

## CV 24 V



## EASYLINE 24 V C-L 120 V

**187036, 187037, 187038, 187039**

### Typical Applications

Built-in in luminaires for 24 V systems

- Retail lighting
- Residential lighting
- Furniture lighting



### EasyLine 24 V C-L 12 V

- **VERY LOW RIPPLE: < 3%**
- **WIDE INPUT VOLTAGE RANGE: 120-277 V**
- **WITH INTEGRATED CORD GRIP FOR INDEPENDENT OPERATION**
- **SELV**
- **SUITABLE FOR BUILT-IN INTO FURNITURE**
- **LONG SERVICE LIFE:  
UP TO 100,000 HRS.**
- **PRODUCT GUARANTEE: 5 YEARS**



# EasyLine 24 V C-L 120 V

**Product features**

- Compact casing shape
- For use in applications with medium and high capacity range of up to 20, 40, 60 and 100 W

**Electrical features**

- Mains voltage: 120–277 V ±10%
- Mains frequency: 50–60 Hz
- Screw terminals: primary 0.75–2.5 mm², secondary 0.5–2.5 mm²
- Power factor at full load: > 0.98 C

**Safety features**

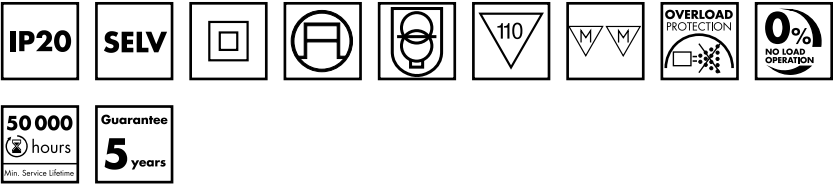
- Protection against transient main peaks
- Electronic short-circuit protection
- Overload protection: reversible
- Protection against "no load" operation
- Degree of protection: IP20
- Protection class II
- SELV

**Packaging units**

Ref. No.	Packaging unit		
	Pieces per box	Boxes per pallet	Weight g
187036	20	100	112
187037	20	90	288
187038	20	84	364
187039	12	114	503

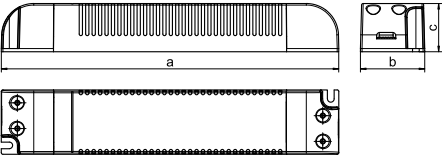
**Product guarantee**

- 5 years
- The conditions for the Product Guarantee of the Vossloh-Schwabe Group shall apply as published on our homepage ([www.vossloh-schwabe.com](http://www.vossloh-schwabe.com)). We will be happy to send you these conditions upon request.



**Dimensions**

Ref. No.	Casing	Length a mm	Width b mm	Height c mm
187036	K53	153	41	32
187037	K81	210	40	30
187038	K82	250	40	30
187039	K83	310	40	36



**Applied standards**

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

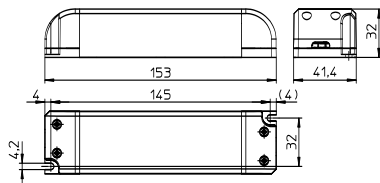


The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.



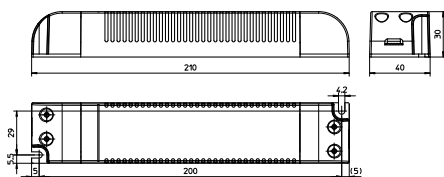
## Product drawings and photos

### K53



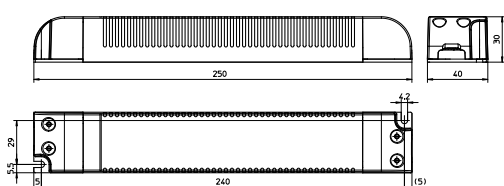
K53 – 187036

### K81



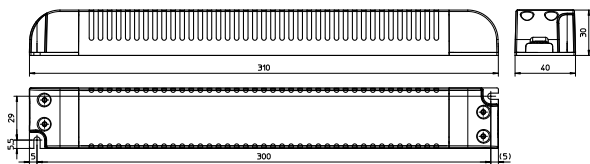
K81 – 187037

### K82



K82 – 187038

### K83



K83 – 187039

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

## Electrical characteristics

Max. output W	Type	Ref. No.	Voltage 50–60 Hz V	Mains current mA	Inrush current A / $\mu$ s	Current output DC mA ( $\pm$ 5%)	Voltage output DC V ( $\pm$ 5%)	THD at full load % (230 V)	Efficiency at full load % (230 V)	Ripple 100 Hz %
20	EDXe 120/24.075	<b>187036</b>	120–277	224–80	12 / 190	0–833	24	< 6	> 87	$\leq$ 3
40	EDXe 140/24.076	<b>187037</b>	120–277	435–160	11 / 298	0–1670	24	< 8	> 87	$\leq$ 3
60	EDXe 160/24.077	<b>187038</b>	120–277	635–230	13 / 285	0–2500	24	< 7	> 88	$\leq$ 3
100	EDXe 1100/24.078	<b>187039</b>	120–277	930–365	24 / 698	0–4000	24	< 6	> 88	$\leq$ 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 °C	Degree of protection
	°C min.	°C max.	% min.	% max.	°C min.	°C max.	% min.	% max.		
187036	–20	+45	5	60	–40	+85	5	95	+75	IP20
187037, 187038, 187039									+85	

## Expected service life time

at operation temperatures at  $t_c$  point

Operation current	Ref. No.		187037, 187038, 187039	
	187036			
All	65 °C	75 °C	75 °C	85 °C
hrs.	100,000	50,000	100,000	50,000

## Product labels

<b>PRI</b> <b>Un</b> = 120...277 V~ 277VAC for North America only <b>In</b> = 200...90 mA <b>fN</b> = 50/60 Hz $\lambda$ = 0,95 <b>■</b> N <b>■</b> L 0.25...2.0	<b>VS LIGHTING SOLUTIONS</b> Vossloh-Schwabe Deutschland GmbH Stuttgarter Straße 61/1, 73614 Schorndorf Electronic Converter for LED <b>Type EDXe 120/24.075</b> Ref.-No. 187036 Made in China	<b>SEC</b> <b>U</b> = 24V ~ Irated = 833mA Prated = 20 W <b>SELV</b> 0.25...2.0
--	--	--

<b>PRI</b> <b>Un</b> = 120...277 V~ 277VAC for North America only <b>In</b> = 400...200mA <b>fN</b> = 50/60 Hz $\lambda$ = 0,95 <b>■</b> N <b>■</b> L 0.25...2.0	<b>VS LIGHTING SOLUTIONS</b> Vossloh-Schwabe Deutschland GmbH Stuttgarter Straße 61/1, 73614 Schorndorf Electronic Converter for LED <b>Type EDXe 140/24.076</b> Ref.-No. 187037 Made in China	$t_a$ = –20...45°C $t_c$ = 85°C <b>SEC</b> <b>U</b> = 24V ~ Irated = 1670mA Prated = 40 W <b>SELV</b> 0.25...2.0
--	--	---

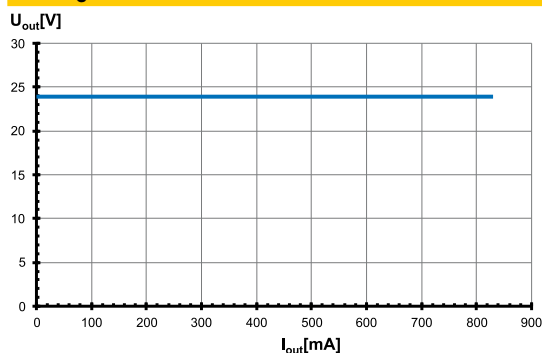
<b>PRI</b> <b>Un</b> = 120...277 V~ 277VAC for North America only <b>In</b> = 580...300mA <b>fN</b> = 50/60 Hz $\lambda$ = 0,95 <b>■</b> L <b>■</b> N 0.25...2.0	<b>VS LIGHTING SOLUTIONS</b> Vossloh-Schwabe Deutschland GmbH Stuttgarter Straße 61/1, 73614 Schorndorf Electronic Converter for LED <b>Type EDXe 160/24.077</b> Ref.-No. 187038 Made in China	$t_a$ = –20...45°C $t_c$ = 85°C <b>SEC</b> <b>U</b> = 24V ~ Irated = 2500mA Prated = 60 W <b>SELV</b> 0.25...2.0
--	--	---

<b>PRI</b> <b>Un</b> = 120...277 V~ 277VAC for North America only <b>In</b> = 900...390 mA <b>fN</b> = 50/60 Hz $\lambda$ = 0,95 $t_a$ = –20...45°C $t_c$ = 85°C <b>■</b> N <b>■</b> L 0.25...2.0	<b>VS LIGHTING SOLUTIONS</b> Vossloh-Schwabe Deutschland GmbH Stuttgarter Straße 61/1, 73614 Schorndorf Electronic Converter for LED <b>Type EDXe 1100/24.078</b> Ref.-No. 187039 Made in China	<b>SEC</b> <b>U</b> = 24V ~ Irated = 4000mA Prated = 100 W <b>SELV</b> 0.25...2.0
---	---	--

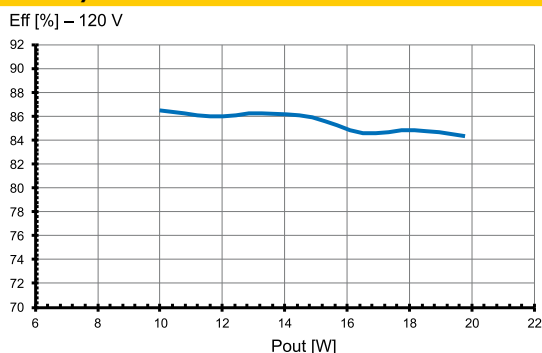
The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

## Typ. performance graphs for 187036 / Type EDXe 120/24.075

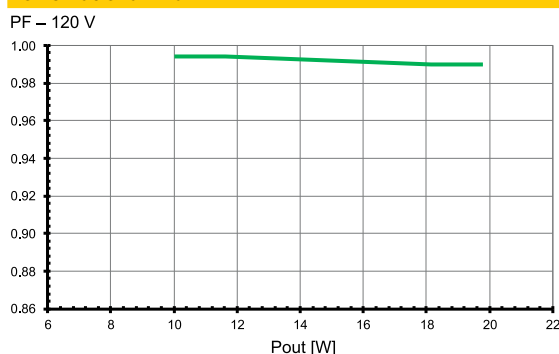
### Working area



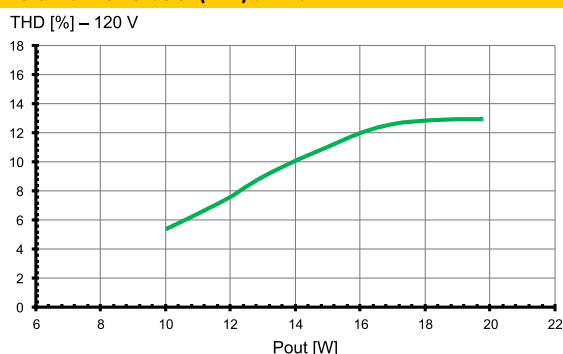
### Efficiency at 120 V



### Power factor at 120 V

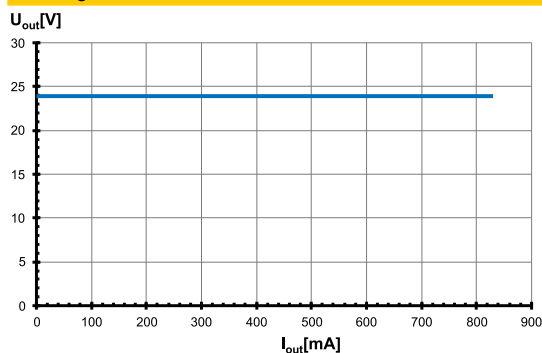


### Total harmonic factor (THD) at 120 V

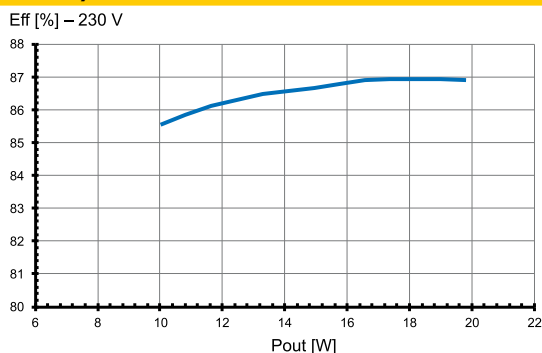


## Typ. performance graphs for 187036 / Type EDXe 120/24.075

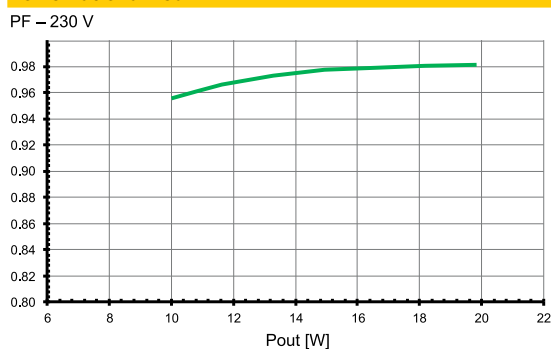
### Working area



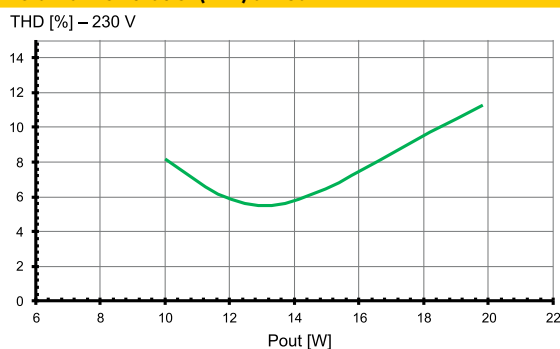
### Efficiency at 230 V



### Power factor at 230 V



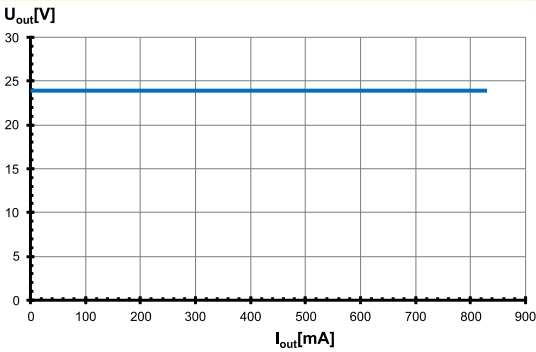
### Total harmonic factor (THD) at 230 V



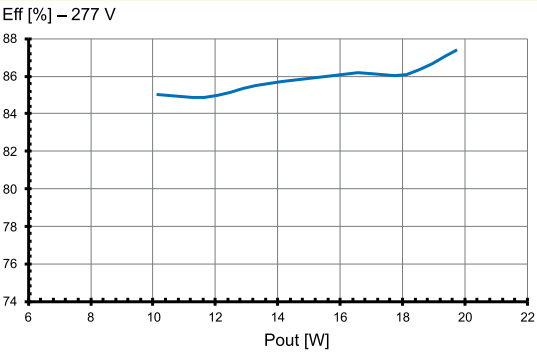
The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

Typ. performance graphs for 187036 / Type EDXe 120/24.075

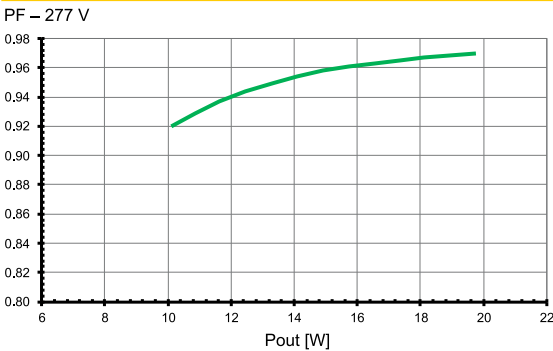
Working area



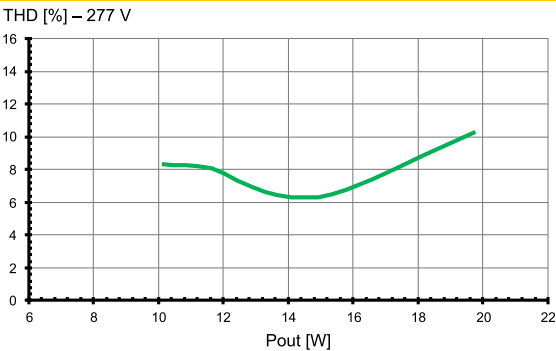
Efficiency at 277 V



Power factor at 277 V

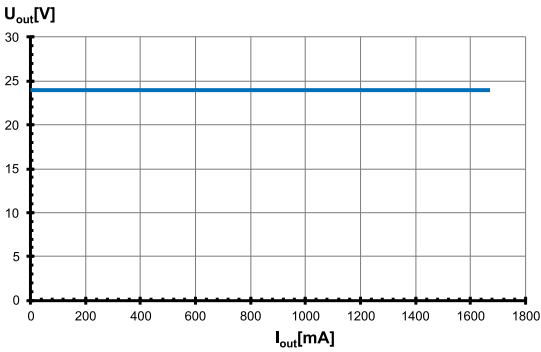


Total harmonic factor (THD) at 277 V

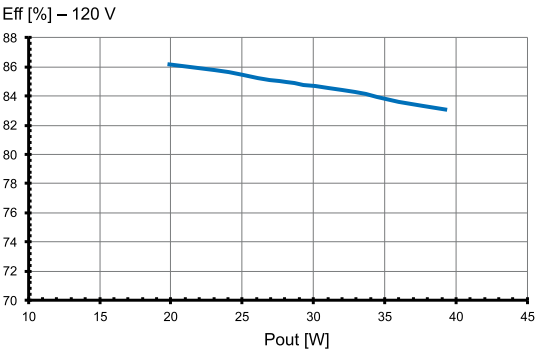


Typ. performance graphs for 187037 / Type EDXe 140/24.076

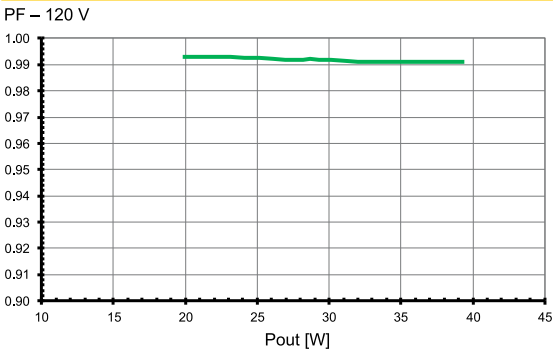
Working area



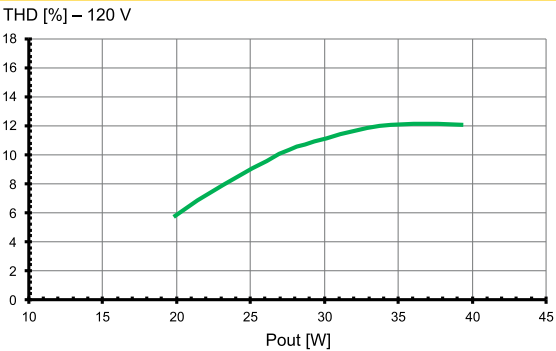
Efficiency at 120 V



Power factor at 120 V

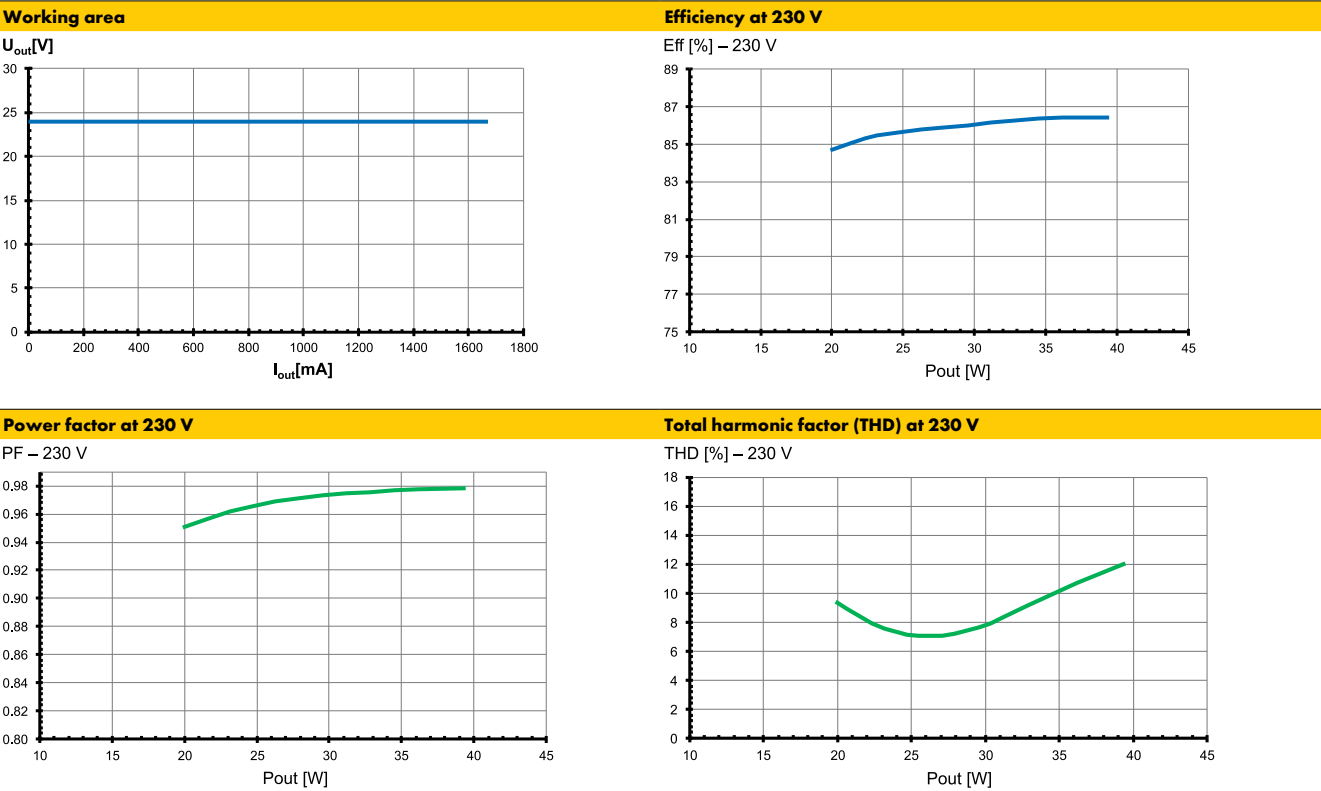


Total harmonic factor (THD) at 120 V

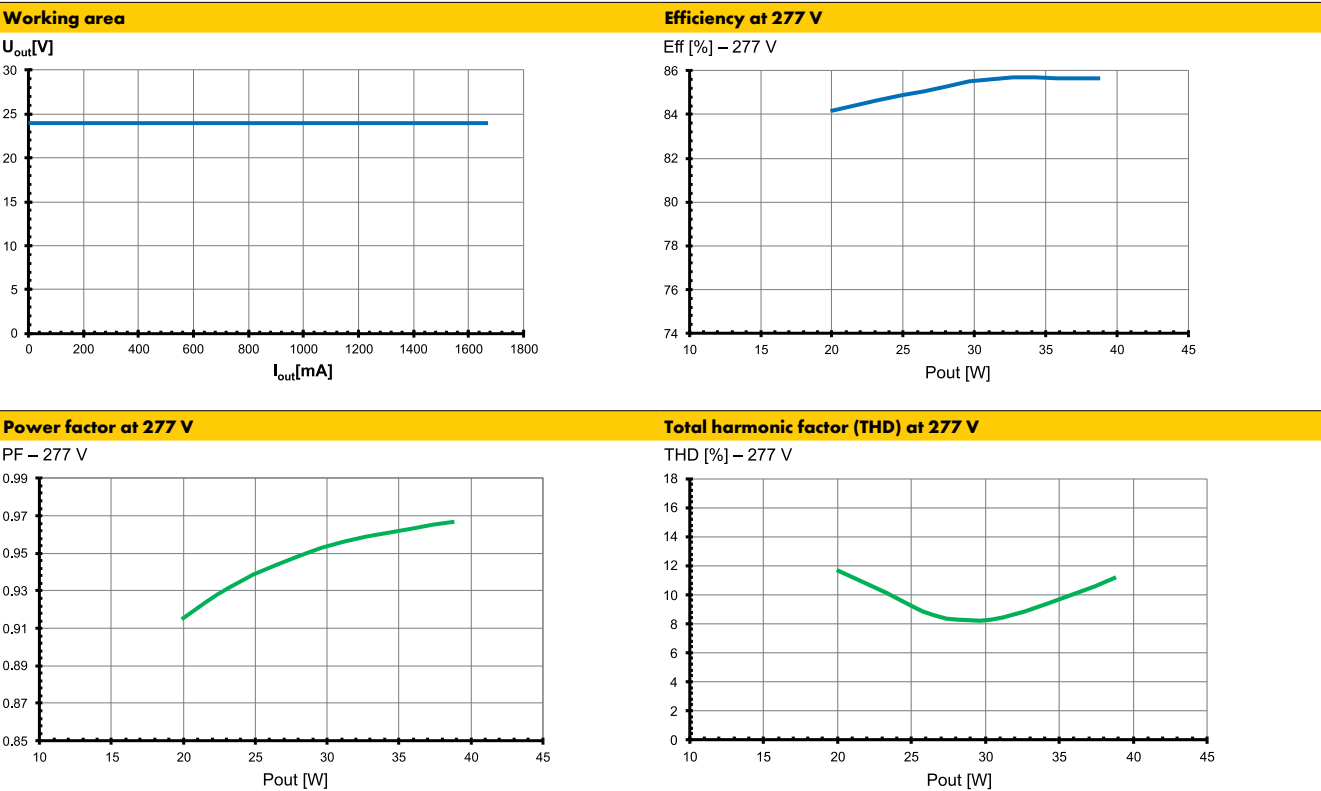


The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

Typ. performance graphs for 187037 / Type EDXe 140/24.076

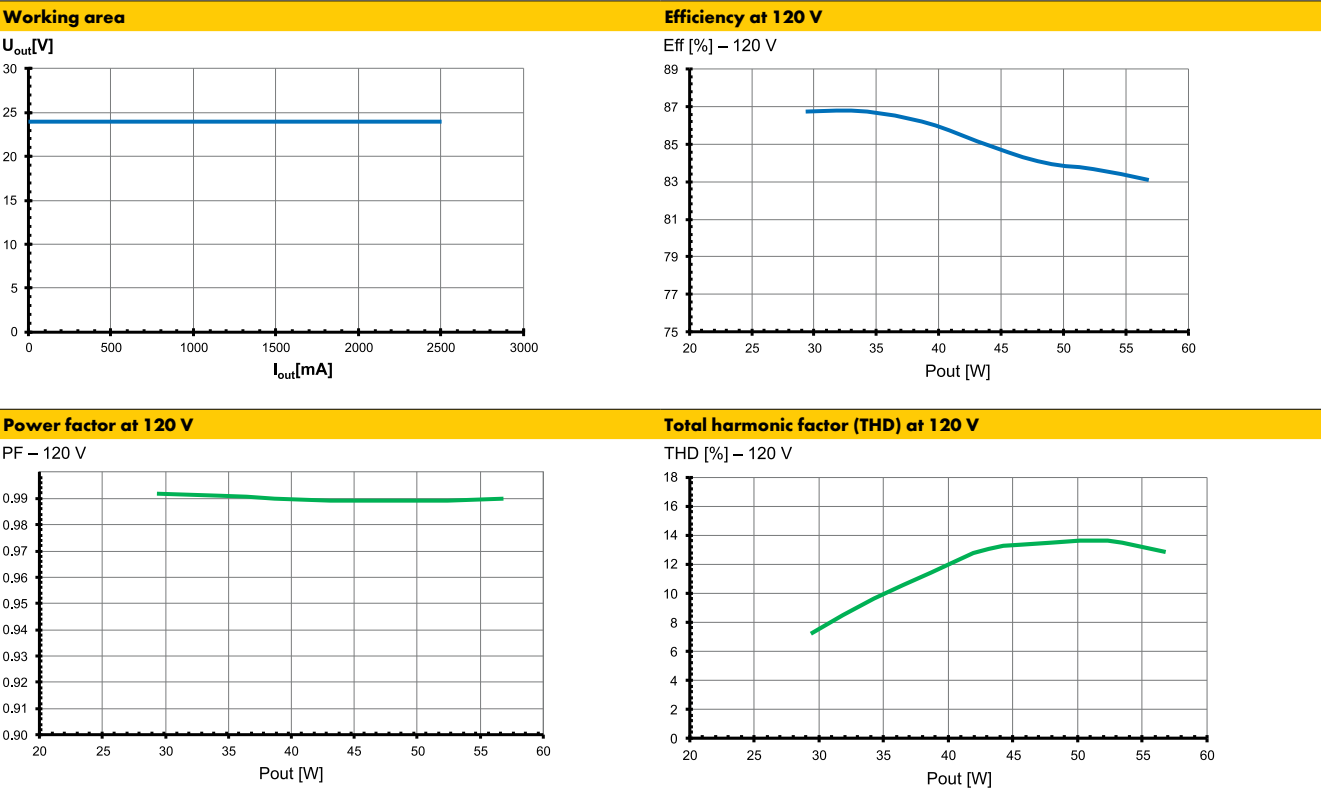


Typ. performance graphs for 187037 / Type EDXe 140/24.076

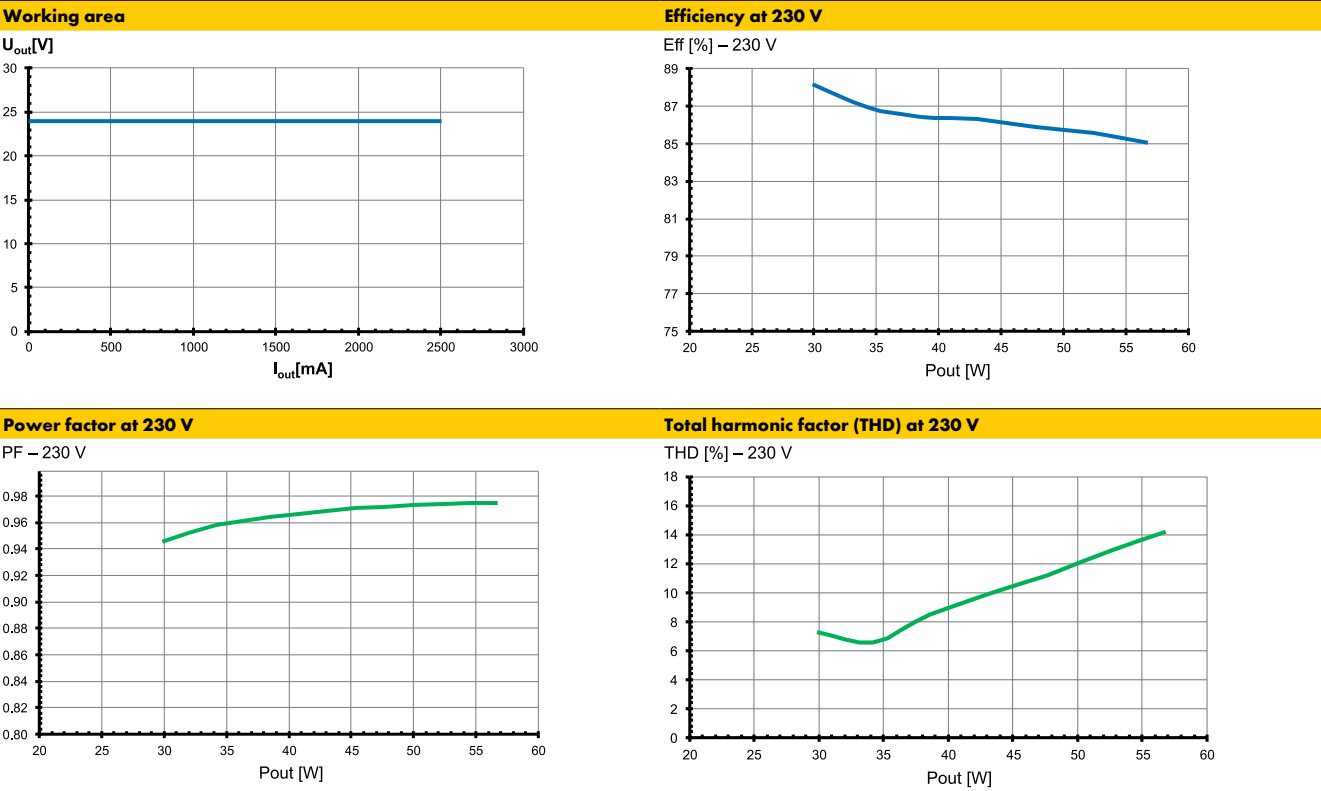


The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

Typ. performance graphs for 187038 / Type EDXe 160/24.077



Typ. performance graphs for 187038 / Type EDXe 160/24.077

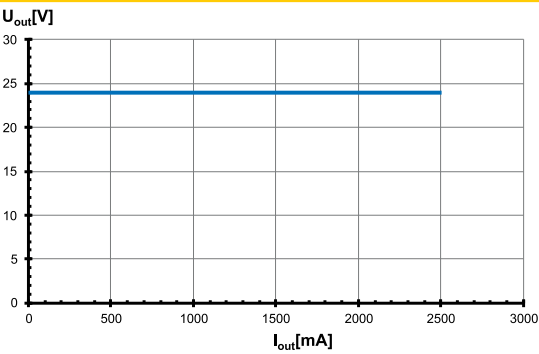


The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

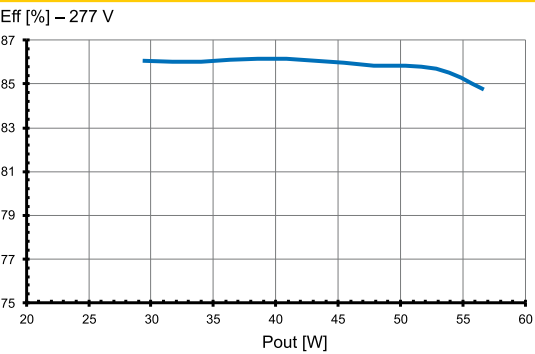


Typ. performance graphs for 187038 / Type EDXe 160/24.077

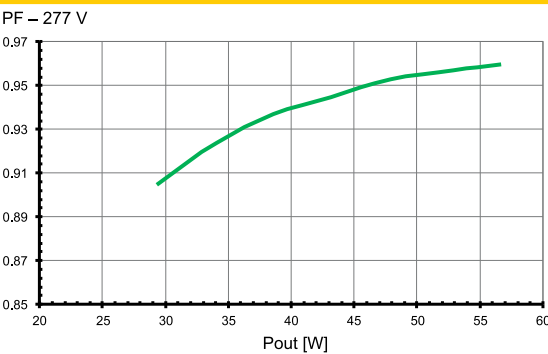
Working area



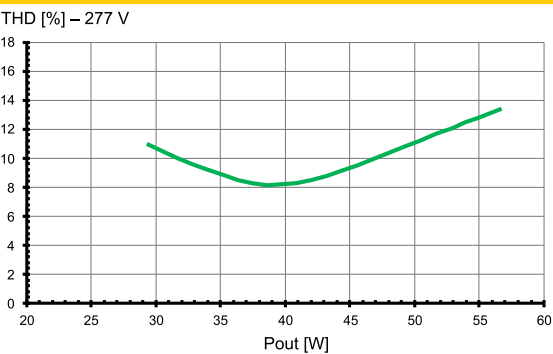
Efficiency at 277 V



Power factor at 277 V

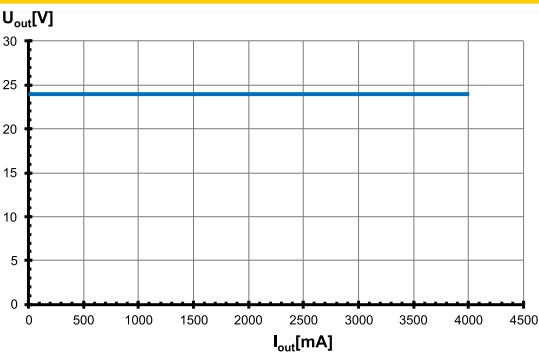


Total harmonic factor (THD) at 277 V

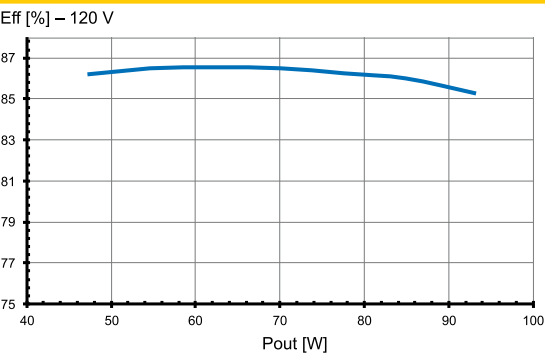


Typ. performance graphs for 187039 / Type EDXe 1100/24.078

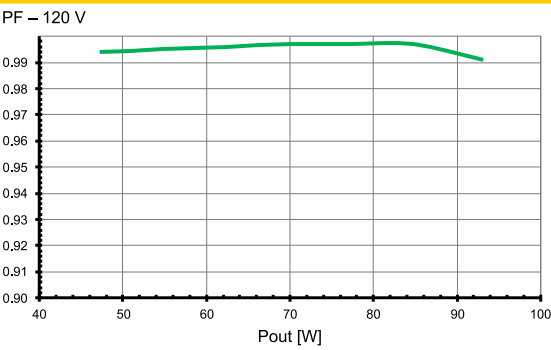
Working area



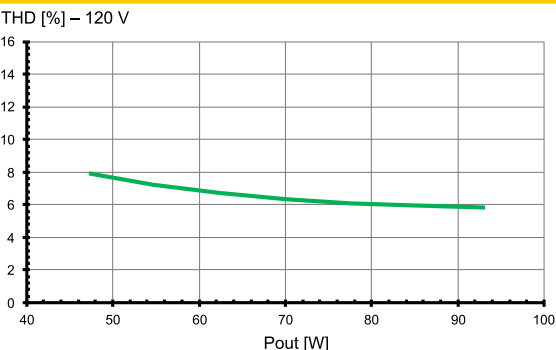
Efficiency at 120 V



Power factor at 120 V

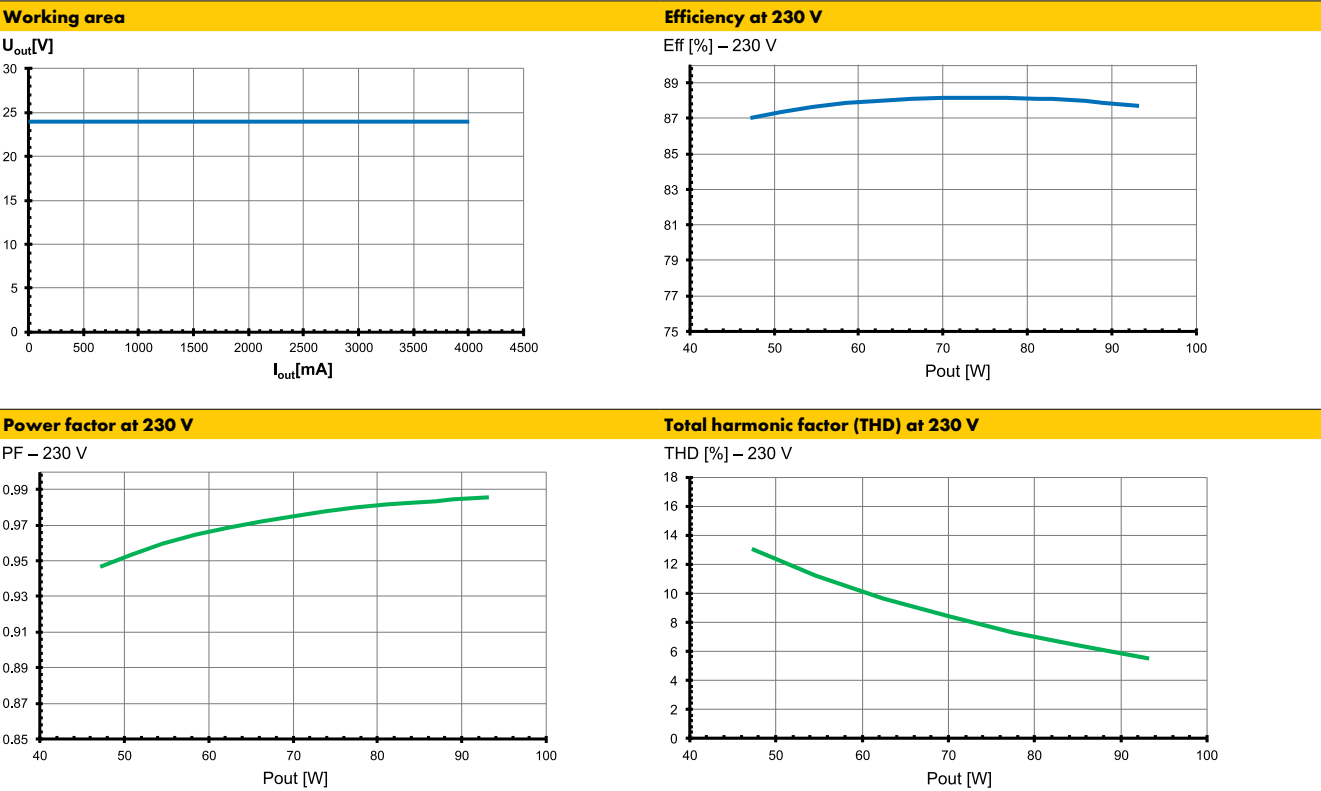


Total harmonic factor (THD) at 120 V

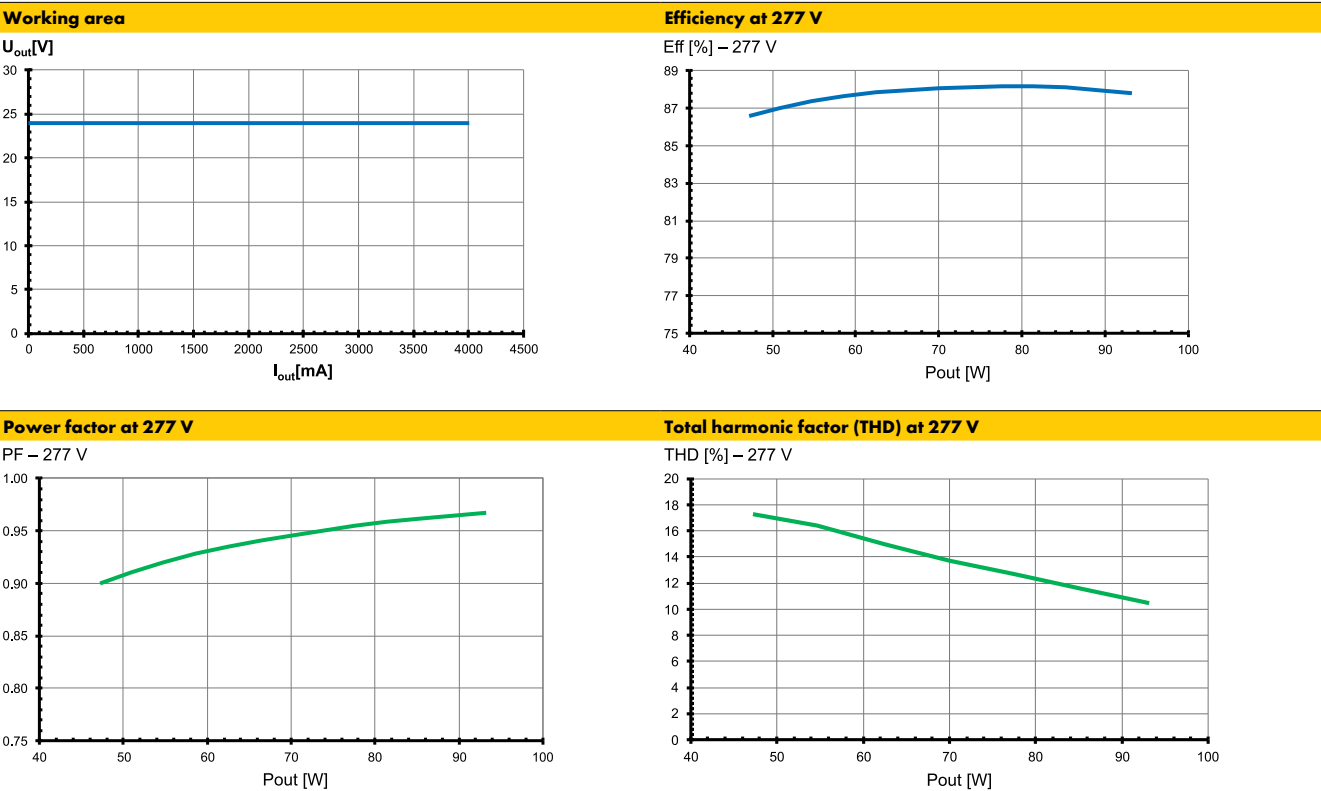


The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

Typ. performance graphs for 187039 / Type EDXe 1100/24.078



Typ. performance graphs for 187039 / Type EDXe 1100/24.078



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

## Safety features

- 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 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 that the selected LED load is  
suitable (see Electrical Characteristics on  
this 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.

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

## 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

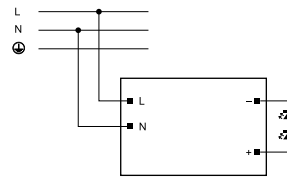
### Mechanical mounting

- Mounting position: Drivers are suitable for independent operation.
- Mounting location: 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  $\geq 4$  (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 0.75–1.5 mm<sup>2</sup> on primary side and 0.5–2.5 mm<sup>2</sup> on secondary side
- 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 is within the tolerances which are mentioned in the Electrical Characteristics on the 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 m $\Omega$  (approx. 20 m [2.5 mm<sup>2</sup>] 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
EDXe 120/24.075	<b>187036</b>	36	46	57	44	58	71
EDXe 140/24.076	<b>187037</b>	22	29	36	22	29	36
EDXe 160/24.077	<b>187038</b>	15	20	25	15	20	25
EDXe 1100/24.078	<b>187039</b>	4	5	6	6	8	10

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