digidim

Helvar

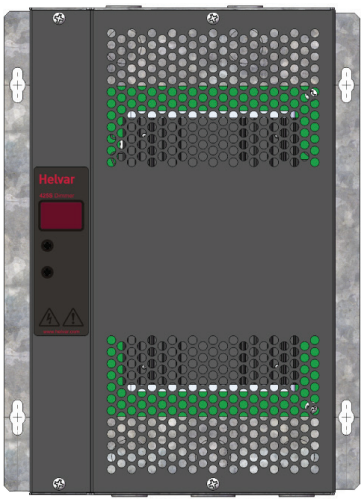
freedom in lighting

Single-Channel Leading Edge Dimmer (416S and 425S)

The DIGIDIM 416S (16 A) and 425S (25 A) are wall-mounted, single-channel, leading edge (thyristor) dimmers. Both units also include a 16 A relay circuit.

Controllable by SDIM, DMX and Analogue, and DALI-compatible for use as load interface units in a DIGIDIM lighting control system, the 416S and 425S can also function as standalone dimmers.

They can be connected to mains voltage lamps directly or to low voltage lamps via a wire-wound transformer, and have a selectable, integral DALI power supply.



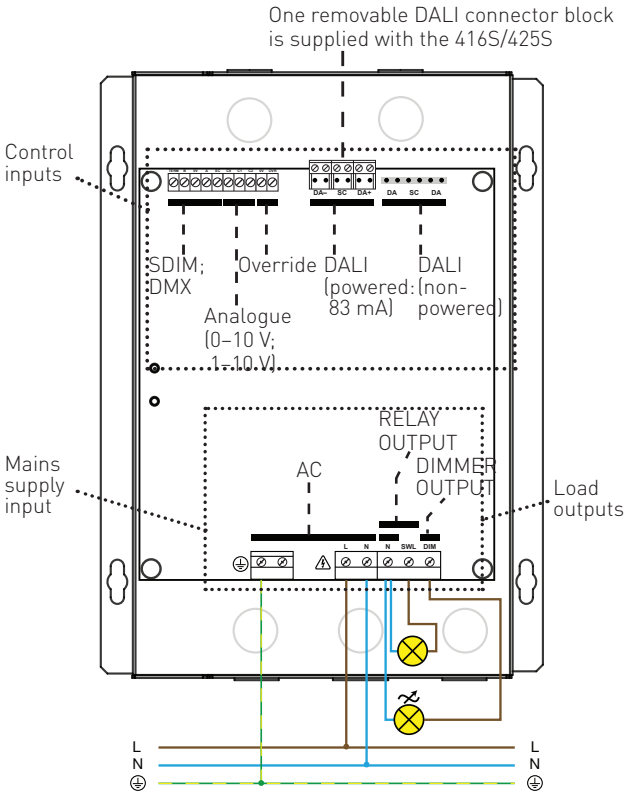
Key features

- Out of box operation. No programming required when using DIGIDIM slider, rotary or push button panels.
- Input voltage fluctuation compensation ensures stable output levels with fluctuating incoming mains levels.
- Selectable, integral DALI power supply.
- Over-temperature protection.
- Programmable interface with buttons and LED display.
- Programmable in Designer™ and Digidim Toolbox™.

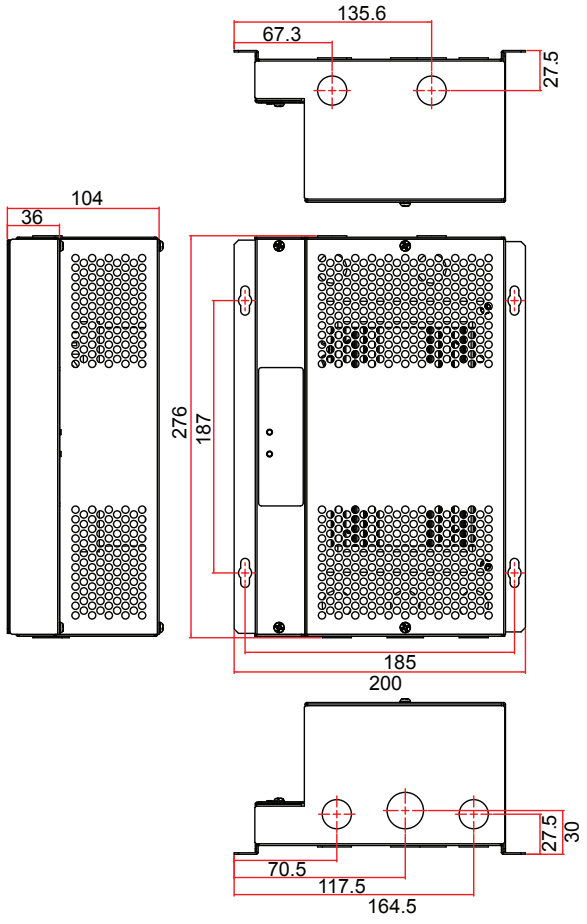
Installation notes

- The dimmer is for use with incandescent lamps and low-voltage lamps via wire-wound transformers. It is suitable for use with electronic transformers if use is approved by the transformer manufacturer.
- The external mains supply must be protected.
- DALI and mains cabling must be 230 V mains rated.

Connections



Dimensions (mm)



Technical Data

Connections

Power consumption:	1.3 W (with no output load)
Heat dissipation:	416S: 39 W with maximum load (resistive); 425S: 67 W with maximum load (resistive)
External protection:	The mains supply input must be externally protected by an MCB or fuse of a suitable rating. 416S: 16 A Type C MCB maximum 425S: 25 A Type C MCB maximum
Thermal protection:	Control board – resettable fuse Power devices – thermal sensing

Mains supply input

Connections (L, N, E):	Solid ⩾ 6 mm², stranded ⩾ 4 mm²
Terminal type:	Screw terminals
Mains power supply:	100 VAC – 240 VAC (nominal) 85 VAC – 264 VAC (absolute) 45 Hz – 65 Hz
Cable strip length:	8 mm

Control inputs

DALI connections:	1 × DALI (standard, nonpowered), 1 × DALI powered (83 mA). DIGIDIM terminal block (one supplied with unit)
Cable type and size:	0.5 mm² – 1.5 mm² stranded or solid
Cable strip length:	6 mm
DALI consumption:	2 mA
DALI supply output:	Powered DALI: 83 mA (max.), 20 VDC (nominal)
DALI data transfer:	DALI standard IEC62386, with Helvar extensions

SDIM/DMX inputs

Connections:	SDIM and DMX use the same input connections
Terminal type:	Screw terminals
Cable type and size:	0.22 mm² – 1.5 mm² low-loss RS485 Type (multistranded, twisted and shielded). One twisted pair for A and B (85 Ω to 100 Ω impedance), one core or twisted pair for 0 V, and shield for screen. Example: Belden 8102 or Alpha 6222C.
Cable strip length:	6 mm
Max. cable length:	100 m (low-loss cable)
SDIM data transfer:	Helvar protocal (RS485, 115 kbps)
DMX data transfer:	DMX512-A protocol

Analogue input

Terminal type:	Screw terminals
Cable type and size:	2-wire, 0.22 mm² – 1.5 mm² (screened and twisted)
Max. cable length:	50 m

Override input

Terminal type:	Screw terminals
Cable type and size:	2-wire, 0.22 mm² – 1.5 mm² (screened and twisted)
Cable strip length:	6 mm
Max. cable length:	50 m
Voltage and current:	Input voltage: V_{in} < 1.5 V; short-circuit current I_{short} = 1 mA

Load outputs

Terminal type:	Screw terminals
Cable type and size:	Solid ⩾ 6 mm², stranded ⩾ 4 mm²
Cable strip length:	8 mm

Relay output (switched load output)

Terminal type:	Screw terminals
Cable type and size:	Solid ⩾ 6 mm², stranded ⩾ 4 mm²
Cable strip length:	8 mm
Load current:	416S: 16 A; 425S: 16 A
Relay contacts:	High inrush

Mechanical data

Dimensions:	200 mm × 274 mm × 104 mm
Material:	Powder coated steel (grey)
Mounting:	Vertical mounted, secured by four 'keyhole slots'
Weight:	416S: 2 kg; 425S: 2.6 kg
IP code:	IP20

Operating conditions

Ambient temperature:	0 °C to +40 °C
Relative humidity:	Max. 90 %, noncondensing
Storage temperature:	–10 °C to +70 °C

Conformity and standards

EMC emission:	EN 61000–6–3
EMC immunity:	EN 61547
Harmonics:	EN 61000–3–2* * Professional equipment. Total rated power > 1 kW.
Safety:	EN 60950
Environment:	Complies with WEEE and RoHS directives.