Outstanding lighting for colossal cruise liner Britannia

Photo © P&O
Lighting Control solutions

- **easySwitch**
  Simple switching solutions

- **iDim**
  Smart standalone solutions

- **digiDim**
  Programmable solutions

- **Imagine**
  Lighting management solutions
**Programmable solutions**

**Digidim**
- Smart programmable area control
- Scalable from small to large rooms or areas
- Provides energy efficiency whilst maximising user wellbeing
- Freedom for user to control via a wide range of user control panels
- Integration to audiovisual system

**Imagine**
- Maximal freedom in lighting design
- Flexible and scalable, from single room to large buildings or multi building campus
- Live energy monitoring and lighting control via various user interface options
- Possibility to create lighting scenes and transitions for automated control
- Simple but unique colour / colour temperature control
- Integration to other types of building automation systems

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

**iDim**
- Various smart and simple control solutions
- Either ceiling or luminaire mounted
- Easy installation with minimal or no configuration on site
- High level of automation and energy saving
- Smart solutions for refurbishment

**Smart standalone solutions**

**iDim**
- Various smart and simple control solutions
- Either ceiling or luminaire mounted
- Easy installation with minimal or no configuration on site
- High level of automation and energy saving
- Smart solutions for refurbishment
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, wash rooms and small offices.

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

<table>
<thead>
<tr>
<th>Solution</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helvar PIR Switching Sensors</td>
<td>Ceiling mounted on/off sensors</td>
</tr>
<tr>
<td>Helvar µDim PIR Sensor</td>
<td>Luminaire based basic functionality sensors</td>
</tr>
<tr>
<td>Helvar µDim Microwave Sensor</td>
<td>Luminaire based basic functionality sensors</td>
</tr>
<tr>
<td>TK4 1-10 V ballast controls</td>
<td>Simple wall control, used with 1-10 V ballasts/drivers</td>
</tr>
</tbody>
</table>

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

- Surface mount to solid ceilings or on a back-box
- Stand-alone mains switching sensor
- Up to 7 m diameter coverage area
- Presence or absence modes
- Simple time-out and lux settings
- Out-of-box operation
- Please note - this sensor is not DALI compatible.

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

- Compact, flush-mounted ceiling unit
- Stand-alone mains switching sensor
- Up to 7 m diameter coverage area
- Presence or absence modes
- Simple time-out and lux settings
- Out-of-box operation
- Please note - this sensor is not DALI compatible.
TK4 1-10V ballast controls

- Offers EN 60929 (1-10V) ballast control together with a mains power switch
- Styled to complement the Helvar DIGIDIM panel range
- Offers the same flexibility that the modular concept provides which allows any mix of TK4 and DIGIDIM control panels
- High power mains switch
- Easy to use slider control
- Switch on to last level

easySwitch Sensors

<table>
<thead>
<tr>
<th>STANDALONE SENSORS</th>
<th>Control Output</th>
<th>Functionality</th>
<th>Time-out</th>
<th>Motion detection area</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS-PIR-SW-01</td>
<td>Switched</td>
<td>PIR</td>
<td>10 secs - 40 mins (9 steps)</td>
<td>Presence or absence detection modes</td>
<td></td>
</tr>
<tr>
<td>SF-PIR-SW-01</td>
<td>Switched</td>
<td>PIR</td>
<td>10 secs - 40 mins (9 steps)</td>
<td>Presence or absence detection modes</td>
<td></td>
</tr>
<tr>
<td>µDim SL-MW-DA</td>
<td>DALI *</td>
<td>Microwave</td>
<td>10 secs - 30 mins (7 steps)</td>
<td>Presence or absence detection modes</td>
<td></td>
</tr>
<tr>
<td>µDim SL-MW-AN</td>
<td>1 - 10 V</td>
<td>Microwave</td>
<td>10 secs - 30 mins (7 steps)</td>
<td>Presence or absence detection modes</td>
<td></td>
</tr>
<tr>
<td>µDim SL-MW-SW</td>
<td>Switching</td>
<td>Microwave</td>
<td>10 secs - 30 mins (7 steps)</td>
<td>Presence or absence detection modes</td>
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</tr>
<tr>
<td>µDim SL-PIR-AN</td>
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<td>Presence or absence detection modes</td>
<td></td>
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<td>PIR</td>
<td>10 secs - 30 mins (7 steps)</td>
<td>Presence or absence detection modes</td>
<td></td>
</tr>
</tbody>
</table>
For an intelligent standalone solution, Helvar’s iDim family provides a perfect choice. With luminaire and ceiling mounted options, the iDim solutions are easy to install, with minimal or no configuration needed on site. Ideally suited for new build or refurbishment projects, iDim products offer smart energy saving features and user comfort.

- Various smart and simple control solutions
- Either ceiling or luminaire mounted
- Easy installation with minimal configuration
- Smart solutions for refurbishment

<table>
<thead>
<tr>
<th>Solution</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>freeDim</td>
<td>Easy to install and intuitive luminaire based wireless lighting control solution</td>
</tr>
<tr>
<td>Active+</td>
<td>For self-learning energy saving luminaires</td>
</tr>
<tr>
<td>Select the Weather</td>
<td>For out-of-the-box Human Centric Lighting</td>
</tr>
<tr>
<td>iDim Orbit</td>
<td>Complete room control in a ceiling mounted sensor</td>
</tr>
<tr>
<td>iDim Basic</td>
<td>For easy standalone luminaire based applications</td>
</tr>
</tbody>
</table>
iDim Basic

The luminaire based iDim concept provides 6 out-of-box application modes that are easy to select just by rotating the Mode Selector on the iDim Sense. The modes are designed to fulfill the needs for easy-to-use, energy saving lighting control. The basic functions are pre-programmed and are fully adjustable to meet all requirements.

iDim Sense
316

- Compact DALI sensor for standalone use
- Works with all iDim ballasts and drivers
- Used with iDim Solo, provide 2-channel control
- PIR motion sensor, Constant Light with offset, & Infrared Receiver
- Simple rotating selector provides 6 pre-programmed modes
- Easy click-mounting from outside luminaire
- Clip-on PIR restrictor

Note: Not compatible with DIGIDIM Toolbox and Helvar 905/910/920 Router systems

iDim Solo
403

- Compact and versatile interface module
- Can be used inside or outside the luminaire
- Easy and quick wiring for both alternatives; iDim standalone and networked lighting systems
- DALI power supply, 96 mA (total)
- 2 × switch control inputs and mains connection input
- 2 × DALI outputs

iDim Remote
304

- For controlling or modifying the iDim applications
- Configuration of target light levels
- Advanced programming (upload settings via PC + ‘zap function’) with iDim Studio software
- Graphical PC user interface

More technical details via QR code or at: helvar.com/products/idim

Please refer iDim user guide for detailed description of the iDim modes.
Helvar’s Active+ is an out-of-the-box standalone solution consisting of an LED driver and “our smallest sensor” yet built into the luminaire.

**ACTIVE+ LED DRIVER**
The Active+ LED drivers (e.g. LL1x10-42 Active+) have an inbuilt smart learning functionality. With no need for programming, configuration or external control wiring, the LED driver is optimised for presence detection and daylight harvesting. The driver has an inbuilt power supply that provides power for the Active+ Sense.

**ACTIVE+ SENSOR**
The Active+ Sense combines motion and light sensing all packaged up in a very compact unit. The device is mounted inside the luminaire and is connected directly to the Active+ LED driver with no need for an additional power supply unit.

**FITTING IN A LUMINAIRE**
The Active+ driver and sensor are designed to fit flexibly into a luminaire, which then can be installed as easily as a basic switching luminaire, having no physical or electrical connection to any other external lighting components such as control panels, dimmers or common sensors. Luminaires fitted with Active+ solution are ideal for refurbishment projects, as well as for new offices, corridors, open plan areas and storage areas.

**SIMPLE INSTALLATION:**
Luminaire fitted with Active+ is as easy to install as a simple switched luminaire. No control wiring, programming or configuration is needed.

**SELF-LEARNING:**
Active+ uses 60-100 hours to learn about its environment - external daylight conditions, and other luminaires around it.

**SMART ENERGY SAVINGS:**
Compared to a simple switched luminaire, Active+ brings added features - presence detection, daylight harvesting and seamless and comfortable dimming.

**OPTIONAL ACTIVE+ MOBILE APP**
With an optional Active+ Mobile app, the end user can easily change the light levels of individual luminaires if the automatic setup needs fine-tuning.

More technical details via QR code or at: helvar.com/products/active
# Dimmable LED driver with Active+ functionality

**LL1x10-42 Active+ - 1x10-42 W**

- Fully automatic standalone setup with smart learning functionality
- Optimised presence detection, daylight harvesting and Constant Light Output (CLO) operation
- Inbuilt power supply for sensor use
- Overwriting option for sensor parameters
- Hybrid dimming technique for high quality light
- High efficiency 0.93

<table>
<thead>
<tr>
<th>Control</th>
<th>Automatic Active+ algorithm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max output power</td>
<td>42 W</td>
</tr>
<tr>
<td>Product category</td>
<td>Adjustable I-OUT</td>
</tr>
<tr>
<td>Output current</td>
<td>120 mA (default) - 350 mA</td>
</tr>
<tr>
<td>Output protection</td>
<td>Non-isolated</td>
</tr>
<tr>
<td>Luminaire class</td>
<td>Class I</td>
</tr>
<tr>
<td>Type</td>
<td>Linear, Indoor</td>
</tr>
</tbody>
</table>

## Active+ Sense

**T3020**

- Directly fitted into the luminaire
- No need for additional wiring to luminaire
- Powered by Active+ driver
- Plugs directly into the Active+ driver
- Flexibility for luminaire installation
- Combines motion and light sensing
- Compact unit (32.4 mm x 15.5 mm x 15 mm)

## Mobile app for Active+

**Active+ Mobile**

The Active+ Mobile is an app for adjusting settings in the new Helvar Active+ solution. To use this app you must have an approved smart phone for the application running Android version 4.0 (or later) equipped with an LED flash (list of tested and approved phones can be found on the app store description), a luminaire fitted with an Active+ LED driver and the Active+ Sense.

Settings that can be adjusted are:

- Lights on and Power Save light levels
- Occupancy time-outs
- Fade times
- Transition time-outs
- Daylight dimming ranges
- Bright-out functionality
Select the Weather (STW) is a simple Human Centric Lighting solution with value added functionality. With this solution it is possible to simulate different scenes of the natural outdoor lighting environment by changing the colour temperature and intensity of the lighting. The solution is easy and quick to install without any configuration needed on site.

### Icon Effect When to Use Colour Temperature Light Output

<table>
<thead>
<tr>
<th>Icon</th>
<th>Effect</th>
<th>When to Use</th>
<th>Colour Temperature</th>
<th>Light Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>☀️</td>
<td>Calm down</td>
<td>High stress period</td>
<td>Warm</td>
<td>80%</td>
</tr>
<tr>
<td>☀️</td>
<td>Energise</td>
<td>Early morning</td>
<td>Cool</td>
<td>100%</td>
</tr>
<tr>
<td>☁️</td>
<td>Concentrate</td>
<td>Thinking process &amp; Presentations</td>
<td>Intermediate</td>
<td>50%</td>
</tr>
<tr>
<td>☁️</td>
<td>Stay alert</td>
<td>Normal daily work</td>
<td>Changing naturally</td>
<td>90%</td>
</tr>
</tbody>
</table>

**EASY SOLUTION FOR HUMAN CENTRIC LIGHTING**

For a fully functioning solution, you need only Helvar Select the Weather panel
- Helvar Dynamic LED Drivers in the luminaires
- Helvar iDim Solo DALI power
- Helvar Ceiling Motion Detector [optional]
The solution is easy and quick to install without any configuration needed on the site.

More technical details via QR code or at: helvar.com/products/select-the-weather
Select the Weather Panel
135 STW

The 135 STW ‘Select-the-Weather’ panels are a DALI-compatible range of user interfaces that allow control of the lighting system. Each module is fitted with indicator LEDs and an infrared receiver for remote operation.

The panel lets you select your desired illuminance and colour temperature scene from four preprogrammed scenes.

DALI LED driver with preset scenes for Tunable White
LL60/2-E-DA Dynamic - 60 W

- 4 preset Tunable White scenes simulating different weather conditions, Dynamic scene as default
- Easy solution for Tunable White control in new build
- No driver or module configuration needed
- Out-of-box dynamic operation without DALI network
- 3 % - 100 % dimming range per scene
- SELV rated output channels
- igh efficiency, 0.90

iDim Solo
403 (used as DALI power supply)

- Compact interface module
- Easy and quick wiring
- DALI power supply, 96 mA (total)

Ceiling Motion Detector
311

- Compact, flush-mounted ceiling unit
- PIR motion detection
- Up to 7m diameter coverage area
- Small physical size
freeDim
for personalised lighting comfort

Free to connect. Free to control. Free to own. Welcome to freeDim.

A solution that allows lighting exactly the way you want it and adapts to your needs and personal preferences, freeDim lets you create your own lighting solution which mimics daylight, saves energy and energises you at the same time.

You create your own preferred lighting scene for your chosen space, which is automatically saved and wirelessly triggered by your smart iOS or Android device. By automatically detecting the presence of a Bluetooth®-enabled device, freeDim can switch on the lights in the room, adjusting to the users personal settings before they enter. This connection will ensure that the lights stay on when occupied, to offer true presence detection. Lighting is automatically switched off after the space is no longer occupied, without the need to rely on a motion sensor, providing additional energy saving.

With a dedicated App, a user is able to configure the system without the need for 3rd party support. Additionally a user can select pre-defined scenes or adapt the lighting conditions (intensity & colour temperature) to their own personal preference offering a true personalised lighting experience.
freeDim Master FD-1101

This wireless controller is the central element in Helvar’s freeDim lighting solution, which provides personalised lighting control. The unit uses the information provided by freeDim Sense to intelligently control lighting levels and reduce energy usage.

- Improved lighting control using DALI Type8 protocol (colour temperature)
- Provides various dynamic lighting sequences and scenes
- User-defined profiles stored in the unit
- Four predefined scenes and two user-defined scenes
- Smart setup and control by the freeDim app supported on Bluetooth®-enabled devices

freeDim Follower FD-2101

The freeDim Follower controls additional loads for Helvar’s freeDim lighting control solution for personalised lighting control.

The unit is wirelessly controlled by the freeDim Master. Up to 10 freeDim Followers can be connected to each freeDim Master.

freeDim Sense FD-3101

The freeDim Sense is a small luminaire-based sensor that combines a photocell, a passive infrared presence detector and a switch. The freeDim Sense is attached to a flexible connection cable terminated with a six-way modular connector which plugs into a freeDim Master unit.

- Small and inconspicuous, it does not change the appearance of the luminaire.
- Provided with mounting features that can be snapped into sheet metal: two on each side, and two on the rear.
- Provides daylight harvesting and presence detection to the freeDim lighting system.

freeDim App

- Allows user control & configuration from a Bluetooth-enabled smart device i.e. Smart phone or tablet
- Compatible with Android (4.3 or later) & Apple (iOS 7 or later) operating systems
- Available to download from Google Play & iTunes
iDim Orbit is a stand-alone, flush-mounted sensor that provides easy installation and configuration of lighting control applications. It is ideal for open plan and cellular offices, classrooms and corridors.

iDim Orbit has out-of-box functionality for configuration-free operation. It uses pluggable connectors for simple, screwless termination of mains, DALI and switch-input cables. The PIR detector enables the sensor to detect when a room is occupied. People in the room can manually control the lighting if a manual switch is connected to the sensor. The sensor is designed to be recessed in a ceiling void or mounted onto a surface mount box. Settings can be adjusted via the mobile app.

THE UNIT CONTAINS:
- Passive infrared (PIR) movement detector(s)
- Light sensor
- Bluetooth module for configuration via a smartphone or tablet
- Timeclock for profile scheduling
- DALI power supply with 2 DALI broadcast outputs
- Mains relay for switched load control
- Safety Extra Low Voltage (SELV) manual switch interface
**ORBIT KEY FEATURES**

- Presence or absence detection modes
- Up to 7 m movement detection at 2.8 m mounting height (OB-1101)
- Up to 15 m movement detection at 2.8 m mounting height (OB-1501)
- 3 independently configurable control outputs (2 x DALI broadcast, 1 mains relay)
- Programmable constant light control for energy efficiency
- Sensor behaviour (Profile) scheduler (2 profiles per day, 7 day configurable)
- Manual control via SELV switch inputs for extra user safety
- Easy installation via 2 part mains and DALI connectors with screwless terminations and built-in strain relief
- Simple configuration via smartphone or tablet, including a library of application profiles and custom profiles
- Backup and sharing of profiles via cloud services and email

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**iDim Sensors** (standalone)

<table>
<thead>
<tr>
<th>STANDALONE SENSORS</th>
<th>Control interface</th>
<th>Functionality</th>
<th>Motion detection area</th>
<th>Constant light reception area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active+ Sense</td>
<td>N/A</td>
<td>PIR</td>
<td>N/A PIR</td>
<td>3m x 7m (OB-1101)</td>
</tr>
<tr>
<td>freeDim Sense</td>
<td>N/A</td>
<td>PIR</td>
<td>N/A PIR</td>
<td>3m x 7m (OB-1501)</td>
</tr>
<tr>
<td>iDim Sense 316</td>
<td>DALI *</td>
<td>PIR</td>
<td>N/A PIR</td>
<td>3m x 7m (OB-1101)</td>
</tr>
<tr>
<td>iDim Orbit OB-1501</td>
<td>DALI</td>
<td>PIR</td>
<td>2.5m x 7.1m (OB-1501)</td>
<td></td>
</tr>
<tr>
<td>iDim Orbit OB-1101</td>
<td>DALI</td>
<td>PIR</td>
<td>2.5m x 7.1m (OB-1101)</td>
<td></td>
</tr>
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</table>
DIGIDIM System

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.

Digital Key Features
- Smart programmable area control
- From rooms to large areas
- Energy efficiency together with wellbeing
- Wide range of user interfaces
- Integration to AV systems

System Architecture
- Smart programmable area control
- From rooms to large areas
- Energy efficiency together with wellbeing
- Wide range of user interfaces
- Integration to AV systems

System Boundaries
- Supports up to 63 DALI devices
- 250mA DALI supply per system. If additional power is required use Helvar 405 or 406 DALI repeater
- Each system may be configured with up to 16 groups
- Each load may be programmed with up to 15 scenes
1xx Modules / 2xx Frames **Modular Panels**

- Fully DALI compatible range
- Allow basic control of the system
- The range includes push button, rotary and slider controls in a range of panel finishes
- Indicator LED and infrared receiver
- Out of box operation
- Fits DIN and UK standard back boxes
- Double gang version can take up to 3 independent module types

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13xx Modules / 23xx Frames **Modular Panels**

- Fully DALI compatible range of user interfaces with modern styling
- Allow basic control of the system
- The range includes a wide variety of buttons arrangements
- The button panels are complemented by a range of panel finishes
- Indicator LED and infrared receiver
- Out of box operation
- Designed to fit both DIN and UK standard back boxes
- Double gang version can take up to 3 independent module types

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13xx Modules / 25xx Frames **Modular Panels**

- Fully DALI compatible range of user interfaces with modern styling
- Allow basic control of the system
- The range includes a wide variety of buttons arrangements
- The button panels are complemented by a range of panel finishes
- Indicator LED and infrared receiver
- Out of box operation
- Designed to fit Australian standard back boxes
16xxx **Control Panels**

16xxx series is a range of DALI compatible button panels that allow control of the system. The buttons have LEDs indicating the selected scene. Each module is fitted with an infrared receiver that gives the option of remote operation using remote control.

- Fully DALI-compatible range
- Allow basic control of the system
- Range of switch combinations
- Indicator LED with programmable brightness
- Infrared receiver for DIGIDIM hand-held remote control
- Out-of-box operation
- Suitable for UK back box only

18xx **EnOcean Switches**

The 18xx wireless switch modules are an EnOcean-compatible range of user interfaces that allow control of the system. Designed to work with the Helvar EnOcean Gateway, each switch is fully programmable in Designer or Toolbox.

**Key Features**

- Choice of single or dual rocker, and black [B] or white [W] modules
- Self powered batteryless and wireless
- EnOcean RF technology
- Easy installation: double-sided mounting pad (enclosed) or screwed onto flat surface

19xxx Front Fascia / 29x Rear Unit **ILLUSTRIS**

- Capacitive touch control panel
- DALI Type 8 compatible range
- Intensity, colour temperature and RGB colour control options
- Out of box operation
- Indicator LEDs
- Bluetooth connectivity for control and scene editing from mobile device or tablet
- Two part construction including decorators cover for Rear Unit
- Glass or plastic front fascia.
- Haptic feedback
- Designed to fit both DIN and UK standard single back boxes
452 1000 W, Universal Dimmer

Single-channel universal dimmer, suitable for leading or trailing-edge loads including mains-dimmable LED. The dimmer is a DIN-rail mounted unit that can control a maximum load of 1000 W. Out-of-box operation. No programming required when using DIGIDIM slider, rotary, or push button panels.

Key Features
- Suitable for mains-dimmable LED (check with Helvar for compatibility)
- Capable of handling resistive and capacitive loads
- Manual configuration via LED display and push buttons
- Wired volt-free override input
- Voltage and frequency compensation
- Over current and temperature protection

454 4 x 500W Transistor Dimmer

The DIN rail mounted 454 is a 4-channel transistor dimmer. It can operate in one of two modes; leading edge or trailing edge. All 4 channels operate in the same selected mode, with each channel capable of controlling 2.2 A. Each channel of the dimmer has both current and thermal protection.

Key Features
- Suitable for mains-dimmable LED (check with Helvar for compatibility)
- Capable of handling resistive and capacitive loads
- Manual configuration via LED display and push buttons
- Wired volt-free override input
- Voltage and frequency compensation
- Over current and temperature protection

472 1-10 V / DSI Converter

DALI to 1-10 V / DSI® converter. Switch a maximum of 15 electronic ballasts or LED drivers. The analogue 1-10 V / digital DSI signal can control up to 50 electronic ballasts.

Key Features
- Switch for manual DALI group selection
- 1-10 V & DSI® output for 50 ballasts / LED drivers
- Status LED

DSI® is a registered trademark of Tridonic
474 4-Channel Ballast Controller

4-channel DALI to 0/1-10 V / DSI® / PWM converter, suitable for controlling electronic ballasts and LED drivers, fitted with high inrush relays rated at 16 A per channel, which handle short-lived high peak currents during switch on of loads. The outputs can be configured independent of, or paired with relay channels.

Key Features
• High inrush relays
• Wired override input to allow for external triggers
• LED segment display and push buttons
• Multiple output configurations of either:
  • 0 - 10 V source 10 mA
  • 1 - 10 V sink 100 mA
  • DALI-broadcast- / DSI®- / PWM source 100 mA
  • DALI / S-DIM / DMX control inputs

DSI® is a registered trademark of Tridonic

478 8-Subnet DALI Controller

8-subnet DALI Controller, suitable for controlling ballasts/drivers when device addressing is not required. This reduces commissioning and maintenance cost, as failed devices can be simply replaced. The flexible control inputs support multiple protocols, by routing an input address/group to its corresponding subnet output.

Key Features
• Control using DALI Broadcast messages on each subnet
• Integral DALI Power Supply – supports up to 512 DALI devices [2 mA per driver/ballast]
• Lamp failure reporting per subnet (when supported by DALI devices)
• Lower commissioning costs - device addressing/grouping on subnet not required
• DALI / S-DIM / DMX control inputs
490 2-Channel Blinds Controller

Two-channel blinds controller, designed for control of blinds and curtains. Two independent control channels each with two single pole, volt free contacts for switching up / down or power / direction motors. Programmable “blind travel time”.

Key Features
• “Break before Make” operation to prevent motor damage
• Isolated mains rated relays, normally open and volt-free
• Status LED

494 4-Channel Relay Unit

Four channel DALI Relay Unit, designed to allow control of non-dimmable loads. The relay unit is a DIN-rail mounted unit that has four individually programmable relays. The relays are ‘normally open’, volt free and can switch up to 10 A resistive loads.

Key Features
• Isolated relays, normally open and volt free
• Manual override
• Status LED

492 16 A 1-channel Relay Unit

Single channel relay unit, designed to allow control of non-DALI, non-dimmable loads. The relay is a latching, volt-free contact, high inrush type, with a contact rating of 16 A. The unit forms a DALI relay node with a typical current consumption of 2 mA, and is programmable as a single channel relay by Helvar’s lighting design software, Designer and Toolbox.

Key Features
• High power switching capability (16 A)
• High inrush relay
• Compact size for luminaire, electrical panel or in-line mounting
• Secure strain relief
493 1-Channel Signal Relay Unit

Single channel relay unit, designed to allow interfacing with other building control and management systems. The relay is a solid-state, normally open signal relay, with a contact rating of 60 VAC or VDC, at a maximum of 0.5 A. The unit forms a DALI relay node with a typical current consumption of 10 mA, and is programmable as a single channel relay by Helvar’s lighting design software, Designer and Toolbox.

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 strain relief

498 8-Channel Relay Unit

Eight-channel Relay Unit, fitted with individually programmable high-inrush relays to allow control of non-dimmable loads. The relay unit is DIN-rail mounted. The relays are 'normally open', volt-free relays rated at 16 A per channel. The relay unit has DALI, DMX, and S-DIM ports.

Key Features
• LED display and control buttons
• High-inrush relays
• Override input for external triggers
• DALI / S-DIM / DMX control inputs

499 8-Channel Latching Relay Unit

The 8-Channel Latching Relay Unit is an eight channel controller that supports high-inrush loads up to 20 A per output. Each output is controlled individually, and any mains-supply phase can be connected on any of them.

Key Features
• Latching single-pole relays with manual switch control.
  Maximum load: 20A per output, 160A total
• Can operate as 8 individual channels, 4 sets of 2 channels, or 2 sets of 4 channels
• Staggered switch-on to reduce inrush current
• Local configuration via LED-segment display and push buttons
458/DIM4 or DIM8 - 4/8 Channel Thyristor Dimmer Modules

Multi-channel thyristor dimmer modules, capable of leading-edge dimming of resistive and inductive loads. Each module has 4 or 8 channels rated at 10A with a total current capacity of 40A and 48A respectively. Each module has DALI, S-DIM and DMX interfaces for integration into DIGIDIM and Router systems. The optional 458/OPT4 module allows 4 dimmed channels to be converted to 4 ballast control channels.

Key Features
- Module connects to any 458xx mechanical chassis
- LCD display screen with navigation keys
- Built-in power supply for DALI systems if required
- Accepts options module 458/OPT4
- DALI / S-DIM / DMX control inputs

458/UNI8 - 8 Channel Universal Dimmer Module

Eight channel transistor dimmer module for leading or trailing edge dimming. The module is compatible with the majority of load types including Incandescent, mains dimmable LED lamps and LED drivers. The module’s 8 channels can be individually selected as leading or trailing edge, and are rated at 6A each. The module has DALI, S-DIM and DMX interfaces for integration into DIGIDIM and Router systems.

Key Features
- Module connects to any 458xx mechanical chassis
- LCD display screen with navigation keys
- DALI / S-DIM / DMX control inputs
- Active bottom load

458/CTR8 or SW8 - 8 Channel Ballast or Switching Control Modules

Eight channel ballast control module (458/CTR8), capable of controlling either 0-10V, 1-10V, DSI, DALI broadcast or PWM loads. (The 458/SW8 is not capable of controlling these load types. It is a mains switching unit only). Both modules have 8 high inrush relays, rated at 16A per channel. Each module has DALI, S-DIM and DMX interfaces for integration into DIGIDIM and Router systems.

Key Features
- Module connects to any 458xx mechanical chassis
- LCD display screen with navigation keys
- DALI / S-DIM / DMX control inputs
458M1 **Single Mechanical Chassis**

The DIGIDIM 458M1/ is a single mechanical chassis which can house any one DIGIDIM 458 control module, to provide 8 channels of control. The chassis is provided with an MCB per channel.

**Key Features**
- Vertical wall-mounted and installer-friendly
- By-pass connectors for operation without a module
- S-DIM cable loom for easy module connection included

458M2 **Double Mechanical Chassis**

The DIGIDIM 458M2/ is a double mechanical chassis which can house any two DIGIDIM 458 control modules, to provide up to 16 channels of control. The chassis is provided with an MCB per channel.

**Key Features**
- Vertical wall-mounted and installer-friendly
- By-pass connectors for operation without a module
- S-DIM cable loom for easy module connection included

458M3 **Triple Mechanical Chassis**

The DIGIDIM 458M3/ is a triple mechanical chassis which can house any three DIGIDIM 458 control modules, to provide up to 24 channels of control. The chassis is provided with an MCB per channel.

**Key Features**
- Vertical wall-mounted and installer-friendly
- By-pass connectors for operation without a module
- S-DIM cable loom for easy module connection included
402 **DALI Power Supply**

- Fully DALI compatible Power Supply Unit
- Provides a DIGIDIM system with the required supply of up to 250 mA
- Status LED
- DALI short circuit and over temperature protected
- DIN-rail mounted

405 **DALI Repeater**

- Extends the maximum DALI line length from 300 m to 600 m.
- Provides 250 mA current at the DALI-OUT side.
- DALI Messages are unfiltered.
- Strain-relief for standalone installation (included)
- Suitable for use with all DALI applications, including Router/Toolbox systems
- Suitable for use as a DALI Power Supply

_A DIN-rail mounted version [Product Code 406] will be available in summer 2016_

503 **AV-interface**

- Permits the connection of a DIGIDIM system to the RS232 port on a personal computer / AV system
- DIN-rail mounted
- Status led
- 4 kV isolation between DALI and the RS232 port
- Terminal blocks for wiring
505 Toolbox interface

- A small, compact in-line interface that permits the connection of a DIGIDIM system to a Laptop or PC
- Full optical isolation (3 kV) between the DIGIDIM system and the RS232 input on the computer
- LED to show DALI status/messages
- 9 Pin D Type connector, with 5m of cable. Cable is terminated with ferrules, suitable for commissioning use
- Also supplied with a USB to RS232 adaptor, suitable for computers without a serial port

510 USB to DALI Interface

USB to DALI interface connecting a PC, running Helvar Toolbox programming software, to a Helvar DIGIDIM DALI network. The 510 Interface unit is housed in a standard Helvar panel module.

Key Features
- Simple insertion into DIGIDIM modular panels
- Quick and simple PC-to-DALI connection
- Black and white fascias included
- Standard mini-B USB connector
- Powered from DALI network

434 EnOcean Gateway

The 434 EnOcean Gateway lets you connect wireless and battery-less EnOcean controls to a Helvar DALI lighting network. The 434 is for mounting on the ceiling or on walls, and requires only a single electrical connection to a DALI network.

Key Features
- Integrate wireless, battery-less switches into DALI network
- Simple installation
- Gateway is powered by the DALI network
- Up to 20 switches can be integrated via one gateway
441 and 444 Mini-Input Units

- Allows customer specified switches, sensors, time clocks or other on/off control devices to be incorporated into a Helvar lighting control system
- Manufactured in the form of a ribbon cable with encapsulated electronic module
- Suitable for installing behind a switch plate, in the back box
- 441 has one volt free contact suitable for connection to sensors
- 444 has 4 volt free contacts that may be momentary or latching
- Comprehensive programming options via Designer and Toolbox Software

445 Switch Interface Unit

- Very compact interface for the conversion of 3rd party switches or button panels
- 4 LED driver outputs
- Connections to the unit are via screw terminals
- Compatible with a Helvar lighting control system
- Operation is configured with Helvar Toolbox or Designer software
- Powered from DALI network

440 Input Unit

- DALI compatible interface
- DIN-rail mounted
- Allows customer specified switches, sensors, time clocks or other on/off control devices to be incorporated into a Helvar lighting control system
- Has 8 volt-free inputs which may be momentary or latching
- Inputs are volt free
- Comprehensive programming options via Toolbox Software

Note: Not compatible with 905, 910 or 920 Routers - use 942
## DALI System Sensors

Compatible with DIGIDIM and 905/910/920 Router Systems

<table>
<thead>
<tr>
<th>DALI SENSORS</th>
<th>Functionality</th>
<th>Motion detection area</th>
<th>Comments / Constant light reception area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceiling PIR Detector (311)</td>
<td>PIR</td>
<td>2.8 m x 7 m</td>
<td>Versions available: 311 - IP20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>311P - IP55 rated</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>311M - IP55 / -30°C</td>
</tr>
<tr>
<td>Multisensor (312)</td>
<td>PIR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Profile Microwave Detector (313)</td>
<td>Microwave</td>
<td>2.8 m x 7 m</td>
<td></td>
</tr>
<tr>
<td>Multisensor (314)</td>
<td>Microwave</td>
<td>2.8 m x 7 m</td>
<td></td>
</tr>
<tr>
<td>iDim System Sensor (315)</td>
<td>PIR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Bay PIR Presence / Absence</td>
<td>PIR</td>
<td>2.8 m x 7 m</td>
<td>Versions available: 317 - IP65 rated</td>
</tr>
<tr>
<td>Detector (317)</td>
<td></td>
<td></td>
<td>317M - IP65 / -30°C</td>
</tr>
<tr>
<td>Wall-Mounted PIR Presence / Absence</td>
<td>PIR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Detector (318)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DALI External Light Sensor (329)</td>
<td></td>
<td></td>
<td>When mounted vertically: 85° from vertical; Horizontal plane: 360°</td>
</tr>
</tbody>
</table>
Imagine System Architecture

SCENESET MOBILE APP

ETHERNET SWITCH

BMS INTEGRATION

920 ROUTER

910 ROUTER

905 ROUTER

dMX

SDIM

16XX PANEL

454 TRANSISTOR DIMMER

312 SENSOR

LED DRIVER

313 SENSOR

474 BALLAST CONTROLLER

405 DALI REPEATER

317 SENSOR

317 SENSOR

Helvar | Data is subject to change without notice. More information at: www.helvar.com
Imagine System

Helvar’s Router System offers a scalable and flexible solution for a wide variety of applications ranging from energy efficient commercial lighting to state of the art architectural lighting applications. With 3 different models available (905, 910, 920) a modular approach to system design and implementation can be achieved using industry standard communications.

Each individual router can provide a maximum of two powered DALI subnets supporting up to 128 DALI devices. Multiple routers can be networked together using standard Ethernet switches to accommodate for large network solutions.

For Networked solutions please consult with a Helvar representative in relation to System Boundaries.

Single Router Key Features
- Support up to 128 DALI devices
- Support up to 252 S-DIM channels (920 only)
- Support up to 512 DMX addresses ‘In’ or ‘Out’ (920 only)
- Integrated 250mA power supply for each DALI subnet
- 10/100 Mbit/s Ethernet connection
- 3rd Party TCP/IP integration via “HelvarNet” commands
- Support compliant DALI Emergency devices
Designer Software

Helvar’s Designer software is an intuitive tool for engineers to design, commission and program Helvar router systems.

The latest generation of Designer is capable of utilising the new DALI Type 8 protocol for LED drivers allowing improved control.

A suite of user interfaces provide the ideal visualisation tools. The scene table and channel graph now include colour as well as level, along with the usual copy/paste and multi-select features.

THE HELVAR ROUTER SYSTEM

The Helvar Router System provides a building block for commercial, architectural and Architainment™ lighting control systems to be integrated. They produce the best of both worlds and greatly simplify the jobs of installers, systems integrators and lighting designers.

The routers also allow for integration with third-party systems such as Building Management Systems (BMS). The proven scalability and flexible functionality of the Helvar Router System makes it a versatile solution for a wide variety of applications ranging from energy efficient commercial lighting to state of the art architectural lighting applications.

Its Ethernet (TCP/IP) backbone allows the routers to be mixed and control any common light source, including halogen, fluorescent and LED. The Helvar Router system uses standard Ethernet communication to integrate DALI networks. Its modularity allows for scalable systems, from a single office room to a large office building.

Basic functionality is available “out-of-box” without any programming. Advanced functionality is programmed through Helvar’s Designer software. Each individual router can operate one or two DALI subnets containing a total of 128 control devices and load interfaces.

The system enables energy saving via a combination of presence detection and constant light functionality. Further automation is achieved through scheduled time events. Ethernet I/O commands enable interfacing to third party systems such as Building Management Systems (BMS).
905 Router

The 905 Router uses standard Ethernet communication (TCP/IP) to combine multiple DALI networks. The router features one DALI subnet allowing for a total of 64 DALI control devices and load interfaces.

Key Features
• One DALI subnet, with 250 mA power supply
• Ethernet port for network backbone
• Supports Ethernet I/O communication
• Supports DALI Emergency devices

910 Router

The 910 Router uses standard Ethernet communication (TCP/IP) to combine multiple DALI networks. The router features two DALI subnets allowing for a total of 128 DALI control devices and load interfaces.

Key Features
• Two DALI subnets, each with 250 mA power supply
• Ethernet port for network backbone
• Supports Ethernet I/O communication
• Supports DALI Emergency devices

920 Router

The 920 Router uses an Ethernet connection (TCP/IP) as a network backbone to combine DALI, DMX and S-DIM networks seamlessly together. A PC can be connected to the system for control, monitoring and logging purposes.

Key Features
• Two DALI subnets, each with 250 mA power supply
• S-DIM port for Helvar Imagine systems
• DMX-port (in or out)
• Override port for S-DIM
• Supports Ethernet I/O communication
• Supports DALI Emergency devices
SceneSet

SceneSet is Helvar’s app for controlling Router systems using iOS and Android mobile devices and tablets. It is free to download from both the Apple App Store and the Google Play Store.

With SceneSet users can easily connect to their Helvar Router System using WiFi and have access to a range of control features via an elegant, customisable user interface. The app allows users to recall and modify scenes across multiple lighting groups on the Router system Workgroup. It also provides an intuitive interface for controlling RGB colour and tunable white luminaires.

A range of customisation options allow users to modify the look and feel of the app and built-in back-up and security features make it the perfect addition to a professional, Helvar controlled lighting installation.

SceneSet for Android on a tablet.

SceneSet for iOS on iPhone (left) and Android phone (right).
uSee User Interface

End-user lighting system control and energy monitoring interface

uSee is a web-based lighting system management interface that allows end-users to monitor their energy usage and adjust scene levels via any web accessing device be it a PC or tablet. uSee Interface puts the management of a lighting system in the hand of end-users, without any need for Designer programming software knowledge. The Interface’s contemporary and intuitive design allows end users to call up real-time energy usage reports a few easy steps.

uSee works by automatically scanning your lighting system’s Designer programme settings and interpreting them into plain English so that the people who use the system day to day can make adjustments to their scene setting levels and rename label fields to suite their need.

Tridium

Helvar IP Driver

Our NiagaraAX driver provides a clear advantage to our customers and freedom of choice for integration.

Key Features

• Integrates all DALI & EnOcean devices
• Control of 1280 devices per JACE
• Only 1 Ethernet port required
• Automatic Discovery - devices/points
• Widgets - easy creation of PX graphic for luminaires, button panels, PIR sensor and Emergency DALI Ballasts
• Component Creator – runtime
DALI LED Drivers

Helvar LED driver offering is designed for energy efficient, long lasting, high quality, professional lighting applications. Used together with Helvar DALI lighting control system, Helvar DALI drivers offer excellent performace.

DALI LED Driver for Tunable White
LL35/2-E-DA-iC – 35 W

- Two independent SELV rated output channels
- DALI device type 8 software for tunable white
- 1 % - 100 % stepless dimming range per channel
- Switch-Control for intensity and colour control
- Helvar DALI Driver Configurator for setting the parameters

### Electrical parameters

<table>
<thead>
<tr>
<th>Model</th>
<th>Product category</th>
<th>Output current [mA]</th>
<th>Output voltage [V]</th>
<th>Max. output power [W]</th>
</tr>
</thead>
<tbody>
<tr>
<td>LL35/2-E-DA-iC</td>
<td>Adjustable I-OUT</td>
<td>350-700</td>
<td>25-100</td>
<td>35</td>
</tr>
<tr>
<td>LL60/2-E-DA-iC</td>
<td>Adjustable I-OUT</td>
<td>350-700</td>
<td>25-100</td>
<td>60</td>
</tr>
<tr>
<td>LL60/2-E-DA Dynamic</td>
<td>Adjustable I-OUT</td>
<td>350-700</td>
<td>25-100</td>
<td>60</td>
</tr>
<tr>
<td>LC1x50-E-DA **</td>
<td>Adjustable I-OUT</td>
<td>1050-1400</td>
<td>20-48</td>
<td>50.4</td>
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<tr>
<td>LL1x20-E-DA **</td>
<td>Selectable I-OUT</td>
<td>350, 500, 700</td>
<td>10-57</td>
<td>20</td>
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<tr>
<td>LC1x30-E-DA **</td>
<td>Selectable I-OUT</td>
<td>350,500,700</td>
<td>10-60</td>
<td>30</td>
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<tr>
<td>LL1x40-E-DA-350-700</td>
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<td>350-700</td>
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<td>LL1x40-E-DA-700-1050</td>
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<td>20-57</td>
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<tr>
<td>LC1x70-E-DA **</td>
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<td>LL1x10-42-E-DA</td>
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<td>50-350</td>
<td>110</td>
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<tr>
<td>LL1x70-E-DA</td>
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<td>50-200</td>
<td>70</td>
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<tr>
<td>LL1-CV-DA</td>
<td>Constant voltage</td>
<td>0-5000</td>
<td>12-24</td>
<td>120W</td>
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<tr>
<td>LL1x20-E-DA-nDim</td>
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<tr>
<td>LC1x30-E-DA-nDim</td>
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<td>10-60</td>
<td>30</td>
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<tr>
<td>LC1x70-E-DA-nDim</td>
<td>Adjustable I-OUT</td>
<td>700-1400</td>
<td>30-100</td>
<td>70</td>
</tr>
</tbody>
</table>
**DALI LED Driver for Tunable White**

**LL60/2-E-DA-iC – 60 W**

- Two independent SELV rated output channels
- DALI device type 8 software for tunable white
- 1 % - 100 % stepless dimming range per channel
- Switch-Control for intensity and colour control
- Helvar DALI Driver Configurator for setting the parameters

**DALI LED driver with preset scenes for Tunable White**

**LL60/2-E-DA Dynamic - 60 W**

- 4 preset Tunable White scenes simulating different weather conditions, Dynamic scene as default
- Easy solution for Tunable White control in new build
- No driver or module configuration needed
- Out-of-box dynamic operation without DALI network
- 3 % - 100 % dimming range per scene
- SELV rated output channels
- High efficiency, 0.90

<table>
<thead>
<tr>
<th>Application</th>
<th>Power factor at max. load</th>
<th>Efficiency at max. load</th>
<th>Output protection</th>
<th>Luminaire class</th>
<th>Dimensions L x W x H [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.98</td>
<td>90</td>
<td>SELV &lt;120 V</td>
<td>I, II</td>
<td>380x35x21</td>
</tr>
<tr>
<td></td>
<td>0.98</td>
<td>90</td>
<td>SELV &lt;120 V</td>
<td>I, II</td>
<td>380x35x21</td>
</tr>
<tr>
<td></td>
<td>0.98</td>
<td>90</td>
<td>SELV &lt;120 V</td>
<td>I, II</td>
<td>380x35x21</td>
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<td>SELV &lt;60 V</td>
<td>I, II, III</td>
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<td>0.90c</td>
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<td>SELV &lt;120 V</td>
<td>I, II, III</td>
<td>184x40x25,2</td>
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<tr>
<td></td>
<td>0.96</td>
<td>87</td>
<td>SELV &lt;120 V</td>
<td>I, II, III</td>
<td>106x67x28</td>
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<td>0.96</td>
<td>90</td>
<td>SELV &lt;120 V</td>
<td>I, II, III</td>
<td>184x46,5x28</td>
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<td>90</td>
<td>SELV &lt;120 V</td>
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<td>380x35x21</td>
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<td>93</td>
<td>Non-isolated</td>
<td>I</td>
<td>280x30x21</td>
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<tr>
<td></td>
<td>0.98</td>
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<td>Non-isolated</td>
<td>I</td>
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<td>Non-isolated</td>
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<td>88</td>
<td>SELV &lt;120 V</td>
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<td>SELV &lt;120 V</td>
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<td>91</td>
<td>SELV &lt;120 V</td>
<td>I, II, III</td>
<td>143.6x71.3x30</td>
</tr>
</tbody>
</table>
# LED MODULES

## LS Series

Helvar’s second generation modular LS series LED modules allows flexibility within luminaire design. The linear LS series LED module family offers superior colour consistency, lifetime and high uniformity of light.

The range has been designed to match Zhaga 24 mm dimensions with three available lengths: 140 mm, 280 mm and 560 mm. By offering identical distance between LED chips on the modules, you can build linear luminaires with various lengths, starting from 140 mm up to many meters in 140 mm interval just by assembling the modules in line.

<table>
<thead>
<tr>
<th>Module</th>
<th>LS142-8xx-006A</th>
<th>LS282-8xx-011A</th>
<th>LS562-8xx-025A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>140x24x6 mm</td>
<td>280x24x6 mm</td>
<td>560x24x6 mm</td>
</tr>
<tr>
<td>Nominal Current</td>
<td>350 mA</td>
<td>350 mA</td>
<td>350 mA</td>
</tr>
<tr>
<td>Forward voltage</td>
<td>11.8 V</td>
<td>23.7 V</td>
<td>47.2 V</td>
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<tr>
<td>Luminous flux</td>
<td>630 lm</td>
<td>1260 lm</td>
<td>2520 lm</td>
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<tr>
<td>Efficacy up to</td>
<td>155 lm/W</td>
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<tr>
<td>Colour variants</td>
<td>3000 K [830]</td>
<td>3000 K [830]</td>
<td>3000 K [830]</td>
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<tr>
<td></td>
<td>4000 K [840]</td>
<td>4000 K [840]</td>
<td>4000 K [840]</td>
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</tbody>
</table>

LS series is available in 3000 K and 4000 K colour temperatures. It has been designed to match with Helvar’s low-current LED driver platform in series connection.
**M-Series**

With its linear mechanics, easy to use connections and best colour consistency, the Linear modules are the perfect solution for creating linear shaped LED luminaires.

**Module Benefits**

- Accurate LED binning for colour consistency and high uniformity
- Helvar LED driver offering (CC and DALI) for smooth dimming and compatibility
- Helvar complementary Lighting Controls for maximum energy efficiency

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**Multiplex Series**

The high-efficacy Multiplex LED modules provide a cost effective solution whilst delivering a uniform light output, offering a competitive solution for creating square shaped LED luminaires (like 600 x 600 ceiling panels).

**Module Benefits**

- Easy to design-in for flexibility in luminaire design
- Value-add optical technology (LAM-type) enabling slimmer luminaire designs
- Good thermal performance providing greater durability and long lifetime
- Choice of square and rectangular design for flexibility in design

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**Chip on Board Modules**

The range of Chip on Board modules (COB) are the ideal components for creating circular spot lights and down lights fittings. Its range of luminous flux and colour temperature give design flexibility and choice to the luminaire manufacturer.

**Module Benefits**

- 3-Step MacAdam binning for colour consistency
- High luminous efficacy for maximum energy efficiency
- Range of power versions and colour temperatures from 2700 K to 5000 K CCT for design freedom
- Available both CRI >90 and CRI > 90 for superior light quality
- Compatible Helvar LED drivers (CC and DALI)
- Compatible holder and optics solutions available
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Due to a policy of continuous improvement, Helvar reserve the right to alter specifications without notice at anytime.

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