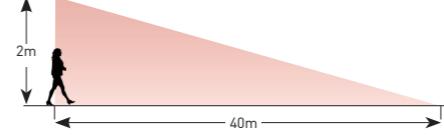
Light and movement sensors are the best way to make energy savings.

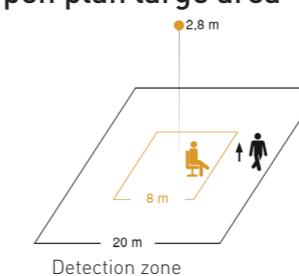
Our DALI range includes standalone sensors and sensors that fit inside your light fittings.

### DALI system sensors

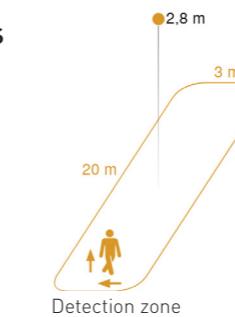
DALI sensors	Functionality	Motion detector	Constant light	Motion detection area	Comments/ Constant light reception area
	Low Profile Microwave Detector (313)	Microwave	-		-
	Tilting Microwave Detector (314)	Microwave	-		-
	Wall-mounted PIR Presence/Absence Detector (318)	PIR	-		Versions available: White Black
	PIR sensor (320) Also available in DALI-2 (320D2)	PIR	-		Versions available: White Black
	Ceiling PIR Presence / Absence Detector (321)	PIR	•		
	High Bay multisensor (322)	PIR	Bright-out		Versions available: White Black

**DALI system sensors**

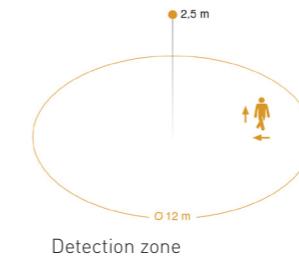
DALI sensors	Functionality		Motion detection area	Comments/ Constant light reception area
	Motion detector	Constant light		
	DALI External Light Sensor (329)	-	•	When mounted vertically: 85° from vertical; Horizontal plane: 360°
	Multisensor for RoomSet (331)	PIR	•	Presence Detection Coverage at 2.5 m Height  Constant light coverage at 2.5m height 
	Corridor PIR sensor (341)	PIR	-	

**STEINEL DALI-2 SENSORS FOR HELVAR****IR QUATTRO HD Open plan large area**

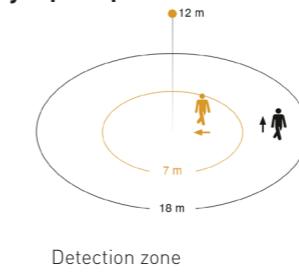
- Sensor Technology: Passive Infrared
- Optimum mounting height: 2.8 m
- Small movement detection: 8 x 8 m
- Large movement detection: 20 x 20 m
- DALI Current Consumption: 8mA max
- DALI-2 input device

**DUAL HF Corridors**

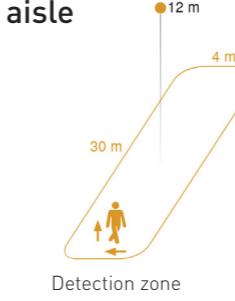
- Sensor Technology: High Frequency, 5.8 Ghz
- Optimum mounting height: 2.8 m
- Small movement detection: 20 x 3 m
- Large movement detection: 20 x 3 m
- DALI Current Consumption: 14mA max
- DALI-2 input device

**HF 360 Open plan areas with separators | Stairwells | WCs**

- Sensor Technology: High Frequency, 5.8 Ghz
- Optimum mounting height: 2.5 m
- Small movement detection: 12 m Diameter
- Large movement detection: 12 m Diameter
- DALI Current Consumption: 10mA max
- DALI-2 input device

**IS 3360 MX High bay open plan**

- Sensor Technology: Passive Infrared
- Optimum mounting height: 12 m
- Small movement detection: 14 m Diameter
- Large movement detection: 36 m Diameter
- DALI Current Consumption: 6mA max
- DALI-2 input device

**IS 345 MX High bay aisle**

- Sensor Technology: Passive Infrared
- Optimum mounting height: 12 m
- Small movement detection: 30 x 4 m Diameter
- Large movement detection: 30 x 4 m Diameter
- DALI Current Consumption: 6mA max
- DALI-2 input device

## 313 Low-Profile Microwave Detector

Microwave technology means our 313 sensor reacts immediately to any motion, helping to maximize energy savings. It's got an infrared receiver for remote control too. You can mount it in suspended ceilings or in a case on wall surfaces using mounting box SBB-A.

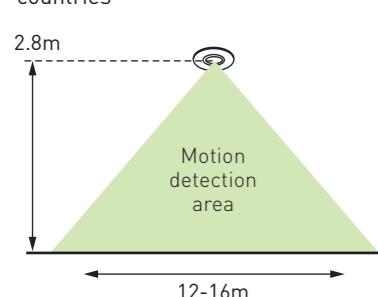
### Key features

- The microwave sensor detects movement within the detection range allowing load control in response to changes in room occupancy.
- The IR receiver receives control and programming commands from a 303 IR (infrared) handset (available separately).

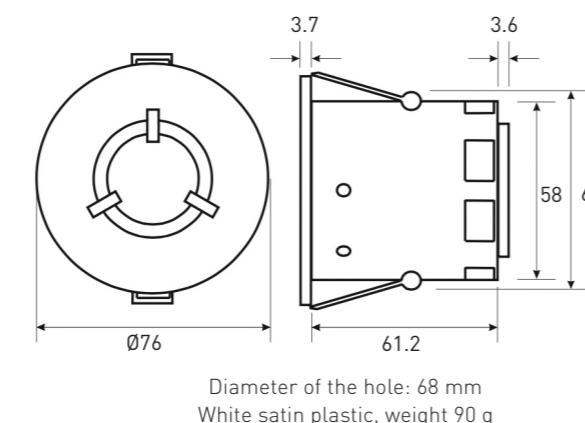


### Technical data

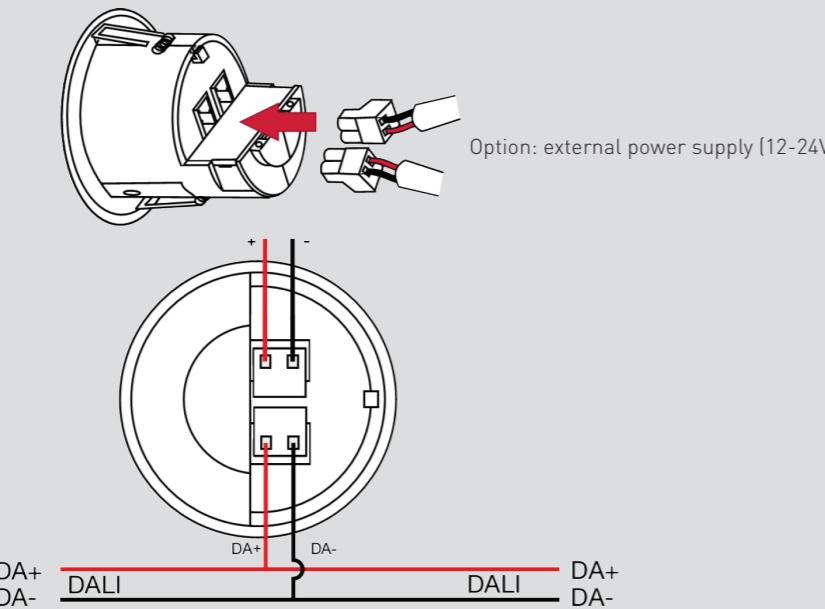
Current consumption from the DALI bus ..... 20 mA (2mA with separate supply)  
Ambient temperature ..... 0 °C to 35 °C  
Degree of protection ..... IP30  
Number of DALI addresses ..... 1  
Operation frequency ..... 5.8GHz, available in selected countries



### Dimensions (mm)



### Wiring diagram



## 314 Tilting Microwave Detector

Its tilting head means our 314 sensor can be optimized for the detection area you need. Microwave technology means it reacts to any motion, helping boost energy savings. You can mount it in suspended ceilings or in a case on wall surfaces using mounting box SBB-B. There's an infrared receiver for remote control too.

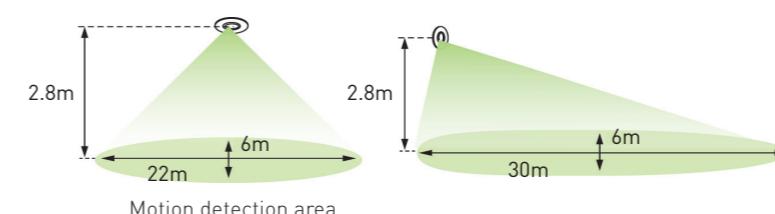
### Key features

- The microwave sensor detects movement within the detection range allowing load control in response to changes in room occupancy.
- The IR receiver receives control and programming commands from a 303 Infrared Remote Control (available separately).

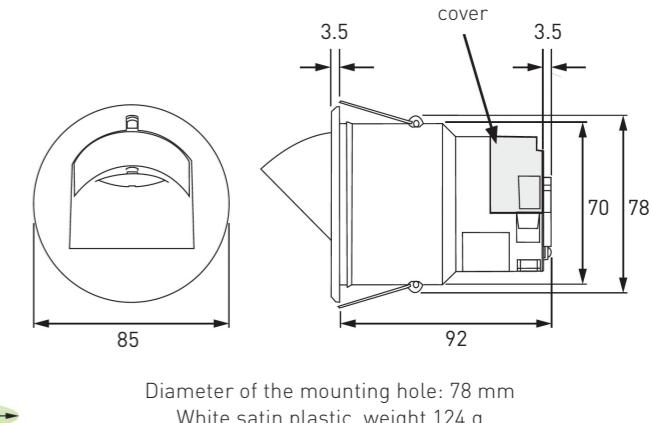


### Technical data

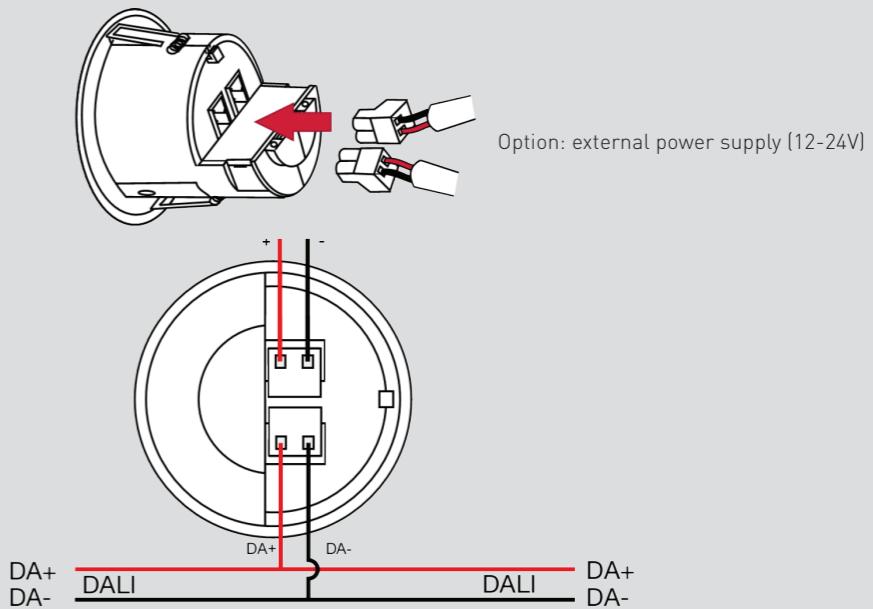
Power consumption from the DALI bus ..... 40 mA (2mA with separate supply)  
Ambient temperature ..... 0 °C to 35 °C  
Degree of protection ..... IP30  
Number of DALI addresses ..... 1  
Operation frequency ..... 5.8GHz, available in selected countries



### Dimensions (mm)



### Wiring diagram



## 318 Wall-Mounted PIR Presence/Absence Detector

Perfect where ceiling installation just isn't possible, and in corridors or small rooms.

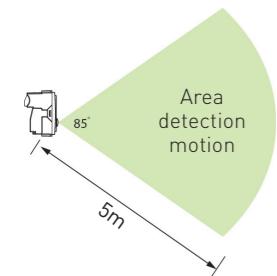
With a built in control button, you can also dim the lighting or turn it on or off straight from the sensor just like our standard wall panel.

### Key features

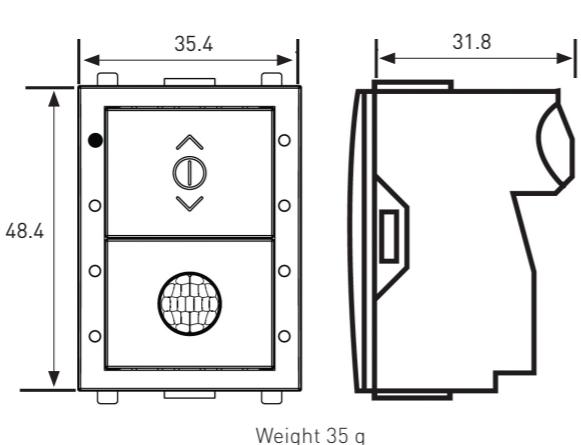
- Controls lighting loads based on presence/absence detection
- 5 m detection range
- Manual Override/Dimming button built in
- For wall mounting using Helvar panel surrounds
- Available in black or white finish to match the Helvar button panel range
- Simple connection and integration into a Helvar DALI control network
- Programmable in Designer™ and DIGIDIM Toolbox™

### Technical data

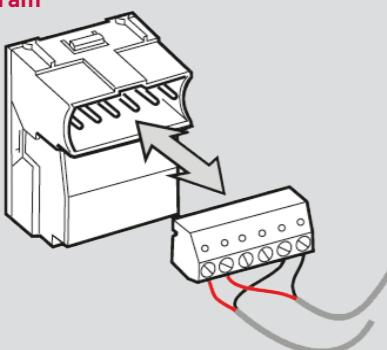
Power consumption from the DALI bus..... 10 mA  
 Ambient temperature..... 0 °C to 40 °C  
 Degree of protection..... IP30 (except connectors)  
 Number of DALI addresses..... 1



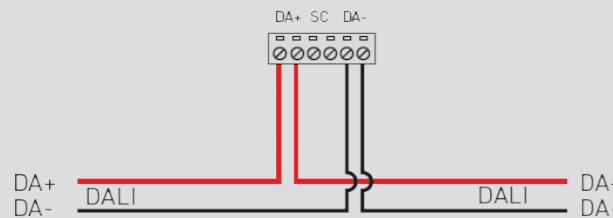
### Dimensions (mm)



### Wiring diagram



### Finish



## 320 PIR sensor

This easy-to-install PIR sensor has enhanced sensitivity in standard room heights. DALI- compatible, it's perfect for uses where movements can be subtle — such as classrooms during exams, or in quiet office environments - and because it's less reliant on movement detection than most compact sensors, you can cover a bigger target area using less units.

The 320 mounts into a ceiling void or can be surface-mounted with our SBB boxes (see page 70).

The 320P is also available, with degree of protection IP65.

The 320D2 is also available as the DALI-2 certified PIR for connection to DALI-2 Multi-master application controllers.



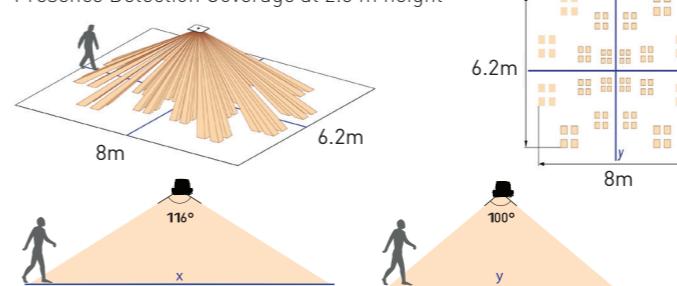
### Key features

- Excellent detection through high sensitivity and multidirectional coverage
- 10mA DALI current consumption
- Compact and functional design
- Programmable in Designer and Toolbox

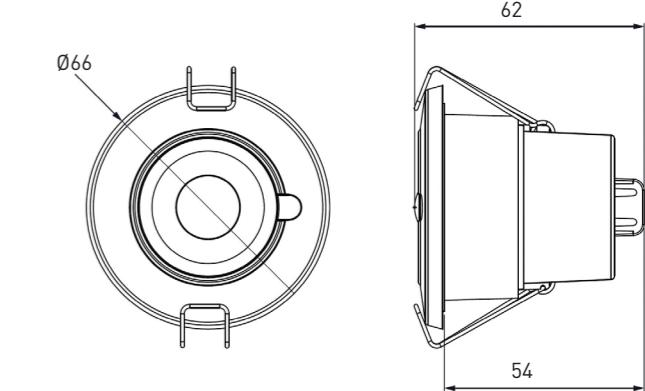
### Technical data

Power consumption from DALI bus 10 mA  
 Ambient temperature 0 °C to 50 °C  
 Degree of protection IP30 [IP20 cable cover] / IP65  
 Number of DALI addresses 1

### Presence Detection Coverage at 2.5 m height

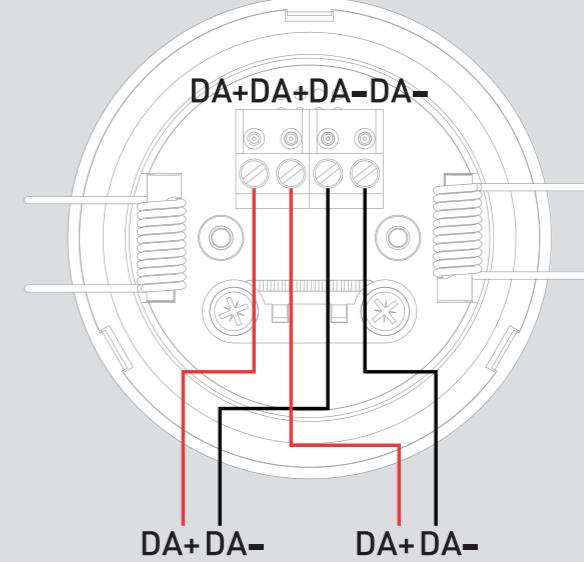


### Dimensions (mm)



Diameter of the mounting hole: 52 mm - 55 mm  
 White satin plastic. Weight 66.3 g

### Wiring diagram



## 321 Multisensor

This compact sensor combines a photocell for constant light control with passive infrared detection, saving energy in all DALI systems. Its excellent detection ability makes it ideal where movements might be only gradual, such as in classrooms or offices.

For wall mounting, refer to page 70 for SBB boxes.

The 321P is also available, with degree of protection IP65.

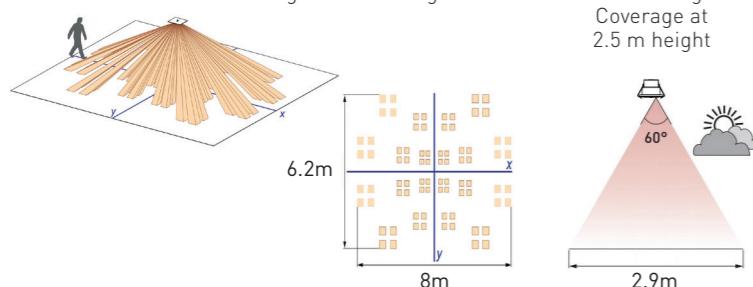
### Key features

- Excellent detection performance through high sensitivity and multidirectional coverage.
- Programmable constant light control for energy efficiency.
- 10mA DALI current consumption.
- Compact and stylish design.
- Available in either white or black.

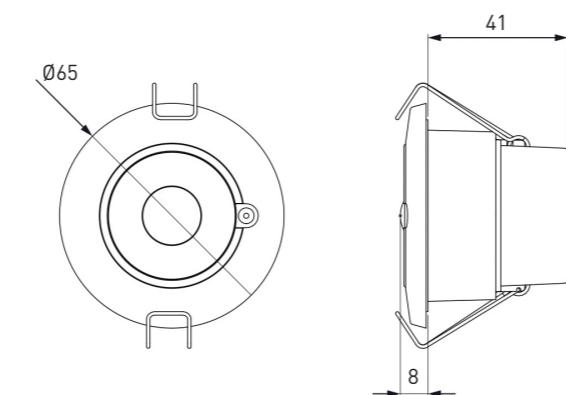
### Technical data

Power consumption from the DALI bus ..... 10 mA  
Ambient temperature ..... 0 °C to 50 °C  
Degree of protection ..... IP30 / IP65 for 321P  
Number of DALI addresses ..... 1

#### Presence Detection Coverage at 2.5 m height

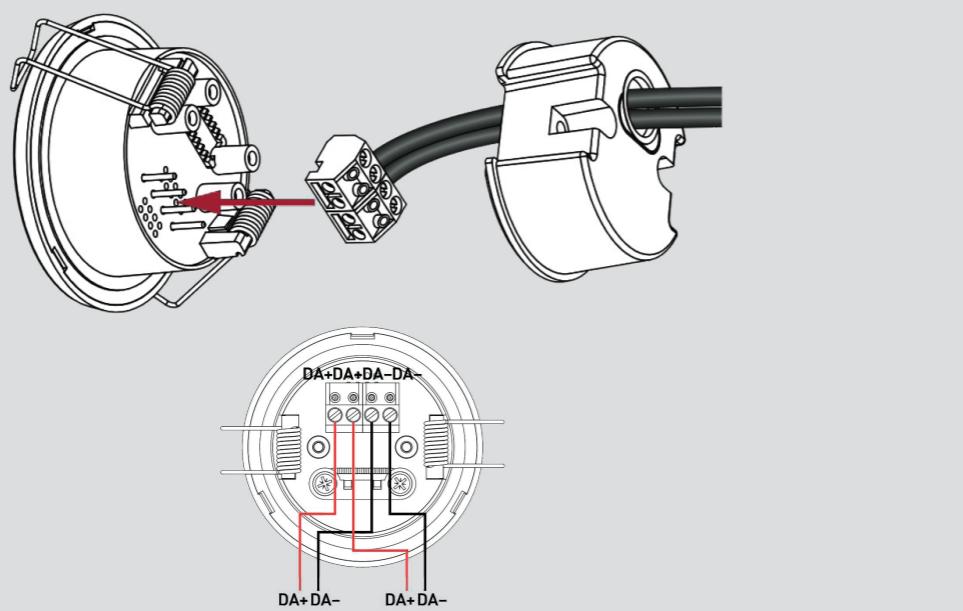


### Dimensions (mm)



Diameter of the mounting hole: 52 - 55 mm  
White satin plastic, weight 66.3 g

### Wiring diagram



## 322 High Bay Multisensor

Automatically control lighting loads in spaces too high for most sensors. The 322 is sealed against water and dust, making it perfect for storage areas or factories. And because it's less dependent on motion detection than other compact sensors, you can cover large areas with fewer units. With a brightness control function, you can also set lights to come on as soon as natural light falls below a set threshold.

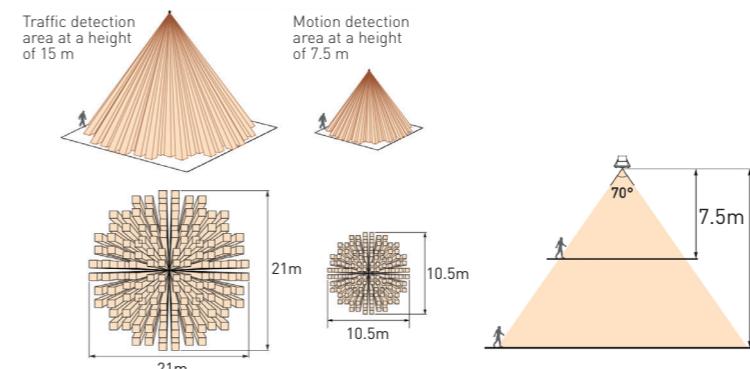


### Key features

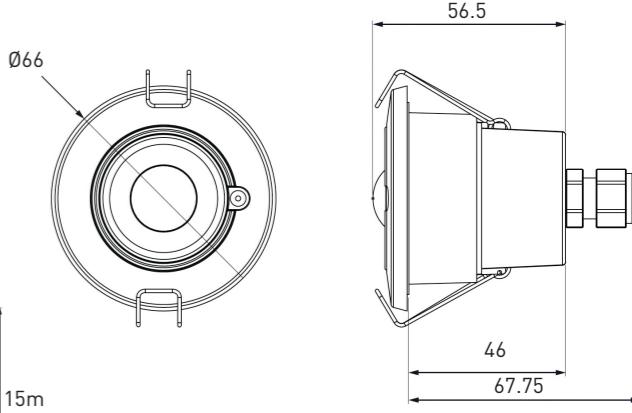
- Excellent detection performance through high sensitivity and multidirectional coverage
- Suitable for applications with very high ceilings
- Protected against dust and water (IP65)
- Programmable bright-out control for energy efficiency
- Simple connection and integration into a Helvar DALI control network.
- Programmable in Designer and Toolbox.
- Available in either white or black.

### Technical data

Power consumption from the DALI bus ..... 10 mA  
Ambient temperature ..... 0 °C to 50 °C  
Degree of protection ..... IP65

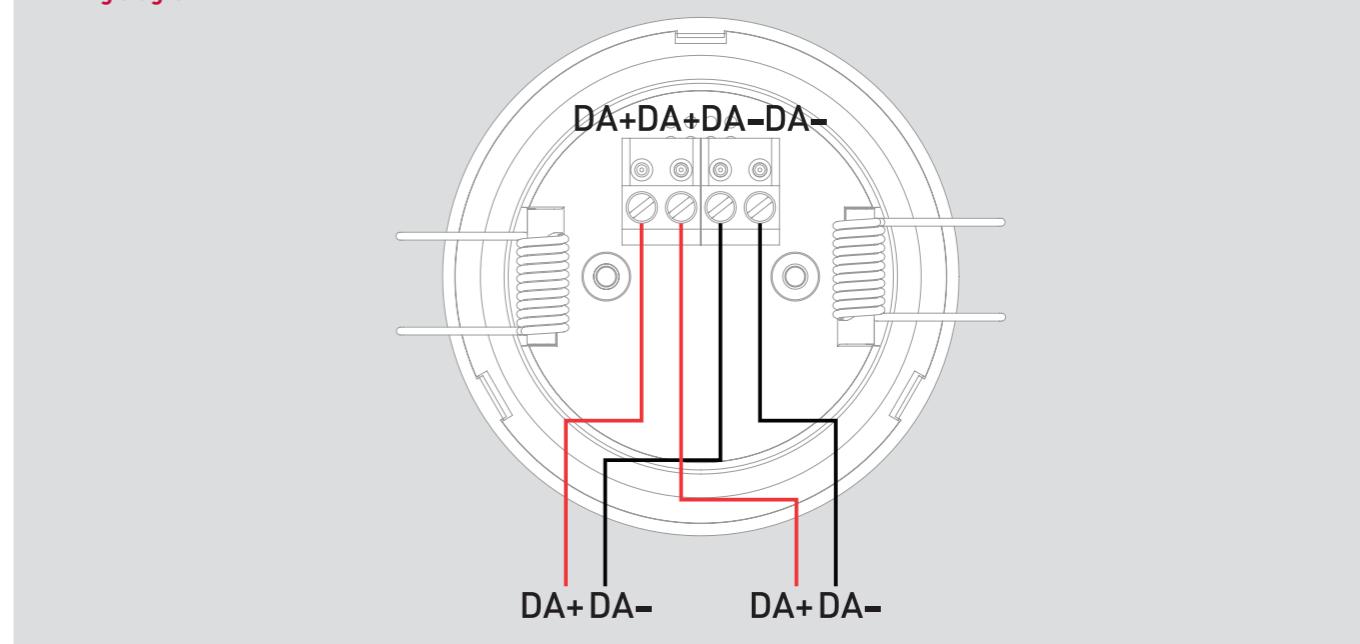


### Dimensions (mm)



Diameter of the mounting hole: 52 mm - 55 mm  
White satin plastic. Weight 70 g

### Wiring diagram



## 329 DALI External Light Sensor

Our 329 sensor works exclusively in Helvar network systems. It adjusts the power of the lights in relation to available daylight. And with its sealed head, it gives you IP65 protection and can withstand a wide temperature range. Saving energy and working reliably in some of the toughest outdoor conditions.

### Key features

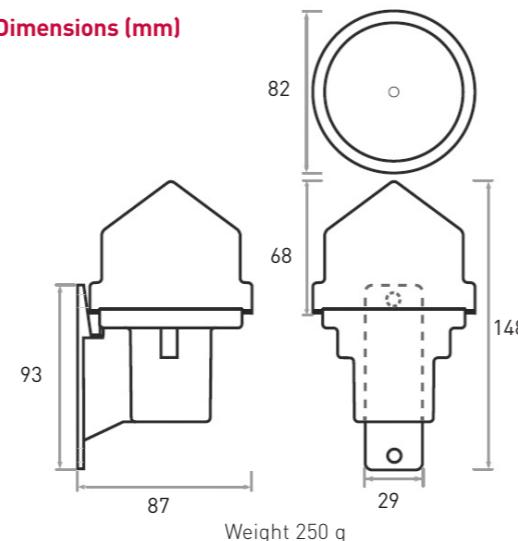
- Open loop light control
- Light range of 1 lx – 100 000 lx
- Simple mounting
- Easy connection to Helvar router system



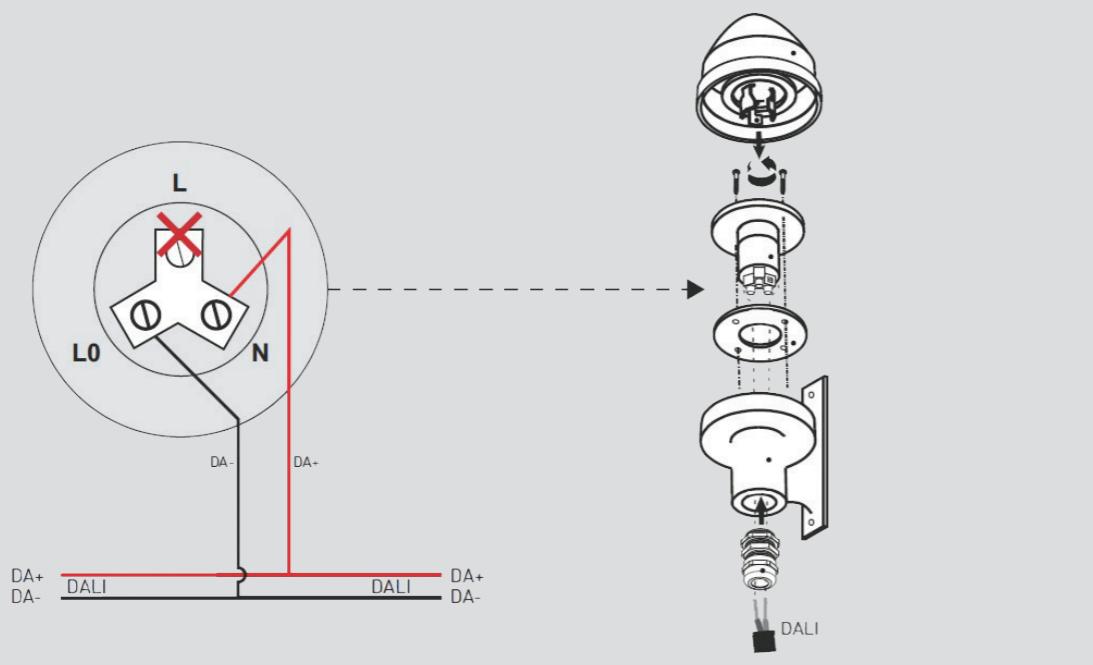
### Technical data

Power consumption from the DALI bus.....	10 mA
Measurement range after mounting vertically.....	85 ° from the vertical; 360 °
Horizontal plane.....	360 °
Measuring range.....	1-100 000 lux
Ambient temperature.....	-35 ° C to 75 ° C
Degree of protection.....	IP65
Number of DALI addresses.....	1

### Dimensions (mm)



### Wiring diagram



## 331 MultiSensor for RoomSet

The 331 Multisensor for RoomSet is a compact unit that combines a light sensor for constant light control, a passive infrared (PIR) presence detector provides energy-saving functions in a DALI system and Bluetooth low energy connectivity. It acts as the central control unit for Helvar's RoomSet solution.

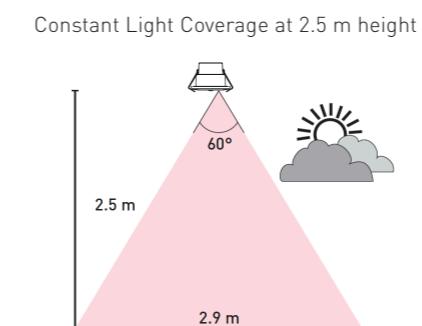
### Key features

- Excellent detection performance through high sensitivity and multidirectional coverage
- Programmable constant light control for energy efficiency
- Easily incorporated into RoomSet system/app.
- Simple "Over the Air" system upgrades with RoomSet
- Modern, compact and functional design

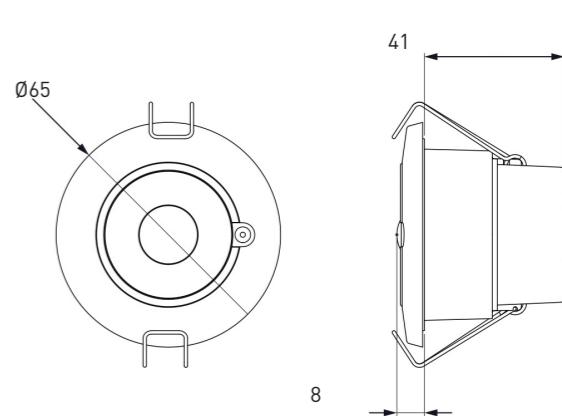


### Technical data

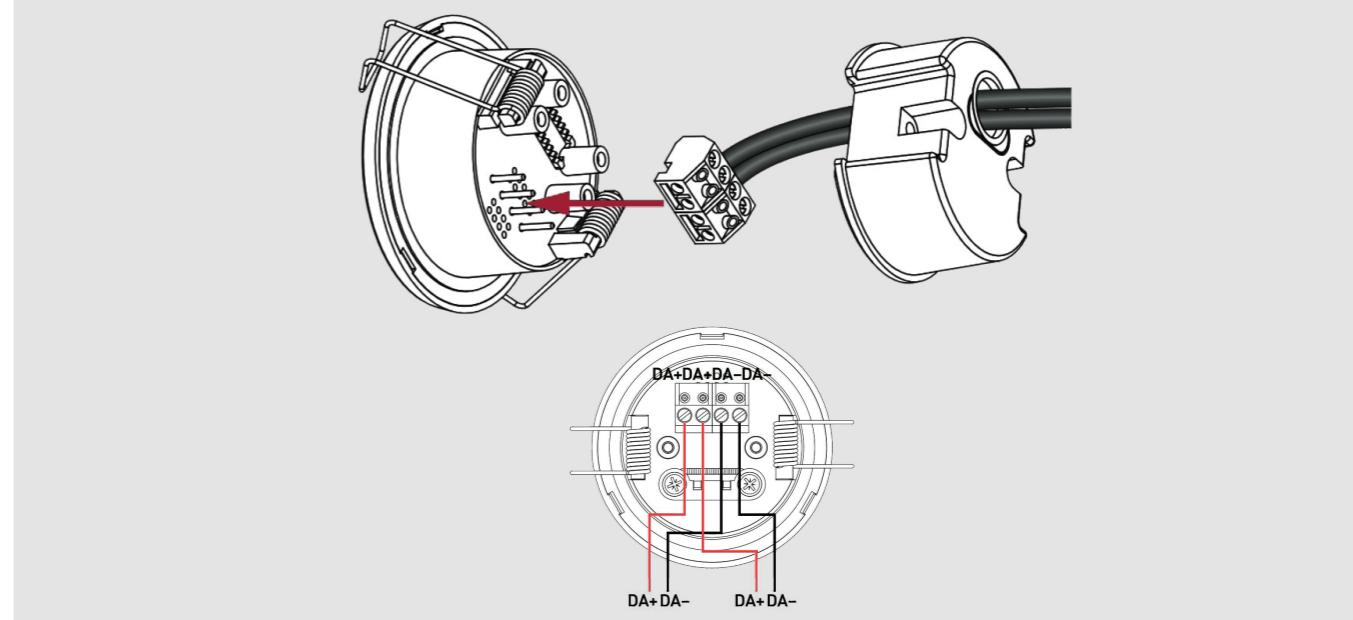
Power consumption from the DALI bus.....	40mA
Ambient temperature.....	0 ° C to 50° C
Degree of protection.....	IP30
Number of DALI addresses.....	1



### Dimensions (mm)



### Wiring diagram



## 341 Corridor Sensor

Specially designed for mounting in corridors, the 341 sensor has a wide angle of 100 degrees and a long detection area of up to 41 metres. You can choose from two motion detection modes: one for spaces with frequent activity such as corridors in hospitals, offices and busy warehouses. And one for those with less frequent movement, such as corridors in schools or outside hotel bedrooms.

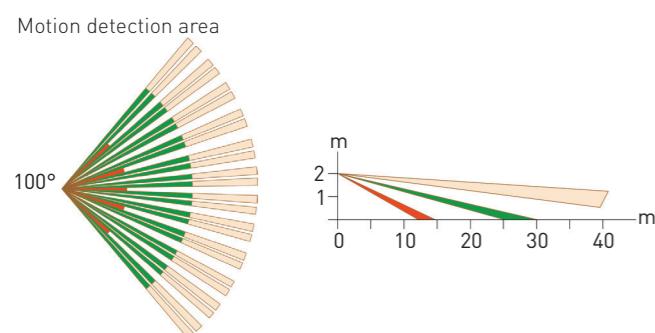
The 341's sensitivity, detection mode and LED indicators can be set straight from the circuit board.

### Key features

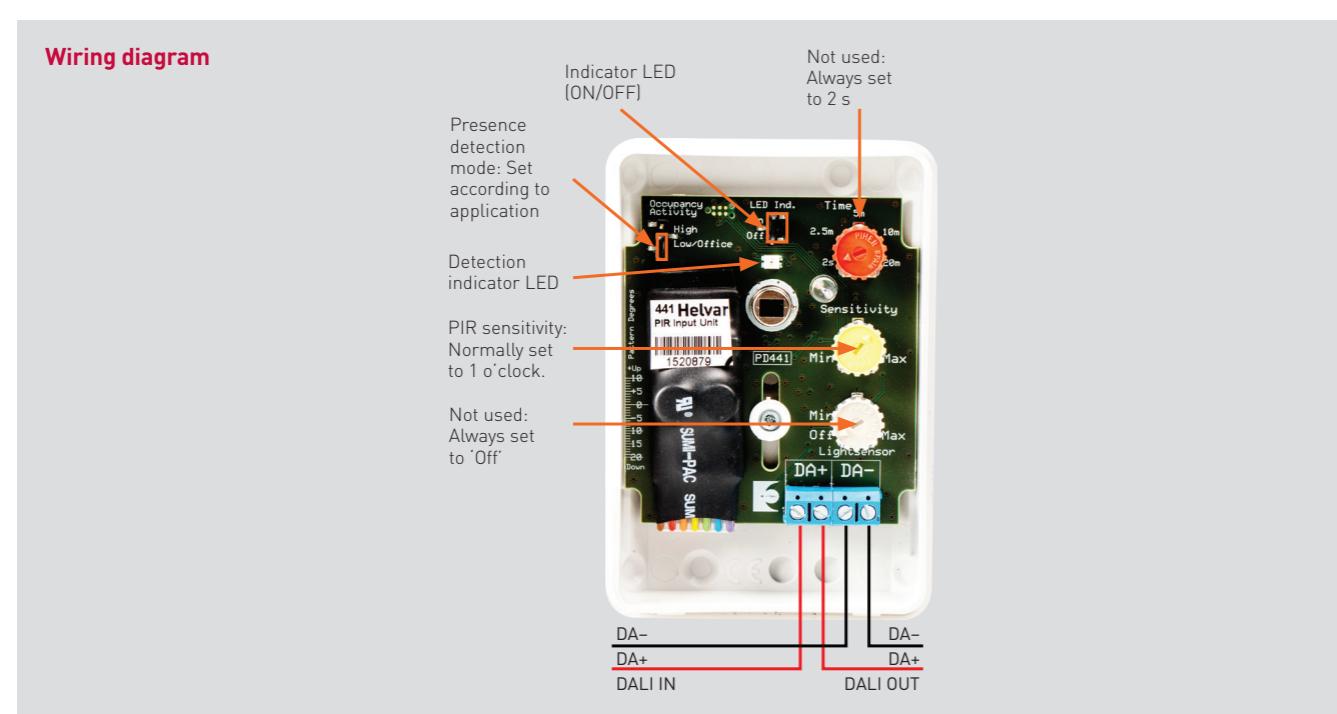
- Control of long corridors (up to 41 metres) with one sensor
- 20 mA DALI current consumption
- Two presence detection modes for different environments
- Configurable presence delay and time-out
- Programmable in Designer and Toolbox
- Accessory lenses available for special applications

### Technical data

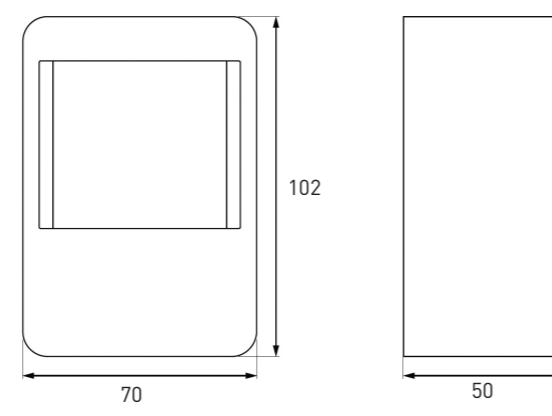
Power consumption from the DALI bus ..... 20 mA  
 Ambient temperature ..... 0 °C to 40 °C  
 Degree of protection ..... IP42  
 Number of DALI addresses ..... 1



### Wiring diagram



### Dimensions (mm)



White satin plastic. Weight 93 g

## Surface mounting boxes SBB-A, SBB-B, SBB-C, SBB-D, SBB-P

These are surface mounting boxes for use with the following sensors:

- 311 PIR Detector
- 312 Multisensor
- 313 Low-Profile Microwave Detector
- 314 Tilting Microwave Detector
- 317 High-Bay PIR Presence/Absence
- 320 PIR sensor
- 321 Multisensor
- 322 High-Bay



For full installation/fitting details, please refer to the relevant datasheet, available on [helvar.com](http://helvar.com)

SBB-A (white) /  
SBB-AB (black):  
311, 313, 317

SBB-B:  
314

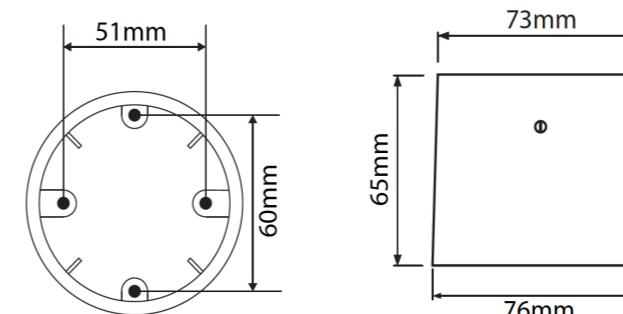
SBB-C (white) /  
SBB-CB (black):  
312, 320, 321, 331

SBB-D (white) /  
SBB-DB (black):  
320P, 321, 321P,  
322, 331

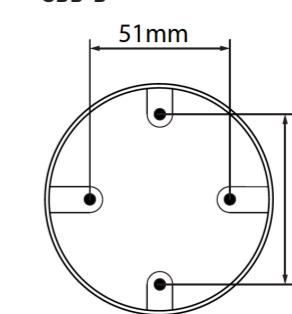
SBB-P:  
317

### Dimensions (mm)

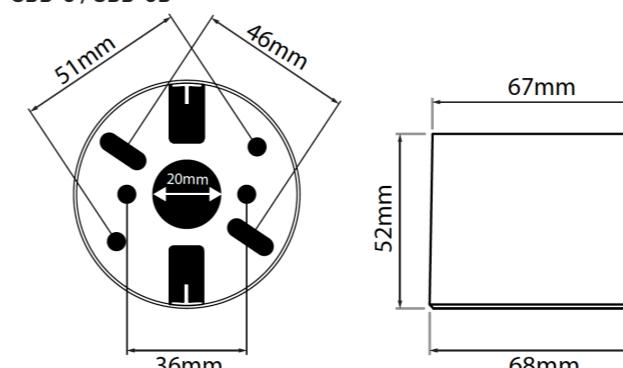
SBB-A / SBB-AB



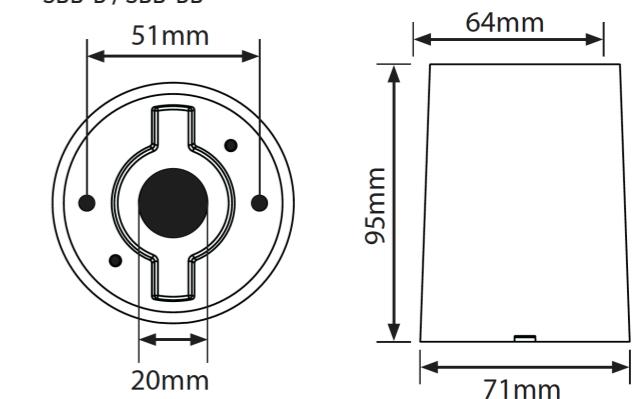
SBB-B



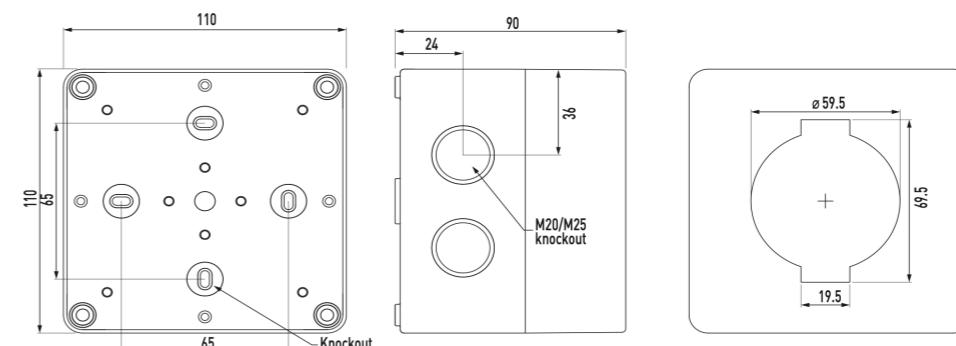
SBB-C / SBB-CB



SBB-D / SBB-DB



SBB-P



## ENOCEAN

EnOcean systems use innovative radio technology that works without any batteries. Electricity self-generates through tiny converters — often powered by the press of a switch. EnOcean in Europe runs on the 868 MHz band and supports bidirectional communication.

### Features

- Easy integration with DALI
- Up to 20 EnOcean connectors per gate
- Multiple gateways in the DALI system
- 30 metre range
- 868 MHz ISM band (Europe)
- International standard 14543



EnOcean. For smarter, greener spaces.



No wires



No batteries



No limits

## 434 EnOcean Gateway

Our 434 EnOceanGateway lets you connect wireless and battery-free EnOcean controls to a Helvar DALI lighting network. It can be mounted on ceilings or walls, and only needs one electrical connection to a DALI network.

### Key features

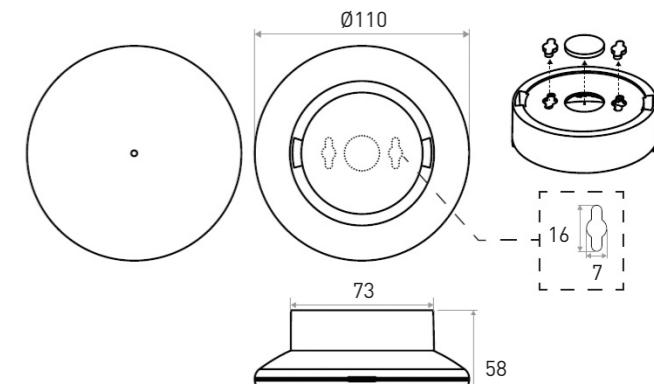
- Integrate wireless, battery-free connectors to the DALI network.
- Easy to install
- Powered by the DALI network
- Up to 20 connectors (18xx) can work with one Gateway.



### Technical data

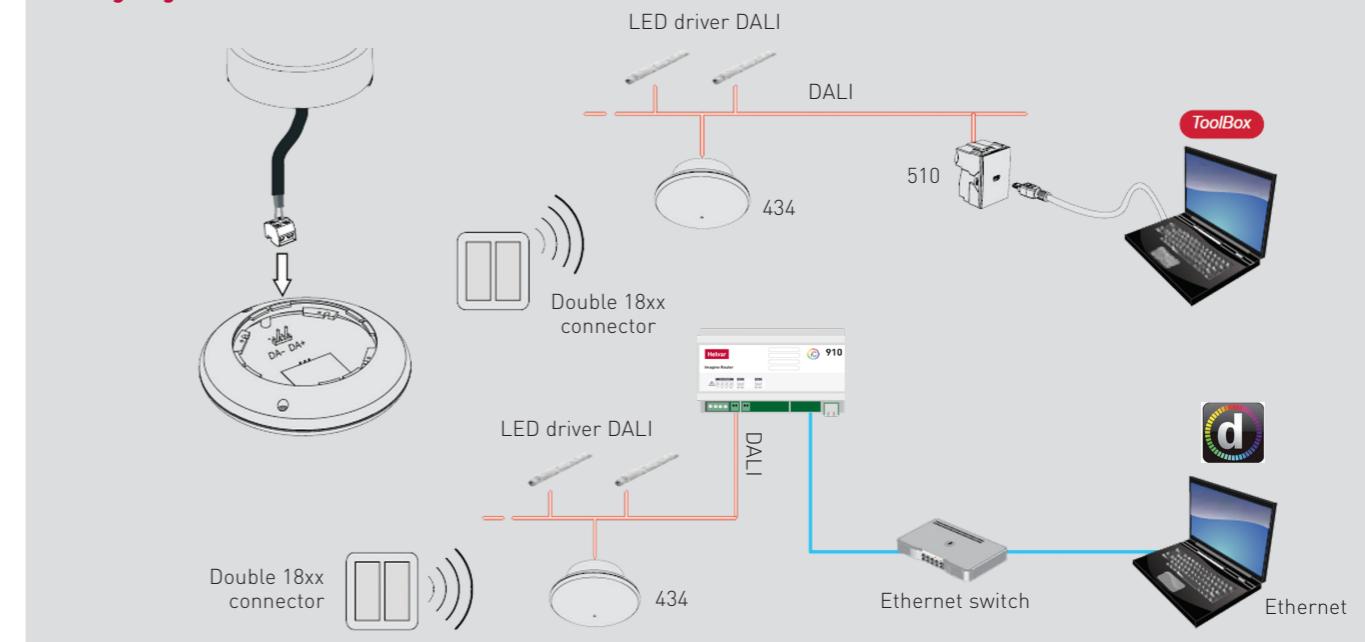
Power consumption from the DALI bus ..... 20 mA  
 Frequency ..... 868 MHz ISM (Europe)  
 Wireless range ..... 30 meters (free space)  
 Number of connectors ..... a maximum of 20  
 Ambient temperature ..... 0 °C to 50 °C  
 Degree of protection ..... IP30  
 Number of DALI addresses ..... 1+ 1-20

### Dimensions (mm)



Weight 75 g

### Wiring diagram

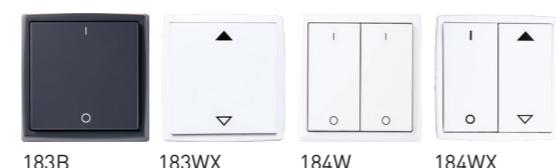
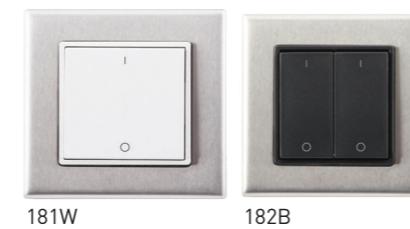


## 18xx EnOcean switches

Our 18xx switches are designed to work with our 434 EnOcean Gateway, which can support up to 20 switch panels. Each one is fully programmable through our Designer or Toolbox software.

### Key features

- Available single and double connector in white (W) and black (B)
- Wireless communication, no battery required
- EnOcean RF technology
- Simple installation: double-sided tape (included) or with screws



### Technical data

Frequency..... ISM band 868 MHz (Europe)  
Operating range ..... 30 m (free space)  
Ambient temperature..... 0 °C to 50 °C  
Degree of protection..... IP30  
Number of DALI addresses..... 1 per connector

### Order number

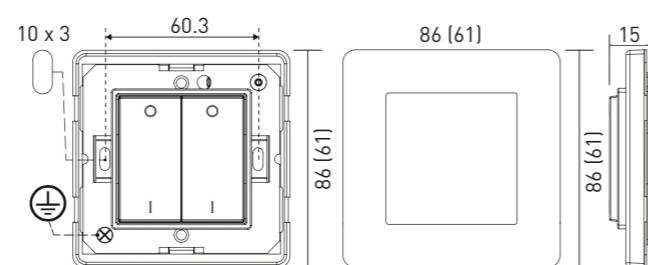
Stainless steel frame

- Single connector: 181B (black) / 181W (white)
- Double connector: 182B (black) / 182W (white)

Plastic frame

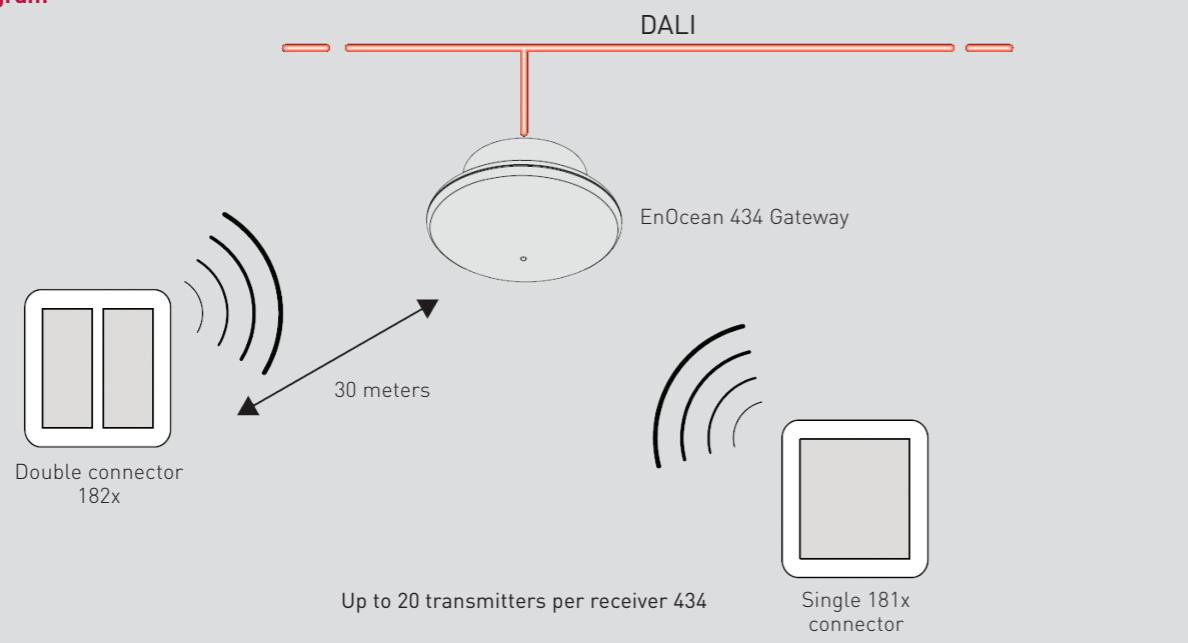
- Single connector: 183B (black) / 183W (white)
- Double connector: 184B (black) / 184W (white)
- Single connector: 183WX (white)
- Double connector: 184WX (white)

### Dimensions (mm)



[] = dimensions for 183x and 184x  
Weight 150 g

### Wiring diagram

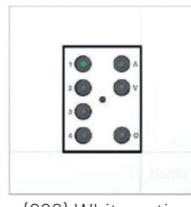


## 12x DIGIDIM Modular Panels

The 12x panels let you make basic adjustments to DALI lighting systems. Each one has a status light and infrared receiver, allowing you to use our infrared remote control. The range includes pushbuttons, dials and sliders in a choice of finishes.

### Key features

- Out-of-box operation, supplied preprogrammed
- Easily reconfigured and fully programmable
- Designed to fit both DIN and UK standard back boxes
- Double-gang version can take three independent modules



[200] White satin plastic



[201] Polished brass



[202] Brushed stainless steel

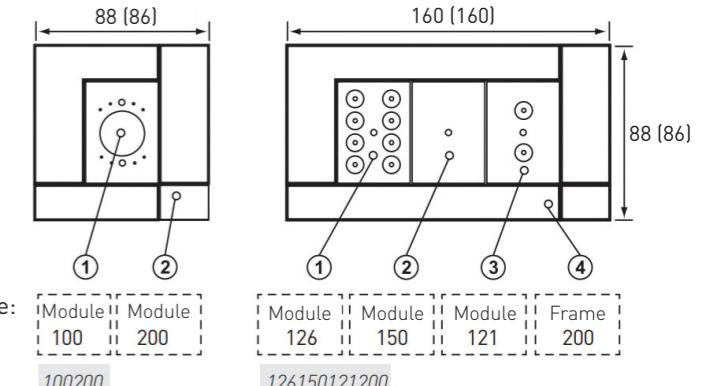


[203] Stainless steel with a grey insert

### Technical data

Power consumption from the DALI bus..... 10 mA  
Ambient temperature..... 10 °C to 35 °C  
Degree of protection..... IP30  
Number of DALI addresses..... 1 per module

### Dimensions (mm)



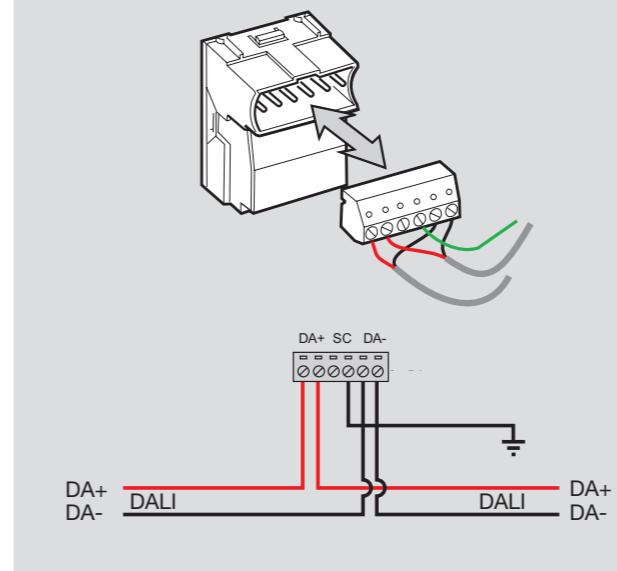
Example:  
Module 1 Module 2  
100 100 200  
100200

Module 1 Module 2 Module 3 Module 4 Frame  
126 126 150 121 200  
126150121200

[] = Dimensions when using a metal frame

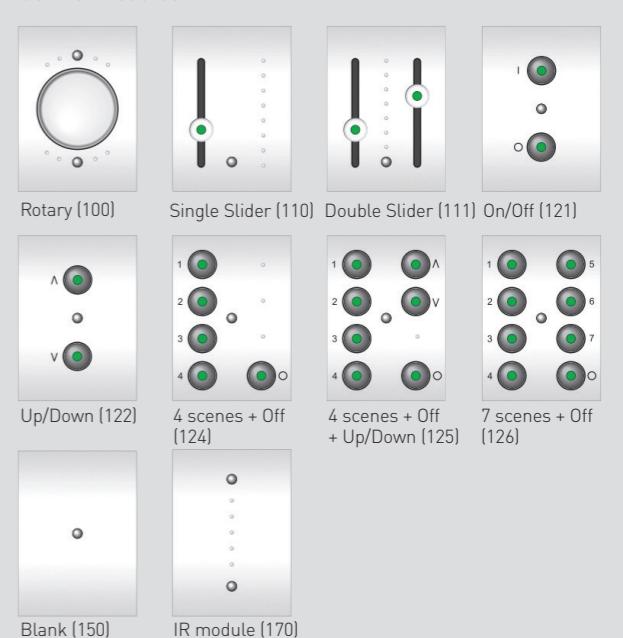
### Order number: see photos

### Wiring diagram



Complete control panel = 1xx + 2xx

### Control modules



## 13xx Modular Panels

Designed for DALI, our 13xx panels are built to be easily customisable. They'll work with our DIGIDIM remote controls, so it's simple to take charge of most functions and carry out routine programming.

### Key features

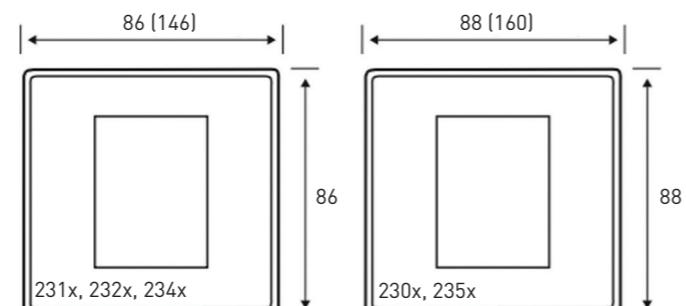
- Choice of black (B) or white (W) modules.
- 13xxD2 is also available as DALI-2 certified button panel for connection to DALI-2 Multi-master application controllers.
- Simple connection: out-of-box operation.
- Easily reconfigured and programmable using Helvar Designer and Toolbox.
- Designed to fit DIN and UK standard back boxes.
- Double-gang version can take three independent modules.
- Customisable versions available upon request. Both the button layout of the panels and the images or labels that are printed on each button can be customised. Contact your local Helvar representative for further information.

### Technical data

Power consumption from the DALI bus..... 10 mA  
Ambient temperature..... 0 °C to 40 °C  
Degree of protection..... IP30  
Number of DALI addresses..... 1 per module

In the case of a double frame, use a double 60mm concealed box.

### Dimensions (mm)

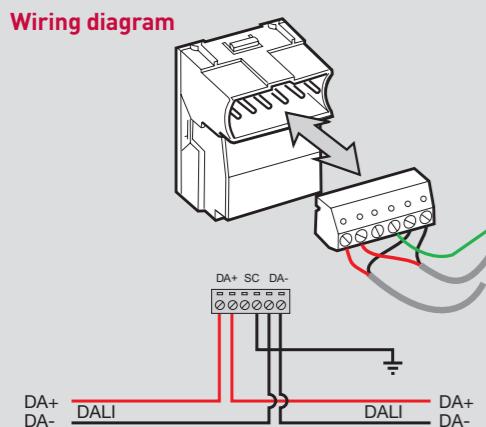


[ ] = dimensions of the double frame  
Frame weight: 100 g (144 g)  
Panel weight: 41 g

Order number: see photos

Complete control panel = 13xx + 23xx

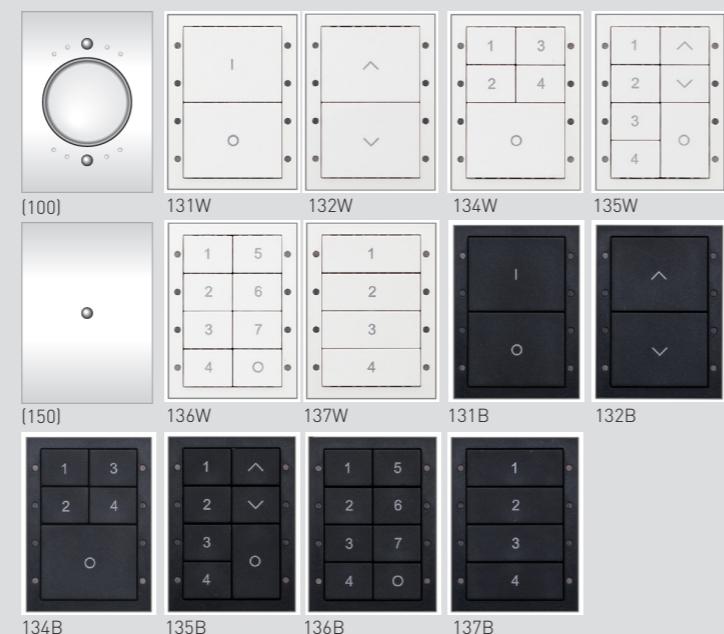
### Wiring diagram



### Frames



### Modules



## 14xxD2 Panels

The 14xxD2 panels are a DALI-2 certified range of user interfaces for Helvar's Imagine solution. The range offers four different button configurations, LED indicators and the ability to insert custom labels locally. The button module is detachable from its supplied frame and is also compatible with a number of frames from other manufacturers.

### Key features

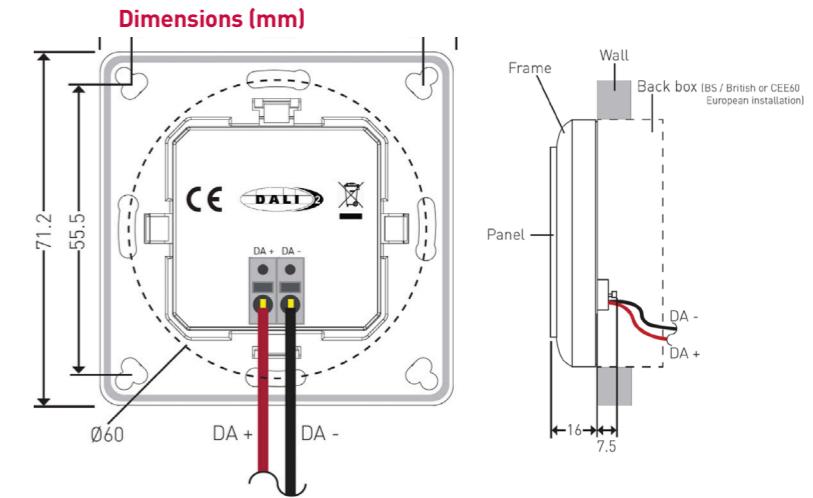
- Available button configurations: 2, 4, 6, 8.
- Available colour: White.
- Removable middle insert for local custom labelling options.
- Individual button LED indicators.
- Middle LED for power indicator and identify function
- Compatible with alternative manufacturer's frames.
- DALI-2 input device.



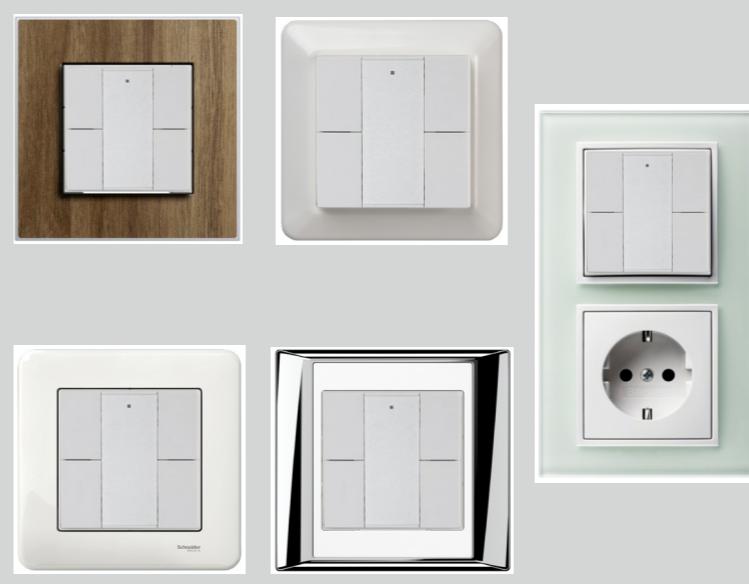
### Technical data

Power consumption from the DALI bus..... 10 mA max  
Ambient temperature..... 0 °C to 35 °C  
Degree of protection..... IP20  
DALI Terminal..... 2 x push-in spring loaded terminals. Wire size: 0.5 mm<sup>2</sup> – 1.5 mm<sup>2</sup> solid.  
All cables must be mains rated.  
Compatibility..... 950 Router

Dimensions (without frame):  
71.2 mm x 71.2 mm x 22mm  
Weight: with packaging:  
200g / pc



### Compatible Frame Examples:

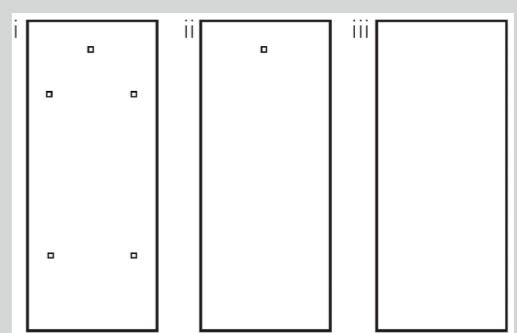


### Panel Inserts

Three centre inserts are provided per panel, these allow the following options:

- i. All button and power LED windows.
- ii. Power LED window only.
- iii. Transparent for local custom labelling to be inserted and displayed.

Panels inserts, shown below, are to scale (55 mm x 22 mm)



## 185W Control Panel

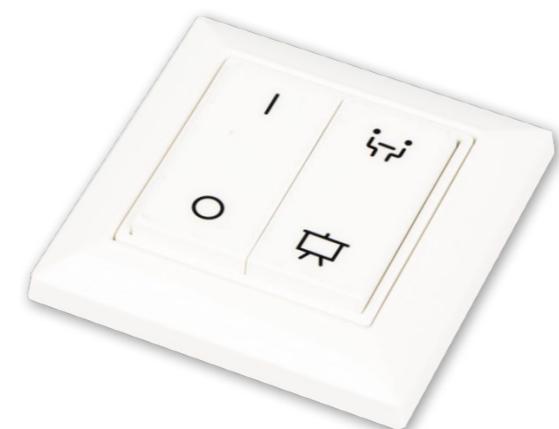
The Wireless Control Panel is an energy-harvesting user interface that allows recall of four configurable lighting scenes. These scenes are configured via the RoomSet app or the ActiveAhead mobile app. The panel communicates using the 2.4 GHz Bluetooth® Low Energy radio standard, and is self-powered and cable-free. The Wireless Control Panel is delivered with a selection of labels that can be placed on the panel buttons to easily identify which scene is accessible from each of the buttons.

### Key features

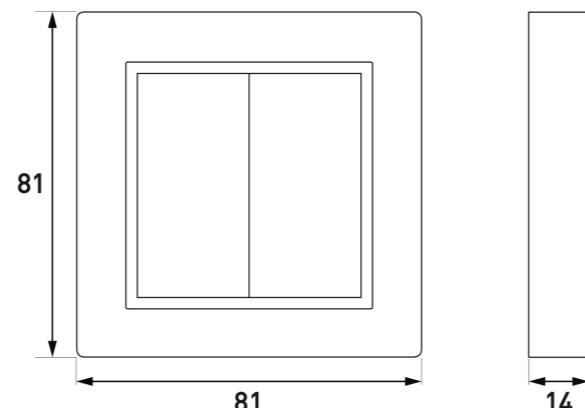
- Provides lighting scenes to both the Helvar's ActiveAhead and RoomSet solutions.
- No wiring required.
- Clean, functional design - White (RAL 9016)
- Fast and easy installation with adhesive double-sided mounting pad (enclosed) or screwing onto flat surface using 3 mm countersunk screws (not included)

### Technical data

Operating temperature.....	-25° - +65°
Antenna.....	Integrated
Wiring.....	None required
Lifetime .....	Over 50,000 actuations



Dimensions (mm)



## 16xxx Control Panels

The 16xxx panels are DALI-compatible and give you control of a lighting system. Lights on the buttons make it easy to choose any scene. The range is fully programmable through our Designer or Toolbox software, and is compatible with our DIGIDIM handheld remote control.

### Key features

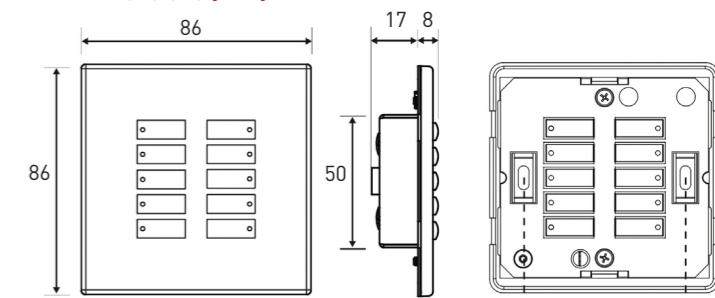
- Range of switch combinations, including customisable versions
- LED brightness programmable
- DIGIDIM/DALI
- Suited for UK back box only



### Technical data

Power consumption from the DALI bus.....	10 mA
Ambient temperature.....	0 ° C to 40 ° C
Degree of protection.....	IP30
Number of DALI addresses.....	1 per panel

### Dimensions (mm)

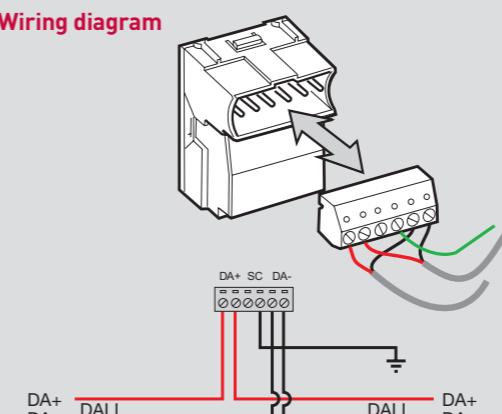


Weight 150 g

### Order number: see photos



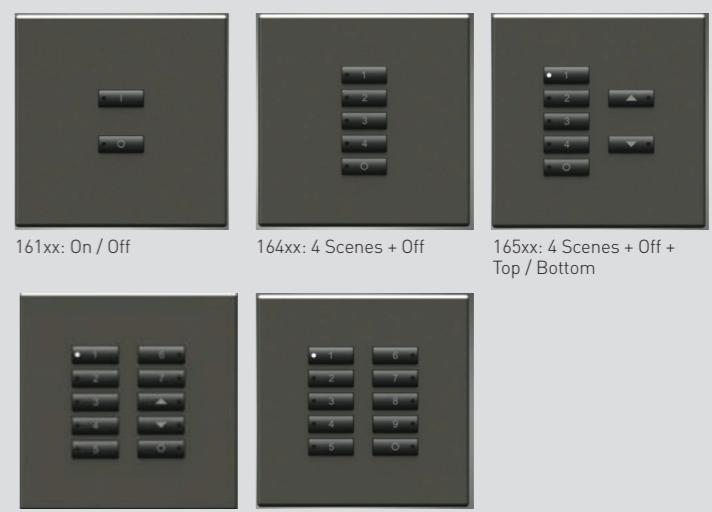
### Wiring diagram



### Frames

- 16xAB: Antique bronze
- 16xBN: Black nickel
- 16xMS: Stainless steel mirror
- 16xPB: Polished brass
- 16xPN: Polished nickel
- 16xSS: Stainless steel
- 16xWH: Steel painted white

### Modules



161xx: On / Off  
164xx: 4 Scenes + Off  
165xx: 4 Scenes + Off + Top / Bottom  
166xx: 7 Scenes + Off + Top / Bottom  
169xx: 9 Scenes + Off

## 19xxx & 290x ILLUSTRISS Panels

These touch-sensitive wall panels make it easy to control lighting systems and DALI Type 8 colour devices. You can change, store and recall light intensity, colour temperature and scene settings straight from the box. And they'll connect to mobiles and tablets through Bluetooth, making remote control simple through our SceneSet app. Each panel has two parts: a 290x DALI interface and a 19xxx fascia.

### Key features

- Standalone controller and user interface.
- Networkable on Imagine router systems.
- Minimal setup / Out-of-box operation.
- Capable of creating, storing and recalling four lighting scenes.
- Intuitive touch selection of operation mode, intensity, colour temperature and colour (depending on the model).
- Fully DALI-compatible.
- Supports DALI Type 8 colour temperature and x-y colour presentation.
- Hidden 'cleaning' button.
- Available in a variety of front fascias for different controls.
- Glass and plastic front fascia finishes.
- App control via SceneSet mobile app (iOS and Android).
- Designed to fit UK, DIN and similar back boxes.

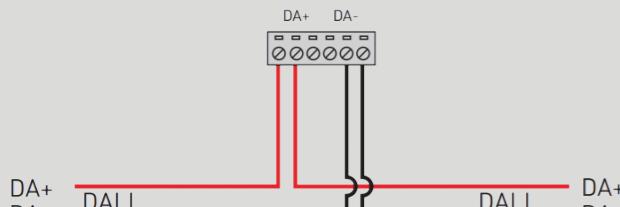
### Technical Data

Power consumption from the DALI bus..... Typical: 22 mA, 16 V  
Maximum..... 40 mA, 9.5V  
Wireless communication..... Bluetooth® Smart™  
Ambient temperature..... 0 ° C to 50 ° C  
Degree of protection..... IP30 (19xHx on degree of protection: IP30 / IP44 with ISSB or ISSW silicone gasket)  
Number of DALI addresses..... 1 per panel

**Order numbers: see below**

Wiring diagram	Models and finishing																																																												
	<b>Models and finishing</b> <table border="1"> <thead> <tr> <th>Description</th> <th>Material</th> <th>Colour</th> <th>Order No.</th> </tr> </thead> <tbody> <tr><td>Front: scenes + dimming</td><td>Glass</td><td>Black</td><td>191HB</td></tr> <tr><td>Front: scenes + dimming</td><td>Glass</td><td>White</td><td>191HW</td></tr> <tr><td>Front: scenes + dimming</td><td>Plastic</td><td>Black</td><td>191PB</td></tr> <tr><td>Front: scenes + dimming</td><td>Plastic</td><td>White</td><td>191PW</td></tr> <tr><td>Front: scenes + dimming + TW</td><td>Glass</td><td>Black</td><td>192HB</td></tr> <tr><td>Front: scenes + dimming + TW</td><td>Glass</td><td>White</td><td>192HW</td></tr> <tr><td>Front: scenes + dimming + TW</td><td>Plastic</td><td>Black</td><td>192PB</td></tr> <tr><td>Front: scenes + dimming + TW</td><td>Plastic</td><td>White</td><td>192PW</td></tr> <tr><td>Front: scenes + dimming + RGB</td><td>Glass</td><td>Black</td><td>193HB</td></tr> <tr><td>Front: scenes + dimming + RGB</td><td>Glass</td><td>White</td><td>193HW</td></tr> <tr><td>Front: scenes + dimming + RGB</td><td>Plastic</td><td>Black</td><td>193PB</td></tr> <tr><td>Front: scenes + dimming + RGB</td><td>Plastic</td><td>White</td><td>193PW</td></tr> <tr><td>Basics with DALI interface</td><td>Plastic</td><td>Black</td><td>290B</td></tr> <tr><td>Basics with DALI interface</td><td>Plastic</td><td>White</td><td>290W</td></tr> </tbody> </table>	Description	Material	Colour	Order No.	Front: scenes + dimming	Glass	Black	191HB	Front: scenes + dimming	Glass	White	191HW	Front: scenes + dimming	Plastic	Black	191PB	Front: scenes + dimming	Plastic	White	191PW	Front: scenes + dimming + TW	Glass	Black	192HB	Front: scenes + dimming + TW	Glass	White	192HW	Front: scenes + dimming + TW	Plastic	Black	192PB	Front: scenes + dimming + TW	Plastic	White	192PW	Front: scenes + dimming + RGB	Glass	Black	193HB	Front: scenes + dimming + RGB	Glass	White	193HW	Front: scenes + dimming + RGB	Plastic	Black	193PB	Front: scenes + dimming + RGB	Plastic	White	193PW	Basics with DALI interface	Plastic	Black	290B	Basics with DALI interface	Plastic	White	290W
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### Wiring diagram



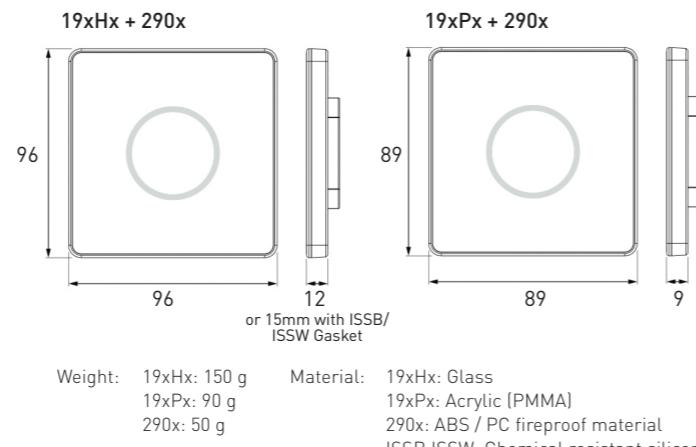
### Models and finishing

Description	Material	Colour	Order No.
Front: scenes + dimming	Glass	Black	191HB
Front: scenes + dimming	Glass	White	191HW
Front: scenes + dimming	Plastic	Black	191PB
Front: scenes + dimming	Plastic	White	191PW
Front: scenes + dimming + TW	Glass	Black	192HB
Front: scenes + dimming + TW	Glass	White	192HW
Front: scenes + dimming + TW	Plastic	Black	192PB
Front: scenes + dimming + TW	Plastic	White	192PW
Front: scenes + dimming + RGB	Glass	Black	193HB
Front: scenes + dimming + RGB	Glass	White	193HW
Front: scenes + dimming + RGB	Plastic	Black	193PB
Front: scenes + dimming + RGB	Plastic	White	193PW
Basics with DALI interface	Plastic	Black	290B
Basics with DALI interface	Plastic	White	290W

TW: Tunable White



### Dimensions (mm)



## 2XXPL,2XXHL ILLUSTRISS Custom Front Fascia

Much like the 19xxx & 290x ILLUSTRISS Panels, the Custom Front Fascia versions are ideal for simple operation of DALI Type 8 luminaires. The touch panels can be connected wirelessly using Bluetooth® Smart™ and can also be operated via the Helvar SceneSet app. The panels consist of two parts, the front and the back. The 2XXPL and 2XXHL come in 23 different colours with 18 varieties of fascia layouts in either plastic or glass, so you can customise each of your panels to your individual requirements and preference.

### Key features

- Light management system that works straight out of the box.
- Intuitive touch control
- Complete personalisation of panels using the online ILLUSTRISS tool.
- Custom scenes, intensity, hue, saturation & colour-temperature control
- Fully DALI-compatible.
- Networkable on Imagine router systems only.

### Fascia layouts examples

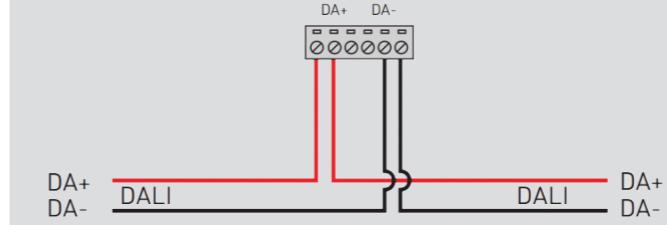


### Colour palette



## Order numbers: see below

### Wiring diagram



### Models and finishing

Description	Material	Colour	Order No.
Custom front fascia from palette of layout designs	Glass	Custom	2XXHL
Custom front fascia from palette of layout designs	Plastic	Custom	2XXPL

**Materials:** 2XXHL Glass  
2XXPL Plastic

**Colours:** 23 RAL colours available  
Please enquire for RAL details

**Layouts:** 18 different layouts available

## 942 Input Unit

This interface makes it easy to include customer-specified switches, sensors, time clocks and other on-off control devices in a DIGIDIM or Imagine control system. It has eight volt-free switch inputs that can be momentary or latching, and accepts inputs from 0-10 V analogue devices. You can program it through Designer and Toolbox.

### Key features

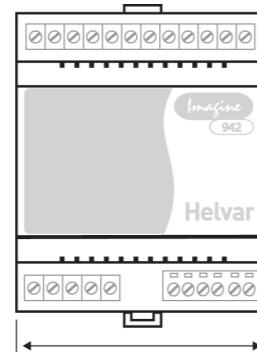
- Status LED gives visual indication of the unit's current operational mode: normal operation, initialisation, physical selection, or input activation.
- Physical selection switch.
- Can be used with momentary or latching switches, 0-10 V analogue devices and time clocks.



### Technical data

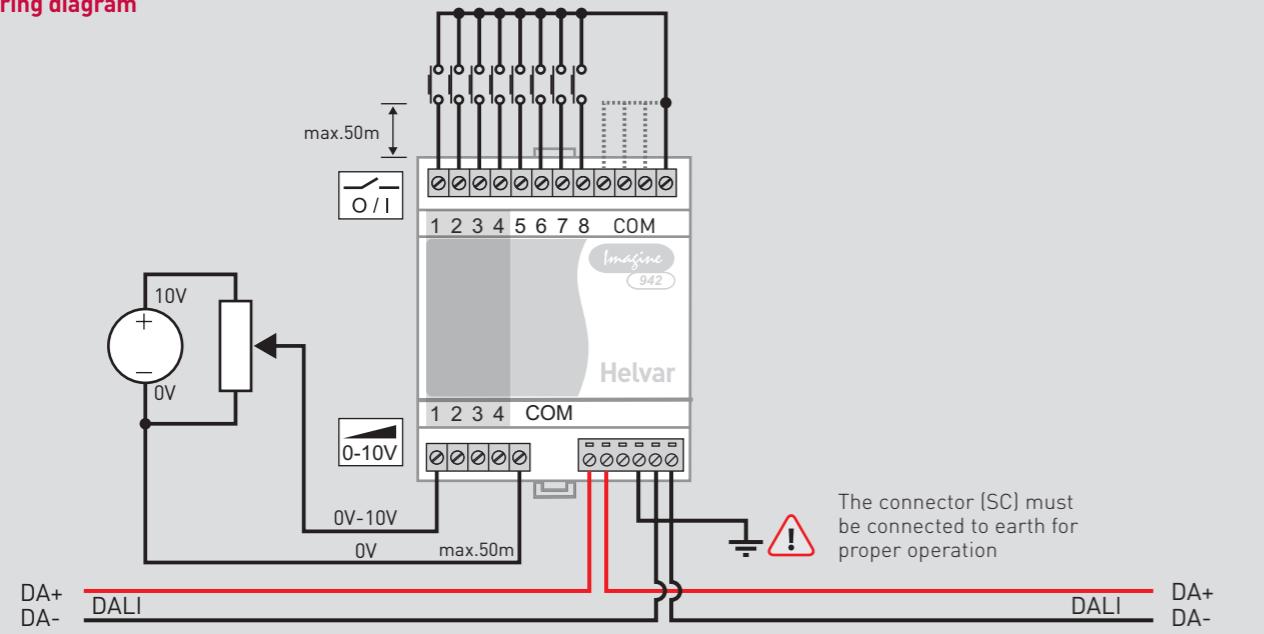
Power consumption from the DALI bus.....	10 mA
Status change time .....	50 ms
Ambient temperature.....	0 °C to 40 °C
Input voltage.....	0 - 10 V
Degree of protection.....	IP30 (except connectors)
Number of DALI addresses.....	1
Inputs .....	8 inputs of which 4 are configurable as 0-10V analogue inputs

### Dimensions (mm)



DIN rail housing; The width of 4 modules, Weight 110g

### Wiring diagram

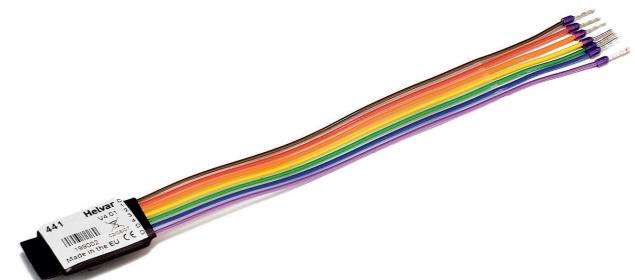


## 441 Occupancy Detector Interface

This lets you connect customer-specified occupancy sensors to a DIGIDIM- DALI system. The input accepts a volt-free, normally closed contact. And the prewired sealed circuit board mounts inside the sensor housing. It includes a 12 V DC supply.

### Key features

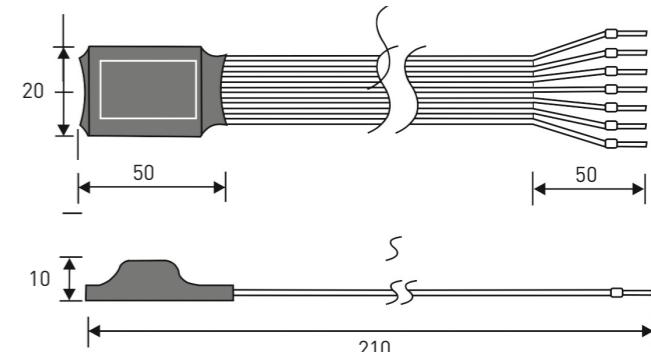
- Fits into the wiring space inside the sensor.
- Input for normally closed (NC) volt-free switch compatible with security sensors.
- Fully programmable using Toolbox and Designer software.



### Technical data

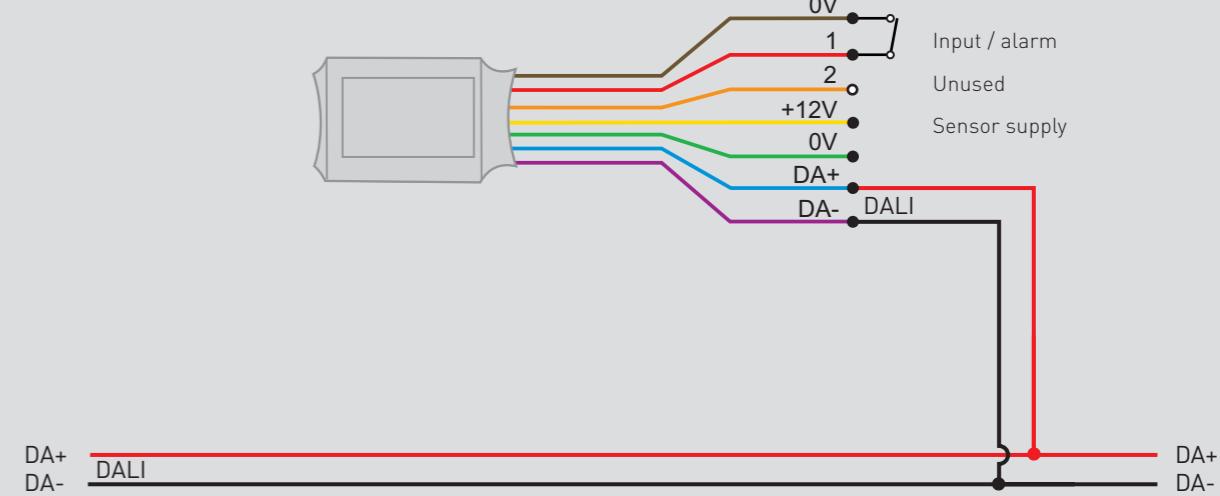
Current consumption from DALI bus.....	10 mA + sensor supply <max. 25 mA
Sensor supply.....	12 V, 15 mA (non-insulated)
Status change time .....	50 ms
Ambient temperature.....	0 °C to 40 °C
Degree of protection.....	IP20
Number of DALI addresses.....	1

### Dimensions (mm)



Integrated circuit, weight 12g

### Wiring diagram

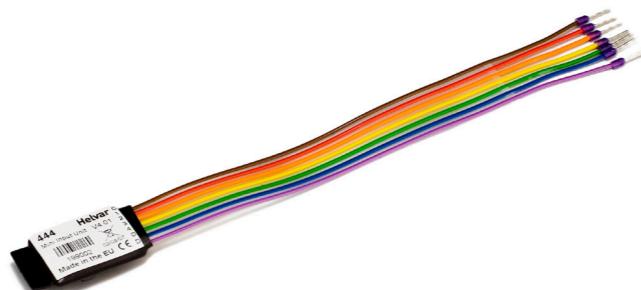


## 444 DIGIDIM Mini Input Unit

This prewired DALI-compatible interface is small enough to fit inside standard back boxes along with a mains-rated switch. It makes it easy to connect customer specified switches, sensors, time clocks and other on-off control devices to your DIGIDIM lighting control system.

### Key features

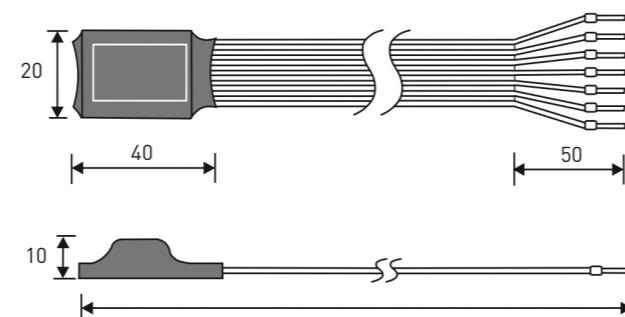
- Preconfigured with touch dimmer inputs for two groups.
- Fits into all standard size back boxes and architrave style back boxes.
- Touch dimming with a momentary push switch.
- Can be used with momentary or latching switches.
- Fully programmable using DIGIDIM Toolbox, Designer and RoomSet software.



### Technical data

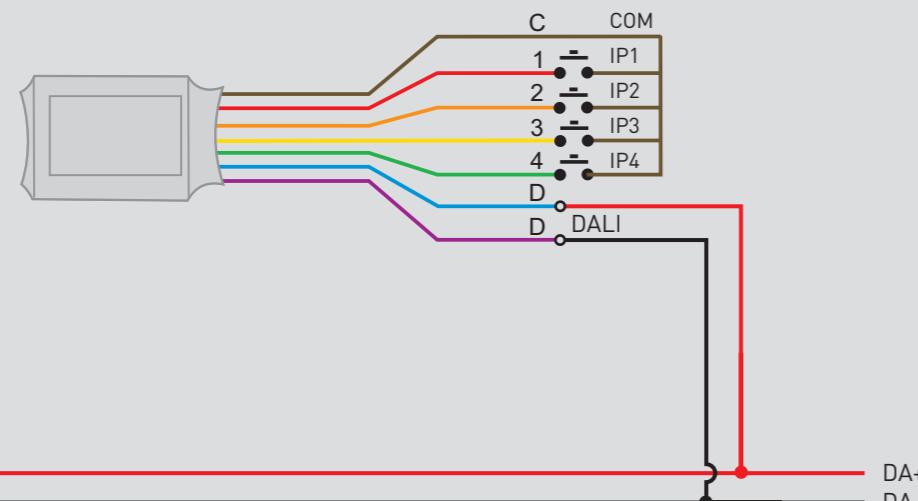
Power consumption from the DALI bus.....	10 mA
Status change time .....	50 ms
Ambient temperature.....	0 °C to 40 °C
Degree of protection.....	IP20
Number of DALI addresses.....	1
Isolation .....	No isolation from DALI network - switches must provide user protection

### Dimensions (mm)



Integrated circuit, weight 10g

### Wiring diagram

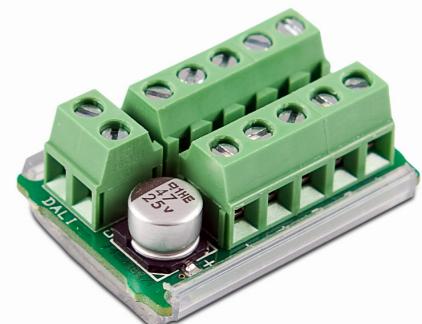


## 445 DIGIDIM Switch Interface Unit with LED Tellback

Easily connect third-party switches or button panels to Helvar lighting control systems with this compact interface unit. It's small enough to fit inside switch or button modules or back boxes, and has four switch inputs for volt-free contacts and four outputs for indicator LEDs. DALI-network powered, it can be programmed with Designer and Toolbox.

### Key features

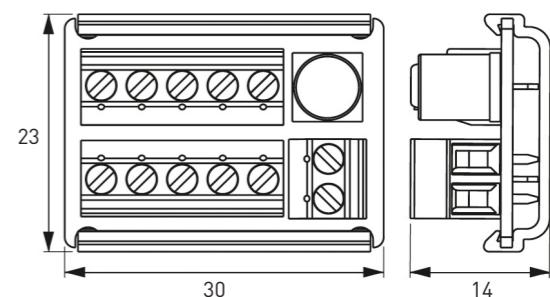
- Compact design
- 4 switch inputs
- 4 LED outputs
- Powered from DALI network



### Technical data

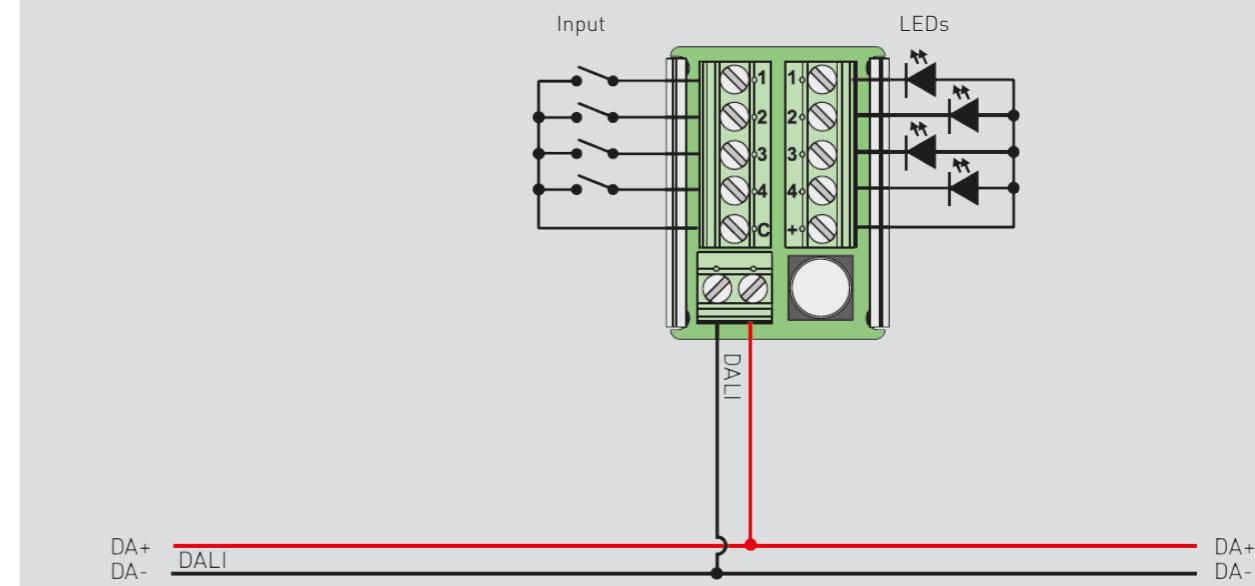
Power consumption from the DALI bus.....	15 mA
Status change time .....	50 ms
Ambient temperature.....	0 °C to 40 °C
LED output .....	5 V, 1 kΩ
Degree of protection.....	IP00
Number of DALI addresses.....	1
Isolation .....	No isolation from DALI network - switches must provide user protection

### Dimensions (mm)



Integrated circuit, weight 10g

### Wiring diagram



## 490 2-Channel Blinds Controller

A DALI-compatible interface for controlling blinds and curtains in DIGIDIM systems. This DIN-rail mounted unit has two independent control channels, each with two single-pole, volt-free contacts. So it's easy to power motors with up to 550 watts in either direction.

### Key features

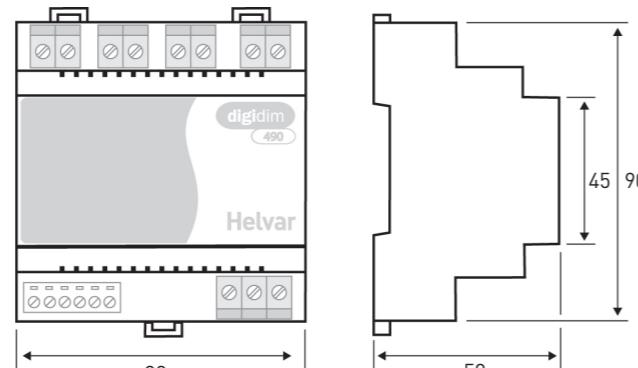
- Up/Down mode operates in a 'Break before Make' manner to prevent motor damage.
- Relays are internally isolated permitting separate mains phases to be used for each control channel.
- All DALI functions are programmed with either DIGIDIM Toolbox or Designer software.
- DIN-rail mounted and only 88 mm wide.



### Technical data

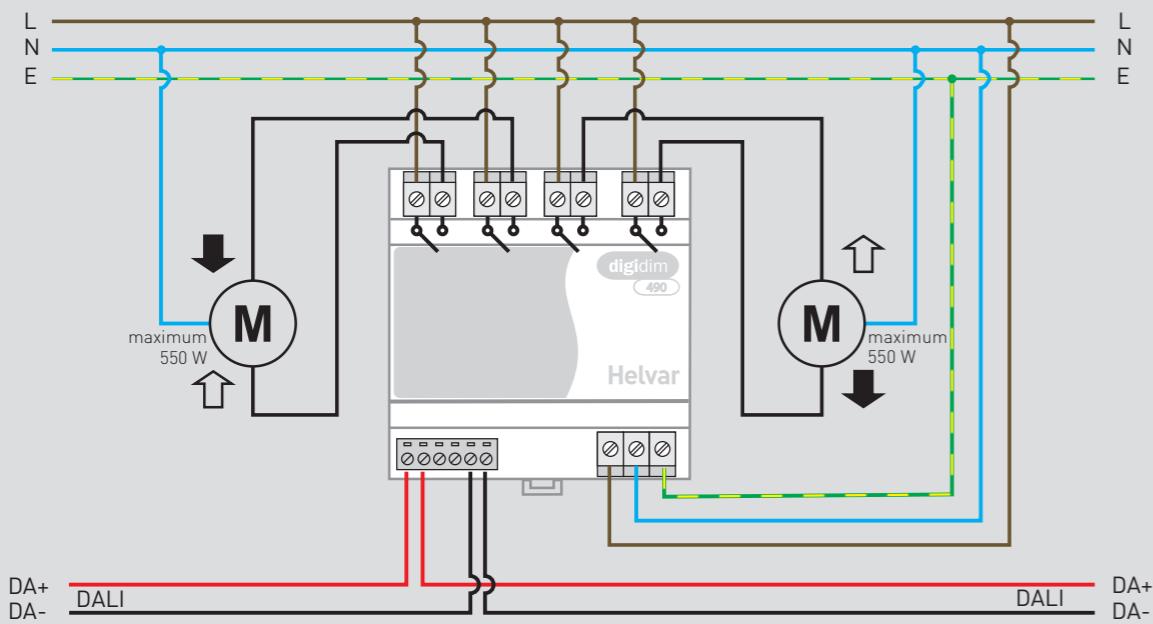
Power consumption from the DALI bus.....	2 mA
Power supply.....	220-240 VAC, 50-60 Hz
External protection.....	6 A
Maximum load.....	550 W per channel
Power consumption.....	5.6 W
Ambient temperature.....	0 °C to 40 °C
Degree of protection.....	IP30 (except connectors)
Number of DALI addresses.....	2

### Dimensions (mm)



DIN rail housing; The width of 5 modules. Weight 300 g

### Wiring diagram

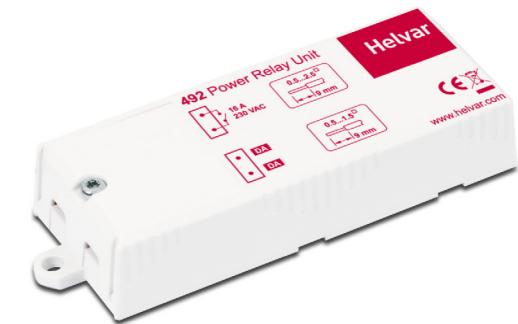


## 492 Single-Channel DALI Relay Unit

A latching, volt-free contact, high-inrush control unit for non-DALI, non-dimmable loads. It has a 16 amp contact rating and is sealed in a plastic enclosure that will fit in a luminaire or electrical cabinet or can be used as an in-line unit.

### Key features

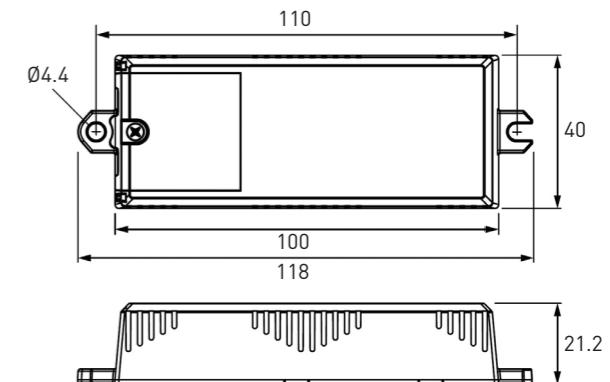
- 16 A high-current relay
- High-inrush specification relay
- Compact size for luminaire, electrical panel or in-line mounting
- Secure wire connection cover



### Technical data

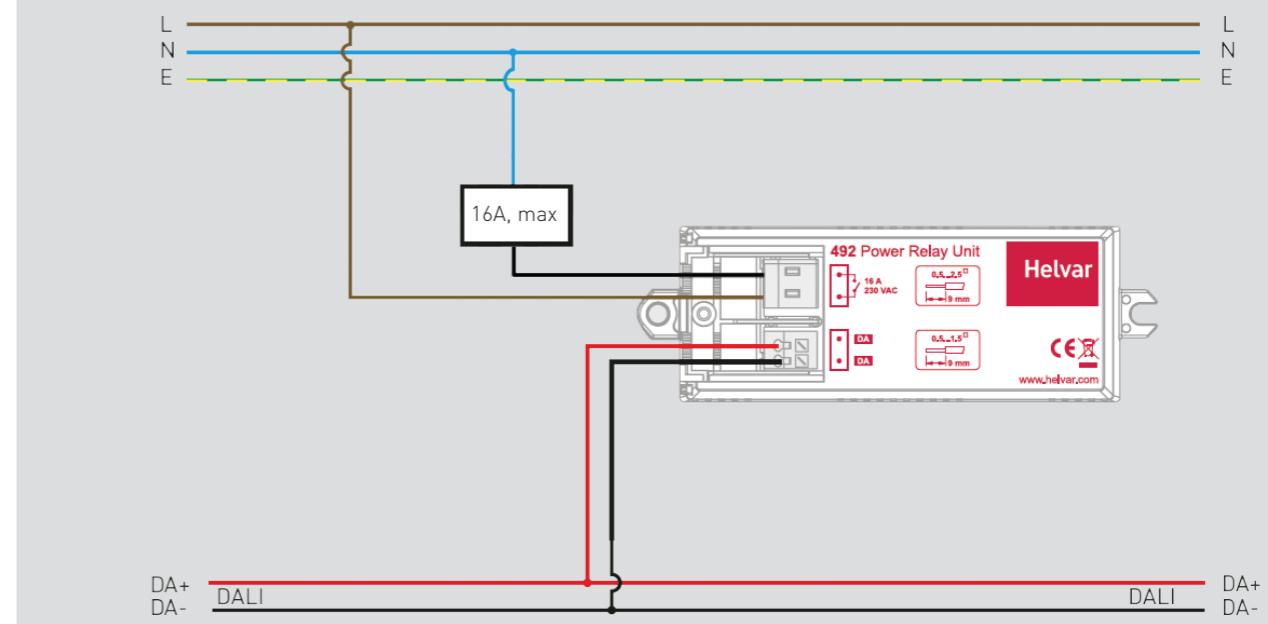
Power consumption from the DALI bus.....	2 mA
Relay load.....	16 A
Insulation.....	4 kV
Ambient temperature.....	0 °C to 40 °C
Degree of protection.....	IP30
Number of DALI addresses.....	1

### Dimensions (mm)



Weight 52 g

### Wiring diagram



## 493 Single-Channel Signal Relay Unit

The 493 connects to building control and management systems and to alarms. It can be installed inside other enclosures and electrical cabinet, or used in-line. The relay is solid-state and normally open, with a contact rating of 60 VAC or VDC at up to 0.5 amps. It can't be used to switch mains voltages.

### Key features

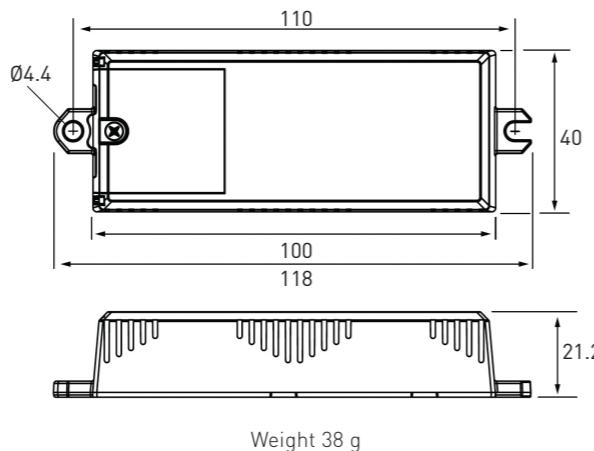
- Low power switching capability (0.1 mA to 0.5 A; 60 V)
- Solid state low-current relay
- Compact size for electrical panel or in-line mounting
- Secure wire connection cover



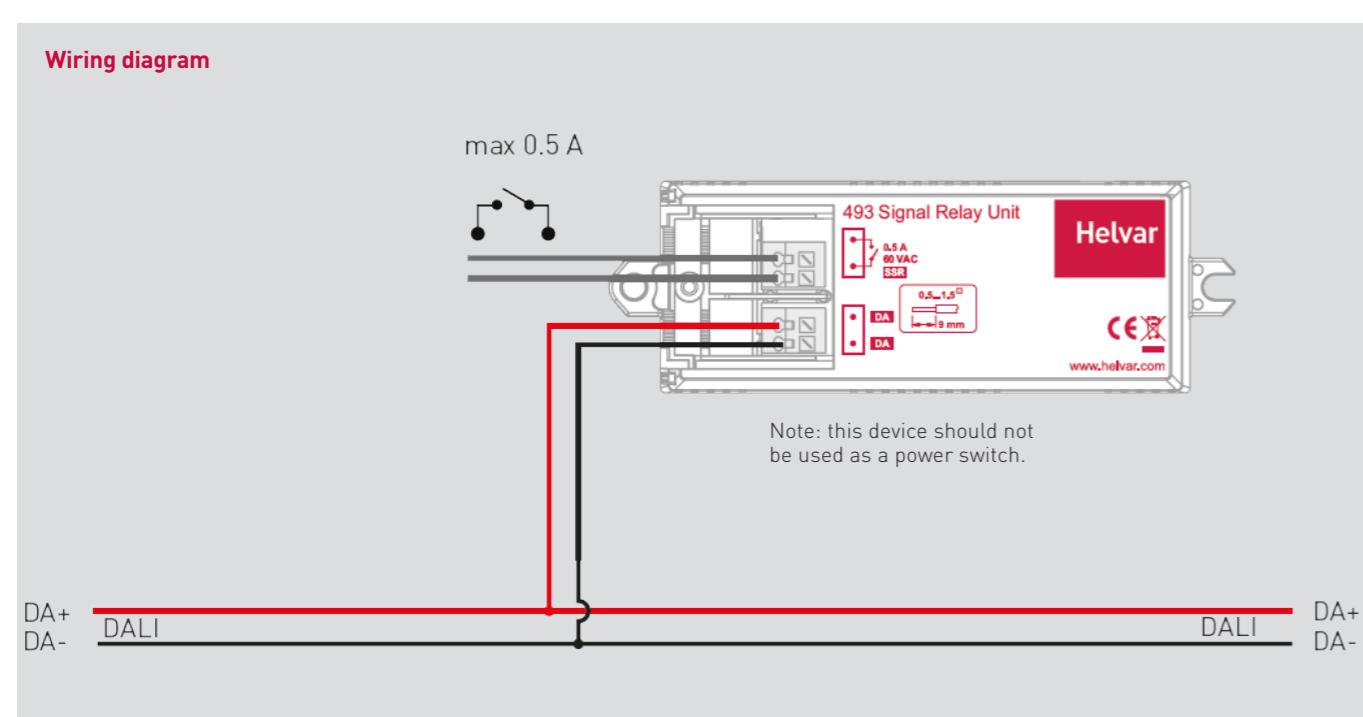
### Technical data

Power consumption from the DALI bus.....	10 mA
Maximum load voltage.....	60 VAC or VDC
Maximum load current.....	0.5 A
Minimum load current.....	0.1 mA
Ambient temperature.....	0 °C to 40 °C
Degree of protection.....	IP30
Number of DALI addresses.....	1

### Dimensions (mm)



### Wiring diagram



## 494 4-Channel Relay Unit

A DALI-compatible interface for including nondimmable loads in DIGIDIM systems. The 494 is DIN-rail mounted and can control four individually programmable relays. They are normally open, volt-free and can switch resistive loads of up to 10 amps.

### Key features

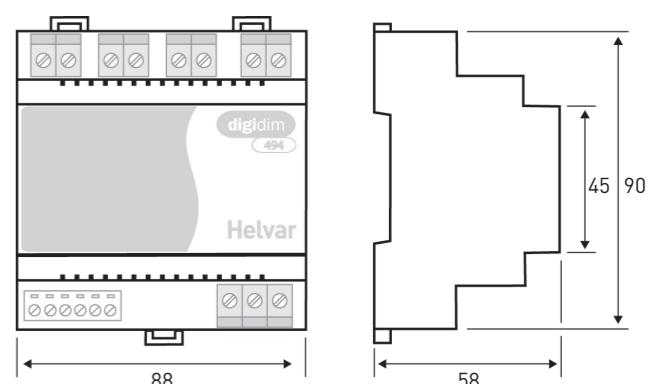
- Four individually programmable relays, normally open and volt-free.
- Relays are internally isolated permitting separate phases to be controlled in one unit.
- Each relay can be manually controlled using the physical selection switch.
- All DALI functions are programmed with either DIGIDIM Toolbox or Designer software.
- DIN-rail mounted and only 88 mm wide.



### Technical data

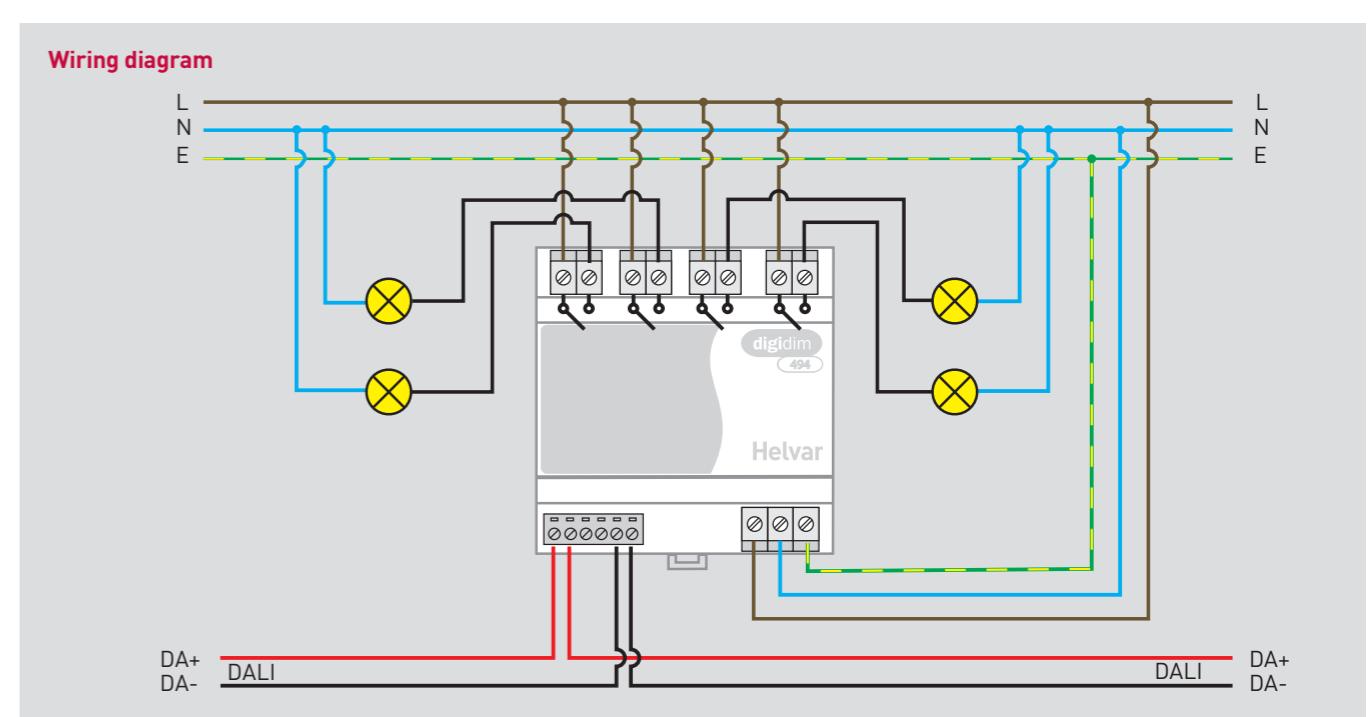
Power consumption from the DALI bus.....	2 mA
Power supply.....	220-240 VAC, 50-60 Hz
Relay load.....	10 A (resistive) 8 A (incandescent lamps) 5 A (inductive)
Power consumption .....	6 W
Ambient temperature .....	0 °C to 40 °C
Degree of protection .....	IP30 (except connectors)
Number of DALI addresses .....	4

### Dimensions (mm)



DIN rail housing; The width of 5 modules. Weight 300 g

### Wiring diagram



**498 8-Channel Relay Unit**

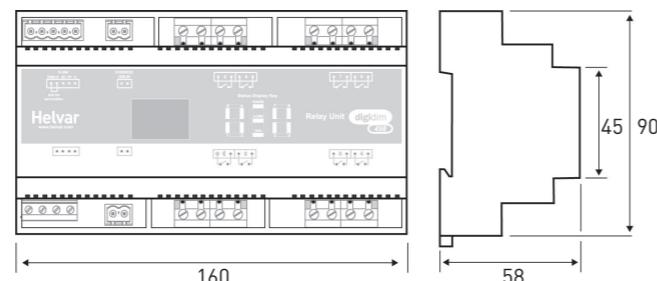
This DIGIDIM relay unit has high-inrush relays rated at 16 amps per channel. They can handle sudden high-peak inrush currents when loads are switched on without dimming. The 498 can be networked through DALI or SDIM to work with DIGIDIM or Imagine control systems.

**Key features**

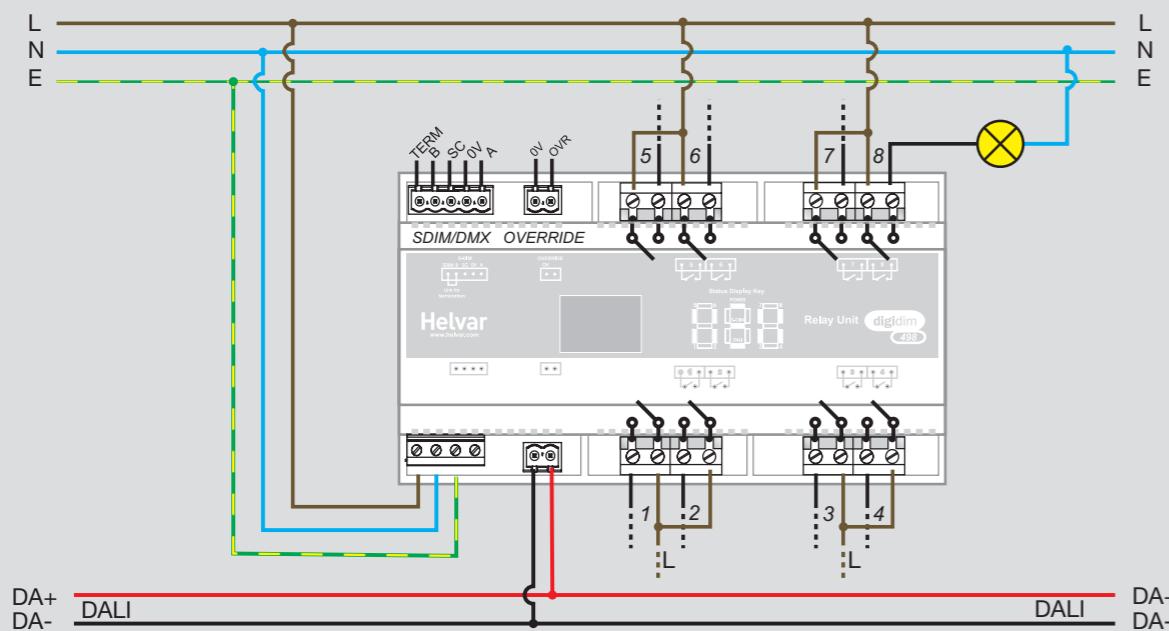
- High-inrush specification relays (single pole, normally open).
- Wired override input to allow for external triggers.
- LED segment display and push buttons.
- Can operate as:
  - 8 individual channels (8 × 1);
  - 4 sets of 2 channels (4 × 2); or
  - 2 sets of 4 channels (2 × 4).

**Technical data**

Power consumption from the DALI bus.....	2 mA
Power supply.....	100 VAC - 240 VAC 45 Hz - 65 Hz
Relay load.....	16 A
Power consumption.....	7 W
Ambient temperature.....	0 °C to 40 °C
Degree of protection.....	IP30 (except connectors)
Number of DALI addresses.....	8

**Dimensions (mm)**

DIN rail housing; Width of 9 modules. Weight 400 g

**Wiring diagram****499 8-Channel Latching Relay Unit**

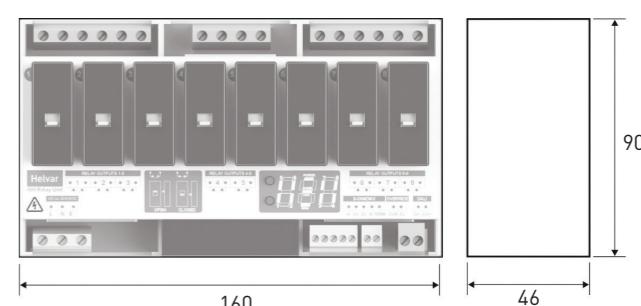
The 499 is made for installations that use a lot of power, such as high-bay luminaires and HID lamps. It can handle sudden high-peak inrush loads of up to 20 amps per output. Each output is controlled individually, and can connect to any mains-supply phase. DIN-rail mounted, it networks through DALI, SDIM or DMX.

**Key features**

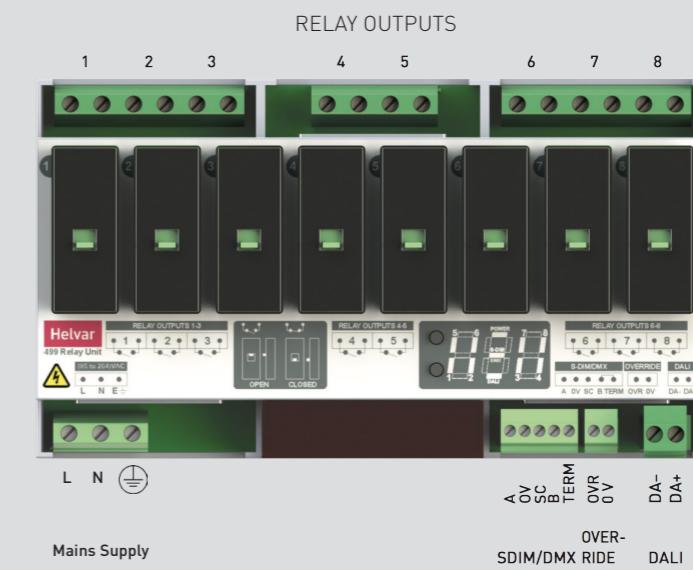
- Latching, single-pole, bistable relays with manual control.
- Wired override input to allow for external triggers.
- Manual control switch per channel.
- LED-segment display and push buttons.
- Can operate as:
  - 8 individual channels (8 × DALI addresses);
  - 4 sets of 2 channels (4 × DALI addresses); or
  - 2 sets of 4 channels (2 × DALI addresses).
- Staggered switch-on with 100 ms delay per relay.
- All functions can be programmed with Helvar's Toolbox and Designer software.

**Technical data**

Power consumption from the DALI bus.....	2 mA
Power supply.....	100 VAC - 240 VAC 45 Hz - 65 Hz
Relay load.....	20 A
Power consumption.....	0.6 W per channel at 20 A current
Ambient temperature.....	0 °C to 40 °C
Degree of protection.....	IP20 (except connectors)
Number of DALI addresses .....	2, 4 or 8

**Dimensions (mm)**

DIN rail housing; Width of 9 modules. Weight 425 g

**Wiring diagram**

## 452 DIGIDIM Universal Dimmer

This DALI-compatible lamp interface for DIGIDIM systems allows trailing-edge or leading-edge dimming. Both modes will work with mains-voltage lights. DIN-rail-mounted, it controls loads up to 1000 W at 230 volts and has a built-in switch for identifying the device during configuration. It also has an optional addressing switch for simple DALI grouping.

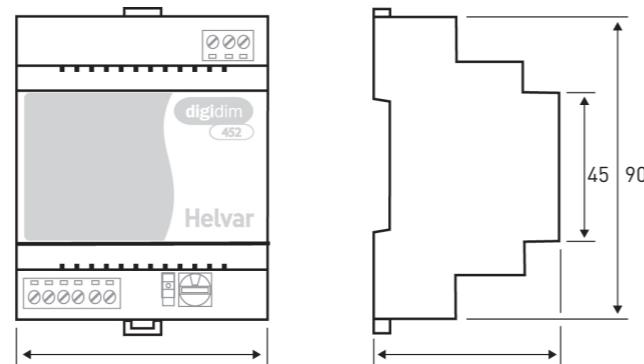
### Key features

- Out-of-box operation. No programming required when using DIGIDIM slider, rotary, or push-button panels. For scene panels, 'preset download' must be carried out.
- Input voltage fluctuation compensation ensures stable output levels with fluctuating incoming mains levels.
- Group-selection switch for quick and simple programming.
- Operating-mode switch (leading- or trailing-edge dimming).
- Overcurrent, power and temperature protection.
- DIN-rail mounted and only 70 mm wide.

### Technical data

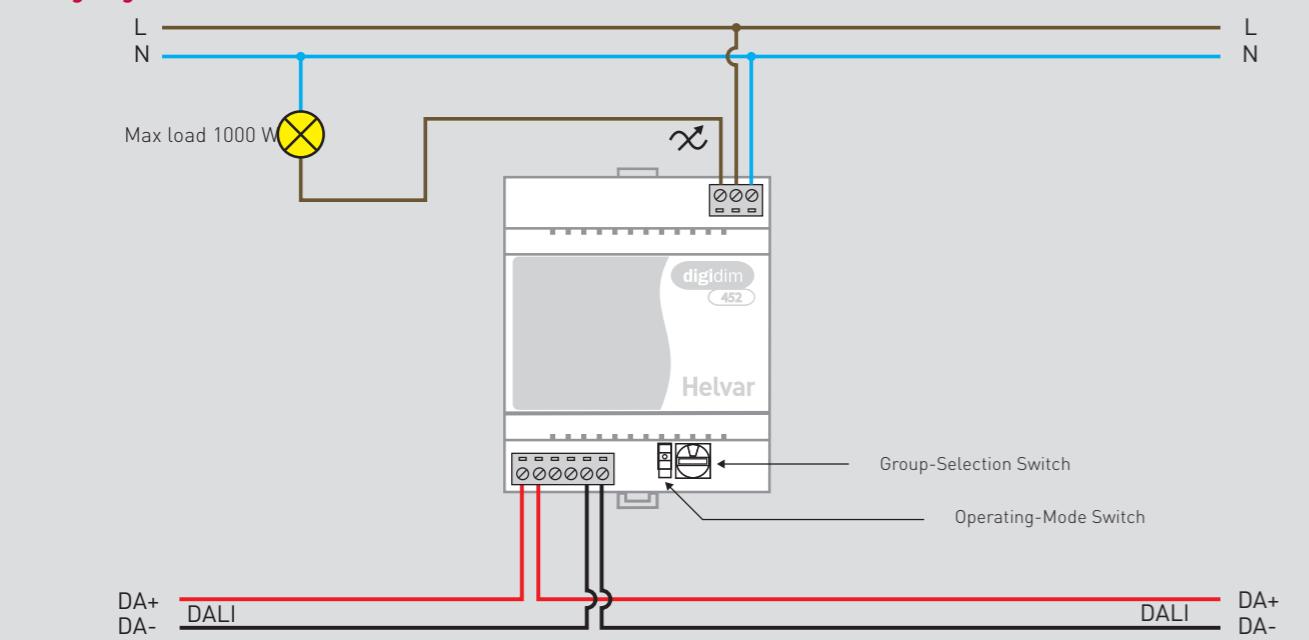
Power consumption from the DALI bus.....	2 mA
Power supply.....	100 VAC - 240 VAC 45 Hz - 65 Hz
Minimum load.....	5 W
Maximum load.....	1000 W
Power consumption in standby mode .....	0.8 W
Power consumption .....	7 W
Ambient temperature.....	0 °C to 40 °C
Degree of protection.....	IP30 (except connectors)
Number of DALI addresses.....	1

### Dimensions (mm)



DIN rail housing; The width of 4 modules. Weight 180 g

### Wiring diagram



## 458/DIM4 4-Channel Thyristor Dimmer Module

The 458/DIM4 is a four-channel digital thyristor dimmer module, capable of leading-edge dimming of resistive and inductive loads. It has a DALI and an SDIM/DMX interface, and therefore can be fully integrated into a standalone DALI, a DIGIDIM, an Imagine router or a DMX system.

### Key features

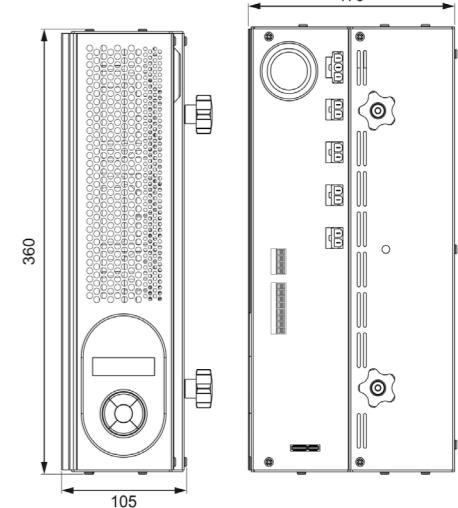
- Easily attached to a 458Mx chassis and connected to the mains supply for quick installation.
- LCD display screen and a five-button keypad for monitoring, configuration and manual control.
- Built-in DIGIDIM power supply, which can be used to power DALI systems if required.



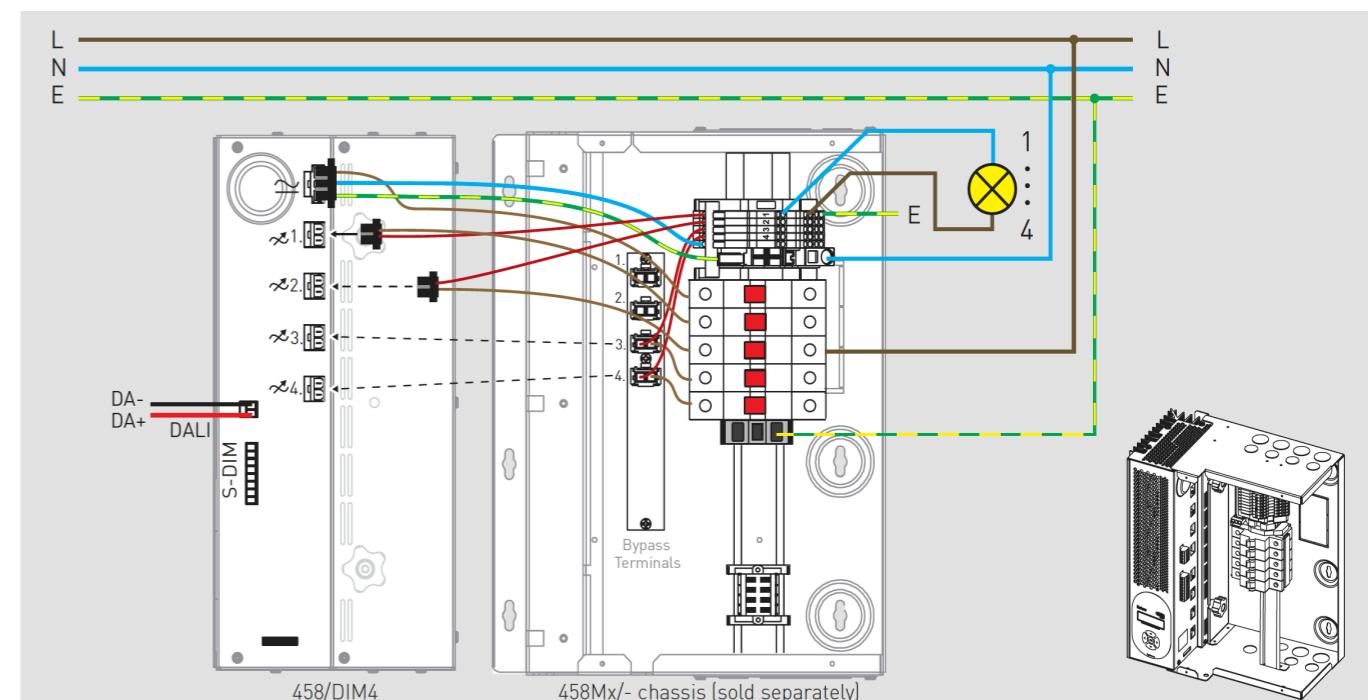
### Technical data

Power supply.....	100 VAC - 240 VAC 45 Hz - 65 Hz
Channels.....	4
Minimum load.....	25 W / channel
Max load per channel.....	10 A
Power consumption in standby.....	1.3 W
Max total power consumption.....	78 W
Ambient temperature.....	0 °C to 40 °C
Number of DALI addresses.....	4

### Dimensions (mm)



### Wiring diagram



## 458/DIM8 8-Channel Dimmer Module

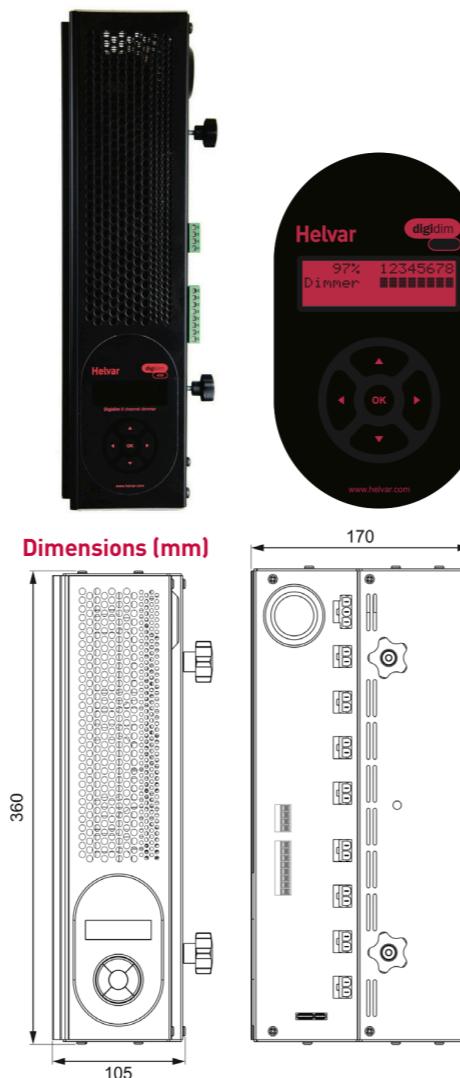
Eight channel thyristor dimmer module, for leading-edge dimming of resistive and inductive loads. The module has 8 channels rated at 10 A each, with a total current capacity of 48 A. The module has DALI, DMX, and S-DIM interfaces for integration into DIGIDIM and Imagine systems. The module has eight channels rated at 10 A, with a total current capacity of 48 A, which can be configured as 8 A ~ 6 A channels or 4 A ~ 10 A channels.

### Key features

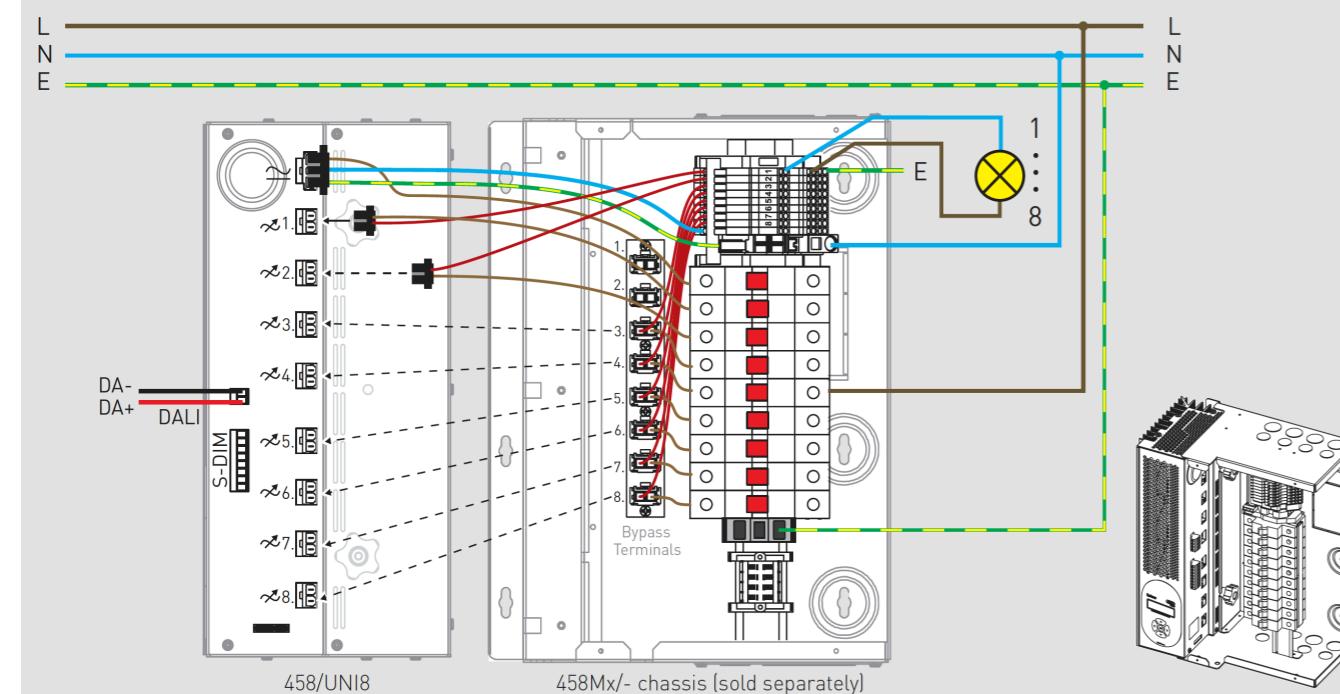
- Module plugs into any 458 mechanical chassis
- LCD display screen with navigation keys
- Built-in power supplies for DIGIDIM
- DALI / S-DIM / DMX control inputs

### Technical data

Power supply	100 VAC - 240 VAC 45 Hz - 65 Hz
Channels	8
Minimum load	25 W / channel
Max load per channel	10 A
Power consumption in standby	1.3 W
Max total power consumption	78 W
Ambient temperature	0 °C to 40 °C
Number of DALI addresses	8



For full wiring diagram, please refer to 458/DIM8 Data Sheet



## 458/UNI8 8-channel Universal Dimmer Module

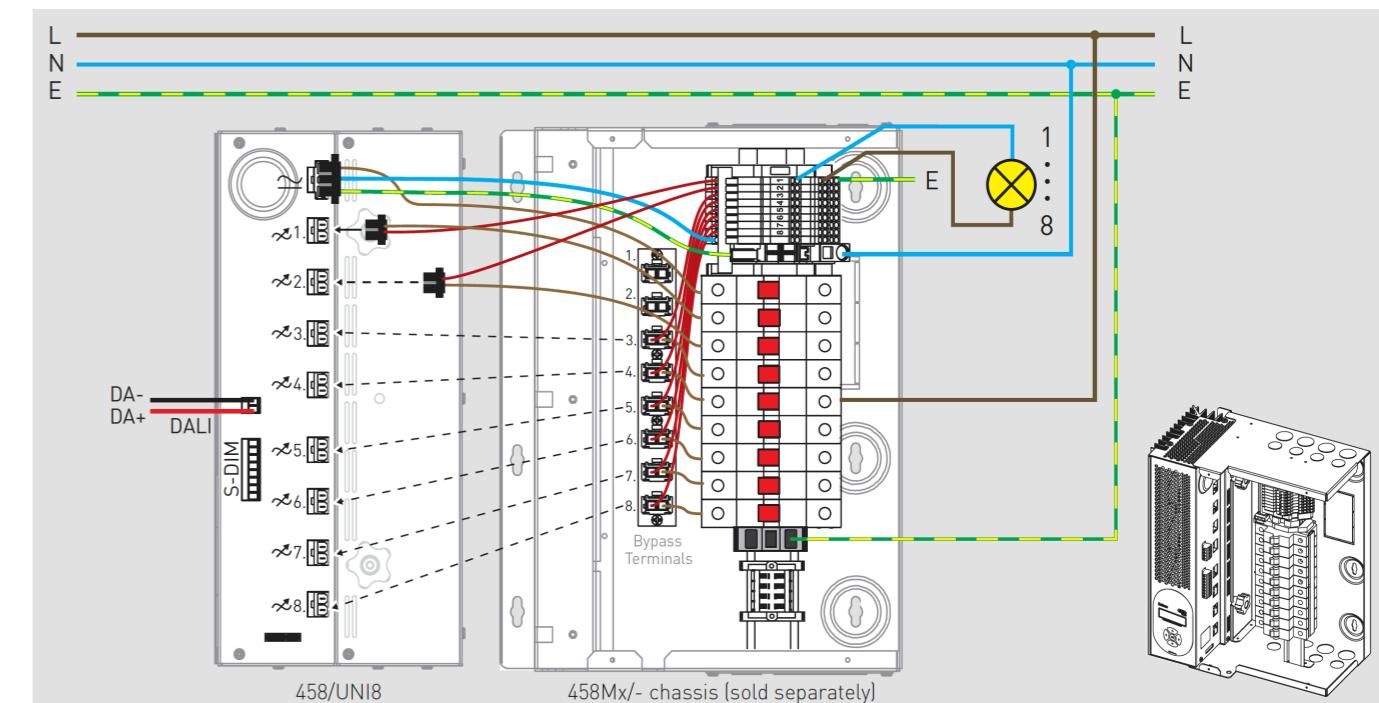
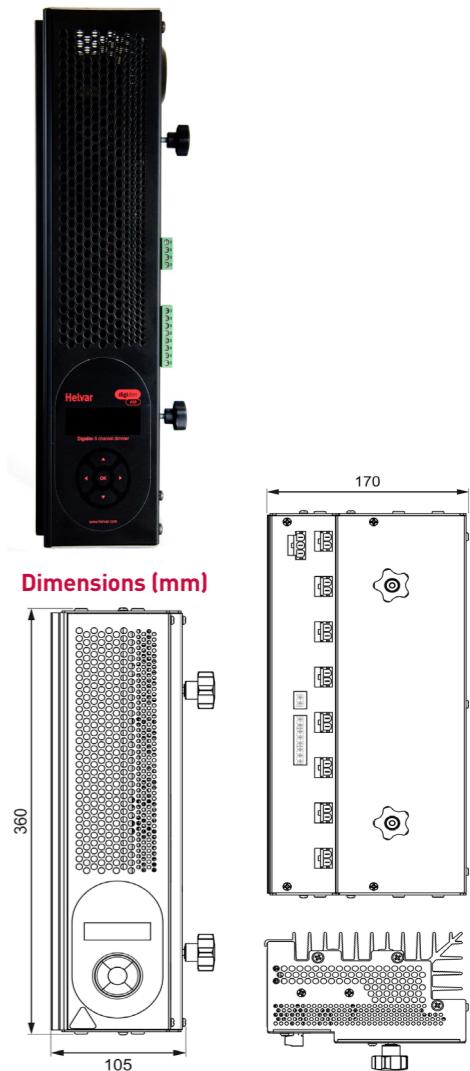
The 458/UNI8 is an eight-channel transistor dimmer module for leading or trailing edge dimming. It is compatible with all common load types: inductive, capacitive and resistive. The unit incorporates a number of novel features that provide 'first-class' performance when dimming modern LED lamps. This includes both mains dimmable retrofit lamps and LED drivers. The module's eight channels can be individually selected as leading or trailing edge, and are rated at 6 A each. The module has a DALI and an SDIM/DMX interface, and therefore can be fully integrated into a standalone DALI, a DIGIDIM, an Imagine router or a DMX system.

### Key features

- Module plugs into any 458 mechanical chassis
- LCD display screen with navigation keys
- DALI / S-DIM / DMX

### Technical data

Power supply	100 VAC - 240 VAC 45 Hz - 65 Hz
Channels	8 each Selectable leading or trailing edge
Minimum load	No minimum (active load)
Power consumption in standby	1.3 W
DALI consumption	2 mA
Max total power consumption	78 W
Ambient temperature	0 °C to 40 °C
Number of DALI addresses	8
Max load per channel	6 A



## 458M - Dimmer Chassis

The 458Mx is a range of mechanical chassis to which one, two or three 458 series modules can be fitted to provide up to 24 channels of control. Each load channel is protected by an individual MCB.

Each chassis contains one, two or three sections, depending on the chassis size selected, and has either four or eight load circuit MCBS, depending on the variant. Each chassis section has a control circuit MCB, and a set of output terminals for the connection of load wiring.

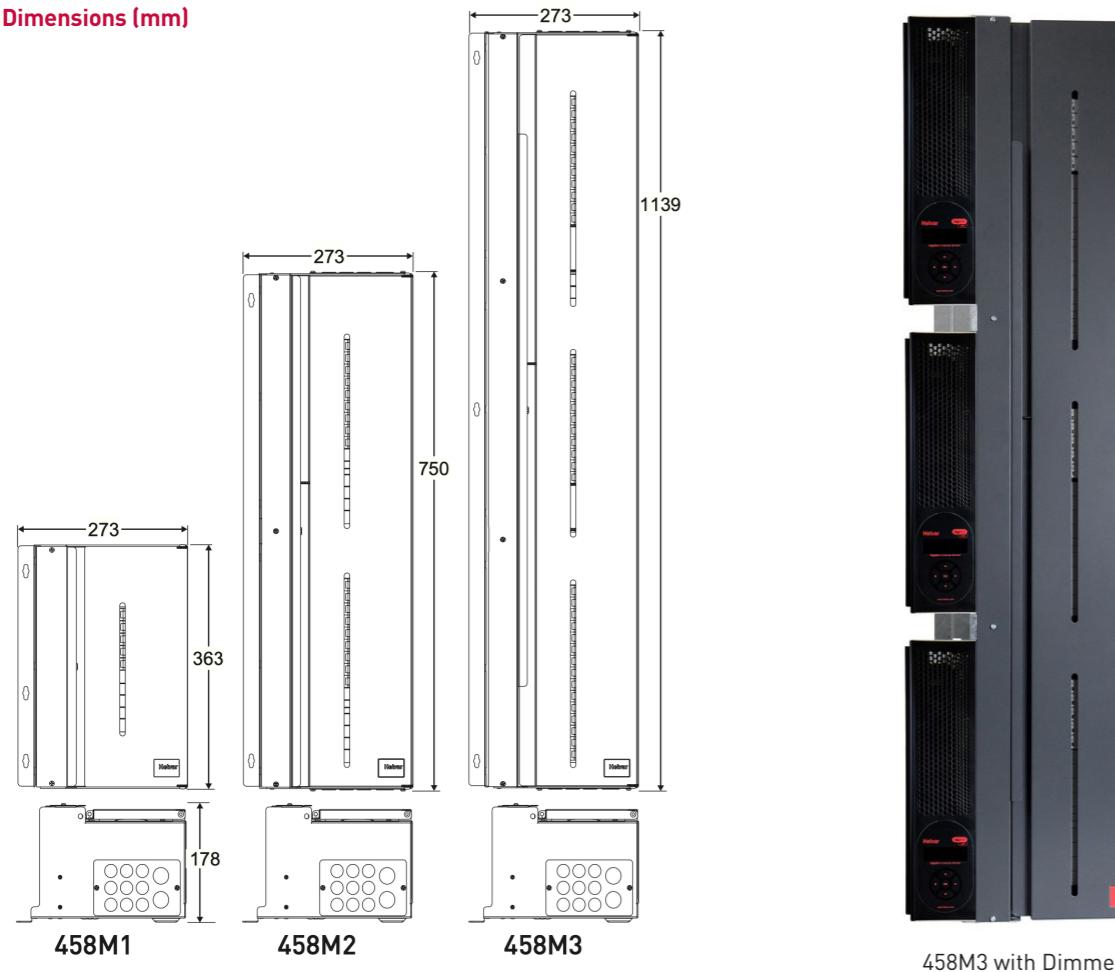
A 458M1 is for a single module. A combination of up to two modules can be used with the 458M2, and up to three modules with the 458M3 Chassis. Available module types are DIM4, DIM8, CTR8, SW8, and UNI8.

Note: Mx Chassis are supplied without modules. These can be ordered separately to suit the particular load type.

### Key features

- Wall-mounted vertically; installer-friendly.
- Modular system
- Lights and wiring can be tested, then control modules fitted – control modules simple to attach and remove.

### Dimensions (mm)



## 454 Transistor Dimmer

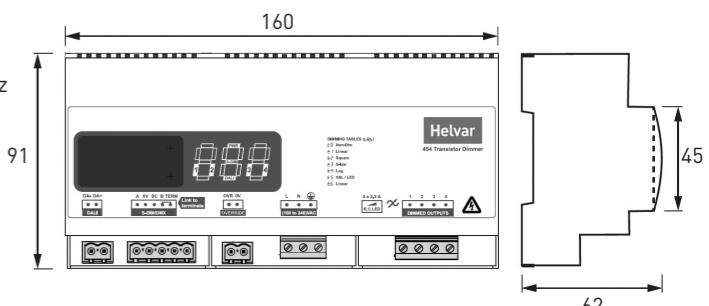
Four-channel and DIN-rail mounted, the 454 works in leading-edge or trailing-edge mode. Each channel can control up to 2.2 amps. It supports capacitive and resistive loads up to 500 watts per channel, and can connect to mains-voltage lamps and low-voltage lamps with electronic transformers. Not for use with inductive loads.

### Key features

- Trailing-edge or leading-edge dimming
- LED segment and push buttons for manual configuration, including the following output types: linear, square, S-law, DALI logarithmic, LED curve, and DALI linear
- Manual wired override input
- Voltage and frequency compensation
- Overcurrent and temperature protection included
- Power-on to last level or to user-defined level



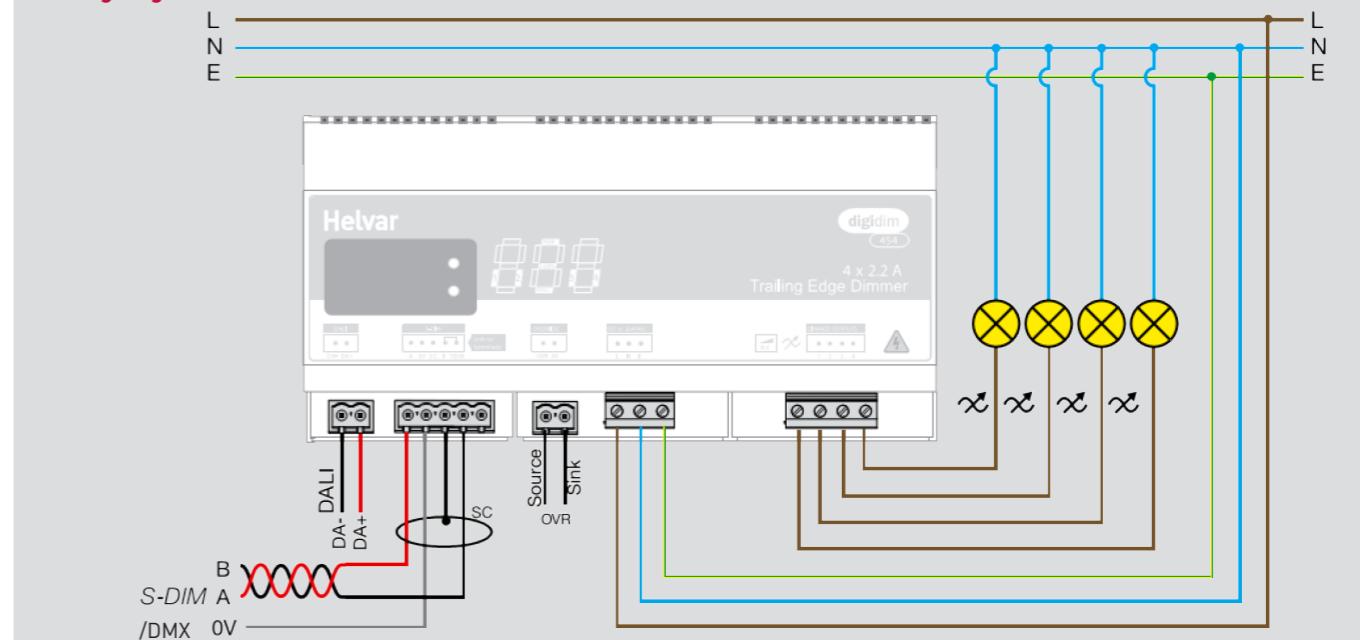
### Dimensions (mm)



### Technical data

Power consumption from the DALI bus.....	2 mA
Power supply.....	100 VAC - 240 VAC 45 Hz - 65 Hz
Minimum load.....	5 W
Maximum load.....	2.2 A per channel (2.2 A x 230 V x 4 = 2 kW)
Power consumption in standby mode .....	2.3 W
Power consumption.....	11 W (maximum load)
Ambient temperature.....	0 °C to 40 °C
Degree of protection.....	IP30 (except connectors)
Number of DALI addresses.....	4

### Wiring diagram



## 455 DIGIDIM 500 W Thyristor Dimmer

A leading-edge lamp interface for DALI DIGIDIM systems. Mounted on a DIN rail, it can control loads up to 500 watts. The 455 connects to mains voltage lamps directly, or to low voltage lamps with a wire-wound transformer. It works straight from the box with a DIGIDIM slider, dial or button panel.

### Key features

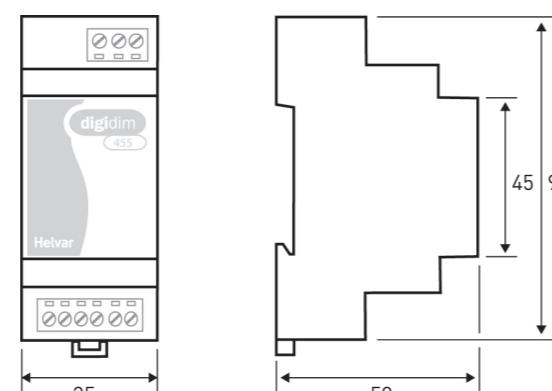
- Out-of-box operation. No programming required when using DIGIDIM slider, rotary or push button panels.
- Input voltage and frequency fluctuation compensation ensures stable output levels with fluctuating incoming mains levels.
- Over current and over temperature protection.
- DIN-rail mounted and only 35 mm wide.



### Technical data

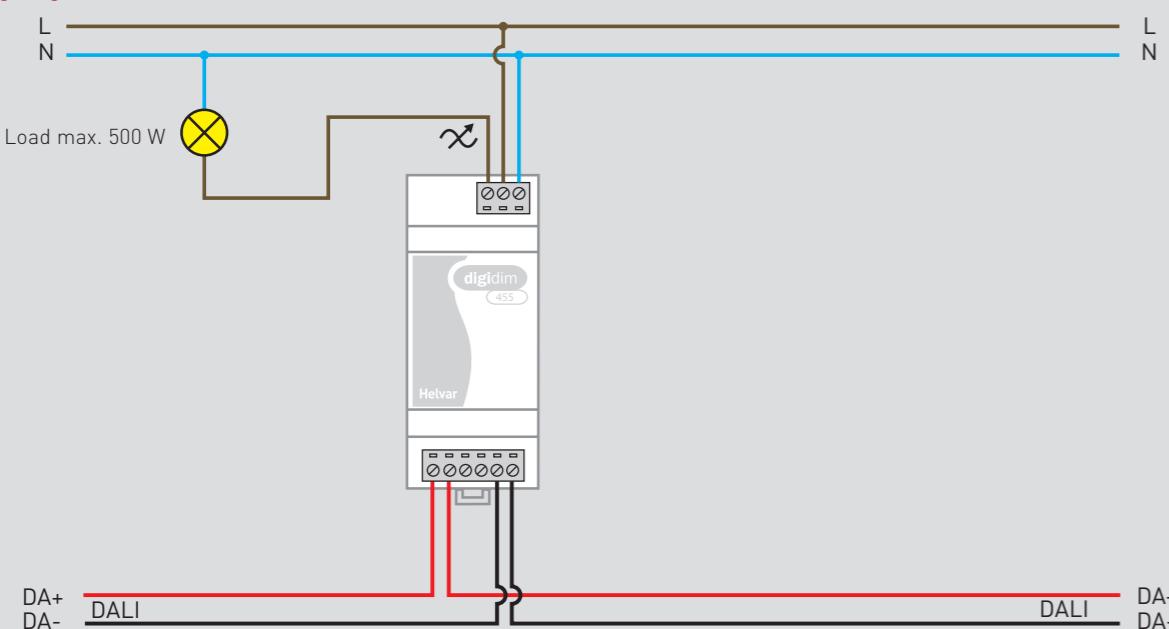
Power consumption from the DALI bus.....	2 mA
Power supply.....	100 VAC - 240 VAC 45 Hz - 65 Hz
Minimum load.....	25 W
Maximum load .....	500 W
Power consumption in standby.....	2 W
Power consumption .....	4 W
Ambient temperature.....	0 °C to 40 °C
Degree of protection.....	IP30 (except connectors)
Number of DALI addresses.....	1

### Dimensions (mm)



DIN rail housing; Width of 2 modules. Weight 110 g

### Wiring diagram



## 472 DIGIDIM 1-10 V & DSI® Converter

Our 472 convertor can switch up to 15 Helvar electronic ballasts or drivers. It has an analogue 1-10 volt signal and digital DSI signal and can control 50 electronic ballasts that meet IEC 60929 — making it easy to bring DIGIDIM into other systems.

### Key features

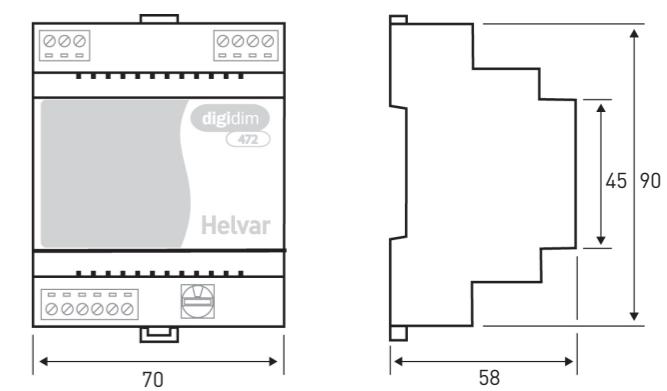
- Out-of-box operation provides control using DALI standard broadcast commands.
- For 1-10 V control, the converter can switch a maximum 15 ballasts/drivers. An external contactor should be used for more ballasts.
- Converter complies with DSI® 1 and DSI® 2 standards.
- Default light output at initial power up is 100 %.
- Operates on a universal supply voltage of 85 VAC – 264 VAC.
- DIN-rail mounted and only 70 mm wide.
- Easy programming by using the group selection switch.



### Technical data

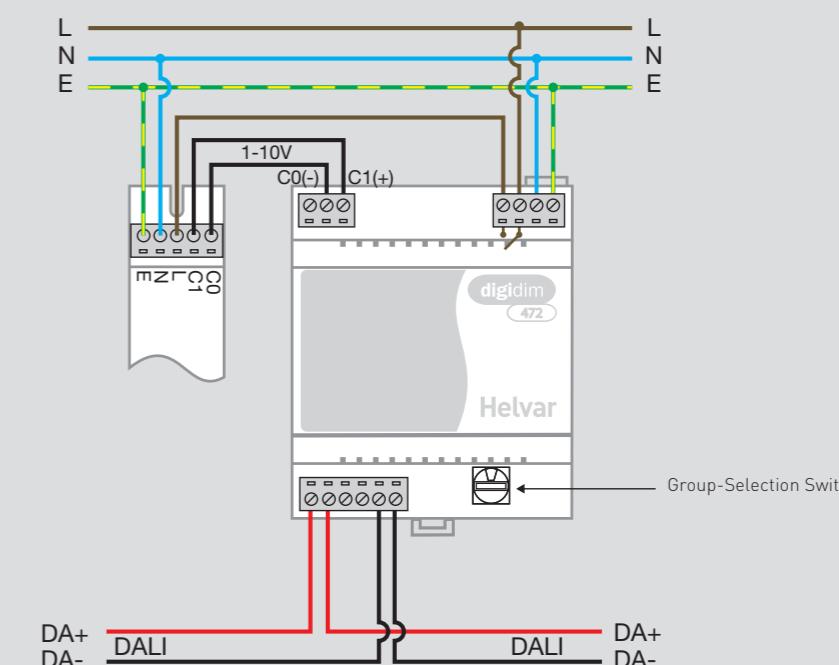
Power consumption from the DALI bus.....	2 mA
Power supply.....	85-264 VAC, 45-65 Hz
External protection .....	10 A
Mains output.....	10 A (resistive)
Load.....	15 x ballast / LED power supply
Power consumption in standby mode .....	1.1 W
Power consumption .....	3 W
Ambient temperature.....	0 °C to 40 °C
Degree of protection.....	IP30 (except connectors)
Number of DALI addresses.....	1

### Dimensions (mm)



DIN rail housing; The width of 4 modules. Weight 140 g

### Wiring diagram



## 474 4-Channel Ballast Controller

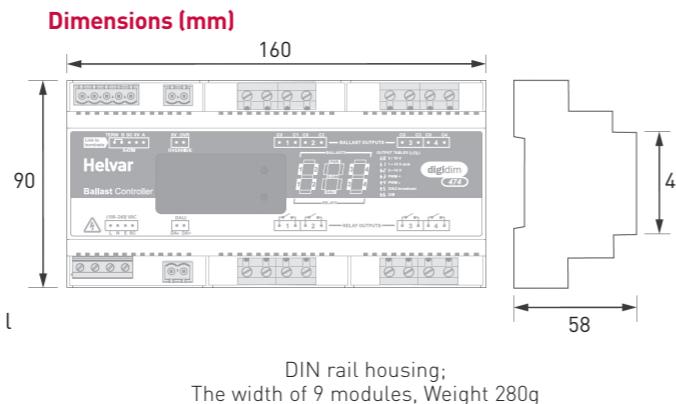
This ballast controller has high-inrush relays rated at 16 amps per channel. They'll cope with high current spikes when loads are switched on or off. You can set the outputs to match common ballast control loads including 0/1-10 volt, DSI, DALI broadcast and PWM. Control outputs can be paired with relay channels or work independently from them. DIN rail mounted.

### Key features

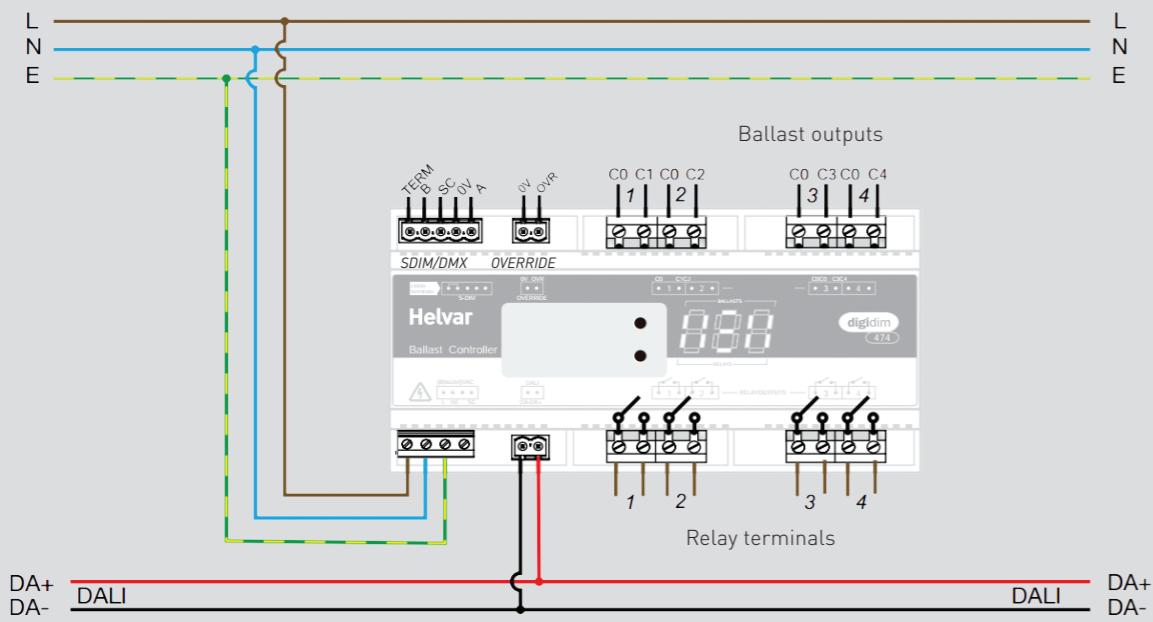
- High inrush specification relays
- Wired override input
- LED segment display and push buttons
- Multiple output configurations of:  
0–10 V: source 10 mA  
1–10 V: sink 100 mA  
DALI broadcast: source 100 mA  
DSI®: source 100 mA  
PWM: source 100 mA

### Technical data

Power consumption from the DALI bus.....	2 mA
Power supply.....	85–264 VAC, 45–65 Hz
External protection.....	6 A
Power consumption in standby mode .....	2.4 W
Power consumption.....	13 W
Load per channel.....	50 x 1-10 V / DALI / DSI® / PWM ballast
Maximum relay load .....	16A (on the relay) 10A discharge l ( $\cos \phi = 0.6$ )
Ambient temperature.....	0 °C to 40 °C
Degree of protection.....	IP30 (except connectors)
Number of DALI addresses.....	4/8 depending on the configuration of relays



### Wiring diagram



## 478 8-Subnet DALI Controller

This DALI 8 subnet controller is for LED ballasts and power supplies in lighting control systems that don't use addressing. It reports faulty or damaged luminaires, bringing down installation and maintenance costs.

### Key features

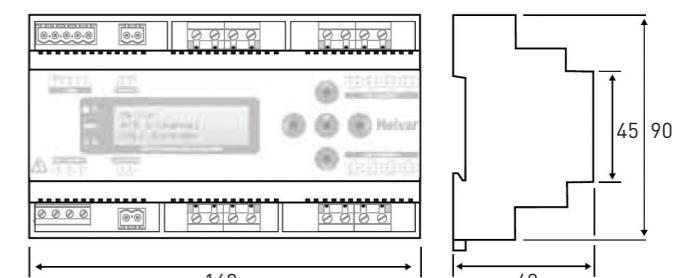
- Control using DALI broadcast messages on each subnet.
- Integral DALI power supply – supports up to 512 DALI devices (8 × 64 devices: 2 mA per driver/ballast).
- Lamp failure reporting per subnet.
- Lower commission costs – device addressing/grouping on subnet not required.
- DALI/SDIM/DMX control inputs.



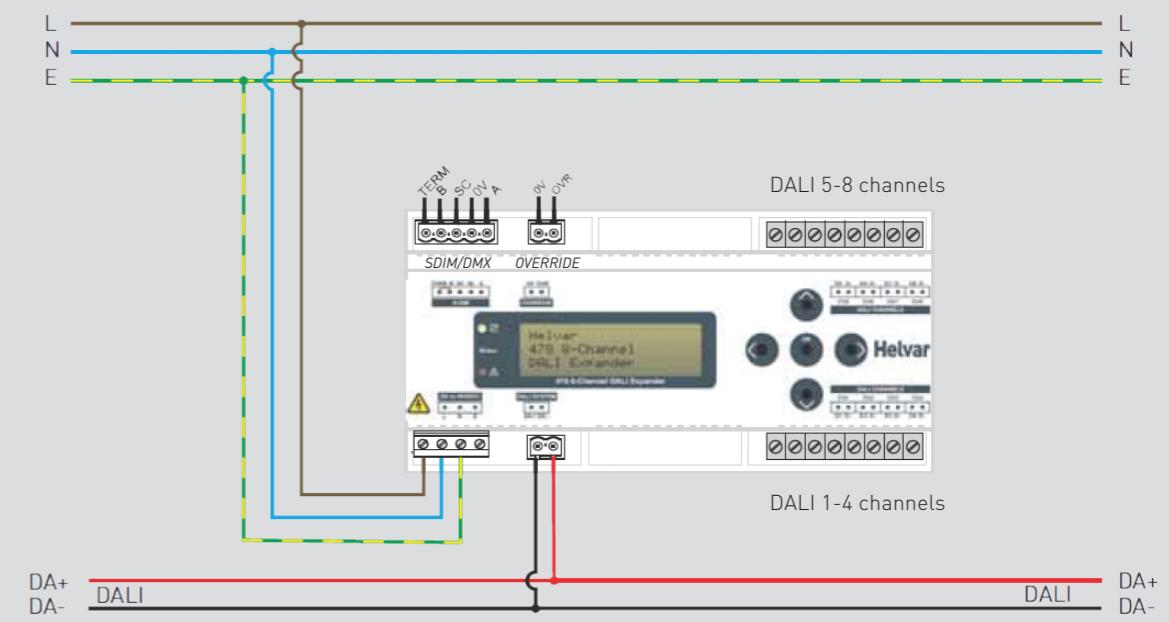
### Technical data

Power consumption from the DALI bus.....	2 mA
Power supply.....	85–264 VAC, 45–65 Hz
External protection.....	6 A
Power consumption.....	8 W
Control inputs.....	8 DALI / DMX addresses
DALI power supply.....	128 mA / channel
Insulation.....	4 kV between each connector
Ambient temperature.....	0 °C to 40 °C
Degree of protection.....	IP00
Number of DALI addresses.....	8

### Dimensions (mm)



### Wiring diagram



## 503 DIGIDIM AV RS232 Interface

This audio-visual interface fits on a DIN rail and lets you connect your lighting control system to a PC or other AV kit through a standard 9-pin serial socket. There's full optical isolation between the inputs and outputs of the DALI and serial ports.

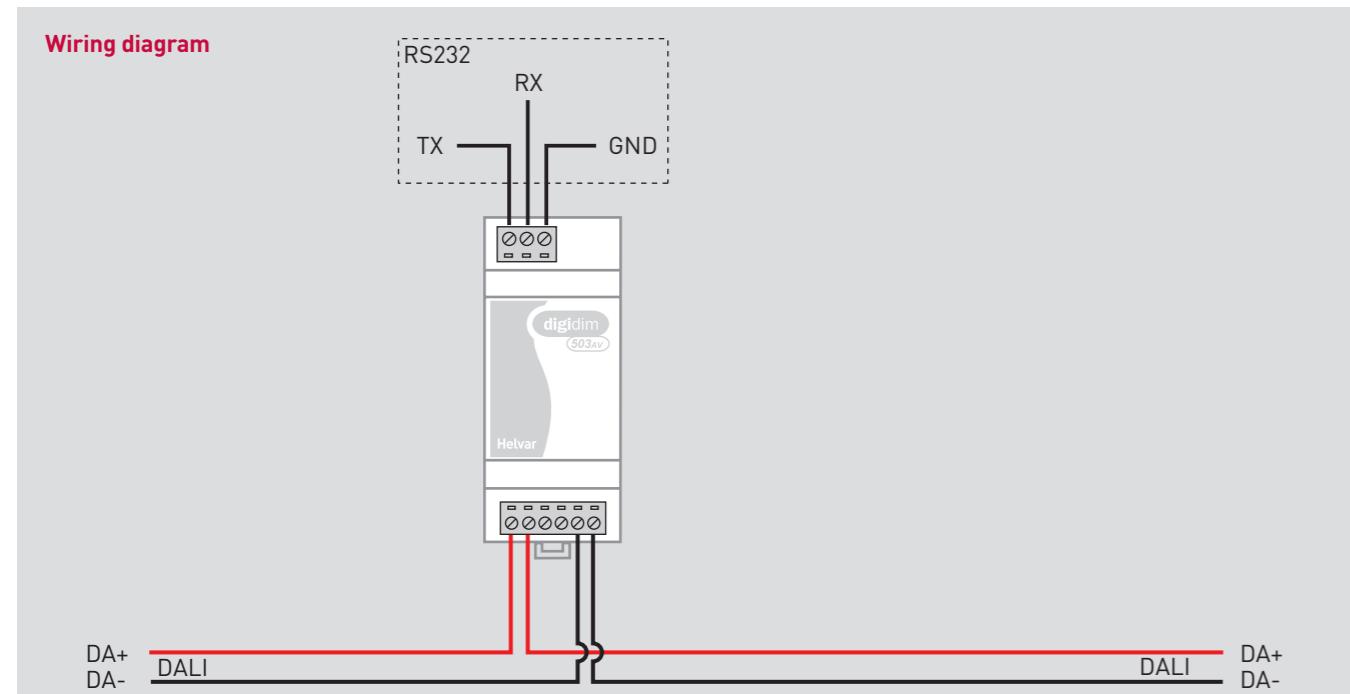
### Key features

- Status LED
- Bi-directional serial interface for basic system monitoring and control
- Terminal blocks for DALI and RS232 wiring

### Technical data

Power consumption from the DALI bus..... 15 mA  
Ambient temperature..... 0 °C to 40 °C  
Degree of protection..... IP30 (except connectors)  
Number of DALI addresses..... 1

### Wiring diagram



### Dimensions (mm)



DIN rail housing; Width of 2 modules. Weight 80 g

## easySwitch

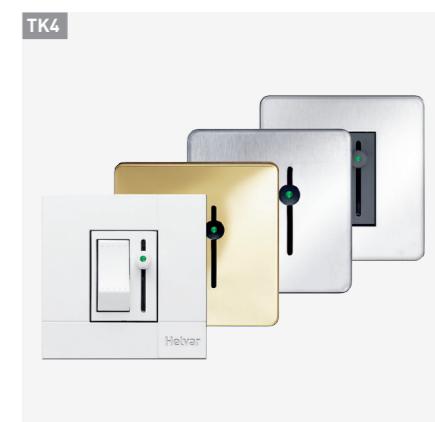
Helvar easySwitch family products offer simple standalone solutions. They are easy to install with out-of-box functionality, making them energy efficient and cost-effective solutions, ideal for basic applications such as corridors, washrooms, and small offices.

### Key features

- Simple on/off
- Standalone
- Mains switching
- Easy to install and set-up
- Low cost with fast payback

### Easyswitch sensors

Standalone sensors	Control output	Motion detector	Lux sensor	Time-out	Motion detection area	Comments
SS-PIR-SW-01	Switched	PIR	●	10 secs - 40 mins (9 steps)		Presence or absence detection modes
SF-PIR-SW-01	Switched	PIR	●	10 secs - 40 mins (9 steps)		Presence or absence detection modes



### SF-PIR-SW-01 Flush mount PIR switching sensor

- A standalone mains switching sensor
- Presence and absence modes
- Up to 7m diameter coverage
- Set for lux and timeout
- Mounts flush within the ceiling

*Note: this sensor isn't DALI compatible.*

### SS-PIR-SW-01 Surface mount PIR switching sensor

- A standalone mains switching sensor
- Presence and absence modes
- Up to 7m diameter coverage
- Set for lux and timeout
- Just mount to a ceiling or backbox

*Note: this sensor isn't DALI compatible.*

### TK4 1-10V ballast controls

- Offers 1-10V ballast control
- High power mains switch
- Intuitive slider
- Last-level memory
- Works with any TK4 or DIGIDIM panel

## SF-PIR-SW-01 Flush-Mount PIR Switching Sensor

This surface-mounting sensor makes it easy to control your light fittings.

Time and light-intensity controls are built in for maximum efficiency and comfort.

### Key features

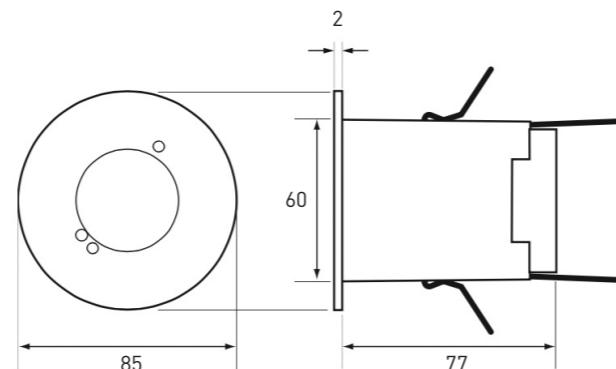
- Easily selectable presence or absence detection.
- Provides load control in response to changes in room occupancy and illuminance.
- Simple out-of-the-box operation.
- Energy saving.



### Technical data

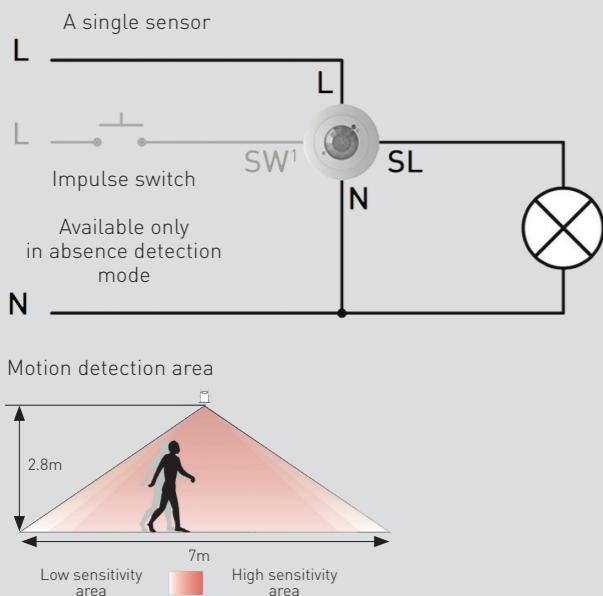
Power supply	.....	230 VAC, 50 Hz
Load	.....	6 A
External protection	.....	6 A
Measurement range of intensity lighting	.....	10-1000 lx
Ambient temperature	.....	10 °C to 35 °C
Degree of protection IP	.....	IP20

### Dimensions (mm)

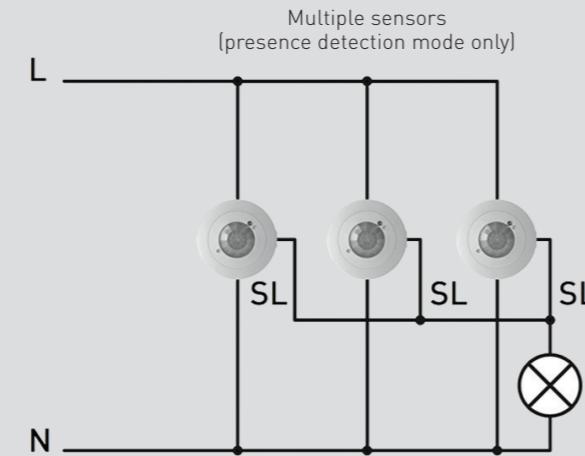


The diameter of the mounting hole: 75 mm  
White plastic, weight 100g

### Wiring diagram



Multiple sensors (presence detection mode only)



## SS-PIR-SW-01 Surface-Mount PIR Switching Sensor

This surface-mounting sensor makes it easy to control your light fittings.

Time and light-intensity controls are built in for maximum efficiency and comfort.

### Key features

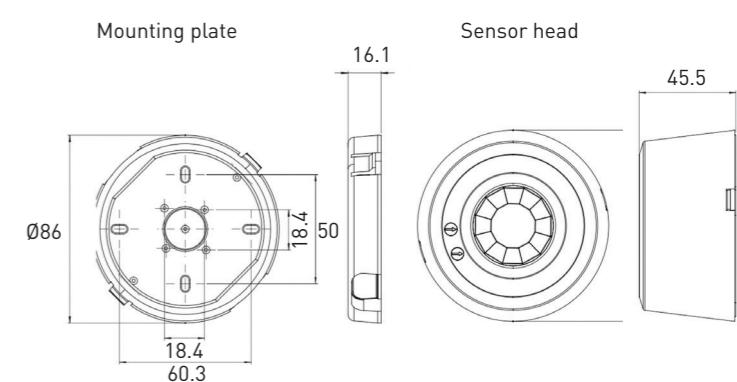
- Presence or absence detection
- Energy saving
- Switching option via bell switch



### Technical data

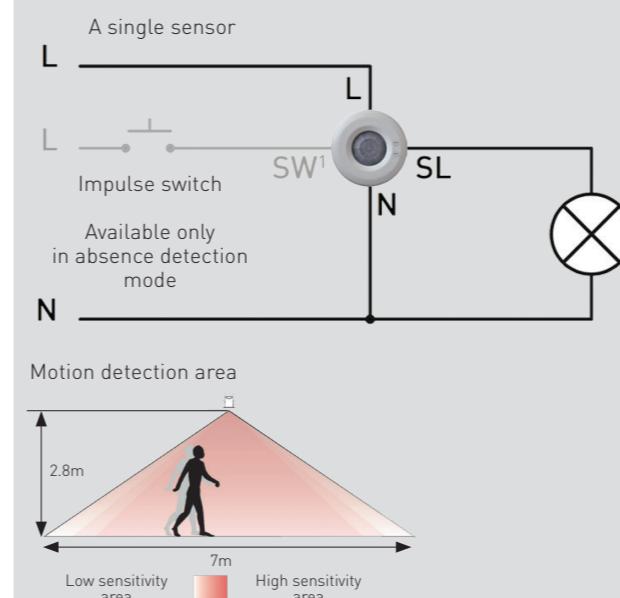
Power supply	.....	230 VAC, 50 Hz
Load	.....	6 A
External protection	.....	6 A
Measurement range of intensity lighting	.....	10-1000 lx
Ambient temperature	.....	10 °C to 35 °C
Degree of protection	.....	IP20

### Dimensions (mm)

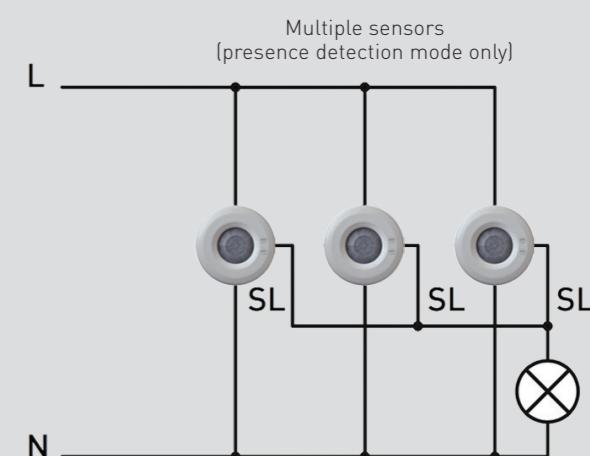


White plastic, weight 102g

### Wiring diagram



Multiple sensors (presence detection mode only)



## Know more, Travel less

We offer **Remote Monitoring & Maintenance** to ensure your lighting controls are always performing at their best, meaning you can benefit from:

- System information available around the clock, so you're always in the know
- A simple web interface to give you full control
- Training and expert advice to give you added reassurance, and reduce the need for site visits

Turning Everyday Places  
into Brighter Spaces.

## MONITORING & MAINTENANCE

Remote Monitoring and Maintenance will change the way you manage your lighting control systems. See how your sites are performing anytime, anywhere – from your mobile, tablet or laptop. With the option for email alerts in the event of a problem, you can even maintain control systems remotely.

Save time. Boost efficiency. Take control.

Key values for each stakeholder:



### FACILITIES MANAGER

Get more productive by digitising and automating alert, notification and recommendation processes



### INSTALLER

Cut your cost during warranty time by being always able to get automated diagnosis of the light control system, and by being able to remotely and securely access any installation



### TENANT AND BUILDING OWNER

Get the peace of mind you need as your investment into a smart light control system pays off over time



Upgrading?  
Make the best even better.

You've invested in world-class lighting controls. You want to keep them in first-class condition. Even older lighting systems will benefit from upgrades. You'll have access to system information 24/7, so you'll know if something ever goes wrong - making it easy to deal with all the most common issues, and cutting down the need for callout journeys.



## How does it work?

Whether you are installing or managing a lighting control system, or own or rent a building, our monitoring & maintenance service offers:

- Cost savings throughout the warranty period and beyond
- Efficiency of a digital service with notifications and recommendations
- Future proof intelligent lighting control system that adapts to your usage and needs

## Better insight at your fingertips

Keep your new installation in peak working order.

When you sign up for Remote Monitoring Maintenance on a new control system:

- See how it's performing, day and night
- Know if something ever goes wrong
- Be guided by expert advice
- Save on needless visits



## Rock-solid security

Is it safe to connect your site?

**Absolutely.**

From collection to storage, all your data is fully encrypted. Cloud Gateway runs entirely on its own hardware, complete with an independent firewall.

Only authorised and authenticated users can gain entry.

And while we provide the service, it's your data. You own it.



### 24/7 MULTI-SITE MONITORING

A secure, server-less and modern solution that lets you see how all your connected sites are working. Accessible from anywhere, anytime



### EASY ACCESS TO INFORMATION

No local programs to install. Access your sites through any device – PC, Mac, smart device. Immediately see what needs to be done with an intuitive dashboard



### PRIOTISED ALERTS

Receive real-time alerts for any malfunctions and incidents in your lighting control system. Prioritised by how critical they are to help you plan your work



### FAST AND EASY RESOLUTION WITH AUTO RECOMMENDATIONS

Each alert is accompanied by a specific recommendation on how to further diagnose or potentially resolve the issue



### NOTIFICATIONS WITH SEVERITY LEVEL

Subscribe to receive notifications via email for each site and each severity level, to help you react fast



### LOG HISTORIES FOR DEEPER ANALYSIS

A history of system events lets you dig into issues when needed



### ACCESS VIA VPN

Access capability for maintenance teams to centralise support over several sites at once



### EASY INTEGRATION

Alerts from sites can be integrated into other building system and services through well documented APIs



### IDENTIFY THE ISSUES

Instantly get a floorplan view of issues in the building, colour coded by severity level. You can see whether they are concentrated, and where the most critical ones are



### SAVE TIME AND MONEY ON EMERGENCY LIGHTING TESTS

Emailed DALI emergency reports save you time and money by completing emergency lighting tests with a click of a button

## 303 DIGIDIM Infrared Remote Control

Control power and dimming. Choose from four lighting scenes. Take instant control of the blinds.

It's easy with our infrared remote.

### Key features

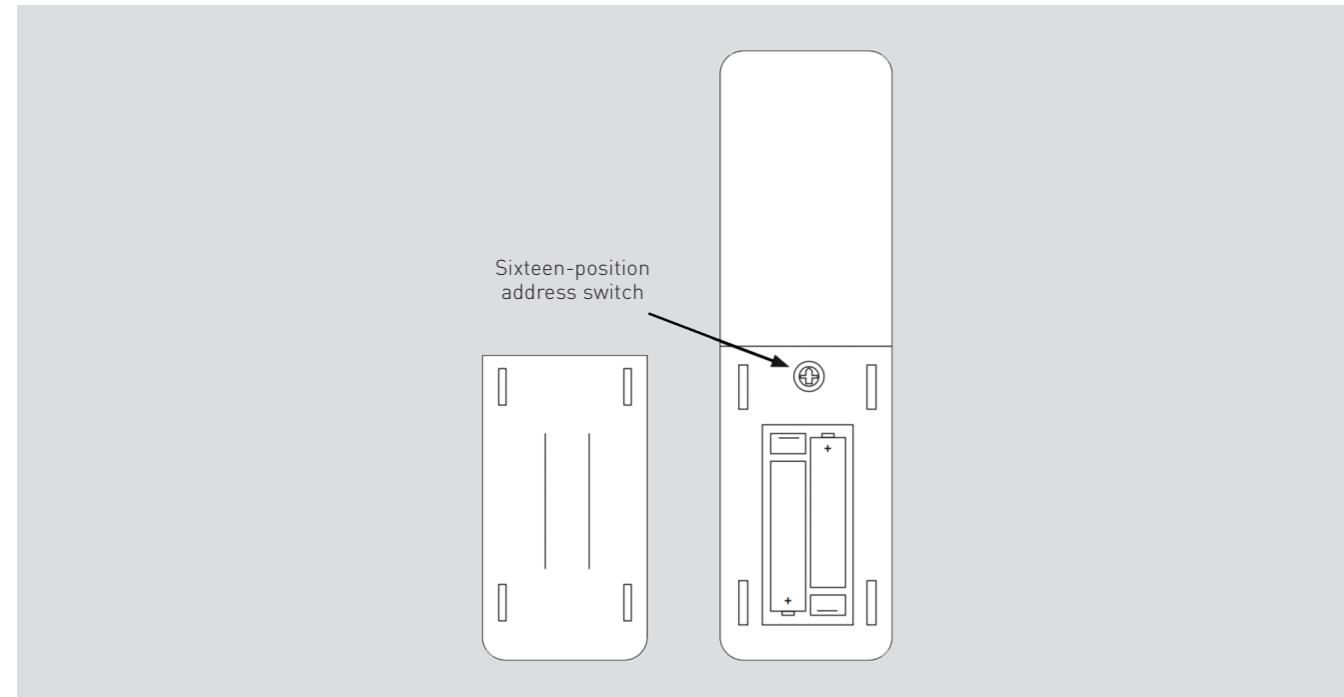
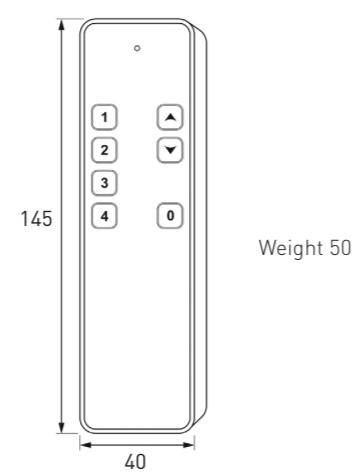
- Controls basic system functions.
- Programming tool for simple lighting systems (Helvar's Designer or Toolbox software is used for advanced programming).
- Up to four lighting groups can be programmed.
- Can be used for setting scene fade time.



### Technical data

Power supply	2 x IEC, LR03 / AAA
Battery	1.5V
Range	5 m
Frequency	36 kHz
Ambient temperature	0 °C to 40 °C
Dimensions	40 x 145 x 15 mm
Number of DALI addresses	0

### Dimensions (mm)



## 510 Toolbox / programming point / USB cable

Design and program autonomous lighting control systems with Toolbox, our Windows-based software.

You can download the software from [helvar.com](http://helvar.com)

The only extra you'll need is your programming point. The 510 interface comes complete with a 5 metre USB-A and mini USB-B cable.

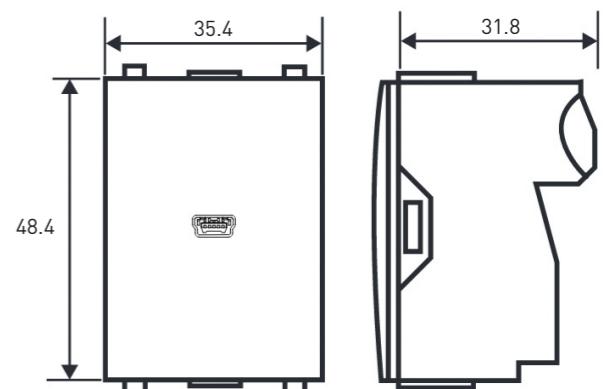


ToolBox

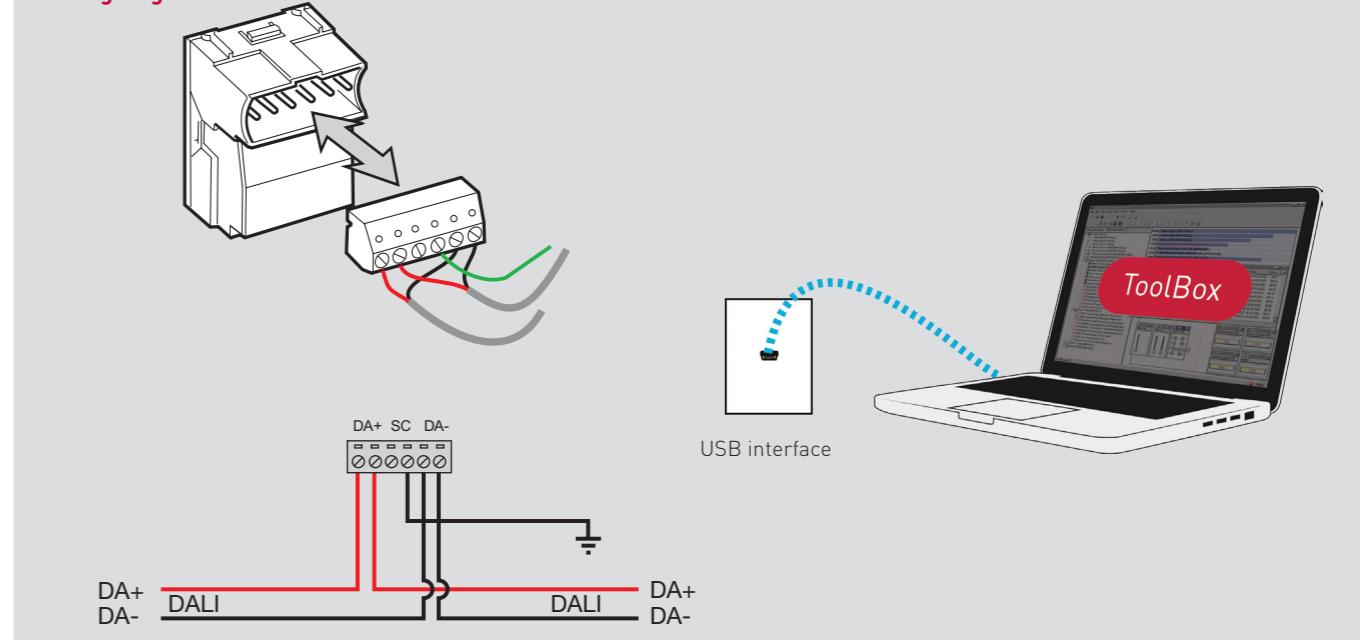
### Technical data

Power consumption from the DALI bus	4 mA
Insulation	3 kV
USB Cable length	5 m
Ambient temperature	0 °C to 40 °C
Degree of protection	IP20
Number of DALI addresses	1

### Dimensions (mm)



### Wiring diagram



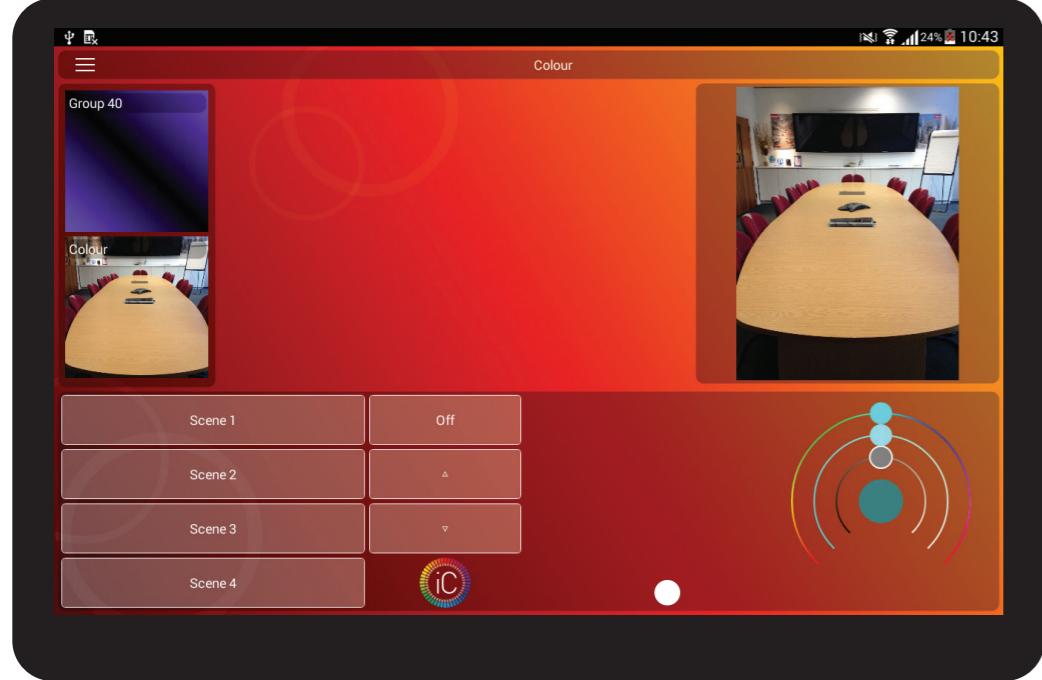
**SceneSet**

Take fingertip control of router systems through Wi-Fi on our free app.

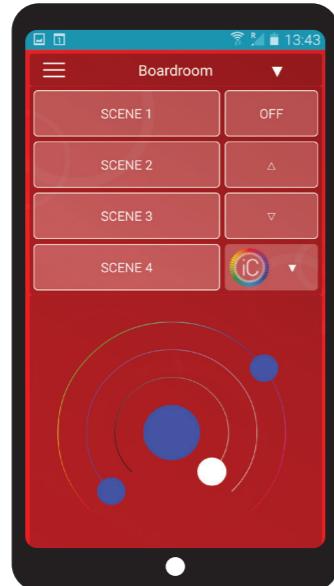
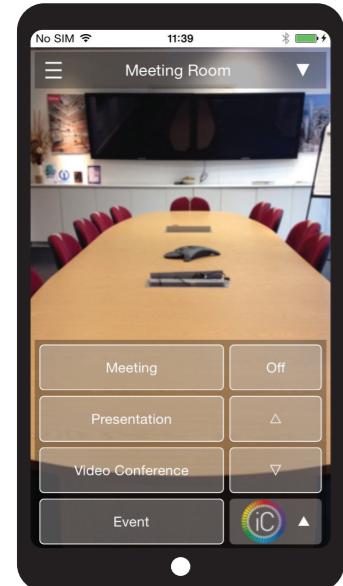
Easily modify lighting scenes. Update multiple lighting groups in one go. Even manage RGB colour and tunable white luminaires — all from this simple, customisable interface.



SceneSet for tablet devices.



SceneSet for iOS and Android.

**Got the App?**

Download the SceneTouch app to manage your scene controls.

**Designer Software**

The easy way to set up Imagine router systems. Access all your DALI lighting through the ethernet port.

Configure ballasts, LED power supplies and sensors — whatever's linked to the DALI bus.

Monitor and record system events. And keeps tabs on how everything's doing, making fault management simple.

**Functions**

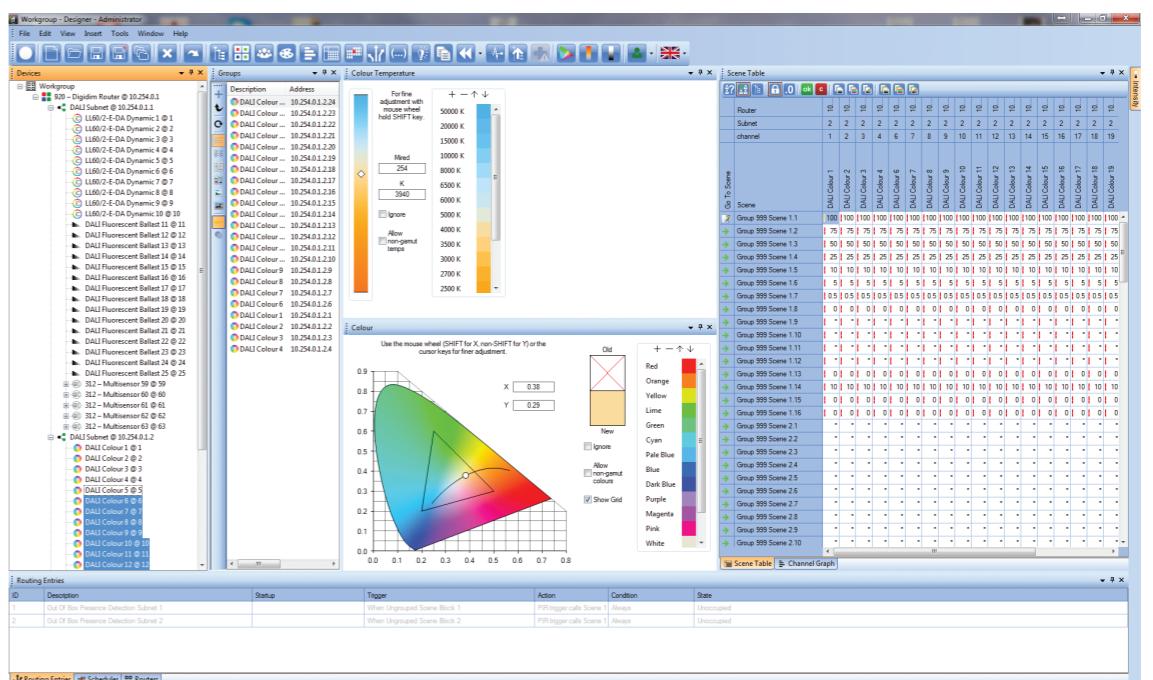
- Scenes, variable extinction times
- Schedule and logic functions
- Intelligent sensors
- Tunable white, RGB

**Monitoring**

- Live monitoring of scenes and lighting levels
- Error reporting and diagnostics

**Integration: Ethernet I / O**

- The Ethernet I / O module is a tool that allows direct access to the router's system
- Ethernet (TCP or UDP) commands can be used to control and monitor the DALI system



## Niagara Tridium Driver

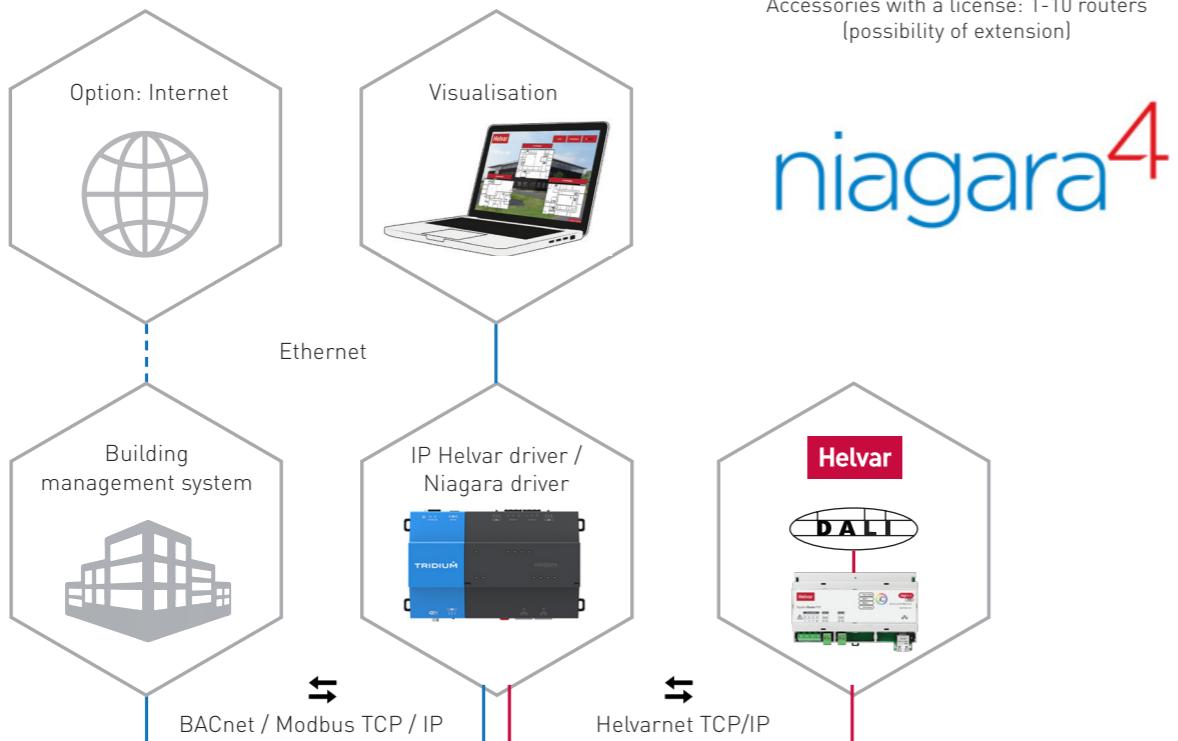
Our driver lets you dovetail your DALI lighting controls with building management systems. Niagara is the global standard for many installers - and thanks to our IP controller, you can work with BACnet, Modbus, LON or KNX.

### Key features

- Niagara4 Framework
- Ports: 2 x Ethernet + 1 x RS232 and 1 x RS485
- Server with the possibility of visualization
- Support for open communication networks: LON, BACnet, KNX-IP, Modbus, M-bus, SNMP, Z-wave and oBIX

### Technical data

- Power supply: 90-240 VAC, 50-60 Hz
- Ambient temperature: 0°C to 50°C



### Status / notification view:

- Condition of fittings and devices
- Lamp malfunction
- Ballast / LED driver fault
- No device
- Energy consumption
- Percentage of the luminaire darkening
- Sensor status (active / no movement)

### Lighting control commands:

- Calling up the scene
- Percentage darkening
- Adjust / change percentages and scenes

### Emergency lighting:

- Start an activity test
- Start the battery life test
- Stop testing
- Reset operating hours



Software license: 1-80 routers  
(possibility of extension)



Accessories with a license: 1-10 routers  
(possibility of extension)

**niagara<sup>4</sup>**

## Offices Statoil Headquarters, Norway

Statoil is an international energy company with operations in 36 countries around the world. Having approximately 21,000 employees worldwide and being listed on the New York and Oslo stock exchanges, in 2010 Statoil was ranked by Fortune Magazine as the world's 13th largest oil and gas company, and the largest company in the Nordic region by revenue, profit, and market capitalization.



The building is almost 70,000m<sup>2</sup> and houses around 2,500 employees across nine floors and five wings. Helvar System Partner in Norway, Vanpee Norge AS, in cooperation with luminaire manufacturer Fagerhult, have provided the lighting control to the

entire building. The new office is one of the largest DALI projects in Norway DALI. Overall the building houses almost 7,000 Helvar DALI components, ranging from the 910 routers to components which are able to control ventilation.



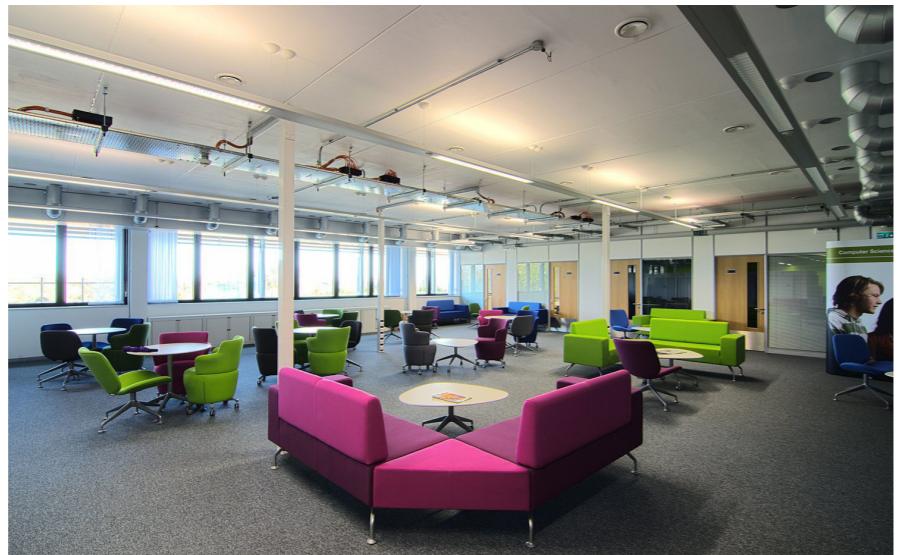
## Education University of Bath, United Kingdom



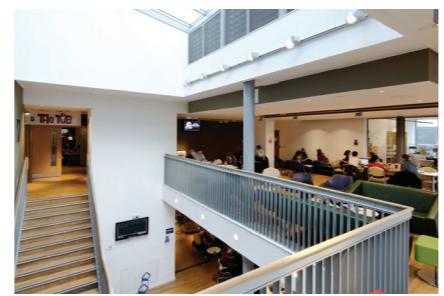
As part of a wider refurbishment scheme, systems integrator FAB Controls installed a Helvar DALI control system at the University of Bath.

The project required an intuitive lighting control system that would link together the infrastructure in each building whilst also reducing the energy spend for the university, all with a single lighting control system, managed from a central location by the on-site facilities team, which covered the entire campus.

"We selected Helvar DALI because its ability to integrate with any luminaire connected to the system. In addition we required integration into the university's audio visual system for automatic scene setting and we are delighted with the



finished system," says Richard Hughes, Electrical Service Manager at the University. "The significant savings in energy will help us achieve our wider efficiency targets as well as saving us tens of thousands of pounds over the life of the installation."



## Healthcare Seinäjoki Central Hospital, Finland

When extensive renovation work was undertaken at Seinäjoki Central Hospital (Finland), the focus for the refresh was to promote health and wellbeing. Helvar played a key role in achieving a functional yet calming environment to help patients feel relaxed and comfortable. The lighting design is made with people in mind, to make their work easier and time in the hospital more pleasant. Helvar was able to offer innovative solutions for lighting controls, by focusing on lighting intelligence, human centric lighting and energy efficiency to create what will be the largest installation of its kind in Finland.

Lighting serves the particular needs of different departments of the hospital, such as reflective



surfaces and dim spaces, the lighting can be easily adjusted to serve them.

The new lighting is practical as it adjusts itself to the changes of natural light and is always optimal for working.



## Hotels and Hospitality Marina Bay Sands, Singapore

Developed by Las Vegas Sands, it is billed as the world's most expensive standalone casino property at S\$8 billion (US\$5.7 billion). The resort features a 2,560-room hotel, 120,000m<sup>2</sup> convention-exhibition centre, six restaurants, an art and science museum, and much more.

Supplied and commissioned by IRC Pte. Ltd, a specialist in dimming systems for more than 20 years, the Helvar system seamlessly integrates the many lighting elements to combine energy efficient lighting design with striking displays of powerful scene-setting capability across the entire resort.



## Culture National Library of Finland

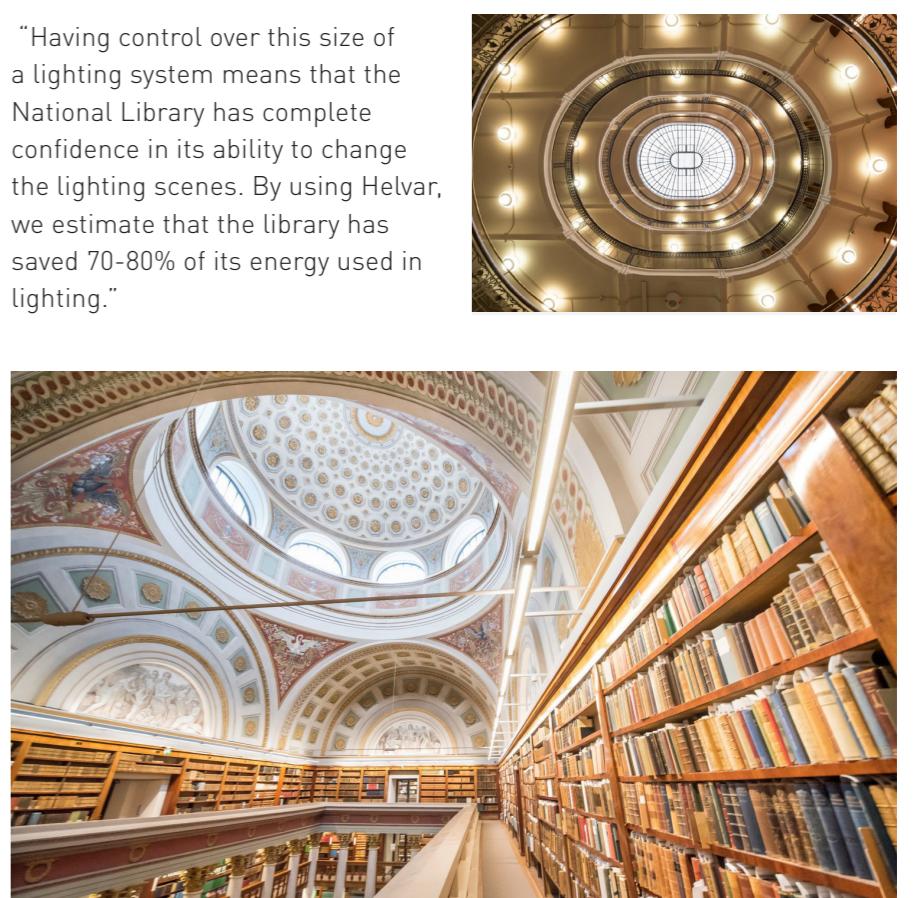


The beautiful national library of Finland, located in the heart of Helsinki city centre, was carefully renovated and re-opened its doors in early 2016.

The national library, which is the oldest and largest scholarly library in Finland, was looking for a lighting system that could be individually and flexibly controlled as the need for light changes frequently. Brighter, focused lighting was needed for book sales and fairs, while other areas are lit according to normal daily lighting needs. DALI lighting system was chosen for this job due to its capabilities in fulfilling the varied requirements.

Jukka Riikkula, Helvar Country Manager for Finland comments:

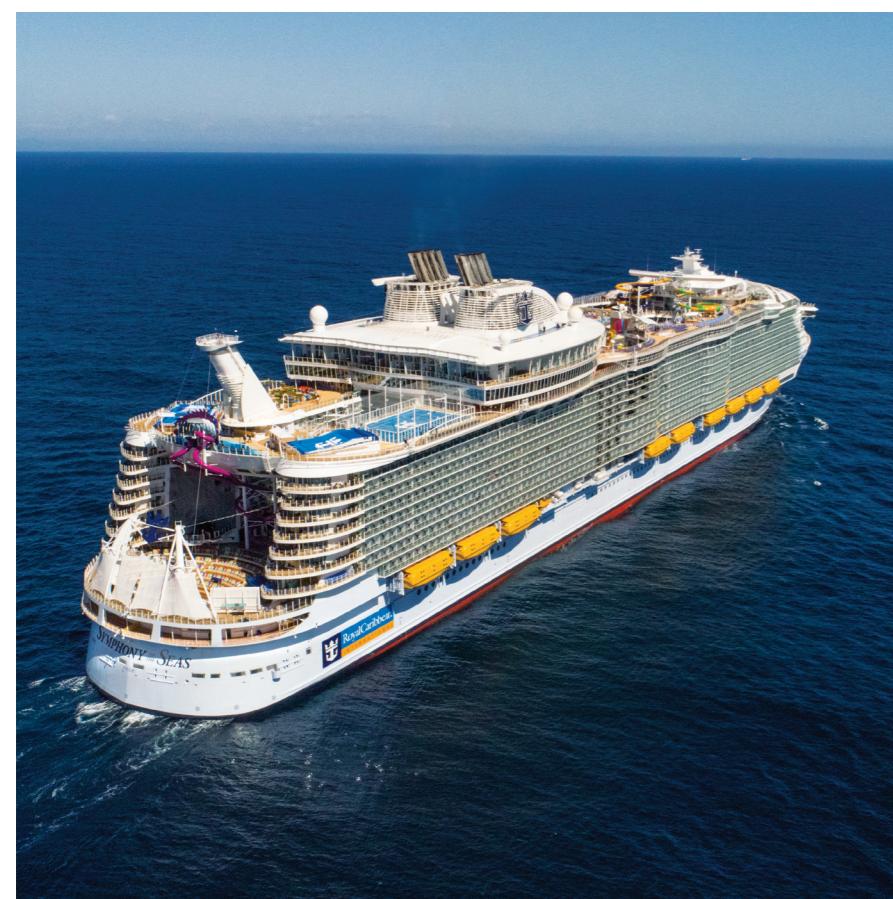
"Having control over this size of a lighting system means that the National Library has complete confidence in its ability to change the lighting scenes. By using Helvar, we estimate that the library has saved 70-80% of its energy used in lighting."



## Marine Royal Caribbean Symphony of the Seas

The Royal Caribbean's MS Symphony of the Seas is the largest ever passenger ship to be constructed by gross tonnage (228,081). Measuring 1,188 (362m) feet in length she is about five times the size of the infamous Titanic.

One of Helvar's marine partners won the project to deliver all lighting design and lighting integration. "We have been working with Helvar for 26 years now and delivered multiple large-scale cruise ships. The Symphony of the Seas is the largest cruise ship in the world today and decision to use Helvar lighting controls was an easy one – they are our trusted partner. Large scale projects like these require close collaboration and high



quality, that's where Helvar fits in," says Andreas Köhler from Wärtsilä FUNA.

The ship offers a range of different settings and experiences for guests in its seven neighbourhoods, each designed with unique features to suit different moods and appetites. As such a lighting system had to be able to deliver a sophisticated integrated solution to adapt to the varied lighting needs of a vessel of such vast proportions.

The vast lighting system includes:

- 80 x DIGIDIM dimmers,
- 270 x 4-Ch. Ballast Controllers,
- dimmers for 49 suites,
- 120 x 8-Ch. Relay Unit,
- 36 x Imagine Routers,
- 40 x 8 Scene Lighting Control Panels,
- 72 x 4 Scene Lighting Control Panels.

## Retail Niketown, London

Nike has recently reopened its flagship Niketown store on Oxford Circus in London following an extensive redevelopment. Helvar lighting control has been used across the reportedly largest Nike store in the world to deliver a creative and inspiring shopping environment.

Niketown covers approximately 3,900m<sup>2</sup> over four floors, offering a range of services and experiences.

The refurbishment forms part of a series of planned new store openings across the UK, designed to provide a 'premium experience' across the company's key sports categories.

As well as decorative lighting for retail sales areas, the



store incorporates a 'service professionals' zone where one-to-one advice is given to customers whose sporting action can be filmed, in order to match them precisely to the right products.



## Industrial Hartmann International, Germany

Logistics company Hartmann International takes its environmental responsibilities seriously. They were looking for optimal lighting with maximum energy efficiency in their warehouses, offices and loading bays across a total area of 40,000 m<sup>2</sup>.

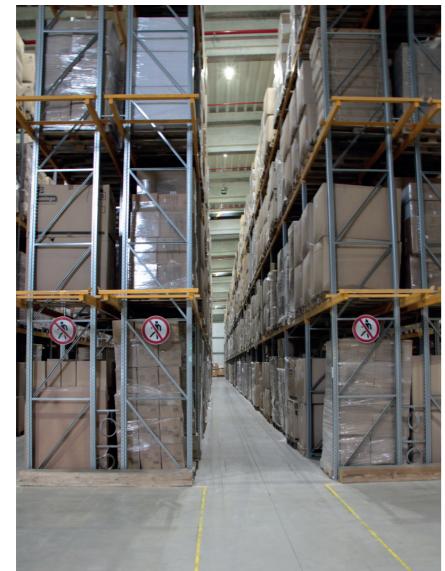
We divided the areas so lighting could all be controlled individually, using nine Helvar routers.

Sensors detected activity and respond using programmed patterns.

The corridors along the high storage shelves can extend up to 60 meters in length and are only lit up when people or vehicles pass by. We used our High-Bay PIR motion detectors, which detect motion at heights of up to 15 meters.

"The lighting project at the Paderborn head office is a complete success", says Andreas

Hartmann, managing partner of Hartmann International GmbH & Co. KG. "Energy savings of up to 75% and optimum illumination is a result that has exceeded our expectations."



## Residential Zero 4, Harrogate

"There are 31 Helvar multi-sensors in total spanning the substantial five bedroom property. Each one incorporates a constant light and PIR sensor to fulfil two key aspects of the lighting management; our brief outlined a desire for the home to omit no waste and the sensors proactively adjust lighting levels to achieve the architect, Larock's wishes" says Kris Hogg, the Managing Director of Konnectiv Technology.

Konnectiv employed PIR sensors which work on an absence/presence basis, so if a room is vacated and the lights are left on, the multi-sensors will recognise this and automatically generate a command to disengage the light in that room. The constant light aspect of the system also monitors the lux level and automatically adjusts to maintain a set level of light across the property.



## Transport Istanbul Airport, Turkey

Istanbul's New Airport has been designed to create a unique, spacious and environmentally friendly environment for its estimated 200 million passing passengers. The design and inspiration of the architecture has been drawn from its surrounding influences of Turkish-Islamic culture and heritage.

Istanbul's new airport is supported with a fully automated DALI lighting control system by Helvar using the DALI standard (EN32386) lighting protocol.

Using Helvar's two standard open protocols such as DALI and TCP/IP, Helvar can communicate with DALI luminaires, sensor and control panels via automation cable, saving a considerable amount of installation and commissioning time. The lighting controls at

the airport are monitored via a BMS system which measures the energy efficiency of Helvar's lighting system, and highlights lighting faults in real time to ensure maximum uptime.

With an area as large as this, it was vital for the team to be able to

monitor and reduce energy usage as much as possible, so additional features such as daylight harvesting are in place to ensure that lights are not in use when the right level of natural light is available.



## Notes

## Notes

## Notes

*Imagine*

**ActiveAhead**

**RoomSet**

**digidim**



**CE**



**D** Digital Illumination Interface Alliance

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**Helvar**