CC COMPACT DIP SWITCH

COMFORTLINE DIP SWITCH C HE

187639, 187640

Typical Applications

Built-in in compact luminaires for

- Shop lighting
- Office lighting
- Residential lighting
- Downlights

ComfortLine DIP switch C HE

- **SELECTABLE OUTPUT CURRENT VIA DIP SWITCH**
- **VERY HIGH EFFICIENCY**
- **SELV**
- **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

LIGHTING SOLUTIONS

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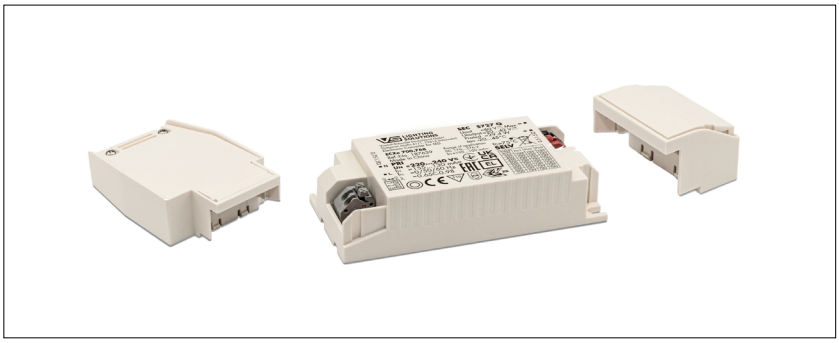
ComfortLine DIP switch C HE



Product features
- Compact casing shape

Functions
- Selectable current output by DIP switch
- 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, 0 Hz
- DC Operation: 176-276 V (range of application)
- 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

Ref. No.	Packaging unit		
	Pieces per box	Boxes per pallet	Weight g
187639	60	70	75
187640	60	70	80

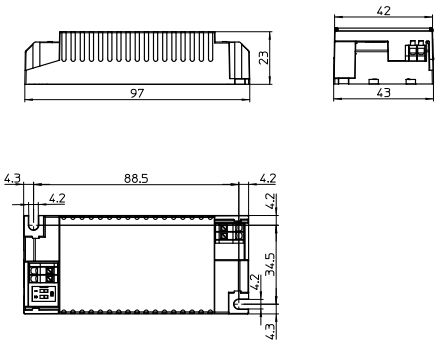
Product guarantee
- 5 years
  for operation at recommended operation temperature (see table for expected service life time on the next page)
- The conditions for the Product Guarantee of the Vossloh-Schwabe Group shall apply as published on our homepage (www.vossloh-schwabe.com).
  We will be happy to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

IP20 · SELV · 110 · OVERLOAD PROTECTION · 50 000 hours Min. Service Lifetime · Guarantee 5 years · EL

Dimensions

Ref. No.	Casing	Length mm	Width mm	Height mm
187639, 187640	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

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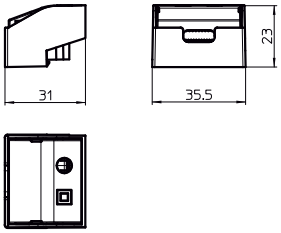
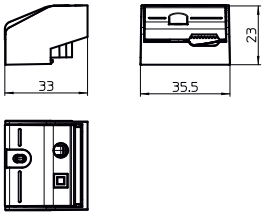
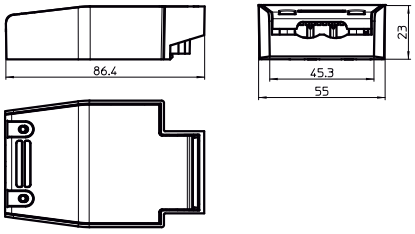
Cord grip "sl" (screwless) for K107/K110
Available for independent operation
1 Cord-Grip contains one upper and one lower part
2 cord grips per LED driver required
Permitted diameter of the cable mantle: 3-7mm
2x0.75-1.5mm² PVC cable
Packaging unit: 20 pcs.
Ref. No.: 187450 (1pcs Cord Grip sl for K107/K110)



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 (1pcs 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 (1pcs LILO(3pin) for K107/K110)



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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%; for 14W ± 7,5%)	Voltage output DC (V)	THD at full load % (230 V)	Efficiency at full load % (230 V)	Ripple 100 Hz %
30	ECXe 700.768	**187639**	220–240	155-130	18.8 / 236	350/400/450/500/ 550/600/650/700	20-42	6	93.5	< 3
44	ECXe 1050.769	**187640**	220–240	230-190	24.8 / 268	700/750/800/850/ 900/950/1000/1050	20-42	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 °C min.	°C max.	Operation humidity range % min.	% max.	Storage temperature range °C min.	°C max.	Storage humidity range % min.	% max.	Max. operation temperature at t_c point °C	Degree of protection
187639	–20	+45	10	90	–40	+85	5	95	+75	IP20
187640									+80	

Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No. 187639		187640	
All	65 °C*	75 °C	70 °C*	80 °C
hrs.	100.000	50.000	100.000	50.000

* recommended operation temperature

DIP switch settings

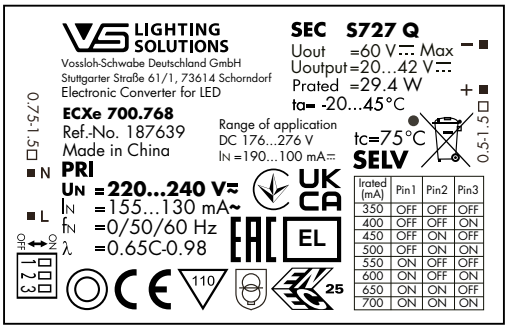
187639 / ECXe 700.768

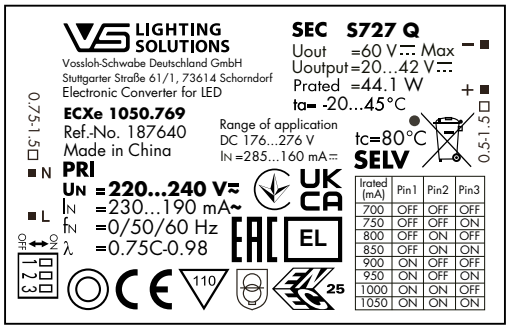
Pin 1	2	3	Output W	Current mA	Voltage V	Factory-settings (mA)
OFF	OFF	OFF	15	350	20-42	350
OFF	OFF	**ON**	17	400		
OFF	**ON**	OFF	19	450		
OFF	**ON**	**ON**	21	500		
ON	OFF	OFF	23	550		
ON	OFF	**ON**	25	600		
ON	**ON**	OFF	27	650		
ON	**ON**	**ON**	29	700		

187640 / ECXe 1050.769

Pin 1	2	3	Output W	Current mA	Voltage V	Factory-settings (mA)
OFF	OFF	OFF	29	700	20-42	700
OFF	OFF	**ON**	31.5	750		
OFF	**ON**	OFF	34	800		
OFF	**ON**	**ON**	36	850		
ON	OFF	OFF	38	900		
ON	OFF	**ON**	40	950		
ON	**ON**	OFF	42	1000		
ON	**ON**	**ON**	44	1050		

Product labels





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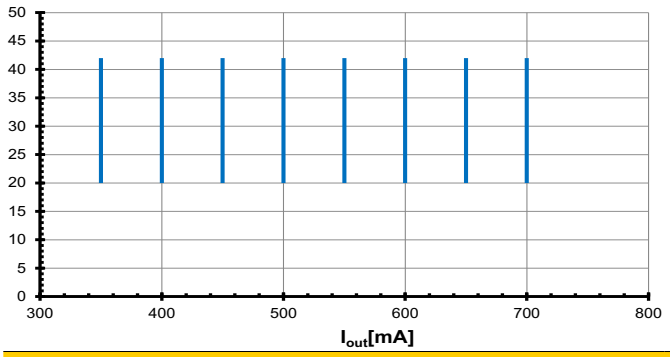
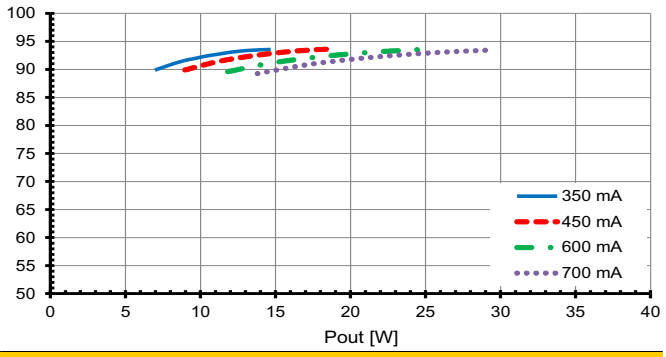
Typ. performance graphs for 187639 / Type ECXe 700.768

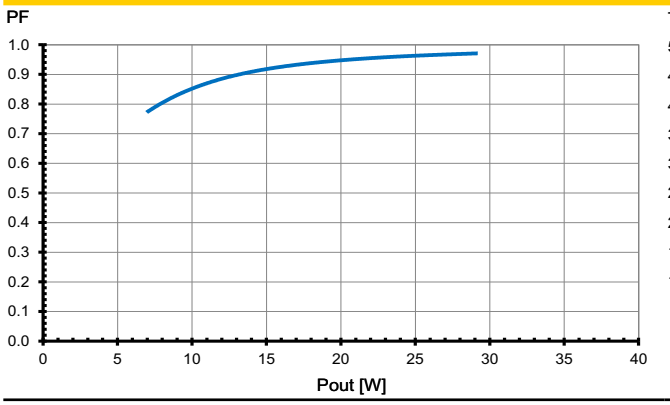
Working area



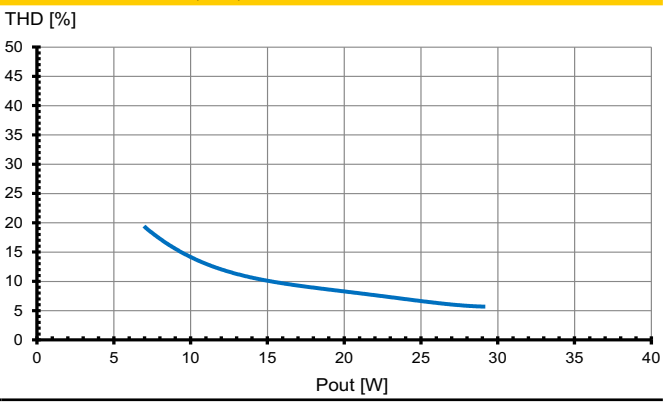
Efficiency



Power factor

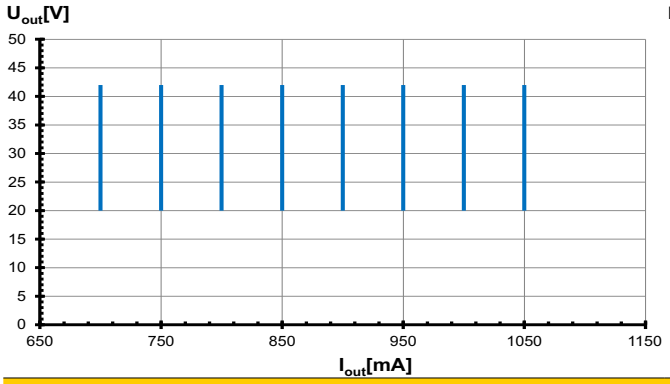


Total harmonic factor (THD)

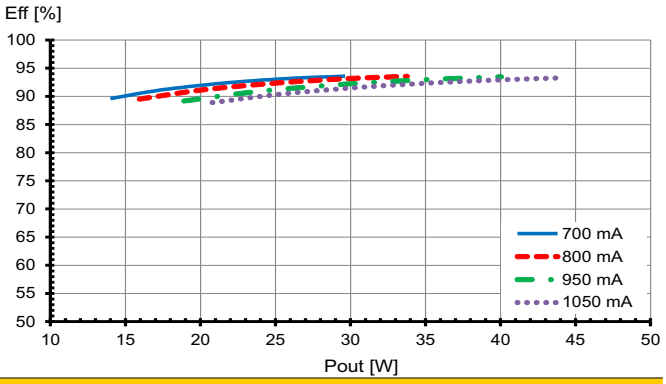


Typ. performance graphs for 187640 / Type ECXe 1050.769

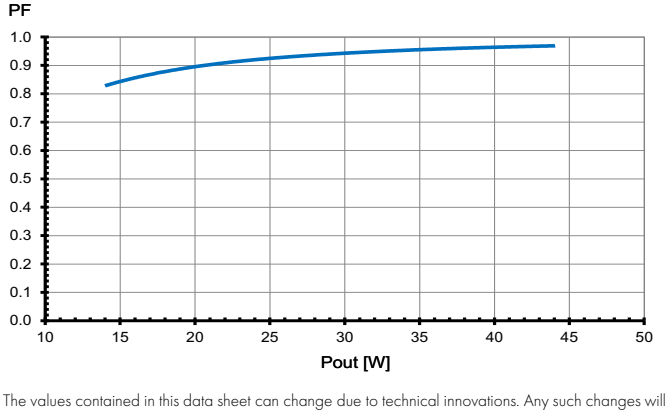
Working area



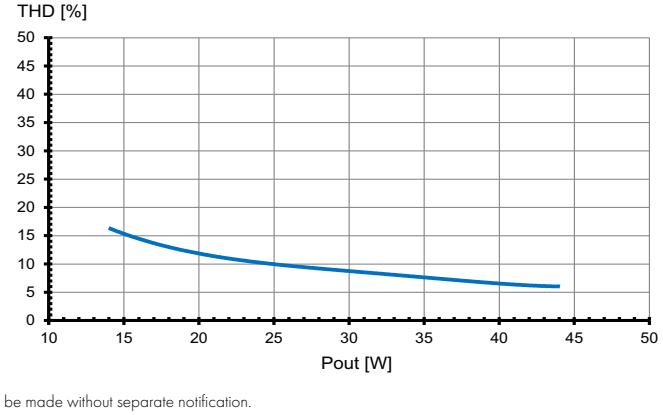
Efficiency



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 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.

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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

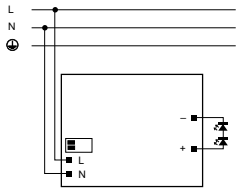
- DIN VDE 0100
- EN 60598-1

Mechanical mounting

- Mounting position: Built-in: Any position inside a luminaire is allowed
  Independent application: Drivers are 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 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
ECXe 700.768	**187639**	18	23	29	30	39	48
ECXe 1050.769	**187640**	12	15	19	20	26	32

– 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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