



Ref: 36.059

Features:

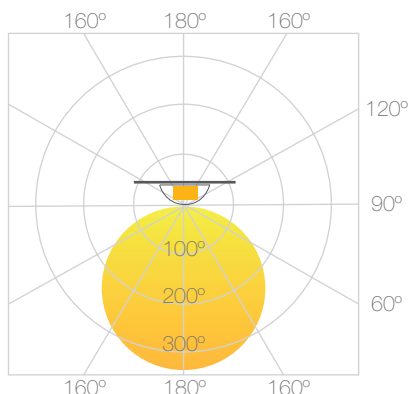
- Office, retail, corridor and shelf lighting
- Driving current: 350mA / 500mA
- Industry lighting
- Led built-in module for integration into luminaires
- Degree of protection: IP20
- On-board push-in terminals, optional on top or bottom
- For a correct dissipation of this model, a led profile and heat dissipation tape will be required.



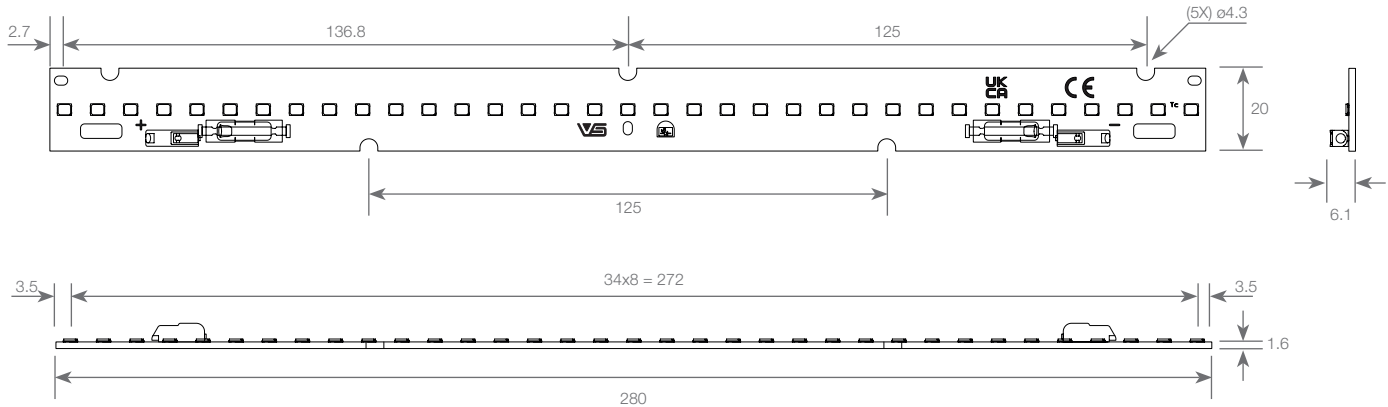
Electrical characteristics	Power consumption	6.8W (350mA) - 9.9W (500mA)
	Voltage DC	19.3V (350mA) - 19.8V (500mA)
	Main current mA	350mA - 500mA
	No. of SMDs	35pcs
	Temperature coefficient mV/K	-7.21mV/K
	Dimmable	yes
Maximum ratings	Operating current (mA)	500mA (max).
	Operation temperature range at t_c point (min/max)	-10°C / +80°C
	Storage temperature range (min/max)	-20°C / +70°C
	Max. allowed repetitive peak current for frequencies ≥ 100 Hz (mA)	900
Operating Life	350mA	40°C (>72,000) / 50°C (>72,000) / 80°C (>52,000)
	500mA	40°C (>72,000) / 50°C (>72,000) / 80°C (>50,000)
Optical characteristics	Colour	warm white (WW)
	Colour temperature	3000K
	Luminous flux (lm)	1155lm (350mA) / 1645lm (500mA)
	Luminous efficiency (lm/W)	171lm/W (350mA) / 166lm (500mA)
	CRI	Ra > 80
	Beam angle	120°
Other	Dimension	280x20x6.1mm
	Cuttable	no
	Power supply	not included
	Connecting cable	needed (but not included)
	Packaging	1 unit
	Guarantee	5 years



Beam angle:

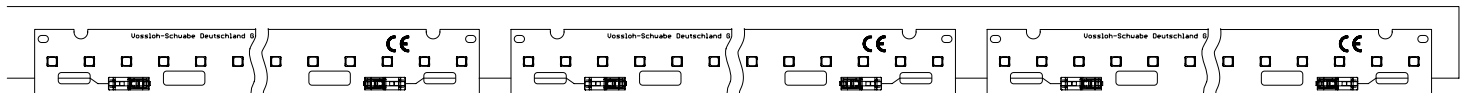


Measurements:



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 350V DC (basic insulation) and 185V 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 175V DC (basic insulation) and 50V DC (reinforced insulation).
- Max. diameter of screw head (M4): Ø8mm
- Only the marked holes are fixing holes for screws M4. 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: ± 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 t_p 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 within the complete range of allowed operating current per led module (up to 500 mA).

Certificate No:

- 40052799

Applied standards:

- EN 60598
- EN 62471
- EN 62471:2008
- TR 62778
- EN 62031
- DIN EN IEC 62031 (VDE 0715-5):2020-08;
- EN IEC 62031:2020



Ref: 36.060

Features:

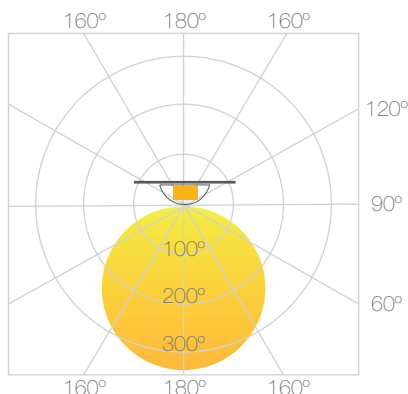
- Office, retail, corridor and shelf lighting
- Driving current: 350mA / 500mA
- Industry lighting
- Led built-in module for integration into luminaires
- Degree of protection: IP20
- On-board push-in terminals, optional on top or bottom
- For a correct dissipation of this model, a led profile and heat dissipation tape will be required.



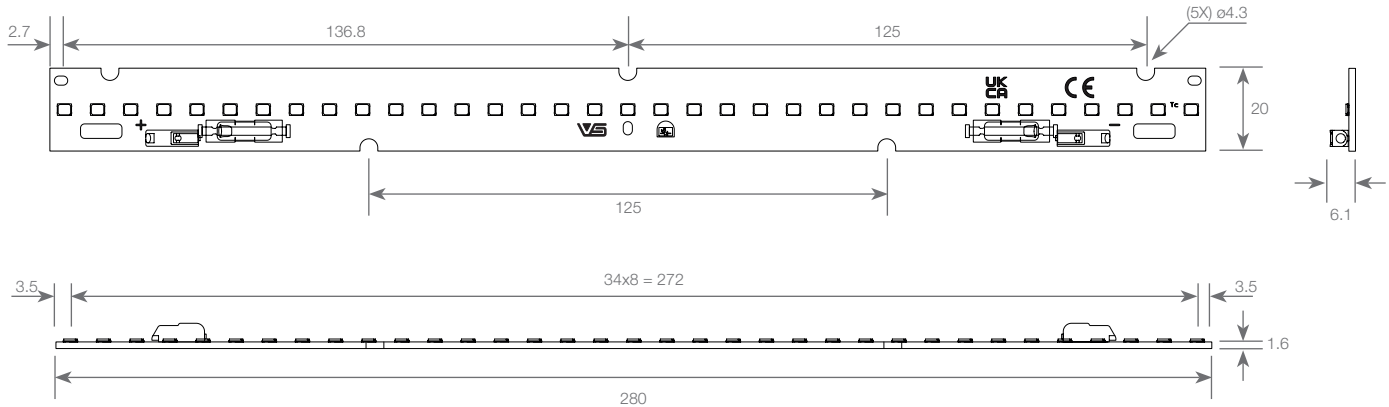
Electrical characteristics	Power consumption	6.8W (350mA) - 9.9W (500mA)
	Voltage DC	19.3V (350mA) - 19.8V (500mA)
	Main current mA	350mA - 500mA
	No. of SMDs	35pcs
	Temperature coefficient mV/K	-7.21mV/K
	Dimmable	yes
Maximum ratings	Operating current (mA)	500mA (max).
	Operation temperature range at t_c point (min/max)	-10°C / +80°C
	Storage temperature range (min/max)	-20°C / +70°C
	Max. allowed repetitive peak current for frequencies ≥ 100 Hz (mA)	900
Operating Life	350mA	40°C (>72,000) / 50°C (>72,000) / 80°C (>52,000)
	500mA	40°C (>72,000) / 50°C (>72,000) / 80°C (>50,000)
Optical characteristics	Colour	neutral white (NW)
	Colour temperature	4000K
	Luminous flux (lm)	1205lm (350mA) / 1710lm (500mA)
	Luminous efficiency (lm/W)	178lm/W (350mA) / 173lm (500mA)
	CRI	Ra > 80
	Beam angle	120°
Other	Dimension	280x20x6.1mm
	Cuttable	no
	Power supply	not included
	Connecting cable	needed (but not included)
	Packaging	1 unit
	Guarantee	5 years



Beam angle:

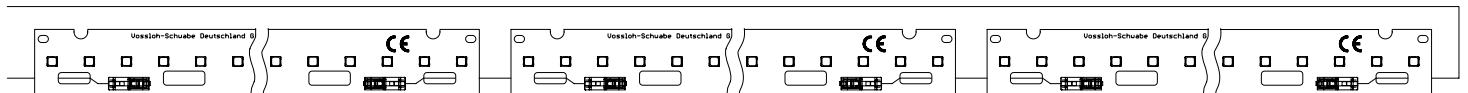


Measurements:



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 350V DC (basic insulation) and 185V 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 175V DC (basic insulation) and 50V DC (reinforced insulation).
- Max. diameter of screw head (M4): Ø8mm
- Only the marked holes are fixing holes for screws M4. 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: ± 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 t_p 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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- 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 within the complete range of allowed operating current per led module (up to 500 mA).

Certificate No:

- 40052799

Applied standards:

- EN 60598
- EN 62471
- EN 62471:2008
- TR 62778
- EN 62031
- DIN EN IEC 62031 (VDE 0715-5):2020-08;
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Ref: 36.061

Features:

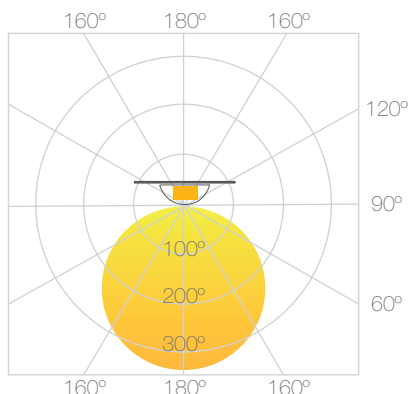
- Office, retail, corridor and shelf lighting
- Driving current: 350mA / 500mA
- Industry lighting
- Led built-in module for integration into luminaires
- Degree of protection: IP20
- On-board push-in terminals, optional on top or bottom
- For a correct dissipation of this model, a led profile and heat dissipation tape will be required.



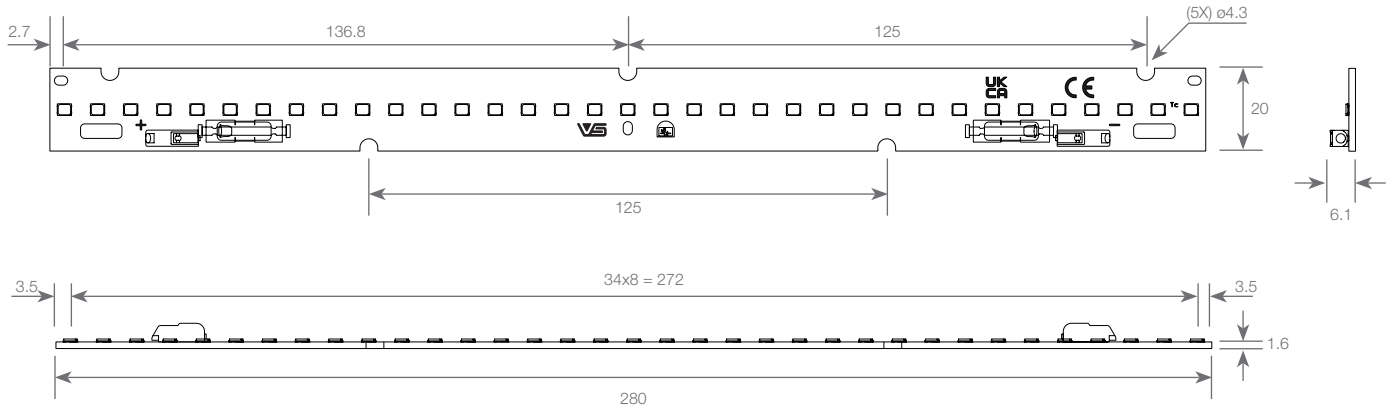
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	Voltage DC	19.3V (350mA) - 19.8V (500mA)
	Main current mA	350mA - 500mA
	No. of SMDs	35pcs
	Temperature coefficient mV/K	-7.21mV/K
	Dimmable	yes
Maximum ratings	Operating current (mA)	500mA (max).
	Operation temperature range at t_c point (min/max)	-10°C / +80°C
	Storage temperature range (min/max)	-20°C / +70°C
	Max. allowed repetitive peak current for frequencies ≥ 100 Hz (mA)	900
Operating Life	350mA	40°C (>72,000) / 50°C (>72,000) / 80°C (>52,000)
	500mA	40°C (>72,000) / 50°C (>72,000) / 80°C (>50,000)
Optical characteristics	Colour	cool white (CW)
	Colour temperature	5000K
	Luminous flux (lm)	1205lm (350mA) / 1710lm (500mA)
	Luminous efficiency (lm/W)	178lm/W (350mA) / 173lm (500mA)
	CRI	Ra > 80
	Beam angle	120°
Other	Dimension	280x20x6.1mm
	Cuttable	no
	Power supply	not included
	Connecting cable	needed (but not included)
	Packaging	1 unit
	Guarantee	5 years



Beam angle:

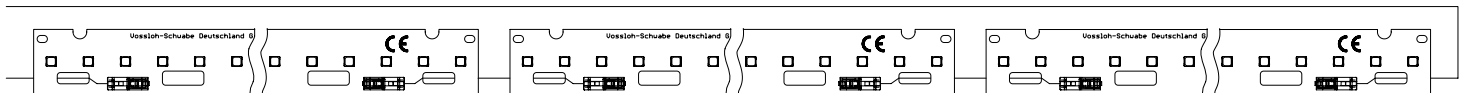


Measurements:



Connection Example:

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- Measurement tolerances:
 - luminous flux: ± 7%
 - voltage: ± 3%
 - CRI: ± 1
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