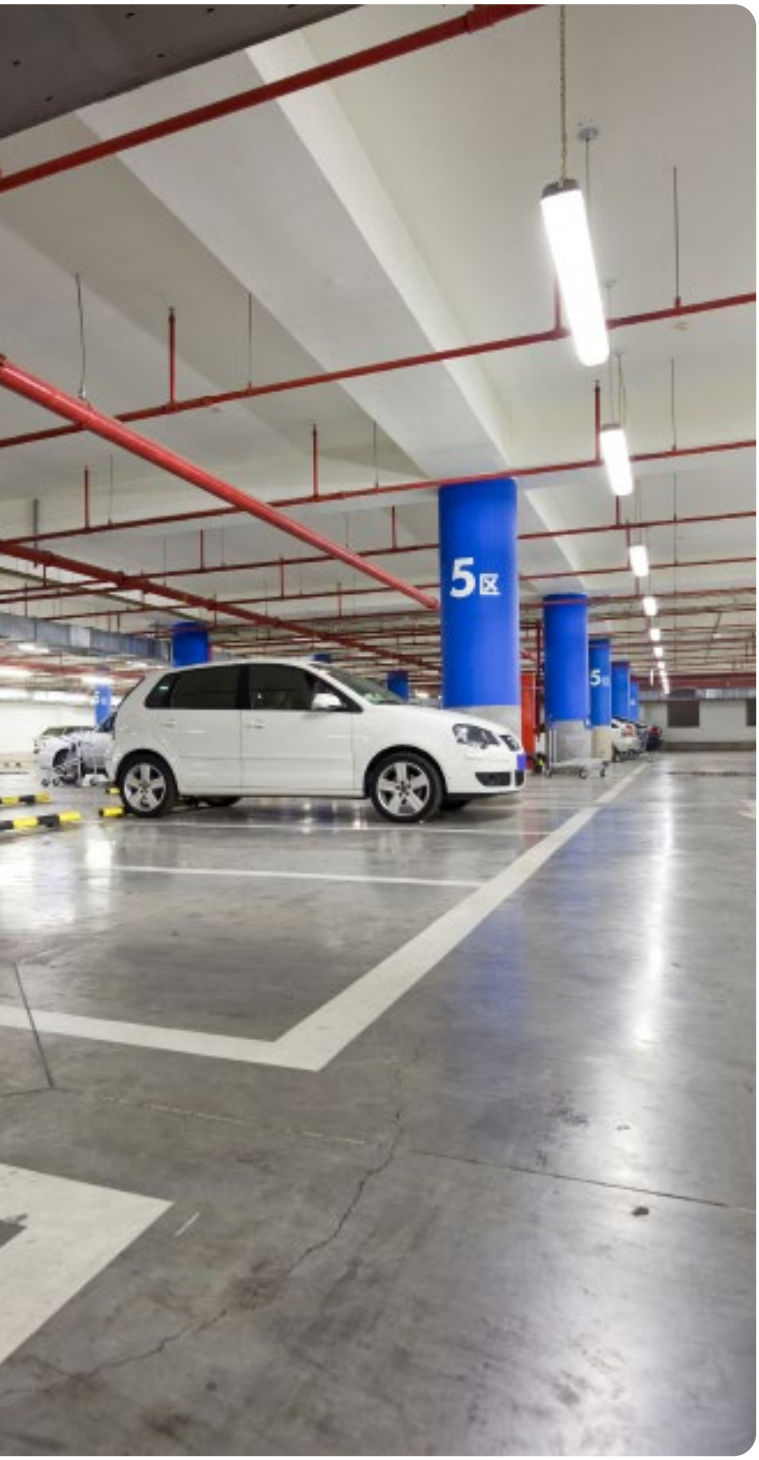
CV 24 V



EASYLINE 24 V IP GEN.2

187553, 187554, 187555, 187556, 187557, 187558, 187559

Typical Applications

Luminaires for 24 V systems

- Industrial lighting
- Architectural lighting
- Outdoor lighting

EasyLine 24 V IP Gen.2

- **DEGREE OF PROTECTION: IP67**
- **VERY LOW RIPPLE CURRENT: < 3%**
- **PREASSEMBLED CONNECTION LEADS**
- **SELV**
- **LONG SERVICE LIFE: UP TO 50,000 HRS.**
- **PRODUCT GUARANTEE: 5 YEARS**

5 YEARS GUARANTEE

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EasyLine 24 V IP Gen.2

Product features

- Compact casing shape IP67
- For use in applications in a power range of 35W, 60W, 100W, 150W, 200W, 240W, 320W

Electrical features

- Mains voltage: 220–240 V ±10%
- Mains frequency: 50–60 Hz
- Pre-assembled connection leads
- Power factor at full load: 0.95
- SVM: < 0.4
- PstLM: < 1

Safety features

- Protection against transient main peaks
- Electronic short-circuit protection
- Overload protection: reversible
- Protection against "no load" operation
- Degree of protection: IP67
- Protection class II (plastic casing), protection class I (metal casing)
- SELV

Packaging units

Ref. No.	Packaging unit		
	Pieces per box	Boxes per pallet	Weight g
187553	25	108	250
187554	25	70	355
187555	25	57	445
187556	25	57	455
187557	10	72	890
187558	10	72	950
187559	10	56	1250

Ref. No.	Casing	Material	Length mm	Width mm	Height mm
187553	K112	plastic	110,0	40,0	29,5
187554	K113	plastic	155,5	41,5	30,0
187555	K114	plastic	155,5	47,6	32,5
187556		plastic	155,5	47,6	32,5
187557	M99	metal	220,3	62,5	38,0
187558	M100	metal	220,0	62,5	41,3
187559	M101	metal	261,3	62,5	41,3

Applied standards

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

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.

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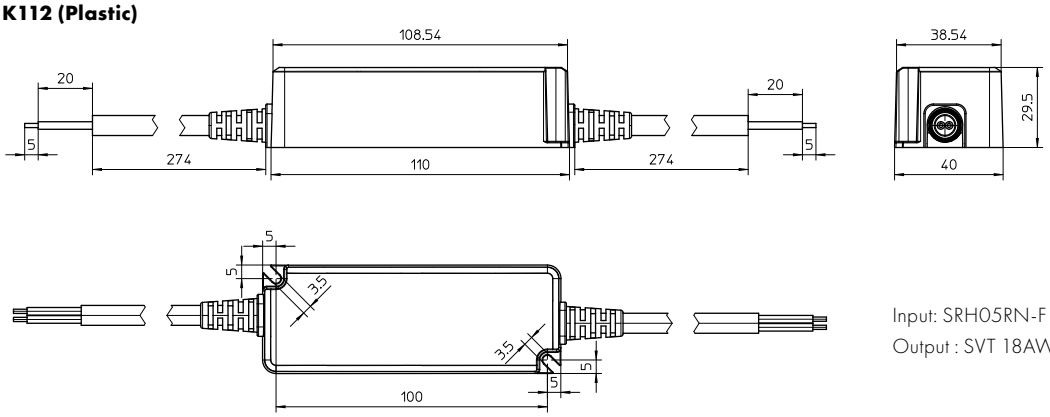
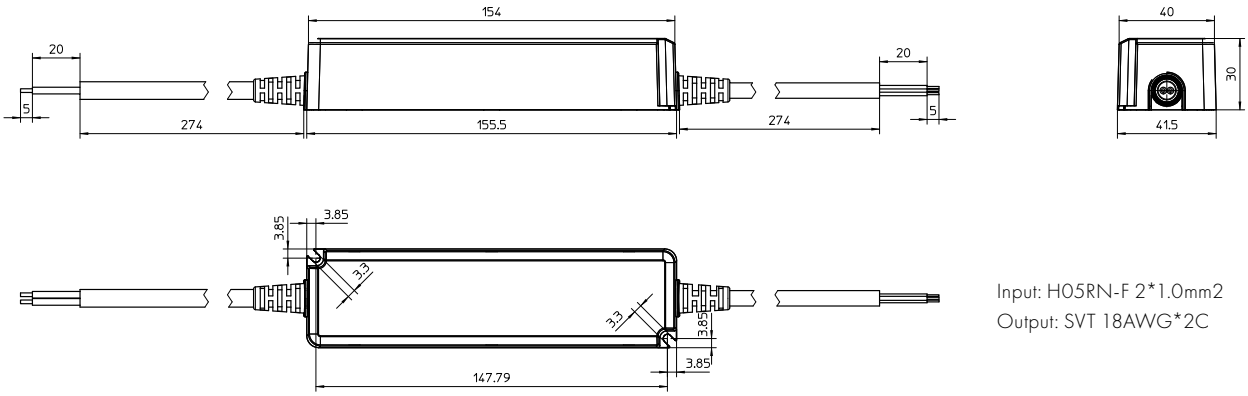
Product drawings

K112 (Plastic)



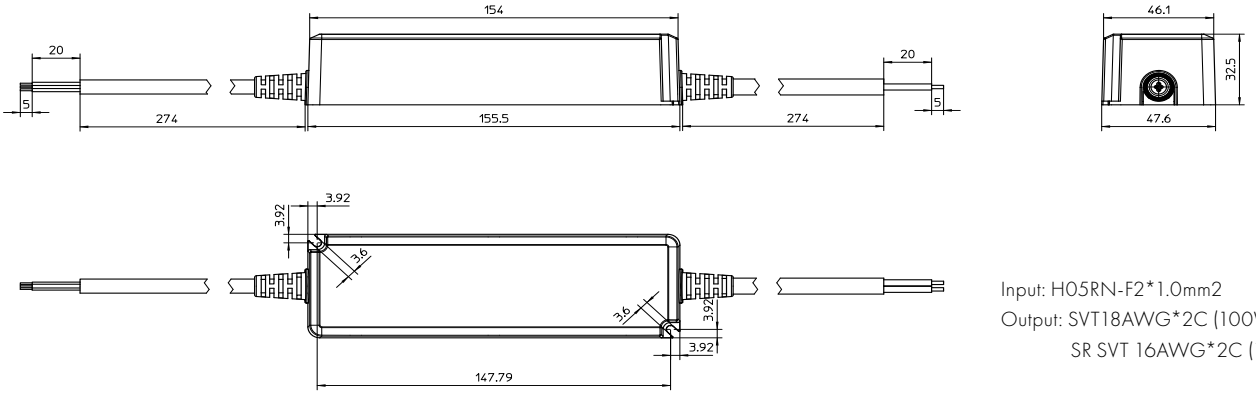
Input: SRH05RN-F 2*1.0mm2
Output : SVT 18AWG*2C

K113 (Plastic)



Input: H05RN-F 2*1.0mm2
Output: SVT 18AWG*2C

K114 (Plastic)



Input: H05RN-F2*1.0mm2
Output: SVT18AWG*2C (100W)
SR SVT 16AWG*2C (150W)

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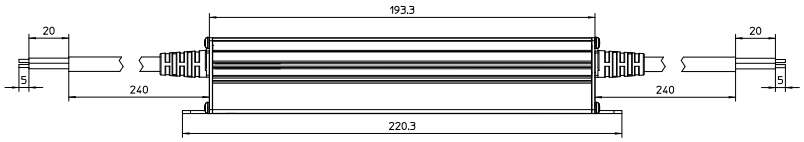
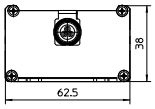
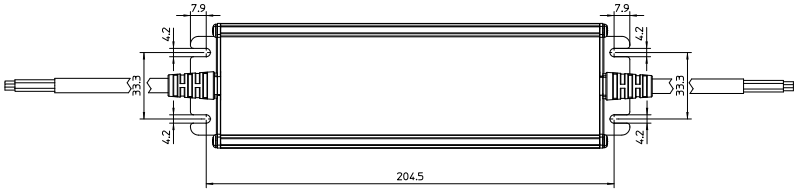
Product drawings

M99 (Metal)

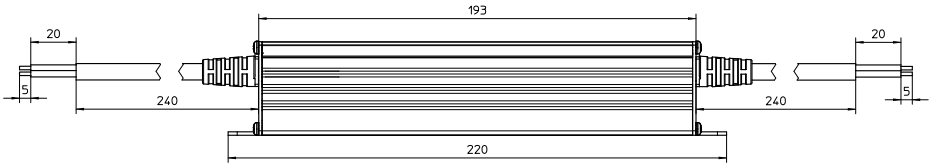


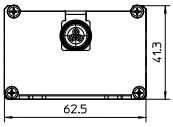


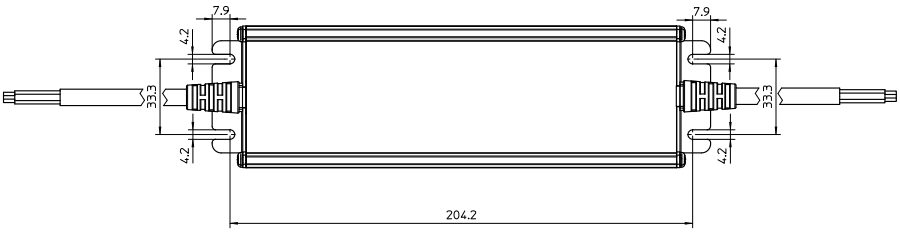


Input: H05RN-F 105 3G*1.0mm2
Output: SJTW,2*16AWG/2*1.31mm2

M100 (Metal)

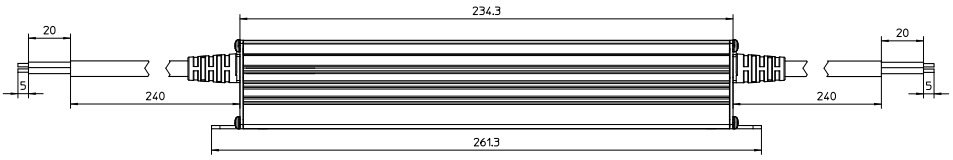


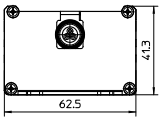


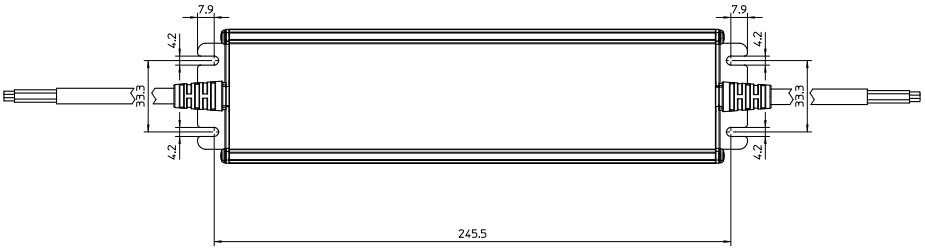


Input: H05RN-F 105 3G*1.0mm2
Output: SJTW,2*16AWG/2*1.31mm2

M101 (Metal)







Input: H05RN-F 105 3G*1.0mm2
Output: SJTW 2*14AWG 2*2.08mm2

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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	Voltage output DC (V) (± 5%)	THD at full load % (230 V)	Efficiency at full load % (230 V)	Ripple 100 Hz %
35	EDXe 135/24.102	**187553**	220–240	180–170	22 / 180	0–1450	24	6	86	≤ 3
60	EDXe 160/24.103	**187554**	220–240	310–290	40 / 194	0–2500	24	6	87	≤ 3
100	EDXe 1100/24.104	**187555**	220–240	500–460	44 / 262	0–4170	24	11	91	≤ 3
150	EDXE 1150/24.105	**187556**	220–240	740–680	66 / 22	0–6250	24	10	92	≤ 3
200	EDXe 1200/24.106	**187557**	220–240	970–890	60 / 365	0–8333	24	8	93	≤ 3
240	EDXe 1240/24.107	**187558**	220–240	1180–1080	66 / 430	0–10000	24	9	93	≤ 3
320	EDXe 1320/24.108	**187559**	220–240	1560–1430	85 / 382	0–13333	24	7	93	≤ 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	Degree of protection
	°C min.	°C max.	% min.	% max.	°C min.	°C max.	% min.	% max.	°C	
187553	–20	+55	10	85	–40	+80	10	85	+80	IP67
187554	–20	+50	10	85	–40	+80	10	85	+70	IP67
187555	–20	+45	10	85	–40	+80	10	85	+75	IP67
187556	–20	+45	10	85	–40	+80	10	85	+90	IP67
187557	–20	+55	5	85	–40	+80	5	85	+75	IP67
187558	–20	+50	5	85	–40	+80	5	85	+75	IP67
187559	–20	+45	5	85	–40	+80	5	85	+75	IP67

Expected service life time

at operation temperatures at t_c point

Ref. No.	100,000h tc temperature	50,000h tc temperature
187553	70 °C	80 °C
187554	60 °C	70 °C
187555	65 °C	75 °C
187556	80 °C	90 °C
187557	65 °C	75 °C
187558	65 °C	75 °C
187559	65 °C	75 °C

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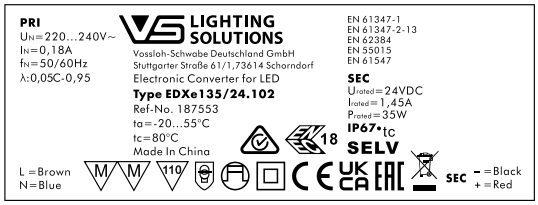
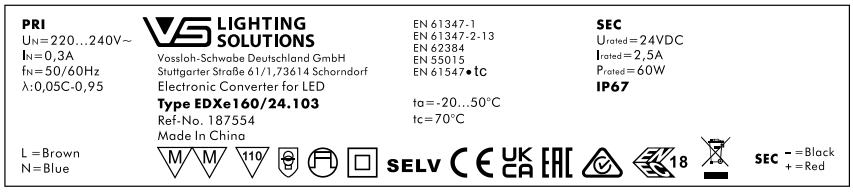
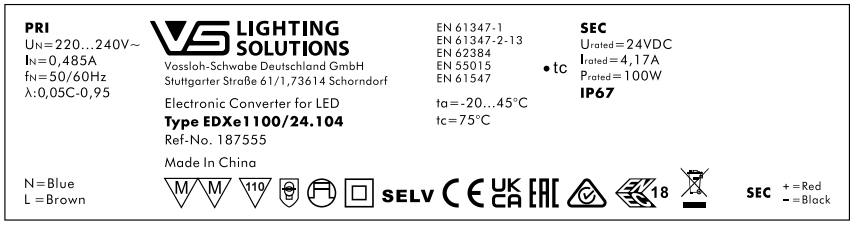
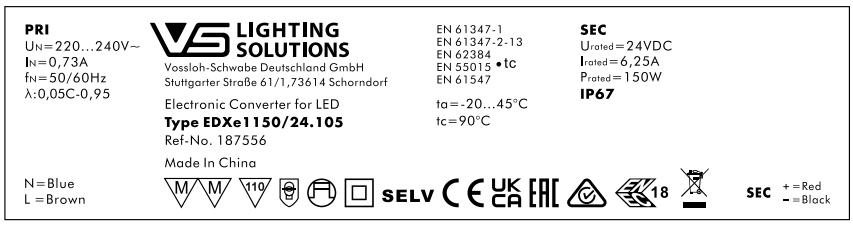
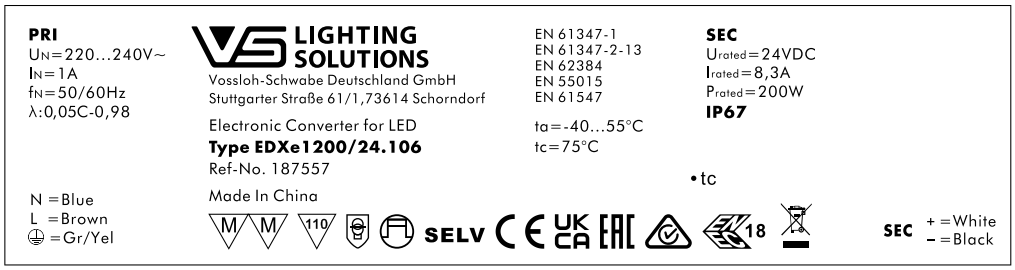
Product labels

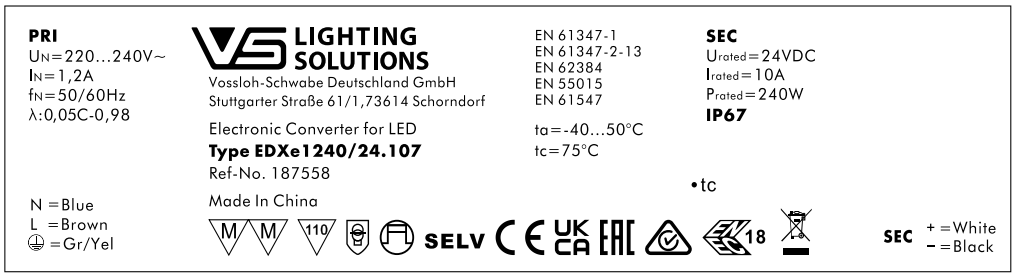


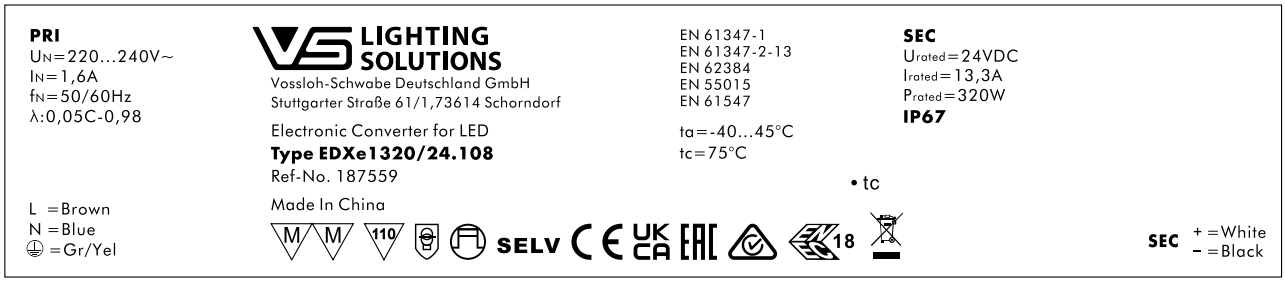








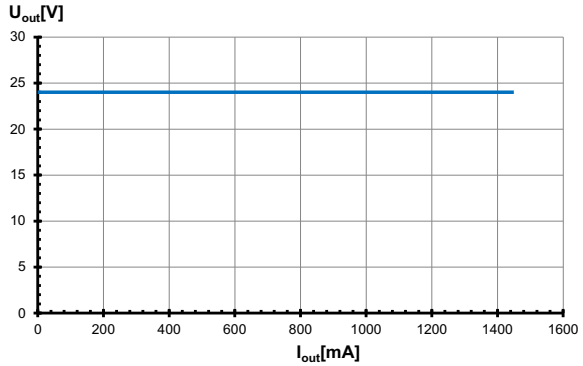




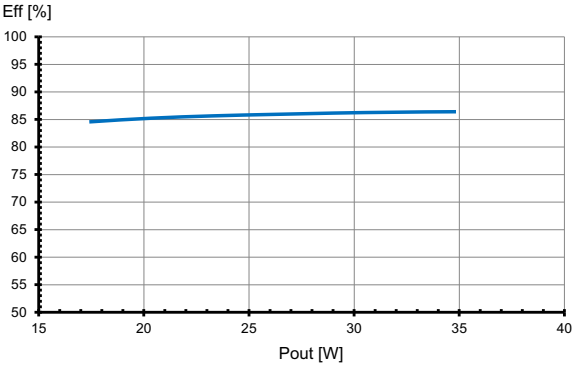
The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

Typ. performance graphs for 187553 / Type EDXe 135/24.102

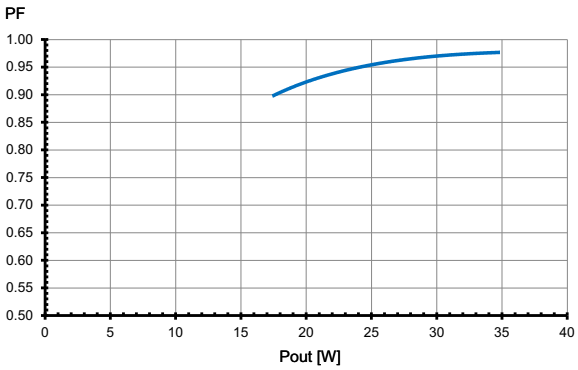
Working area



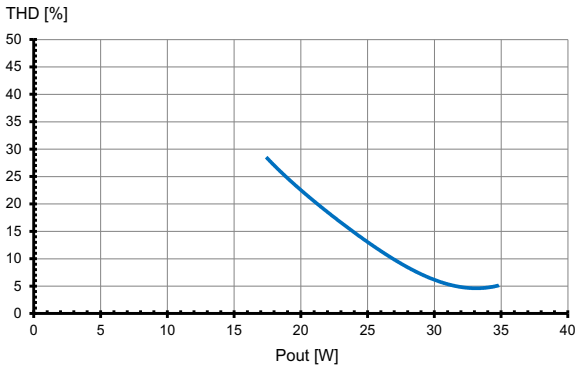
Efficiency



Power factor

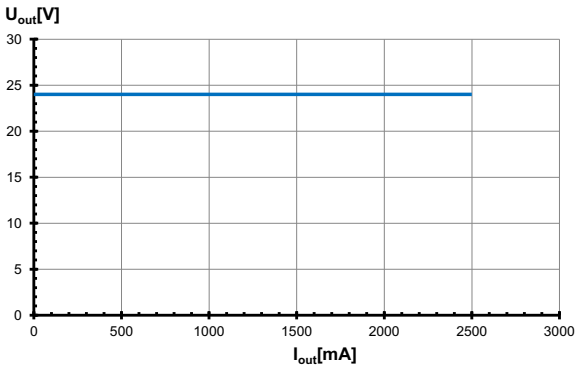


Total harmonic factor (THD)

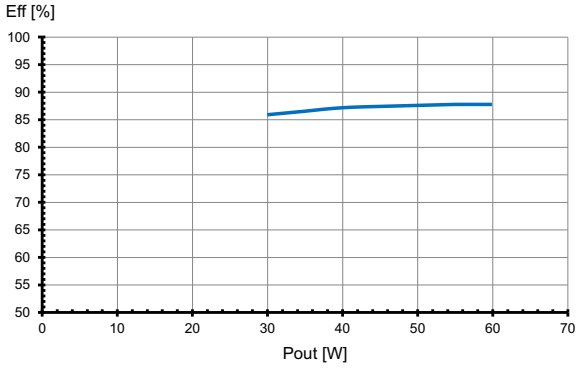


Typ. performance graphs for 187554 / Type EDXe 160/24.103

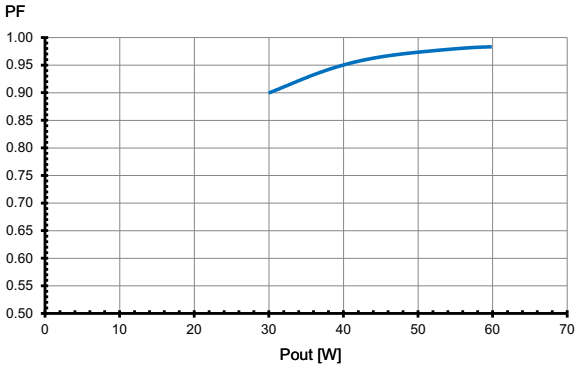
Working area



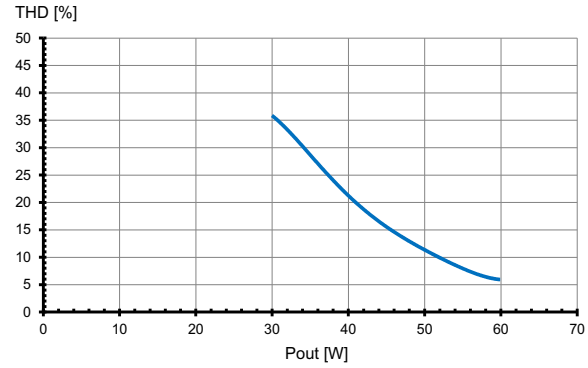
Efficiency



Power factor



Total harmonic factor (THD)



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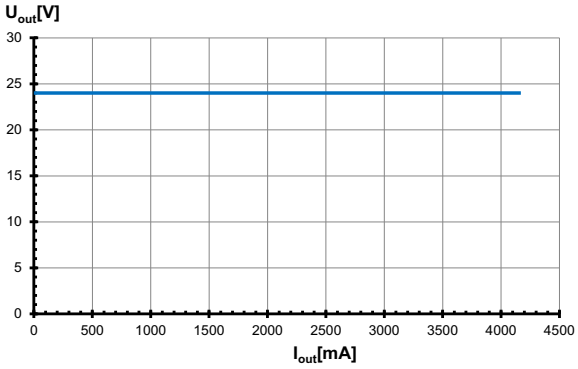
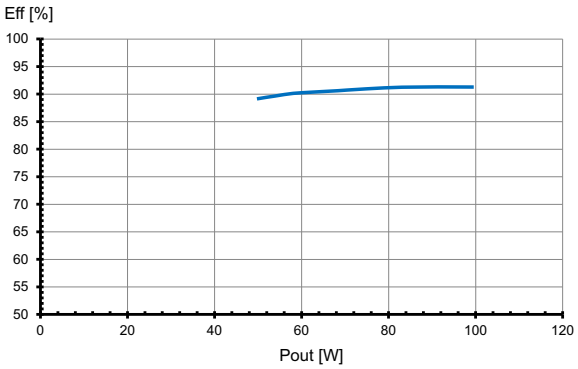
Typ. performance graphs for 187555 / Type EDXe 1100/24.104

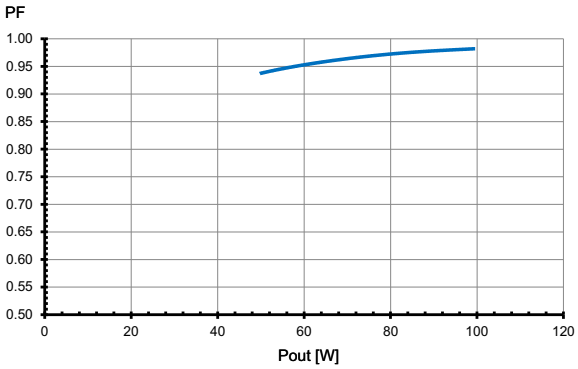
Working area



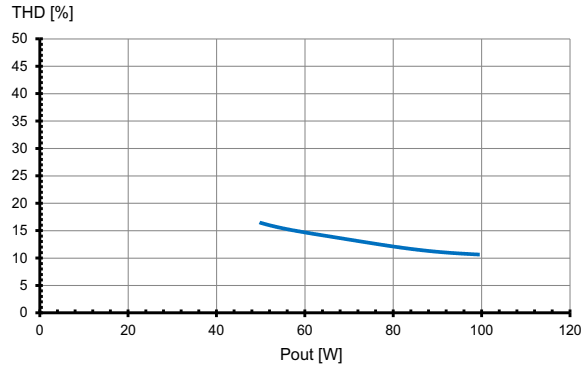
Efficiency



Power factor

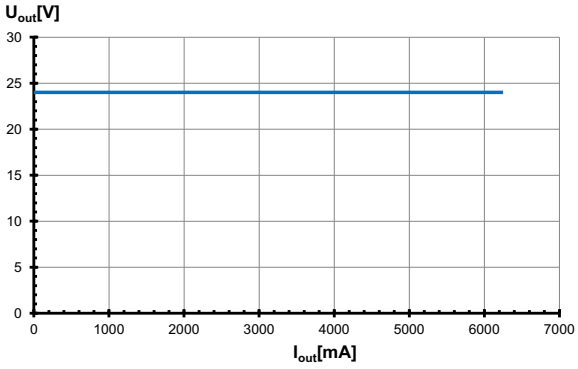


Total harmonic factor (THD)

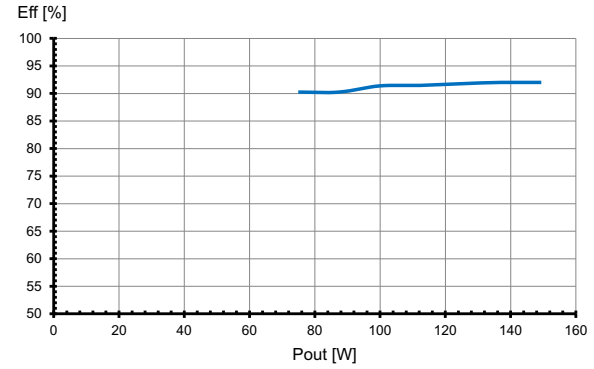


Typ. performance graphs for 187556 / Type EDXe 1150/24.105

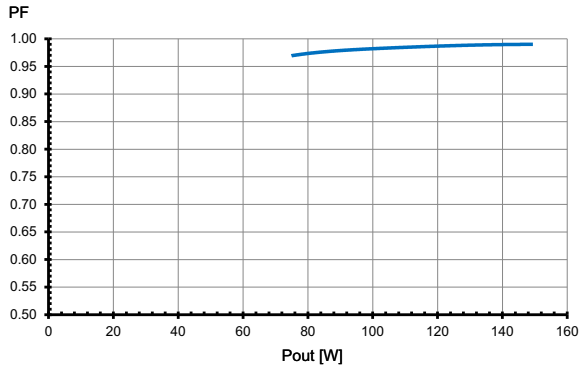
Working area



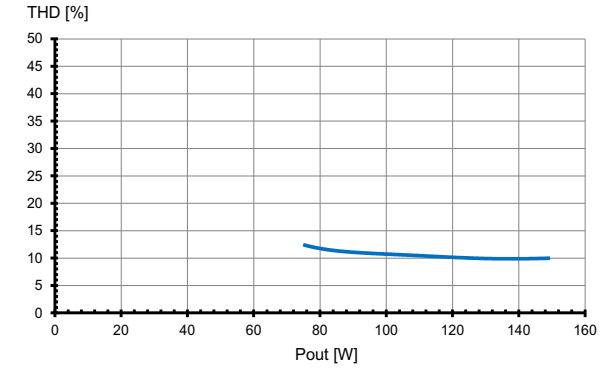
Efficiency



Power factor



Total harmonic factor (THD)



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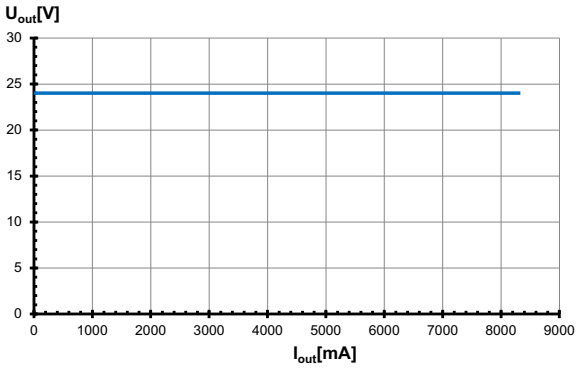
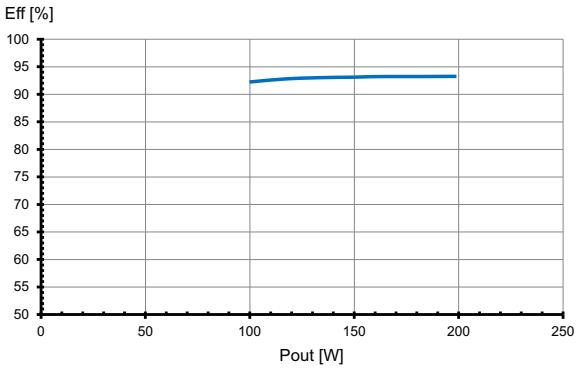
Typ. performance graphs for 187557 / Type EDXe 1200/24.106

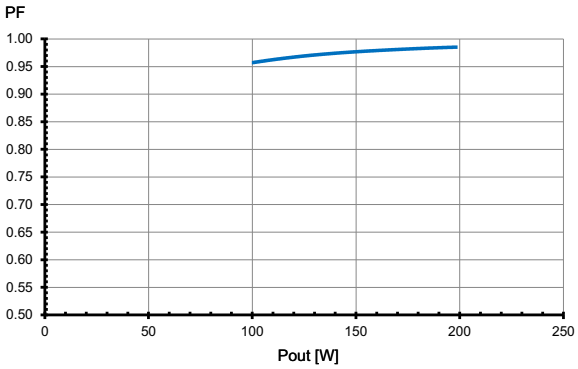
Working area



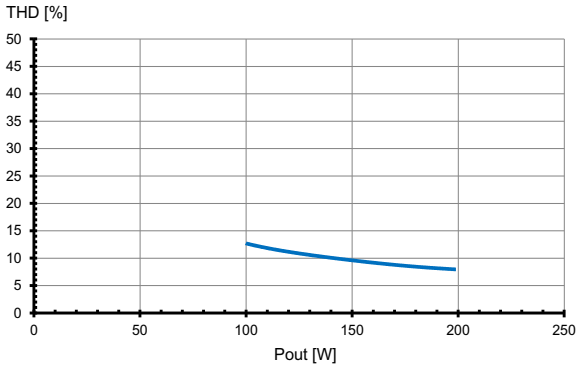
Efficiency



Power factor

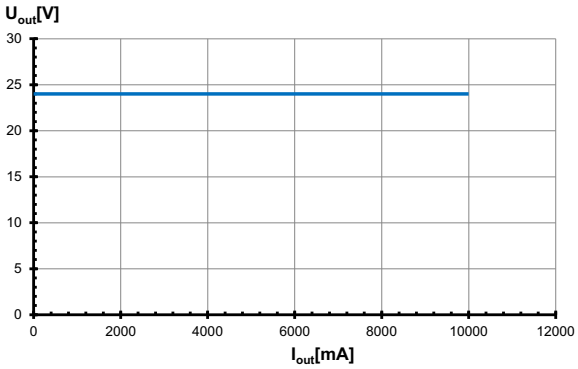


Total harmonic factor (THD)

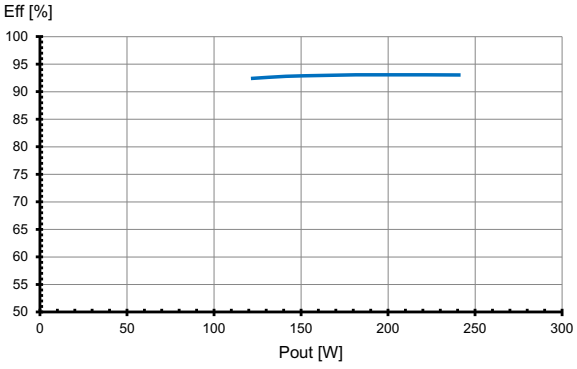


Typ. performance graphs for 187558 / Type EDXe 1240/24.107

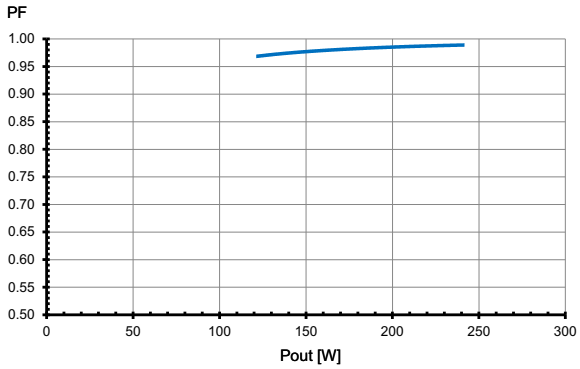
Working area



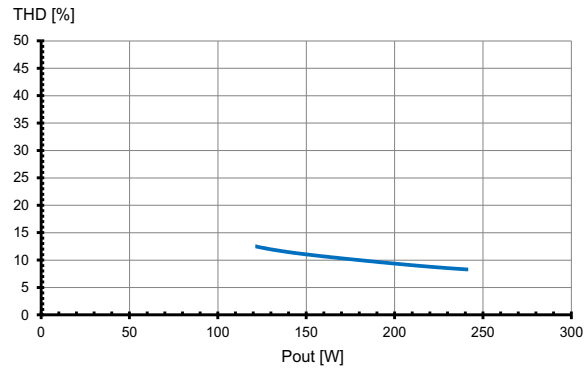
Efficiency



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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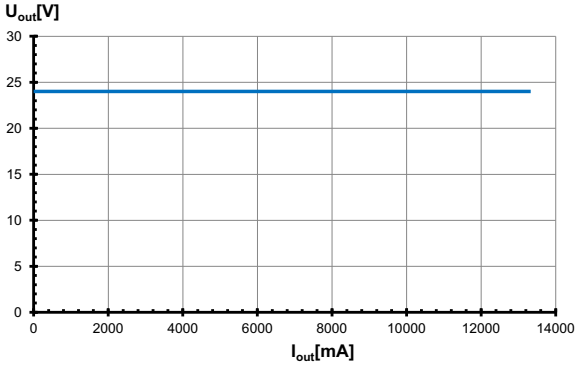
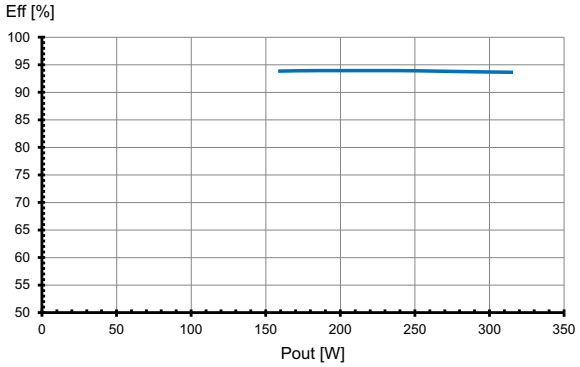
Typ. performance graphs for 187559 / Type EDXe 1320/24.108

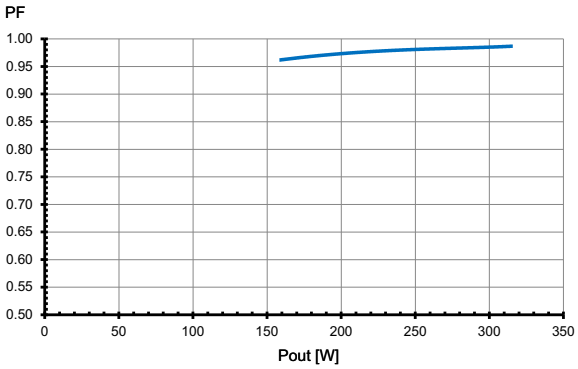
Working area



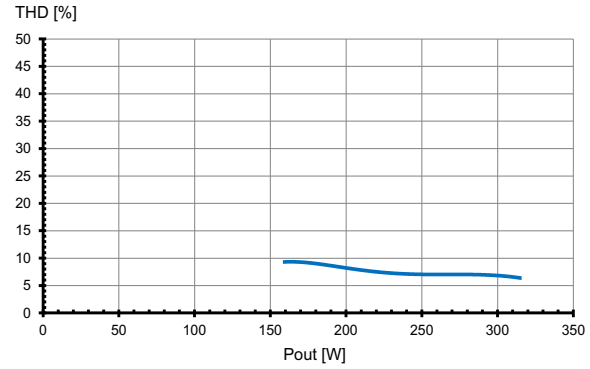
Efficiency



Power factor



Total harmonic factor (THD)



Safety features

- Transient mains peaks protection:
  Values are in compliance with EN 61547 (interference immunity).
  Plastic casing (Class2):
  surges between L–N up to 1 kV
  Metal casing (Class1):
  surges between L–N up to 2 kV
  surges between L–N/PE up to 4 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 that the selected LED load is suitable (see Electrical Characteristics on this 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.

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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

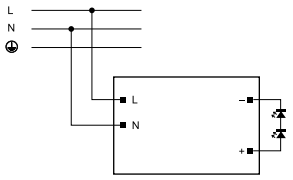
- Mounting position: Drivers are suitable for independent operation.
- Mounting location: Independent LED drivers do not need to be integrated into a casing.
  Installation in outdoor luminaires: degree of protection for luminaire with water protection rate ≥ 4 (e.g. IP54 required).
- Degree of protection: IP67
- 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

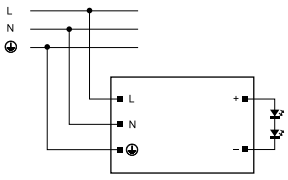
- Wiring: The mains conductor within the luminaire must be kept short (to reduce the induction of interference).
  Mains and lamp conductors must be kept separate and if possible should not be laid in parallel to one another.
  Max. secondary side lead length: 0.8 m
- Polarity: Please ensure the correct 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.

- Wiring diagram:

(Plastic casing, class2)



(Metal casing, class1)



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
EDXe 135/24.102	**187553**	20	27	33	34	45	55
EDXe 160/24.103	**187554**	10	13	16	17	22	28
EDXe 1100/24.104	**187555**	6	9	11	11	15	18
EDXe 1150/24.105	**187556**	5	7	8	9	12	14
EDXe 1200/24.106	**187557**	3	4	5	6	7	9
EDXe 1240/24.107	**187558**	2	3	4	4	5	7
EDXe 1320/24.108	**187559**	2	3	3	4	5	6

– 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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