

CC LINEAR DIP SWITCH



EASYLINE DIP SWITCH L 120 V

187330, 187331, 187332, 187333, 187334

Typical Applications

Built-in in linear luminaires for

- Office lighting
- Residential lighting
- Retail lighting



EasyLine DIP switch L 120 V

- **SELECTABLE OUTPUT CURRENT VIA DIP SWITCH**
- **WIDE INPUT VOLTAGE RANGE: 120-277 V**
- **LONG SERVICE LIFE:
UP TO 100,000 HRS.**
- **PRODUCT GUARANTEE: 5 YEARS**



EasyLine DIP switch L 120 V

Product features

- Linear casing shape

Functions

- Selectable current output via DIP switch

Electrical features

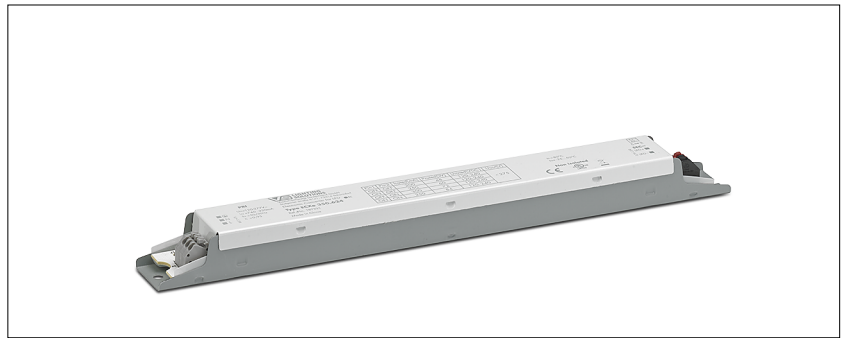
- Mains voltage: 120–277 V \pm 10%
- Mains frequency: 50–60 Hz
- Power factor at full load: 0.95
- Max. working voltage (U_{OUT}): 250 V except 275 V for 187331
- Secondary side switching of LED modules is not allowed.

Safety features

- Protection against transient main peaks up to 1 kV (between L and N) and up to 2 kV (between L, N and PE)
- Electronic short-circuit protection
- Overload protection
- Protection against "no load" operation
- Degree of protection: IP20
- Protection class I

Packaging units

Ref. No.	Packaging unit		
	Pieces per box	Boxes per pallet	Weight g
187330	30	72	178
187331	30	72	236
187332	30	72	202
187333	30	72	236
187334	30	72	236



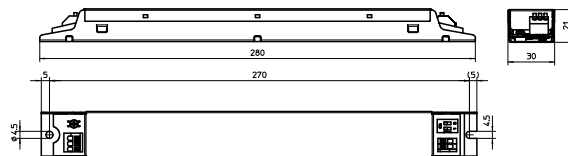
Applied standards

- EN 61347-1
- EN 61347-2-13
- EN 61547
- EN 61000-3-2
- EN 62384
- EN 60598-2-22
- EN 55015



Dimensions

- Casing: M7.2
- Length: 280 mm
- Width: 30 mm
- Height: 21 mm



Product guarantee

- 5 years
- 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 5%)	Voltage output DC (V)	THD at full load % (230 V)	Efficiency at full load % (230 V)	Ripple 100 Hz %
26	ECXe 350.623	187330	120–277	420–175	25 / 200	200	40–130	<7	>93	<3
33						250				
39						300				
46						350				
48	ECXe 350.624	187331	120–277	750–320	45 / 245	200	120–240	<3	>95	<3
60						250				
72						300				
84						350				
46	ECXe 500.625	187332	120–277	605–250	30 / 300	350	40–130	<4	>94	<3
52						400				
59						450				
65						500				
63	ECXe 500.626	187333	120–277	785–340	45 / 245	350	90–180	<2	>94	<3
72						400				
81						450				
90						500				
72	ECXe 700.627	187334	120–277	830–355	45 / 245	550	40–130	<2	>94	<3
78						600				
85						650				
91						700				

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.		
187330	-25	+50	20	60	-40	+85	5	95	+75	IP20
187331	-25	+50	20	60	-40	+85	5	95	+80	IP20
187332	-25	+50	20	60	-40	+85	5	95	+75	IP20
187333	-25	+50	20	60	-40	+85	5	95	+80	IP20
187334	-25	+50	20	60	-40	+85	5	95	+80	IP20

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LED Drivers – EasyLine DIP switch L 120 V

Operating Life

at operation temperatures at t_c point

Operation current	Ref. No. 187330, 187332		187331, 187333, 187334	
all types	75°C	65°C	80°C	70°C
hrs.	50.000	100.000	50.000	100.000

DIP switch settings

Pin 1	Pin 2	Operation current (mA)		
		187330, 186331	187332, 187333	187334
OFF	OFF	200	350	550
ON	OFF	250	400	600
OFF	ON	300	450	650
ON	ON	350	500	700

Product labels

PRI
 $U_N=120-277V\sim$
 $I_N=420\dots175mA$
 $f_N=50/60Hz$
 $\lambda=0,95$

Vossloh-Schwabe Deutschland GmbH
 Stuttgarter Straße 61/1, 73614 Schorndorf
Electronic Converter for LED
Type ECXe 350.623
 Ref.-No. 187330
 Made in China

Pin1	Pin2	Irated(mA)	Prated(W)	Urated(V)	Uout(V)
OFF	OFF	200	26	40-130	<250
ON	OFF	250	32,5	40-130	
OFF	ON	300	39	40-130	
ON	ON	350	45,5	40-130	

$t_c=75^\circ C$
 $t_a=25\dots50^\circ C$

Non isolated

CE UK ENEC

PRI
 $U_N=120-277V\sim$
 $I_N=750\dots320mA$
 $f_N=50/60Hz$
 $\lambda=0,95$

Vossloh-Schwabe Deutschland GmbH
 Stuttgarter Straße 61/1, 73614 Schorndorf
Electronic Converter for LED
Type ECXe 350.624
 Ref.-No. 187331
 Made in China

Pin1	Pin2	Irated(mA)	Prated(W)	Urated(V)	Uout(V)
OFF	OFF	200	48	120-240	<275
ON	OFF	250	60	120-240	
OFF	ON	300	72	120-240	
ON	ON	350	84	120-240	

$t_c=80^\circ C$
 $t_a=25\dots50^\circ C$

Non isolated

CE UK ENEC

PRI
 $U_N=120-277V\sim$
 $I_N=605\dots250mA$
 $f_N=50/60Hz$
 $\lambda=0,95$

Vossloh-Schwabe Deutschland GmbH
 Stuttgarter Straße 61/1, 73614 Schorndorf
Electronic Converter for LED
Type ECXe 500.625
 Ref.-No. 187332
 Made in China

Pin1	Pin2	Irated(mA)	Prated(W)	Urated(V)	Uout(V)
OFF	OFF	350	45,5	40-130	<250
ON	OFF	400	52	40-130	
OFF	ON	450	58,5	40-130	
ON	ON	500	65	40-130	

$t_c=75^\circ C$
 $t_a=25\dots50^\circ C$

Non isolated

CE UK ENEC

PRI
 $U_N=120-277V\sim$
 $I_N=785\dots340mA$
 $f_N=50/60Hz$
 $\lambda=0,95$

Vossloh-Schwabe Deutschland GmbH
 Stuttgarter Straße 61/1, 73614 Schorndorf
Electronic Converter for LED
Type ECXe 500.626
 Ref.-No. 187333
 Made in China

Pin1	Pin2	Irated(mA)	Prated(W)	Urated(V)	Uout(V)
OFF	OFF	350	63	90-180	<250
ON	OFF	400	72	90-180	
OFF	ON	450	81	90-180	
ON	ON	500	90	90-180	

$t_c=80^\circ C$
 $t_a=25\dots50^\circ C$

Non isolated

CE UK ENEC

PRI
 $U_N=120-277V\sim$
 $I_N=830\dots355mA$
 $f_N=50/60Hz$
 $\lambda=0,95$

Vossloh-Schwabe Deutschland GmbH
 Stuttgarter Straße 61/1, 73614 Schorndorf
Electronic Converter for LED
Type ECXe 700.627
 Ref.-No. 187334
 Made in China

Pin1	Pin2	Irated(mA)	Prated(W)	Urated(V)	Uout(V)
OFF	OFF	550	71,5	40-130	<250
ON	OFF	600	78	40-130	
OFF	ON	650	84,5	40-130	
ON	ON	700	91	40-130	

$t_c=80^\circ C$
 $t_a=25\dots50^\circ C$

Non isolated

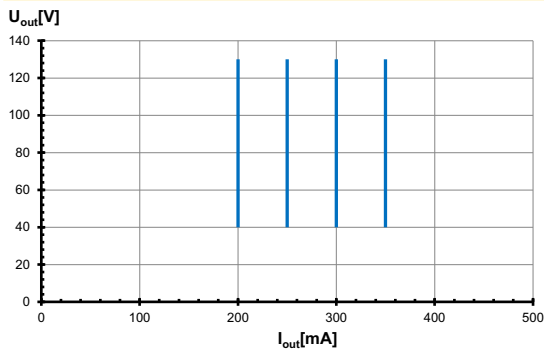
CE UK ENEC

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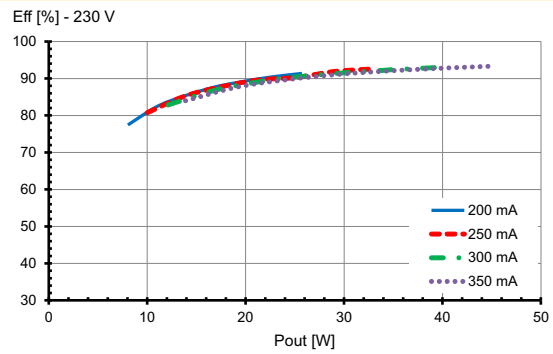
LED Drivers – EasyLine DIP switch L 120 V

Typ. performance graphs for 187330 / Type ECXe 350.623

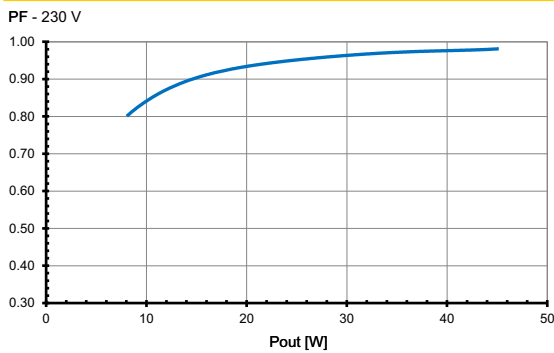
Working area



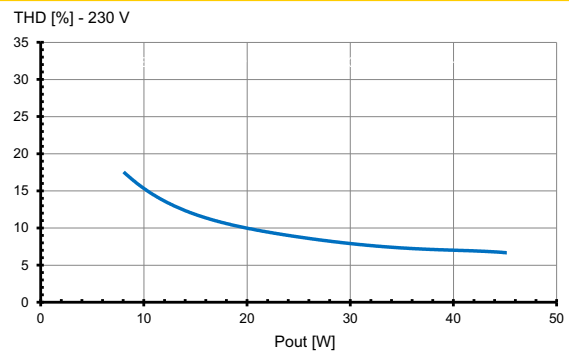
Efficiency at 230 V



Power factor at 230 V

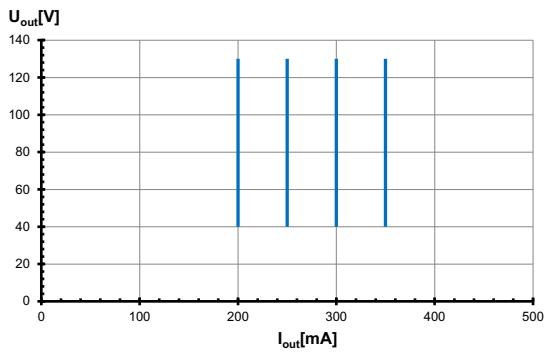


Total harmonic factor (THD) at 230 V

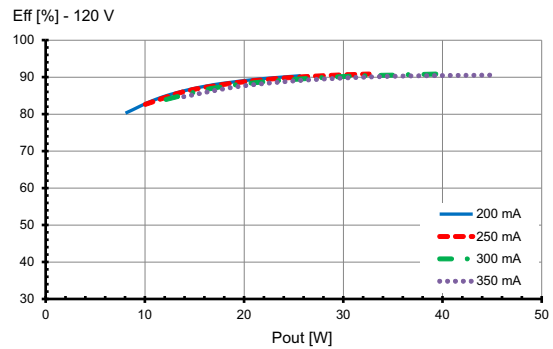


Typ. performance graphs for 187330 / Type ECXe 350.623

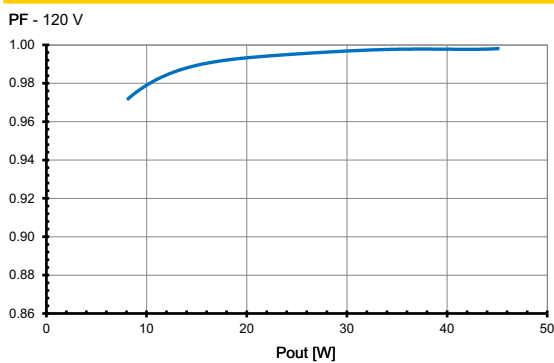
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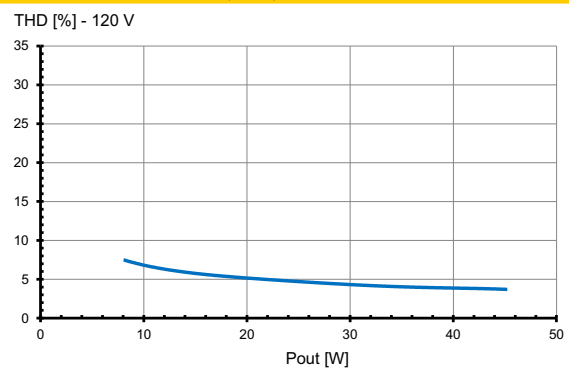
Efficiency at 120 V



Power factor at 120 V



Total harmonic factor (THD) at 120 V

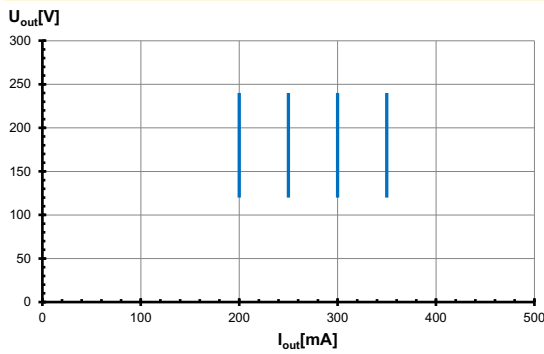


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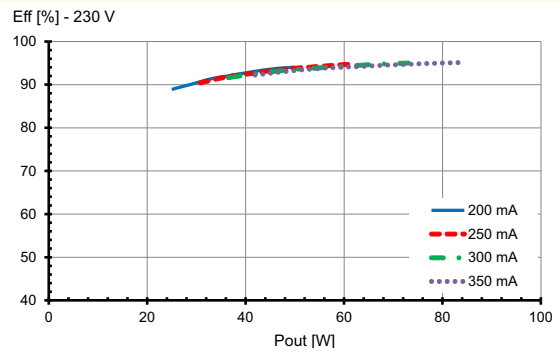
LED Drivers – EasyLine DIP switch L 120 V

Typ. performance graphs for 187331 / Type ECXe 350.624

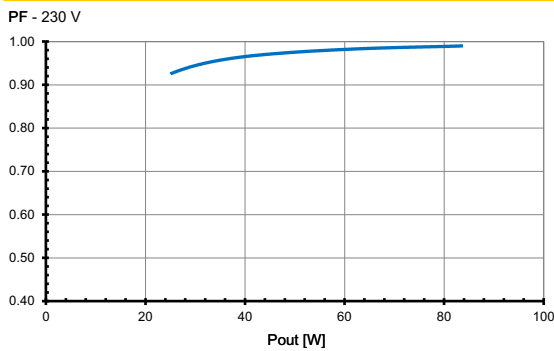
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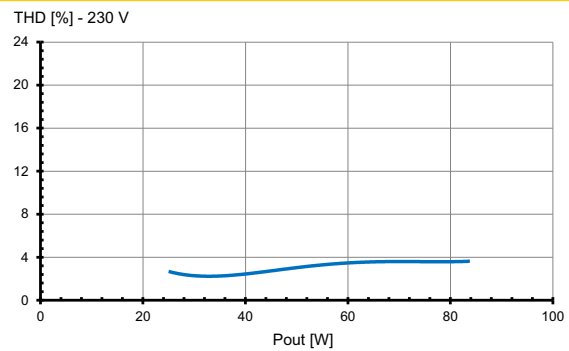
Efficiency at 230 V



Power factor at 230 V

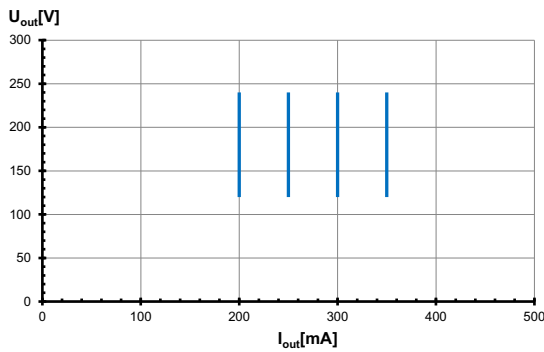


Total harmonic factor (THD) at 230 V

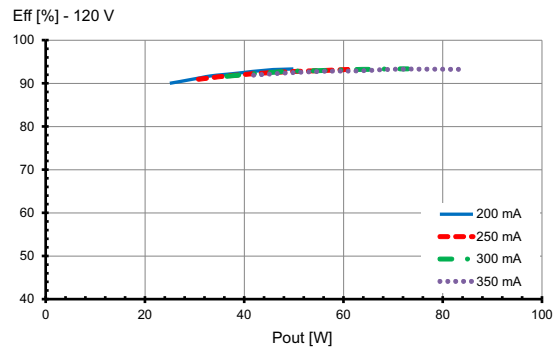


Typ. performance graphs for 187331 / Type ECXe 350.624

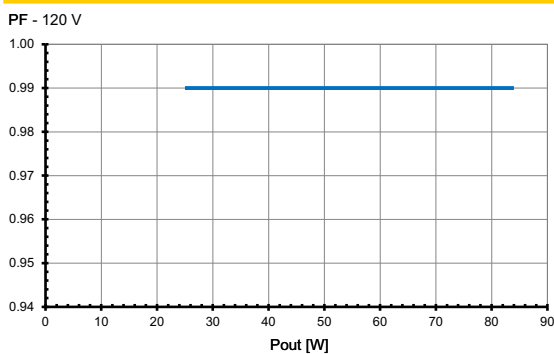
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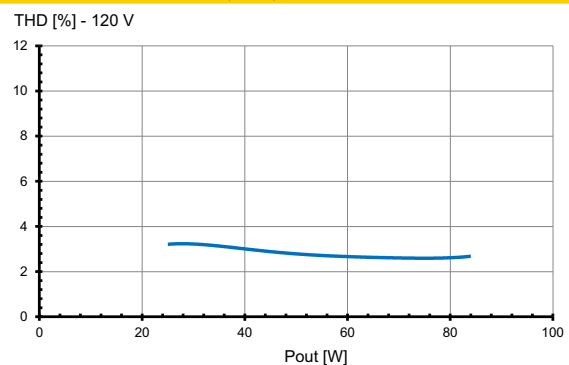
Efficiency at 120 V



Power factor at 120 V



Total harmonic factor (THD) at 120 V

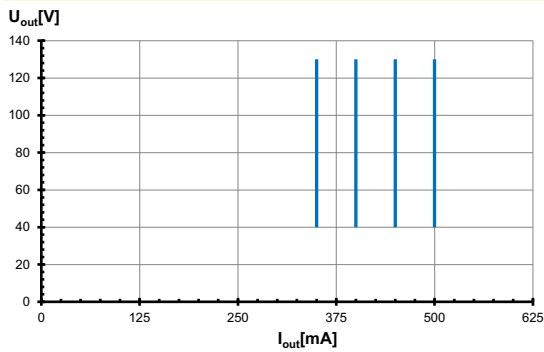


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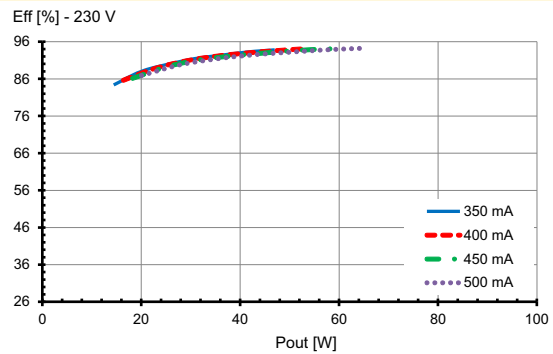
LED Drivers – EasyLine DIP switch L 120 V

Typ. performance graphs for 187332 / Type ECXe 500.625

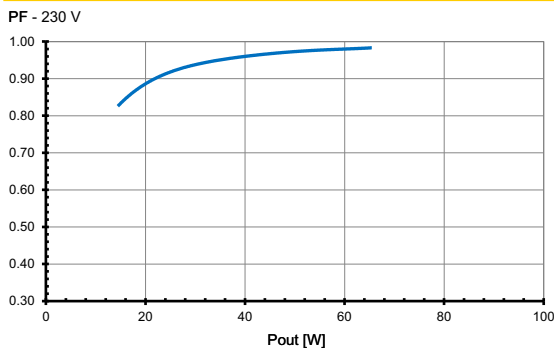
Working area



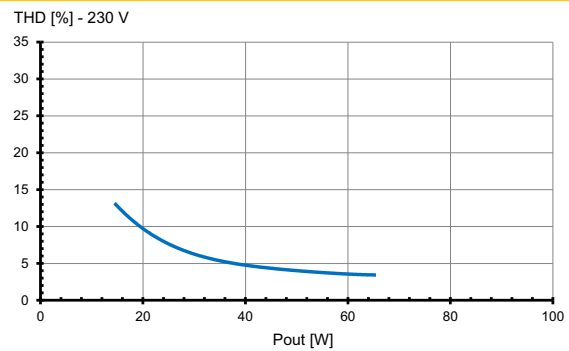
Efficiency at 230 V



Power factor at 230 V

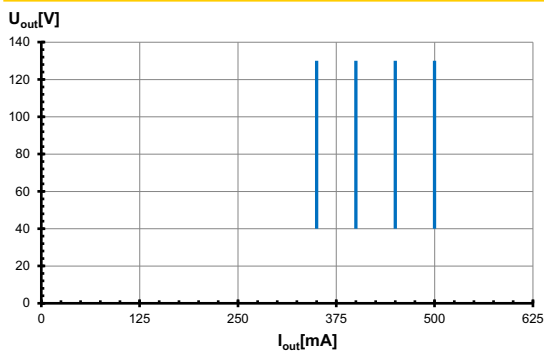


Total harmonic factor (THD) at 230 V

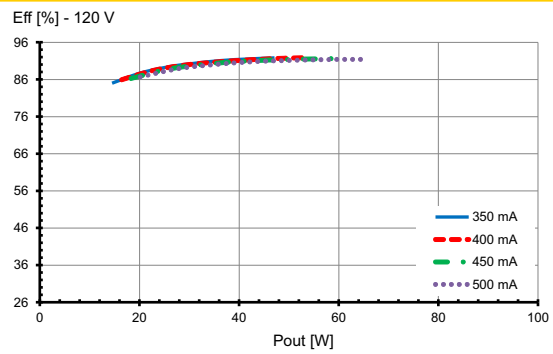


Typ. performance graphs for 187332 / Type ECXe 500.625

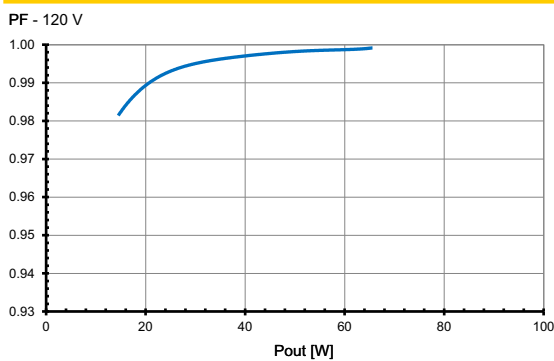
Working area



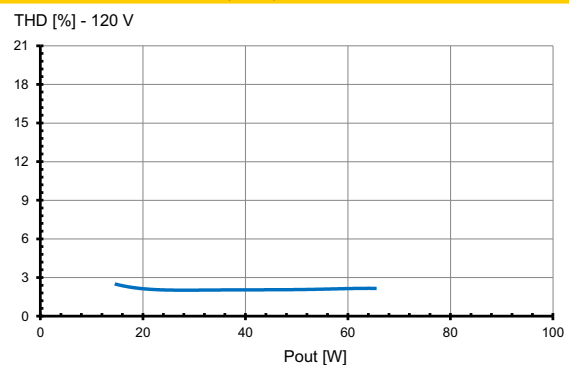
Efficiency at 120 V



Power factor at 120 V



Total harmonic factor (THD) at 120 V

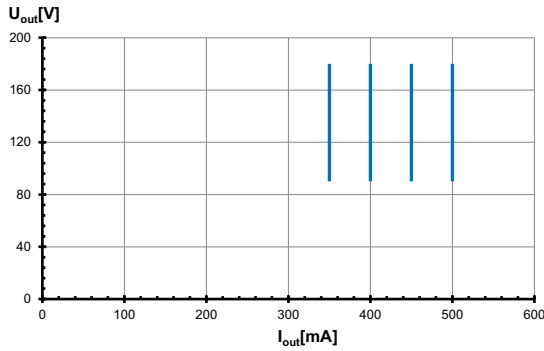


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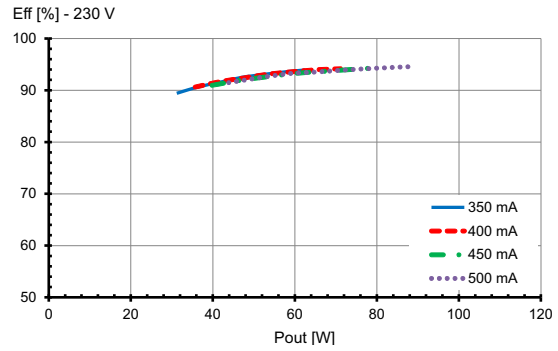
LED Drivers – EasyLine DIP switch L 120 V

Typ. performance graphs for 187333 / Type ECXe 500.626

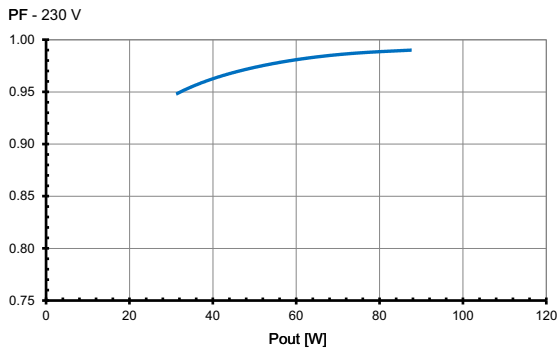
Working area



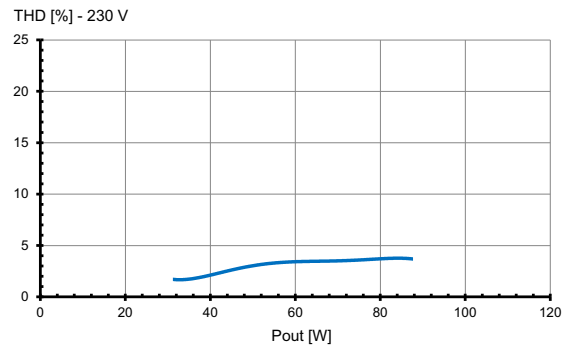
Efficiency at 230 V



Power factor at 230 V

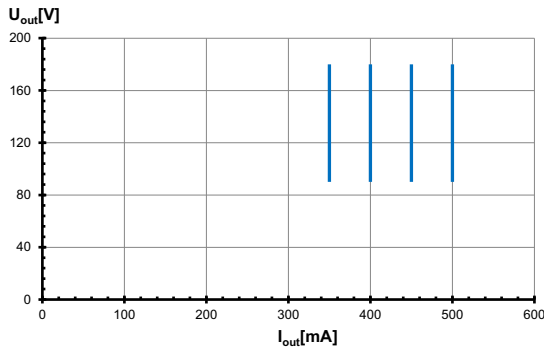


Total harmonic factor (THD) at 230 V

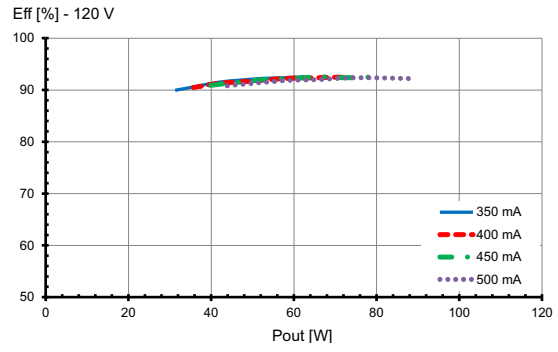


Typ. performance graphs for 187333 / Type ECXe 500.626

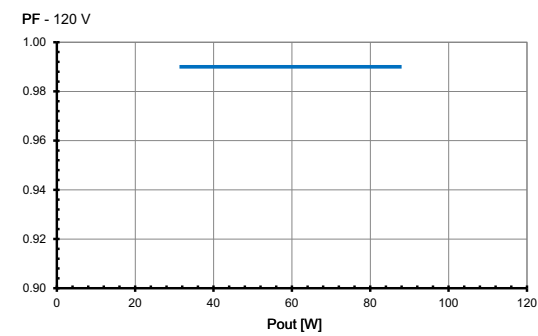
Working area



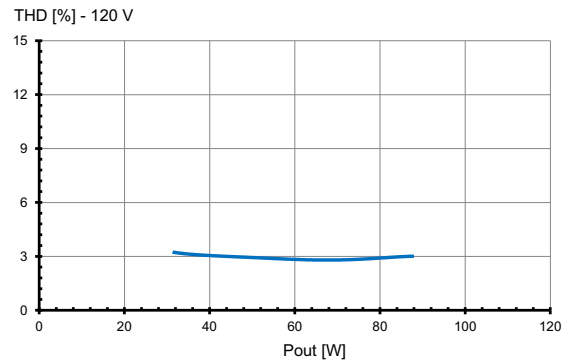
Efficiency at 120 V



Power factor at 120 V



Total harmonic factor (THD) at 120 V

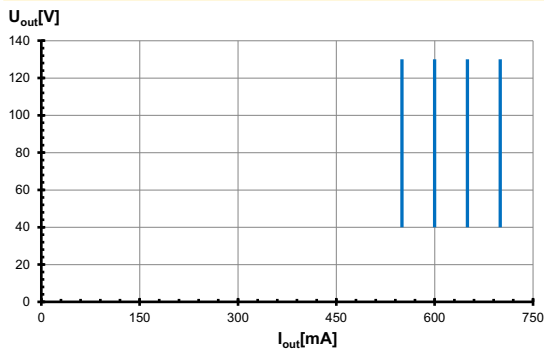


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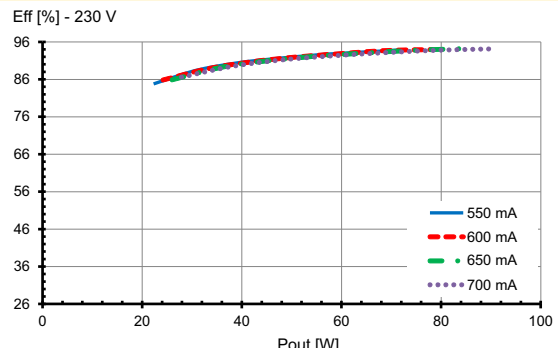
LED Drivers – EasyLine DIP switch L 120 V

Typ. performance graphs for 187334 / Type ECXe 700.627

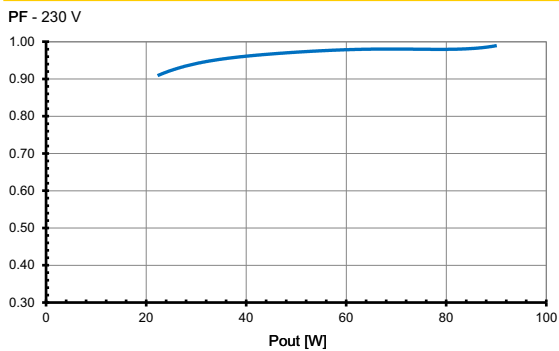
Working area



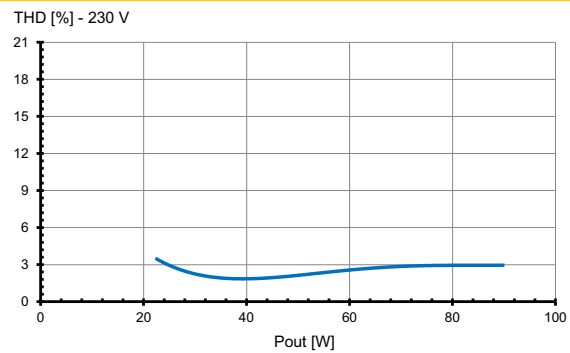
Efficiency at 230 V



Power factor at 230 V

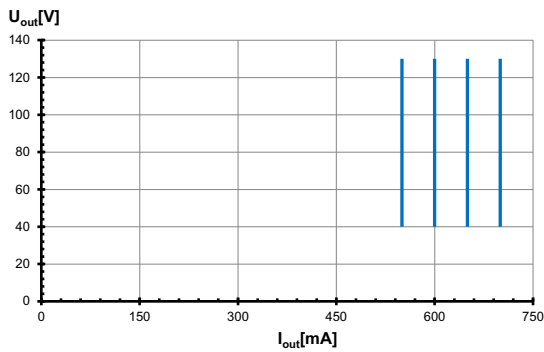


Total harmonic factor (THD) at 230 V

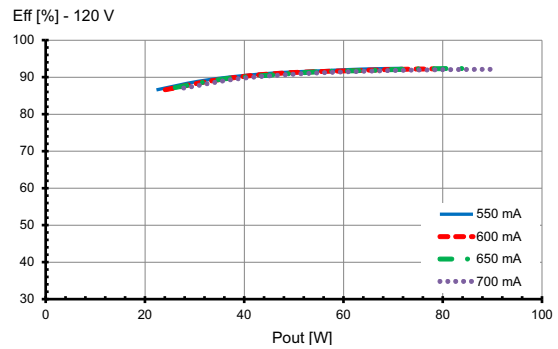


Typ. performance graphs for 187334 / Type ECXe 700.627

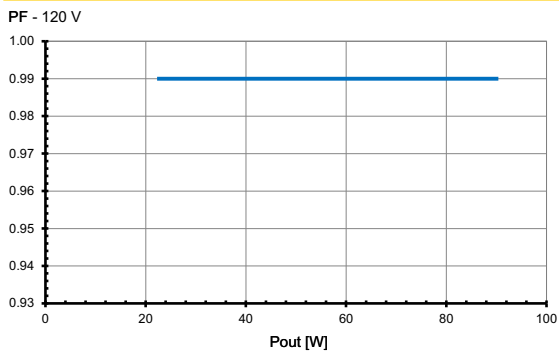
Working area



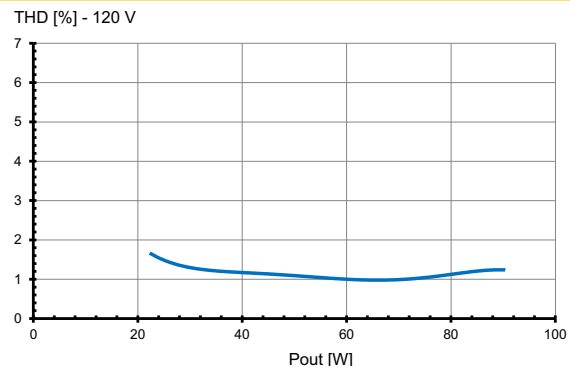
Efficiency at 120 V



Power factor at 120 V



Total harmonic factor (THD) at 120 V



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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
Surges between L/N-PE: up to 2 kV
- Short-circuit protection: The control gears are protected against permanent short-circuit with automatic restart function.
- Overload protection: The control gears only work 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).
- 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

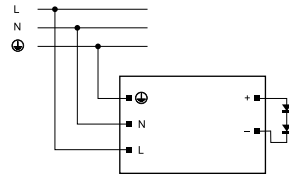
Mechanical mounting

- 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.
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

Electrical installation

- Stripped length: 8–9 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.
- 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 has to be within the tolerances which are mentioned in the table "Electrical Characteristics" in this data sheet.
- 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 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 350.623	187330	16	21	26	21	27	33
ECXe 350.624	187331	7	9	11	11	15	19
ECXe 500.625	187332	8	11	14	14	19	23
ECXe 500.626	187333	7	9	11	11	14	17
ECXe 700.627	187334	7	9	11	10	14	17

- To limit capacitive inrush currents the current carrying capacity of each circuit breaker (fuse) can be increased 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.