

CC COMPACT DIP SWITCH DIMMABLE



EasyLine DIP SWITCH C-PC

187299, 187271, 187300, 187272

Typical Applications

Built-in in compact luminaires for

- Retail lighting
- Downlights
- Residential lighting



EasyLine DIP Switch C-PC

- **DIMMABLE: PHASE-CUT TRAILING-EDGE**
- **DIMMING METHOD: ANALOGUE**
- **WITH INTEGRATED CORD GRIP FOR INDEPENDENT OPERATION**
- **SELV**
- **LONG SERVICE LIFE: UP TO 50,000 HRS.**
- **PRODUCT GUARANTEE: 5 YEARS**



EasyLine DIP Switch C-PC

Product features

- Compact casing shape

Electrical features

- Mains voltage: 220–240 V $\pm 10\%$
- Mains frequency: 50–60 Hz
- Push-in terminals primary: 0.5–1.5 mm², secondary: 0.5–1.5 mm²
- Power factor at full load: > 0.9
- Open circuit voltage (U_{max.}): 60 V
- Secondary side switching of LED modules is not allowed.

Dimming

- Dimmable with phase-cutting trailing-edge dimmer
- The compatibility of the driver and the dimmer has to be confirmed prior to installation to avoid flickering and/or noises.
- Dimming range: 10–100%
- If no dimming interface is connected, brightness will stay at 100%.

Safety features

- Protection against transient main peaks up to 1 kV (between L and N) or 0.5 kV
- Electronic short-circuit protection
- Overload protection
- Protection against "no load" operation
- Degree of protection: IP20
- Protection class II
- SELV

Packaging units

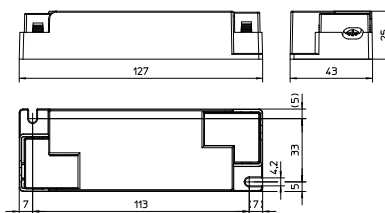
Ref. No.	Packaging unit		
	Pieces per box	Boxes per pallet	Weight g
187299, 187271	20	231	71
187300	20	196	88
187272	20	196	104



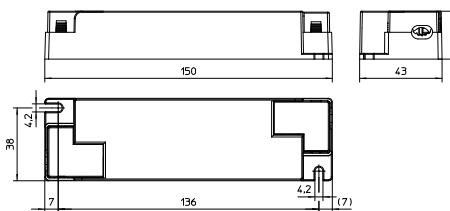
Dimensions

Ref. No.	Casing	Length mm	Width mm	Height mm
187299, 187271	K97	127	43	25
187300, 187272	K93	150	43	25

K97



K93



Applied standards

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



Dimming

Analogue



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 at full load % (230 V)	Efficiency at full load % (230 V)	Ripple 100 Hz %
6	ECXd 150.604	187299	220–240	37–33	3 / 35	100; 150	20–42	14	80	< 2
10	ECXd 250.597	187271	220–240	62–56	3 / 36	200; 250	20–42	10	80	< 2
15	ECXd 350.605	187300	220–240	85–78	5 / 28	300; 350	20–42	9	82	< 2
30	ECXd 700.598	187272	220–240	156–142	6 / 39	500; 700	20–42	12	85	< 2

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.		
187299, 187271, 187300, 187272	-15	+45	20	60	-40	+80	5	95	+85	IP20

Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No. 187299, 187271, 187300, 187272	
All	75 °C*	85 °C
hrs.	50,000	30,000

* recommended operation temperature

DIP switch settings

Ref. No.	PIN 1	Output W	Current mA	Factory settings mA
187299	ON	6	150	150
	OFF	4	100	
187271	ON	10	250	250
	OFF	8	200	
187300	ON	15	350	350
	OFF	13	300	
187272	ON	30	700	700
	OFF	21	500	

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LED Drivers – EasyLine DIP Switch C-PC





Product labels


VS LIGHTING SOLUTIONS SELV RoHS + ■


Vossloh-Schwabe Deutschland GmbH
Stuttgarter Straße 61/1, 73614 Schorndorf • tc - ■

Electronic Converter for LED

Type ECXd 250.597    

■ N Ref.-No. 187271    
Made in China





■ L **PRI** **UN = 220-240VAC** **SEC**
In = ON 58mA/OFF 46mA **Irated = ON 250 mA**
fN = 50/60 Hz **OFF 200mA**
λ = 0,9C  **U** = 20...42V ~
ta = -15...45°C **Umax** = 60 V
tc = 85°C **Prated** = 10 W








VS LIGHTING SOLUTIONS SELV RoHS + ■


Vossloh-Schwabe Deutschland GmbH
Stuttgarter Straße 61/1, 73614 Schorndorf • tc - ■

Electronic Converter for LED

Type ECXd 150.604    

■ N Ref.-No. 187299    
Made in China





■ L **PRI** **UN = 220-240VAC** **SEC**
In = ON 35mA/OFF 24mA **Irated = ON 150 mA**
fN = 50/60 Hz **OFF 100mA**
λ = 0,9C  **U** = 20...42V ~
ta = -15...45°C **Umax** = 60 V
tc = 85°C **Prated** = 6 W




VS LIGHTING SOLUTIONS SELV RoHS + ■


Vossloh-Schwabe Deutschland GmbH
Stuttgarter Straße 61/1, 73614 Schorndorf • tc - ■

Electronic Converter for LED

Type ECXd 700.598     - ■

■ L Ref.-No. 187272 **SELV RoHS**
Made in China • tc





■ N **PRI** **UN = 220-240VAC** **SEC**
In = ON 150mA/OFF 110mA **Irated = ON 700 mA**
fN = 50/60 Hz **OFF 500mA**
λ = 0,9C  **U** = 20...42V ~
ta = -15...45°C **Umax** = 60 V
tc = 85°C **Prated** = 30 W




VS LIGHTING SOLUTIONS SELV RoHS + ■


Vossloh-Schwabe Deutschland GmbH
Stuttgarter Straße 61/1, 73614 Schorndorf • tc - ■

Electronic Converter for LED

Type ECXd 350.605     - ■

■ L Ref.-No. 187300 **SELV RoHS**
Made in China • tc

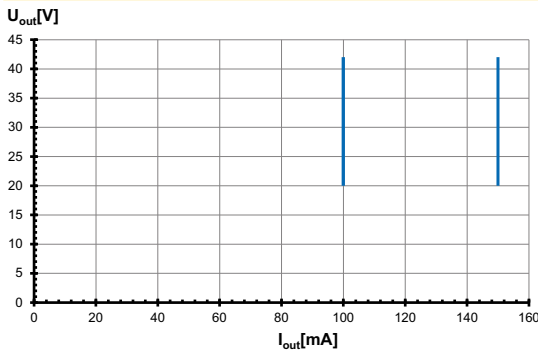
■ N **PRI** **UN = 220-240VAC** **SEC**
In = ON 80mA/OFF 70mA **Irated = ON 350 mA**
fN = 50/60 Hz **OFF 300mA**
λ = 0,9C  **U** = 20...42V ~
ta = -15...45°C **Umax** = 60 V
tc = 85°C **Prated** = 15 W



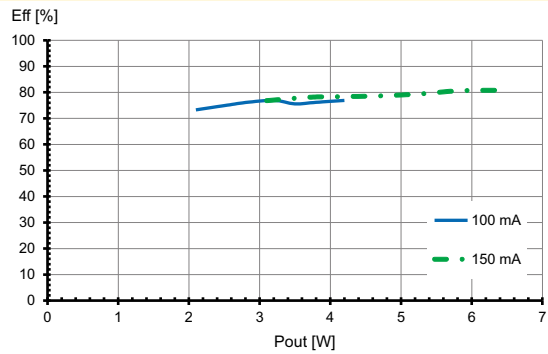
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Typ. performance graphs for 187299 / Type ECXd 150.604

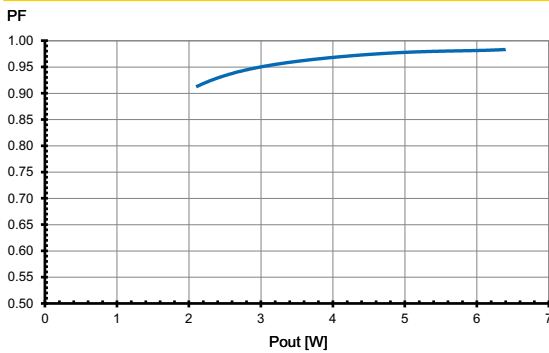
Working area



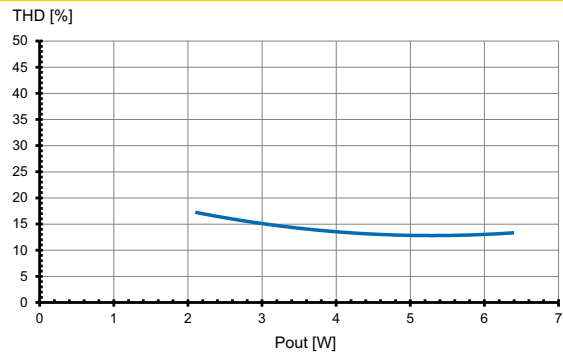
Efficiency



Power factor

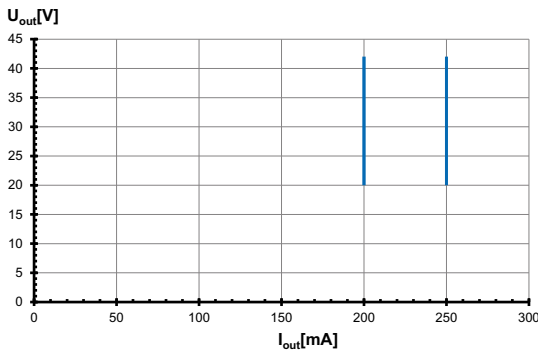


Total harmonic factor (THD)

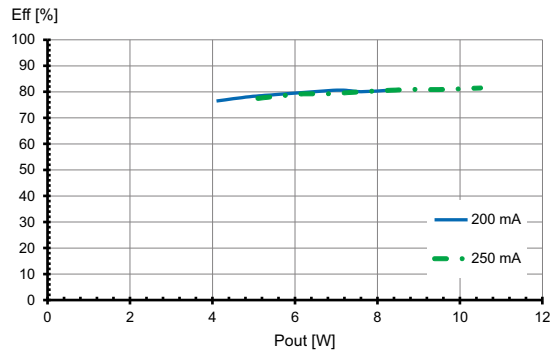


Typ. performance graphs for 187271 / Type ECXd 250.597

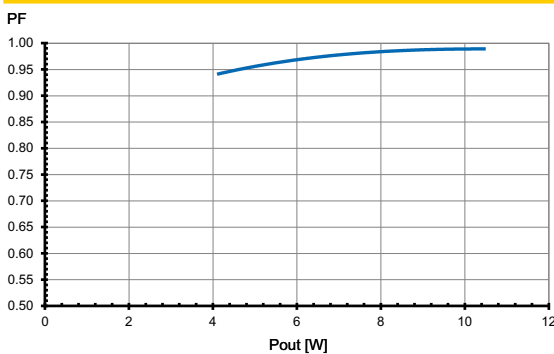
Working area



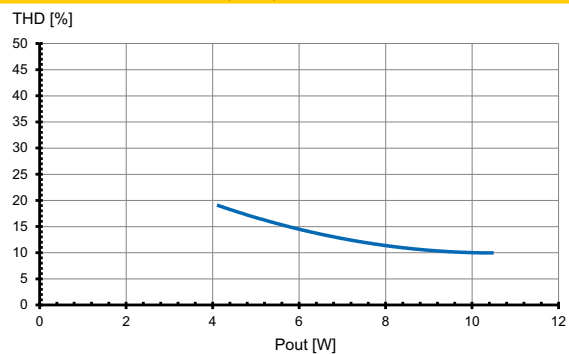
Efficiency



Power factor



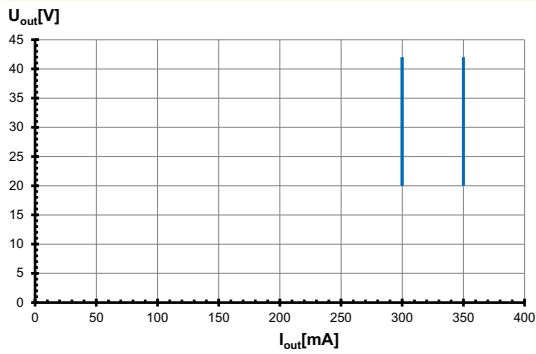
Total harmonic factor (THD)



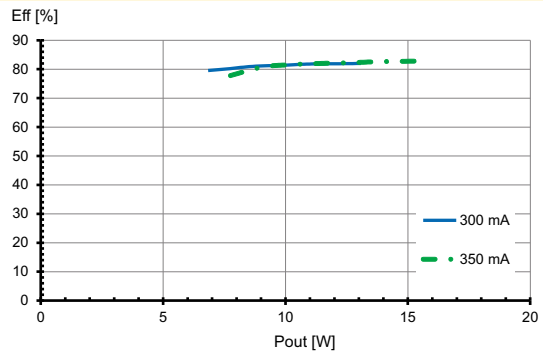
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Typ. performance graphs for 187300 / Type ECXd 350.605

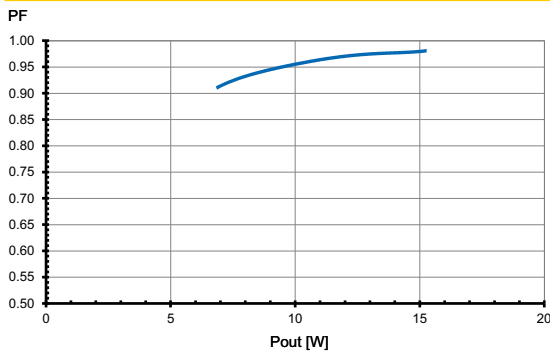
Working area



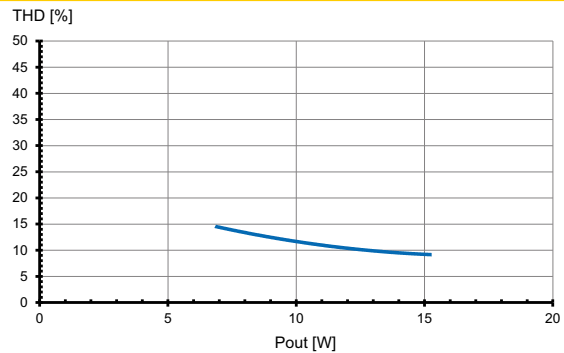
Efficiency



Power factor

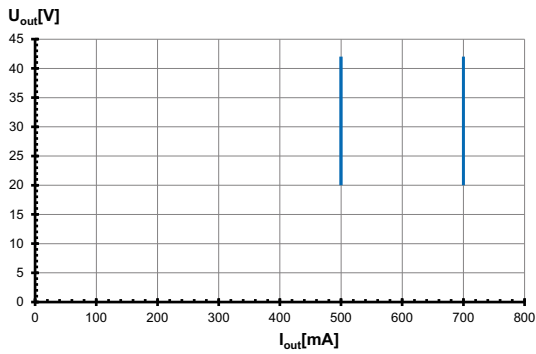


Total harmonic factor (THD)

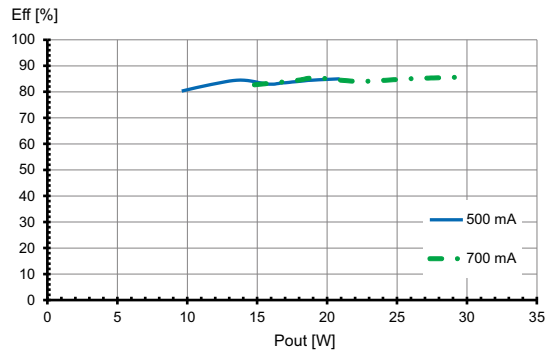


Typ. performance graphs for 187272 / Type ECXd 700.598

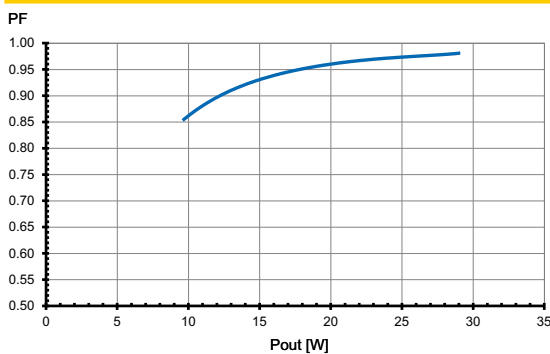
Working area



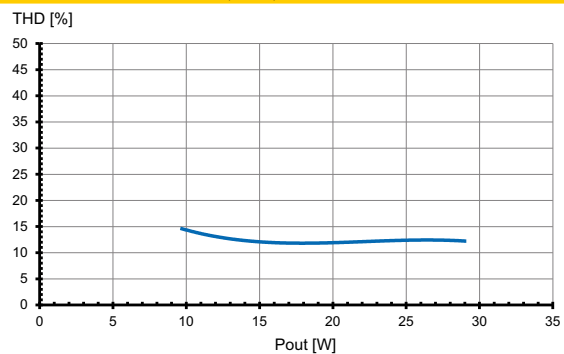
Efficiency



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: Control gears are protected against short-term short-circuit
- Overload protection: Control gears only work in range of rated output power and voltage problemfree (< 60 V DC).
Please check before switch-on mains power supply that the selected LED load is suitable (see Electrical Characteristics on data sheet).
- No load operation: Control gears are 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.

List of compatible dimmers

Manufacturer	Dimmer type
VADSBO	VD300
Schneider Electric	SBD200LED
VADSBO	VD100
Elko	GLE315
Busch-Jaeger Elektro GmbH	ABB6523

Minimum dimmer load has to be observed.
The compatibility of the dimmers of other manufacturers has to be tested prior to installation.

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

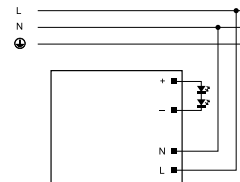
Mechanical mounting

- Mounting position: Independent application: Drivers are allowed to use for independent applications
- 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: Push-in terminals for rigid or flexible conductors with a section of primary: 0.5–1.5 mm², secondary: 0.5–1.5 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.
Max. secondary side lead length: 3 m
- 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.
- 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, 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
ECXd 150.604	187299	243	317	390	243	317	390
ECXd 250.597	187271	142	185	228	142	185	228
ECXd 350.605	187300	104	135	166	104	135	166
ECXd 700.598	187272	58	76	94	58	76	94

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