

CC COMPACT DIP SWITCH



EASYLINE DIP SWITCH C HE

187635, 187636, 187637, 187638

Typical Applications

Built-in in compact luminaires for

- Shop lighting
- Office lighting
- Residential lighting
- Downlights



EasyLine DIP switch C HE

- **SELECTABLE OUTPUT CURRENT VIA DIP SWITCH**
- **VERY HIGH EFFICIENCY**
- **VARIOUS CORD GRIPS CAN BE FITTED**
- **SELV**
- **LONG SERVICE LIFE: UP TO 100.000 HRS.**
- **PRODUCT GUARANTEE: 5 YEARS**



EasyLine DIP switch C HE

Product features

- Compact casing shape

Functions

- Selectable current output by DIP switch

Electrical features

- Mains voltage: 220–240 V $\pm 10\%$
- Mains frequency: 50–60 Hz
- Push-in terminals:
rigid 0.5–1.5 mm²
strand 0.75–1.5 mm²
- Power factor at full load: > 0.95
- Open circuit voltage ($U_{max.}$): 60 V
- Secondary side switching of LED modules is not allowed.

Safety features

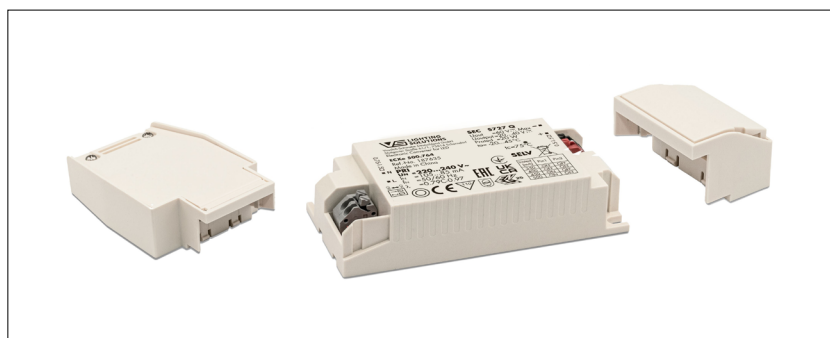
- Protection against transient main peaks up to 1 kV (between L and N)
- Electronic short-circuit protection
- Overload protection
- Degree of protection: IP20
- Protection class II
- SELV
- SVM: < 0.4
- PstLM: < 1

Packaging units

Ref. No.	Packaging unit		
	Pieces per box	Boxes per pallet	Weight g
187635	60	70	70
187636	60	70	70
187637	60	70	75
187638	60	70	75

Product guarantee

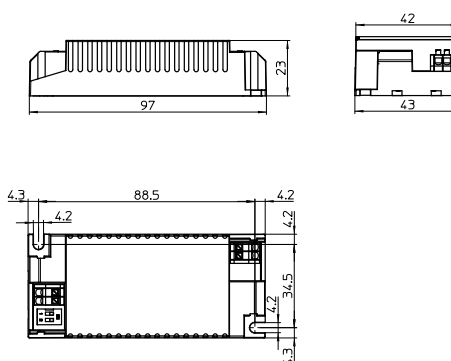
- 5 years
for operation at recommended operation temperature (see table for expected service life time on the next page)
- The conditions for the Product Guarantee of the Vossloh-Schwabe Group shall apply as published on our homepage (www.vossloh-schwabe.com).
We will be happy to send you these conditions upon request.



Dimensions

Ref. No.	Casing	Length mm	Width mm	Height mm
187635, 187636, 187637, 187638	K107	97	43	23

K107



Applied standards

- EN 61347-1
- EN 61347-2-13
- EN 61547
- EN 61000-3-2/EN 61000-3-3
- EN 62384
- EN 55015
- EN 61000-4-2/EN 61000-4-5



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

Cord grip "sl" (screwless) for K107/K110

Available for independent operation

1 Cord-Grip contains one upper and one lower part

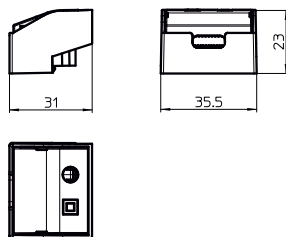
2 cord grips per LED driver required

Permitted diameter of the cable mantle: 3-7mm

2x0.75-1.5mm² PVC cable

Packaging unit: 20 pcs.

Ref. No.: 187450 (1 pcs Cord Grip sl for K107/K110)



Cord grip "ws" (with screw) for K107/K110

Available for independent operation

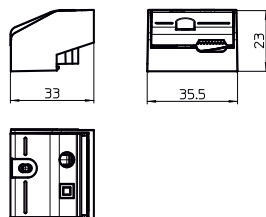
2 cord grips per LED driver required

Permitted diameter of the cable mantle: 3-9mm

2x0.75-1.5mm² PVC cable

Packaging unit: 20 pcs.

Ref. No.: 187451 (1 pcs Cord Grip sl for K107/K110)



Cord grip "LILO" for K107/K110

Available for independent operation

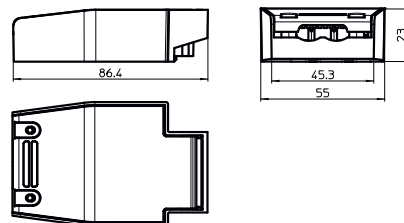
Permitted diameter of the cable mantle: 5-12mm

3x0.75-2.5mm² PVC cable, "E" terminal for protective earth

Only for looping wiring, two cables

Packaging unit: 20 pcs.

Ref.-No.: 187453 (1 pcs LILO(3pin) for K107/K110)



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 ($\pm 5\%$; for 14W $\pm 7,5\%$)	Voltage output DC (V)	THD at full load % (230 V)	Efficiency at full load % (230 V)	Ripple 100 Hz %
20	ECXe 500.764	187635	220–240	105–85	17 / 220	350/400/450/500	20–40	6	93.5	< 3
28	ECXe 700.765	187636	220–240	150–125	17 / 220	550/600/650/700	20–40	7	93.5	< 3
36	ECXe 900.766	187637	220–240	195–165	25 / 300	750/800/850/900	20–40	8	93.5	< 3
42	ECXe 1050.767	187638	220–240	225–190	25 / 300	900/950/1000/1050	20–40	7	94	< 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.		
187635, 187636, 187637	–20	+45	10	90	–40	+85	5	95	+75	IP20
187638									+80	

Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No.			
	187635, 187636, 187637	187638		
All	65 °C*	75 °C	70 °C*	80 °C
hrs.	100.000	50.000	100.000	50.000

* recommended operation temperature

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

DIP switch settings

187635 / ECXe 500.764					
Pin		Output	Current	Voltage	Factory-
1	2	W	mA	V	settings (mA)
OFF	OFF	14	350	20-40	350
OFF	ON	16	400		
ON	OFF	18	450		
ON	ON	20	500		

187636 / ECXe 700.765					
Pin		Output	Current	Voltage	Factory-
1	2	W	mA	V	settings (mA)
OFF	OFF	22	550	20-40	550
OFF	ON	24	600		
ON	OFF	26	650		
ON	ON	28	700		

187637 / ECXe 900.766					
Pin		Output	Current	Voltage	Factory-
1	2	W	mA	V	settings (mA)
OFF	OFF	30	750	20-40	750
OFF	ON	32	800		
ON	OFF	34	850		
ON	ON	36	900		

187638 / ECXe 1050.767					
Pin		Output	Current	Voltage	Factory-
1	2	W	mA	V	settings (mA)
OFF	OFF	36	900	20-40	900
OFF	ON	38	950		
ON	OFF	40	1000		
ON	ON	42	1050		

Product labels

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

ECXe 500.764
Ref.-No. 187635
Made in China

PRI
UN = 220...240 V~
I_N = 105...85 mA
f_N = 50/60 Hz
λ = 0.79C-0.97

SEC S727 Q
U_{out} = 60 V... Max
U_{output} = 20...40 V...
Prated = 20 W
ta = -20...45°C

tc=75°C

SELV

Irated (mA)	Pin1	Pin2
350	OFF	OFF
400	OFF	ON
450	ON	OFF
500	ON	ON

0.75-1.5 □
N
L
OFF 1 2

CE 110 25

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

ECXe 700.765
Ref.-No. 187636
Made in China

PRI
UN = 220...240 V~
I_N = 150...125 mA
f_N = 50/60 Hz
λ = 0.82C-0.97

SEC S727 Q
U_{out} = 60 V... Max
U_{output} = 20...40 V...
Prated = 28 W
ta = -20...45°C

tc=75°C

SELV

Irated (mA)	Pin1	Pin2
550	OFF	OFF
600	OFF	ON
650	ON	OFF
700	ON	ON

0.75-1.5 □
N
L
OFF 1 2

CE 110 25

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

ECXe 900.766
Ref.-No. 187637
Made in China

PRI
UN = 220...240 V~
I_N = 195...165 mA
f_N = 50/60 Hz
λ = 0.79C-0.97

SEC S727 Q
U_{out} = 60 V... Max
U_{output} = 20...40 V...
Prated = 36 W
ta = -20...45°C

tc=75°C

SELV

Irated (mA)	Pin1	Pin2
750	OFF	OFF
800	OFF	ON
850	ON	OFF
900	ON	ON

0.75-1.5 □
N
L
OFF 1 2

CE 110 25

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

ECXe 1050.767
Ref.-No. 187638
Made in China

PRI
UN = 220...240 V~
I_N = 225...190 mA
f_N = 50/60 Hz
λ = 0.82C-0.97

SEC S727 Q
U_{out} = 60 V... Max
U_{output} = 20...40 V...
Prated = 42 W
ta = -20...45°C

tc=80°C

SELV

Irated (mA)	Pin1	Pin2
900	OFF	OFF
950	OFF	ON
1000	ON	OFF
1050	ON	ON

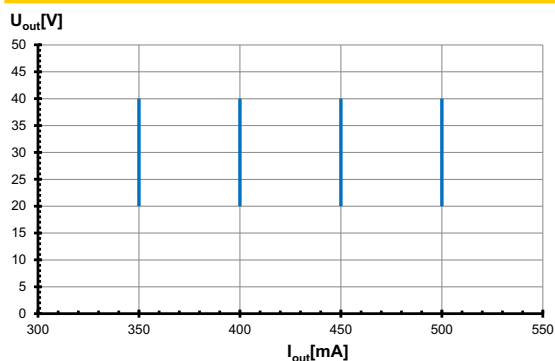
0.75-1.5 □
N
L
OFF 1 2

CE 110 25

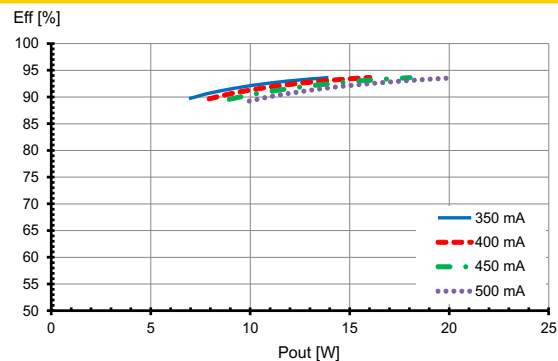
The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

Typ. performance graphs for 187635 / Type ECXe 500.764

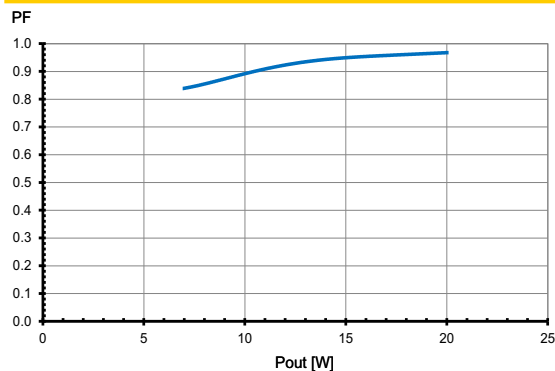
Working area



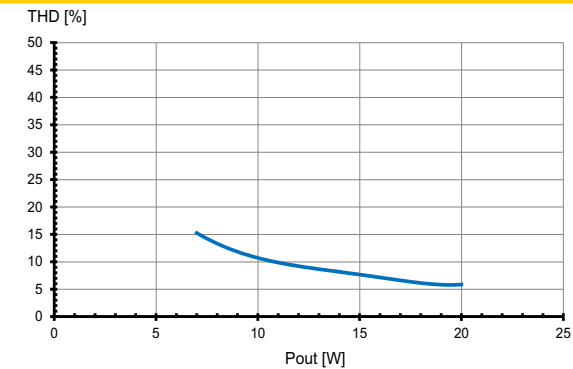
Efficiency



Power factor

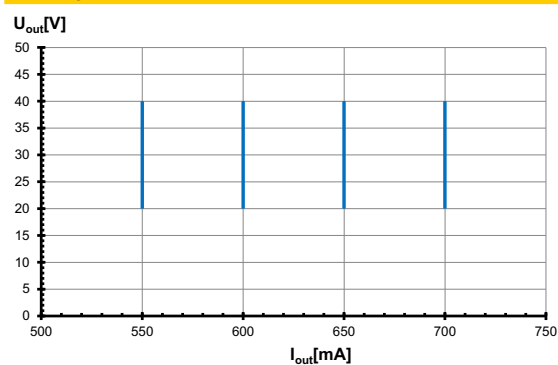


Total harmonic factor (THD)

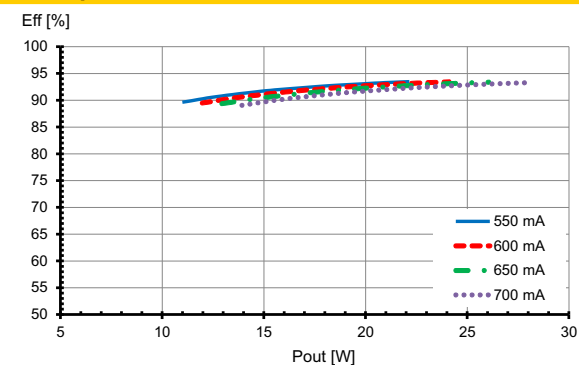


Typ. performance graphs for 187636 / Type ECXe 700.765

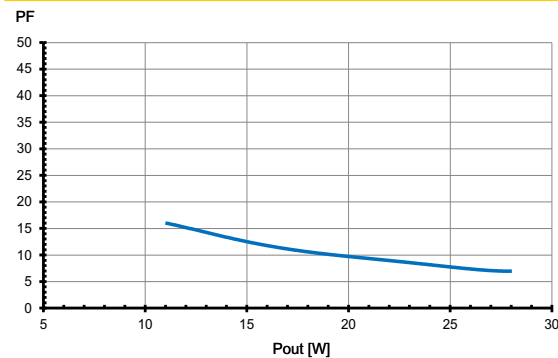
Working area



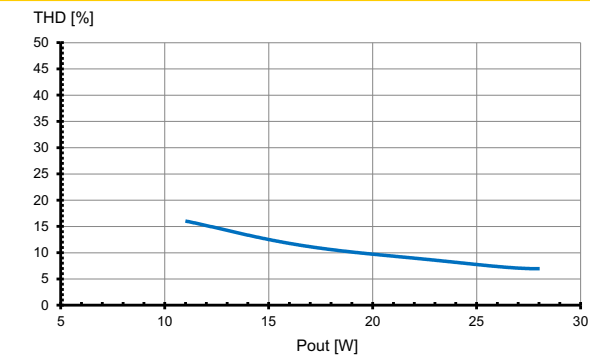
Efficiency



Power factor



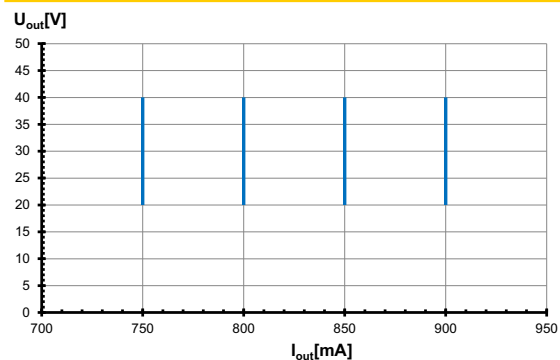
Total harmonic factor (THD)



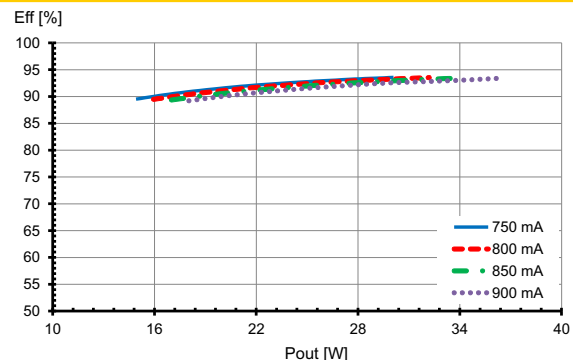
The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

Typ. performance graphs for 187637 / Typ ECXe 900.766

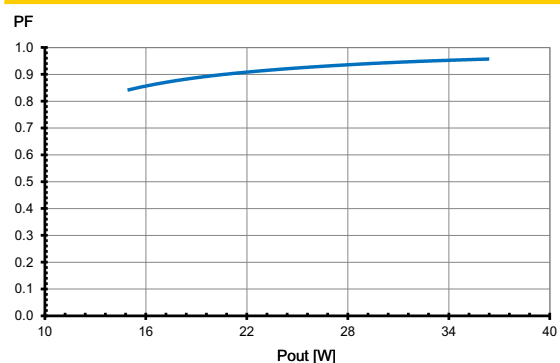
Working area



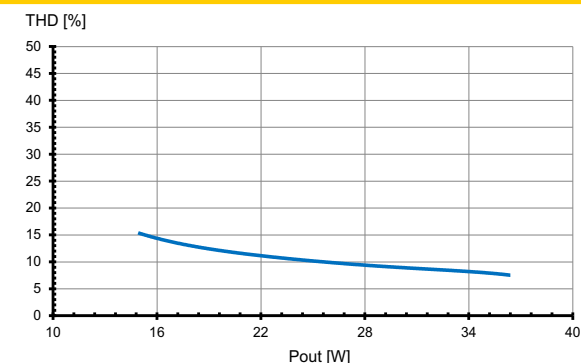
Efficiency



Power factor

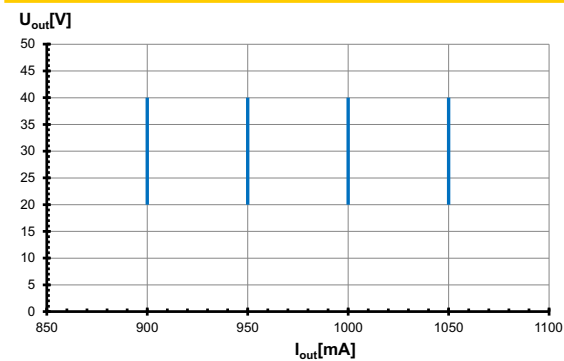


Total harmonic factor (THD)

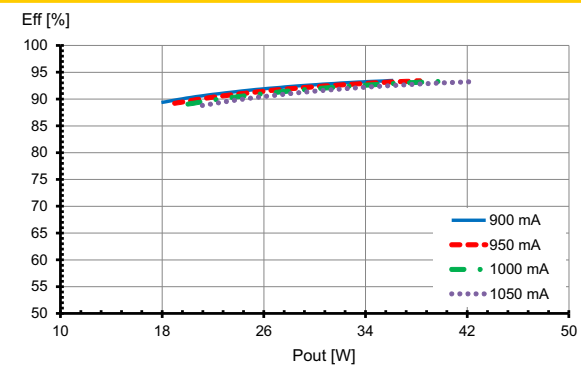


Typ. performance graphs for 187638 / Typ ECXe 1050.767

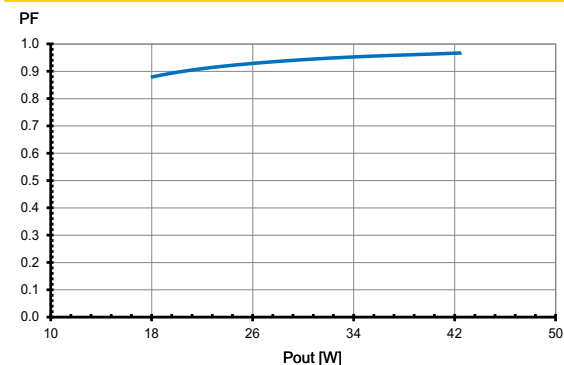
Working area



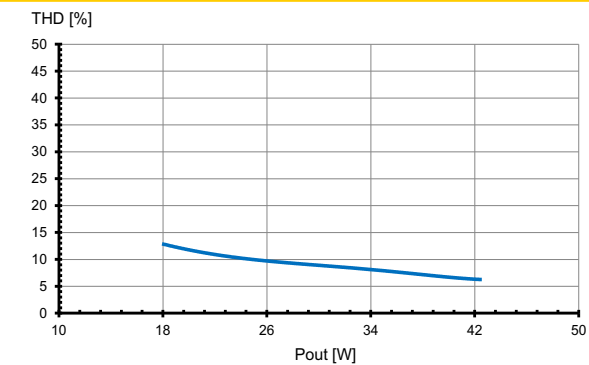
Efficiency



Power factor



Total harmonic factor (THD)



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

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 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.
- 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

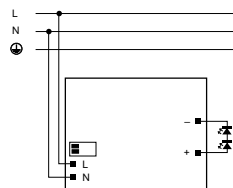
Mechanical mounting

- Mounting position: Built-in: Any position inside a luminaire is allowed
Independent application: Drivers are allowed to use for independent applications with separate 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: Push-in terminals for rigid or flexible conductors with a section of
built-in: 0,5-1,5mm² PVC cable
independent: 0,75-1,5mm² PVC cable
- Stripped length: 7–8 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: 2 m

- Polarity: Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- 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:



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 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 Ω (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 500.764	187635	21	28	34	36	47	58
ECXe 700.765	187636	21	28	34	36	47	58
ECXe 900.766	187637	10	13	17	17	23	28
ECXe 1050.767	187638	10	13	17	17	23	28

- 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.

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