

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

416S: 16 A
425S: 25 A

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

Controllable by S-DIM, DMX, and Analogue, and fully DALI-compatible for use as Load Interface Units in a DIGIDIM lighting control system, the 416S and 425S can also function as stand-alone 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.

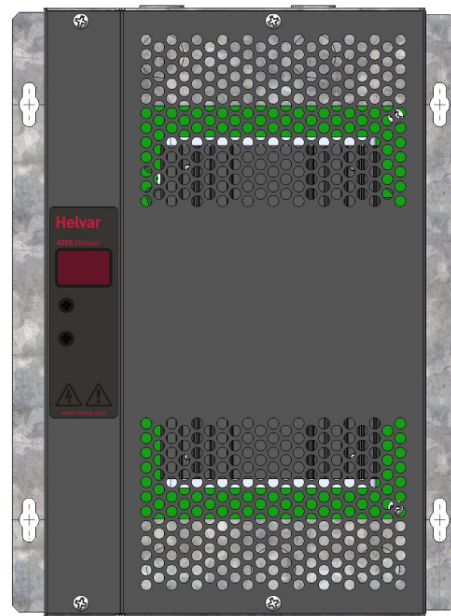
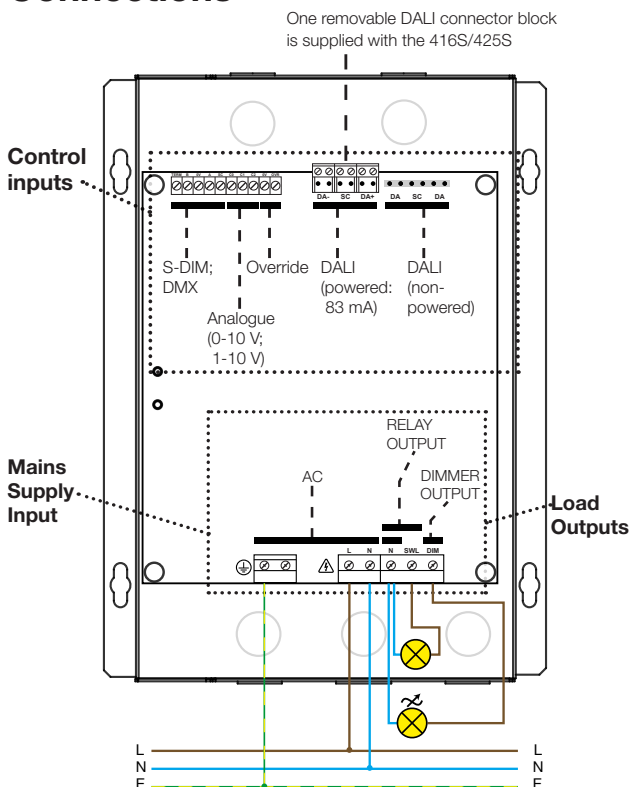
Key features

- 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™

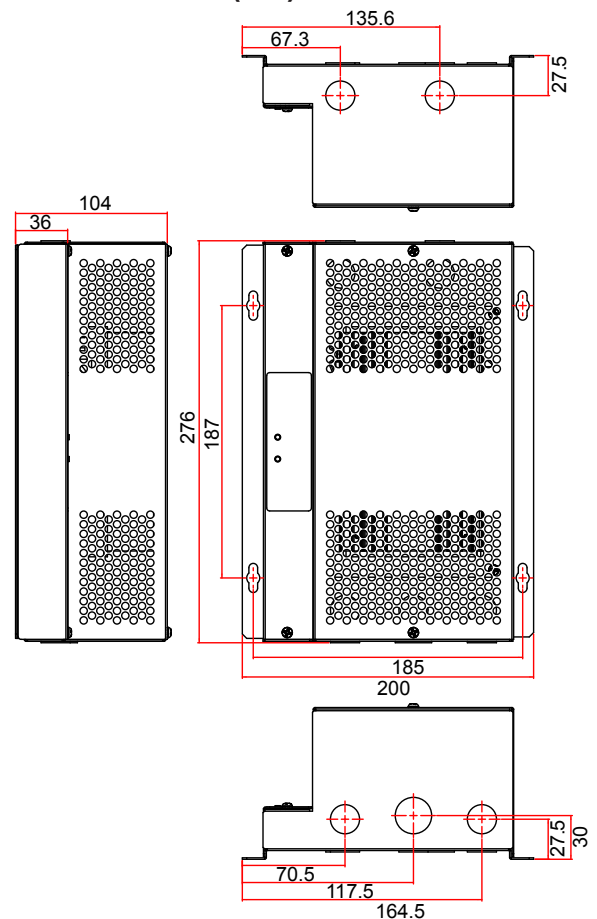
Installation notes

- 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

Power and Protection

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: $\geq 6 \text{ mm}^2$; Stranded: $\geq 4 \text{ mm}^2$

Terminal type: Screw terminals

Mains supply voltage: 85 VAC to 264 VAC, 45 - 65 Hz

Cable strip length: 8 mm

Control inputs

DALI

Connections: 1x DALI (standard, non-powered);
1x DALI powered (83 mA).
2-part DIGIDIM connector with paired screw terminals (one supplied with unit)

Cable type and size: 0.5 mm^2 — 1.5 mm^2 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

S-DIM / DMX inputs

Connections: S-DIM and DMX use the same input connections

Terminal type: Screw terminals

Cable type and size: 0.22 mm^2 — 1.5 mm^2 ; low-loss RS485 Type (multi-stranded, twisted and shielded).
One twisted pair for A and B (85Ω to 100Ω 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: 1000 m (low-loss cable)

S-DIM data transfer: Helvar protocol (RS485, 115 kbps)

DMX data transfer: DMX512-A protocol

Analogue input

Terminal type: Screw terminals

Cable type and size: 2-wire; 0.22 mm^2 — 1.5 mm^2 (screened and twisted)

Max. cable length: 50 m

Override input

Terminal type: Screw terminals

Cable type and size: 2-wire; 0.22 mm^2 — 1.5 mm^2 (screened and twisted)

Cable strip length: 6 mm

Max. cable length: 50 m

Voltage and current: Input voltage: $V_{in} < 1.5 \text{ V}$; Short-circuit current $I_{short} = 1 \text{ mA}$

Load outputs

Dimmed output

Terminal type: Screw terminals

Cable type and size: Solid: $\geq 6 \text{ mm}^2$; Stranded: $\geq 4 \text{ mm}^2$

Cable strip length: 8 mm

Relay output (Switched load output)

Terminal type: Screw terminals

Cable type and size: Solid: $\geq 6 \text{ mm}^2$; Stranded: $\geq 4 \text{ mm}^2$

Cable strip length: 8 mm

Load current: 416S: 16 A; 425S: 16 A

Relay contacts: High inrush

Conformity and Standards

EMC Emission: EN 61000-6-3

Immunity: EN 61547

Harmonics: EN 61000-3-2*

* May be subject to conditional connection for use above 16 A.

Safety: EN 60950

Isolation: 4 kV

IP rating: IP 20

Environmental: Complies with WEEE and RoHS directives

Mechanical Data

Mounting: Vertical mounted, secured by four 'keyhole' slots.

Dimensions: 200 mm (W) x 274 mm (H) x 104 mm (D)

Weight: 416S: 2 kg; 425S: 2.6 kg

Housing: Powder coated steel (grey)

Operating and Storage Conditions

Ambient Temperature: 0°C — $+40^\circ\text{C}$

Storage Temperature: -10°C — $+70^\circ\text{C}$

Relative Humidity: Max 90%, non-condensing