CC LINEAR NFC

COMFORTLINE NFC L-R3

186697, 186698, 186699, 186700

Typical Applications
Built-in in linear luminaires for
- Office lighting
- Industrial lighting

NFC

Watch video

ComfortLine NFC L-R3

- **SELECTABLE OUTPUT CURRENT VIA NFC**
- **ADJUSTABLE OUTPUT CURRENT, CLO, DC LEVEL VIA NFC**
- **VERY LOW RIPPLE CURRENT: < 3%**
- **SUITABLE FOR EMERGENCY ESCAPE LIGHTING SYSTEMS ACC. TO EN 50172**
- **LONG SERVICE LIFE: UP TO 100,000 HRS.**
- **PRODUCT GUARANTEE: 5 YEARS**

5 YEARS GUARANTEE

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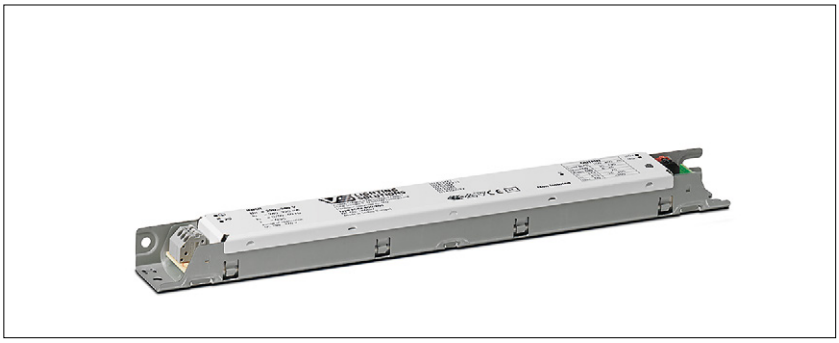
ComfortLine NFC L-R3



Product features
- Linear casing shape

Functions
- Programmable via NFC interface (contactless)
  - Selectable current output
  - Programmable CLO function
  - Adjustable DC level
- Suitable for central battery system for emergency lighting acc. to EN 50172

Electrical features
- Mains voltage: 220–240 V ±10%
- Mains frequency: 50–60 Hz
- DC operation: 198–276 V, 0 Hz
- Push-in terminals: 0.2–1.5 mm²
- Power factor at full load:
  186697, 186698: > 0.96
  186699, 186700: > 0.98
- Max. working voltage (U_{OUT}): 250 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) and up to 2 kV (between L/N and PE)
- Electronic short-circuit protection
- Overtemperature protection
- Protection against "no load" operation
- Degree of protection: IP20
- Protection class I

Packaging units

Ref. No.	Packaging unit		
	Pieces per box	Boxes per pallet	Weight g
186697	30	64	185
186698	30	64	190
186699	30	64	185
186700	30	64	190

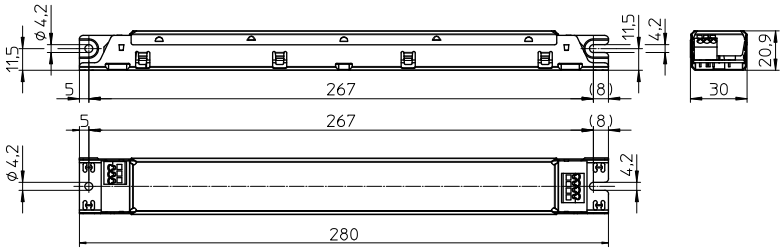
IP20 | 130 | 0% NO LOAD OPERATION | IEEE 1789-2015 | EL | 50 000 hours Min. Service Lifetime | Guarantee 5 years

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

Dimensions
- Casing: M7.1
- Length: 280 mm
- Width: 30 mm
- Height: 21 mm

Current adjustment

NFC



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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Electrical characteristics

Max. output W	Type	**Ref. No.**	Voltage 50–60 Hz V	Mains current mA	Inrush current A / µs	Current output DC mA (± 5%)	Voltage output DC (V)	THD at full load % (230 V)	Efficiency at full load % (230 V)	Ripple 100 Hz %
45	ECXe 400.264	**186697**	220–240	230–210	20 / 120	100–400	30–130	< 12	91	< 3
45	ECXe 800.265	**186698**	220–240	240–220	22 / 220	400–800	30–70	< 9	89	< 3
85	ECXe 400.266	**186699**	220–240	420–390	25 / 220	100–400	100–225	< 8	93	< 3
85	ECXe 800.267	**186700**	220–240	420–390	25 / 280	400–800	30–130	< 8	92	< 3

Maximum ratings

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

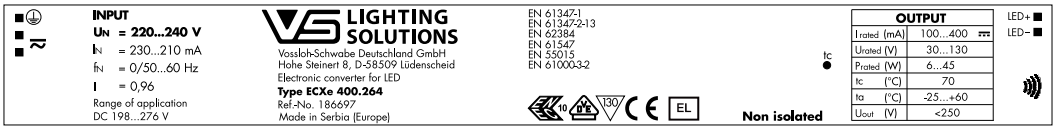
Ref. No.	Ambient temperature range		Operation humidity range		Storage temperature range		Storage humidity range		Max. operation temperature at t_c point	Degree of protection
	°C min.	°C max.	% min.	% max.	°C min.	°C max.	% min.	% max.	°C	
186697	–25	+60	5	60	–40	+85	5	95	+70	IP20
186698	–25	+50							+75	
186699	–25	+50							+65	
186700	–25	+50							+75	

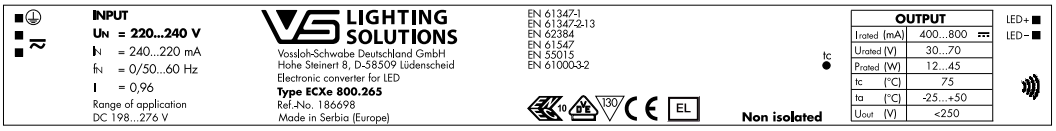
Expected service life time

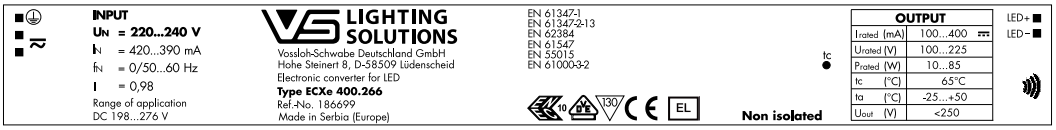
at operation temperatures at t_c point

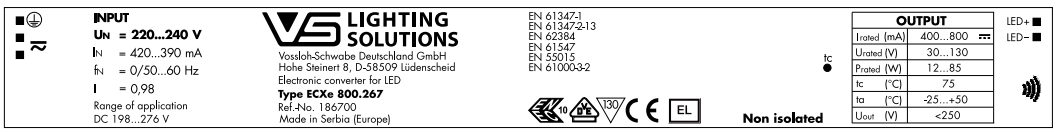
Operation current	Ref. No. 186699		186697		186698, 186700	
All	55 °C	65 °C	60 °C	70 °C	65 °C	75 °C
hrs.	100,000	50,000	100,000	50,000	100,000	50,000

Product labels









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

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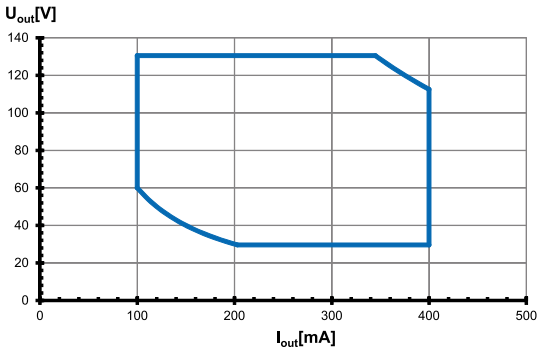
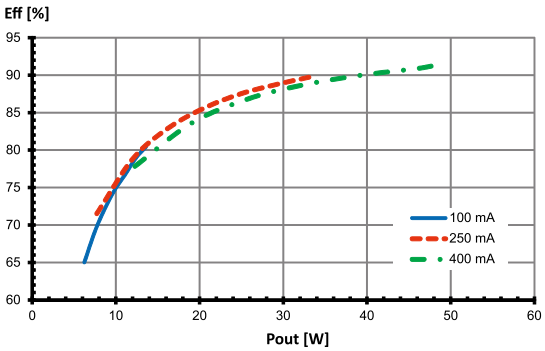
Typ. performance graphs for 186697 / Type ECXe 400.264

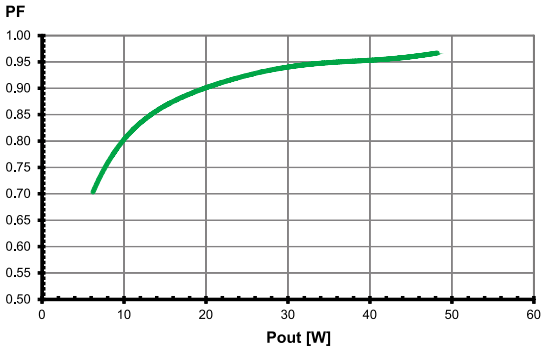
Working area



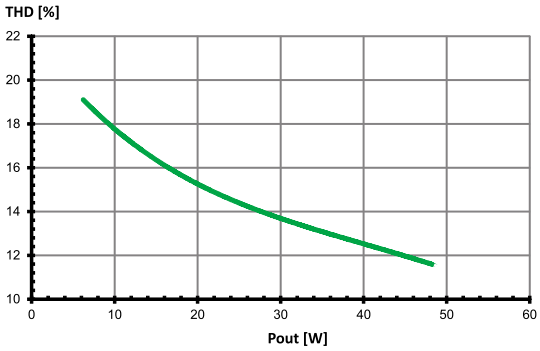
Efficiency



Power factor

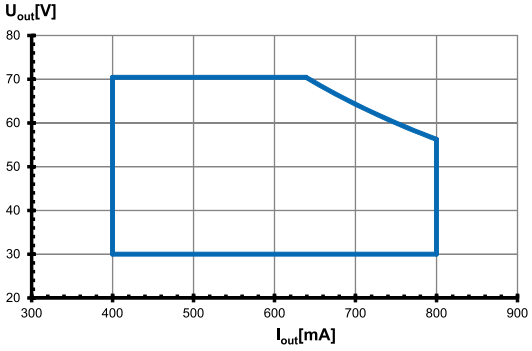


Total harmonic factor (THD)

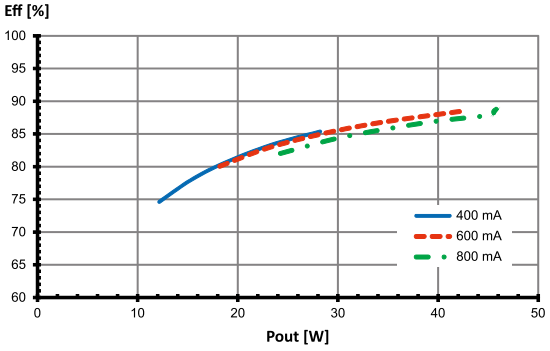


Typ. performance graphs for 186698 / Type ECXe 800.265

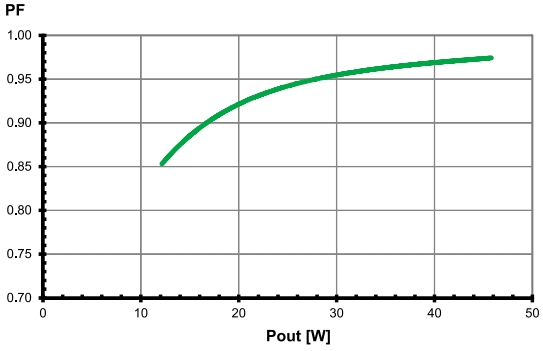
Working area



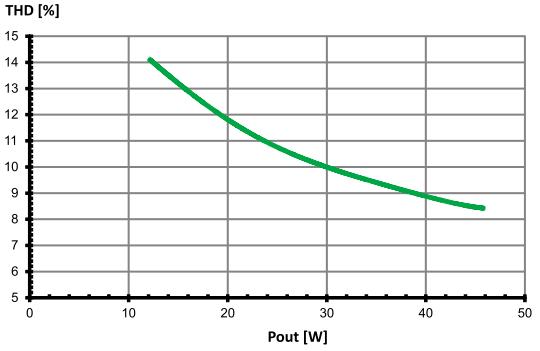
Efficiency



Power factor



Total harmonic factor (THD)



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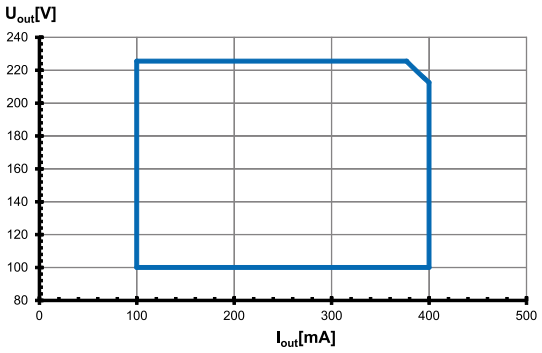
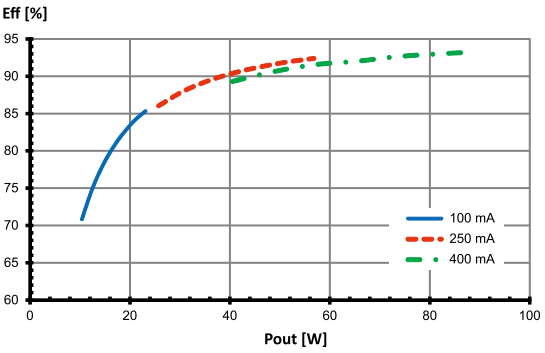
Typ. performance graphs for 186699 / Type ECXe 400.266

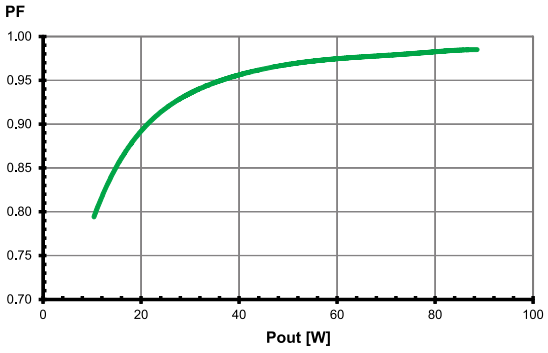
Working area



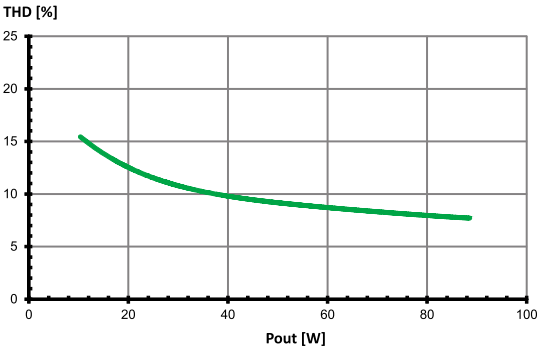
Efficiency



Power factor

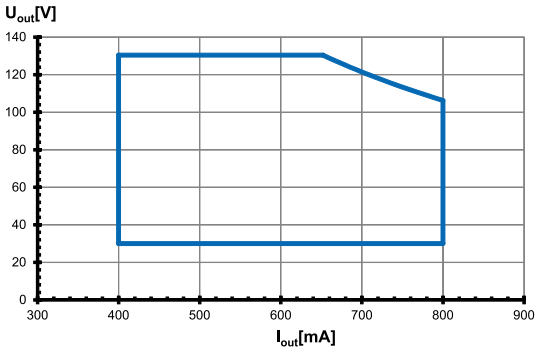


Total harmonic factor (THD)

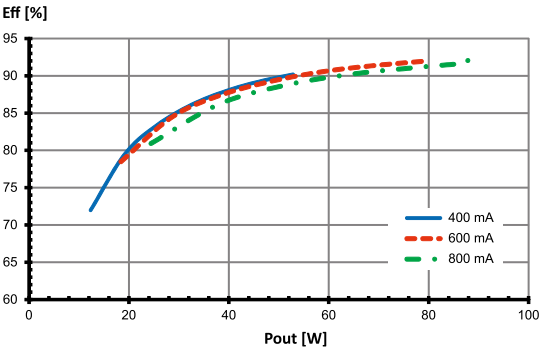


Typ. performance graphs for 186700 / Type ECXe 800.267

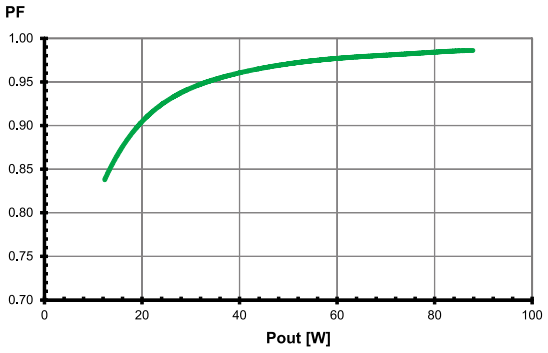
Working area



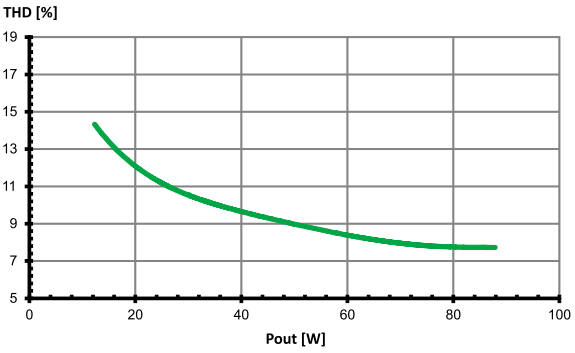
Efficiency



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 1 kV
  Surges between L/N–PE: up to 2 kV
- Short-circuit protection: The control gear is protected against permanent short-circuit with automatic restart function.
- Overload protection: The control gear only works 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).
- Overheating: The control gear has overheating protection acc. to IEC 61347-1 C 5e. In case of overheating the control gear will reduce the output or shut down. For restart switch of the mains for 1 min. and start again.
- 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.

System architecture

- You can program the NFC LED drivers contactless with the NFC Programmer (Ref. No. 186646) and EnOcean USBStick (Ref. No. 186563).
- The LED driver is programmed via NFC in a de-energised state.
- The use of the NFC programmer is flexible in the production or already in the pre-assembly process. A complex commissioning is not required. The operation and parameterization is done in the simplest way. All operating parameters can be individually programmed and updated.
- The exact description of the programming can be found in the operation manual of the NFC programmer.

DC and emergency lighting operation

The control gears are suitable for direct voltage operation (DC). Reliable DC operation is guaranteed if the specified working area of LED driver is maintained.

- Light level at DC operation (EOFx): 50–100 % (adjustable)
- DC range: 198–276 V
- Reducing to 176 V: With reduced service life time possible
- DC operation: 3 hrs. (acc. to EN 50172)

Computer with EnOcean radio and utility to set operating parameters for VS drivers and optional label printer

Radio transmission of all parameters

EnOcean Stick
Ref. No.: 186563

NFC Programmer, hand-held device
Ref. No.: 186646

VS NFC LED driver (operation device)

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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

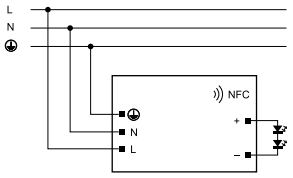
- DIN VDE 0100
- EN 60598-1

Mechanical mounting

- Mounting position: Built-in: Any position inside a luminaire is allowed
  Independent application: Drivers are not allowed to use for independent applications
- Mounting location: LED drivers are designed for integration into luminaires or comparable devices.
  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 0.2–1.5 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.
- 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 has to be within the tolerances which are mentioned in the table "Electrical Characteristics" in this data sheet.
- 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		B 10 A	B 13 A	B 16 A
ECXe 400.264	**186697**	35	45	56
ECXe 800.265	**186698**	16	21	26
ECXe 400.266	**186699**	14	19	23
ECXe 800.267	**186700**	11	14	18
Automatic cut-out type C		C 10 A	C 13 A	C 16 A
ECXe 400.264	**186697**	43	56	69
ECXe 800.265	**186698**	28	36	44
ECXe 400.266	**186699**	23	30	38
ECXe 800.267	**186700**	19	24	30

– 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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