

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

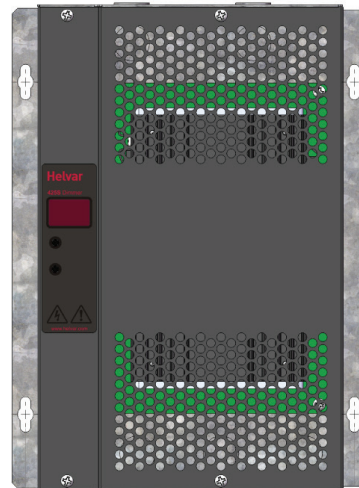
The DIGIDIM 416S (16 Amp) and 425S (25 Amp) are wall-mounted single-channel leading edge (thyristor) dimmers. Both units also include a 16 A relay circuit.

Controllable by S-DIM, DMX, and Analogue, and 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

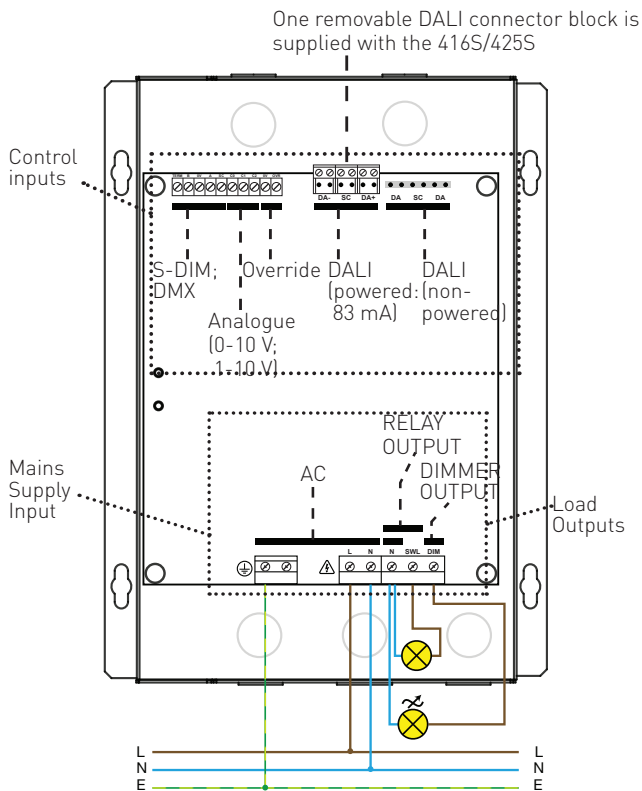
- Out of box operation. No programming required when using DIGIDIM slider, rotary or push button panels.
- Input voltage fluctuation compensation ensures stable output levels with fluctuating incoming mains levels.
- Selectable, integral DALI power supply.
- Over-temperature protection.
- Programmable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



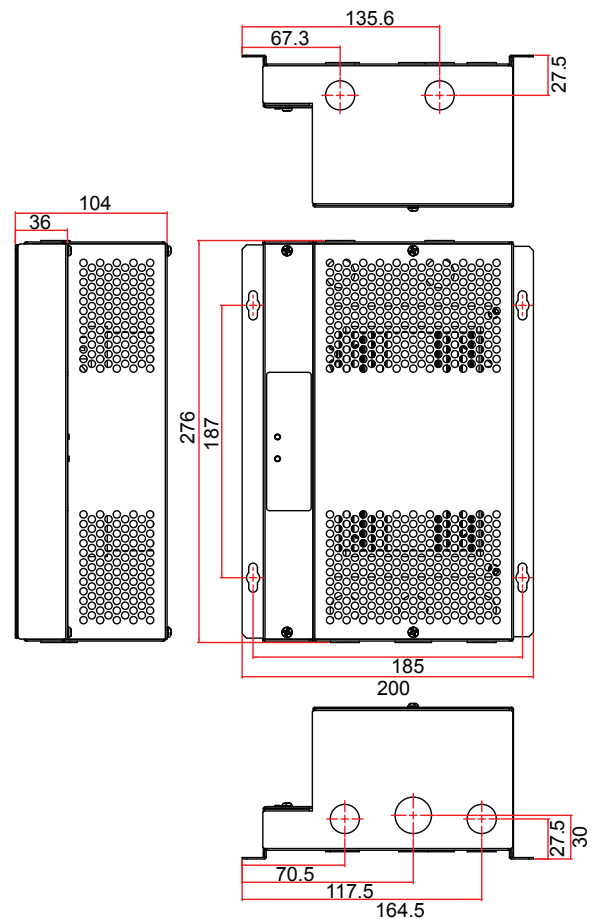
Installation notes

- 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: $\geq 6 \text{ mm}^2$; Stranded: $\geq 4 \text{ mm}^2$
Terminal type:	Screw terminals
Mains supply voltage:	85 VAC to 264 VAC, 45 Hz to 65 Hz
Cable strip length:	8 mm

Control inputs

DALI connections:	1 \times DALI (standard, non-powered); 1 \times DALI powered (83 mA). DIGIDIM terminal block (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 (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)
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

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

Mechanical data

Dimensions:	200 mm \times 274 mm \times 104 mm
Material:	Power 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 $^{\circ}\text{C}$ to +40 $^{\circ}\text{C}$
Relative humidity:	Max. 90 %, non-condensing
Storage temperature:	-10 $^{\circ}\text{C}$ to +70 $^{\circ}\text{C}$

Conformity and standards

EMC emission:	EN 61000-6-3
EMC immunity:	EN 61547
Harmonics:	EN 61000-3-2* * May be subject to conditional connection for use above 16 A.
Safety:	EN 60950
Environment:	Complies with WEEE and RoHS directives