CC COMPACT
SIMPLE FIX MINI SLIM

EASYLINE SIMPLE FIX MINI SLIM

187490, 187491, 187492, 187493, 187494

Typical Applications

Independent for compact luminaires for

- Recessed lighting
- Downlights

EasyLine Simple Fix Mini Slim

- **VERY LOW RIPPLE CURRENT: < 5%**
- **SELV**
- **LONG SERVICE LIFE: UP TO 100,000 HRS.**
- **PRODUCT GUARANTEE: 5 YEARS**

5 YEARS GUARANTEE

LIGHTING SOLUTIONS

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EasyLine
Simple Fix Mini Slim

Product features
- Compact casing shape

Electrical features
- Mains voltage: 220–240 V ±10%
- Mains frequency: 50–60 Hz
- Push-in terminals
  primary: 0.75–1.5 mm²
  secondary: 0.5–1.5 mm²
- Power factor at full load: 0.9
- Open circuit voltage ($U_{max.}$): 60 V
- Secondary side switching of LED modules is not allowed.

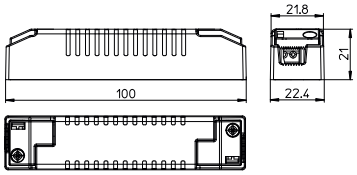
Safety features
- Protection against transient main peaks up to 1 kV (between L and N)
- Electronic short-circuit protection
- Overload protection
- Protection against "no load" operation
- Degree of protection: IP20
- Protection class II
- SELV
- SVM: < 0.4
- PstLM: < 1

Packaging units

Ref. No.	Packaging unit		
	Pieces per box	Boxes per pallet	Weight g
187494	160	63	42
187493	160	63	42
187492	160	63	40
187491	160	63	42
187490	160	63	40

IP20 · SELV · 100 · OVERLOAD PROTECTION · 0% NO LOAD OPERATION · 50 000 hours Min. Service Lifetime · Guarantee 5 years

Dimensions
- Casing shape: K108
- Length: 100 mm
- Width: 22 mm
- Height: 21 mm



Allowed cable jacket diameter
for the cord-grips:
Input: 6 – 7 mm
Output: 5 – 6 mm

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

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.

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Electrical characteristics

Max. output W	Type	**Ref. No.**	Voltage 50–60 Hz V	Mains current mA	Inrush current A / µs	Current output DC mA (± 10%)	Voltage output DC (V)	THD at full load % (230 V)	Efficiency at full load % (230 V)	Ripple 100 Hz %
7	ECXe 350.698	**187494**	220–240	43–40	7 / 95	350	8–20	10	77	< 5
7.8	ECXe 600.697	**187493**	220–240	46–43	8 / 103	600	6–13	10	79	< 5
8.4	ECXe 200.696	**187492**	220–240	49–45	7 / 121	200	30–42	10	83	< 5
9.1	ECXe 700.695	**187491**	220–240	54–49	7 / 89	700	6–13	9	79	< 5
10.5	ECXe 250.694	**187490**	220–240	60–55	8 / 135	250	30–42	8	83	< 5

Maximum ratings

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

Ref. No.	Ambient temperature range		Operation humidity range		Storage temperature range		Storage humidity range		Max. operation temperature at t_c point	Degree of protection
	°C min.	°C max.	% min.	% max.	°C min.	°C max.	% min.	% max.	°C	
187494, 187493, 187492, 187491, 187490	–20	+45	10	90	–40	+85	10	90	+85	IP20

Expected service life time

at operation temperatures at t_c point

Operation current	Ref.No. 187494, 187493, 187492, 187491, 187490	
All	75 °C*	85 °C
hrs.	100.000	50.000

* recommended operation temperature

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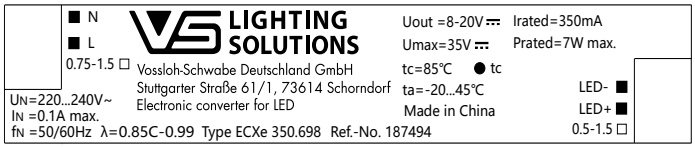
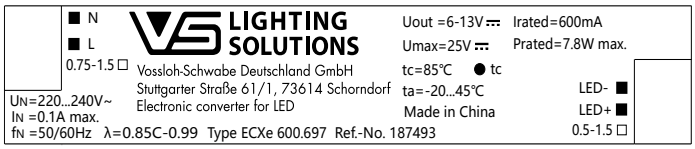
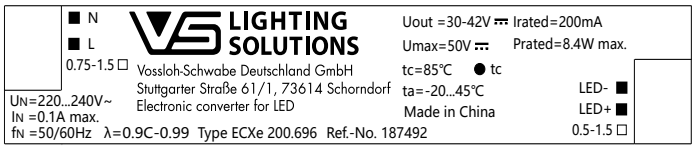
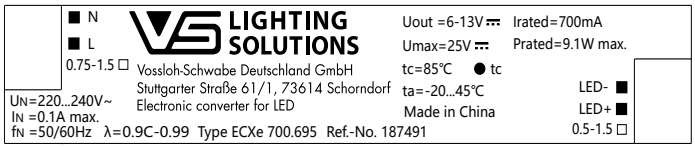
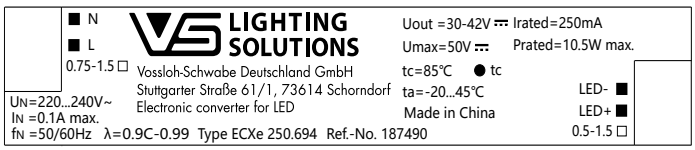
Product labels











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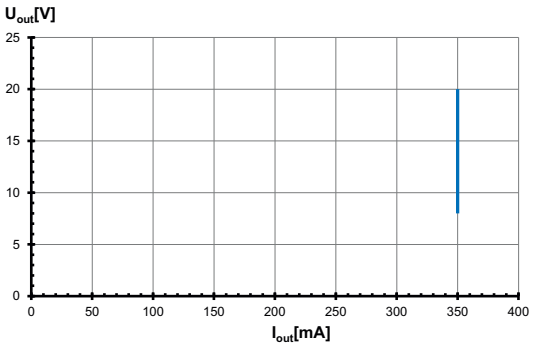
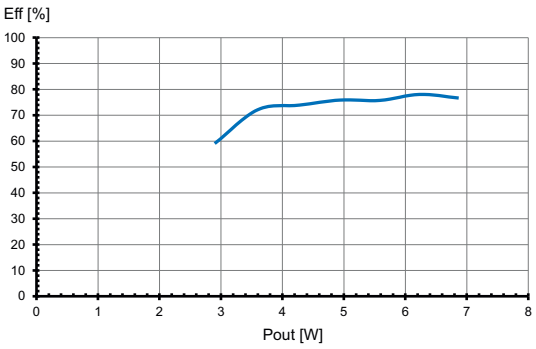
Typ. performance graphs for 187494 / Type ECXe 350.698

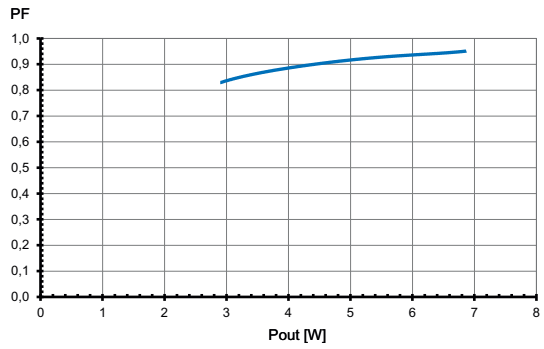
Working area



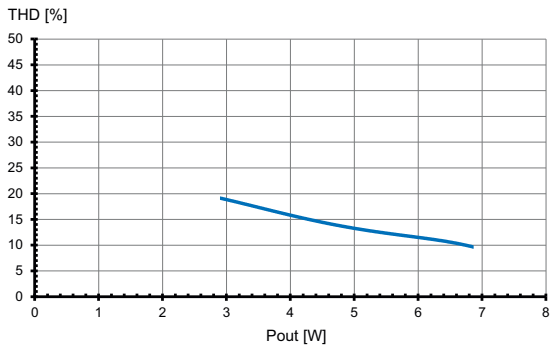
Efficiency



Power factor

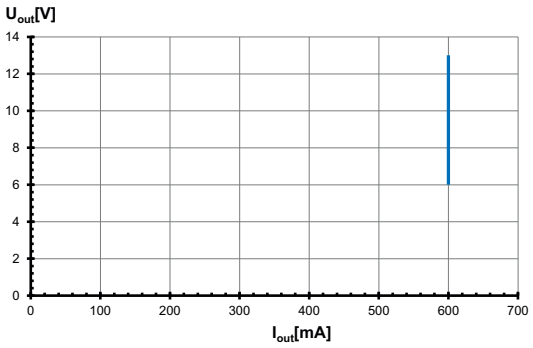


Total harmonic factor (THD)

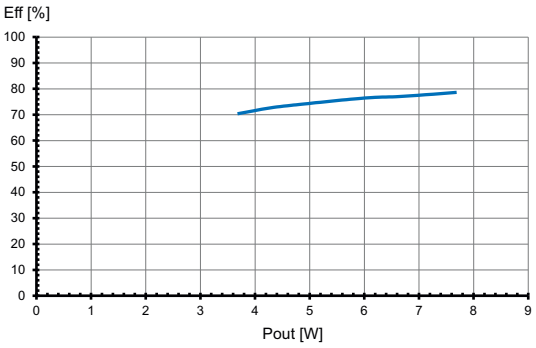


Typ. performance graphs for 187493 / Type ECXe 600.697

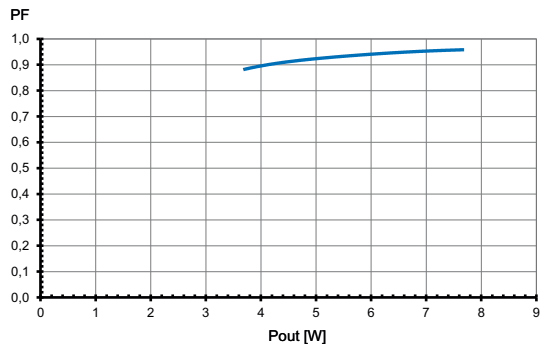
Working area



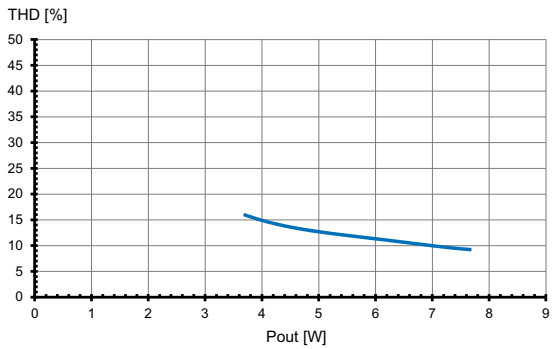
Efficiency



Power factor



Total harmonic factor (THD)



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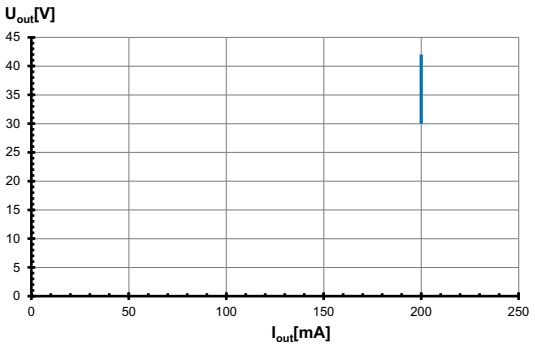
Typ. performance graphs for 187492 / Type ECXe 200.696

Working area



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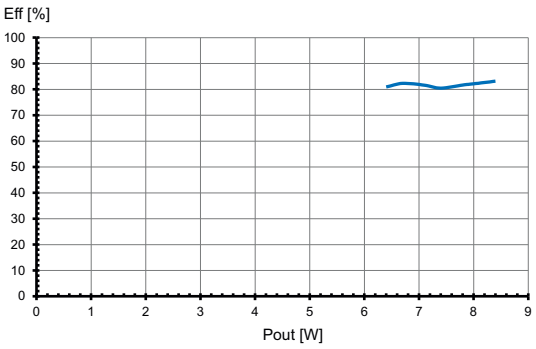
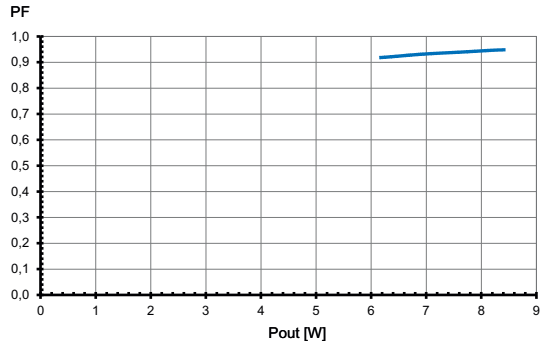
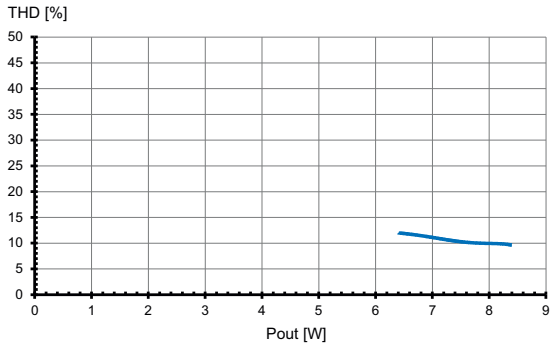


Power factor

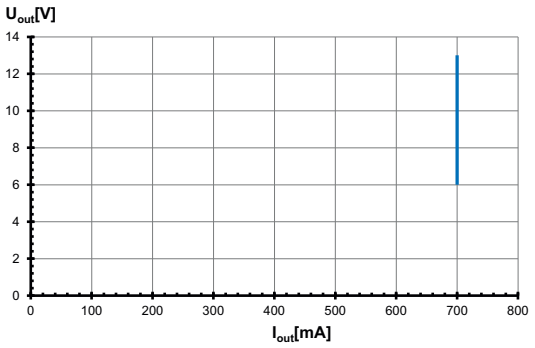


Total harmonic factor (THD)

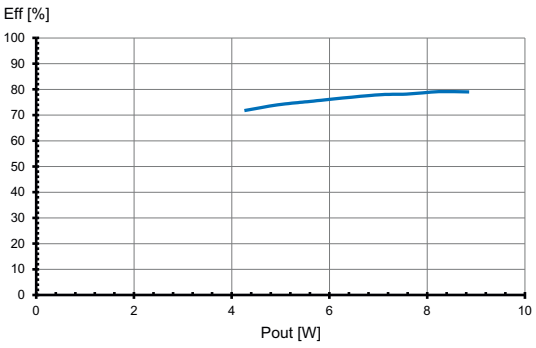


Typ. performance graphs for 187491 / Type ECXe 700.695

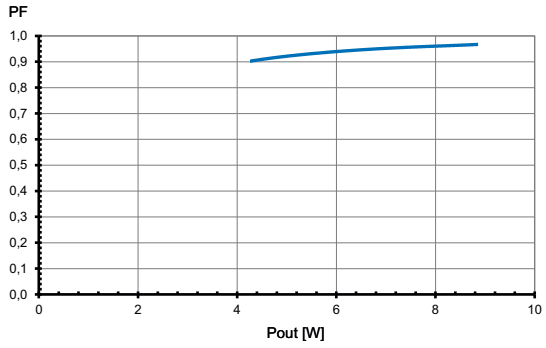
Working area



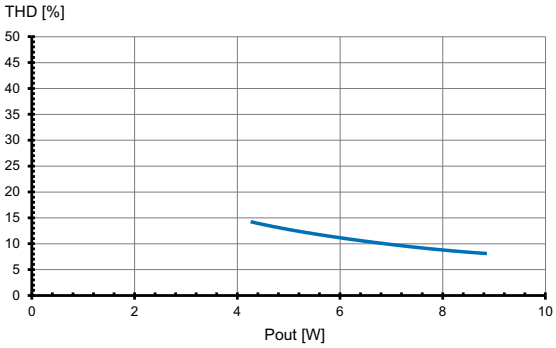
Efficiency



Power factor



Total harmonic factor (THD)



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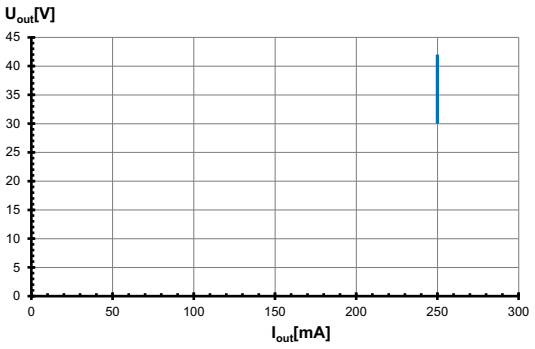
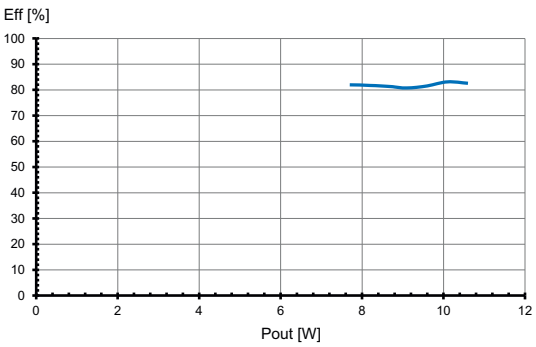
Typ. performance graphs for 187490 / Type ECXe 250.694

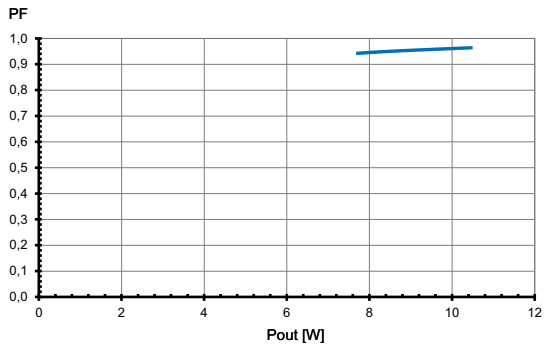
Working area



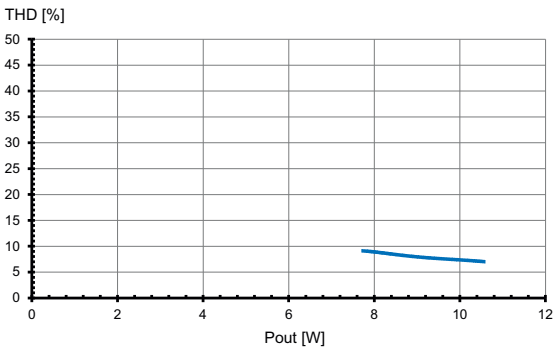
Efficiency



Power factor



Total harmonic factor (THD)



Safety functions

- Transient mains peaks protection:
  Values are in compliance with EN 61547 (interference immunity).
  Surges between L–N: up to 1 kV
- Short-circuit protection: The control gears are protected against permanent short-circuit with automatic restart function.
- Overload protection: The control gears only work in range of rated output power and voltage problemfree. 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.

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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

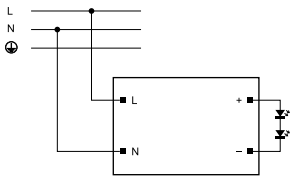
- DIN VDE 0100
- EN 60598-1

Mechanical mounting

- Mounting position: Built-in: Any position inside a luminaire is allowed
  Independent application: Drivers are allowed to use for independent applications with an additional cord grip.
- 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: Screw terminals for rigid or flexible conductors with a section of primary 0.75–1.5 mm² and secondary 0.5–1.5 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: 5 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:



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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 350.698	**187494**	132	172	212	212	276	340
ECXe 600.697	**187493**	107	139	171	179	232	286
ECXe 200.696	**187492**	99	129	159	166	215	265
ECXe 700.695	**187491**	121	157	193	169	220	271
ECXe 250.694	**187490**	82	107	132	137	179	220

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

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