

simple to install • easy to operate • very flexible • creates the perfect mood



The complete **lighting control** Solution



Queen Mary 2 - Cunard Line

Who are Helvar?...

Helvar develops, manufactures, and markets ballasts and lighting electronics for the luminaire industry and other customers specialising in lighting. Helvar has a long tradition as a forerunner in its field, and always utilises the latest technology to ensure that its products are of high quality, have first-class technical properties and conform to local regulations.

Helvar focuses on controllable and non-controllable electronic ballasts, lighting control products and magnetic ballasts, thus offering its customers a tailored products and solution portfolio.

Helvar has its headquarters and ballast competence centre in Karkkila, Finland. The lighting control system competence centre is located in London, England. Helvar has its own sales offices and representatives all over the world.

Creating a Scene...

in a new shopping mall...

at a cutting edge smart home...

on the worlds most luxurious cruise liners...

With Helvar's new Imagine range of lighting control products all of these scenarios are easily achievable.

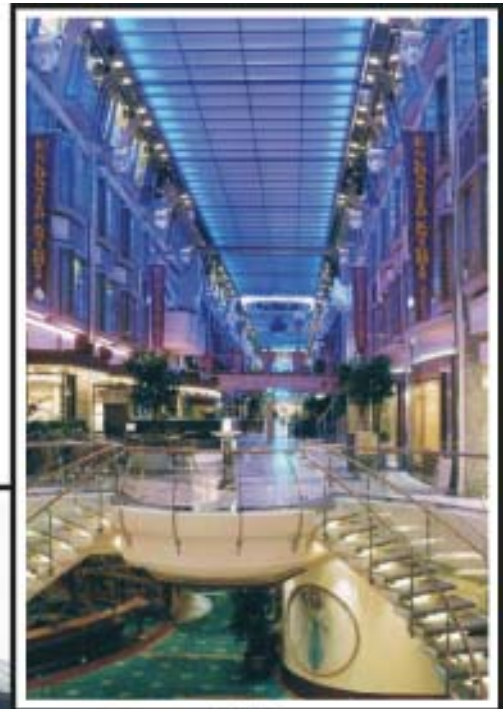
Taking the features that made Imagine an industry leader and enhancing them with the latest technologies available within our Digidim range; has allowed us to go even further giving our customers the ability to create projects without compromise.

A seamless blend of proven dimming technology and state of the art control - Helvar is - lighting the way forward.

System Key Features



- Dimmers, Relays and ballast controllers to suit any load type.
- A choice of wall or rack mounting designs.
- Over 3000 channels of dimming with over 4000 scenes.
- Easy programming and monitoring using Workshop software.
- Astronomical and Real time clocks with event scheduling.
- Cost effective and simple installation.
- System back-bone networked using TCP/IP protocols.
- Infrared receiver on all control panels.
- Choice of push button, slider or rotary controls in a wide range of finishes.
- 3.5" Hi-resolution full-colour LCD Touchpanel.
- Panels connected using low cost two-wire cabling.
- Control panels fit into standard UK and DIN backboxes.
- Remote programming & diagnostics
- Open control wiring topology



Promenade - Voyager of the Seas



Helvar UK - Headquarters

System Basics

The Lighting Router is the central element of the Helvar IMAGINE lighting control product range. The Lighting Router allows the seamless connection of input devices (control panels, input units and presence detectors) to a range of load interfaces.

The system is programmed and configured using the Workshop Software running on a Windows based computer, either locally or remotely. Once programmed, the computer can be disconnected as it is not necessary for the day to day operation of the dimming system. All system and device data is held in the lighting router "flash" memory indefinitely.

Each lighting router is capable of supporting:

- up to 40 input devices (control panels, input units and presence detectors) over a distance of 300 metres using 1.5 mm² cable
- up to 252 channels of dimming, switching or ballast control over a distance of 1 km
- 252 consecutive DMX 512 channels that can be mapped onto 252 consecutive dimming channels
- 10/100 Mbit/s Ethernet connection using the Internet (TCP/IP) protocol. This allows system expansion by linking multiple routers and is also used for system programming, monitoring and scheduling using Helvar's Workshop software
- integral 500mA supply for powering input devices and two outputs for emergency dimmer overrides
- Astronomical real time clock (remains active for up to two days during power loss)

Input Devices

Touchpanel



Modular Panel Range



Multi-sensor



Input Units



Load Interfaces

Modular Rack Mount Dimmer Units



Wall Mount Dimmer & Output Units



Workshop Software

Ethernet (TCP/IP)



Lighting Router



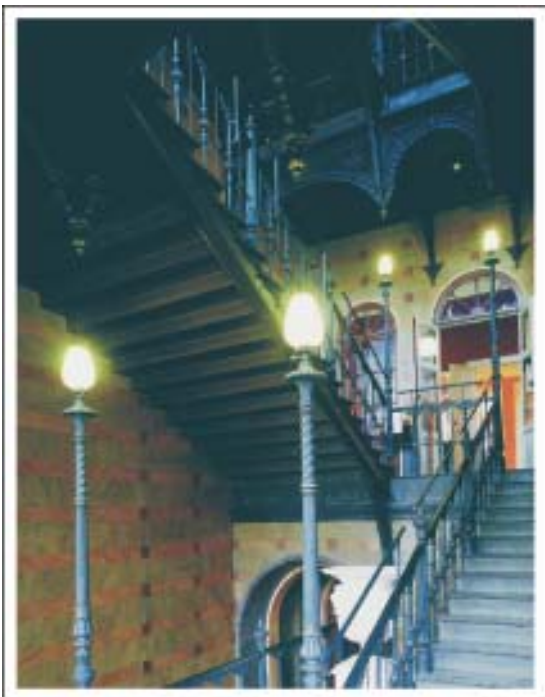
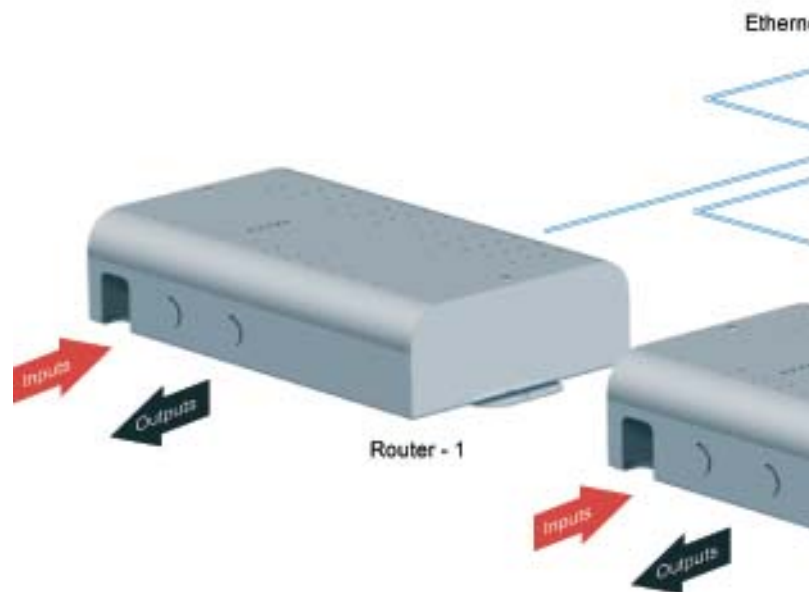
Networking Routers

To create larger systems routers can be networked as shown in the diagram opposite. This is achieved using a standard Ethernet Switch that allows the system to be expanded up to a maximum of 12 routers.

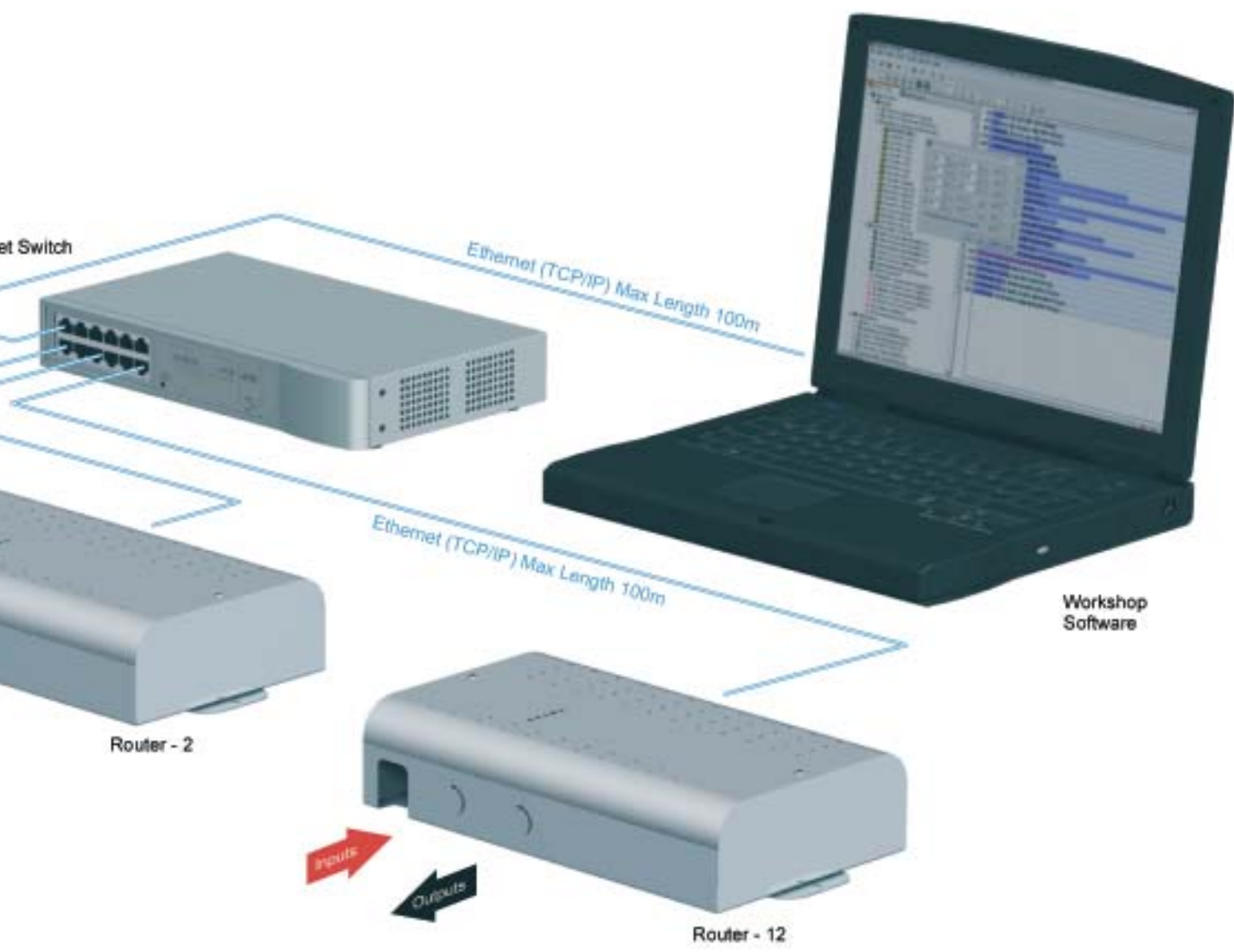
The system is known as a Workgroup and has the following capabilities:

- 1024 System wide scenes
- 256 Local scenes per router giving a maximum of 4096 scenes
- 3024 Dimming circuits
- 480 Input Devices

The whole system is programmed and configured using the Workshop Software running on a Windows based computer. Once programmed the computer can be disconnected, as it is not necessary for the day to day operation of the dimming system.



Arpearum Building - Finland



Single Router System

This single Lighting Router application shows a modern “smart home” equipped with an IMAGINE lighting control system.

The IMAGINE system controls the lighting and allows the complete integration with security system, blinds, curtains, heating/ventilation controls and entertainment systems.

System Benefits

- Push button control panels to recall appropriate lighting levels within the various living areas.
- Presence detectors in the hallway detect your arrival and can create paths of light throughout the house.
- Timed events may be programmed and scheduled using the built-in real time clock.
- When the latitude and longitude of the Lighting Router are programmed into the system, events may be scheduled relative to dawn and dusk using the astronomical clock.
- No computer is required once the system has been programmed and configured.
- Remote system access using modem and telephone lines, or broadband internet (ADSL/Cable).

Circuit Key

- | | |
|------------------------|-----------------------|
| 1 Window Feature | 6 Mirror Lights |
| 2 Bedside 5A Socket | 7 Low Level Feature |
| 3 Centre Feature | 8 Downlights |
| 4 Perimeter Downlights | 9 Downlights |
| 5 Downlights | 10 Bedside 5A Sockets |



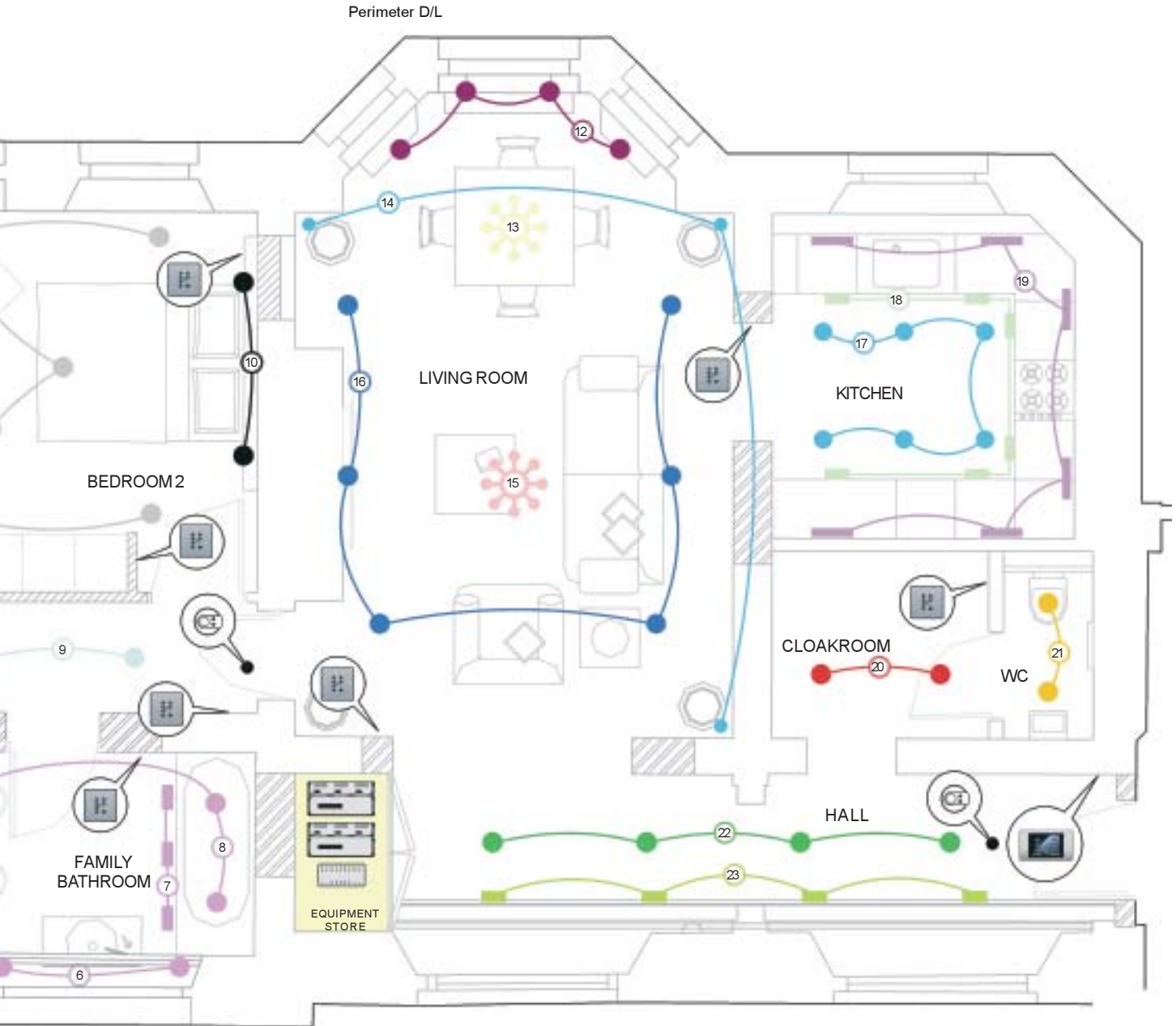
Private Residence - London

Touchpanel (924)

3.5" high resolution full colour touchpanel



- | | | |
|-----------------------|----------------------------|-----------------------------|
| 11 General Downlights | 16 Perimeter D/L | 21 Downlights |
| 12 Window Feature | 17 Perimeter D/L | 22 Feature Downlights |
| 13 Feature Light | 18 Low Level Plinth Lights | 23 Low Level Feature Lights |
| 14 5A Sockets | 19 Under Cupboard Lights | 24 Spare |
| 15 Centre Feature | 20 Downlights | |



12 Ch Dimmer (HES91200)

From the Imagine range of wall mounted dimmers and ballast controllers.



Modular Panel Range

Stylish control panels with a range of finishes to suit any modern décor.



Imagine Router (900)

Central control unit of the Imagine dimmer range.



Multi-sensor (312)

Built-in presence detection and remote control receiver.

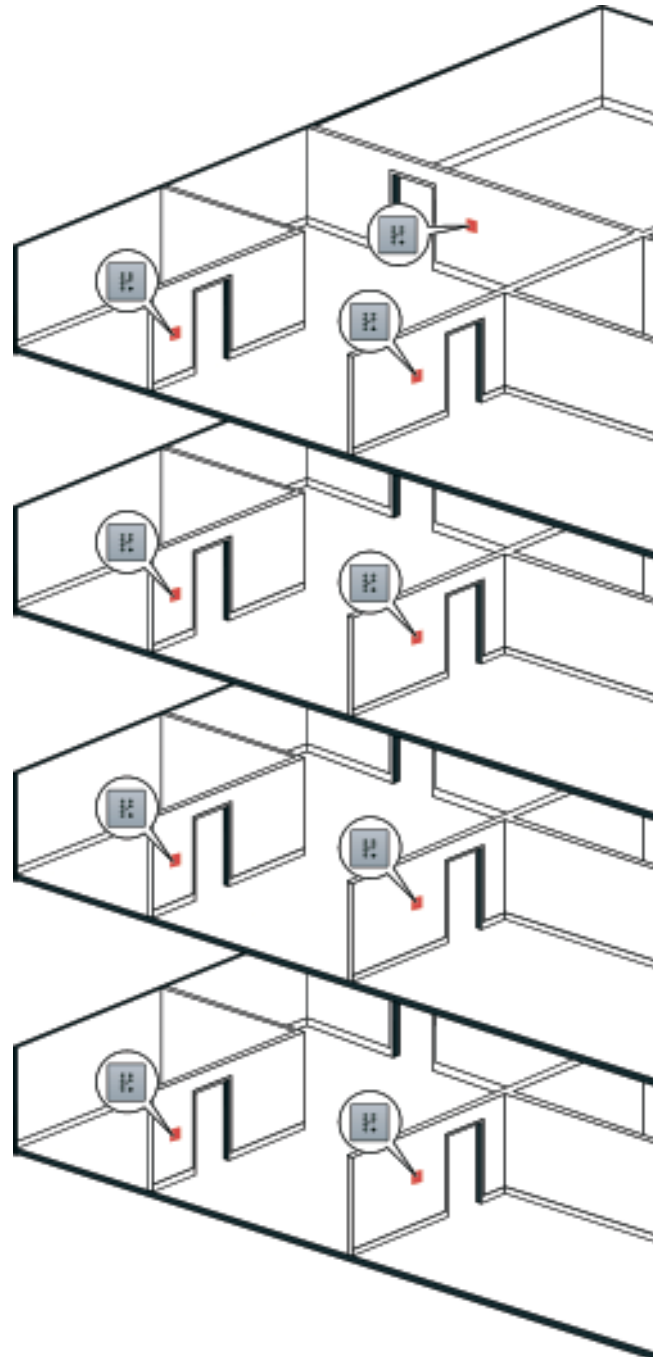


Multiple Router Applications

For dimmer systems with a large number of channels or panels, or for a physically large installation, multiple routers are easily networked. This offers users a great deal of flexibility in terms of equipment location. With the dimmers and router situated locally it is only necessary to connect to the rest of the system via the ethernet cabling.

System Benefits

- Inexpensive network and control panel cabling
- Local positioning of dimmer system
- Central monitoring and programming of a whole system
- Remote access possible via modem or internet using VPN
- Modular system permits simple expansion

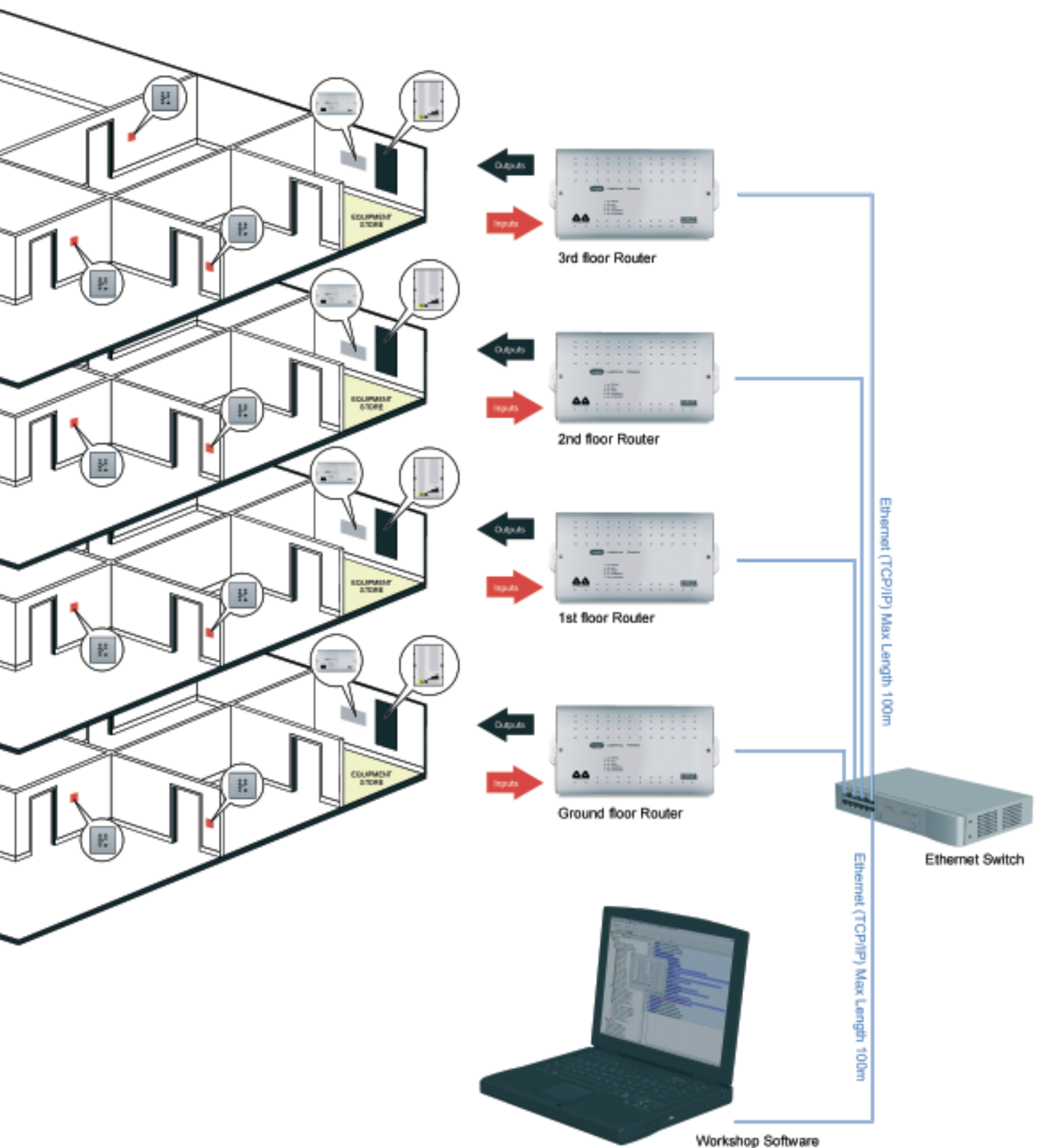


Freshfields Offices - UK

Load Interfaces

A range of system input devices comprising of modular panels, multi-sensors, analogue and digital input units.





Dimmer Outputs

For the connection of the Imagine range of dimmers, ballast control units and relay units.





TouchPanel 924

The TouchPanel is a touch sensitive full color LCD screen that can be used for controlling and programming a Helvar lighting control system.

The LCD TouchPanel offers Helvar's renowned build quality combined with cutting-edge design flair. Key criteria for the consumer market such as ease-of-use and installation have been fully incorporated. With a full color 3.5" high resolution touch screen the TouchPanel also offers first-class display quality combined with attractive looks that further boost the panels appeal. A range of fascia plate finishes are available to suit any modern décor style.

Compatible with Helvar's DIGIDIM and IMAGINE systems, the TouchPanel can be configured easily to meet individual customer lighting control requirements.

Key Features

A full color 3.5", high resolution touch screen providing users with a wide range of easily selectable button combinations and functions. (Maximum Viewing angle approx: 100 Degrees)

Easy to use library of button designs and background images.

Capable of controlling and programming DIGIDIM and IMAGINE lighting control systems.

Timed events may be programmed and scheduled using the built-in real time clock.

An integral infrared receiver for use with a hand held remote.

Panel editing is password protected to prevent unauthorized changes to configuration.

Double gang, 46 mm deep back box supplied.

Fascia plates available in a range of standard finishes to suit any modern décor style.

** Requires a 14-50 V DC power supply, DIGIDIM 401 or 402 power supply recommended.*

Panel Finishes

Fascia plates available in a range of standard finishes to suit any modern décor style.



Satin White (9240)

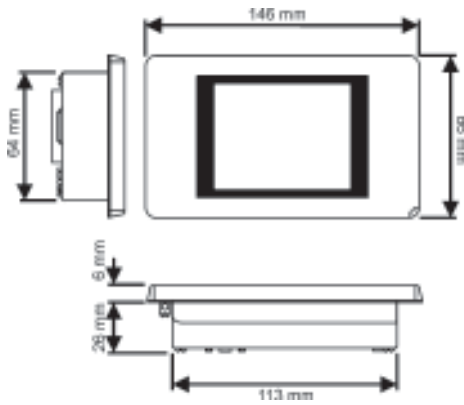


Polished Brass (9241)



Stainless Steel (9242)

Panel Dimensions (mm)



Backbox depth = 35mm

Built in themes

A Theme is a combination of Button and Background styles which produce 5 separate individual looks for the panel.

The TouchPanel is supplied with a color picker allowing up to 65,000 different solid color backgrounds, However there is also an additional 5 built-in themes as standard allowing the look of the panel to be tailored to the surroundings or to a specific task.

The default theme for the panel is "Space" and the other selections are shown below but it is possible to mix & match button and background styles to create your own themes.



Space (Default)



Beach Sunset



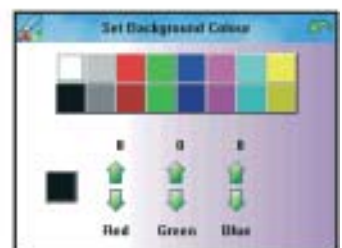
Aquarium



Cloudy Sky



Winter Scene



Colour Picker (65,000 colours available)

Modular Control Panels

Single Gang Panels

The Modular control panels are a fully DALI compatible range of user interfaces that allow basic control of the system. The range includes pushbutton, rotary and slider controls in a range of panel finishes. Each panel is fitted with an indicator LED and an infrared receiver that gives the option of remote operation using the DIGIDIM hand held remote (303).

Control panels fit into standard UK and most European backboxes.

Double Gang Panels

The double gang panel options contain up to any three control module combinations.

They are available as standard in Satin White Plastic or Satin Stainless Steel + Grey. The panels are also available to special order in Lacquered Polished Brass or Satin Stainless Steel.

Please see the Modular Panel data sheet for further details of the available panel configurations.



Satin White



Polished Brass



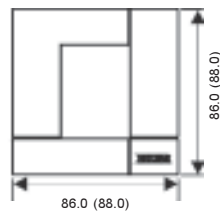
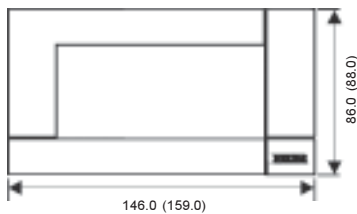
Stainless Steel



Stainless Steel & Grey Insert

Panel Dimensions (mm)

0 = Metal Finish Panel Dimensions



Backbox depth = 35mm

Panel order codes

	ROTARY	SINGLE SLIDER	DOUBLE SLIDER	2 BUTTON (ON/OFF)	2 BUTTON (UP/DOWN)
SATIN WHITE	100 200	110 200	111 200	121 200	122 200
BRASS	100 201	110 201	111 201	121 201	122 201
STAINLESS STEEL	100 202	110 202	111 202	121 202	122 202
GREY INSERT	100 203	110 203	111 203	121 203	122 203
	5 BUTTON	7 BUTTON	8 BUTTON	IR	PROGRAMME POINT
SATIN WHITE	124 200	125 200	126 200	170 200	180 200
BRASS	124 201	125 201	126 201	170 201	180 201
STAINLESS STEEL	124 202	125 202	126 202	170 202	180 202
GREY INSERT	124 203	125 203	126 203	170 203	180 203



Multi-sensor (312)

The Multi-sensor module contains the required sensors to provide the energy saving benefits of an automated lighting control system; a passive infra-red presence detector and infra-red remote control receiver.

PIR Detector	Omni-directional
External Diameter	65.00mm
Fixing Aperture	52mm for 0.5 2.0mm tile 55mm for >2.0mm tile



Imagine Input unit (942)

The IMAGINE input unit is an interface designed to allow customer specified switches, sensors, timeclocks or other on/off control devices to be incorporated into an IMAGINE lighting control system. The input unit also accepts inputs from 1-10V analogue devices

No of input channels	4 configurable analogue
1-10V / Volt free inputs	4 Volt free inputs
Product Dimensions	70mm x 90mm x 58mm



Input Unit (440)

Allows the connection of customer specified switches (latching or momentary), time clocks or other on/off control devices to be incorporated into a DIGIDIM system.

No of input channels	8
Cable length	50m (max)
Product Dimensions	90mm x 71mm x 58mm



Mini Input Unit (444)

Allows the connection of customer specified switches (latching or momentary), time clocks or other on/off control devices to be incorporated into a Digidim system.

No of Input Channels	4
Cable Length	200mm
Product Dimensions	30mm x 20mm x 10mm

Note: Cable length must not be increased.



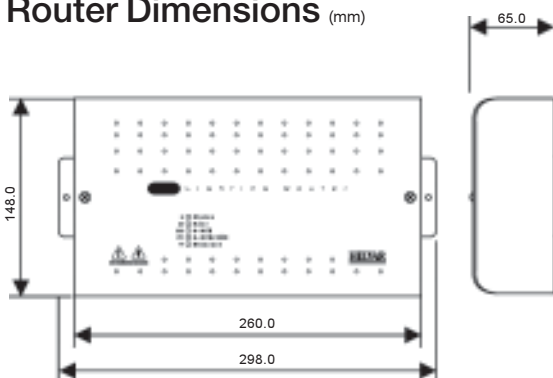
Lighting Router (900)

The Lighting Router is the central element of the Helvar IMAGINE lighting control product range. The Lighting Router allows the seamless connection of input devices (control panels, input units and presence detectors) to a range of load interfaces.

Each lighting router is capable of supporting:

- up to 40 input devices (control panels, input units and presence detectors) over a distance of 375 metres using 1.5 mm² cable
- up to 252 channels of dimming, switching or ballast control over a distance of 1 km
- up to 252 consecutive DMX 512 channels that can be mapped onto 252 consecutive dimming channels
- 10/100 Mbit/s Ethernet connection using the Internet (TCP/IP) protocol. This allows system expansion by linking multiple routers and is also used for system programming, monitoring and scheduling using Helvar's Workshop software
- integral 500mA supply for powering input devices and two outputs for emergency dimmer overrides
- Astronomical time clock (remains active for up to two days during power loss)

Router Dimensions (mm)



Workshop Software

In addition to connecting input devices and load interfaces the Router also connects to Workshop software suite via its PC network connection. The Workshop Software suite is based on the familiar look and feel of Microsoft Windows Explorer®, the graphical user interface is intuitive and very simple to learn. The Workshop software provides a set of fully integrated tools that allow the user to:

Design

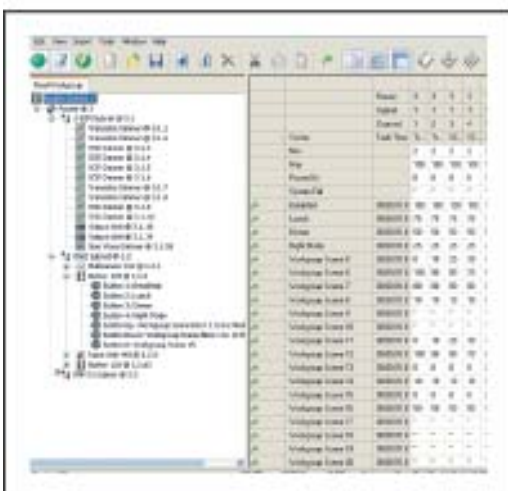
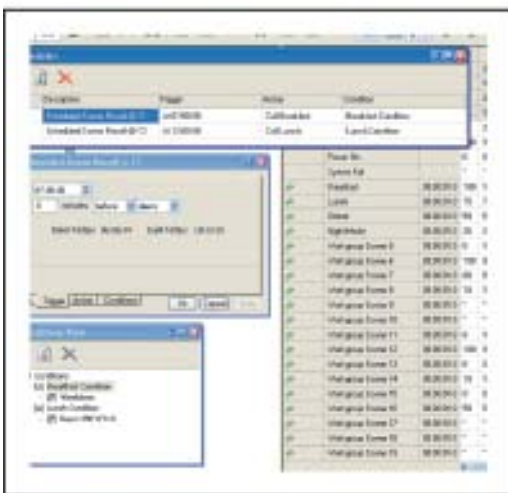
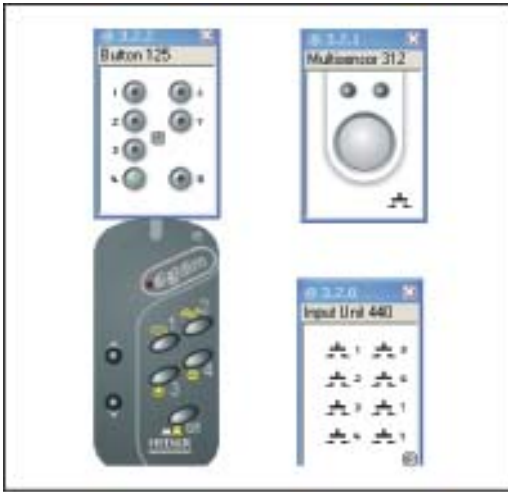
- Create designs off-line in the comfort of your office or work on-line to create or fine tune your lighting system design
- Add Imagine system components at the click of a single button
- Upload a design into the actual lighting system. Backup a real system for later examination in the office.
- Copy, paste, import and export scene data directly to/from Microsoft Excel
- Three levels of password protection

Program

- Name scenes, panels and dimmer channels
- Program scenes and fade times
- Create scene links, sequences or cycles
- Create room partition arrangements
- Monitor & log
- Live monitoring of scenes or channels
- Live colour coded error alerts
- Flexible selection of logged channels and parameters
- Log interval time selection
- Log entries automatically time stamped
- Log to window and/or disk in Microsoft Excel compatible format

Schedule

- Fully automated calendar and Astronomical time based scheduling for recalling timed events and scene recall
- Auto-recovery of scheduling after power failure
- Complex conditional events can easily be programmed





Thyristor Dimmer (HES99300)

Four channel thyristor dimmer (leading edge) suitable for use with most loads, including tungsten, tungsten halogen, wire-wound (inductive) fed low voltage tungsten halogen or neon lighting loads.

Supply Voltage	180 - 260VAC
Supply Frequency	45 - 65Hz
Maximum Load	10A (total load capacity across all channels)
No of Channels	4
Weight	3.0kg

Note: This unit is **not** fitted with incoming circuit protection.



Thyristor Dimmer (HES99400)

Four channel thyristor dimmer (leading edge) suitable for use with most loads, including tungsten, tungsten halogen, wire-wound (inductive) fed low voltage tungsten halogen or neon lighting loads. The unit is fitted with incoming circuit protection on each circuit and on the control electronics.

Supply Voltage	180 - 260VAC
Supply Frequency	45 - 65Hz
Maximum Load	10A per channel
No of Channels	4
Weight	4.2kg



Thyristor Dimmer (HES91200)

Twelve channel thyristor dimmer (leading edge) suitable for use with tungsten, tungsten halogen, wire-wound (inductive) fed low voltage tungsten halogen or neon lighting loads. The unit is fitted with incoming circuit protection on each circuit and on the control electronics.

Supply Voltage	180 - 260VAC
Supply Frequency	45 - 65Hz
Maximum Load	10A per channel
No of Channels	12
Weight	19kg



Ballast Controller (HES98030)

Four channel ballast controller for electronic ballasts, DSI ballasts or other analogue control equipment.

Supply Voltage	180 - 260VAC
Supply Frequency	45 - 65Hz
Control Output	100mA drive (capable of driving up to 50 ballasts)
Output Relay Rating	Single pole 10A resistive load (maximum 15 HFC ballasts)
No of Channels	4
Weight	2.2kg

Note: This unit is **not** fitted with incoming circuit protection.



Ballast Controller (HES98040)

Four channel ballast controller for electronic ballasts, DSI ballasts or other analogue control equipment. The unit is fitted with incoming circuit protection on each circuit and on the control electronics.

Supply Voltage	180 - 260VAC
Supply Frequency	45 - 65Hz
Control Output	100mA drive (capable of driving up to 50 ballasts)
Output Relay Rating	Single pole 10A resistive load (maximum 15 HFC ballasts)
No of Channels	4
Weight	3.8kg



Relay Unit (HES98180)

Eight independent single pole, change-over, volt free contacts for switching external devices from an Imagine system.

Supply Voltage	180 - 260VAC
Supply Frequency	45 - 65Hz
Output Relay Rating	16A resistive / 10A inductive
No of Channels	8 single pole, change-over
Weight	2.25kg

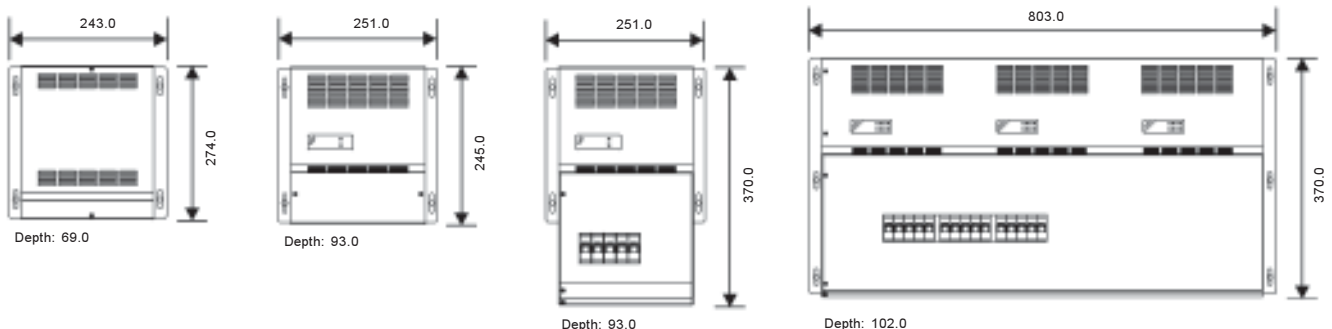


Remote Control (303)

The remote control is designed to operate basic system functions. The remote has the following functions:

- On/off button
- Raise (modifier button)
- Lower (modifier button)
- Four scene recall buttons

Module Dimensions (mm)



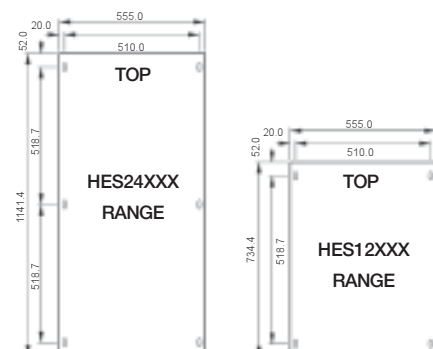


Imagine Dimmer Racks

Imagine racks are available, as standard, in 12 or 24 channel configurations with any combination of the following Imagine Modules:

HES92020 Thyristor Dimmer	(2 channel)
HES92220 Transistor Dimmer	(2 channel)
HES92060 Sinewave Dimmer	(1 channel)
HES98020 Ballast Controller	(2 channel)

The racks also contain all necessary cable terminations and circuit protection devices.



Depth: 220.0

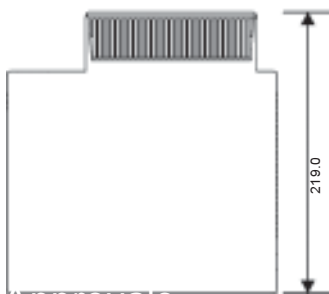
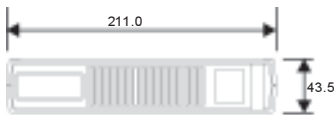


Thyristor Dimmer (HES92020)

Dual channel thyristor dimmer (leading edge) suitable for use with most loads, including tungsten, tungsten halogen, wire-wound (inductive) fed low voltage tungsten or neon lighting loads. Designed as an exchangeable module for fitting into the Imagine Rack System.

Supply Voltage	180 - 260VAC
Supply Frequency	45 - 65Hz
Maximum Load	10A convection cooled, per channel 20A forced ventilation, per channel
No of Channels	2

Module Dimensions (mm)



Transistor Dimmer (HES92220)

Dual channel transistor dimmer (trailing edge) suitable for use with tungsten, tungsten halogen and electronic transformer fed low voltage tungsten loads. Designed as an exchangeable module for fitting into the Imagine Rack System.

Supply Voltage	180 - 260VAC
Supply Frequency	45 - 65Hz
Maximum Load	6A convection cooled, per channel 20A forced ventilation, per channel
No of Channels	2

Sinewave Dimmer (HES92060)

Single channel sinewave dimmer suitable for any load type and in situations requiring harmonic free dimming and outstanding dimming performance coupled with almost zero electrical and mechanical noise. Designed as an exchangeable module for fitting into the Imagine Rack System.

Supply Voltage	100 - 250VAC
Supply Frequency	40 - 75Hz
Maximum Load	3A convection cooled, per channel 10A forced ventilation, per channel
No of Channels	1

Ballast Controller (HES98020)

Dual channel ballast controller suitable for electronic ballasts, DSI ballasts or other analogue control equipment. Designed as an exchangeable module for fitting into the Imagine Rack System.

Supply Voltage	180 - 260VAC
Supply Frequency	45 - 65Hz
Control Output	100mA drive capable of driving up to 50 ballasts
Output Relay Rating	Single pole 20A resistive load (Max 15 HFC Ballasts)
No of Channels	2



EL-sc 1-10V controllable ballasts

Today's constantly changing needs of lighting mean that flexibility has to be an integral part of any lighting solution.

EL-sc ballasts utilise the latest digital technology, making them ideal for use in the widest variety of applications. They are suitable for simple, energy efficient applications, venues where lighting creates a comfortable environment, and places where stable, precise and flicker-free lighting is required.

The entire range is unique in that they can be used together and simultaneously with analogue control devices, simple returnable switches or constant light sensors. All ballasts are only 21mm high and have multiple fixing possibilities enabling innovative design of low profile dimmable luminaires. Switch-Control ensures that dimming could not be simpler, by providing control over the full 1-100% dimming range and ON/OFF switching.

Key Features

- For T5, TC-L or T8 lamps
- No programming required
- Multiple simultaneous control possibilities
- Switch-Control
- Optimum Cathode Control (OCC)
- 1-100% dimming range
- 21mm slim case



Lamp type	Ballast type	Total circuit power (W)	Mains current at full (A)	Power in lamp (W)	Operating frequency range (kHz)
T5	EL 1x14 sc	17	0.07-0.06	14	50-110
	EL 1x21 sc	24	0.11-0.10	21	40-90
	EL 1x24 sc	26	0.13-0.12	24	40-80
	EL 1x28 sc	31	0.15-0.14	28	50-80
	EL 1x35 sc	39	0.18-0.17	35	50-70
	EL 1x39 sc	42	0.20-0.18	39	70-110
	EL 1x49 sc	54	0.25-0.23	49	40-90
	EL 1x54 sc	60	0.28-0.26	54	40-100
	EL 1x80 sc	88	0.41-0.38	80	40-110
	EL 2x14 sc	31	0.15-0.14	14	50-100
	EL 2x21 sc	46	0.22-0.20	21	50-90
	EL 2x24 sc	50	0.24-0.20	24	40-110
	EL 2x28 sc	64	0.30-0.28	28	50-90
	EL 2x35 sc	78	0.36-0.34	35	50-70
	EL 2x39 sc	83	0.40-0.36	39	60-110
	EL 2x49 sc	106	0.50-0.46	49	50-110
	EL 2x54 sc	116	0.53-0.49	54	50-10
	EL 4x14 sc	62	0.29-0.27	14	50-70
TC-L	EL 1x36 sc	37	0.17-0.16	32	55-115
	EL 1x55sc	61	0.28-.026	55	45-95
	EL 1x80 sc	88	0.40-0.36	80	30-100
	EL 2x36 sc	71	0.33-0.30	32	55-115
	EL 2x55 sc	118	0.54-0.50	55	45-95
T8	EL 1x18 sc	19	0.09-0.08	16	50-110
	EL 1x36 sc	37	0.17-0.16	32	55-115
	EL 1x58 sc	55	0.28-0.26	50	50-110
	EL 1x70 sc	65	0.31-0.27	60	50-100
	EL 2x18 sc	37	0.18-0.15	16	53-125
	EL 2x36 sc	71	0.33-0.30	32	55-115
	EL 2x58 sc	108	0.50-0.48	50	50-110
	EL 4x18 sc	72	0.32-0.29	16	50-100



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