

CC COMPACT TERMINAL



EASYLINE TERMINAL C-IR30

186463, 186464, 186531, 186532

Typical Applications

- Built-in in reflector luminaires
- Shop illumination
- Downlights

EasyLine Terminal C-IR30

- **SELECTABLE OUTPUT CURRENT VIA CONNECTION TERMINAL**
- **WITH INTEGRATED CORD GRIP FOR INDEPENDENT OPERATION**
- **SELV**
- **LONG SERVICE LIFE: UP TO 50,000 HRS.**
- **PRODUCT GUARANTEE: 5 YEARS**



EasyLine Terminal C-IR30

Product features

- Compact casing shape
- With integrated cord grip
- Optional for built-in or independent operation

Functions

- Selectable current output by secondary side terminal.
- The required current output can be chosen by selecting the respective pin at the output terminal.

Electrical features

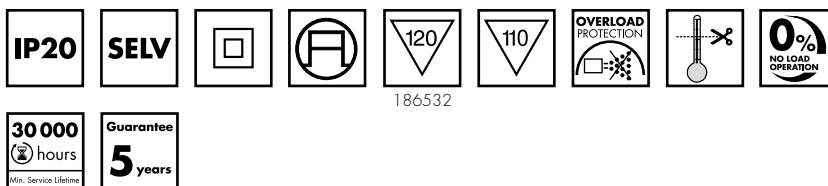
- Mains voltage: 220–240 V $\pm 10\%$
- Mains frequency: 50–60 Hz
- Push-in terminals: 0.2–1.5 mm²
- Power factor at full load: 0.93
- Open circuit voltage ($U_{max.}$): 60 V
- Secondary side switching of LED modules is not allowed.

Safety features

- Protection against transient main peaks up to 1 kV (between L and N for 186531, 186532) and up to 500 V (between L and N for 186463, 186464)
- Temporary electronic short-circuit protection
- Overload protection
- Overtemperature protection
- Protection against "no load" operation
- Degree of protection: IP20
- Protection class II
- SELV

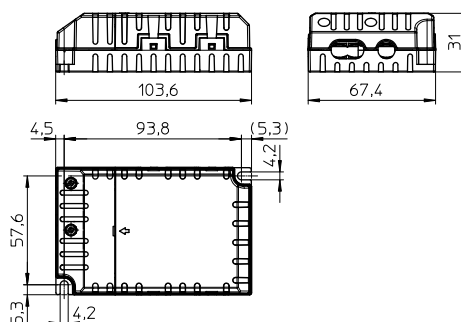
Packaging units

Ref. No.	Packaging unit		
	Pieces per box	Boxes per pallet	Weight g
186463	15	80	101
186464	15	80	150
186531	15	80	135
186532	15	80	156



Dimensions

- Casing: K2.1
- Length: 103.6 mm
- Width: 67.4 mm
- Height: 31 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.

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 / μ s	Current output DC mA (\pm 7.5%)	Voltage output DC [V]	THD %	Efficiency at full load % (230 V)	Ripple < 1000 Hz %
10	ECXe 500.164	186463	220–240	53–48	2.14 / 53.1	250	17–40	28.57	> 83	< 20
14				73–67		350				
20				104–95		500				
15	ECXe 700.165	186464	220–240	80–71	3.7 / 51	500	17–30	23.55	> 85	< 20
18				94–86		600				
21				110–100		700				
28.5	ECXe 700.199	186531	220–240	145–130	4.5 / 60	500	25–57	13	> 88	< 20
34.2				180–160		600				
40				205–190		700				
34.4	ECXe 1050.200	186532	220–240	185–160	6 / 55	800	25–43	11.9	> 89	5
39.8				210–185		925				
45				245–210		1050				

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.		
186463, 186464	-20	+50	5	95	-40	+50	5	95	+75	IP20
186531									+80	
186532									+85	

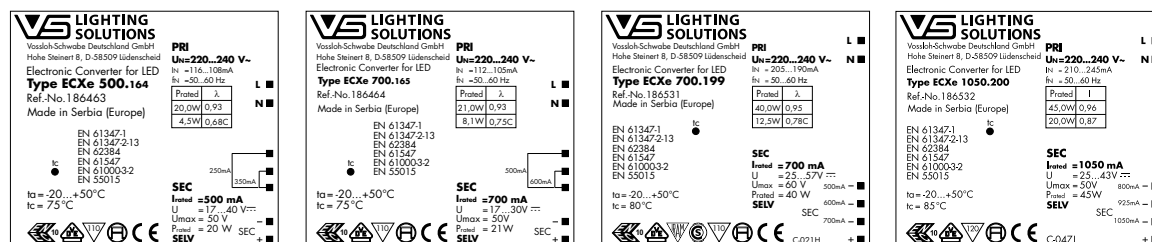
Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No. 186463, 186464		186531		186532	
All	65 °C*	75 °C	70 °C*	80 °C	75 °C*	85 °C
hrs.	50,000	30,000	50,000	30,000	50,000	30,000

* recommended operation temperature

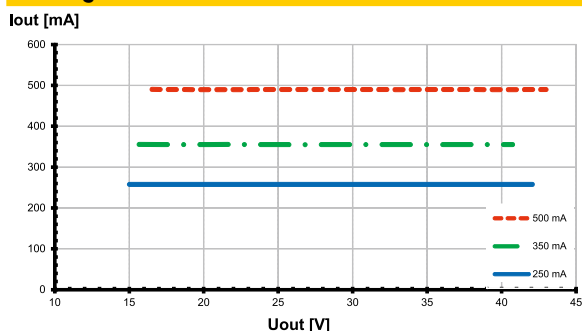
Product labels



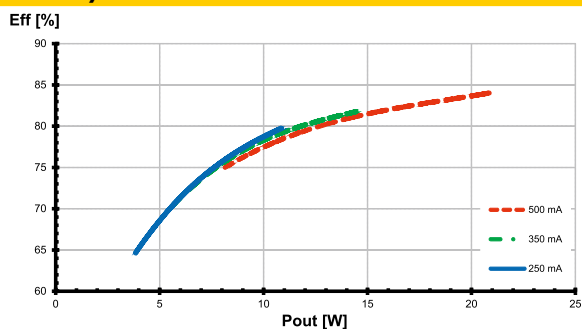
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Typ. performance graphs for 186463 / Type ECXe 500.164

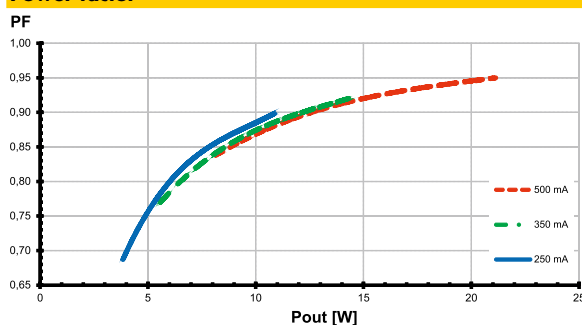
Working area



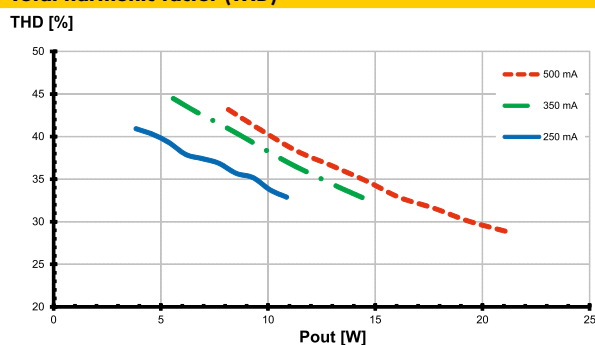
Efficiency



Power factor

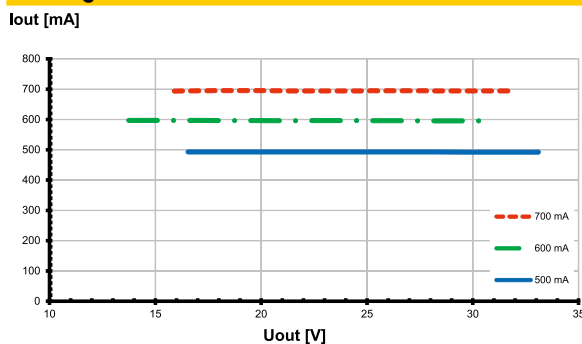


Total harmonic factor (THD)

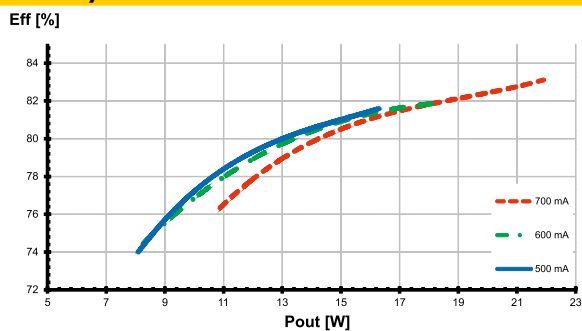


Typ. performance graphs for 186464 / Type ECXe 700.165

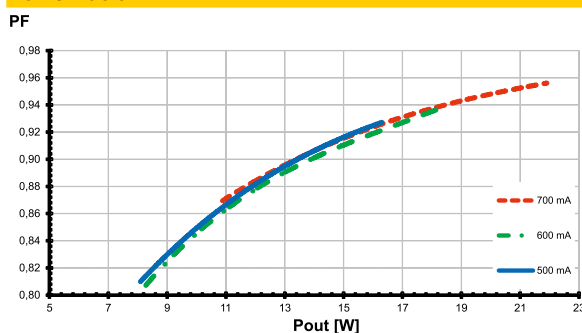
Working area



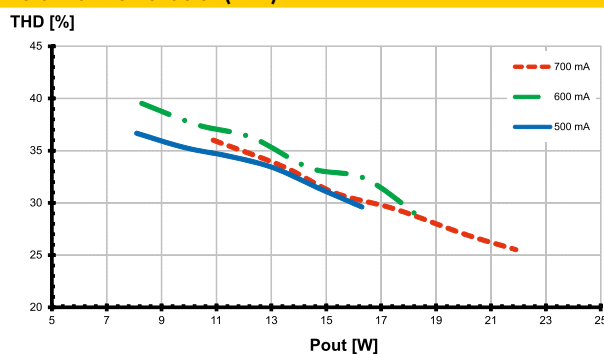
Efficiency



Power factor



Total harmonic factor (THD)

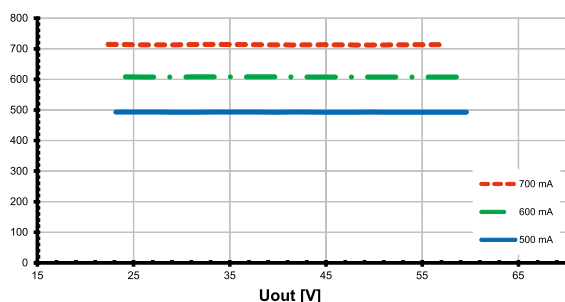


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Typ. performance graphs for 186531 / Typ ECXe 700.199

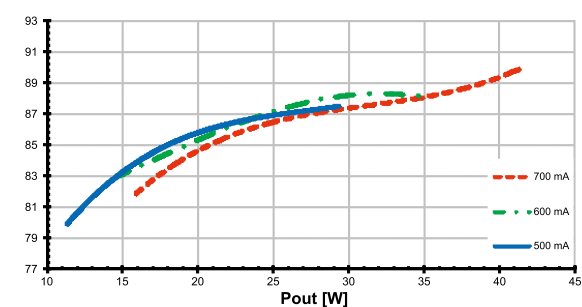
Working area

I_{out} [mA]



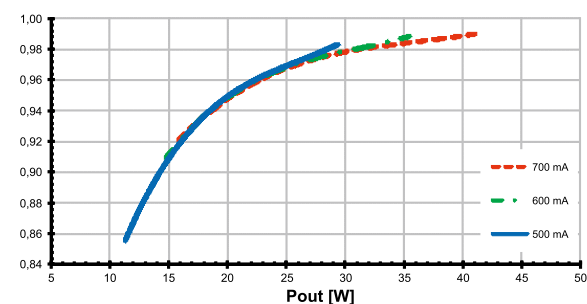
Efficiency

Eff [%]



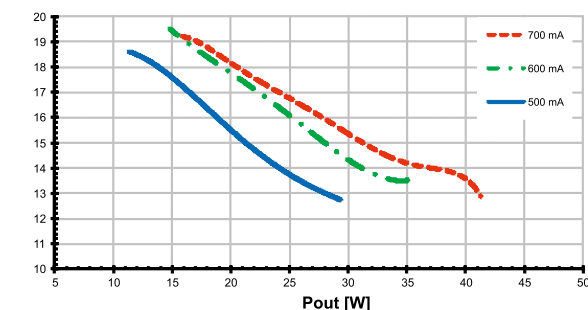
Power factor

PF



Total harmonic factor (THD)

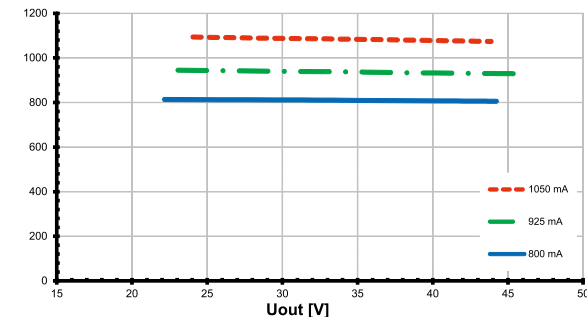
THD [%]



Typ. performance graphs for 186532 / Type ECXe 1050.200

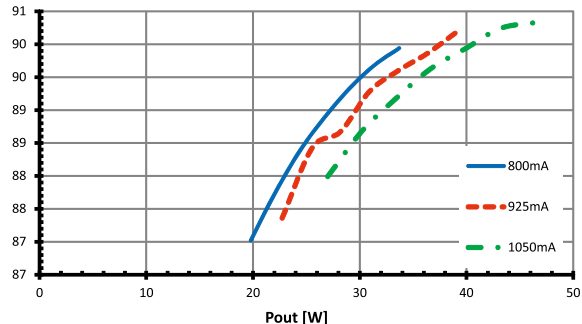
Working area

I_{out} [mA]



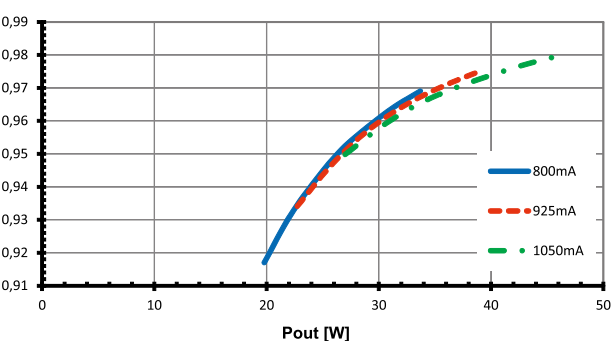
Efficiency

Eff [%]



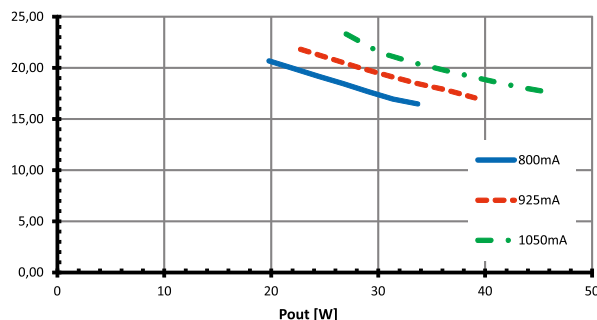
Power factor

PF



Total harmonic factor (THD)

THD [%]



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Safety functions

- Transient mains peaks protection:
Values are in compliance with EN 61547
(interference immunity).
186531, 186532: Surges between L-N: up to 1 kV
186463, 186464: Surges between L-N: up to 500 V
- Short-circuit protection:
The control gear is protected against
permanent short-circuit with automatic restart
function.
- Overload protection: The control gears have overload protection
due to limitation of DC output voltage < 60 V.
Please check before switch-on mains power
supply that the selected LED load is suitable
(see Electrical Characteristics on data sheet).
- Overheating: The control gears have overheating protection.
186531, 186532: In case of overheating the control gear will
shut down. For restart switch of the mains for
1 min. and start again.
186463, 186464: The temperature reduces the output current of
the control gear in the event of overheating.
- 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 not 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

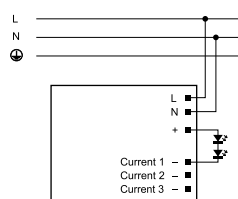
Electrical installation

- Connection terminals: Push-in terminals for rigid or flexible conductors with a section of 0.2–1.5 mm²
- Stripped length: 8.5–10 mm (for 186531, 186532) and 9–10 mm (for 186463, 186464)
- 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 for independent drivers: 1 m

- Polarity: Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- Parallel connection: At secondary side is not allowed.
- Through-wiring: Is not allowed for 186531 and 186532.
For 186463 and 186464 pins for L and N are doubled and internally connected to allow through-wiring.
In case of through-wiring, maximum allowed current per conductor is 10 A.
No. of drivers in such installations is the same as for B/C 10 A automatic cut-outs from the table under "Selection of automatic cut-outs for VS LED drivers".
- 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.

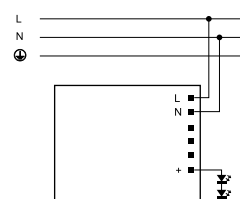
Wiring diagram:

186531, 186532



Selectable current – Terminal 1

186463, 186464



Selectable current – Bridge 1

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).

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Assembly and Safety Information

Selection of automatic cut-outs for VS LED drivers

Type	Ref. No.	Automatic cut-out type and possible no. of VS drivers pcs.		
Automatic cut-out type B		B 10 A	B 16 A	B 20 A
ECXe 500.164	186463	77	123	153
ECXe 700.165	186464	102	163	204
ECXe 700.199	186531	43	69	86
ECXe 1050.200	186532	38	50	61
Automatic cut-out type C		C 10 A	C 16 A	C 20 A
ECXe 500.164	186463	77	123	153
ECXe 700.165	186464	102	163	204
ECXe 700.199	186531	43	69	86
ECXe 1050.200	186532	38	50	61

- 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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