

CC COMPACT SIMPLE FIX



EASYLINE SIMPLE FIX C-IR30

186591, 186592, 186593, 186594, 186595, 186669

Typical Applications

Built-in in or independent version for

- Shop lighting
- Downlights

EasyLine Simple Fix C-IR30

- **THROUGH-WIRING**
- **FOR CONDUCTOR CROSS SECTION:
UP TO 2.5 MM²**
- **WITH INTEGRATED CORD GRIP
FOR INDEPENDENT OPERATION**
- **SELV**
- **LONG SERVICE LIFE:
UP TO 50,000 HRS.**
- **PRODUCT GUARANTEE: 5 YEARS**



EasyLine Simple Fix C-IR30

Product features

- Compact casing shape

Electrical features

- Mains voltage: 220–240 V $\pm 10\%$
- Mains frequency: 50–60 Hz
- Push-in terminals: 0.5–2.5 mm²
- Power factor at full load:
> 0.93 (K51.1) / > 0.95 (K26.1)
- Open circuit voltage (U_{max.}): 60 V or 48 V (186669)
- Secondary side switching of LED modules is not allowed.

Safety features

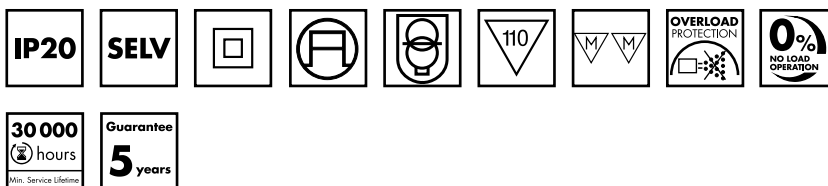
- Protection against transient main peaks up to 0.5 kV (between L and N)
- Electronic short-circuit protection
- Overload protection
- Overtemperature protection
- Protection against "no load" operation
- Degree of protection: IP20
- Protection class II
- SELV

Packaging units

Ref. No.	Packaging unit		
	Pieces per box	Boxes per pallet	Weight g
186591	20	165	82
186592	20	165	94
186593	20	125	120
186594	20	125	140
186595	20	125	140
186669	20	125	140

Product guarantee

- 5 years
for operation at recommended operation temperature (see table for expected service life time on the next page)
- 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.



Dimensions

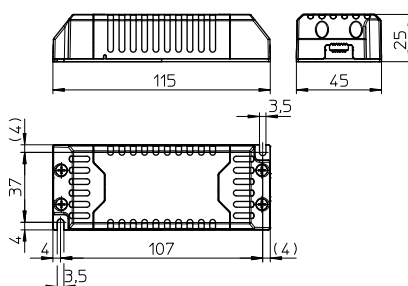
Ref. No.	Casing	Length mm	Width mm	Height mm
186591	K51.1	115	45	25
186592	K51.1	115	45	25
186593	K26.1	103	67	30
186594	K26.1	103	67	30
186595	K26.1	103	67	30
186669	K26.1	103	67	30

Applied standards

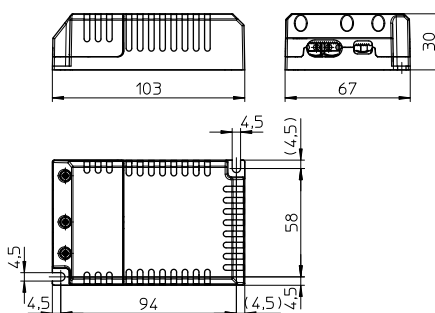
- EN 61347-1
- EN 61347-2-13
- EN 61547
- EN 61000-3-2
- EN 62384
- EN 55015



K51.1



K26.1



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

LED Drivers – EasyLine Simple Fix C-IR30

Electrical characteristics

Max. output W	Type	Ref. No.	Voltage 50–60 Hz V	Mains current mA	Inrush current A / μ s	Current output DC mA (\pm 5%)	Voltage output DC (V)	THD at full load % (230 V)	Efficiency at full load % (230 V)	Ripple 100 Hz %
15	ECXe 350.229	186591	220–240	112–105	10 / 150	350	30–43	13	87	< 30
21.5	ECXe 500.230	186592	220–240	130–100	12 / 125	500	30–43	12	87	< 35
30.1	ECXe 700.231	186593	220–240	160–140	19,4 / 95	700	30–43	10	89	< 35
38.5	ECXe 700.232	186594	220–240	205–180	14 / 105	700	40–55	11	91	< 26
38.7	ECXe 900.253	186669	220–240	200–185	16,5 / 95	900	30–43	12	91	< 33
45.2	ECXe 1050.233	186595	220–240	235–210	19 / 90	1050	30–43	11	91	< 31

Maximum ratings

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

Ref. No.	Ambient temperature range °C min. °C max.	Operation humidity range % min. % max.	Storage temperature range °C min. °C max.	Storage humidity range % min. % max.	Max. operation temperature at t_c point °C	Degree of protection
186591, 186592	–20 +50	20 60	–40 +80	5 95	+75	IP20
186593, 186594, 186595, 186669	–20 +50	20 60	–40 +80	5 95	+80	IP20

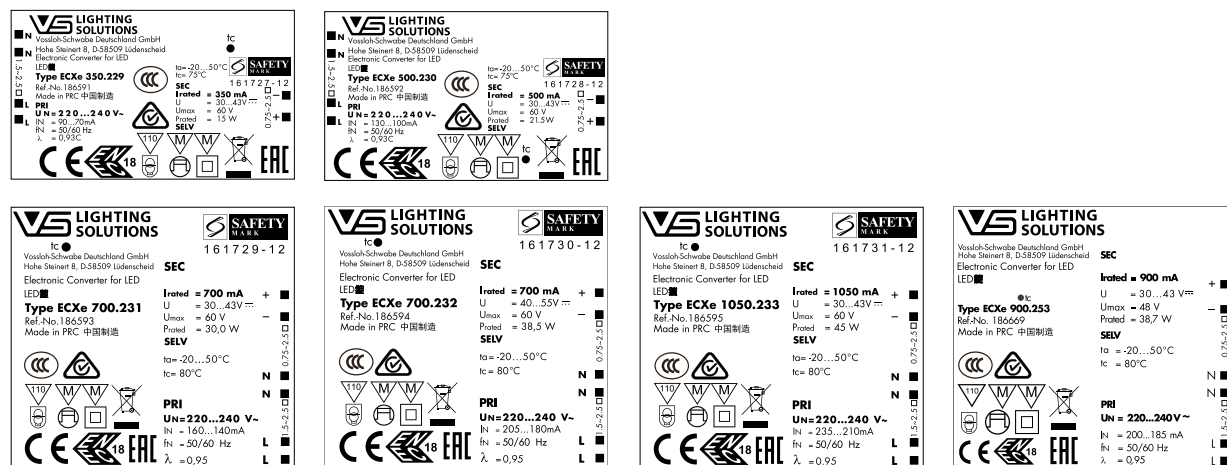
Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No.
All	186591, 186592 186593, 186594, 186595, 186669
hrs.	65 °C* 75 °C 70 °C* 80 °C
	50,000 30,000 50,000 30,000

* recommended operation temperature

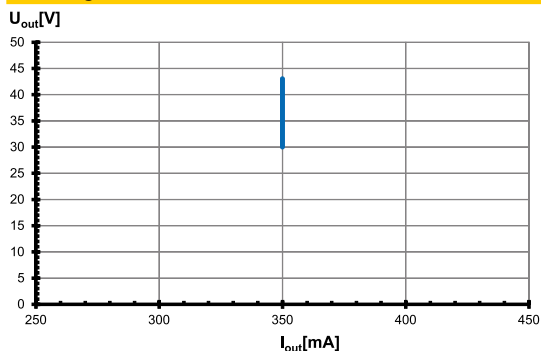
Product labels



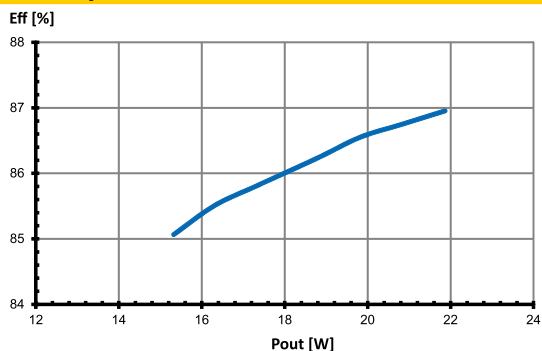
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Typ. performance graphs for 186591 / Type ECXe 350.229

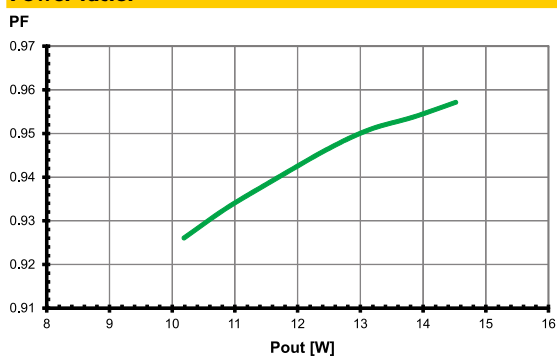
Working area



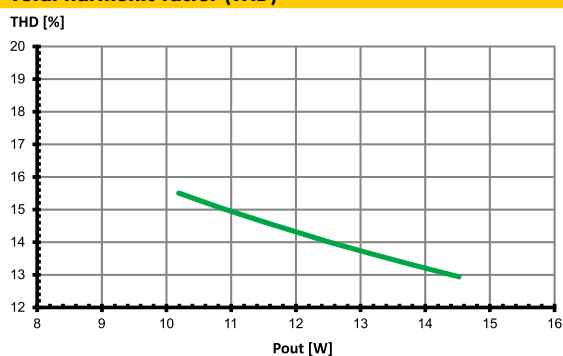
Efficiency



Power factor

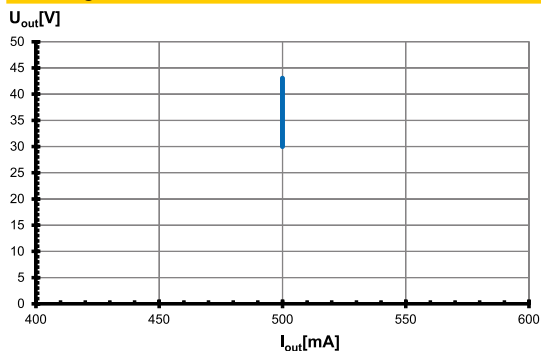


Total harmonic factor (THD)

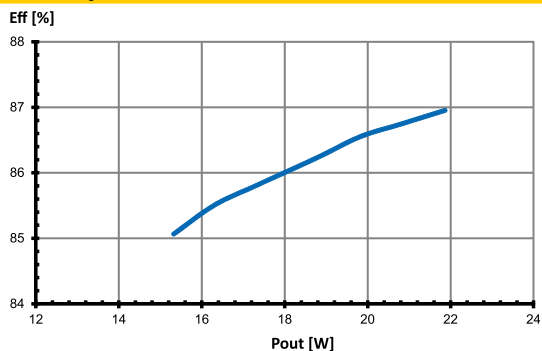


Typ. performance graphs for 186592 / Type ECXe 500.230

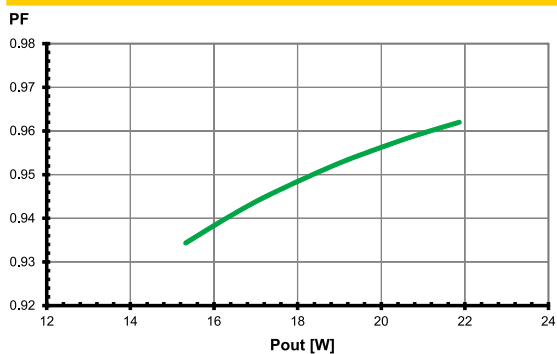
Working area



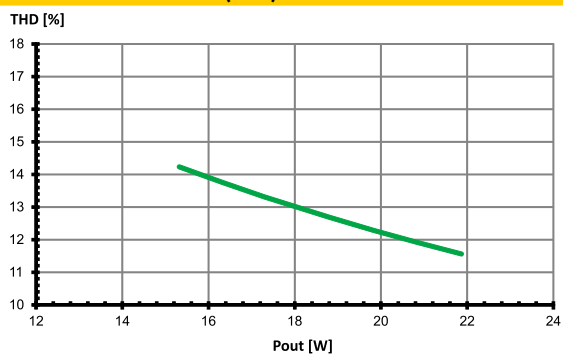
Efficiency



Power factor



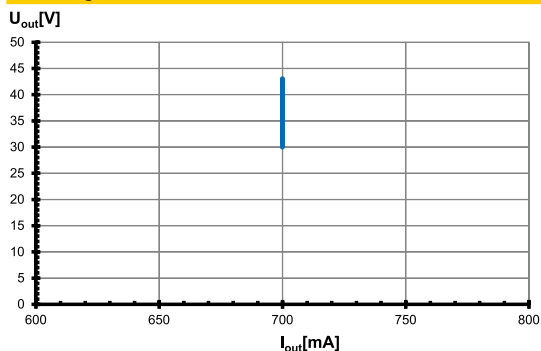
Total harmonic factor (THD)



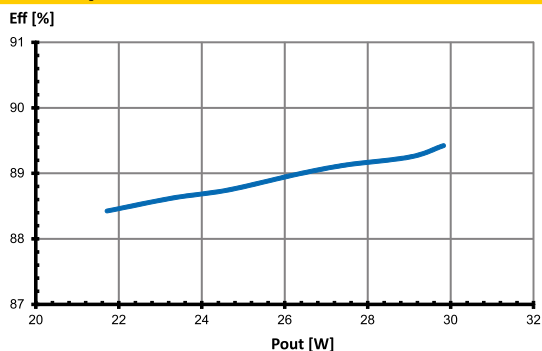
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Typ. performance graphs for 186593 / Type ECXe 700.231

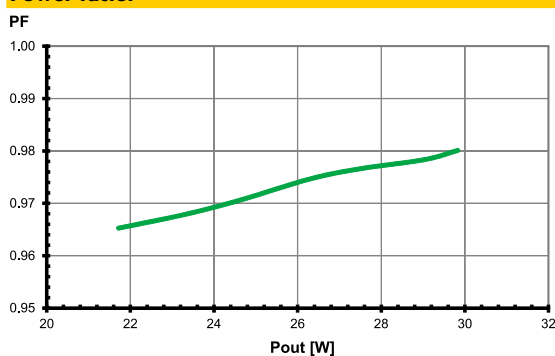
Working area



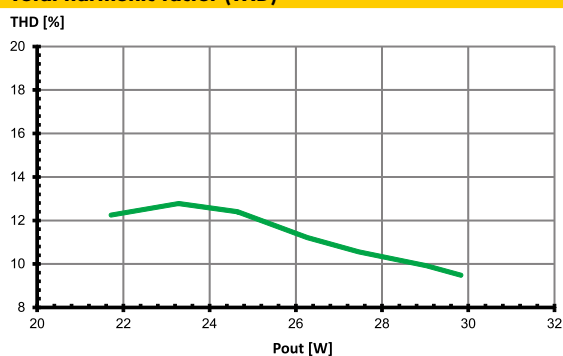
Efficiency



Power factor

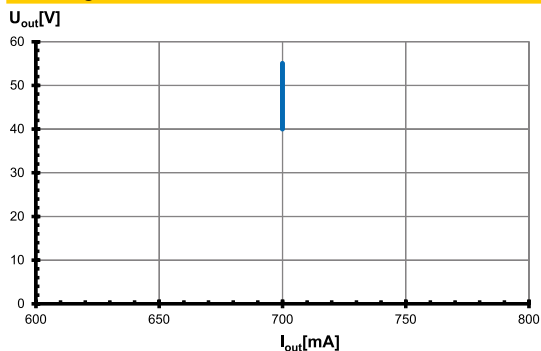


Total harmonic factor (THD)

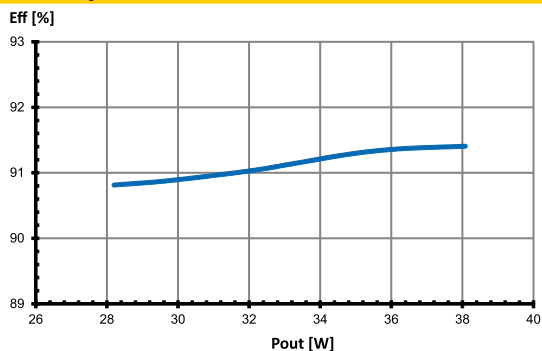


Typ. performance graphs for 186594 / Type ECXe 700.232

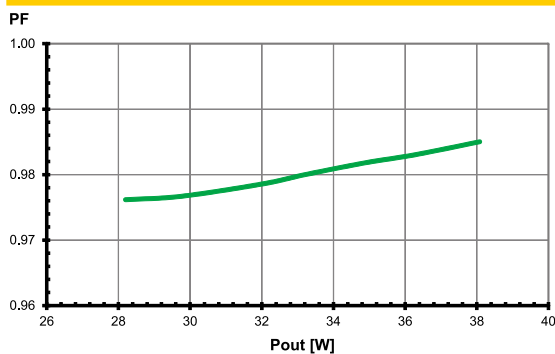
Working area



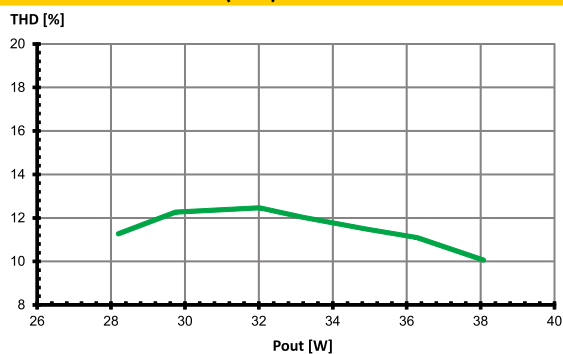
Efficiency



Power factor



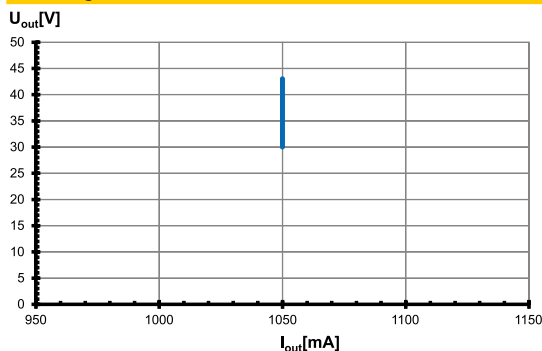
Total harmonic factor (THD)



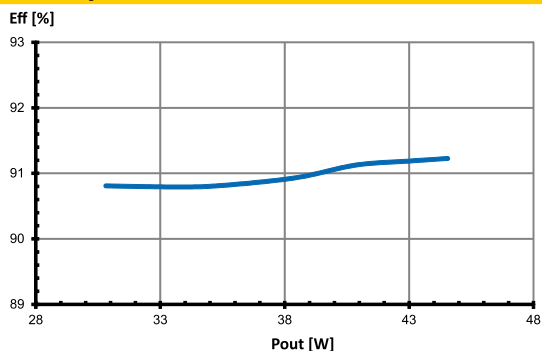
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Typ. performance graphs for 186595 / Type ECXe 1050.233

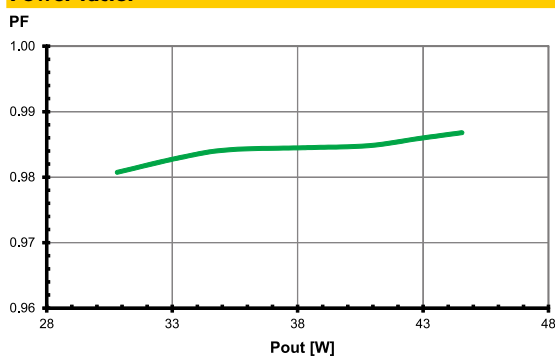
Working area



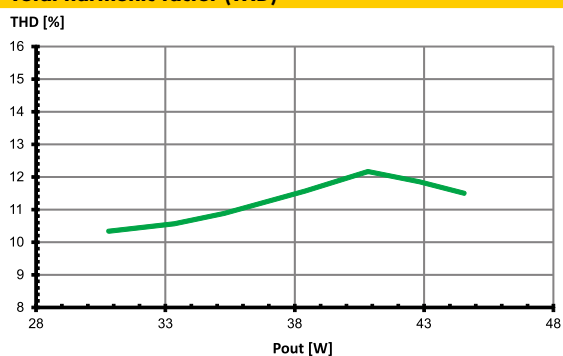
Efficiency



Power factor

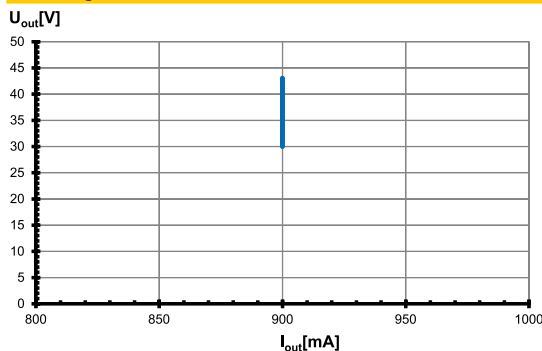


Total harmonic factor (THD)

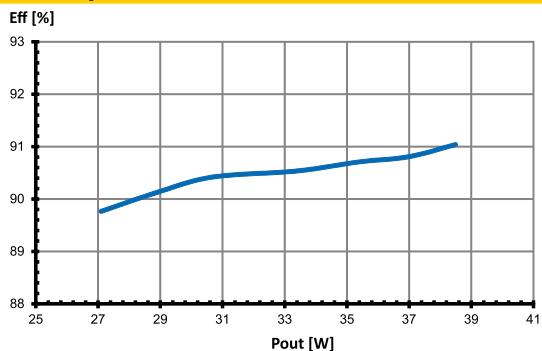


Typ. performance graphs for 186669 / Type ECXe 900.253

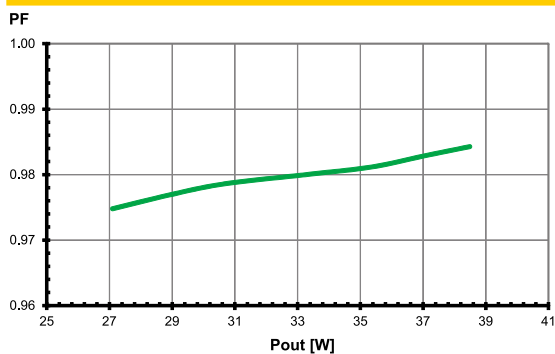
Working area



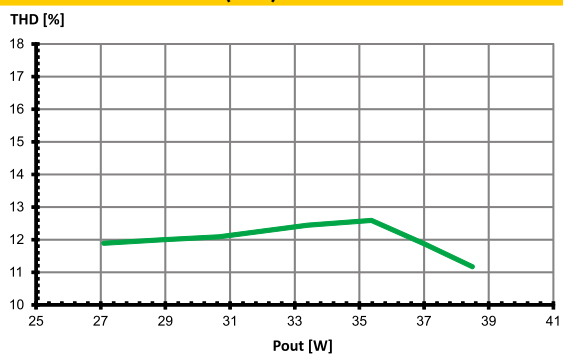
Efficiency



Power factor



Total harmonic factor (THD)



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Safety functions

- Transient mains peaks protection:
Values are in compliance with EN 61547
(interference immunity).
Surges between L-N: up to 0.5 kV
- Short-circuit protection: Control gears are protected against
short-term short-circuit
- Overload protection: Control gears only work in range of rated
output power and voltage problemfree
($< 60 \text{ V DC}$).
Please check before switch-on mains power
supply that the selected LED load is suitable
(see Electrical Characteristics on data sheet).
- No load operation: The control gear is protected against no load
operation (open load).
- If any of the above mentioned safety functions will be triggered,
disconnect the control gear from the power supply then find and
eliminate the cause of the problem.

Assembly and Safety Information

Installation must be carried out under observation of the relevant regulations and standards. Installation must be carried out in a voltage-free state (i.e. disconnection from the mains). The following advices must be observed; non-observance can result in the destruction of the LED drivers, fire and/or other hazards.

Mandatory regulations

- DIN VDE 0100
- EN 60598-1

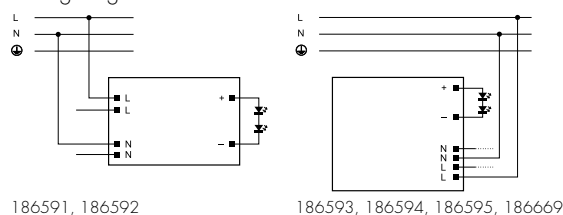
Mechanical mounting

- Mounting position: Built-in: Any position inside a luminaire is allowed
Independent application: Drivers are allowed to use for independent applications
- Mounting location: LED drivers are designed for integration into luminaires or comparable devices.
Independent LED drivers do not need to be integrated into a casing.
Installation in outdoor luminaires: degree of protection for luminaire with water protection rate ≥ 4 (e.g. IP54 required).
- Degree of protection: IP20
- Clearance: Min. 0.10 m from walls, ceilings and insulation
- Surface: Solid and plane surface for optimum heat dissipation required.
- Heat transfer: If the driver is destined for installation in a luminaire, sufficient heat transfer must be ensured between the driver and the luminaire casing.
LED drivers should be mounted with the greatest possible clearance to heat sources.
During operation, the temperature measure at the driver's t_c point must not exceed the specified maximum value.
- Fastening: Using M4 screws in the designated holes
- Tightening torque: 0.2 Nm

Electrical installation

- Connection terminals: Push-in terminals for rigid or flexible conductors with a section of 0.5–2.5 mm²
- Stripped length: 8.5–10 mm
- Wiring: The mains conductor within the luminaire must be kept short (to reduce the induction of interference).
Mains and lamp conductors must be kept separate and if possible should not be laid in parallel to one another.
Max. secondary side lead length: 1 m
- Polarity: Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- Through-wiring: Is not allowed.

- Secondary load: The sum of forward voltages of LED loads is within the tolerances which are mentioned in the Electrical Characteristics on the data sheet.
- Parallel wiring: Parallel connection of LED loads is not allowed.
- Wiring diagram:



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	Ref. No.	Automatic cut-out type and possible no. of VS drivers pcs.					
Automatic cut-out type		B 10 A	B 13 A	B 16 A	C 10 A	C 13 A	C 16 A
ECXe 350.229	186591	54	71	87	91	119	146
ECXe 500.230	186592	53	68	84	80	104	128
ECXe 700.231	186593	48	62	76	57	74	92
ECXe 700.232	186594	46	60	74	46	60	74
ECXe 900.253	186669	46	61	75	46	61	75
ECXe 1050.233	186595	40	53	65	40	53	65

- To limit capacitive inrush currents the current carrying capacity of each circuit breaker (fuse) can be increased by a factor of 2.5 with the help of our ESB (Ref. No.: 149820, 149821, 149822) inrush current limiters.

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