

CV 12 V

Gen.2



EASYLINE 12 V C-L GEN.2

187460, 187461, 187462, 187463

Typical Applications

Built-in in luminaires for 12 V systems

- Hospitality lighting
- Residential lighting
- Furniture lighting
- Signage lighting

EasyLine 12 V C-L

- **VERY LOW RIPPLE CURRENT: < 5%**
- **WITH INTEGRATED CORD GRIP FOR INDEPENDENT OPERATION**
- **SELV**
- **SUITABLE FOR BUILT-IN INTO FURNITURE**
- **LONG SERVICE LIFE: UP TO 60,000 HRS.**
- **PRODUCT GUARANTEE: 5 YEARS**



EasyLine 12 V C-L

Product features

- Linear casing shape
- For use in applications with medium and high capacity range from 60 to 100 W

Electrical features

- Mains voltage: 220–240 V ±10%
- Mains frequency: 50–60 Hz
- Screw terminals: 0.75–1.5 mm²
- Power factor at full load: > 0.9 C (0.55C for 20W 187460)

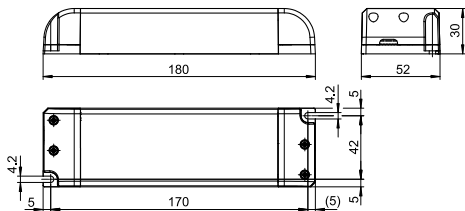
Safety features

- 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

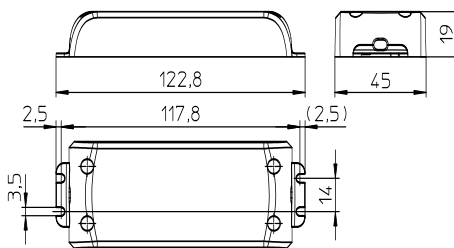
Ref. No.	Packaging unit		
	Pieces per box	Boxes per pallet	Weight g
187460	20	198	66
187461	20	100	300
187462	20	100	300
187463	20	56	435

- Casing: K55.1
- Ref. No.: 187461, 187462
- Length: 180 mm
- Width: 52 mm
- Height: 30 mm

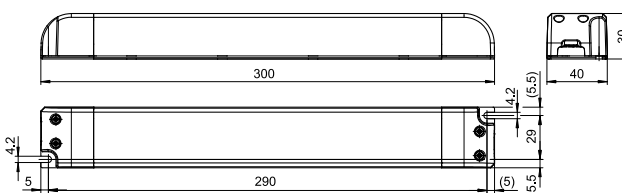


Dimensions

- Casing: K52
- Ref. No.: 187460
- Length: 122.8 mm
- Width: 45 mm
- Height: 19 mm



- Casing: K60
- Ref. No.: 187463
- Length: 300 mm
- Width: 40 mm
- Height: 30 mm



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.



Applied standards

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



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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 V (\pm 5%)	THD at full load % (230 V)	Efficiency at full load % (230 V)	Ripple 100 Hz %
20	EDXe 120/12.095	187460	220–240	270-190	186 / 11	0–1670	12	n.a.	> 86	\leq 5
60	EDXe 160/12.096	187461	220–240	330-290	27 / 450	0–5000	12	< 11	> 88	\leq 5
75	EDXe 175/12.097	187462	220–240	390-355	29 / 250	0–6250	12	< 8	> 90	\leq 5
100	EDXe 1100/12.098	187463	220–240	550-430	38 / 350	0–8300	12	< 7	> 90	\leq 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 °C	Degree of protection
	°C min.	°C max.	% min.	% max.	°C min.	°C max.	% min.	% max.		
187460	-20	+45	10	90	-40	+85	10	90	+85	IP20
187461									+85	
187462									+85	
187463									+85	

Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No. 187460, 187461, 187462, 187463	
All	75 °C*	85 °C
hrs.	60,000	30,000

* recommended operation temperature

Product labels

Vossloh-Schwabe Deutschland GmbH
Stuttgarter Straße 61/1, 73614 Schorndorf
Electronic Converter for LED

EDXe 120/12.095
Ref.-No. 187460
Made in China

5727 Q SEC
U_{rated} = 12 V
I_{rated} = 1,68 A
Prated = 20 W
IP20 SELV

ta = -20...45°C
tc = 85°C

PRI
UN = 220...240V~
IN = 190...170 mA
fN = 50/60 Hz
λ = 0,55 C

CE UK CA EAC 25 110 M M

Vossloh-Schwabe Deutschland GmbH
Stuttgarter Straße 61/1, 73614 Schorndorf
Electronic Converter for LED

EDXe 160/12.096
Ref.-No. 187461
Made in China

5727 Q SEC
U_{rated} = 12 V
I_{rated} = 5,00 A
Prated = 60 W
IP20 SELV

ta = -20...45°C
tc = 85°C

PRI
UN = 220...240V~
IN = 330...290 mA
fN = 50/60 Hz
λ = 0,95

CE UK CA EAC 25 110 M M

Vossloh-Schwabe Deutschland GmbH
Stuttgarter Straße 61/1, 73614 Schorndorf
Electronic Converter for LED

EDXe 175/12.097
Ref.-No. 187462
Made in China

5727 Q SEC
U_{rated} = 12 V
I_{rated} = 6,25 A
Prated = 75 W
IP20 SELV

ta = -20...45°C
tc = 85°C

PRI
UN = 220...240V~
IN = 390...355 mA
fN = 50/60 Hz
λ = 0,95

CE UK CA EAC 25 110 M M

Vossloh-Schwabe Deutschland GmbH
Stuttgarter Straße 61/1, 73614 Schorndorf
Electronic Converter for LED

EDXe 1100/12.098
Ref.-No. 187463
Made in China

5727 Q SEC
U_{rated} = 12 V
I_{rated} = 8,30 A
Prated = 100 W
IP20 SELV

ta = -20...45°C
tc = 85°C

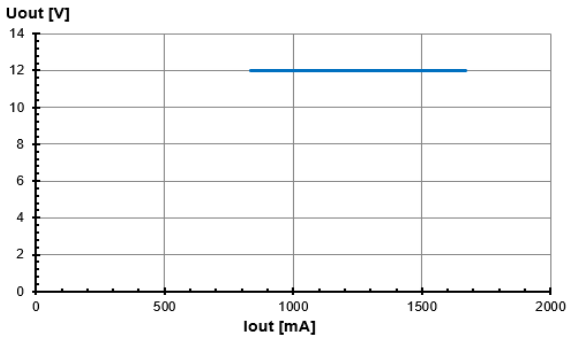
PRI
UN = 220...240V~
IN = 550...430 mA
fN = 50/60 Hz
λ = 0,95

CE UK CA EAC 25 110 M M

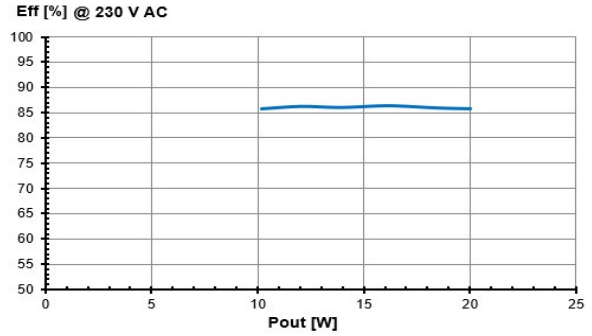
The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

Typ. performance graphs for 187460 / Type EDXe 120/12.095

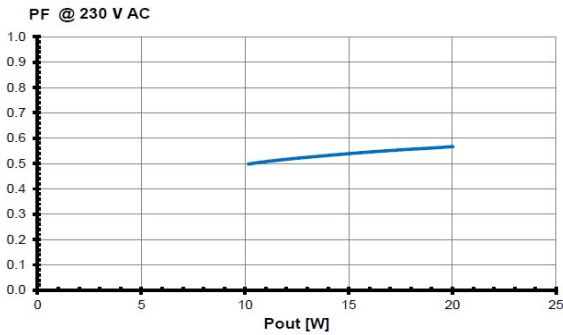
Working area



Efficiency



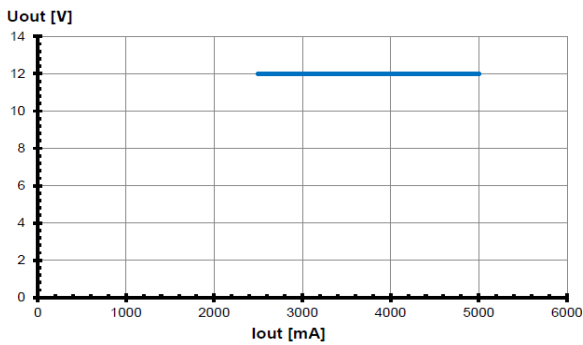
Power factor



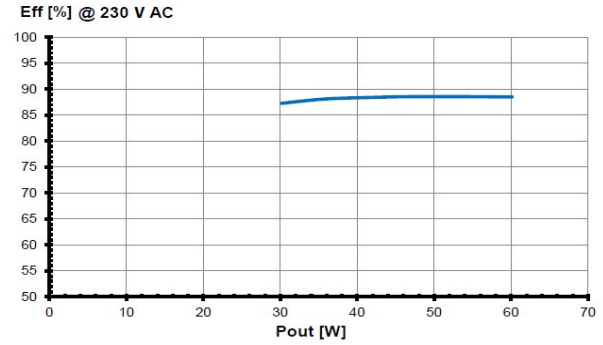
Total harmonic factor (THD)

Typ. performance graphs for 187461 / Type EDXe 160/12.096

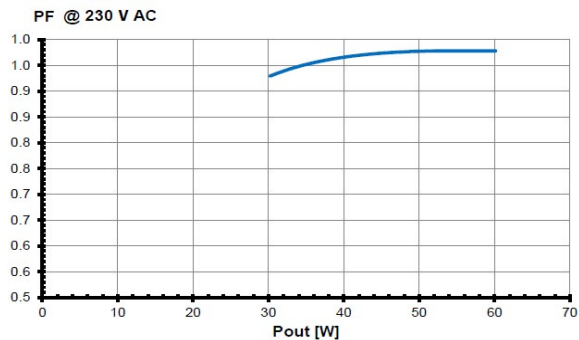
Working area



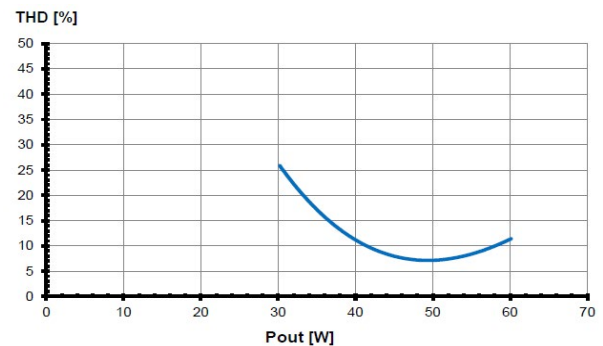
Efficiency



Power factor



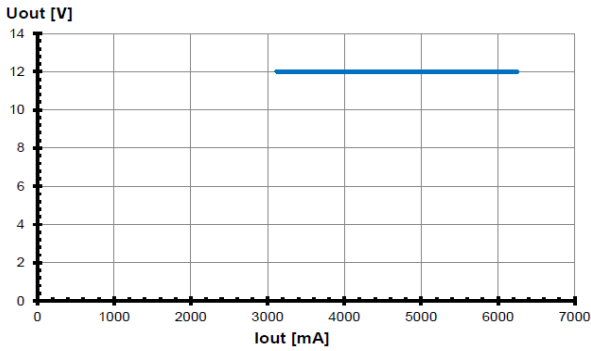
Total harmonic factor (THD)



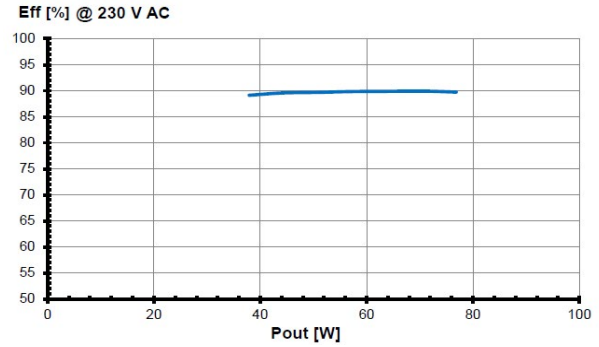
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Typ. performance graphs for 187462 / Type EDXe 175/12.097

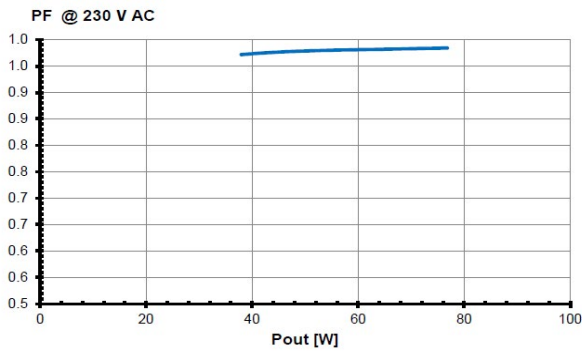
Working area



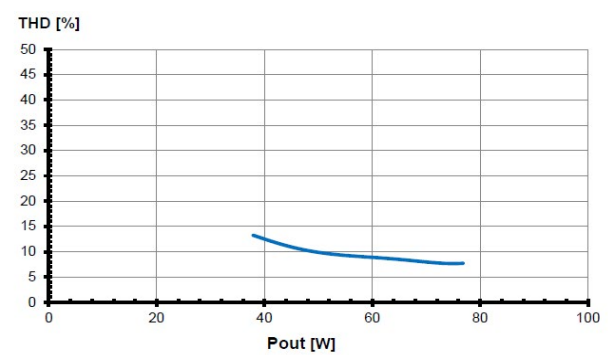
Efficiency



Power factor

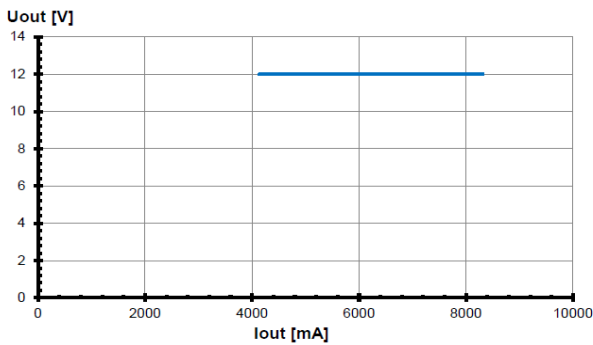


Total harmonic factor (THD)

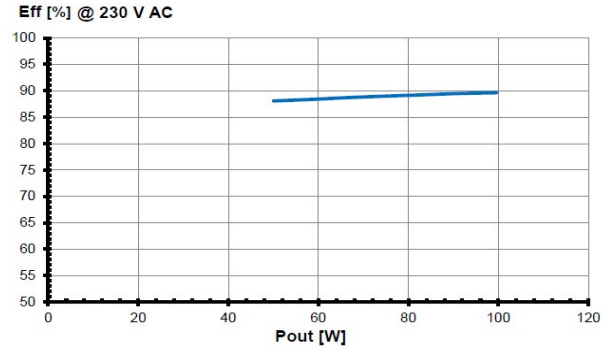


Typ. performance graphs for 187463 / Type EDXe 1100/12.098

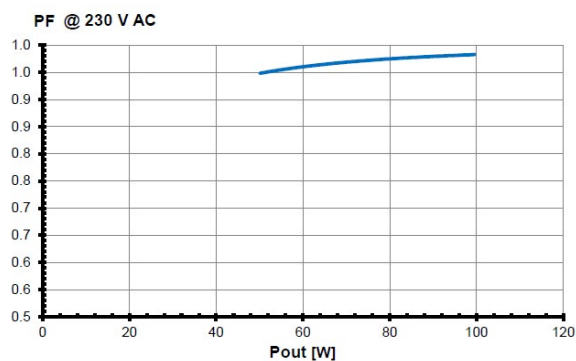
Working area



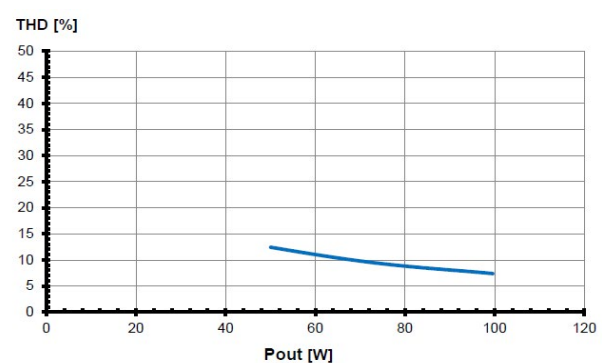
Efficiency



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
- 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.

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

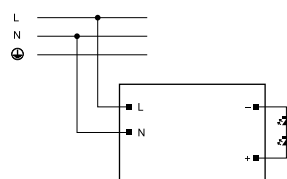
Mechanical mounting

- 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 ≥ 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 0.75–1.5 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 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 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
EDXe 120/12.095	187460	40	52	64	47	61	76
EDXe 160/12.096	187461	6	8	10	10	13	17
EDXe 175/12.097	187462	11	14	17	18	24	29
EDXe 1100/12.098	187463	5	7	9	9	12	15

- 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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