

DOWNLIGHT FIXTURES



DOWNLIGHT EASYLINE WITH INTEGRATED LED DRIVER

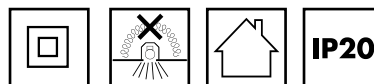
LED Recessed Mounted Downlight

Use of modern LED technology in conventional downlight applications provides an optimal light distribution and extended life time all at an affordable price.

VS LED downlights with integrated LED driver are fully compatible with existing conventional downlight infrastructure, and are the perfect choice for both new and replacement markets.

■ EASYLINE WITH INTEGRATED LED DRIVER

- SMD technology
- Efficiency: up to 95 lm/W
- Slim design for easy installation in low false ceiling
- High colour rendering index CRI: ≥ 80
- Integrated LED driver



Downlight EasyLine

- **100% INSTANT LIGHT**
- **WITH INTEGRATED LED DRIVER**
- **DIRECT CONNECTION TO MAINS VOLTAGE**
- **POWER CLASSES FROM 4 W TO 24 W**
- **ENEC AND DEKRA APPROVED**
- **3 YEARS GUARANTEE**

more information under
www.vossloh-schwabe.com

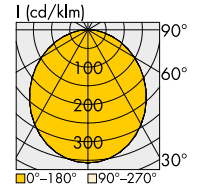


Downlight EasyLine

**Indoor LED recessed mounted downlight
With integrated LED driver and
connection box for direct connection
to mains voltage**



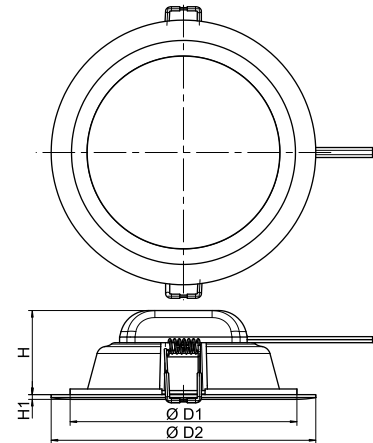
| Type | Dimensions (ØxH) mm | Cut-out (Ø) mm |
|----------|------------------------|-------------------|
| DL-E-90 | 90x36 | 75 |
| DL-E-105 | 105x38 | 90 |
| DL-E-115 | 115x44 | 100 |
| DL-E-140 | 140x47 | 125 |
| DL-E-165 | 165x47 | 150 |
| DL-E-190 | 190x49 | 175 |
| DL-E-215 | 215x49 | 200 |



Casing material: PC
Casing flange colour: white (RAL 9003)
Diffuser material: PC
Degree of protection: IP20
Impact rating: IK03
Colour accuracy initially: typ. 4 SDCM
With connection box

Dimensions

| Type | Ø D1 mm | Ø D2 mm | H mm | H1 mm |
|----------|------------|------------|---------|----------|
| DL-E-90 | 70 | 90 | 34 | 2 |
| DL-E-105 | 85 | 105 | 35.5 | 2.5 |
| DL-E-115 | 95 | 115 | 41.85 | 2.25 |
| DL-E-140 | 120 | 140 | 44.5 | 2.5 |
| DL-E-165 | 145 | 165 | 44.5 | 2.5 |
| DL-E-190 | 170 | 190 | 46.5 | 2.5 |
| DL-E-215 | 195 | 215 | 46.5 | 2.5 |



Applied Standards

- EN 60598-1:2015 + A1:2018
- EN 60598-2-2:2012
- EN 62471:2008
- EN 62493:2010
- EN 55015:2013
- EN 61000-3-2:2014
- EN 61000-3-3:2013
- EN 61547:2009
- IEC TR 62778:2014 (RG0)

Electrical characteristics

| Type | Voltage AC 50–60 Hz (V) | Power factor | Flicker (100 Hz) % | Flicker index | SVM | P _{ST} | THD at full load % (230 V) |
|-----------|----------------------------|--------------|-----------------------|---------------|--------|-----------------|-------------------------------|
| All types | 220–240 | > 0.5 | < 5 | < 0.01 | < 0.02 | < 0.02 | < 20 |

Maximum ratings

Exceeding the maximum ratings can lead to reduction of service life or destruction of the downlight.

| Type | Allowed mains voltage range V | Allowed operating temperature = t _a | | Allowed storage temperature = t _a | |
|-----------|----------------------------------|--|---------|--|---------|
| | | min. °C | max. °C | min. °C | max. °C |
| All types | 220–240 | -20 | +40 | -20 | +60 |

Operating Life

| Type | t _a = 25 °C | t _a = 40 °C |
|---------|------------------------|------------------------|
| | hrs. | hrs. |
| L70/B50 | 30,000 | 25,000 |

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

Standard version – with integrated LED driver

| Type | Ref. No | Colour | Correlated colour temperature K | Typ. power consumption* W | Luminous flux* and efficiency | | | | Typ. UGR 4H-8H | Beam angle ° | Typ. CRI Ra | Energy efficiency |
|-----------------|---------------|---------------|---------------------------------|---------------------------|-------------------------------|------|---------|------|----------------|--------------|-------------|-------------------|
| | | | | | typ. lm | lm/W | max. lm | lm/W | | | | |
| Ø 90 mm | | | | | | | | | | | | |
| DL-E-90-4-830 | 570271 | warm white | 3000 | 4 | 300 | 75 | 340 | 85 | 28 | 100 | 80 | A+ |
| DL-E-90-4-840 | 570272 | neutral white | 4000 | 4 | 310 | 78 | 350 | 85 | 28 | 100 | 80 | A+ |
| DL-E-90-4-865 | 570273 | cool white | 6500 | 4 | 325 | 81 | 365 | 91 | 28 | 100 | 80 | A+ |
| Ø 105 mm | | | | | | | | | | | | |
| DL-E-105-6-830 | 570274 | warm white | 3000 | 6 | 450 | 75 | 510 | 85 | 28 | 100 | 80 | A+ |
| DL-E-105-6-840 | 570275 | neutral white | 4000 | 6 | 460 | 77 | 520 | 87 | 28 | 100 | 80 | A+ |
| DL-E-105-6-865 | 570276 | cool white | 6500 | 6 | 475 | 79 | 535 | 89 | 28 | 100 | 80 | A+ |
| Ø 115 mm | | | | | | | | | | | | |
| DL-E-115-8-830 | 570277 | warm white | 3000 | 8 | 600 | 75 | 710 | 89 | 28 | 100 | 80 | A+ |
| DL-E-115-8-840 | 570278 | neutral white | 4000 | 8 | 610 | 76 | 720 | 90 | 28 | 100 | 80 | A+ |
| DL-E-115-8-865 | 570279 | cool white | 6500 | 8 | 625 | 78 | 735 | 92 | 28 | 100 | 80 | A+ |
| Ø 140 mm | | | | | | | | | | | | |
| DL-E-140-12-830 | 570280 | warm white | 3000 | 12 | 900 | 75 | 1000 | 83 | 28 | 100 | 80 | A |
| DL-E-140-12-840 | 570281 | neutral white | 4000 | 12 | 940 | 78 | 1050 | 88 | 28 | 100 | 80 | A+ |
| DL-E-140-12-865 | 570282 | cool white | 6500 | 12 | 960 | 80 | 1080 | 90 | 28 | 100 | 80 | A+ |
| Ø 165 mm | | | | | | | | | | | | |
| DL-E-165-16-830 | 570283 | warm white | 3000 | 16 | 1200 | 75 | 1350 | 84 | 28 | 100 | 80 | A |
| DL-E-165-16-840 | 570284 | neutral white | 4000 | 16 | 1250 | 78 | 1400 | 88 | 28 | 100 | 80 | A+ |
| DL-E-165-16-865 | 570285 | cool white | 6500 | 16 | 1300 | 81 | 1450 | 91 | 28 | 100 | 80 | A+ |
| Ø 190 mm | | | | | | | | | | | | |
| DL-E-190-20-830 | 570286 | warm white | 3000 | 20 | 1500 | 75 | 1700 | 85 | 28 | 100 | 80 | A |
| DL-E-190-20-840 | 570287 | neutral white | 4000 | 20 | 1550 | 78 | 1750 | 88 | 28 | 100 | 80 | A+ |
| DL-E-190-20-865 | 570288 | cool white | 6500 | 20 | 1590 | 80 | 1790 | 90 | 28 | 100 | 80 | A+ |
| Ø 215 mm | | | | | | | | | | | | |
| DL-E-215-24-830 | 570289 | warm white | 3000 | 24 | 2000 | 83 | 2100 | 88 | 28 | 100 | 80 | A+ |
| DL-E-215-24-840 | 570290 | neutral white | 4000 | 24 | 2050 | 85 | 2200 | 92 | 28 | 100 | 80 | A+ |
| DL-E-215-24-865 | 570291 | cool white | 6500 | 24 | 2080 | 87 | 2280 | 95 | 28 | 100 | 80 | A+ |

* Production tolerance of luminous flux and power consumption: ±10%

Logistic details

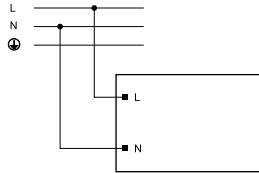
| Type | Packaging white | | | Overpack brown | | | Minimum order quantity / Pieces per euro pallet pcs. |
|-----------------|-----------------------|-----------------|----------|-----------------------|-----------------|----------|--|
| | Dimensions LxVxH (mm) | Pack. unit pcs. | Weight g | Dimensions LxVxH (mm) | Pack. unit pcs. | Weight g | |
| DL-E-90-4-xxx | 119x44x92 | 1 | 50 | 490x382x240 | 80 | 4000 | 24 / 1920 |
| DL-E-105-6-xxx | 106x44x115 | 1 | 67 | 360x225x240 | 30 | 2000 | 40 / 1200 |
| DL-E-115-8-xxx | 118x52x128 | 1 | 89 | 605x395x226 | 60 | 5500 | 16 / 960 |
| DL-E-140-12-xxx | 142x51x148 | 1 | 114 | 590x158x227 | 16 | 2000 | 40 / 640 |
| DL-E-165-16-xxx | 170x51x170 | 1 | 157 | 355x185x227 | 8 | 1000 | 48 / 384 |
| DL-E-190-20-xxx | 192x53x192 | 1 | 205 | 595x400x235 | 24 | 5000 | 16 / 384 |
| DL-E-215-24-xxx | 217x53x220 | 1 | 275 | 455x230x235 | 8 | 2200 | 40 / 320 |

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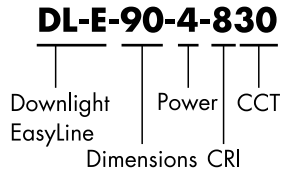
Safety information for LED drivers

Electrical installation

- Connection: Terminals for rigid or flexible conductors with a section of 0.2–2.5 mm²
- Stripped length: 8.5–9 mm
- Through-wiring: Is not allowed.
- Wiring diagram:



Product code description



Selection of automatic cut-outs for VS LED drivers

- Dimensioning automatic cut-outs
High transient currents occur when an LED driver is switched on because the capacitors have to load. Ignition of LED modules occurs almost simultaneously. This also causes a simultaneous high demand for power. These high currents when the system is switched on put a strain on the automatic conductor cut-outs, which must be selected and dimensioned to suit.
- Release reaction
The release reaction of the automatic conductor cut-outs comply with VDE 0641, part 11, for B, C characteristics. The values shown in the following tables are for guidance purposes only and are subject to system-dependent change.
- No. of LED drivers
The maximum number of VS LED drivers applies to cases where the devices are switched on simultaneously. Specifications apply to single-pole fuses. The number of permissible drivers must be reduced by 20% for multi-pole fuses. The considered circuit impedance equals 400 mΩ (approx. 20 m [2.5 mm²] of conductor from the power supply to the distributor and a further 15 m to the luminaire).

| Type | Automatic cut-out type and possible no. of VS drivers pcs. | |
|------------------------|--|--------|
| Automatic cut-out type | B 16 A | C 16 A |
| DL-E-90-4-xxx | 158 | 264 |
| DL-E-105-6-xxx | 158 | 264 |
| DL-E-115-8-xxx | 135 | 226 |
| DL-E-140-12-xxx | 118 | 198 |
| DL-E-165-16-xxx | 72 | 122 |
| DL-E-190-20-xxx | 78 | 131 |
| DL-E-215-24-xxx | 51 | 87 |

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Safety and Installation Instructions

General safety and installation Instructions for luminaires

The following instructions must be observed. Non-observance can result in personal injury and damage to property or can damage both luminaires and control gear. In such cases, the manufacturer's warranty as well as liability will be invalidated.

General Instructions

- Please read these instructions prior to installation/commissioning and keep them safe for future use.
- Any improper use or modification will invalidate the manufacturer's warranty and liability as well as any warranty claims.
- The luminaire contains integrated and non-exchangeable LED light sources. The light source of this luminaire cannot be replaced. When the light source has reached the end of its service life, the entire luminaire must be replaced.
- Care must be taken to ensure the luminaire is operated only using the supplied Vossloh-Schwabe control gear and accessories or using an alternative brand of approved control gear.
- If the luminaire is marked with SELV, only control gear with SELV characteristics may be used.
- Children must be prevented from playing with or near the luminaire.

Installation and operating instructions

- Installation of this luminaire may be undertaken only by authorised and suitably trained staff in accordance with any country-specific regulations.
- Installation must be carried out only after disconnecting the device from mains voltage, i.e. in a voltage-free state.
- Depending on the site of operation, the degree of protection (IPxx) will have to be observed during installation.
- Please ensure that the correct supply voltage is applied by checking it against the voltage requirements of the luminaire and the driver.
- For the purpose of commissioning, please ensure the correct polarity of the connecting leads. Incorrect polarity can destroy the modules.
- For trouble-free operation, it is important to ensure that the permissible ambient temperature range (t_a) as stipulated in the datasheet is not exceeded. Exposure to sunlight can increase the ambient temperature.
- Only ever operate the luminaire with all protective covers in place.
- Given functional problems, please contact your Vossloh-Schwabe representative. Should the power supply cable be damaged, please scrap the luminaire and/or contact your VS representative.
- On contact with moisture or condensation, any resulting corrosive damage will not be recognised as a product flaw or manufacturer's defect.
- Connecting luminaires (LED modules) to supply units that are already connected to the mains can result in long-term damage. Secondary switching is not permissible.
- Touchable luminaire parts can reach high temperatures (risk of burning/injury.)
- Highly flammable materials (e.g. cladding or insulation material) must be kept away from the luminaire.


- Please ensure protective ESD (electrostatic discharge) measures are taken when handling and installing the luminaire – see VS "ESD Protection" application notes.
- Measurement tolerances:
 - Luminous flux: $\pm 10\%$
 - Power consumption / voltage: $\pm 10\%$
 - Colour: max. 6 SDCM

Cleaning instructions


- Depending on the conditions on site, the luminaire must be cleaned on a regular basis.
- Never use any flammable, abrasive, harsh or corrosive cleaning liquids.
- Prior to cleaning the luminaire, please ensure it is disconnected from the mains and is given time to cool down.
- Once it has cooled down, the luminaire can be cleaned with a damp cloth.
- Let the luminaire dry fully before switching it back on.


Answers to technical questions can be found on our website at www.vossloh-schwabe.com or ask your Vossloh-Schwabe representative.

Safety symbols


 Specifies the minimum clearance to flammable materials in the direction of radiation.

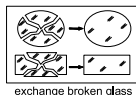
 Indoor operation

 Please ensure that the way the luminaire is positioned means there is no reason to expect anyone could look into it for a longer period of time with less clearance than stated in the datasheet.

 Caution: risk of electric shock.

 **ESD Schutzmaßnahmen einhalten / Comply with ESD protection measures** Caution: components with a risk of electrostatic charge.

 Luminaire/voltage supply unit must not be covered with any thermally insulating materials or similar.

 Any cover with damage must be replaced.
exchange broken glass

Product guarantee

- 3 years
- The conditions for the Product Guarantee of the Vossloh-Schwabe Group shall apply as published on our homepage (www.vossloh-schwabe.com). We will be happy to send you these conditions upon request.

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