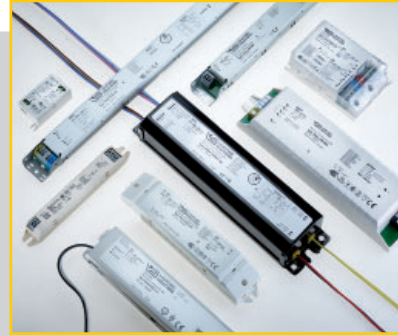


LEDLINE ECX

ELECTRONIC CONSTANT CURRENT DRIVERS



LED CONSTANT CURRENT DRIVERS

Electronic converters for LED modules operated with constant current

To ensure the safe operation of LEDs that are wired in series, the operating current must be limited to a constant value by the LED driver,

Light-emitting diodes are semiconductor devices with a light-emitting p-n junction. Due to the specific diode characteristics, the current can only flow through an LED in one direction. Coupled with the special properties of a semiconductor, this non-linear behaviour can increase the current and power uptake of an LED as it heats up,

If this effect is not limited, uncontrolled heating can finally destroy the semiconductor junction. For this reason, VS recommends using an external constant current driver to operate all constant current driven LED modules. To ensure that the same current flows through every LED, constant current driven LED modules can only be wired in series,

The constant current source has to be selected to suit the respective application, i.e., it must supply the required current and also provide sufficient voltage for the LED string,

The number of VS LED modules that can be connected to a single operating device is dependent on the forward voltage of the respective modules,



Product Classification and Overview of LED Drivers

The electronic constant current drivers are optimised to operate constant current driven LED modules, Before connecting LED modules ensure that the power supply is disconnected from mains,

Product guarantee

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.

Most drivers are designed for DC-operation (mains frequency: 0 Hz) and can be used for emergency power supplies,

Primeline

Programmability, intelligent functions, maximum flexibility

ComfortLine

Convenient, intelligent functions

EasyLine

Focus on core functions, cost-efficient

Product overview by main application fields								
Main application field	Capacity range VV	Output current DC mA	Output voltage DC V	Ref. No.	Version	Current setting	Dimming	Max. service life time (hrs.)
Office	6/10/14	150/250/350	17-40	186530	EasyLine	Push-in terminal	—	50,000
	14	350	2-40	186229	ComfortLine	—	—	100,000
	15/18/21	500/600/700	17-30	186529	EasyLine	Push-in terminal	—	50,000
	27.5/33/38.5	125/150/175	110-220*	186486	ComfortLine	Push-in terminal	—	100,000
	2x14	2x250	160-120	186656	ComfortLine	Push-in terminal	—	100,000
	28.5	500	19-57	186554	ComfortLine	—	—	100,000
	35	500	30-70	186504	EasyLine	—	—	50,000
	4x9	4x60	110-150	186384	ComfortLine	—	DAI, PUSH	100,000
			110-150	186305	ComfortLine	—	—	100,000
	38	500	38-76	186714	EasyLine	—	—	50,000
	40	100-400	30-120*	186585	ComfortLine	LEDset	—	100,000
		400-800	30-70*	186586	ComfortLine	LEDset	—	100,000
		350/500/700	28-114*	186444	ComfortLine	Push-in terminal	—	100,000
	2x20	2x350	17-57	186407	ComfortLine	—	1-10 V	100,000
				186406	ComfortLine	—	—	100,000
	42	350-700	34-120*	186446, 186575, 186576	Primeline	Programmable	DAI, PUSH	100,000
			34-120*	186565	ComfortLine	Resistor	DAI, PUSH	100,000
		350	80-120	186414	EasyLine	—	—	50,000
	44/47/47	200/225/250	94-220*	186487	ComfortLine	Push-in terminal	—	100,000
	45	100-400	30-130	186697	ComfortLine	NFC	—	100,000
		350	65-130	186713	EasyLine	—	—	50,000
		400-800	30-70	186698	ComfortLine	NFC	—	100,000
		700	33-65	186715	EasyLine	—	—	50,000
	46.8	275/300/325	72-170*	186488	ComfortLine	Push-in terminal	—	100,000
	47	250	84-188	186712	EasyLine	—	—	50,000
	2x28.5/2x40	2x500/2x700	17-57	186410	ComfortLine	Dip switch	1-10 V	100,000
				186409	ComfortLine	Dip switch	—	100,000
	54	700	39-78	186716	EasyLine	—	—	50,000
	60	700	46-86	186429	EasyLine	—	—	50,000
	65	350	94-188	186760	EasyLine	—	—	50,000
	77/84	350-700	60-220*	186445, 186577, 186578	Primeline	Programmable	DAI, PUSH	100,000
				186564	ComfortLine	Resistor	DAI, PUSH	100,000
	79/84/84	350/500/700	60-225*	186443	ComfortLine	Push-in terminal	—	100,000
	82.5/84.8/85	375/400/425	100-220*	186491	ComfortLine	Push-in terminal	—	100,000
	84.7/84.6/85.1	550/600/650	65-154*	186492	ComfortLine	Push-in terminal	—	100,000
	85	100-400	100-225*	186587	ComfortLine	LEDset	—	100,000
				186699	ComfortLine	NFC	—	100,000
		400-800	30-130*	186588	ComfortLine	LEDset	—	100,000
				186700	ComfortLine	NFC	—	100,000
	107	500	90-215	186460	ComfortLine	—	DAI, PUSH	100,000
				186315	ComfortLine	—	—	100,000
	2x70	2x700	42-100	186356	ComfortLine	—	DAI, PUSH	100,000
				186355	ComfortLine	—	1-10 V	100,000
				186354	ComfortLine	—	—	100,000

* Depends on the adjusted current output

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

Product Classification and Overview of LED Drivers

Product overview by main application fields								
Main application field	Capacity range W	Output current DC mA	Output voltage DC V	Ref. No.	Version	Current setting	Dimming	Max. service life time (hrs.)
Retail	10/14/20	250/350/500	17–40	186463	EasyLine	Push-in terminal	—	50,000
	14.9/20.7/28.3	350/500/700	14–34	186747	EasyLine LinkRay	Dip switch	—	50,000
	15	350	30–43	186591	EasyLine	—	—	50,000
	15/18/21	500/600/700	17–30	186464	EasyLine	Push-in terminal	—	50,000
	16	350	15–46	186719, 186720	EasyLine	—	—	50,000
	16–38	300–1050	10–54	186762, 186763	PrimeLine	Dip switch	DAI2	100,000
	17/19/22	400/450/500	25–43	186651	ComfortLine	Push-in terminal	—	100,000
	21.5	500	30–43	186592	EasyLine	—	—	50,000
	22/24/26	500/550/600	25–43	186671	ComfortLine	Push-in terminal	—	100,000
	22.4/31.2/42.6	350/500/700	30–53	186746	EasyLine LinkRay	Dip switch	—	50,000
	23	500	15–46	186720, 186725	EasyLine	—	—	50,000
	24	350–700	14–34	186465, 186573, 186574	PrimeLine	Programmable	DAI, PUSH	100,000
				186280	ComfortLine	—	DAI, PUSH	100,000
				186279	ComfortLine	—	1–10 V	100,000
	26/28/30	600/650/700	25–43	186652	ComfortLine	Push-in terminal	—	100,000
	28.5/34.2/40	500/600/700	25–57	186531	EasyLine	Push-in terminal	—	50,000
	30	700	30–43	186593	EasyLine	—	—	50,000
	30/32/34	700/750/800	25–43	186670	ComfortLine	Push-in terminal	—	100,000
	32	700	15–45	186721, 186726	EasyLine	—	—	50,000
	34/37/39	800/850/900	25–43	186653	ComfortLine	Push-in terminal	—	100,000
	34.4/39.8/45	800/925/1050	25–43	186532	EasyLine	Push-in terminal	—	50,000
	37	350–700	30–53	186503, 186571, 186572	PrimeLine	Programmable	DAI, PUSH	100,000
				186308	ComfortLine	—	DAI, PUSH	100,000
				186306	ComfortLine	—	—	100,000
	38	900	15–42	186722, 186727	EasyLine	—	—	50,000
	38.5	700	30–55	186594	EasyLine	—	—	50,000
	38.7	900	30–43	186669	EasyLine	—	—	50,000
	39	150–900	25–43	186650	ComfortLine	LEDset	—	100,000
	41/43/45	950/1000/1050	25–43	186654	ComfortLine	Push-in terminal	—	100,000
	42	1050	15–40	186723, 186728	EasyLine	—	—	50,000
	45	150–900	25–43	186664	ComfortLine	LEDset	—	100,000
	45	300–1050	25–43	186653	ComfortLine	LEDset	—	100,000
			30–43	186595	EasyLine	—	—	50,000
	77/84.8/85.5	350/400/450	100–220	186737	ComfortLine	Push-in terminal	—	100,000
Residential	5–10	250	20–40	186708	EasyLine	—	—	50,000
		250	20–40	186710	EasyLine	—	C	50,000
	5.6	700	2.8–8	186348	EasyLine	—	—	50,000
	6	150	27–41	186447	EasyLine	—	C	50,000
	6–12	300	20–40	186709	EasyLine	—	—	50,000
		300	20–40	186711	EasyLine	—	C	50,000
	7	350	8.4–20	186342	EasyLine	—	—	50,000
	8.75	350	3–25	186519	ComfortLine	—	—	100,000
	10	500	13–20	186448	EasyLine	—	C	50,000
	11	350	2–32	186679	ComfortLine	—	—	100,000
	12	250	27–48	186449	EasyLine	—	C	50,000
	12.6	350	8.4–36	186341	EasyLine	—	—	50,000
	15	500	8–30	186349	EasyLine	—	—	50,000
	16	500	2–32	186680	ComfortLine	—	—	100,000
	17	700	2–25	186681	ComfortLine	—	—	100,000
	18	350	32–52	186415	EasyLine	—	C	50,000
		700	16–26	186450	EasyLine	—	C	50,000

* Depends on the adjusted current output

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

Product Classification and Overview of LED Drivers

Product overview by main application fields								
Main application field	Capacity range W	Output current DC mA	Output voltage DC (V)	Ref. No.	Version	Current setting	Dimming	Max. service life time (hrs.)
Residential	20	350	18–57	186431	EasyLine	—	—	50,000
		1050	2–19	186682	ComfortLine	—	—	100,000
	20.3	700	8–29	186350	EasyLine	—	—	50,000
	21	500	28–42	186505	EasyLine	—	C	50,000
	25	700	22–36	186416	EasyLine	—	C	50,000
	25.2	700	22–36	186353	EasyLine	—	—	50,000
	30	350	57–86	186430	EasyLine	—	—	50,000
	31	700	30–45	186501	EasyLine	—	—	50,000
	31.5	1050	20–30	186351	EasyLine	—	—	50,000
	37.8	700	32–52	186451	EasyLine	—	C	50,000
	47	1050	27–45	186502	EasyLine	—	—	50,000
	60	700	43–86	186548	EasyLine	—	—	50,000
Street		1050	40–58	186522	EasyLine	—	—	50,000
	38.5	700	32–55	186490	ComfortLine	—	1–10 V	100,000
				186489	ComfortLine	—	—	100,000
	60	1050	28–57	186316	ComfortLine	—	1–10 V	100,000
	75	500–1400	36–107	186774	ComfortLine	iProgrammer	1–10 V	100,000
		700	54–107	186400	ComfortLine	—	1–10 V	100,000
		700/400	54–107	186397	ComfortLine	—	Power reduction	100,000
	100	600–1400	47–143	186775	ComfortLine	iProgrammer	1–10 V	100,000
		700	70–143	186401	ComfortLine	—	1–10 V	100,000
		700/400	70–143	186398	ComfortLine	—	Power reduction	100,000
	150	350–1050	85–260*	186442	PrimeLine	Programmable	1–10 V	100,000
		600–1400	72–214	186776	ComfortLine	iProgrammer	1–10 V	100,000
		700	107–214	186402	ComfortLine	—	1–10 V	100,000
		700/400	107–214	186509	ComfortLine	—	Power reduction	100,000
		700/400	48–375	186202, 186203	ComfortLine	—	Power reduction	100,000
Industry		700	107–214	186399	ComfortLine	—	—	100,000
	200	600–1400	75–190	186777	ComfortLine	iProgrammer	1–10 V	100,000
	250	600–1400	90–238	186778	ComfortLine	iProgrammer	1–10 V	100,000
	19.95/28.5/34.2/39.9	350/500/ 600/700	20–57	186581	ComfortLine	Rotary switch	1–10 V	100,000
	38.7/45.1/51.6/60.2	900/1050/1200/1400	20–43	186208	ComfortLine	Rotary switch	1–10 V	100,000
	50	700	35–72	186452	EasyLine	—	—	50,000
	75	1050	35–72	186453	EasyLine	—	—	50,000
	100	1400	30–72	186454	EasyLine	—	—	50,000
	112	700	85–160	186299, 186300	ComfortLine	—	DAI, PUSH	100,000
				186297, 186298	ComfortLine	—	—	100,000
	120	400–800	88–280	186695	ComfortLine	LEDset	—	100,000
	121.8	1050	60–116	186617	EasyLine	—	—	50,000
	122.4	1700	30–72	186455	EasyLine	—	—	50,000
	126	1050	85–120	186303, 186304	ComfortLine	—	DAI, PUSH	100,000
				186301, 186302	ComfortLine	—	—	100,000
	151.2	2100	45–72	186456	EasyLine	—	—	50,000
	165	400–800	120–360	186696	ComfortLine	LEDset	—	100,000
	172.8	2400	45–72	186510	EasyLine	—	—	50,000
	201.6	2800	45–72	186477	EasyLine	—	—	50,000
	320	700–2100	90–225	186779	ComfortLine	iProgrammer	1–10 V	100,000
Accessories								
iProgrammer	Ref. No. 186428	The iProgrammer is designed to let you configure LED drivers using the 3C function.						
iProgrammer NFC	Ref. No. 186646	The iProgrammer is designed to let you configure LED drivers with NFC function.						

* Depends on the adjusted current output

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

ComfortLine LED Drivers – Dimmable

2x700 mA / max. 2x70 W

The linear LED constant-current drivers are designed for use in office and retail lighting.

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: 0.95

Standby losses: < 0.5 W

Dimming

The dimming function is achieved by applying a PWM signal to the nominal current.

Dimming range: 3 to 100%

If no dimming interface is connected, brightness will stay at 100%.

Connection details

Mains voltage: 220–240 V ±10%

Mains frequency: 50–60 Hz

DC operation: 198–264 V DC, 0 Hz

(can be reduced to 176 V with reduced service life time)

Push-in terminals: 0.2–1.5 mm²

Safety features

Electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

SELV

Product guarantee: 5 years



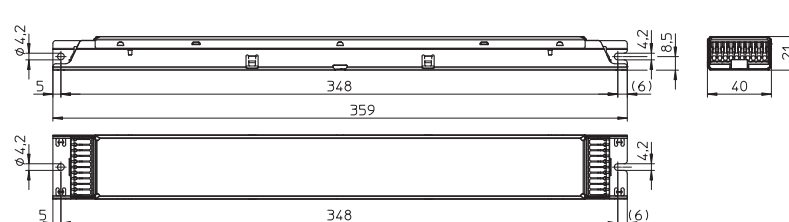
Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No. 186356	
2x700 mA	75 °C	85 °C
hrs.	100,000	50,000



M12



Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
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M12 – Dimensions: 359x40x21 mm

2x70	ECXd 2700.089	186356	198–264	834–625	2x700 ±5%	42–100	< 120	> 90	–20 to 50	85	400
			220–240	750–688							

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

ComfortLine LED Drivers – Dimmable

4x60 mA / max. 4x9 W

500 mA / max. 107 W

The linear LED constant-current drivers are designed for use in office and retail lighting.

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.95

Standby losses: < 0.5 W

Dimming

The dimming function is achieved by applying a PWM signal to the nominal current.

Dimming range: 3 to 100%

If no dimming interface is connected, brightness will stay at 100%.

Connection details

Mains voltage: 220–240 V ±10%

Mains frequency: 50–60 Hz

DC operation: 198–264 V DC, 0 Hz

Push-in terminals: 0.2–1.5 mm²

Safety features

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

Product guarantee: 5 years



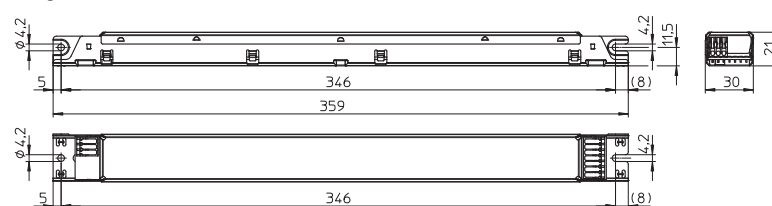
Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No. all types	
all	60 °C	70 °C
hrs.	100,000	50,000



M10



Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
M10 – Dimensions: 359x30x21 mm											
4x9	ECXd 460.110	186384	198–264	190–140	4x60 ±5%	110–150	< 450	> 91	–25 to 65	70	230
			220–240	170–150							
107	ECXd 500.163	186460	198–264	557–412	500 +5/–10%	90–215	< 450	> 90	–20 to 50	70	220
			220–240	502–460							

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

ComfortLine LED Drivers – Dimmable

2x350 mA / max. 2x20 W
2x500 mA / max. 2x28.5 W
2x700 mA / max. 2x40 W
and max. 2x70 W

The linear LED constant-current drivers are designed for use in office and retail lighting.

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: 0.95

Dimming

The dimming function is achieved by applying a PWM signal to the nominal current (M12) or with an analogue dimming signal (M10/M11).

Dimming range: 3 to 100%

If no dimming interface is connected, brightness will stay at 100%.

Connection details

Mains voltage: 220–240 V $\pm 10\%$

Mains frequency: 50–60 Hz

DC operation: 198–264 V DC, 0 Hz

(can be reduced to 176 V with reduced service life time)

Push-in terminals: 0.2–1.5 mm²

Safety features

Electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

SELV

Product guarantee: 5 years



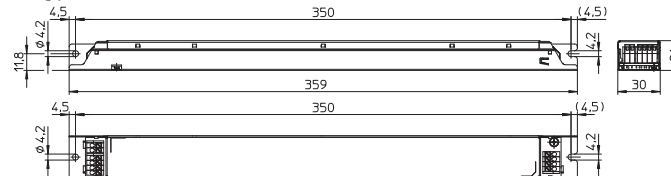
Expected service life time

at operation temperatures at t_c point

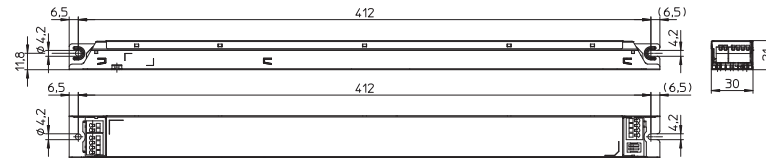
1-10V

Operation current	Ref. No.	186407	186410	186355
2x350 mA	65 °C	75 °C	—	—
2x500 mA	—	—	65 °C	75 °C
2x700 mA	—	—	65 °C	75 °C
hrs.	100,000	50,000	100,000	50,000

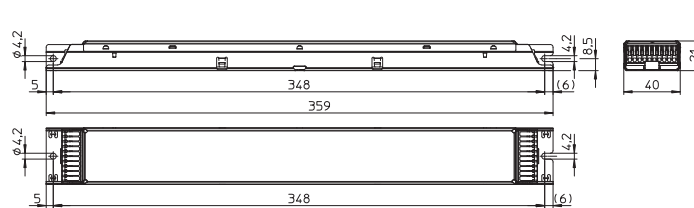
M10.1



M11.1



M12



Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
M10.1 – Dimensions: 359x30x21 mm											
2x20	ECXd 2350.124	186407	198–264	500–340	2x350 ±5%	17–57	42	> 85	–20 to 50	75	270
			220–240	400–370							
M11.1 – Dimensions: 425x30x21 mm											
2x28.5/ 2x40	ECXd 2700.127	186410	198–264	490–385	2x500 ±5% /	17–57	60	> 88	–20 to 50	75	310
			220–240	480–400	2x700 ±5%						
M12 – Dimensions: 359x40x21 mm											
2x70	ECXd 2700.088	186355	198–264	834–625	2x700 ±5%	42–100	120	> 90	–20 to 50	85	400
			220–240	750–688							

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ComfortLine LED Drivers

2x250 mA / max. 2x14 W
2x350 mA / max. 2x20 W
2x500 mA / max. 2x28.5 W
2x700 mA / max. 2x40 W
and max. 2x70 W

The linear LED constant-current drivers are designed for use in office and retail lighting.

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.9 C

Connection details

Mains voltage: 220–240 V $\pm 10\%$

Mains frequency: 50–60 Hz

DC operation: 198–264 V DC, 0 Hz

(can be reduced to 176 V with reduced service life time)

Push-in terminals: 0.2–1.5 mm²

Safety features

Electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

SELV

Product guarantee: 5 years

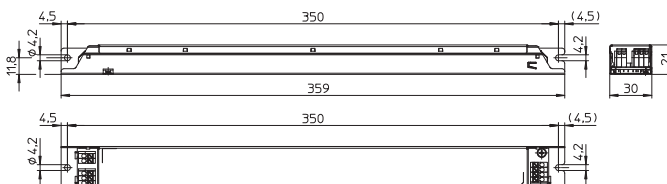


Expected service life time

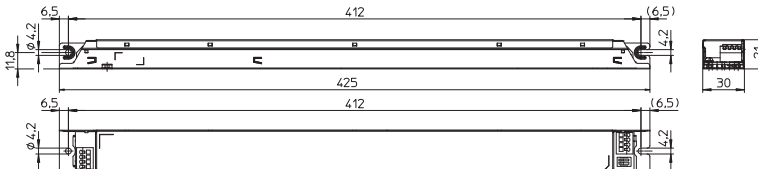
at operation temperatures at t_c point

Operation current	Ref. No.					
	186406, 186656	186409	186354			
2x350 mA	65 °C	75 °C	—	—	—	—
2x500 mA	—	—	65 °C	75 °C	—	—
2x700 mA	—	—	65 °C	75 °C	75 °C	85 °C
hrs.	100,000	50,000	100,000	50,000	100,000	50,000

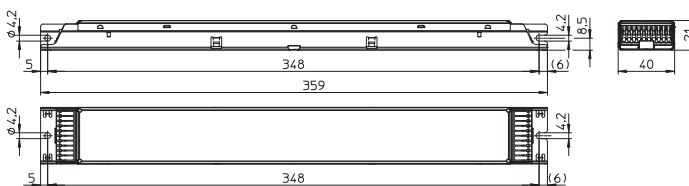
M10.1



M11.1



M12



Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
M10.1 – Dimensions: 359x30x21 mm											
2x14	ECXe 2250.246	186656	198–264	160–120	2x250	15–57	< 60	> 85	–25 to 50	75	306
			220–240	170–155							
2x20	ECXe 2350.123	186406	198–264	500–340	2x350 ±5%	17–57	< 60	> 85	–20 to 50	75	270
			220–240	400–370							
M11.1 – Dimensions: 425x30x21 mm											
2x28.5/ 2x40	ECXe 2700.126	186409	198–264	260–175	2x500 ±5%/	17–57	< 60	> 88	–20 to 50	75	310
			220–240	200–190	2x700 ±5%						
M12 – Dimensions: 359x40x21 mm											
2x70	ECXe 2700.087	186354	198–264	834–625	2x700 ±5%	42–100	< 120	> 90	–20 to 50	85	400
			220–240	750–688							

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

ComfortLine LED Drivers

4x60 mA / max. 4x9 W

500 mA / max. 107 W

The linear LED constant-current drivers are designed for use in office and retail lighting.

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.96

Connection details

Mains voltage: 220–240 V ±10%

Mains frequency: 50–60 Hz

DC operation (except 186305):

198–264 V DC, 0 Hz

(can be reduced to 176 V with reduced service life time)

Push-in terminals: 0.2–1.5 mm²

Safety features

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

Product guarantee: 5 years

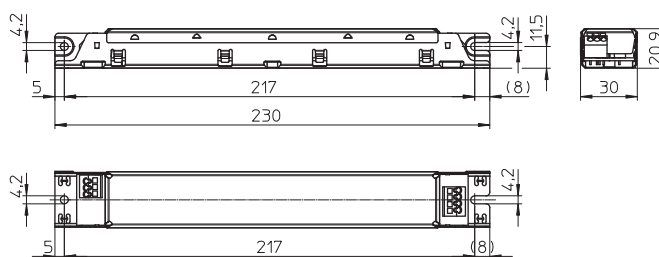


Expected service life time

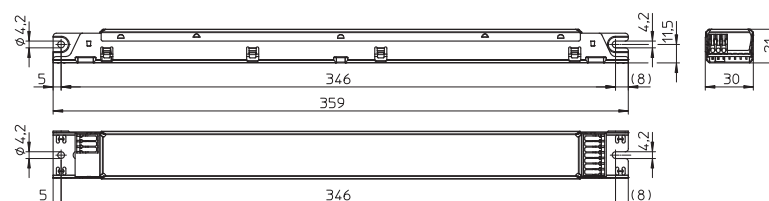
at operation temperatures at t_c point

Operation current	Ref. No. all types	
all	60 °C	70 °C
hrs.	100,000	50,000

M6.1



M10



Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
M6.1 – Dimensions: 230x30x20.9 mm											
4x9	ECXe 460.061	186305	—	—	4x60 ±5%	110–150	450	> 88	–20 to 60	70	156
			220–240	180–165							
M10 – Dimensions: 359x30x21 mm											
107	ECXe 500.068	186315	198–264	650–410	500 ±5%	90–215	450	> 94	–25 to 50	70	273
			220–240	520–440							

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

ComfortLine LED Drivers

350 mA / max. 14 W

The linear LED constant-current drivers are designed for use in office and retail lighting.

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: 0.55 C

Connection details

Mains voltage: 220–240 V $\pm 10\%$

Mains frequency: 50–60 Hz

DC operation: 176–264 V DC, 0 Hz

Push-in terminals: 0.2–1.5 mm²

Safety features

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class II

SELV

Product guarantee: 5 years

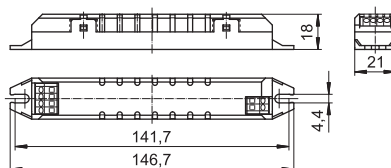


Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No. 186229	
350 mA	70 °C	80 °C
hrs.	100,000	50,000

K21



Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
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K21 – Dimensions: 146.7x21x18 mm

14	ECXe 350.031	186229	176–264 220–240	140–90 81–75	350 $\pm 5/-10\%$	2–40	42	> 81	–20 to 50	80	49
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The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

ComfortLine LED Drivers

500 mA / max. 28.5 W

The linear LED constant-current drivers are designed for use in office and retail lighting.

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.95

Connection details

Mains voltage: 120–240 V $\pm 10\%$

Mains frequency: 50–60 Hz

Push-in terminals: 0.2–1.5 mm²

Safety features

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

Product guarantee: 5 years

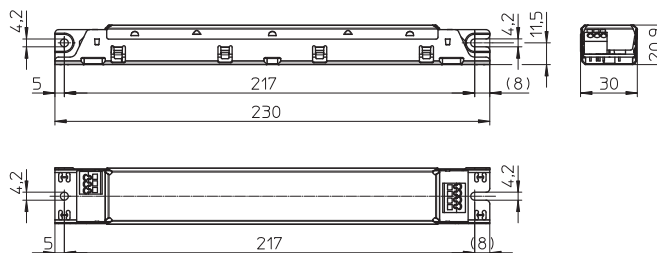


Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No.	
	186554	
500 mA	60 °C	70 °C
hrs.	100,000	50,000

M6.1



Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
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M6.1 – Dimensions: 230x30x20.9 mm

28.5	ECXe 500.210	186554	120–240	280–140	500 $\pm 5\%$	19–57	< 250	> 83	–25 to 50	70	152
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The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

EasyLine LED Drivers – with Selectable Current

150/250/350 mA / max. 14 W

500/600/700 mA / max. 21 W

The linear LED constant-current drivers are designed for use in office and retail lighting.

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.94

Selectable current output

The required current output can be chosen by selecting the respective pin at the output terminal.

Connection details

Mains voltage: 220–240 V $\pm 10\%$

Mains frequency: 50–60 Hz

Push-in terminals: 0.2–1.5 mm²

Safety features

Electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

SELV

Product guarantee: 5 years

at recommended operation temperature

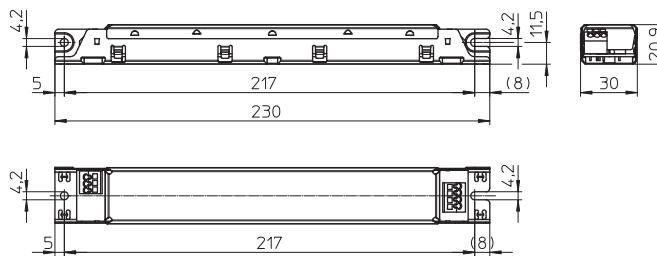
Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No.			
	186530	186529		
150–350 mA	55 °C*	65 °C	—	—
500–700 mA	—	—	60 °C*	70 °C
hrs.	50,000	30,000	50,000	30,000

* recommended operation temperature

M6.1



Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
M6.1 – Dimensions: 230x30x20.9 mm											
6	ECXe 350.198	186530	220–240	32–29	150 $\pm 7.5\%$	17–40	< 60	> 84	–20 to 50	65	146
10				53–49	250 $\pm 7.5\%$						
14				74–68	350 $\pm 7.5\%$						
15	ECXe 700.197	186529	220–240	80–73	500 $\pm 7.5\%$	17–30	< 60	> 84	–20 to 50	70	146
18				96–88	600 $\pm 7.5\%$						
21				112–102	700 $\pm 7.5\%$						

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

EasyLine LED Drivers

500 mA / max. 35 W

The linear LED constant-current drivers are designed for use in office and retail lighting.

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.9

Connection details

Mains voltage: 120–240 V $\pm 10\%$

Mains frequency: 50–60 Hz

Push-in terminals: 0.2–1.5 mm²

Safety features

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

Product guarantee: 5 years

at recommended operation temperature

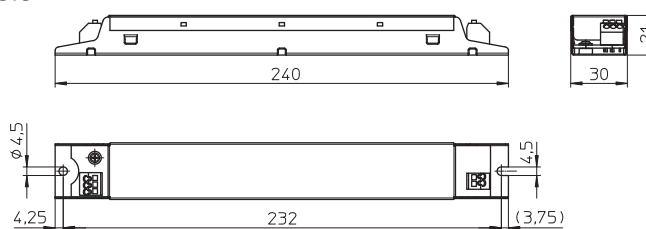
Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No. 186504	
500 mA	65 °C*	75 °C
hrs.	50,000	30,000

* recommended operation temperature

M5.3



Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
35	ECXe 500.185	186504	120–240	330–165	500 $\pm 5\%$	30–70	< 250	> 90	–15 to 50	75	158

M5.3 – Dimensions: 240x30x21 mm

35	ECXe 500.185	186504	120–240	330–165	500 $\pm 5\%$	30–70	< 250	> 90	–15 to 50	75	158
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The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

EasyLine LED Drivers

350 mA / max. 42 W

700 mA / max. 60 W

The linear LED constant-current drivers are designed for use in office and retail lighting.

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.9 C

Connection details

Mains voltage: 220–240 V ±10%

Mains frequency: 50–60 Hz

Push-in terminals: 0.2–1.5 mm²

Safety features

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

SELV (186429)

Product guarantee: 5 years

at recommended operation temperature



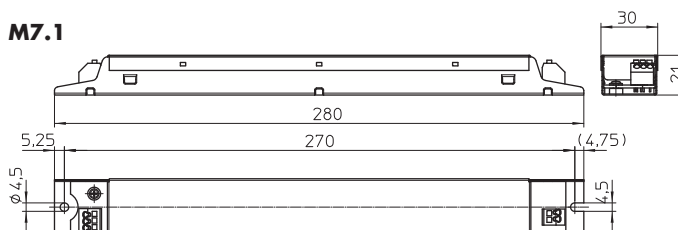
Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No.			
	186414	186429		
350 mA	60 °C*	70 °C	—	—
700 mA	—	—	65 °C*	75 °C
hrs.	50,000	30,000	50,000	30,000

* recommended operation temperature

M7.1



Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
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M7.1 – Dimensions: 280x30x21 mm

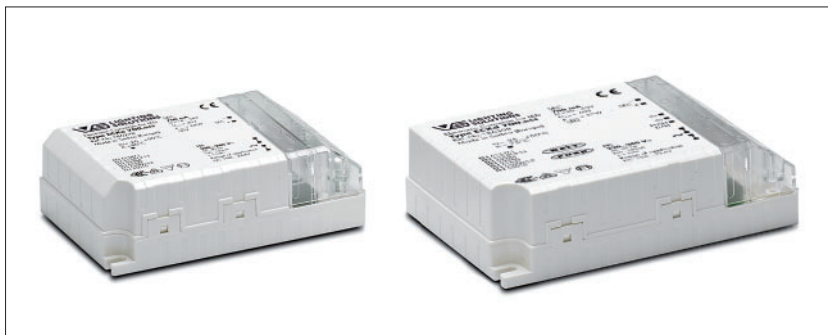
42	ECXe 350.129	186414	220–240	220–200	350 ±5%	80–120	< 130	> 88	–15 to 45	70	200
60	ECXe 700.140	186429	220–240	305–275	700 ±5%	46–86	< 95	> 89	–15 to 45	75	200

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

PrimeLine LED Drivers – with Programmable Current

350–700 mA / max. 24 W and max. 37 W

Compact casing shape with integrated cord grip
optional for built-in or independent operation.



Electrical characteristics

Secondary side switching of LED modules is allowed (hot wiring).

Power factor at full load: > 0.95

Standby losses: < 0.5 W

Dimming

The dimming function is achieved by applying a PWM signal to the nominal current.

Dimming range: 1 to 100%

If no dimming interface is connected, brightness will stay at 100%.

Programmability

The output current can be freely adjusted in 1 mA steps between 350 mA and 700 mA (factory setting: 350 mA).

An iProgrammer (Ref. No. 186428) and a PC running the respective VS software are required for programming purposes.



Safety features

Electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

Protection class II

SELV

Product guarantee: 5 years

Expected service life time

at operation temperatures at t_c point



Operation current	Ref. No. all types	
all	65 °C	75 °C
hrs.	100,000	50,000

Connection details

Mains voltage: 220–240 V $\pm 10\%$

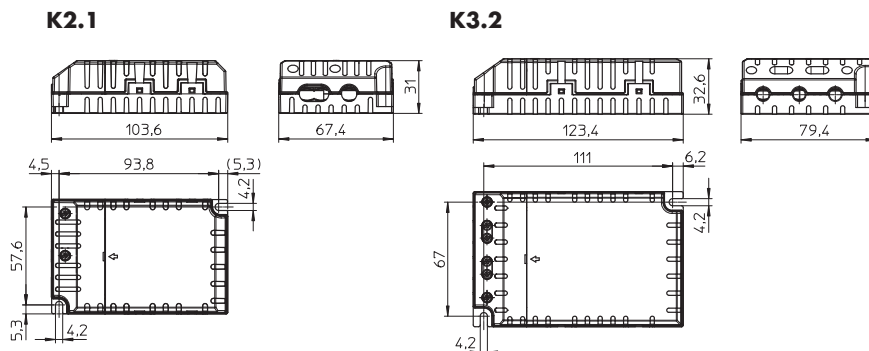
Mains frequency: 50–60 Hz

DC operation: 198–264 V DC, 0 Hz

(can be reduced to 176 V with reduced service life time)

With integrated through-wiring

Push-in terminals: 0.2–1.5 mm²



Max. output	Type	Ref. No.	Mains voltage 0 Hz, 50–60 Hz V	Mains current mA	Current output DC programmable mA	Factory setting mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t _a °C	Casing temperature t _c °C	Weight g
K2.1 – Dimensions: 103.6x67.4x31 mm												
24	ECXd 700.166	186465	198–264	160–100	350–700 ±5%	350	14–34	< 45	> 84	–25 to 50	75	145
			220–240	130–120								
		186573				500						
		186574				700						
K3.2 – Dimensions: 123.4x79.4x32.6 mm												
37	ECXd 700.184	186503	198–264	235–155	350–700 ±5%	350	30–53	< 60	> 87	–25 to 50	75	190
			220–240	200–180								
		186571				500						
		186572				700						

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

ComfortLine LED Drivers – Dimmable

700 mA / max. 24 W and max. 37 W

Compact casing shape with integrated cord grip optional for built-in or independent operation.

Electrical characteristics

Secondary side switching of LED modules is allowed (hot wiring).

Power factor at full load: > 0.9

Standby losses: < 0.5 W

Dimming

The dimming function is achieved by applying a PWM signal to the nominal current.

Dimming range: 1 to 100%

If no dimming interface is connected, brightness will stay at 100%.

Connection details

Mains voltage: 220–240 V $\pm 10\%$

Mains frequency: 50–60 Hz

DC operation: 198–264 V DC, 0 Hz

(can be reduced to 176 V with reduced service life time)

With integrated through-wiring

Push-in terminals: 0.2–1.5 mm²

Safety features

Electronic short-circuit protection

Overload and overtemperature protection

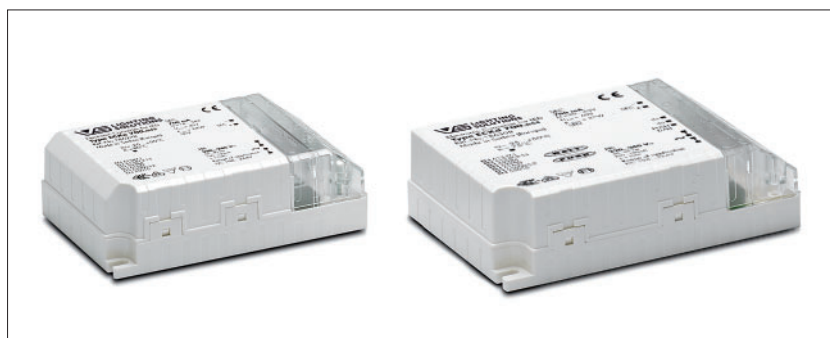
Protection against "no load" operation

Degree of protection: IP20

Protection class II

SELV

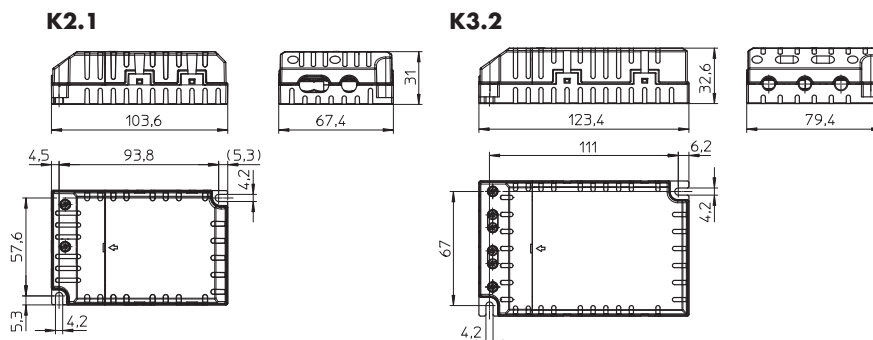
Product guarantee: 5 years



Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No. all types	
all	65 °C	75 °C
hrs.	100,000	50,000



Max. output	Type	Ref. No.	Mains voltage 0 Hz, 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
W											
K2.1 – Dimensions: 103.6x67.4x31 mm											
24	ECXd 700.044	186280	198–264	160–100	700 ±5%	14–34	< 45	> 84	–25 to 50	75	145
			220–240	130–120							
K3.2 – Dimensions: 123.4x79.4x32.6 mm											
37	ECXd 700.064	186308	198–264	235–155	700 ±5%	30–53	< 60	> 87	–25 to 50	75	190
			220–240	200–180							

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

ComfortLine LED Drivers – Dimmable

700 mA / max. 24 W

Compact casing shape with integrated cord grip optional for built-in or independent operation.

Electrical characteristics

Secondary side switching of LED modules is allowed (hot wiring).

Power factor at full load: > 0.9

Dimming

The dimming function is achieved by applying a PWM signal to the nominal current.

Dimming range: 1 to 100%

If no dimming interface is connected, brightness will stay at 100%.

Connection details

Mains voltage: 220–240 V $\pm 10\%$

Mains frequency: 50–60 Hz

DC operation: 198–264 V DC, 0 Hz
(can be reduced to 176 V with reduced service life time)

With integrated through-wiring

Push-in terminals: 0.2–1.5 mm²

Safety features

Electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

Protection class II

SELV

Product guarantee: 5 years

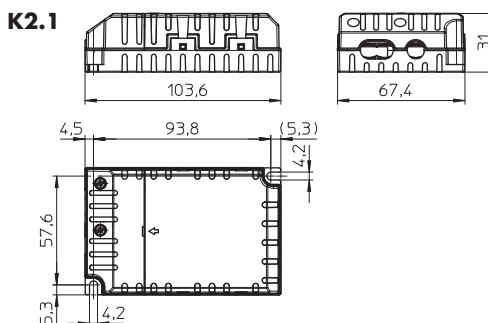


Expected service life time

at operation temperatures at t_c point

	1-10V	

Operation current	Ref. No. 186279	
700 mA	65 °C	75 °C
hrs.	100,000	50,000



Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
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K2.1 – Dimensions: 103.6x67.4x31 mm

24	ECXd 700.043	186279	198–264	160–100	700 $\pm 5\%$	14–34	< 45	> 84	–25 to 50	75	145
			220–240	130–120							

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

ComfortLine LED Drivers

700 mA / max. 37 W

Electrical characteristics

Secondary side switching of LED modules is allowed. (hot wiring)

Power factor at full load: > 0.9

Connection details

Mains voltage: 220–240 V $\pm 10\%$

Mains frequency: 50–60 Hz

DC operation: 198–264 V DC, 0 Hz
(can be reduced to 176 V with reduced service life time)

With integrated through-wiring for L/N/PE

Push-in terminals: 0.25–2.5 mm²

Safety features

Electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

Protection class II

SELV

Product guarantee: 5 years

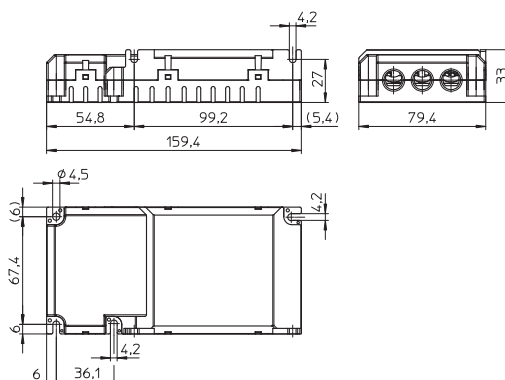


Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No. 186556	
700 mA	65 °C	75 °C
hrs.	100,000	50,000

K3 with cord grip



Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
37	ECXe 700.211	186556	198–264 220–240	235–155 200–180	700 $\pm 5\%$	30–53	< 60	> 87	–25 to 50	75	230

K3 with cord grip – Dimensions: 159.4x79.4x33 mm

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

ComfortLine LED Drivers

700 mA / max. 24 W and max. 37 W

Compact casing shape with integrated cord grip
optional for built-in or independent operation.

Electrical characteristics

Secondary side switching of LED modules
is allowed (hot wiring).

Power factor at full load: > 0.9

Connection details

Mains voltage: 220–240 V $\pm 10\%$

Mains frequency: 50–60 Hz

DC operation: 198–264 V DC, 0 Hz

(can be reduced to 176 V with reduced
service life time)

With integrated through-wiring

Push-in terminals: 0.2–1.5 mm²

Safety features

Electronic short-circuit protection

Overload and overtemperature protection

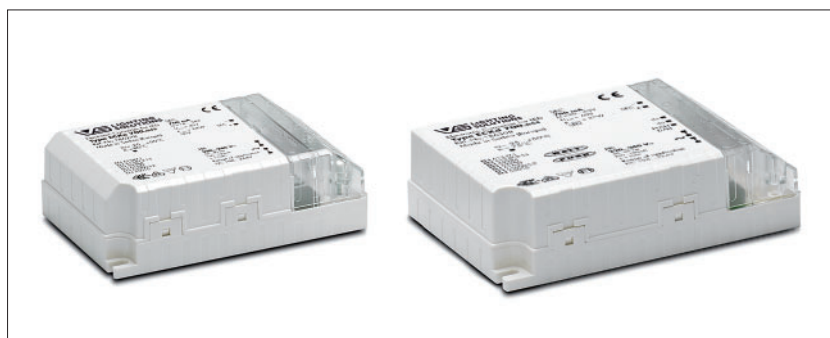
Protection against "no load" operation

Degree of protection: IP20

Protection class II

SELV

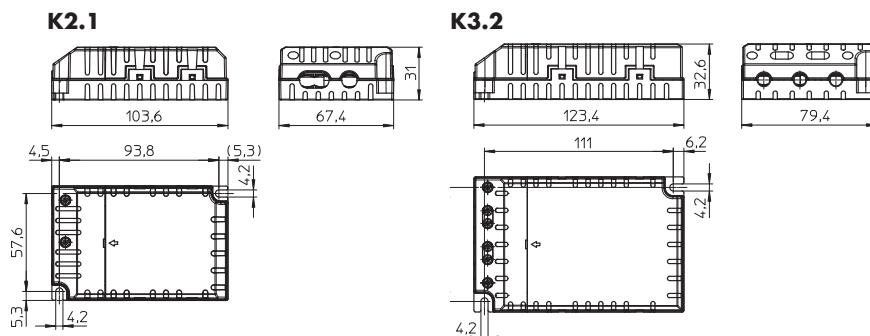
Product guarantee: 5 years



Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No. all types	
700 mA	65 °C	75 °C
hrs.	100,000	50,000



Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
K2.1 – Dimensions: 103.6x67.4x31 mm											
24	ECXe 700.042	186278	198–264	160–100	700 ±5%	14–34	< 45	> 84	–25 to 50	75	135
			220–240	130–120							
K3.2 – Dimensions: 123.4x79.4x32.6 mm											
37	ECXe 700.062	186306	198–264	235–155	700 ±5%	30–53	< 60	> 87	–25 to 50	75	170
			220–240	200–180							

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

EasyLine LED Drivers

500 mA / max. 25 W

700 mA / max. 35 W

1050 mA / max. 35 W

Compact casing shape with integrated cord grip
optional for built-in or independent operation.

Electrical characteristics

Secondary side switching of LED modules
is not allowed.

Power factor at full load: > 0.9

Connection details

Mains voltage: 220–240 V $\pm 10\%$

Mains frequency: 50–60 Hz

Push-in terminals: 0.2–1.5 mm²

Safety features

Temporary electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

Protection class II

SELV

Product guarantee: 5 years

at recommended operation temperature



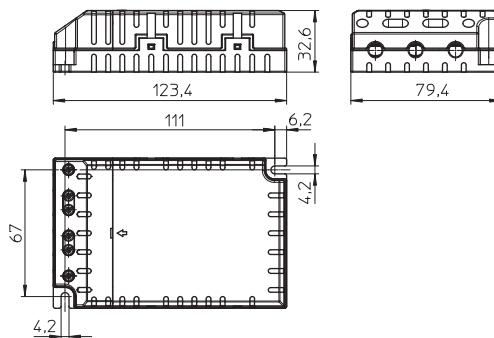
Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No. all types	
all	60 °C*	70 °C
hrs.	50,000	30,000

* recommended operation temperature

K3.2



Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load V	Efficiency at full load % [230 V]	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
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K3.2 – Dimensions: 123.4x79.4x32.6 mm

25	ECXe 500.093	186363	220–240	135–125	500 $\pm 7.5\%$	25–50	< 60	> 89	–20 to 50	70	170
35	ECXe 700.094	186364	220–240	185–170	700 $\pm 7.5\%$	25–50	< 60	> 89	–20 to 50	70	170
35	ECXe 1050.095	186365	220–240	185–170	1050 $\pm 7.5\%$	16–34	< 60	> 90	–20 to 50	70	180

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

ComfortLine LED Drivers – Dimmable

700 mA / max. 30 W
1050 mA / max. 37,8 W

Electrical characteristics

Secondary side switching of LED modules is not allowed.
 Power factor at full load: > 0.9

Dimming (except 186393)

Dimmable (analogue) with phase-cutting trailing-edge dimmer
 Minimum dimmer load has to be observed.
 The compatibility of the driver and the dimmer has to be confirmed prior to installation to avoid flickering and/or noises.

Expected service life time

at operation temperatures at t_c point



Operation current	Ref. No. 186393		186394, 186395	
	700 mA	1050 mA	700 mA	1050 mA
Temperature	65 °C	75 °C	65 °C	75 °C
hrs.	100,000	50,000	100,000	50,000

Connection details

Mains voltage: 220–240 V $\pm 10\%$
 Mains frequency: 50–60 Hz
 Push-in terminals: 0.2–1.5 mm²

Safety features

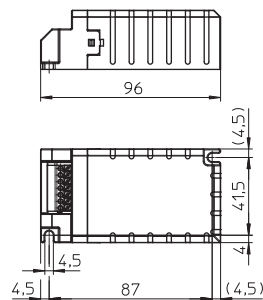
Electronic short-circuit protection
 Overload protection
 Protection against "no load" operation
 Degree of protection: IP20

Protection class II

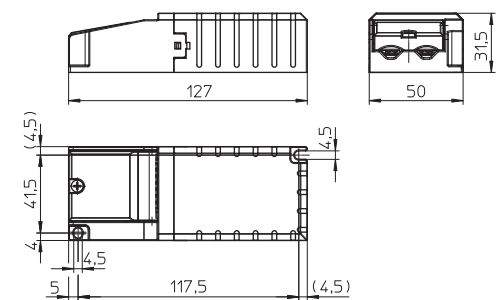
SELV

Product guarantee: 5 years

K35



K35 with cord grip



Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % [230 V]	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
K35 – Dimensions: 96x50x31.5 mm											
30	ECXe 700.112	186393	220–240	155–140	700 $\pm 5\%$	17–42	< 60	> 88	–25 to 50	75	130
K35 – Dimmable – Dimensions: 96x50x31.5 mm											
37,8	ECXd 1050.113	186394	220–240	200–180	1050 $\pm 10\%$	18–36	< 60	> 85	–10 to 40	75	140
K35 with cord grip – Dimmable – Dimensions: 127x50x31.5 mm											
37,8	ECXd 1050.113	186395	220–240	200–180	1050 $\pm 10\%$	18–36	< 60	> 85	–10 to 40	75	155

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

ComfortLine LED Drivers

350 mA / max. 8.75 W

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.6

Connection details

Mains voltage: 220–240 V $\pm 10\%$

Mains frequency: 50–60 Hz

DC operation: 198–264 V DC, 0 Hz
(can be reduced to 176 V with reduced service life time)

Screw terminals: 2.5 mm²

Safety features

Protection against transient main peaks up to 1 kV (between L and N)

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class II

SELV

Product guarantee: 5 years



Expected service life time

at operation temperatures at t_c point

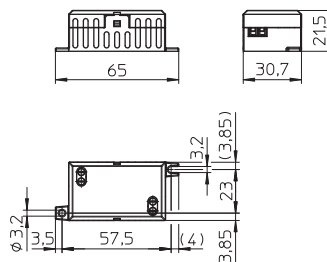
Operation current	Ref. No. 186519	
350 mA	70 °C	80 °C
hrs.	100,000	50,000

Special Feature

Protection against transient main peaks up to 1 kV (between L and N)



K29



Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
8.75	ECXe 350.192	186519	176–264 220–240	60–39 79–73	350 $\pm 5\%$	3–25	26	> 78	–25 to 50	80	35

K29 – Dimensions: 65x30.7x21.5 mm

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

EasyLine LED Drivers – Dimmable

150–700 mA / max. 6–36 W

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.85

Dimming

Dimmable (analogue) with phase-cutting trailing-edge dimmer.

Minimum dimmer load has to be observed.

The compatibility of the driver and the dimmer has to be confirmed prior to installation to avoid flickering and/or noises.

Connection details

Mains voltage: 220–240 V ±10%

Mains frequency: 50–60 Hz

Screw terminals: 0.5–2.5 mm²

Safety features

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class II

SELV

Product guarantee: 5 years

at recommended operation temperature

Expected service life time

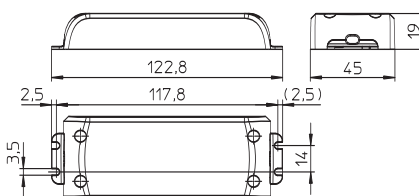
at operation temperatures at t_c point



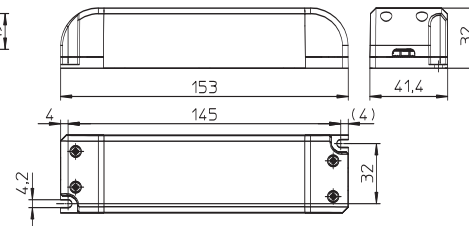
Operation current	Ref. No.					
	186415, 186416, 186451		186505		186447, 186448, 186449, 186450	
all	70 °C*	80 °C	65 °C*	75 °C	60 °C*	70 °C
hrs.	50,000	30,000	50,000	30,000	50,000	30,000

* recommended operation temperature

K52



K53



Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
K52 – Dimensions: 122.8x45x19 mm											
6	ECXd 150.151	186447	220–240	40–35	150 ±8%	27–41	60	> 78	–15 to 45	70	70
10	ECXd 500.152	186448	220–240	60–50	500 ±8%	13–20	30	> 80	–15 to 45	70	70
12	ECXd 250.153	186449	220–240	70–60	250 ±8%	27–48	60	> 80	–15 to 45	70	70
K53 – Dimensions: 153x41.4x32 mm											
18	ECXd 350.130	186415	220–240	100–90	350 ±8%	32–52	60	> 85	–15 to 45	80	70
18	ECXd 700.134	186450	220–240	95–85	700 ±8%	16–26	35	> 85	–15 to 45	70	140
21	ECXd 500.186	186505	220–240	110–100	500 ±8%	28–42	50	> 85	–15 to 45	75	100
25	ECXd 700.131	186416	220–240	140–120	700 ±8%	22–36	60	> 85	–15 to 45	80	140
36	ECXd 700.155	186451	220–240	190–170	700 ±8%	32–52	60	> 83	–15 to 45	80	170

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

EasyLine LED Drivers

700 mA / max. 5.2 W

For applications according to EN 60335

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.5

Connection details

Mains voltage: 220–240 V ±10%

Mains frequency: 50–60 Hz

Pre-assembled connection leads

primary: 2x0.75 mm², length: 180 mm

secondary: 2x0.5–0.75 mm², length: 180 mm

Safety features

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class II

SELV

Product guarantee: 5 years

at recommended operation temperature



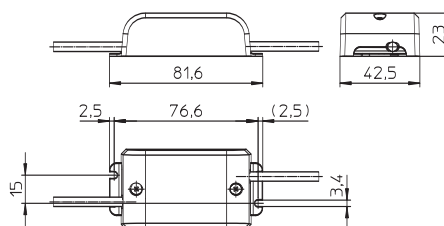
Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No. 186458	
700 mA	60 °C*	70 °C
hrs.	50,000	30,000

* recommended operation temperature

K51



Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
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K51 – Dimensions: 82x42.5x23 mm

5.2	ECXe 700.161	186458	220–240	50–30	700 ±8%	2.8–7.4	< 60	> 70	–15 to 45	70	45
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The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

EasyLine LED Drivers

350 mA / max. 7 W
700 mA / max. 5.6 W

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.5

Connection details

Mains voltage: 220–240 V $\pm 10\%$

Mains frequency: 50–60 Hz

Pre-assembled connection leads

primary: 2x0.75 mm², length: 180 mm

secondary: 2x0.5–0.75 mm², length: 180 mm

Safety features

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class II

SELV

Product guarantee: 5 years

at recommended operation temperature



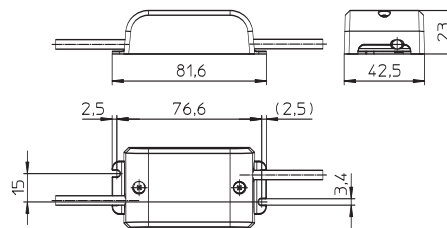
Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No. all types	
all	65 °C*	75 °C
hrs.	50,000	30,000

* recommended operation temperature

K51



Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
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K51 – Dimensions: 81.6x42.5x23 mm

5.6	ECXe 700.081	186348	220–240	45–30	700 $\pm 5\%$	2.8–8	< 60	> 70	–15 to 45	75	45
7	ECXe 350.079	186342	220–240	50–36	350 $\pm 5\%$	8.4–20	< 60	> 70	–15 to 45	75	45

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

EasyLine LED Drivers

500 mA / max. 12 W

The LED constant-current drivers are designed for use in residential lighting.

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.9

Connection details

Mains voltage: 220–240 V $\pm 10\%$

Mains frequency: 50–60 Hz

Screw terminals: 0.5–2.5 mm²

Safety features

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class II

SELV

Product guarantee: 5 years

at recommended operation temperature



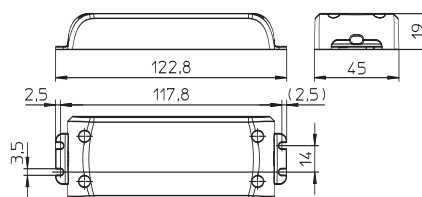
Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No. 186508	
350 mA	—	—
500 mA	60 °C*	70 °C
hrs.	50,000	30,000

* recommended operation temperature

K52



Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
12	ECXe 500.189	186508	220–240	64–58	500 $\pm 5\%$	8–24	< 60	> 85	–15 to 45	70	65

K52 – Dimensions: 122.8x45x19 mm

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

EasyLine LED Drivers

350 mA / max. 12.6 W and 20 W

500 mA / max. 15 W

700 mA / max. 20.3 W and 25.2 W

The LED constant-current drivers are designed for use in residential lighting.

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.5 or > 0.95 (186353)

Connection details

Mains voltage: 220–240 V $\pm 10\%$

Mains frequency: 50–60 Hz

Screw terminals: 0.5–2.5 mm²

Safety features

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class II

SELV

Product guarantee: 5 years

at recommended operation temperature



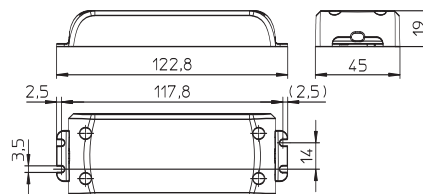
Expected service life time

at operation temperatures at t_c point

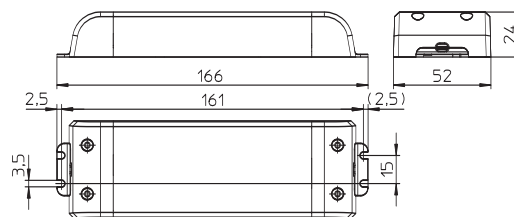
Operation current	Ref. No.		186341, 186431		186349	186350		186353	
350 mA	65 °C*	75 °C	—	—	—	—	—	—	—
500 mA	—	—	65 °C*	75 °C	—	—	—	—	—
700 mA	—	—	—	—	65 °C*	75 °C	60 °C*	70 °C	—
hrs.	50,000	30,000	50,000	30,000	50,000	30,000	50,000	30,000	30,000

* recommended operation temperature

K52



K54



Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
K52 – Dimensions: 122.8x45x19 mm											
12.6	ECXe 350.078	186341	220–240	100–70	350 $\pm 5\%$	8.4–36	< 60	> 83	–15 to 45	75	65
15	ECXe 500.082	186349	220–240	90–70	500 $\pm 5\%$	8–30	< 60	> 83	–15 to 45	75	70
20	ECXe 350.142	186431	220–240	190–170	350 $\pm 5\%$	18–57	< 63	> 85	–15 to 45	75	140
20.3	ECXe 700.083	186350	220–240	115–100	700 $\pm 5\%$	8–29	< 60	> 83	–15 to 45	75	70
K54 – Dimensions: 166x52x24 mm											
25.2	ECXe 700.086	186353	220–240	130–115	700 $\pm 8\%$	22–36	< 60	> 88	–15 to 45	70	140

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

EasyLine LED Drivers

700 mA / max. 31 W

1050 mA / max. 47 W

The LED constant-current drivers are designed for use in residential lighting.

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.95

Connection details

Mains voltage: 220–240 V ±10%

Mains frequency: 50–60 Hz

Screw terminals: 0.5–2.5 mm²

Safety features

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

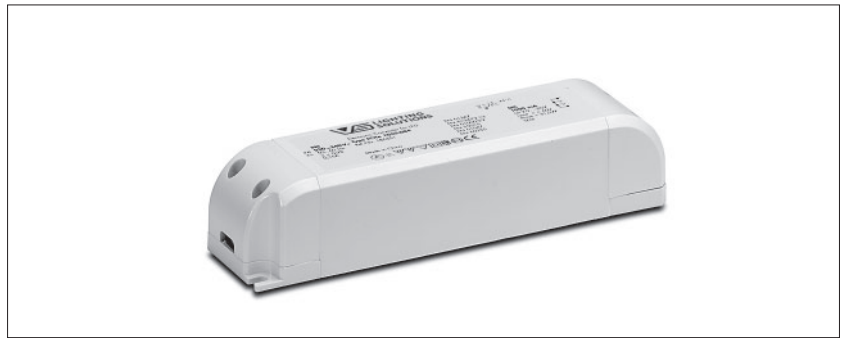
Degree of protection: IP20

Protection class II

SELV

Product guarantee: 5 years

at recommended operation temperature



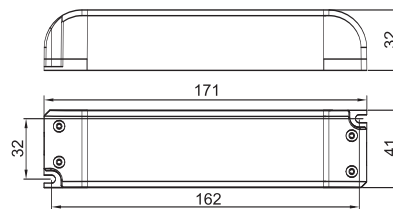
Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No.			
	186501	186502		
700 mA	65 °C*	75 °C	—	—
1050 mA	—	—	70 °C*	80 °C
hrs.	50,000	30,000	50,000	30,000

* recommended operation temperature

K55



Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
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K55 – Dimensions: 171x41x32 mm

31	ECXe 700.182	186501	220–240	160–140	700 ±8%	30–45	< 55	> 87	–15 to 45	75	110
47	ECXe 1050.183	186502	220–240	245–215	1050 ±8%	27–45	< 57	> 89	–15 to 45	80	110

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

EasyLine LED Drivers

350–1050 mA / max. 30–60 W

The LED constant-current drivers are designed for use in residential lighting.

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.95

Connection details

Mains voltage: 220–240 V $\pm 10\%$

Mains frequency: 50–60 Hz

Screw terminals: 0.5–2.5 mm²

Safety features

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

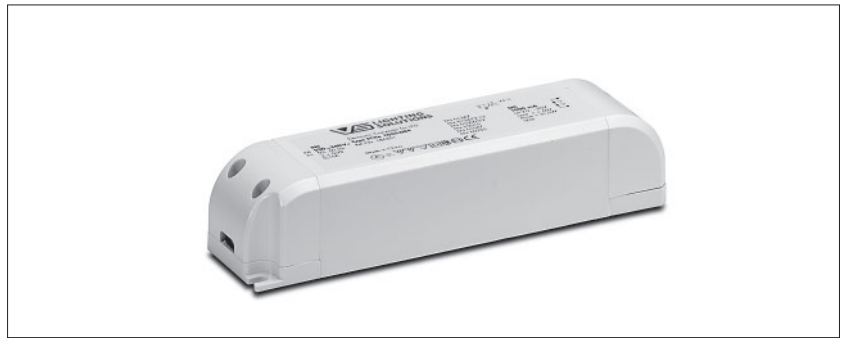
Degree of protection: IP20

Protection class II

SELV

Product guarantee: 5 years

at recommended operation temperature



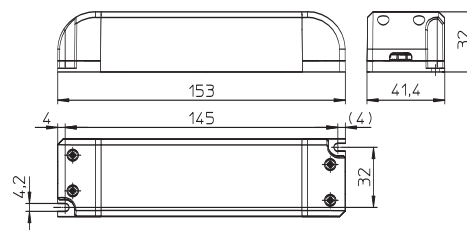
Expected service life time

at operation temperatures at t_c point

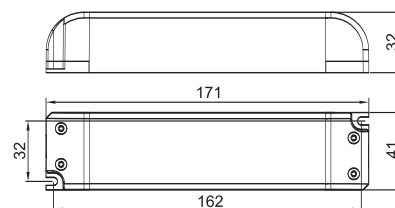
Operation current	Ref. No. 186430	186351, 186522	186548
350 mA	60 °C*	70 °C	—
750 mA	—	—	65 °C*
1050 mA	—	65 °C*	75 °C
hrs.	50,000	30,000	50,000

* recommended operation temperature

K53



K55



Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
K53 – Dimensions: 153x41.4x32 mm											
30	ECXe 350.141	186430	220–240	160–140	350 $\pm 6\%$	57–86	< 90	> 89	–15 to 45	70	200
31.5	ECXe 1050.084	186351	220–240	150–145	1050 $\pm 6\%$	20–30	< 60	> 88	–15 to 45	75	140
K55 – Dimensions: 171x41x32 mm											
60	ECXe 700.206	186548	220–240	320–294	700 $\pm 8\%$	43–86	< 120	> 85	–15 to 45	75	180
60	ECXe 1050.183	186522	220–240	320–294	1050 $\pm 8\%$	40–58	< 70	> 85	–15 to 45	75	180

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

30

ComfortLine LED Drivers – for Power Reduction

700/400 mA / max. 150 W

These electronic LED constant current drivers are especially designed for use in street lighting systems. They provide a simple power-reduction option by connecting a further phase, which makes it possible to switch between 700 mA and 400 mA.

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.95

Power reduction

The nominal current output will be reduced by connecting the control phase (LST) to 57% (analogue step dimming). Connecting L (black) and LST (orange) to the mains voltage reduces output by lowering the output current. If this function is not used, an additional terminal should be provided in the luminaire to fix the LST wire.

Connection details

Mains voltage: 220–277 V \pm 10%

Mains frequency: 50–60 Hz

K37: Push-in terminals: 0.75–2.5 mm²

K37 with cord grip:

Pre-assembled connection leads:

primary: 5x1 mm², 200 mm

secondary: 2x1.5 mm², 200 mm

Suitable for independent operation when capable connector acc. to EN 60598 is used.



Safety features

Protection against transient main peaks up to 3 kV (between L and N) and up to 4 kV (between L, N and PE)
Electronic short-circuit protection
Overload and overtemperature protection
Protection against "no load" operation
Degree of protection: IP20 or IP66 (K37 with cord grip)
Protection class I
Product guarantee: 5 years

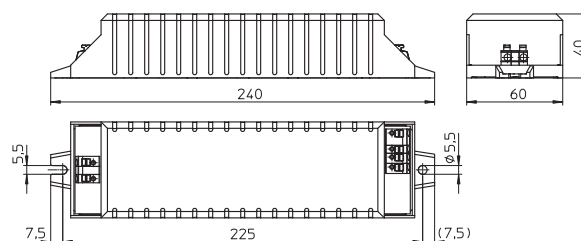


Expected service life time

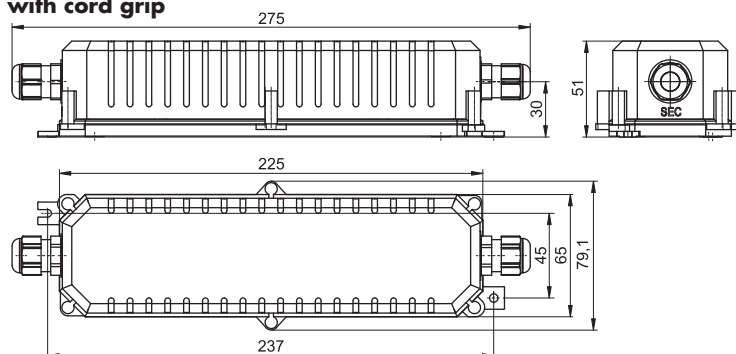
at operation temperatures at t_c point

Operation current	Ref. No. all types	
all	65 °C	75 °C
hrs.	100,000	50,000

K37



K37 with cord grip



Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
K37 – Dimensions: 240x60x40 mm											
150	ECXd 700.023	186202	220–277	735–585	700 \pm 5/-10% 400 \pm 5/-10%	48–215 48–375	445	> 93	-40 to 60	75	440
K37 with cord grip – Dimensions: 275x79.1x51 mm											
150	ECXd 700.023	186203	220–277	735–585	700 \pm 5/-10% 400 \pm 5/-10%	48–215 48–375	445	> 93	-40 to 60	75	560

Power reduction can be effected with VS Power Switches PR12 K LC and PR12 K D. These power switches are used to switch the 230-V power reduction input on the LED driver of a luminaire.

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

ComfortLine LED Drivers – Dimmable

700 mA / max. 75, 100 and 150 W

These electronic LED constant current drivers are especially designed for use in street lighting systems.

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.9

Dimming

The dimming function is achieved by applying an analogue dimming signal to the nominal current.

Dimming range: 10 to 100%

If no dimming interface is connected, brightness will stay at 100%.

Connection details

Mains voltage: 120–277 V $\pm 10\%$

Mains frequency: 50–60 Hz

Pre-assembled connection leads:

primary: 2x0.75 mm²

secondary: 4x0.75 mm²

Safety features

Protection against transient main peaks

up to 6 kV (between L and N)

Electronic short-circuit protection

Overload protection

Overtemperature protection (186402)

Protection against "no load" operation

Degree of protection: IP65

Protection class II

Product guarantee: 5 years



Expected service life time

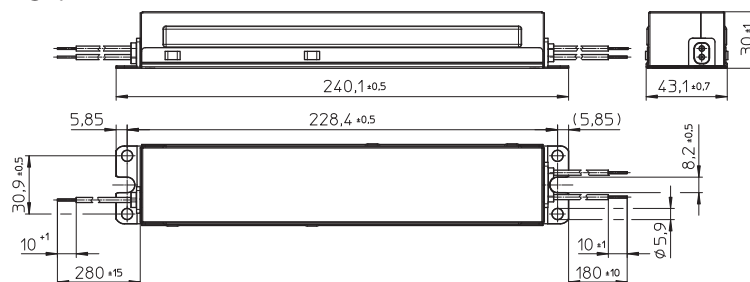
at operation temperatures at t_c point

1-10V

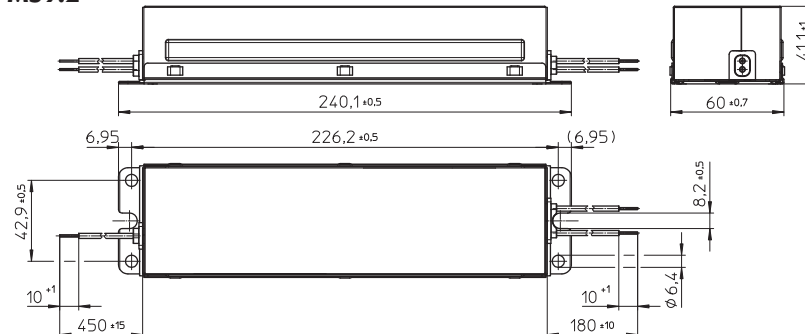


Operation current	Ref. No.			
	186400, 186402		186401	
700 mA	75 °C	85 °C	70 °C	80 °C
hrs.	100,000	50,000	100,000	50,000

M59.1



M59.2



Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
M59.1 – Dimensions: 240.1x43.1x30 mm											
75	ECXd 700G.117	186400	120–277	700–304	700 $\pm 5\%$	54–107	< 250	> 88	–40 to 55	85	625
M59.2 – Dimensions: 240.1x60x41.1 mm											
100	ECXd 700G.118	186401	120–277	917–398	700 $\pm 5\%$	70–143	< 250	> 88	–40 to 55	80	1070
150	ECXd 700G.119	186402	120–277	1363–591	700 $\pm 5\%$	107–214	< 250	> 88	–40 to 55	85	1070

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

ComfortLine LED Drivers – Dimmable

1050 mA / max. 60 W

These electronic LED constant current drivers are especially designed for use in street lighting systems.

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.96

Dimming

The dimming function is achieved by applying an analogue dimming signal to the nominal current.

Dimming range: 10 to 100%

If no dimming interface is connected, brightness will stay at 100%.

Connection details

Mains voltage: 220–240 V ± 10%

Mains frequency: 50–60 Hz

Pre-assembled connection leads:

primary: 2x0.75 mm², length: 300 mm

secondary: 6x0.75 mm², length: 300 mm

Safety features

Protection against transient main peaks up to 4 kV (between L and N)

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP67

Protection class II

SELV

Product guarantee: 5 years



Expected service life time

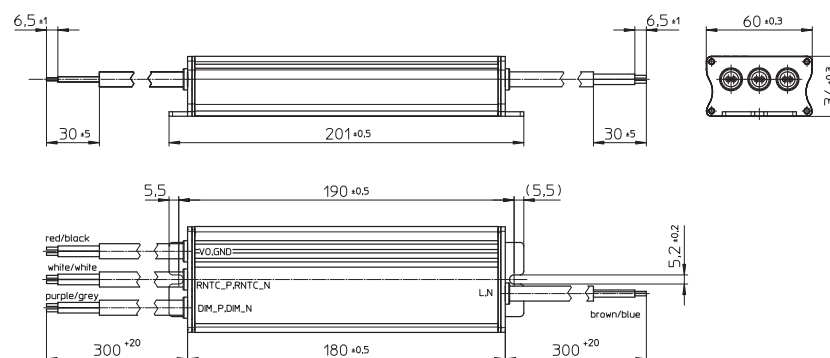
at operation temperatures at t_c point

Operation current	Ref. No. 186316	
1050 mA	70 °C	80 °C
hrs.	100,000	50,000

1-10V



M57



Max. output	Type	Ref. No.	Mains voltage	Mains current	Current output	Voltage output	Max. voltage without load	Efficiency at full load	Ambient temperature	Casing temperature	Weight
W			V	mA	mA	V	V	% (230 V)	°C	°C	g
M57 – Dimensions: 201x60x34 mm											
60	ECXd 1050.069	186316	220–240	310–280	1050 ± 5%	28–57	< 60	> 88	–40 to 50	80	730

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

ComfortLine LED Drivers – Dimmable

700 mA / max. 38.5 W

These electronic LED constant current drivers are especially designed for use in street lighting systems.

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.96

Dimming

The dimming function is achieved by applying analogue dimming signal to the nominal current.

Dimming range: 10 to 100%

If no dimming interface is connected, brightness will stay at 100%.

Connection details

Mains voltage: 120–277 V $\pm 10\%$

Mains frequency: 50–60 Hz

Pre-assembled connection leads:

primary: 2x0.75 mm², length: 228 mm

secondary: 4x0.75 mm², length: 228 mm

Safety features

Protection against transient main peaks

up to 6 kV (between L and N)

Electronic short-circuit protection

Overload protection

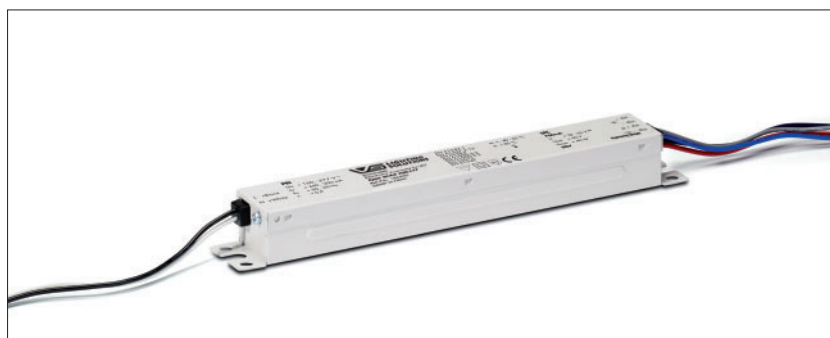
Protection against "no load" operation

Degree of protection: IP54

Protection class II

SELV

Product guarantee: 5 years



Expected service life time

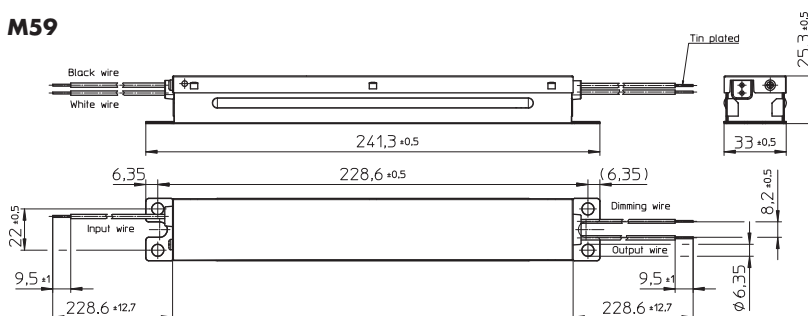
at operation temperatures at t_c point

Operation current	Ref. No. 186490	
700 mA	70 °C	80 °C
hrs.	100,000	50,000

1-10V



M59



Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
38.5	ECXd 700G.177	186490	120–277	440–200	700 $\pm 5\%$	32–55	60	> 85	–30 to 55	80	398

M59 – Dimensions: 241.3x33x25.3 mm

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

ComfortLine LED Drivers – for Power Reduction

700/400 mA / max. 75, 100 and 150 W

These electronic LED constant current drivers are especially designed for use in street lighting systems. They provide a simple power-reduction option by connecting a further phase, which makes it possible to switch between 700 mA and 400 mA.

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.9

Connection details

Mains voltage: 120–277 V $\pm 10\%$

Mains frequency: 50–60 Hz

Pre-assembled connection leads:

primary: 3x0.75 mm²

secondary: 2x0.75 mm²

Power reduction

The nominal current output will be reduced by connecting the control phase (LST) to 57%.



Connecting L (black) and LST (orange) to the mains voltage reduces output by lowering the output current. If this function is not used, an additional terminal should be provided in the luminaire to fix the LST wire.



Safety features

Protection against transient main peaks up to 6 kV (between L and N)

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP65

Protection class II

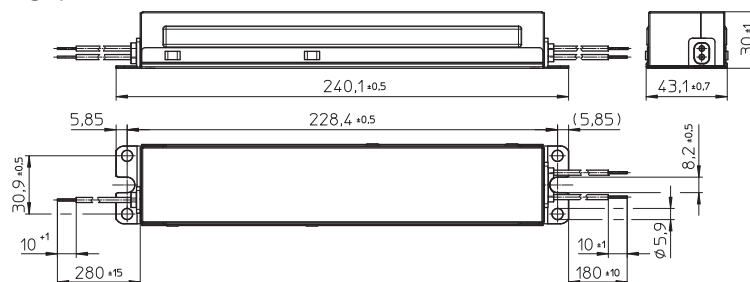
Product guarantee: 5 years

Expected service life time

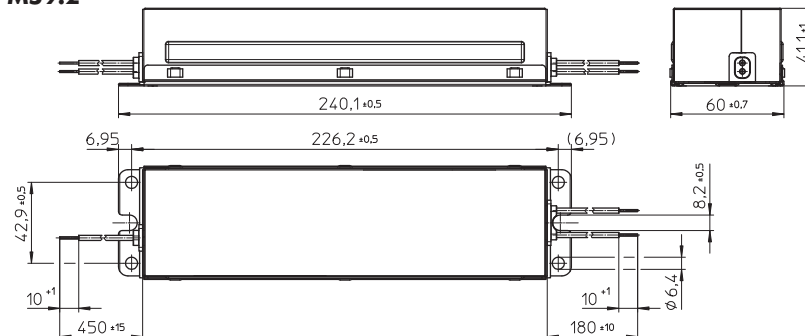
at operation temperatures at t_c point

Operation current	Ref. No.			
	186397, 186509	186398		
700 mA	75 °C	85 °C	70 °C	80 °C
hrs.	100,000	50,000	100,000	50,000

M59.1



M59.2



Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % [230 V]	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
M59.1 – Dimensions: 240.1x43.1x30 mm											
75	ECXe 700G.114	186397	120–277	700–304	700 $\pm 5\%$ 400 $\pm 5\%$	54–107	< 250	> 88	–40 to 55	85	625
M59.2 – Dimensions: 240.1x60x41.1 mm											
100	ECXe 700G.115	186398	120–277	917–398	700 $\pm 5\%$ 400 $\pm 5\%$	70–143	< 250	> 88	–40 to 55	80	1070
150	ECXe 700G.190	186509	120–277	1363–591	700 $\pm 5\%$ 400 $\pm 5\%$	107–214	< 250	> 88	–40 to 55	85	1070

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

ComfortLine LED Drivers

700 mA / max. 38.5 W

These electronic LED constant current drivers are especially designed for use in street lighting systems.

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.9

Connection details

Mains voltage: 120–277 V $\pm 10\%$

Mains frequency: 50–60 Hz

Pre-assembled connection leads:

primary: 2x0.75 mm², length: 228 mm

secondary: 2x0.75 mm², length: 228 mm

Safety features

Protection against transient main peaks up to 6 kV (between L and N)

Electronic short-circuit protection

Overload protection

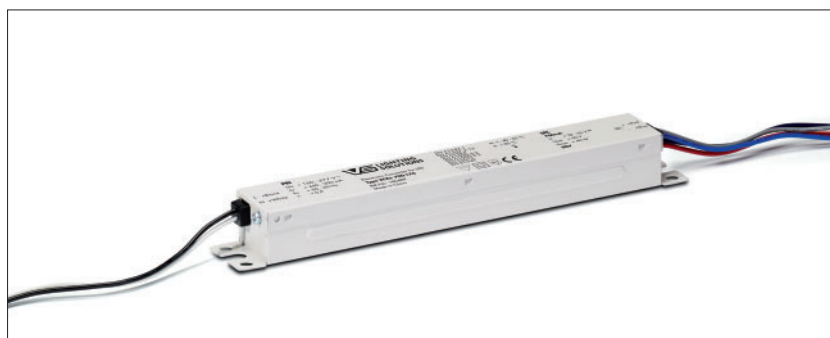
Protection against "no load" operation

Degree of protection: IP54

Protection class II

SELV

Product guarantee: 5 years

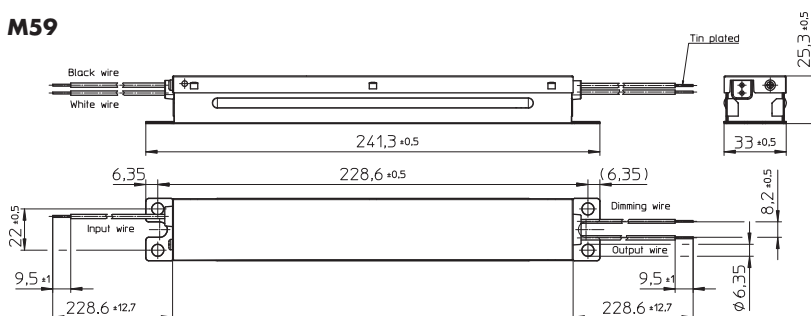


Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No. 186489	
700 mA	70 °C	80 °C
hrs.	100,000	50,000

M59



Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
38.5	ECXe 700G.176	186489	120–277	440–200	700 $\pm 5\%$	32–55	60	> 85	–30 to 55	80	393

M59 – Dimensions: 241.3x33x25.3 mm

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

ComfortLine LED Drivers

700 mA / max. 150 W

These electronic LED constant current drivers are especially designed for use in street lighting systems.

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.9

Connection details

Mains voltage: 120–277 V $\pm 10\%$

Mains frequency: 50–60 Hz

Pre-assembled connection leads:

primary: 2x0.75 mm², length: 450 mm

secondary: 2x0.75 mm², length: 180 mm

Safety features

Protection against transient main peaks up to 6 kV (between L and N)

Electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP65

Protection class II

Product guarantee: 5 years

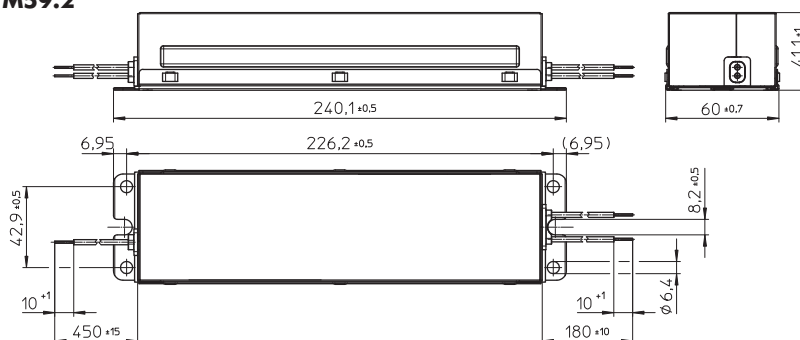


Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No. 186399	
700 mA	75 °C	85 °C
hrs.	100,000	50,000

M59.2



Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
150	ECXe 700G.116	186399	120–277	1363–591	700 $\pm 5\%$	107–214	< 250	> 88	–40 to 55	85	1070

M59.2 – Dimensions: 240.1x60x41.1 mm

150	ECXe 700G.116	186399	120–277	1363–591	700 $\pm 5\%$	107–214	< 250	> 88	–40 to 55	85	1070
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The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

ComfortLine LED Drivers – Dimmable

700 mA / max. 112 W
1050 mA / max. 126 W
With 12 V interface

These electronic LED constant current drivers are designed for use in industrial hall lighting systems.

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.95

Standby losses: < 0.5 W

Dimming

The dimming function is achieved by applying a PWM signal to the nominal current.

Dimming range: 3 to 100%

If no dimming interface is connected, brightness will stay at 100%.

Connection details

Mains voltage: 220–240 V ± 10%

Mains frequency: 50–60 Hz

DC operation: 198–264 V DC, 0 Hz

(can be reduced to 176 V with reduced service life time)

Push-in terminals: 0.2–1.5 mm²

Safety features

Electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

The LEDs are thermally protected by the driver's NTC interface, which ensures the current will be reduced when a critical temperature is reached.

Product guarantee: 5 years



NTC at LED module 10 k

(Type Nurate NCP18XH103J03RB)

R (k)	Nominal current (%)
10	100
< 1.49	60
< 1.13	0 (off)

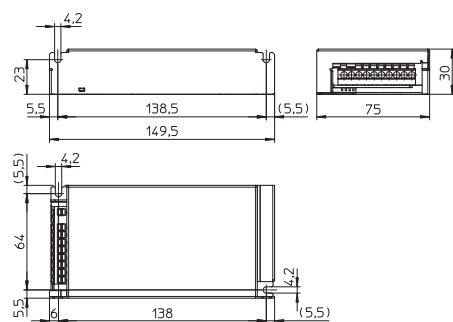


Expected service life time

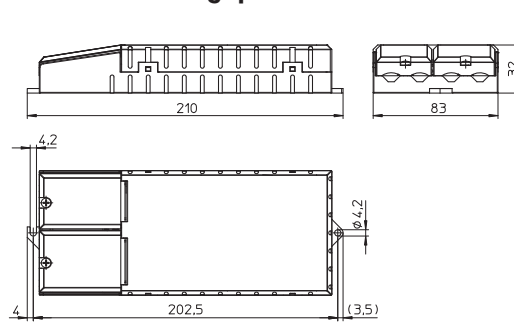
at operation temperatures at t_c point

Operation current	Ref. No.							
	186299		186303		186300		186304	
700 mA	60 °C	70 °C	—	—	70 °C	80 °C	—	—
1050 mA	—	—	65 °C	75 °C	—	—	80 °C	90 °C
hrs.	100,000	50,000	100,000	50,000	100,000	50,000	100,000	50,000

M36



K38 with cord grip



Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	12 V interface max. 2 W	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
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M36 – Dimensions: 149.5x75x30 mm

112	ECXd 700.058	186299	198–264	595–445	700 ±5%	85–160	< 450	> 91	yes	–25 to 50	70	288
			220–240	550–510								
126	ECXd 1050.060	186303	198–264	660–495	1050 ±5%	85–120	< 450	> 91	yes	–25 to 50	75	288
			220–240	630–590								

K38 with cord grip – Dimensions: 210x83x32 mm

112	ECXd 700.058	186300	198–264	595–445	700 ±5%	85–160	< 450	> 91	yes	–25 to 50	80	335
			220–240	550–510								
126	ECXd 1050.060	186304	198–264	660–495	1050 ±5%	85–120	< 450	> 91	yes	–25 to 50	90	335
			220–240	630–590								

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

ComfortLine LED Drivers – Dimmable and Adjustable

900/1050/1200/1400 mA / max. 60.2 W

The dial can be used to set the current output to 900 mA (1), 1050 mA (2), 1200 mA (3) or 1400 mA (4).

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.95

Dimming

The dimming function is achieved by applying a PWM signal.

Dimming range: 3 to 100%

If no dimming interface is connected, brightness will stay at 100%.

Connection details

Mains voltage: 220–240 V ± 10%

Mains frequency: 50–60 Hz

DC operation: 198–264 V DC, 0 Hz

Push-in terminals: 0.2–1.5 mm²

(NTC interface: 0.2–0.5 mm²)

Safety features

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

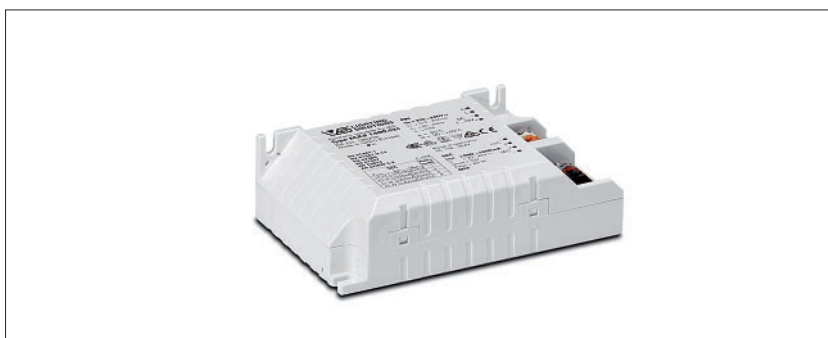
Degree of protection: IP20

Protection class I

SELV

The LEDs are thermally protected by the driver's NTC interface, which ensures the current will be reduced when a critical temperature is reached.

Product guarantee: 5 years



NTC at LED module 220 k	
R (k)	Nominal current (%)
34	100
27	60
16	0 (off)

1-10V

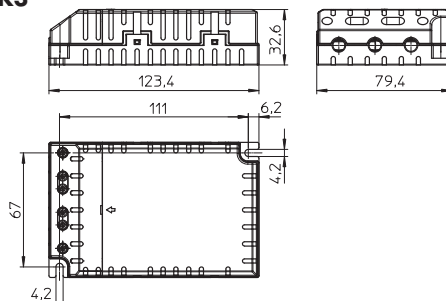


Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No. 186208	
all	75 °C	85 °C
hrs.	100,000	50,000

K3



Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50/60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
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K3 – Dimensions: 123.4x79.4x33 mm

38.7/ 45.1/ 51.6/ 60.2	ECXd 1400.025	186208	198–264 220–240	315–290 350–265	900 +5/-10%/ 1050 +5/-10%/ 1200 +5/-10%/ 1400 +5/-10%	20–43	< 52	> 85	–20 to 50	85	230
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The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

ComfortLine LED Drivers – Dimmable and Adjustable

350/500/600/700 mA / max. 39.9 W

The dial can be used to set the current output to 350 mA (1), 500 mA (2), 600 mA (3) or 700 mA (4).

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: 0.95

Dimming

The dimming function is achieved by applying a PWM signal.

Dimming range: 3 to 100%

If no dimming interface is connected, brightness will stay at 100%.

Connection details

Mains voltage: 220–240 V $\pm 10\%$

Mains frequency: 50–60 Hz

DC operation: 176–264 V DC, 0 Hz

Push-in terminals: 0.2–1.5 mm²

(NTC interface: 0.2–0.5 mm²)

Safety features

Electronic short-circuit protection

Overvoltage protection: 2 kV acc. to EN 51000-4-5

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class II

SELV

The LEDs are thermally protected by the driver's NTC interface, which ensures the current will be reduced when a critical temperature is reached.

Product guarantee: 5 years



NTC at LED module 220 k Ω	
R (k Ω)	Nominal current (%)
34	100
27	60
16	0 (off)

1-10V

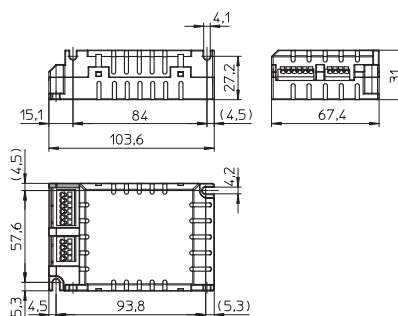


Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No. all types	
all	70 °C	80 °C
hrs.	100,000	50,000

K2



Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50/60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	Ambient temperature t_a °C	Casing temperature t_c °C	Weight g
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K2 – Dimensions: 103.6x67.4x31 mm

19.95/ 28.5/ 34.2/ 39.9	ECXd 700.024	186581	176–264 220–240	265–175 220–200	350 $\pm 5/-10\%$ / 500 $\pm 5/-10\%$ / 600 $\pm 5/-10\%$ / 700 $\pm 5/-10\%$	20–57	60	> 85	–20 to 50	80	190
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The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

ComfortLine LED Drivers

700 mA / max. 112 W
1050 mA / max. 126 W
With 12 V interface

These electronic LED constant current drivers are designed for use in industrial hall lighting systems.

Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.95

Connection details

Mains voltage: 220–240 V ±10%

Mains frequency: 50–60 Hz

DC operation: 198–264 V DC, 0 Hz

(can be reduced to 176 V with reduced service life time)

Push-in terminals: 0.2–1.5 mm²

Safety features

Electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

The LEDs are thermally protected by the driver's NTC interface, which ensures the current will be reduced when a critical temperature is reached.

Product guarantee: 5 years



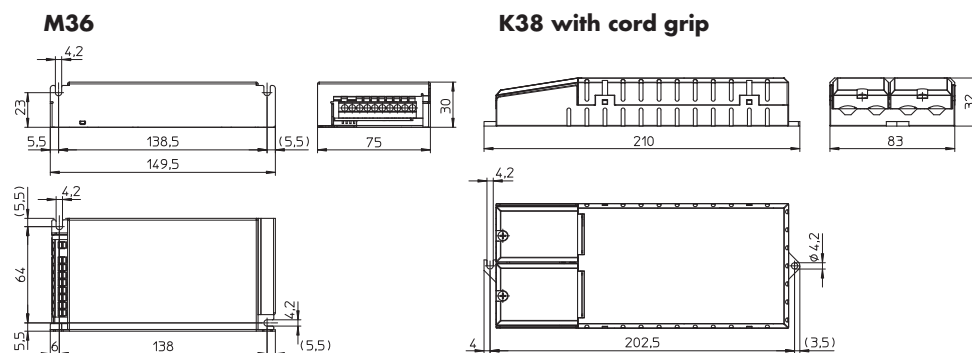
NTC at LED module 10 k
 (Type Nurate NCP18XH103J03RB)

R (k)	Nominal current (%)
10	100
< 1.49	60
< 1.13	0 (off)

Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No. 186297		186301		186298		186302	
700 mA	60 °C	70 °C	—	—	70 °C	80 °C	—	—
1050 mA	—	—	65 °C	75 °C	—	—	80 °C	90 °C
hrs.	100,000	50,000	100,000	50,000	100,000	50,000	100,000	50,000



Max. output W	Type	Ref. No.	Mains voltage 0 Hz, 50–60 Hz V	Mains current mA	Current output DC mA	Voltage output DC V	Max. voltage without load DC V	Efficiency at full load % (230 V)	12 V interface max. 2 W	Ambient temperature t _a °C	Casing temperature t _c °C	Weight g
M36 – Dimensions: 149.5x75x30 mm												
112	ECXe 700.057	186297	198–264	595–445	700 ±5%	85–160	< 450	> 91	yes	–25 to 50	70	288
			220–240	550–510								
126	ECXe 1050.059	186301	198–264	660–495	1050 ±5%	85–120	< 450	> 91	yes	–25 to 50	75	288
			220–240	630–590								
K38 with cord grip – Dimensions: 210x83x32 mm												
112	ECXe 700.057	186298	198–264	595–445	700 ±5%	85–160	< 450	> 91	yes	–25 to 50	80	335
			220–240	550–510								
126	ECXe 1050.059	186302	198–264	660–495	1050 ±5%	85–120	< 450	> 91	yes	–25 to 50	90	335
			220–240	630–590								

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

iProgrammer

For programming LED drivers

The iProgrammer is designed to let you configure LED drivers using the 3C function.

Using DALI commands, the iProgrammer enables various functions to be configured on all VS LED drivers that feature the "3C" symbol.

As an example, not only can the current be set to a precise level, but programming functions for the street lighting zone can also be transferred. Please refer to the manual at product page under www.vossloh-schwabe.com for detailed configuration procedures.

Technical notes

Configuration interface: DALI
Ambient temperature t_a : 5 to 50 °C
Push-in terminals: 0.2–1.5 mm²
Degree of protection: IP20

Connections

Mains connection: 220–240 V AC/50–60 Hz
Max. power consumption: 5 W
USB 2.0

Software download

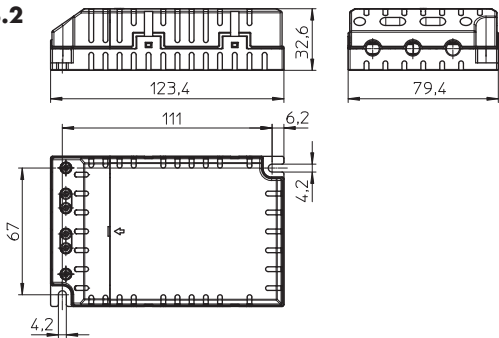
See product page under www.vossloh-schwabe.com

Functions

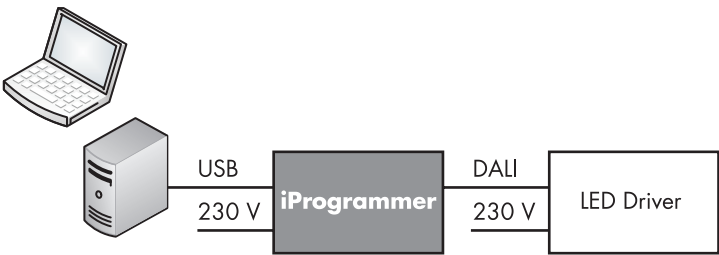
Configuring "3C" LED drivers



K3.2



Connection



Type	Ref. No.	Connection to PC/Laptop	Functions	Dimensions mm (LxWxH)	Weight g
iProgrammer	186428	USB 2.0	Configuring "3C" LED drivers	123.4x79.4x32.6	135

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