

LED MODULES FOR MAINS VOLTAGE

DRIVER-ON-BOARD
TECHNOLOGY



LED MODULES READYLINE C10 17 W AND C08

Built-in LED modules with integrated driver for direct connection to mains voltage

With so-called Driver-on-Board technology (DoB), the control gear unit is directly integrated into the LED module, which permits direct connection to mains voltage (220-240 V, 50-60 Hz).

The built-in LED modules of the Readyline series are suitable for residential and furniture lighting, as a replacement for halogen, energy-saving compact fluorescent lamps.

Advantages at a glance

- Direct connection to mains voltage
- Glued protection cover to prevent electrical shock
- More flexible space-saving luminaire designs due to absence of driver

Technical notes

Mains voltage: 220-240 V, 50/60 Hz

Initially colour accuracy: 3 SDCM

CRI: > 90 (2700-3000 K)

High power factor: > 0.97

Protection cover: PC, UV-glued

or rivetted (module with heat sink)

Long service life: up to 50,000 hours

For luminaires of protection class I

RFI suppressed

THD: < 20%

Aluminium PCB for optimum thermal management

Heat sink made of thermoconductive resin or co-moulded heat sink made of thermoconductive resin and aluminium

Typical applications

- Replacement for compact fluorescent lamps
- Integration in luminaires
- Residential lighting
- Architectural lighting
- Retail lighting



ReadyLine C10 - 17 W

Technical notes

Power factor: > 0.97

Surge protection: ≥ 1 kV

Dimensions: Ø 100 mm;

Ø 120 mm with co-moulded heat sink

Screw terminals for LED module with heat sink:

2.5 mm²

Welded leads for LED module without heat sink:

double FEP/FEP-insulation, length: 250 mm,

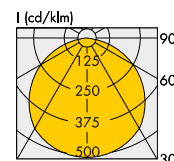
central or lateral lead exit

Fixing holes for screws M3 or self-tapping screws 2.9

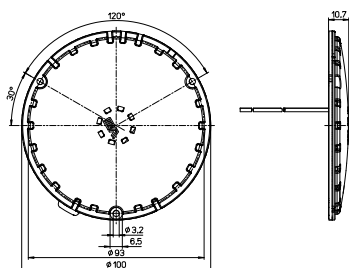
Lumen maintenance: L70/B50, 50,000 hrs. at $t_p = 75\text{ °C}$

Max. operating temperature at t_c point: 85 °C

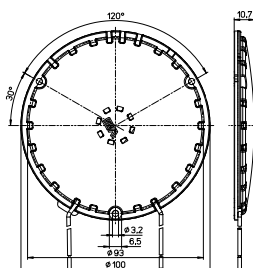
Versions for the US market on request



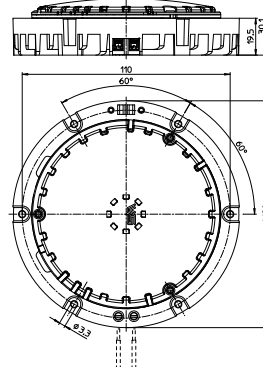
With central lead exit



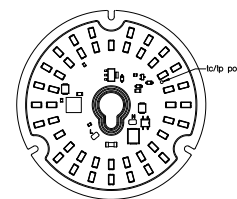
With lateral lead exit



With heat sink, protection cover and 2-poles screw terminals



t_c/t_p point



Max. output W	Type	Ref. No.		Voltage AC 50/60 Hz V	Number of LEDs pcs.	Colour	Correlated colour temperature K	Cover	Luminous flux lm typ.	CRI R_a	Lead exit	Energy efficiency
		with heat sink	without heat sink									
17	LR45W	568385	568381	220-240	45	warm white	2600-2900	clear	1350	> 90	central	A+
	LR45W	on request	568382								lateral	
	LR45W	568386	568383								central	A
	LR45W	on request	568384								lateral	
17	LR45W	568391	568387	220-240	45	warm white	2900-3200	clear	1480	> 90	central	A+
	LR45W	on request	568388								lateral	
	LR45W	568392	568389								central	A+
	LR45W	on request	568390								lateral	
17	LR45W	568397	568393	220-240	45	neutral white	3700-4200	clear	1700	> 80	central	A+
	LR45W	on request	568394								lateral	
	LR45W	568398	568395								central	A+
	LR45W	on request	568396								lateral	

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

Ref. No.	Description	Diameter mm	Tape thickness mm	Thermal conductivity W/mK	Breakdown voltage* kV
553981	Thermally conductive transfer tape, non-adhesive	99	0.2	2	5.5
553795	Thermally conductive transfer tape, adhesive on both sides	104	0.2	0.7	8.9

Drawings see page 4 | * Average value (not for specification purpose)

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

ReadyLine C 08

Technical notes

Power factor: > 0.97

Surge protection: ≥ 1 kV

Dimensions: Ø 81.5 mm;

Ø 120 mm with co-moulded heat sink

Screw terminals for LED module with heat sink:

2.5 mm²

Welded leads for LED module without heat sink:

double FEP/FEP-insulation, length: 250 mm,

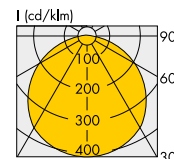
central or lateral lead exit

Fixing holes for screws M3 or self-tapping screws 2.9

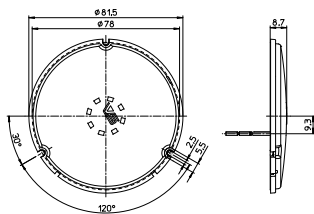
Lumen maintenance: L70/B50, 50,000 hrs. at $t_p = 75\text{ °C}$

Max. operating temperature at t_c point: 85 °C

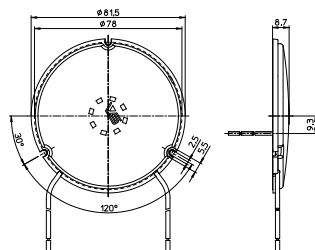
Versions for the US market on request



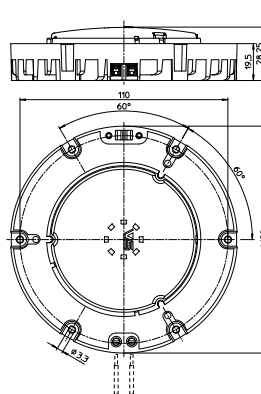
With central lead exit



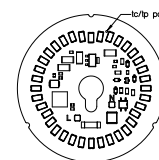
With lateral lead exit



With heat sink, protection cover and 2-poles screw terminals



t_c/t_p point



Max. output W	Type	Ref. No.		Voltage AC 50/60 Hz V	Number of LEDs pcs.	Colour	Correlated colour temperature K	Cover	Luminous flux lm typ.	CRI R_a	Lead exit	Energy efficiency
		with heat sink	without heat sink									
12.5	LR36W	568403	568399	220-240	36	warm white	2600...2900	clear	1000	> 90	central	A+
		on request	568400								lateral	
	LR36W	568404	568401								central	A
		on request	568402								lateral	
	LR36W	568368	568364	220-240	36	warm white	2900...3200	clear	1100	> 90	central	A+
		on request	568365								lateral	
	LR36W	568369	568366								central	A+
		on request	568367								lateral	
	LR36W	568374	568370	220-240	36	neutral white	3700...4200	clear	1250	> 80	central	A+
		on request	568371								lateral	
	LR36W	568375	568372								central	A+
		on request	568373								lateral	

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

Ref. No.	Description	Diameter mm	Tape thickness mm	Thermal conductivity W/mK	Breakdown voltage* kV
558229	Thermally conductive transfer tape, non-adhesive	76	0.2	2	5.5
557691	Thermally conductive transfer tape, adhesive on both sides	82	0.2	0.7	8.9

Drawings see page 4 | * Average value (not for specification purpose)

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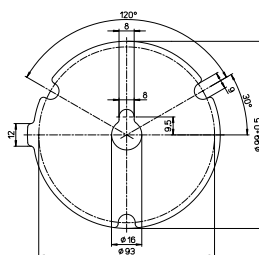
Thermal Tapes for ReadyLine C Modules

For ReadyLine C10

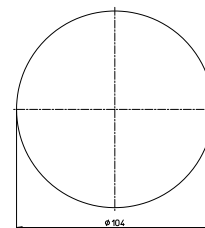
Technical details see page 2

Ref. No.: 553981 non-adhesive

Ref. No.: 553795 adhesive on both sides



553981



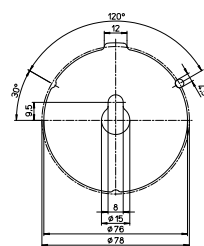
553795

For ReadyLine C08

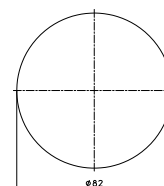
Technical details see page 3

Ref. No.: 558229 non-adhesive

Ref. No.: 557691 adhesive on both sides



558229



557692

ReadyLine C – tested dimmers

LED modules ReadyLine C are dimmable with common phase-cut dimmers. The minimum dimming load has to be respected.

The compatibility of the LED modules with the dimmer has to be confirmed prior to installation.

- Busch Jäger 2247U
- GET
- Gira 30200
- IKEA E0902 DIM
- IKEA EED100PRS
- IKEA EED20PRS
- IKEA EED200BRS
- IKEA SED300FHS
- Jung 225 NV DE
- Kopp 8068
- Merten 572599
- MK 5004091-001
- Selectric SSL509
- Relco DimLED 34/65
- Relco DT/ACR
- Relco LT 1 UN
- Relco SNELLO/ACR (RL7180 - RL7190)
- Relco RONDO/CR (RL7181 - RL7191)
- Zano ZANOWH250

Packing units

Type	Packing unit	Box dimensions (LxWxH)	Weight single	Gross weight unit
	pcs	mm	g	g
C10/17W w/o heatsink	36	600x400x80	60	3025
C10/17W with heatsink	28	600x400x80	220	6525
C08/12.5W w/o heatsink	36	600x400x80	40	2455
C08/12.5W with heatsink	28	600x400x80	190	5870

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ReadyLine C

Assembly and Safety Information

The LED modules are designed for direct mains operation (230 V AC). Installation must be carried out under observation country specific relevant safety regulations and standards.

- The LED module is a built-in lighting module to assemble into luminaires.
- Suitable for luminaires of protection class I, grounding is mandatory to comply with safety standards.
- In case of applications in luminaires of protection class II the safety regulations acc. to luminaire safety standards must be observed.
- Operation of the LED module is not allowed when it is not built-in into a luminaire. Depending on application, luminaire application specific safety standards have to be observed (e.g. EN 60598-1 for Europe). Depending on the use of the luminaire in different countries (export), the country specific safety standards have to be regarded (e.g. EN 60598-1 for Europe).
 - Regard to sufficient isolation acc. country specific standards.
 - Live parts must not be touched. Luminaire must be closed acc. country specific standards.
Danger of life!!!
- Clearance and creepage distances of the module are designed for class I luminaires (basic insulation). For built-in of the module the required standards have to be observed (e.g. EN 60598-1).
- Do not exceed values given in this specification.
- Do not exceed max t_c temperature of 90 °C.
- The module must be fixed onto a thermally conductive surface. Heat sink must cover the entire backside surface of the module.
- For the operation of VS recommends to mount the module directly onto the metal heat sink or luminaire housing is mandatory to comply with immunity standards (e.g. EN 61547).
- When installing/screwing the module into a luminaire, please ensure that cables are not squeezed between luminaire/heat-sink and LED module.
- Please ensure standard ESD (electrostatic discharge) protection measures are employed when handling and installing LED modules. Electrostatic discharge can damage LEDs.
- Parallel connection is mandatory for safe electrical operation. Serial connection of LED modules is not allowed.
- Due to the used electronic parts on the module not all available phase-cutting dimmers are compatible. Dimmable with phase-cutting leading- and trailing-edge dimmer. Minimum dimmer load has to be observed. The compatibility of the dimmer and the modules has to be confirmed prior to installation to avoid flickering.
- To ensure problem-free operation, the specified maximum temperature at the t_c point (see "Operating Life") must be observed (measured in accordance with EN 60598-1). To satisfy this point, it is necessary to put measures in place to ensure any heat is dissipated from the LED module to the environment.



- 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. Relevant country and application specific standards have to be regarded.
- Installation by qualified electrician only
- Do not add or change wires while circuit is active
- Do not make modifications on module
- Do not use adhesives to attach that outgas organic vapour
- Do not use together with material containing sulfur
- Do not operate module with AC generators
- Do not operate modules by DC
- LED modules must not be subjected to any undue mechanical stress, e. g.: LED module
 - handle modules carefully
 - avoid shear and compressive forces onto the modules during handling and installation
 - avoid vibrations of more than 2 kHz, 40 G
- If module is used in rooms with fast moving parts as the light modulation might cause stroboscopic effects.
- This LED module might interfere with displays and cameras due to modulation.
- The photobiological safety of the LED modules is classified into risk groups in accordance with EN 62471: 2008 and IEC TR 62778: risk group 1

Applied Standards

- EN 62031
LED modules for general lighting – Safety specifications
- EN 62471 and IEC TR 62778
Photobiological safety of lamps and lamp systems
- EN 55015
Radio disturbance emissions
- EN 61000-3-2
Limits for harmonic emissions
- EN 61547
Immunity requirements

Product Guarantee

- 5 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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