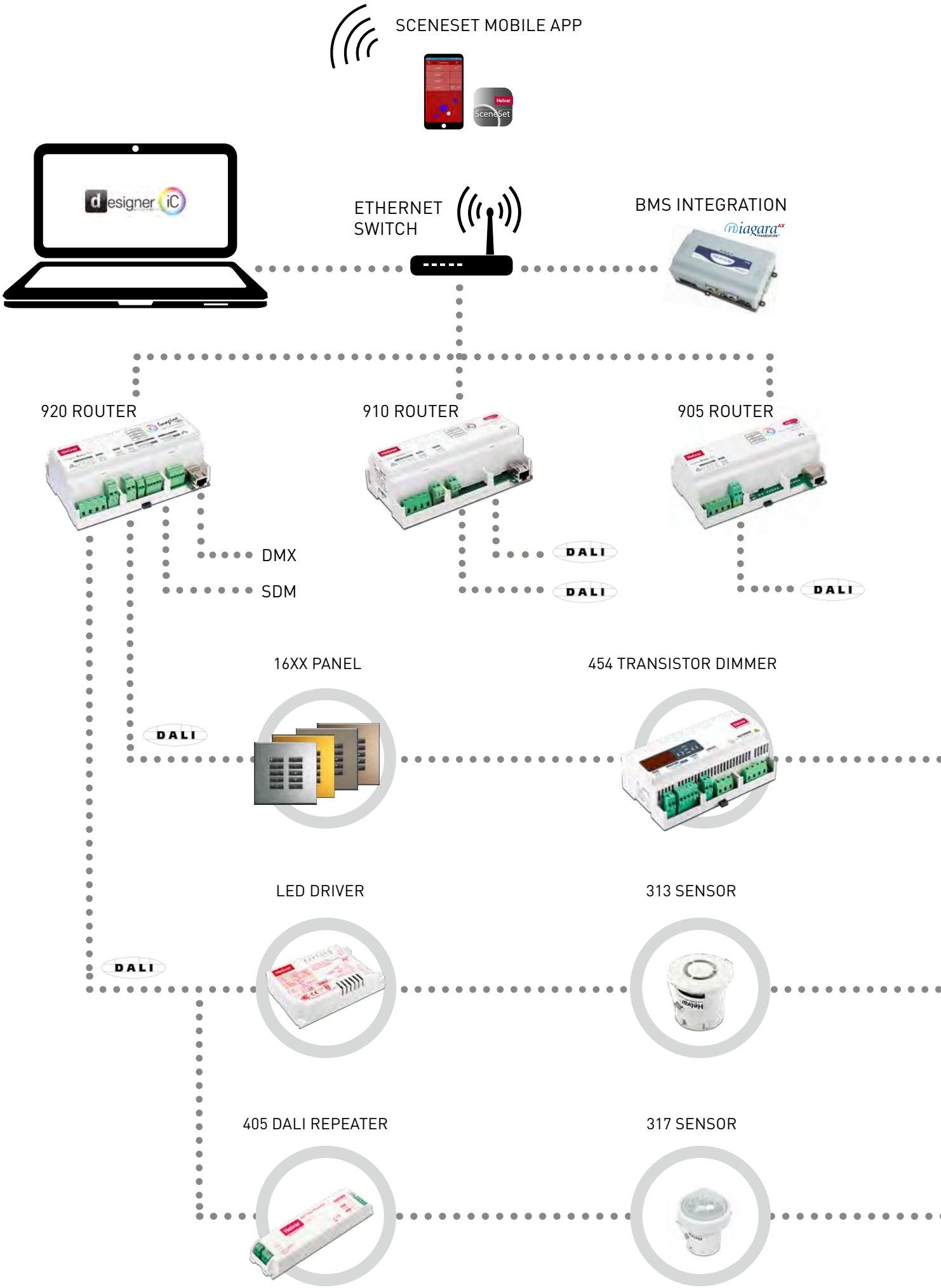
Lighting Control Solutions 2015

Helvar

freedom in lighting

Rotterdam Markthal, The Netherlands, Helvar illuminates the Markthal bringing the artwork to life.
Photograph by Tycho's Eye Photography


SCENESET MOBILE APP
ETHERNET SWITCH
BMS INTEGRATION
920 ROUTER
910 ROUTER
905 ROUTER
DMX
SDM
DALI
DALI
DALI
DALI
16XX PANEL
454 TRANSISTOR DIMMER
LED DRIVER
313 SENSOR
405 DALI REPEATER
317 SENSOR

ROUTER 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.

Single Router Key Features

- Supports up to 128 DALI devices
- Supports up to 252 S-DIM channels (920 only)
- Supports up to 512 DMX addresses 'In' or 'Out' (920 only)
- Integrated 250mA power supply for each DALI subnet
- 10/100 Mbps Ethernet connection
- 3rd Party TCP/IP integration via "HelvarNet" commands
- Supports compliant DALI Emergency devices

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

312 SENSOR

434 ENOCEAN GATEWAY

18XX ENOCEAN PANEL

474 BALLAST CONTROLLER

BALLAST

317 SENSOR

499 RELAY UNIT

478 DALI CONTROLLER

DESIGNER IC SOFTWARE

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

COLOUR

The latest generation of Designer is name iC – Intelligent Colour. Utilising the new DALI Type 8 protocol for LED drivers allows improved control. Colour-enabled devices are automatically recognised by the routers. Designer iC provides one-click selection of colour, temperature, or level.

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.

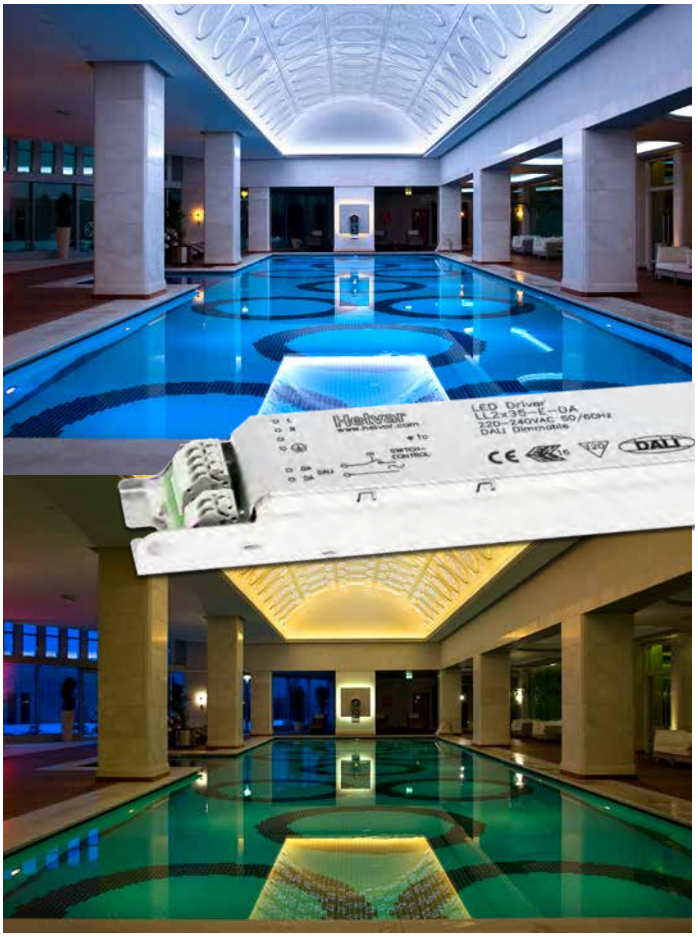
THE HELVAR ROUTER SYSTEM

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**

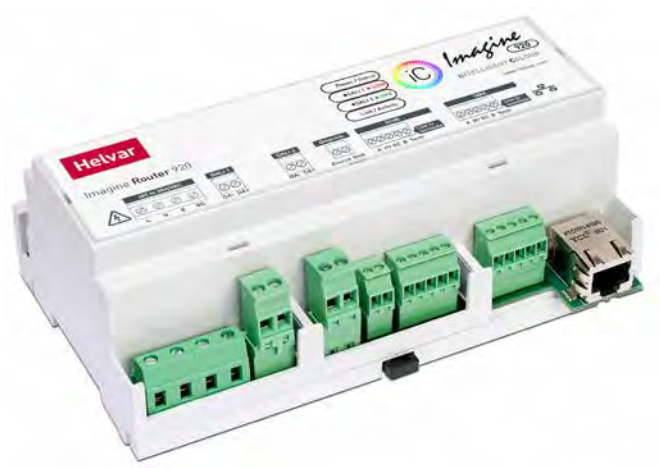
The 910 Router uses standard Ethernet communication (TCP/IP) to combine multiple DALI networks. The router features two DALI subnets allowing for a total of 128 DALI control devices and load interfaces.

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 DIGIDIM / 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 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

HUMAN CENTRIC LIGHTING

As lighting technology becomes more advanced organisations are increasingly considering human centric lighting as part of their advanced lighting systems.

Research shows that our exposure to artificial light can have an effect on our emotions which has led to the recent development of human centric lighting technologies the means by which the emotional wellbeing, comfort, health and productivity can be improved through the correct lighting control.

Controlling light colour temperature and light levels gives us new opportunities to complement lighting designs with high energy efficiency which can boost well-being and balance circadian rhythm.

Helvar's lighting control portfolio include's touch screen, button, slider and rotary controls which can now provide even more control over advanced colour functionality.

iC NETWORKED SOLUTION

Our iC Networked solution uses Helvar's lighting management solution with routers and our bespoke Designer software. Now compatible with the DALI colour control standard it's easy to pick the right colour for each luminaire within the lighting network. With continuous development of this technology we are constantly working on adding new functions and control options.

SELECT THE WEATHER

iC – Select the Weather solution allows the user to select the required option from the "Select the Weather" panel. The programmed buttons each have their own individual light and colour temperature output allowing the user to select the required lighting environment.

HELVAR'S IC SOLUTIONS LETS THE SUNSHINE IN!
FLEXIBLE – Designed lighting just the way you want
SCALABLE – From small standalone solutions to large lighting network
EASY – Easy and cost efficient set up

For more information visit helvar.com/second-sun

SELECT THE WEATHER - 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.

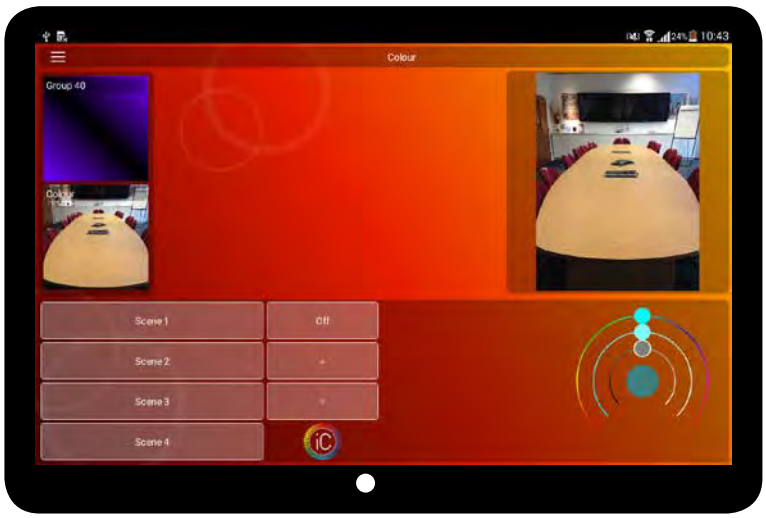
Icon	Effect	When to Use	Colour Temperature	Light Output
	Calm down	High stress perioid	Warm	80%
	Energise	Early morning	Cool	100%
	Concentrate	Thinking process & Presentations	Intermediate	50%
	Stay alert	Normal daily work	Changing naturally	90%

SCENESET

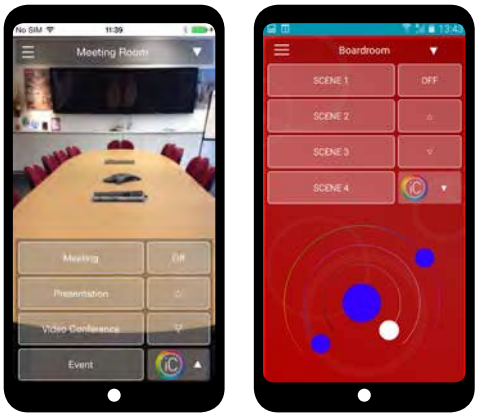
SceneSet is Helvar's app for controlling Router systems using iOS and Android mobile devices and tablets. It is free to download from both the Apple App Store and the Google Play Store.

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).

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

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

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 AUS 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 film (enclosed) or screwed onto flat surface

TK4 **1-10V ballast controls**

- Offers EN 60929 (1-10V) ballast control together with a mains power switch
- Styled to compliment 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

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

- Status LED
- Switch for load selection
- Switch for manual DALI group selection
- Over current, power 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 compatability)
- 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 included

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

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

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

DSI® is a registered trademark of Tridonic

2 Channel Blinds **Controller** (490)

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

4 Channel **Relay Unit** (494)

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

16 A 1-channel **Relay Unit** (492)

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

1-Channel Signal **Relay Unit** (493)

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 DIGIDIM 8-Channel Latching Relay Unit is an eightchannel 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 override 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

58M2 **Double Mechanical Chassis (4/)**

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

503 **AV-interface**

- Permits the connection of a DIGIDIM ststem to the RS232 port on a personal computer / AVsystem
- 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

enocean®

uSee

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.

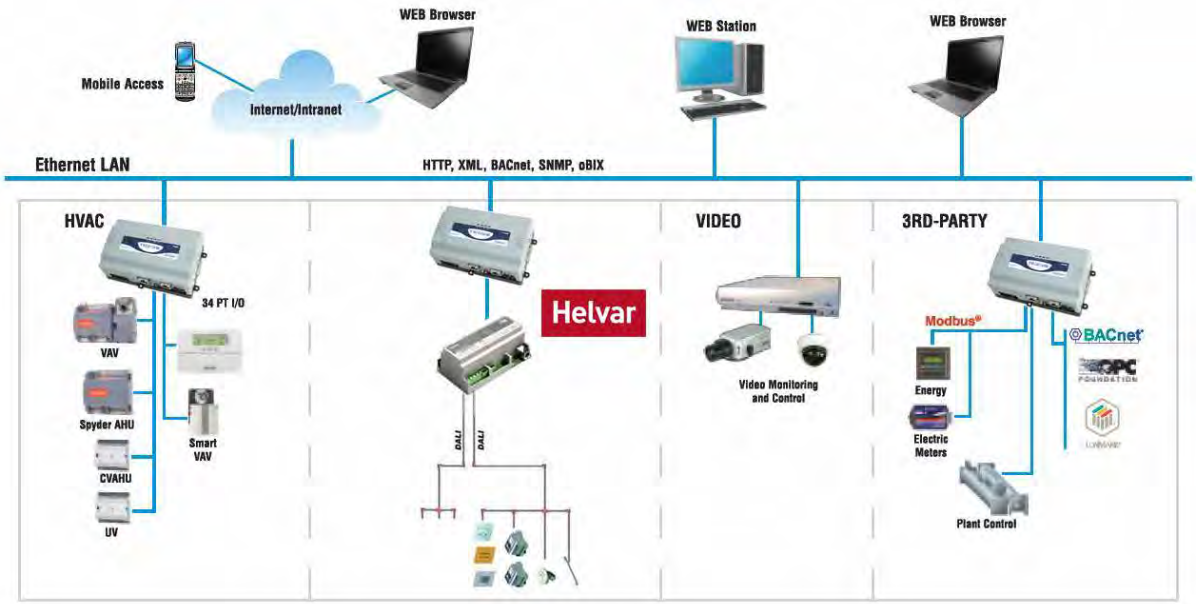
uSee works by automatically scanning your lighting system's Designer programme settings and interpretting them into plain English so that the people who use the system day to day can make adjustments to their scene setting levels and rename label fields to suite their need.

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



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

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
- Comperehensive programming options via Designer and Toolbox Software

440 **Input Unit**

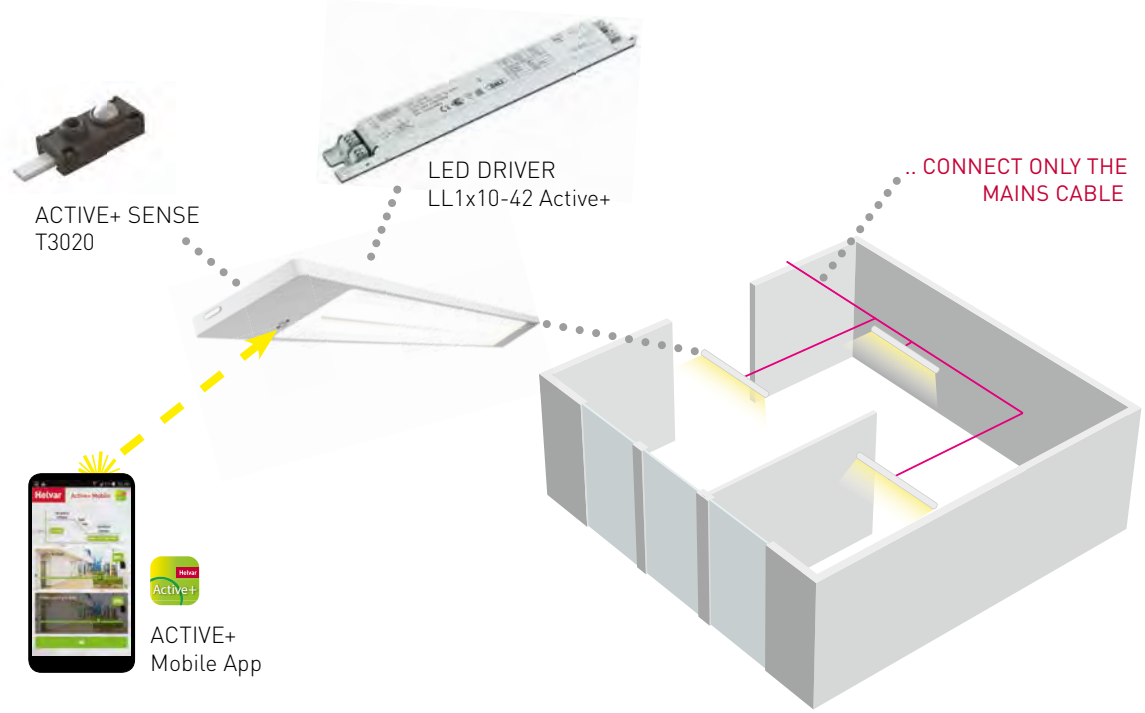
- DALI compatible interface
- DIN-rail mounted
- Allows customer specified switches, sensors, time clocks or other on/off control devices to be incorporated into a Helvar lighting control system
- Has 8 volt-free inputs which may be momentary or latching
- Inputs are volt free
- Comprehensive programming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

Note: *Not compatible with 905, 910 or 920 Routers - use 942*

ACTIVE+
SELF-LEARNING LIGHTING SOLUTION

Helvar's Active+ is an out-of-the-box standalone solution consisting of an LED driver and "our smallest sensor" yet, Active+ sense built into the luminaire.

ASSEMBLE THE LUMINAIRE..



By using 60-100 hours of automatic learning, on full lighting, Helvar's new smart Active+ driver utilises the Active + sense which is connected directly to the luminaire. The Active+ driver and Active+ sense work together learning about the surrounding environment, detecting change in lighting conditions from other luminaires and light sources.

Active+ can also detect human presence. In areas with several luminaires, if the area becomes vacant and the lighting isn't needed in the environment the Active+ driver and Active+ sense signals to the luminaire to go into daylight energy saving mode. It dims the light when presence is not detected near but does this smoothly so the change of lighting level doesn't disturb other people sitting or working nearby. In areas with windows energy is saved by daylight harvesting.

The Active+ functionality also prevents daylight sensors in luminaires in close proximity to each other from interacting and starting to malfunction (so called waving effect). Constant lumen output (CLO) functionality reduces initial over-illumination, and ensures that the light output level can be guaranteed during the whole life time of the LED module.

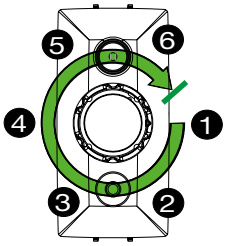
The Active+ driver and Active+ sense both fit into a luminaire, which can be installed as easily as a basic switching luminaire, having no physical or electrical connection to any other external lighting components such as control panels, dimmers or common sensors. The Active+ driver has an inbuilt power supply for the Active+ sensor which features a flat connection cable terminated with a keyed connector which enables total flexibility when mounting into the luminaire.

Luminaires fitted with Active+ self-learning lighting solution are ideal for refurbishment projects, as well as for new offices, corridors, open plan areas and storage areas. 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. Active+ self-learning lighting solution guarantees energy saving.

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 fulfil the needs for easy-to-use, energy saving lighting control. The basic functions are pre-programmed and are fully adjustable to meet all requirements.

1) Classroom
2) Single office
3) Open plan office
4) Corridor link
5) Corridor hold
6) Meeting room



Please refer iDim user guide for detailed description of the iDim modes.

316 **iDim Sense**

- 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

403 **iDim Solo**

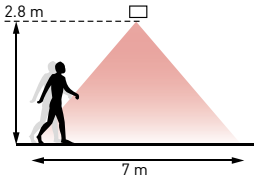
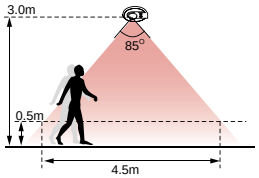
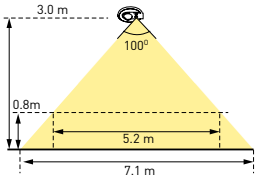
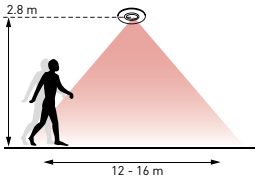
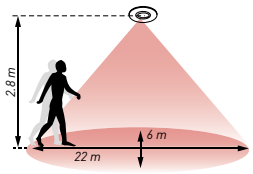
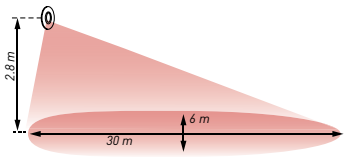
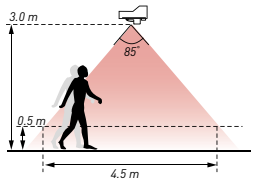
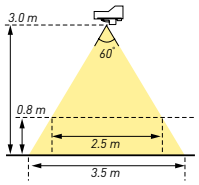
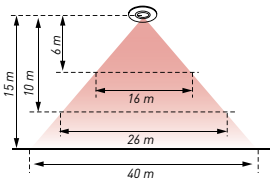
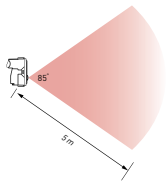
- Compact and versatile interface module
- Can be used inside or outside the luminaire
- Easy and quick wiring for both alternatives; iDim standalone and networked lighting systems
- DALI power supply, 96 mA (total)
- 2 × switch control inputs and mains connection input
- 2 × DALI outputs

304 **iDim Remote**

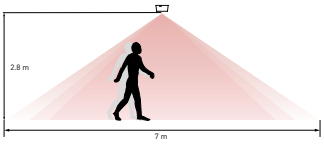
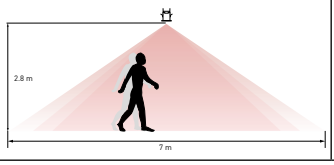
- For controlling or modifying the iDim applications
- Configuration of target light levels
- Advanced programming (upload settings via PC + 'zap function') with iDim Studio software
- Graphical PC user interface

DALI **System Sensors**

Compatible with DIGIDIM and 905/910/920 Router Systems

	DALI SENSORS	Functionality: Motion Detector	Functionality: Constant Light	Motion detection area	Comments / Constant light reception area
	**Ceiling PIR Detector (311)**	PIR	-		Versions available: 311 - IP20 311P - IP55 rated 311M - IP55 / -30°C
	**Multisensor (312)**	PIR	●		
	**Low Profile Microwave Detector (313)**	Microwave	-		-
	**Tilting Microwave Detector (314)**	Microwave	-	 	
	**iDim System Sensor (315)**	PIR	●		
	**High Bay PIR Presence / Absence Detector (317)**	PIR	-		Versions available: 317 - IP65 rated 317M - IP65 / -30°C
	**Wall-Mounted PIR Presence / Absence Detector (318)**	PIR	-		-
	**DALI External Light Sensor (329)**	-	●	-	When mounted vertically: 85° from vertical; Horizontal plane: 360°

Standalone **Sensors** - non DALI

	STANDALONE SENSORS	Control Output	Functionality		Time-out	Motion detection area	Comments
			Motion Detector	Lux Adjuster			
	**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

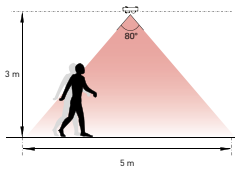
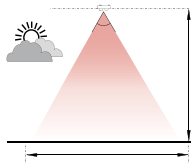
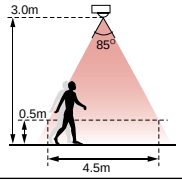
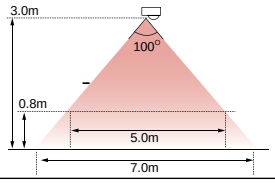
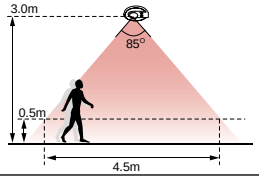
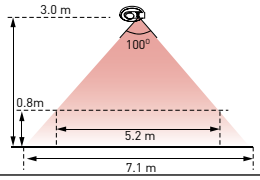
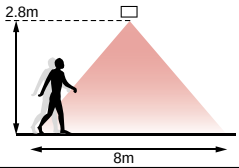
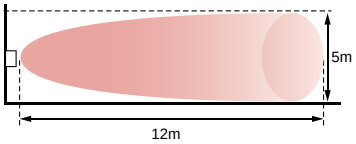
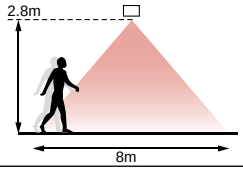
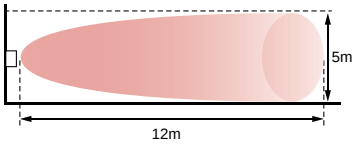
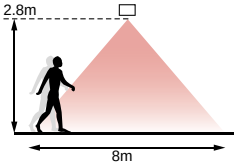
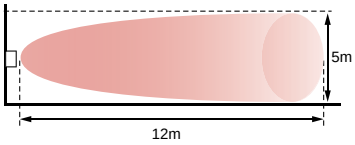
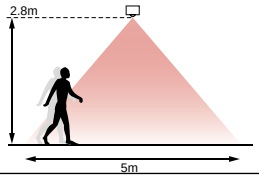
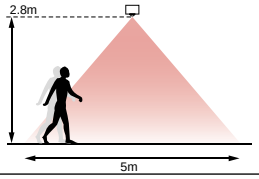
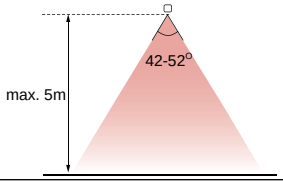
SS-PIR-SW-01 **Surface mount PIR switching sensor**

- 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.

Luminaire Based **Sensors** (standalone)

	STANDALONE SENSORS	Control interface	Functionality: Motion Detector	Functionality: Constant Light	Motion detection area	Constant light reception area
	**Active+ Sense**	N/A	PIR	●		
	**Minisensor3**	DALI *	PIR	●		
	**iDim Sense 316**	DALI *	PIR	●		
	**µDim SL-MW-DA**	DALI *	Microwave	●	 	
	**µDim SL-MW-AN**	1 - 10 V	Microwave	●	 	
	**µDim SL-MW-SW**	Switching	Microwave	-	 	
	**µDim SL-PIR-AN**	1 - 10 V	PIR	●		-
	**µDim SL-PIR-SW**	Switching	PIR	-		-
	**MIMO3**	1 - 10 V	-	●	-	

DALI LED DRIVERS

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

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

Dimmable DALI LED driver
LL1x20-E-DA – 1x20 W

Optional version on request: added lacquer coating provides improved robustness in challenging climate conditions (humidity, temperature).

- DALI control input, 1 %-100 % dimming range
- Protected up to 4 kV power network fast transients
- High efficiency, 0.88

Dimmable DALI LED driver
LC1x30-E-DA – 1x30 W

Optional version on request: added lacquer coating provides improved robustness in challenging climate conditions (humidity, temperature).

- Smooth and DALI compatible dimming 1 % –100 %
- High efficiency (>0.86)
- Reliable lifetime (50 000 h)
- Very low stand-by power (0.3 W)
- Protected up to 4 kV power network fast transient
- Click-on strain relief

Dimmable DALI LED driver
LL1x40-E-DA-350-700 – 1x40 W

- DALI control input 1 % - 100 % dimming range
- Low standby power 0.3 W
- Protected up to 4 kV power network fast transients
- High efficiency, 0.89
- Optional click-on strain relief for independent use (LL1x40-SR)

Dimmable DALI LED driver
LL1x40-E-DA-700-1050 – 1x40 W

- DALI control input 1 % - 100 % dimming range
- Low standby power 0.3 W
- Protected up to 4 kV power network fast transients
- High efficiency, 0.89
- Optional strain relief for independent use (LL1x40-SR)

Dimmable DALI LED driver
LC1x70-E-DA – 1x70 W

Optional version on request: added lacquer coating provides improved robustness in challenging climate conditions (humidity, temperature).

- DALI control input 1 % - 100 % dimming range
- Low standby power <0.5 W
- Protected up to 4 kV power network fast transients
- Overload, open & short circuit protection
- Auxiliary 12 V output for active cooling
- Optional strain relief for independent use (LC1x70-SR)

Dimmable DALI LED driver
LL2x35-E-DA – 2x35 W

- Two independent SELV rated output channels (default two DALI addresses)
- DALI control input 1 % - 100 % dimming range
- Low standby power, < 0.5 W
- Protected up to 4kV power network fast transients
- Overload, open & short circuit protection

Dimmable DALI LED driver
LL1x50-E-DA - 50 W

- DALI control input 1 % - 100 % dimming range (DALI revision 2.0)
- Hybrid dimming technique for high quality light
- Overload, Open & short circuit protection
- Suitable for emergency lighting purposes
- Helvar DALI Driver Configurator support

Dimmable DALI LED driver
LL1x10-42-E-DA – 1x10-42 W

- Dali control input 1 %-100 % dimming range (DALI revision 2.0)
- Hybrid dimming technique for high quality light
- Overload, Open & short circuit protection
- High efficiency 0.93
- Helvar DALI Driver Configurator support

Dimmable DALI LED driver
LL1x70-E-DA – 1x70 W

- DALI control input 1-100% dimming range
- Low standby power 0,4 W
- Protected up to 4 kV power network fast transients
- Overload, short & open circuit protection
- High efficiency > 0.91

DALI dimmable LED driver
LL1x110-E-DA

- Dali control input 1 %-100 % dimming range (DALI revision 2.0)
- Hybrid dimming technique for high quality light
- Overload, Open & short circuit protection
- Adjustable constant current output: 350 (default) to 700 mA

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Helvar has representatives all over the world.
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