CC COMPACT DIP SWITCH DIMMABLE

COMFORTLINE DIP SWITCH C DALI2-BASIC

187439, 187440, 187441, 187442, 187475, 187443

Typical Applications

Built-in in compact luminaires for

- Shop lighting
- Office lighting
- Residential lighting
- Downlights

EasyLine DIP switch C-R1

- **SELECTABLE OUTPUT CURRENT VIA DIP SWITCH**
- **DIMMABLE: DALI (ED.2)**
- **VARIOUS CORD GRIPS CAN BE FITTED**
- **SELV**
- **LONG SERVICE LIFE: UP TO 100.000 HRS.**
- **PRODUCT GUARANTEE: 5 YEARS**

5 YEARS GUARANTEE

LIGHTING SOLUTIONS

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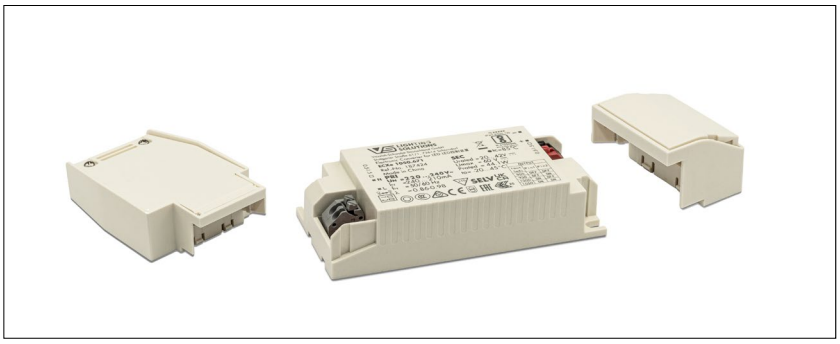
ComfortLine DIP switch C DALI2-Basic



Product features
- Compact casing shape

Functions
- Selectable current output by dip-switch

Electrical features
- Mains voltage: 220–240 V ±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.

Dimming
- Dimming range: 1 to 100%
  (3-100% for 187439 at 350/500/550mA)

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
187439	20	200	70
187440	20	200	70
187441	20	200	87
187442	20	200	90
187475	20	200	140
187443	20	200	140

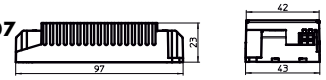
Product guarantee
- 5 years
  for operation at recommended operation temperature (see table for expected service life time on the next page)
- The conditions for the Product Guarantee of the Vossloh-Schwabe Group shall apply as published on our homepage (www.vossloh-schwabe.com).
  We will be happy to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

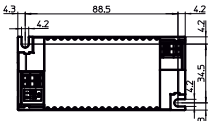
Dimming
Analogue

Dimensions

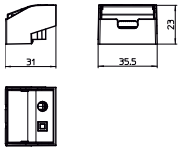
Ref. No.	Casing	Length mm	Width mm	Height mm
ALL	K107	97	43	23

K107

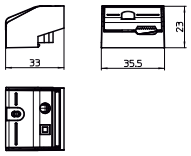




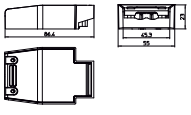
Cord grip "sl" for K107
Available for independent operation
1 Cord-Grip contains one upper and one lower part
Available separately
2 cord grips per LED driver required
Permitted diameter of the cable mantle: 3-7mm
Packaging unit: 20 pcs.
Ref. No.: 187450 (1pcs Cord Grip sl for K107)



Cord grip "ws" for K107
Available for independent operation
Available separately
2 cord grips per LED driver required
Permitted diameter of the cable mantle: 3-9mm
Packaging unit: 20 pcs.
Ref. No.: 187451 (1pcs Cord Grip ws for K107)



Cord grip "LILO" for K107
Available for independent operation
Available separately
Permitted diameter of the cable mantle: 5-12mm
Packaging unit: 20 pcs.
Best.-Nr.: 187452 (1pcs LILO(5pin) for 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
- IEC 62386 ed.2 part 101/102/207

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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 %
14	ECXd 700.674	**187439**	220–240	86–65	14/254	350/500/550/700	6-20	15	84	<5
17	ECXd 400.675	**187440**	220–240	100–75	15/234	250/300/350/400	20-42	13	87	<5
25	ECXd 600.676	**187441**	220–240	140–110	16/238	450/500/550/600	20-42	15	89	<5
33	ECXd 800.677	**187442**	220–240	185–165	24/240	650/700/750/800	20-42	11	89	<5
40	ECXd 800.693	**187475**	220–240	215–180	24/240	500/600/700/800	30-50	11	89	<5
44	ECXd 1050.678	**187443**	220–240	240–200	24/240	900/950/1000/1050	20-42	10	89	<5

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
187439, 187440, 187441, 187442	–20	+45	10	90	–40	+85	5	95	+75	IP20
187475, 187443	–20	+45	10	90	–40	+85	5	95	+85	IP20

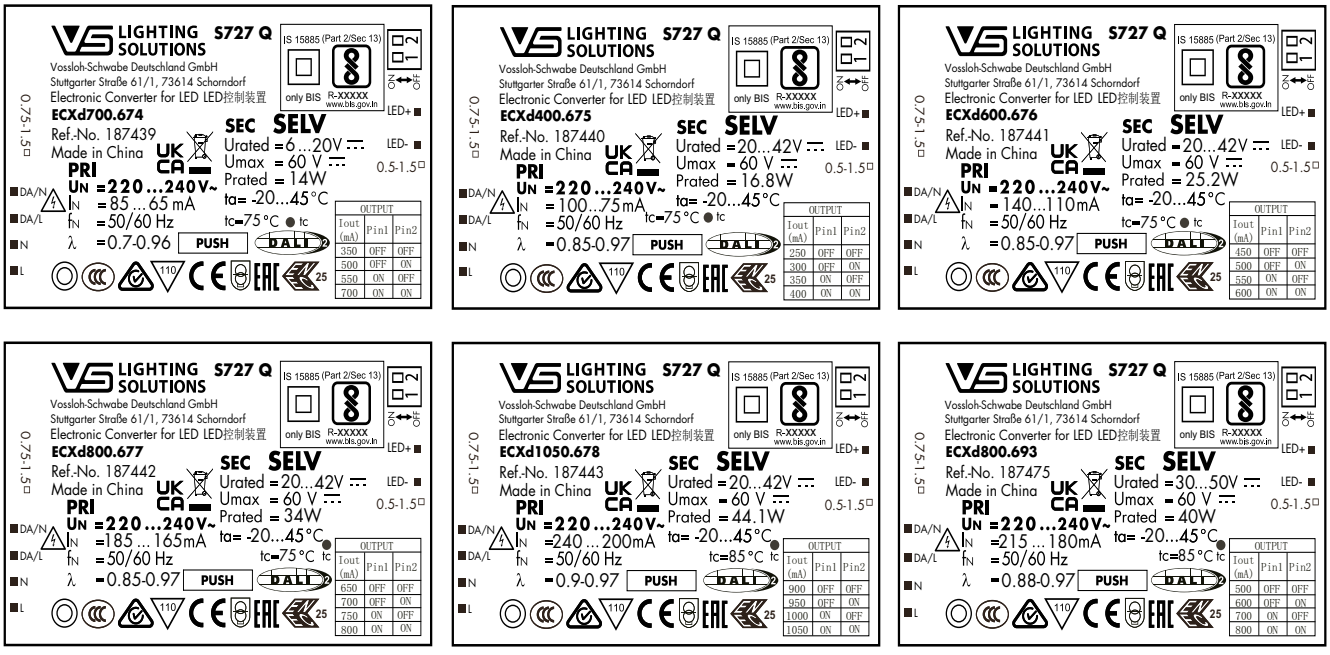
Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No. **187439, 187440, 187441, 187442**		**187475, 187443**	
All	65 °C*	75 °C	75 °C*	85 °C
hrs.	100.000	50.000	100.000	50.000

* recommended operation temperature

Product labels



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DIP switch settings

187439 / ECXd 700.674					
Pin 1	Pin 2	Output W	Current mA	Voltage V	Factory-settings (mA)
OFF	OFF	7	350	6-20	350
OFF	**ON**	10	500		
ON	OFF	11	550		
ON	**ON**	14	700		

187440/ ECXd 400.675					
Pin 1	Pin 2	Output W	Current mA	Voltage V	Factory-settings (mA)
OFF	OFF	10,5	250	20-42	250
OFF	**ON**	12,6	300		
ON	OFF	14,7	350		
ON	**ON**	16,8	400		

187441 / ECXd 600.676					
Pin 1	Pin 2	Output W	Current mA	Voltage V	Factory-settings (mA)
OFF	OFF	18,9	450	20-42	450
OFF	**ON**	21,0	500		
ON	OFF	23,1	550		
ON	**ON**	25,2	600		

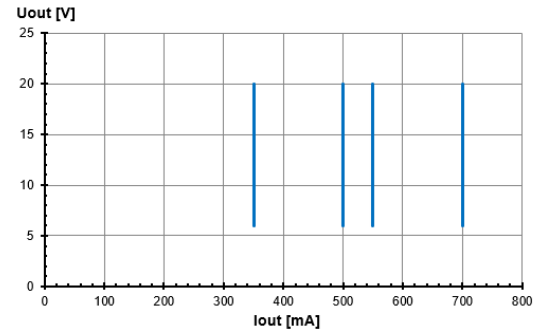
187442/ ECXd 800.677					
Pin 1	Pin 2	Output W	Current mA	Voltage V	Factory-settings (mA)
OFF	OFF	27,3	650	20-42	650
OFF	**ON**	29,4	700		
ON	OFF	31,5	750		
ON	**ON**	33,6	800		

187475/ ECXd 800.693					
Pin 1	Pin 2	Output W	Current mA	Voltage V	Factory-settings (mA)
OFF	OFF	30	500	30-50	500
OFF	**ON**	30	600		
ON	OFF	35	700		
ON	**ON**	40	800		

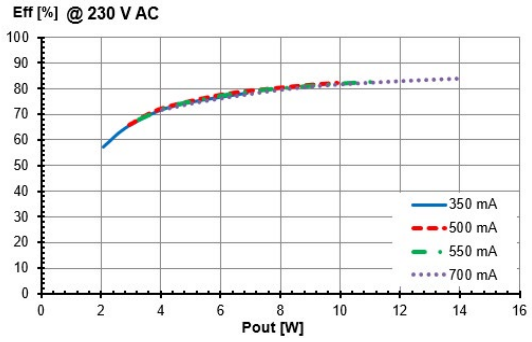
187443/ ECXd 1050.678					
Pin 1	Pin 2	Output W	Current mA	Voltage V	Factory-settings (mA)
OFF	OFF	37,8	900	20-42	900
OFF	**ON**	39,9	950		
ON	OFF	42	1000		
ON	**ON**	44,1	1050		

Typ. performance graphs for 187439 / ECXd 700.674

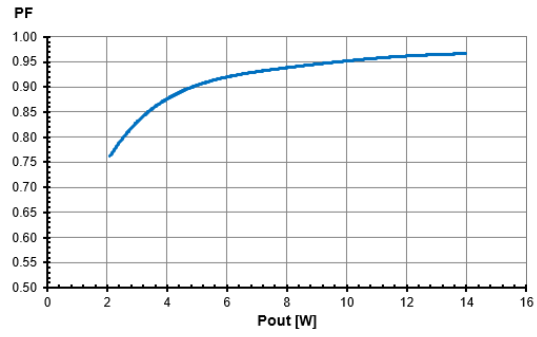
Working area



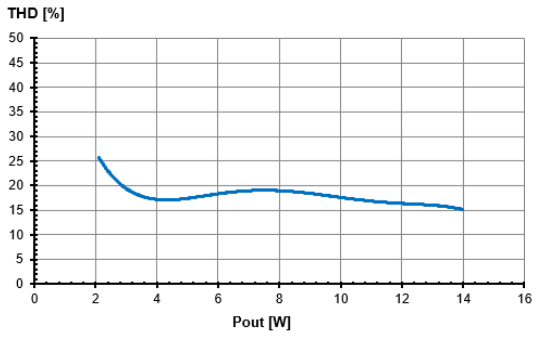
Efficiency



Power factor



Total harmonic factor (THD)



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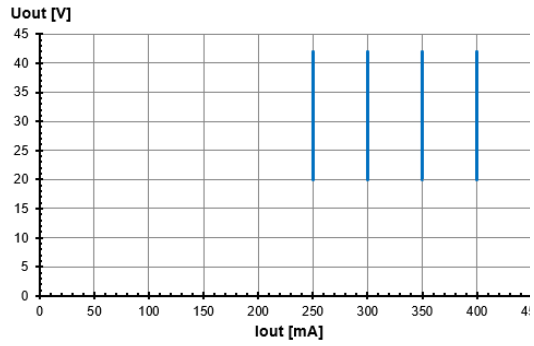
Typ. performance graphs for 187440/ ECXd 400.675

Working area



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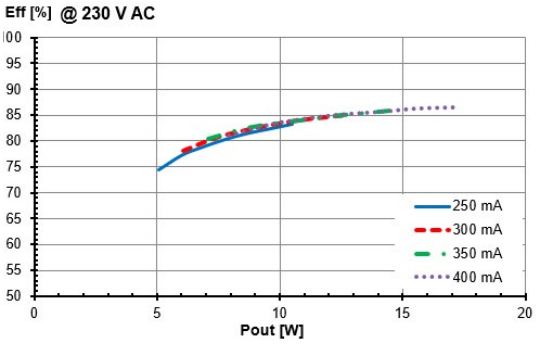
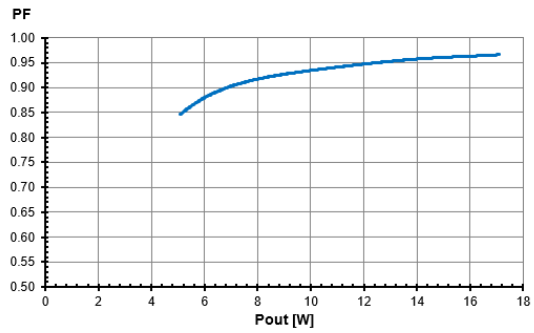
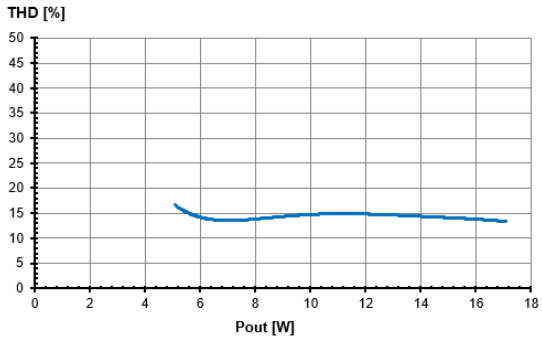


Power factor

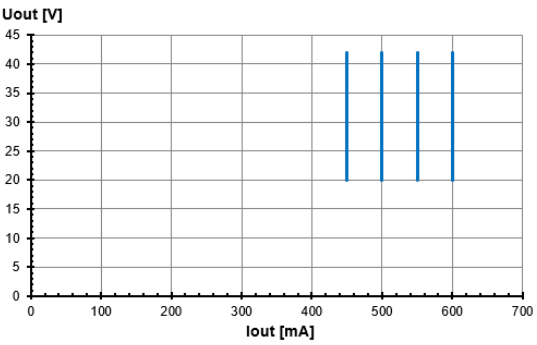


Total harmonic factor (THD)

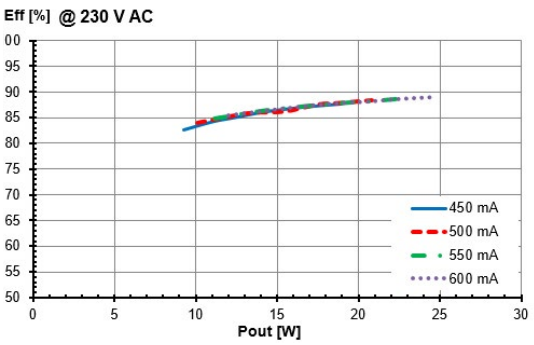


Typ. performance graphs for 187441 / ECXd 600.676

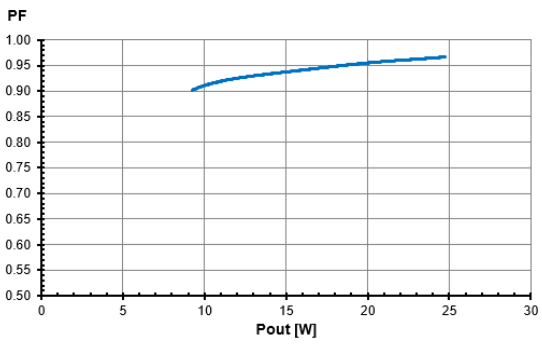
Working area



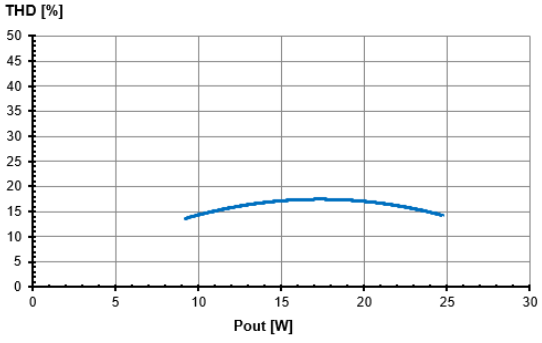
Efficiency



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.

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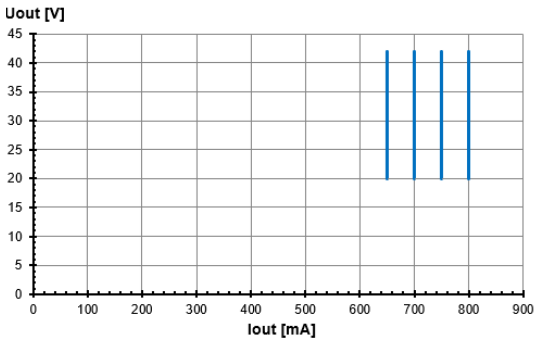
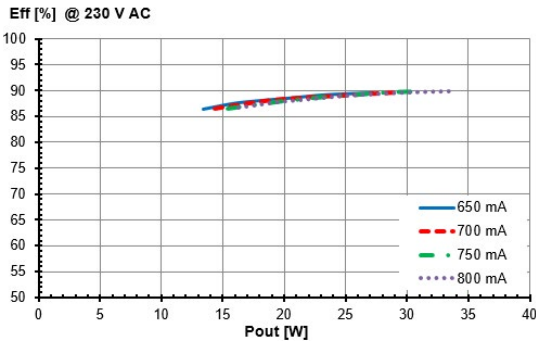
Typ. performance graphs for 187442/ ECXd 800.677

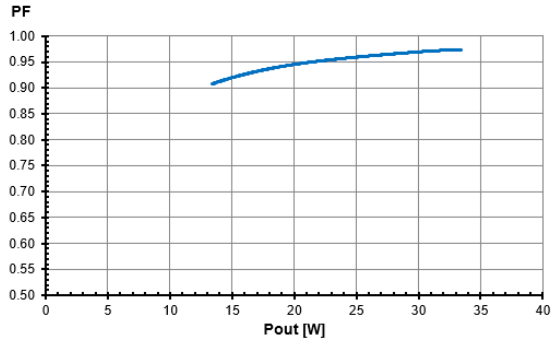
Working area



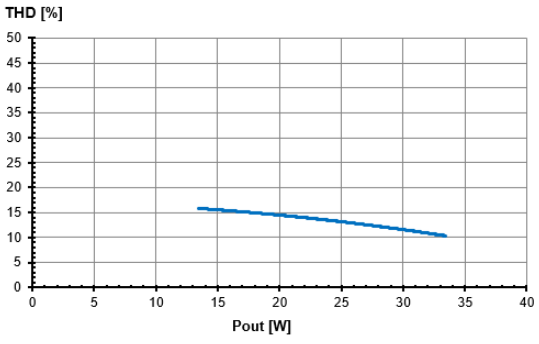
Efficiency



Power factor

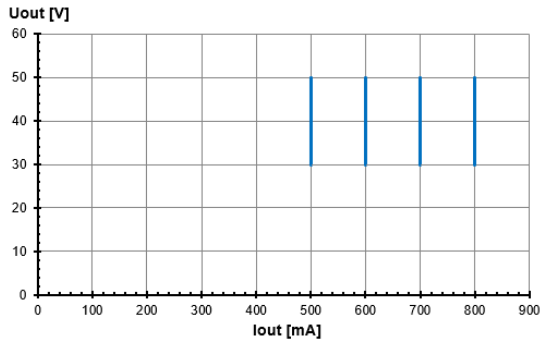


Total harmonic factor (THD)



Typ. performance graphs for 187475/ ECXd 800.693

Working area



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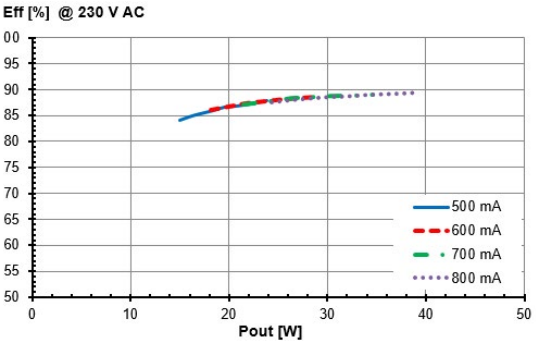
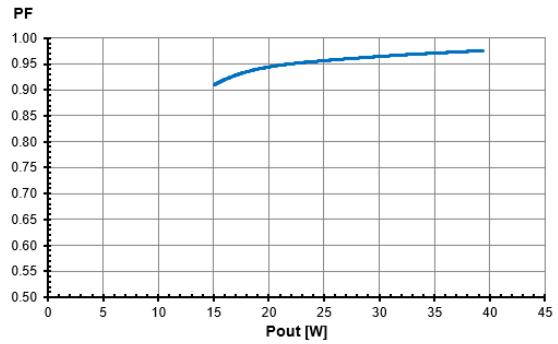
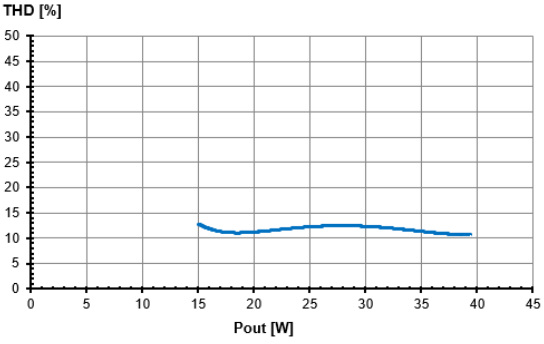


Power factor



Total harmonic factor (THD)



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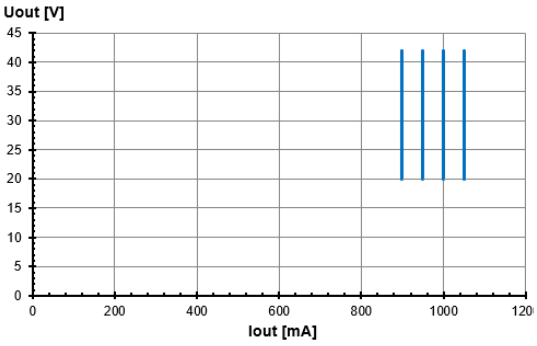
TTyp. performance graphs 187443/ ECXd 1050.678

Working area



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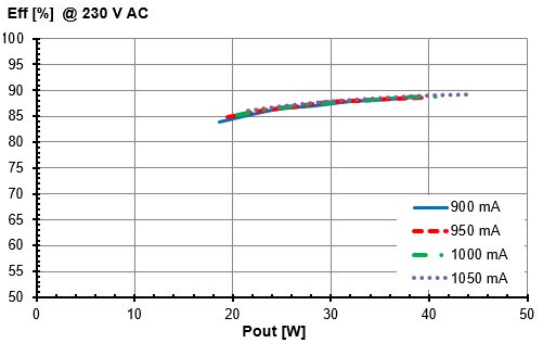
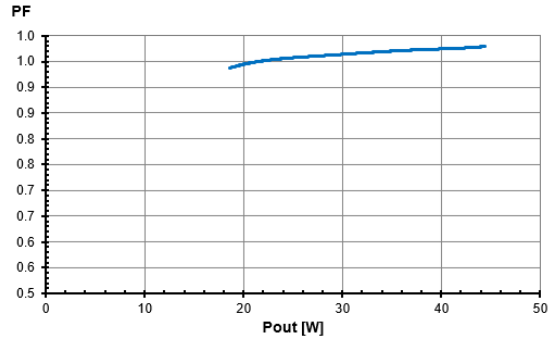
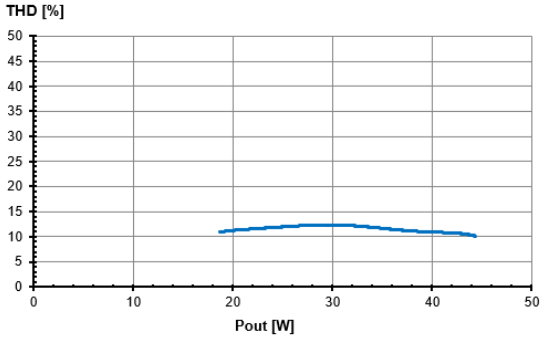


Power factor



Total harmonic factor (THD)



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 (< 60 V DC).
  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.
  In case of overheating (Tc max. + approx. 10°) the output current of the control gear will be reduced to 30%. After the temperature will drop below the critical temperature value, the output current rises again to the previously set value.
- 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

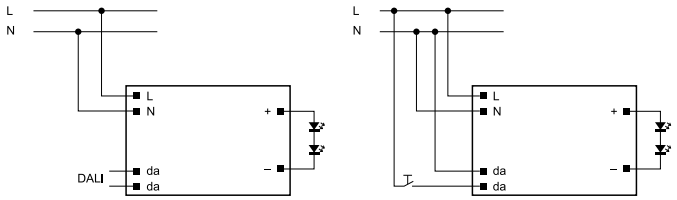
- DIN VDE 0100
- EN 60598-1

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.
- 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:



Note: Max. quantity of drivers at one push button: 30

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
ECXd 700.674	**187439**	22	29	36	37	49	60
ECXd 400.675	**187440**	23	30	36	38	50	61
ECXd 600.676	**187441**	21	27	34	35	46	56
ECXd 800.677	**187442**	14	18	22	23	30	37
ECXd 800.693	**187475**	14	18	22	23	30	37
ECXd 1050.678	**187443**	14	18	22	23	30	37

– 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.

LIGHTING SOLUTIONS
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