

## vossloh rigid strips of 28mm and optics

Ref: 36.056

**Features:**

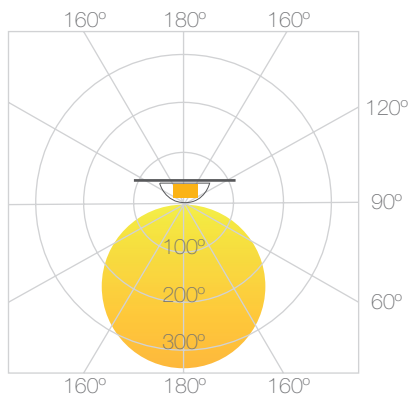
- Led built-in module for integration into luminaires
- Driving current: 350mA / 500mA / 500mA / 700mA
- Narrow colour tolerance: 3-step MacAdam
- SELV and Non-SELV application
- Degree of protection: IP00
- On-board push-in terminals
- Can be combined with VS optics
- PCB colour white



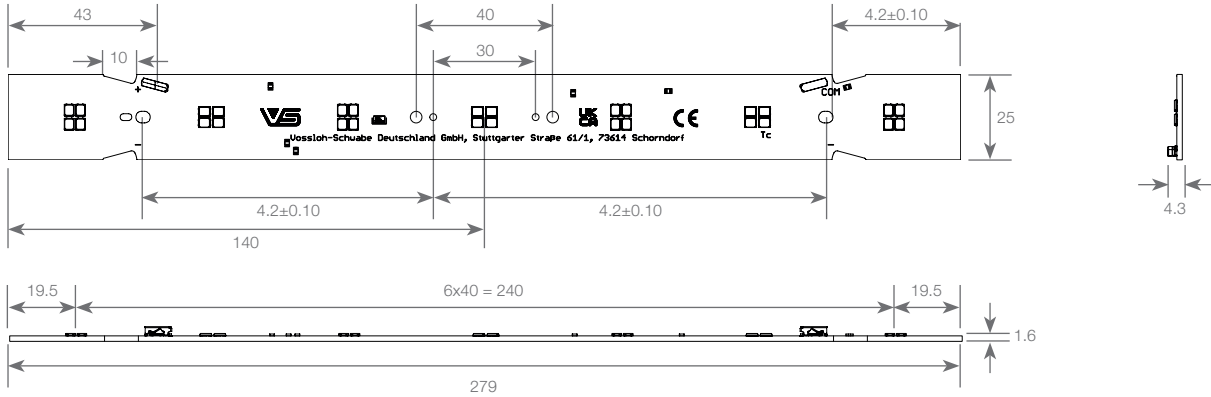
|                            |   |   |
|----------------------------|---|---|
| Electrical characteristics | Power consumption   | 6.7W (350mA) - 9.9W (500mA) - 14.3W (700mA)       |
|                            | Voltage DC  | 19.1V (350mA) - 19.7V (500mA) - 20.5V (700mA)     |
|                            | Main current mA   | 350mA - 500mA - 700mA                             |
|                            | No. of SMDs   | 28pcs   |
| Maximum ratings            | Operating current (mA)  | 700mA   |
|                            | Operation temperature range at $t_c$ point (min/max)                    | -20°C / +80°C                                     |
|                            | Storage temperature range (min/max)                                     | -20°C / +70°C                                     |
|                            | Max. allowed repetitive peak current for frequencies $\geq 100$ Hz (mA) | 1200  |
| Operating Life             | 350mA   | 40°C (>72,000) / 50°C (>72,000) / 60°C (>56,000)  |
|                            | 500mA   | 40°C (>72,000) / 50°C (>72,000) / 60°C (>53,000)  |
|                            | 700mA   | 40°C (>72,000) / 50°C (>72,000) / 60°C (>51,000)  |
| Optical characteristics    | Colour  | neutral white (NW)                                |
|                            | Colour temperature  | 4000K   |
|                            | Luminous flux (lm)  | 1095lm (350mA) / 1550lm (500mA) / 2135lm (700mA)  |
|                            | Luminous efficiency (lm/W)  | 164lm/W (350mA) / 157lm (500mA) / 149lm/W (700mA) |
|                            | CRI   | Ra > 90   |
|                            | Beam angle  | 120°  |
| Other                      | Dimension   | 280x25x4.3mm                                      |
|                            | Cuttable  | no  |
|                            | Power supply  | not included                                      |
|                            | Connecting cable  | needed (but not included)                         |
|                            | Packaging   | 1 unit  |
|                            | Guarantee   | 5 years   |



**Beam angle:**

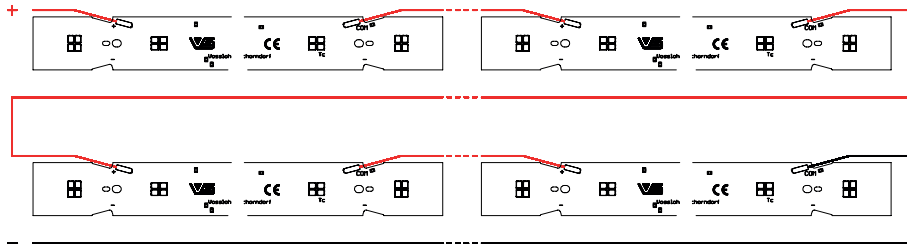


**Measurements:**



**Connection Example:**

- The number of modules that can be connected in series depends on the available output voltage of the led driver.
- The clearance and creepage distances are designed for working voltages up to 500V DC (basic insulation) and 250V DC (reinforced insulation).
- In case of assembly of the led modules in profiles (e.g. aluminium) where the profile touches the top edge of the PCB the clearance and creepage distances are reduced to 150V DC (basic insulation).
- Only the marked holes are fixing holes for screws M3. Please do not use other holes for fixation!



**Assembly and Safety Information:**

Installation must be carried out under observation of the relevant regulations and standards. The led modules are designed for operation within a casing or luminaire. Installation must be carried out in a voltage-free state (i.e. disconnection from the mains). The following advice must be observed; non-observance can result in the destruction of the led assembly modules, fire and/or other hazards.

- Consider safety regulations acc. EN 60598 in the luminaire design, especially when the operating led driver is not galvanic isolated.
  - In mode of operation regard to sufficient isolation.
  - Live parts must not be touched in operation mode. Life in danger!!!
- ESD (electrostatic discharge) protection measures must be observed when handling and installing the led modules. See VS's application notes on ESD protection.
- Led assembly modules must not be subjected to any undue mechanical stress, e. g.:
  - Do not treat as bulk cargo.
  - Avoid shear and compressive forces during handling and installation.
  - Do not damage circuit paths.
  - Avoid any pressure on the light emitting surface.
- Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- Safety regulations acc. to EN 60598 (or further standards) has to be observed if the maximum output voltage exceed the permitted touchable value.
- Measurement tolerances:
  - luminous flux:  $\pm 7\%$
  - voltage:  $\pm 3\%$
  - CRI:  $\pm 1$
- The following points must be observed when connecting led modules in parallel:
  - All led strings that are wired in parallel must contain the same number of leds (symmetrical loading).
  - Owing to differing forward biases, there can be a difference of up to 10% in brightness between modules connected in parallel.
- To ensure problem-free operation, the specified maximum temperature at the tp point (see "Operating Life") must be observed (and measured in accordance with EN 60598-1). To satisfy this point, it may be necessary to put measures in place to ensure any heat is dissipated from the PCB to the environment.

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- In the event of outdoor applications or applications in damp locations, care must be taken to protect led assembly modules against humidity, splashes and jets of water. Any corrosion damage resulting from humidity or contact with condensation will not be recognised as a defect or manufacturing fault. Led assembly modules are not specially protected against foreign bodies or dust. Depending on the type of application, further protection must be ensured to prevent dust and foreign bodies from entering.
- Due to the manufacturing process, the PCBs of the led assembly modules can have sharp edges and corners. Care must therefore be taken during handling and installation to avoid injury.
- The photobiological safety of the led modules must be classified into risk groups in accordance with EN 62471: 2008. Rating in accordance with IEC / TR 62778: risk group 1

| CCT (K) | Max. operating current for risk group 1 (mA) | E threshold for higher operating currents to be risk group 1 (lx) |
|---------|--|---|
| ≤ 4000  | 700  | 1221  |
| 5000    | 700  | 1009  |
| 6500    | 700  | 793   |

**Certificate No:**

- 40054741

**Applied standards:**

- EN 62031
- EN 62471
- DIN EN IEC 62031 (VDE 0715-5):2020-08;
- EN IEC 62031:2020
- EN 62471:2028
- IEC/TR 62778:2014
- EN IEC 62000:2018