

## 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.

### LEDLine ECX

- **OVERLOAD PROTECTION**
- **SHORT CIRCUITING PROTECTION**
- **SELV OR SELV EQUIVALENT**

## 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](http://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	ComfortLine	EasyLine
Programmability	Convenient	Focus on core functions
Intelligent functions	Intelligent functions	Costefficient
Maximum flexibility	Up to 100,000 hrs. expected service life time	Up to 50,000 hrs. expected service life time

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.)	Page data sheet
Office	6/10/14	150/250/350	17-40	186530	EasyLine	Push-in terminal	—	50,000	17
	14	350	2-40	186229	ComfortLine	—	—	100,000	15
	15/18/21	500/600/700	17-30	186529	EasyLine	Push-in terminal	—	50,000	17
	27.5/33/38.5	125/150/175	110-220*	186486	ComfortLine	Push-in terminal	—	100,000	11
	2x14	2x250	160-120	186656	ComfortLine	Push-in terminal	—	100,000	13
	28.5	500	19-57	186554	ComfortLine	—	—	100,000	16
	35	500	30-70	186504	EasyLine	—	—	50,000	18
	4x9	4x60	110-150	186384	ComfortLine	—	DALI, PUSH	100,000	8
			110-150	186305	ComfortLine	—	—	100,000	14
	40	100-400	30-120*	186585	ComfortLine	LEDSet	—	100,000	9
		400-800	30-70*	186586	ComfortLine	LEDSet	—	100,000	9
		350/500/700	28-114*	186444	ComfortLine	Push-in terminal	—	100,000	12
	2x20	2x350	17-57	186407	ComfortLine	—	1-10 V	100,000	10
				186406	ComfortLine	—	—	100,000	13
	42	350-700	34-120*	186446, 186575, 186576	Primeline	Programmable	DALI, PUSH	100,000	5
			34-120*	186565	ComfortLine	Resistor	DALI, PUSH	100,000	6
		350	80-120	186414	EasyLine	—	—	50,000	19
	44/47/47	200/225/250	94-220*	186487	ComfortLine	Push-in terminal	—	100,000	11
	46.8	275/300/325	72-170*	186488	ComfortLine	Push-in terminal	—	100,000	11
	2x28.5/2x40	2x500/2x700	17-57	186410	ComfortLine	Dip switch	1-10 V	100,000	10
				186409	ComfortLine	Dip switch	—	100,000	13
	60	700	46-86	186429	EasyLine	—	—	50,000	19
	77/84	350-700	60-220*	186445, 186577, 186578	Primeline	Programmable	DALI, PUSH	100,000	5
				186564	ComfortLine	Resistor	DALI, PUSH	100,000	6
				186443	ComfortLine	Push-in terminal	—	100,000	12
	79/84/84	350/500/700	60-225*	186443	ComfortLine	Push-in terminal	—	100,000	12
	82.5/84.8/85	375/400/425	100-220*	186491	ComfortLine	Push-in terminal	—	100,000	11
84.7/84.6/85.1	550/600/650	65-154*	186492	ComfortLine	Push-in terminal	—	100,000	11	
85	100-400	100-225*	186587	ComfortLine	LEDSet	—	100,000	9	
	400-800	30-130*	186588	ComfortLine	LEDSet	—	100,000	9	
107	500	90-215	186460	ComfortLine	—	DALI, PUSH	100,000	8	
			186315	ComfortLine	—	—	100,000	14	
2x70	2x700	42-100	186356	ComfortLine	—	DALI, PUSH	100,000	7	
			186355	ComfortLine	—	1-10 V	100,000	10	
			186354	ComfortLine	—	—	100,000	13	

\* 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.)	Page data sheet
<b>Shop</b>	10/14/20	250/350/500	17-40	186463	EasyLine	Push-in terminal	—	50,000	29
	15	350	30-43	186591	EasyLine	Push-in terminal	—	50,000	33
	15/18/21	500/600/700	17-30	186464	EasyLine	Push-in terminal	—	50,000	29
	18/21/25	500/600/700	20-36	186523	EasyLine	Push-in terminal	—	50,000	31
	21.5	500	30-43	186592	EasyLine	Push-in terminal	—	50,000	33
	24	350-700	14-34	186465, 186573, 186574	PrimeLine	Programmable	DAI, PUSH	100,000	20
				186280	ComfortLine	—	DAI, PUSH	100,000	21
				186279	ComfortLine	—	1-10 V	100,000	24
				186278	ComfortLine	—	—	100,000	25
	25	500	25-50	186363	EasyLine	—	—	50,000	32
	27/32/35/37	500/600/700	27-54	186524	EasyLine	—	—	50,000	30
	28.5/34.2/40	500/600/700	25-57	186531	EasyLine	Push-in terminal	—	50,000	28
	30	700	30-43	186593	EasyLine	Push-in terminal	—	50,000	33
	34	700	9-48	186177, 186195	ComfortLine	—	DAI, PUSH	100,000	22
	34.4/39.8/45	800/925/1050	25-43	186532	EasyLine	Push-in terminal	—	50,000	28
	35	700/1050	16-50	186364, 186365	EasyLine	—	—	50,000	32
	37	350-700	30-53	186503, 186571, 186572	PrimeLine	Programmable	DAI, PUSH	100,000	20
				186308	ComfortLine	—	DAI, PUSH	100,000	21
				186306	ComfortLine	—	—	100,000	25
				186556	ComfortLine	—	—	100,000	23
	38.5	700	30-55	186594	EasyLine	Push-in terminal	—	50,000	33
	40	700	20-57	186221, 186222	ComfortLine	—	DAI, PUSH	100,000	22
				186266, 186267	ComfortLine	—	—	100,000	26
				186330, 186331	ComfortLine	—	—	100,000	27
	43/50/54	800/925/1050	27-54	186525	EasyLine	—	—	50,000	30
	45	1050	30-43	186595	EasyLine	Push-in terminal	—	50,000	33
	51.3	900	20-57	186386, 186387	ComfortLine	—	—	100,000	27
60	1050	20-57	186196, 186197	ComfortLine	—	DAI, PUSH	100,000	22	
			186268, 186269	ComfortLine	—	—	100,000	26	
			186328, 186329	ComfortLine	—	—	100,000	27	
<b>Residential</b>	5.2	700	50-30	186458	EasyLine	—	—	50,000	38
	5.6	700	2,8-8	186348	EasyLine	—	—	50,000	39
	6	150	27-41	186447	EasyLine	—	C	50,000	37
	7	350	8,4-20	186342	EasyLine	—	—	50,000	39
	8.75	350	3-25	186519	ComfortLine	—	—	100,000	36
	10	500	13-20	186448	EasyLine	—	C	50,000	37
	11	350	2-32	186424	ComfortLine	—	—	100,000	35
	12	250	27-48	186449	EasyLine	—	C	50,000	37
		500	8-24	186508	EasyLine	—	—	50,000	40
	12.6	350	8,4-36	186341	EasyLine	—	—	50,000	41
	15	500	8-30	186349	EasyLine	—	—	50,000	41
	16	500	2-32	186425	ComfortLine	—	—	100,000	35
	17	700	2-25	186426	ComfortLine	—	—	100,000	35
	18	350	32-52	186415	EasyLine	—	C	50,000	37
		700	16-26	186450	EasyLine	—	C	50,000	37
	20	350	16-57	186431	EasyLine	—	—	50,000	41
				186507	EasyLine	—	—	50,000	40
				1050	2-19	186427	ComfortLine	—	—
	20.3	700	8-29	186350	EasyLine	—	—	50,000	41
	21	500	28-42	186505	EasyLine	—	C	50,000	37

\* Depends on the adjusted current output

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## 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.)	Page data sheet
<b>Residential</b>	25	700	22-36	186416	EasyLine	—	C	50,000	37
	25.2	700	22-36	186353	EasyLine	—	—	50,000	41
	30	350	57-86	186430	EasyLine	—	—	50,000	43
		700	17-42	186393	ComfortLine	—	—	100,000	34
	31	700	30-45	186501	EasyLine	—	—	50,000	42
	31.5	1050	20-30	186351	EasyLine	—	—	50,000	43
	37.8	700	32-52	186451	EasyLine	—	C	50,000	37
		1050	18-36	186394, 186395	ComfortLine	—	C	100,000	34
	47	1050	27-45	186502	EasyLine	—	—	50,000	42
	60	700	43-86	186548	EasyLine	—	—	50,000	43
1050		40-58	186522	EasyLine	—	—	50,000	43	
<b>Street</b>	38.5	700	32-55	186490	ComfortLine	—	1-10 V	100,000	49
				186489	ComfortLine	—	—	100,000	51
	40	350	78-114	186550	ComfortLine	—	—	100,000	53
			39-57	186551	ComfortLine	—	—	100,000	53
			26-38	186552	ComfortLine	—	—	100,000	53
	42	350	40-115	186175	ComfortLine	—	—	100,000	54
	60	1050	28-57	186316	ComfortLine	—	1-10 V	100,000	48
	75	700	54-107	186400	ComfortLine	—	1-10 V	100,000	47
			700/400	54-107	186397	ComfortLine	—	Power reduction	100,000
	82/91/91	700/1000/1400	22-117*	186367	PrimeLine	Dip switch/DALI	DALI, MidNight	100,000	46
	100	700	70-143	186401	ComfortLine	—	1-10 V	100,000	47
			70-143	186398	ComfortLine	—	Power reduction	100,000	50
	150	350-1050	85-260*	186442	PrimeLine	Programmable	1-10 V	100,000	44
700		107-214	186402	ComfortLine	—	1-10 V	100,000	57	
700/400		107-214	186509	ComfortLine	—	Power reduction	100,000	50	
700/400		48-375	186202, 186203	ComfortLine	—	Power reduction	100,000	45	
	700	107-214	186399	ComfortLine	—	—	100,000	52	
<b>Industry</b>	19.95/28.5/34.2/39.9	350/500/ 600/700	20-57	186326, 186327	ComfortLine	Rotary switch	1-10 V	100,000	57
	38.7/45.1/51.6/60.2	900/1050/1200/1400	20-43	186208	ComfortLine	Rotary switch	1-10 V	100,000	56
	50	700	35-72	186452	EasyLine	—	—	50,000	59
	75	1050	35-72	186453	EasyLine	—	—	50,000	59
	100	1400	30-72	186454	EasyLine	—	—	50,000	59
	112	700	85-160	186299, 186300	ComfortLine	—	DALI, PUSH	100,000	55
				186297, 186298	ComfortLine	—	—	100,000	58
	122.4	1700	30-72	186455	EasyLine	—	—	50,000	59
	126	1050	85-120	186303, 186304	ComfortLine	—	DALI, PUSH	100,000	55
				186301, 186302	ComfortLine	—	—	100,000	58
	151.2	2100	45-72	186456	EasyLine	—	—	50,000	59
	172.8	2400	45-72	186510	EasyLine	—	—	50,000	59
	201.6	2800	45-72	186477	EasyLine	—	—	50,000	59
<b>Accessories</b>									
iProgrammer	Ref. No. 186428	The iProgrammer is designed to let you configure LED drivers using the 3C function.							60

\* 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.

## PrimeLine LED Drivers – Dimmable with Programmable Current

**350-700 mA,  
max. 42 W and max. 84 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 (ECXd 700.150)  
0.97 (ECXd 700.149)

Standby losses: < 0.5 W

### Dimming

Dimming function is realised by hybrid dimming.

Analogue dimming:  $\geq 275$  mA

PWM dimming: < 275 mA

Dimming range: 3 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: see table).

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



### 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 mm<sup>2</sup>



### Safety features

Electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

Product guarantee: 5 years

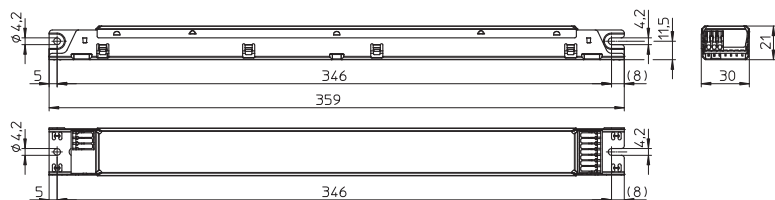


### Expected service life time

at operation temperatures at  $t_c$  point

Operation current	Ref. No.			
	186446, 186575, 186576		186445, 186577, 186578	
all	60 °C	50 °C	70 °C	65 °C
hrs.	50,000	100,000	50,000	100,000

### M10



Max. output W	Type	Ref. No.	Mains voltage 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
<b>M10 - Dimensions: 359x30x21 mm</b>												
42	ECXd 700.150	186446	220-240	215-200	350-700 $\pm 5\%$	350	34-120	< 250	> 91	-25 to 50	60	235
		186575				500			> 91			
		186576				700			> 90			
84	ECXd 700.149	186445	220-240	410-380	350-700 $\pm 5\%$	350	60-220	< 250	> 94	-25 to 50	70	265
		186577				500			> 94			
		186578				700			> 93			

\* Depends on the adjusted current output

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## ComfortLine LED Drivers – Dimmable with Selectable Current

**350–700 mA,  
max. 42 W and max. 84 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: < 0.4 W

### Dimming

Dimming function is realised by hybrid dimming.

Analogue dimming:  $\geq 275$  mA

PWM dimming: < 275 mA

Dimming range: 3 to 100%

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

### Adjustable

The output current can be freely adjusted between 350 mA and 700 mA by using a resistor (according LEDset standard).



### 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 mm<sup>2</sup>



### Safety features

Electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

Product guarantee: 5 years

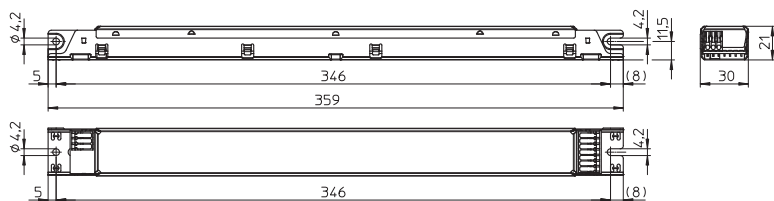


### Expected service life time

at operation temperatures at  $t_c$  point

Operation current	Ref. No.			
	186565	186564		
all	60 °C	50 °C	70 °C	60 °C
hrs.	50,000	100,000	50,000	100,000

### M10



Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC programmable 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
<b>M10 – Dimensions: 359x30x21 mm</b>											
42	ECXd 700.214	<b>186565</b>	220–240	210–190	350–700 $\pm 5\%$	34–120	< 250	> 90	–25 to 50	60	235
77	ECXd 700.213	<b>186564</b>	220–240	410–380	350–700 $\pm 5\%$	60–220	< 250	> 93	–25 to 50	70	265
84											

\* Depends on the adjusted current output

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## 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 mm<sup>2</sup>

### 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



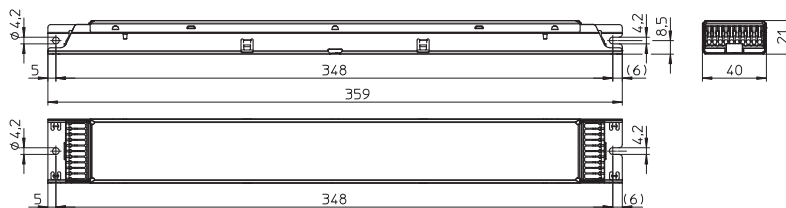
### Expected service life time

at operation temperatures at  $t_c$  point

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



### 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							

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## 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 mm<sup>2</sup>

### Safety features

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

Product guarantee: 5 years



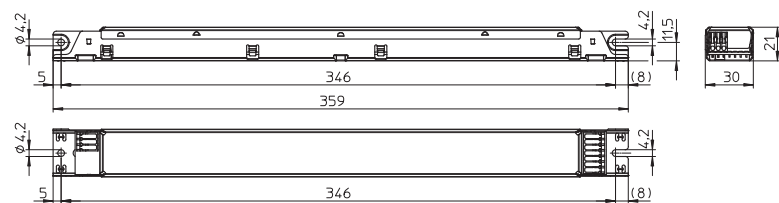
### Expected service life time

at operation temperatures at  $t_c$  point

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



### 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
<b>M10 – Dimensions: 359x30x21 mm</b>											
4x9	ECXd 460.110	<b>186384</b>	198–264	190–140	4x60 ±5%	110–150	< 450	> 91	–25 to 65	70	230
			220–240	170–150							
107	ECXd 500.163	<b>186460</b>	198–264	557–412	500 +5/-10%	90–215	< 450	> 90	–20 to 50	70	220
			220–240	502–460							

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## 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 ±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 mm<sup>2</sup>

### 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

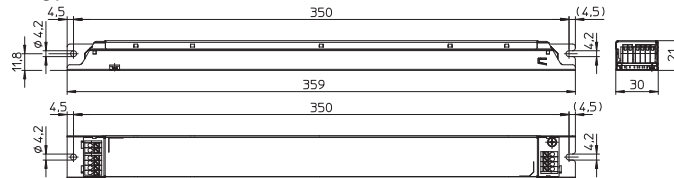
### Expected service life time

at operation temperatures at  $t_c$  point

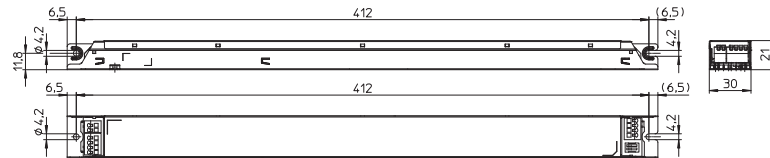
<b>1-10V</b>	
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Operation current	Ref. No. 186407		186410		186355	
	75 °C	65 °C	—	—	—	—
2x350 mA	—	—	75 °C	65 °C	—	—
2x500 mA	—	—	75 °C	65 °C	85 °C	75 °C
hrs.	50,000	100,000	50,000	100,000	50,000	100,000

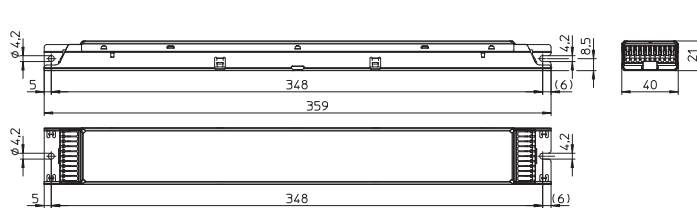
#### M10.1



#### 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
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#### 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%/ 2x700 ±5%	17–57	60	> 88	–20 to 50	75	310
			220–240	480–400							

#### 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							

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 – with Selectable Current

**100–800 mA,  
max. 40 W and max. 85 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:

> 0.98 (85 W), > 0.96 (40 W)

### Adjustable

The output current can be freely adjusted between 100 mA and 800 mA by using a resistor (according LEDset standard).



### 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 mm<sup>2</sup>

### Safety features

Electronic short-circuit protection

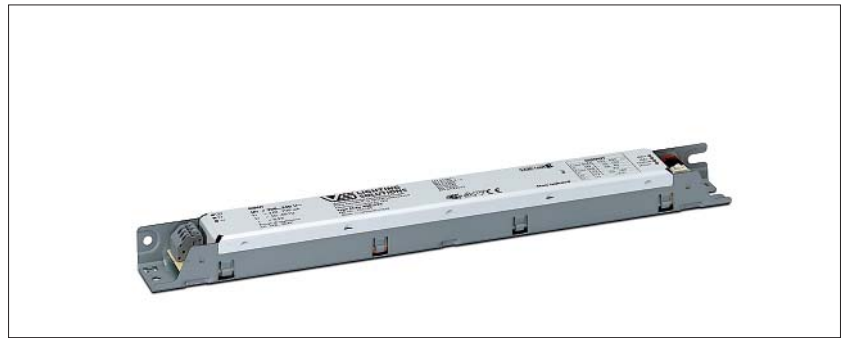
Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

Product guarantee: 5 years



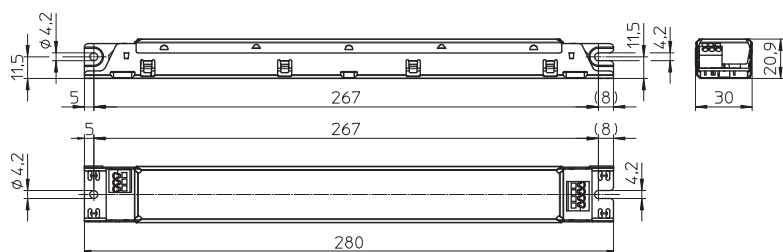
### Expected service life time

at operation temperatures at  $t_c$  point



Operation current	Ref. No.					
	186585		186586, 186588		186587	
all	70 °C	60 °C	75 °C	65 °C	65 °C	55 °C
hrs.	50,000	100,000	50,000	100,000	50,000	100,000

### M7.1



Max. output W	Type	Ref. No.	Mains voltage 50–60 Hz V	Mains current mA	Current output DC programmable 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: 280x30x20.9 mm

40	ECXe 400.223	<b>186585</b>	220–240	210–190	100–400 ±5%	30–120	< 250	> 92	–25 to 60	70	180
40	ECXe 800.224	<b>186586</b>	220–240	210–200	400–800 ±5%	30–70	< 250	> 89	–25 to 50	75	190
85	ECXe 400.225	<b>186587</b>	220–240	410–380	100–400 ±5%	100–225	< 250	> 94	–25 to 50	65	183
85	ECXe 800.226	<b>186588</b>	220–240	420–390	400–800 ±5%	30–130	< 250	> 93	–25 to 50	75	190

\* 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 – with Selectable Current

**125 to 650 mA / 27.5 W to 85.1 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: 0.97

### 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 ±10%

Mains frequency: 50–60 Hz

Push-in terminals: 0.2–1.5 mm<sup>2</sup>

### Safety features

Electronic short-circuit protection

Overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

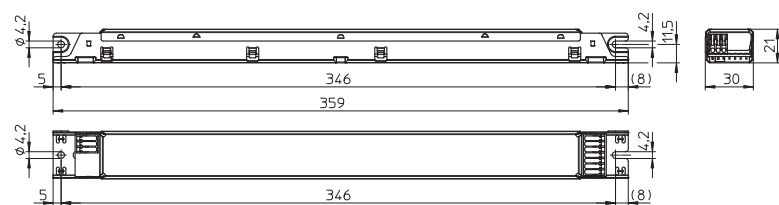
Product guarantee: 5 years

### Expected service life time

at operation temperatures at  $t_c$  point

Operation current	Ref. No. 186486		186487, 186488		186491, 186492	
	55 °C	45 °C	—	—	—	—
125–175 mA	—	—	60 °C	50 °C	—	—
200–325 mA	—	—	—	—	65 °C	55 °C
375–550 mA	—	—	—	—	70 °C	60 °C
hrs.	50,000	100,000	50,000	100,000	50,000	100,000

### M10



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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### M10 – Dimensions: 359x30x21 mm

27.5	ECXe 175.173	<b>186486</b>	220–240	150–140	125 ±5%	155–220	< 250	> 90	–20 to 60	70	220
33				175–165	150 ±5%	130–220		> 91			
38.5				200–190	175 ±5%	110–220		> 92			
44	ECXe 250.174	<b>186487</b>	220–240	220–205	200 ±5%	112–220	< 250	> 93	–20 to 60	70	220
47				230–220	225 ±5%	104–208		> 92			
47				235–220	250 ±5%	94–188		> 92			
46.8	ECXe 325.175	<b>186488</b>	220–240	235–220	275 ±5%	85–170	< 250	> 91	–20 to 60	75	220
46.8				235–220	300 ±5%	78–156		> 91			
46.8				235–220	325 ±5%	72–144		> 91			
82.5	ECXe 425.178	<b>186491</b>	220–240	410–375	375 ±5%	113–220	< 250	> 93	–20 to 50	65	243
84.8				420–385	400 ±5%	105–212		> 94			
85				420–390	425 ±5%	100–200		> 94			
84.7	ECXe 650.179	<b>186492</b>	220–240	420–390	550 ±5%	77–154	< 250	> 93	–20 to 50	65	244
84.6				420–390	600 ±5%	71–141		> 93		70	
85.1				420–390	650 ±5%	65–131		> 93		70	

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 – with Selectable Current

**350/500/700 mA,  
max. 40 W and max. 84 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: 0.97

### 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 ±10%

Mains frequency: 50–60 Hz

Push-in terminals: 0.2–1.5 mm<sup>2</sup>

### Safety features

Electronic short-circuit protection

Overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

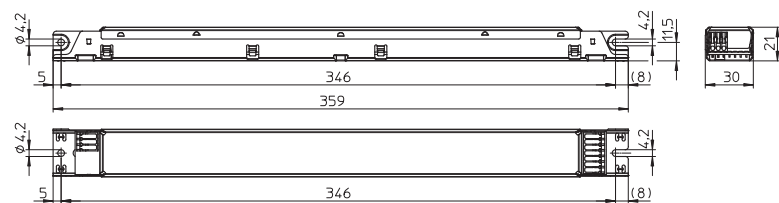
Product guarantee: 5 years

### Expected service life time

at operation temperatures at  $t_c$  point

Operation current	Ref. No. 186444		Ref. No. 186443	
	350 mA	60 °C	50 °C	70 °C
500 mA	65 °C	55 °C	75 °C	65 °C
700 mA	70 °C	60 °C	80 °C	70 °C
hrs.	50,000	100,000	50,000	100,000

### M10



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
<b>M10 – Dimensions: 359x30x21 mm</b>											
40	ECXe 700.148	<b>186444</b>	220–240	200–190	350 ±5%	57–114	< 250	> 90	–20 to 60	70	227
				205–190	500 ±5%	40–80		> 89		75	
				210–195	700 ±5%	28–57		> 88		80	
79	ECXe 700.147	<b>186443</b>	220–240	400–370	350 ±5%	120–225	< 250	> 94	–20 to 50	75	250
420–390				500 ±5%	80–170	> 93		75			
420–390				700 ±5%	60–120	> 92		80			

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

**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 ±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 mm<sup>2</sup>

### Safety features

Electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

### SELV

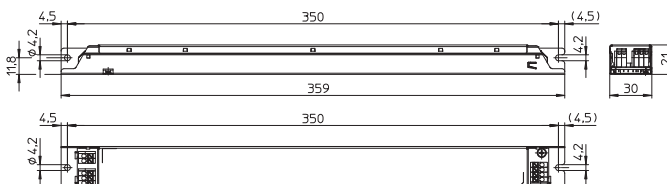
Product guarantee: 5 years

### Expected service life time

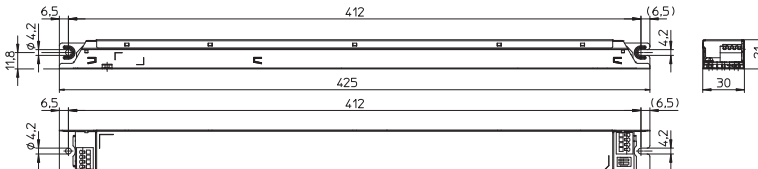
at operation temperatures at  $t_c$  point

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

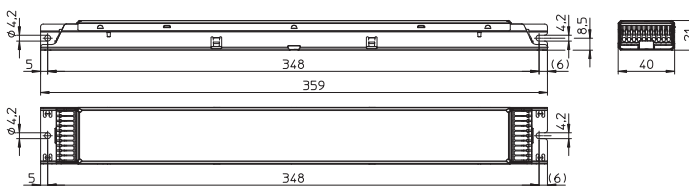
#### M10.1



#### 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
<b>M10.1 – Dimensions: 359x30x21 mm</b>											
2x14	ECXe 2250.246	<b>186656</b>	198–264	160–120	2x250	15–57	< 60	> 85	–25 to 50	75	306
			220–240	170–155							
2x20	ECXe 2350.123	<b>186406</b>	198–264	500–340	2x350 ±5%	17–57	< 60	> 85	–20 to 50	75	270
			220–240	400–370							
<b>M11.1 – Dimensions: 425x30x21 mm</b>											
2x28.5/ 2x40	ECXe 2700.126	<b>186409</b>	198–264	260–175	2x500 ±5%/ 2x700 ±5%	17–57	< 60	> 88	–20 to 50	75	310
			220–240	200–190							
<b>M12 – Dimensions: 359x40x21 mm</b>											
2x70	ECXe 2700.087	<b>186354</b>	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 mm<sup>2</sup>

### Safety features

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

Product guarantee: 5 years

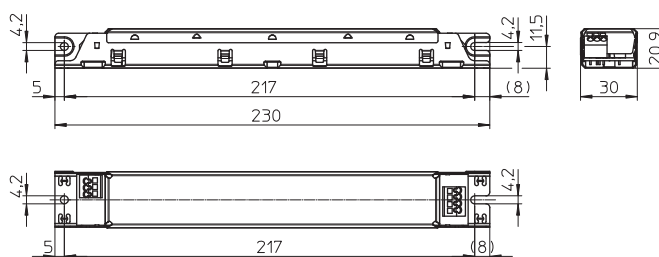


### Expected service life time

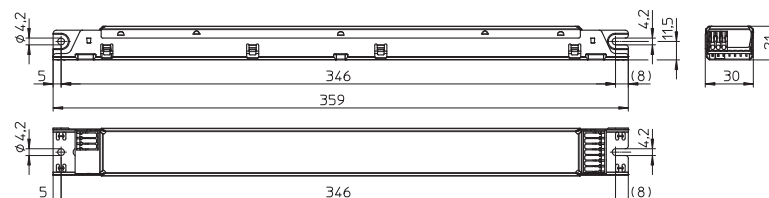
at operation temperatures at  $t_c$  point

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

#### 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
<b>M6.1 – Dimensions: 230x30x20.9 mm</b>											
4x9	ECXe 460.061	<b>186305</b>	—	—	4x60 ±5%	110–150	450	> 88	–20 to 60	70	156
			220–240	180–165							
<b>M10 – Dimensions: 359x30x21 mm</b>											
107	ECXe 500.068	<b>186315</b>	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 ±10%

Mains frequency: 50–60 Hz

DC operation: 176–264 V DC, 0 Hz

Push-in terminals: 0.2–1.5 mm<sup>2</sup>

### 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

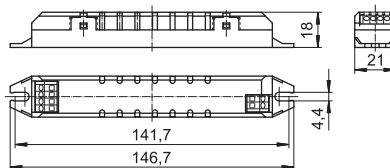


### Expected service life time

at operation temperatures at  $t_c$  point

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

### 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	<b>186229</b>	176–264 220–240	140–90 81–75	350 <sup>+5/-10%</sup>	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 ±10%

Mains frequency: 50–60 Hz

Push-in terminals: 0.2–1.5 mm<sup>2</sup>

### Safety features

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

Product guarantee: 5 years

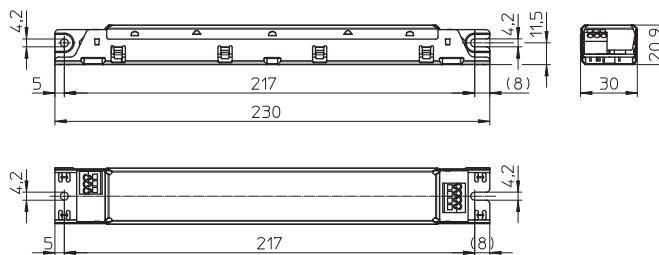


### Expected service life time

at operation temperatures at  $t_c$  point

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

### M6.1



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	DC mA	DC V	V	% (230 V)	$t_a$ °C	$t_c$ °C	g

### M6.1 – Dimensions: 230x30x20.9 mm

28.5	ECXe 500.210	<b>186554</b>	120–240	280–140	500±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 ±10%

Mains frequency: 50–60 Hz

Push-in terminals: 0.2–1.5 mm<sup>2</sup>

### Safety features

Electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

### SELV

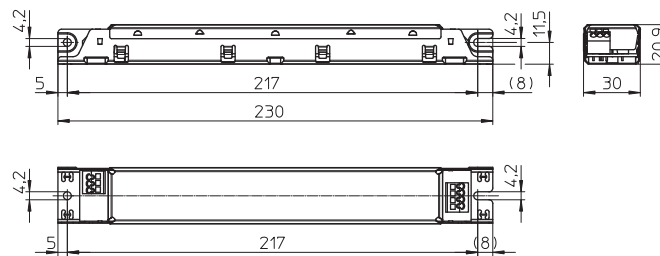
Product guarantee: 3 years

### Expected service life time

at operation temperatures at  $t_c$  point

Operation current	Ref. No.		186529	
	186530	186529		
150–350 mA	65°C	55 °C	–	–
500–700 mA	–	–	70 °C	60 °C
hrs.	30,000	50,000	30,000	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
<b>M6.1 – Dimensions: 230x30x20.9 mm</b>											
6	ECXe 350.198	<b>186530</b>	220–240	32–29	150 ±7.5%	17–40	< 60	> 84	–20 to 50	65	146
10				53–49	250 ±7.5%						
14				74–68	350 ±7.5%						
15	ECXe 700.197	<b>186529</b>	220–240	80–73	500 ±7.5%	17–30	< 60	> 84	–20 to 50	70	146
18				96–88	600 ±7.5%						
21				112–102	700 ±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 ±10%

Mains frequency: 50–60 Hz

Push-in terminals: 0.2–1.5 mm<sup>2</sup>

### Safety features

Electronic short-circuit protection

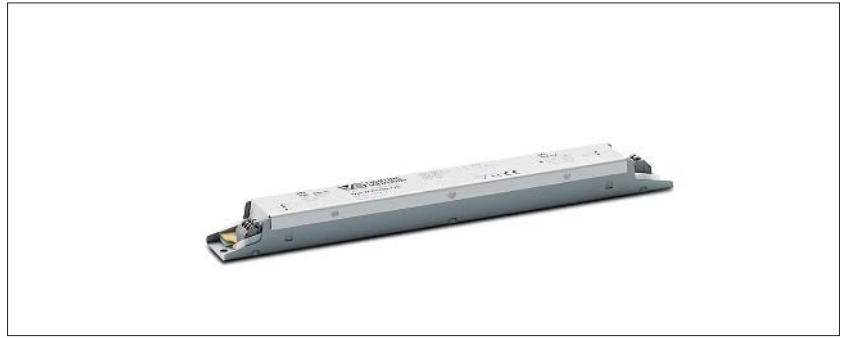
Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

Product guarantee: 3 years

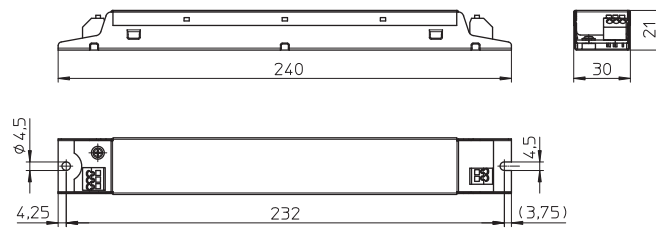


### Expected service life time

at operation temperatures at  $t_c$  point

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

### M5.3



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)	$t_a$ °C	$t_c$ °C	g

### M5.3 – Dimensions: 240x30x21 mm

35	ECXe 500.185	<b>186504</b>	120–240	330–165	500 ±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 mm<sup>2</sup>

### Safety features

Electronic short-circuit protection

Overload protection

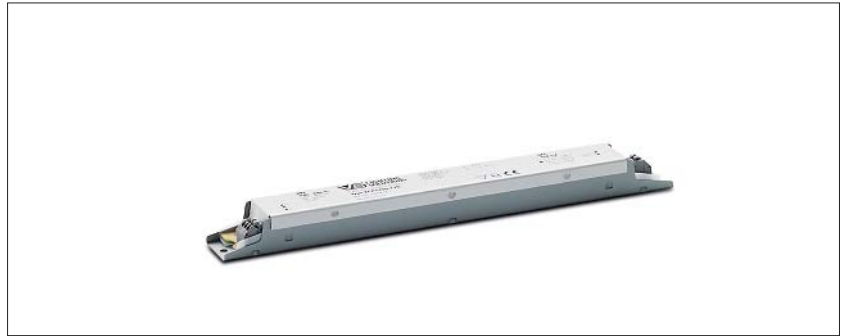
Protection against "no load" operation

Degree of protection: IP20

Protection class I

**SELV** (186429)

Product guarantee: 3 years

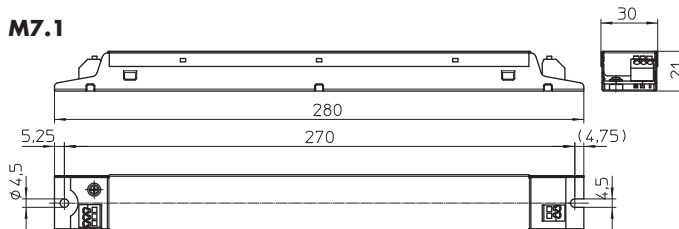


### Expected service life time

at operation temperatures at  $t_c$  point

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

### 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 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	<b>186414</b>	220–240	220–200	350 ±5%	80–120	< 130	> 88	–15 to 45	70	200
60	ECXe 700.140	<b>186429</b>	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.

### 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)

With integrated through-wiring

Push-in terminals: 0.2–1.5 mm<sup>2</sup>

### 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

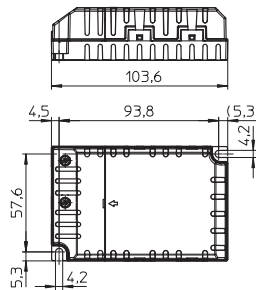
### Expected service life time

at operation temperatures at  $t_c$  point

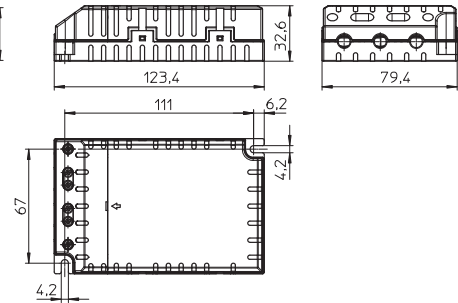


Operation current	Ref. No. all types	
all	75 °C	65 °C
hrs.	50,000	100,000

### K2.1



### K3.2



Max. output W	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
<b>K2.1 – Dimensions: 103.6x67.4x31 mm</b>												
24	ECXd 700.166	<b>186465</b>	198–264	160–100	350–700 ±5%	350	14–34	< 45	> 84	–25 to 50	75	145
		<b>186573</b>	220–240	130–120		500						
		<b>186574</b>				700						
<b>K3.2 – Dimensions: 123.4x79.4x32.6 mm</b>												
37	ECXd 700.184	<b>186503</b>	198–264	235–155	350–700 ±5%	350	30–53	< 60	> 87	–25 to 50	75	190
		<b>186571</b>	220–240	200–180		500						
		<b>186572</b>				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 ±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 mm<sup>2</sup>

### 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



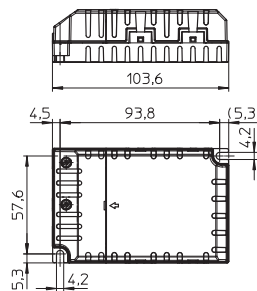
### Expected service life time

at operation temperatures at  $t_c$  point

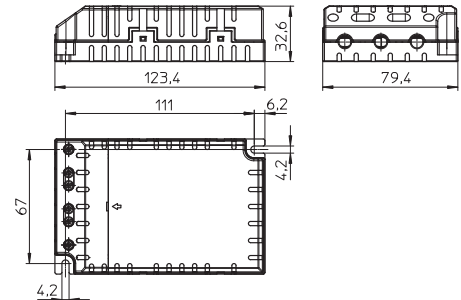
Operation current	Ref. No. all types	
	75 °C	65 °C
hrs.	50,000	100,000



**K2.1**



**K3.2**



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
<b>K2.1 – Dimensions: 103.6x67.4x31 mm</b>											
24	ECXd 700.044	<b>186280</b>	198–264	160–100	700 ±5%	14–34	< 45	> 84	–25 to 50	75	145
			220–240	130–120							
<b>K3.2 – Dimensions: 123.4x79.4x32.6 mm</b>											
37	ECXd 700.064	<b>186308</b>	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. 34 W and max. 40 W,  
1050 mA / max. 60 W**

### Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: 0.97

Standby losses: < 0.5 W

### Dimming

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

Dimming range: 0.5 to 100%

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



### Expected service life time

at operation temperatures at  $t_c$  point

Operation current	Ref. No. all types	
700 mA	75 °C	65 °C
1050 mA	80 °C	70 °C
hrs.	50,000	100,000



### 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 mm<sup>2</sup>

### Safety features

Electronic short-circuit protection

Overload protection

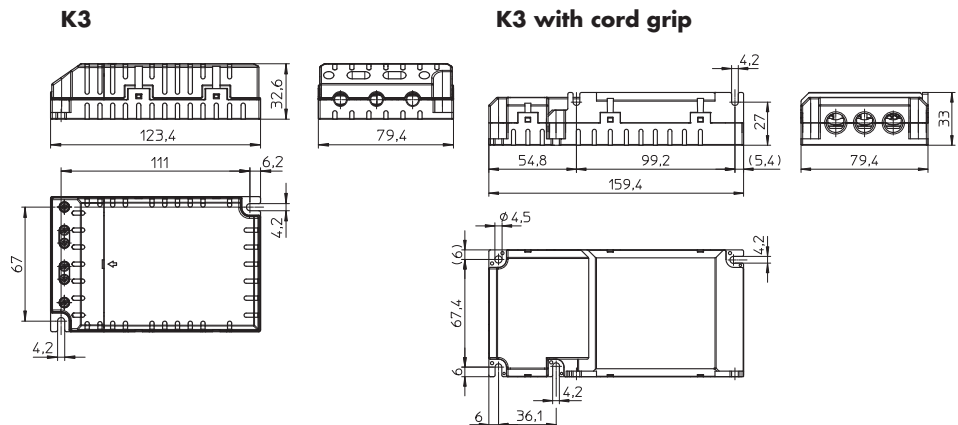
Protection against "no load" operation

Degree of protection: IP20

Protection class I

### SELV equivalent

Product guarantee: 5 years



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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### K3 – Dimensions: 123.4x79.4x33 mm

34	ECXd 700.017	<b>186177</b>	176–264	230–160	700 $\pm$ 5%	9–48	52	> 85	no	–20 to 50	75	180
			220–240	190–170								
40	ECXd 700.026	<b>186221</b>	176–264	280–185	700 $\pm$ 5%	20–57	60	> 85	yes	–20 to 50	75	186
			220–240	230–200								
60	ECXd 1050.020	<b>186196</b>	176–264	380–252	1050 $\pm$ 5%	20–57	60	> 85	yes	–20 to 50	80	220
			220–240	305–275								

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

34	ECXd 700.017	<b>186195</b>	176–264	230–160	700 $\pm$ 5%	9–48	52	> 85	no	–20 to 50	75	215
			220–240	190–170								
40	ECXd 700.026	<b>186222</b>	176–264	280–185	700 $\pm$ 5%	20–57	60	> 85	yes	–20 to 50	75	223
			220–240	230–200								
60	ECXd 1050.020	<b>186197</b>	176–264	380–252	1050 $\pm$ 5%	20–57	60	> 85	yes	–20 to 50	80	250
			220–240	305–275								

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 ±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 mm<sup>2</sup>

### 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

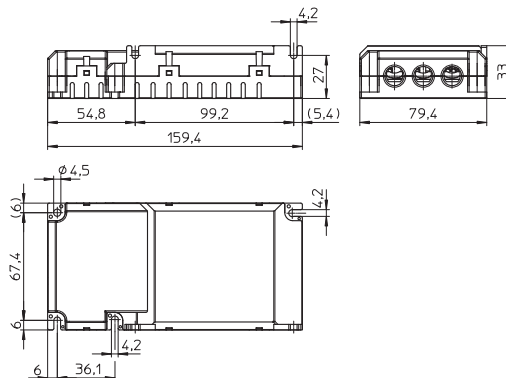


### Expected service life time

at operation temperatures at  $t_c$  point

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

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

37	ECXe 700.211	<b>186556</b>	198–264 220–240	235–155 200–180	700 ±5%	30–53	< 60	> 87	–25 to 50	75	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

**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 ±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 mm<sup>2</sup>

### 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

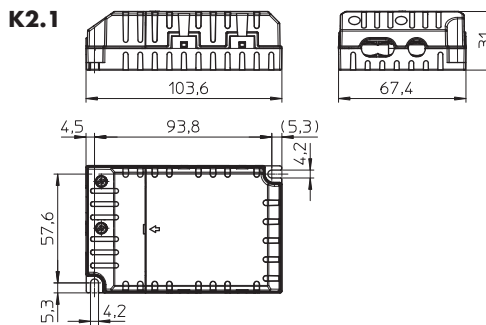


### Expected service life time

at operation temperatures at  $t_c$  point

			<b>1-10V</b>

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



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	<b>186279</b>	198–264 220–240	160–100 130–120	700 ±5%	14–34	< 45	> 84	–25 to 50	75	145
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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. 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 ±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 mm<sup>2</sup>

### Safety features

Electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

### Protection class II

#### SELV

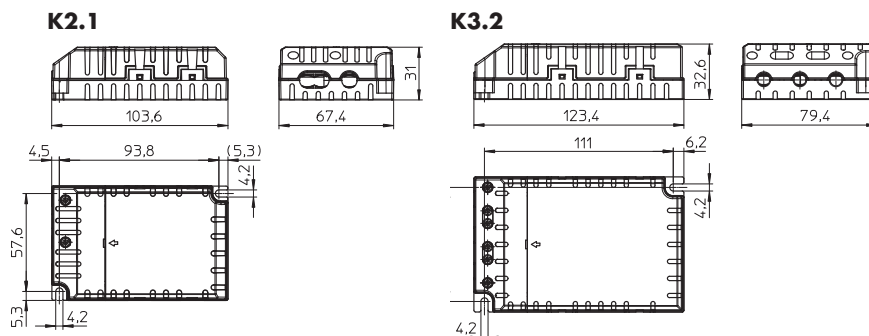
Product guarantee: 5 years



### Expected service life time

at operation temperatures at  $t_c$  point

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



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
<b>K2.1 – Dimensions: 103.6x67.4x31 mm</b>											
24	ECXe 700.042	<b>186278</b>	198–264	160–100	700 ±5%	14–34	< 45	> 84	–25 to 50	75	135
			220–240	130–120							
<b>K3.2 – Dimensions: 123.4x79.4x32.6 mm</b>											
37	ECXe 700.062	<b>186306</b>	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.

## ComfortLine LED Drivers

**700 mA / max. 40 W**  
**1050 mA / max. 60 W**  
**With 12 V interface**

### Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: 0.98

### Connection details

Mains voltage: 220–240 V ±10%

Mains frequency: 50–60 Hz

DC operation: 176–264 V DC, 0 Hz

Push-in terminals: 0.2–1.5 mm<sup>2</sup>

### Safety features

Electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

### SELV equivalent

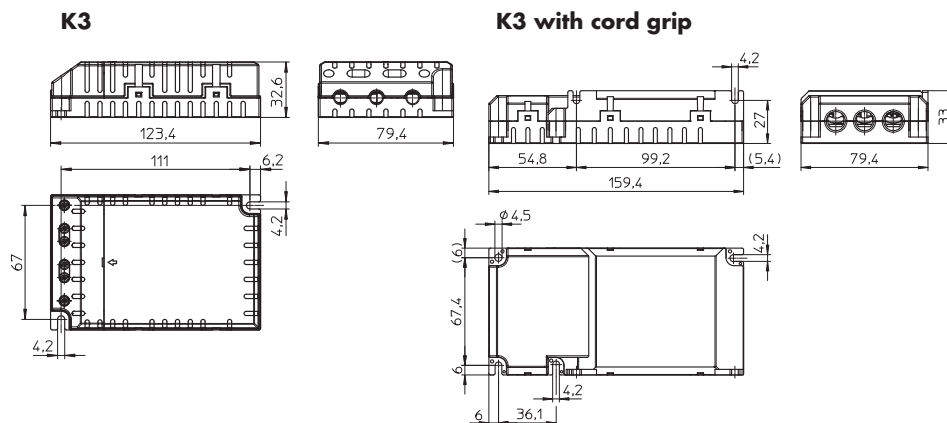
Product guarantee: 5 years



### Expected service life time

at operation temperatures at  $t_c$  point

Operation current	Ref. No.			
	186266, 186267	186268, 186269		
700 mA	75 °C	65 °C	—	—
1050 mA	—	—	80 °C	70 °C
hrs.	50,000	100,000	50,000	100,000



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
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### K3 – Dimensions: 123.4x79.4x33 mm

40	ECXe 700.034	<b>186266</b>	176–264 220–240	280–185 230–200	700 ±5%	20–57	60	> 85	yes	–20 to 50	75	182
60	ECXe 1050.035	<b>186268</b>	176–264 220–240	380–252 305–275	1050 ±5%	20–57	60	> 85	yes	–20 to 50	80	213

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

40	ECXe 700.034	<b>186267</b>	176–264 220–240	280–185 230–200	700 ±5%	20–57	60	> 85	yes	–20 to 50	75	220
60	ECXe 1050.035	<b>186269</b>	176–264 220–240	380–252 305–275	1050 ±5%	20–57	60	> 85	yes	–20 to 50	80	248

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. 40 W**  
**900 mA / max. 51.3 W**  
**1050 mA / max. 60 W**

### Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: 0.98

### Connection details

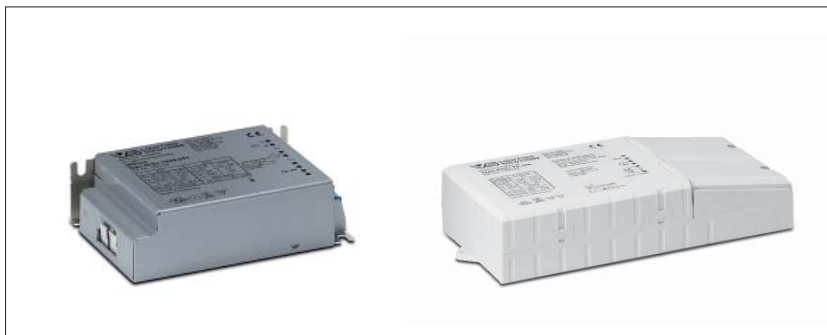
Mains voltage: 220–240 V ±10%

Mains frequency: 50–60 Hz

DC operation: 176–264 V DC, 0 Hz

With integrated through-wiring

Push-in terminals: 0.2–1.5 mm<sup>2</sup>



### Safety features

Temporary electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

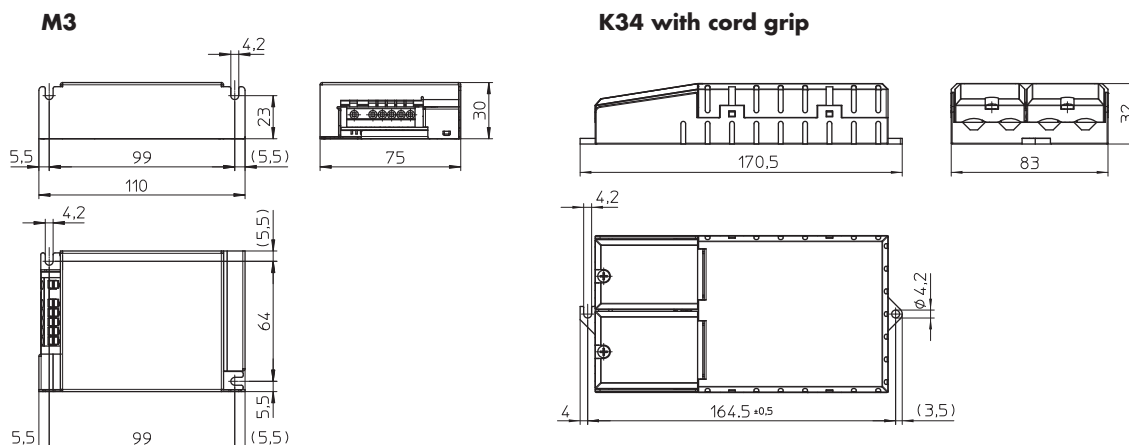
### SELV equivalent

Product guarantee: 5 years

### Expected service life time

at operation temperatures at  $t_c$  point

Operation current	Ref. No. all types	
700 mA	75 °C	65 °C
900 mA	80 °C	70 °C
1050 mA	80 °C	70 °C
hrs.	50,000	100,000



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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#### M3 – Dimensions: 110x75x30 mm

40	ECXe 700.022	<b>186330*</b>	176–264	250–160	700 ±5%	20–57	60	> 90	–20 to 60	75	210
			220–240	200–180							
51.3	ECXe 900.111	<b>186386**</b>	176–264	325–210	900 ±5%	20–57	60	> 90	–20 to 60	80	210
			220–240	255–235							
60	ECXe 1050.021	<b>186328*</b>	176–264	391–261	1050 ±5%	20–57	60	> 90	–20 to 60	80	226
			220–240	308–286							

#### K34 with cord grip – Dimensions: 170.5x83x32 mm

40	ECXe 700.022	<b>186331*</b>	176–264	250–160	700 ±5%	20–57	60	> 90	–20 to 60	75	257
			220–240	200–180							
51.3	ECXe 900.111	<b>186387**</b>	176–264	325–210	900 ±5%	20–57	60	> 90	–20 to 50	80	257
			220–240	255–235							
60	ECXe 1050.021	<b>186329*</b>	176–264	391–261	1050 ±5%	20–57	60	> 90	–20 to 50	80	273
			220–240	308–286							

\* Phase-out products (available until September 2017) | \*\* Phase-out products (available until June 2017)

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

**500/600/700 mA / max. 40 W**  
**800/925/1050 mA / max. 45 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 ±10%

Mains frequency: 50–60 Hz

Push-in terminals: 0.2–1.5 mm<sup>2</sup>

### Selectable current output

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

### Safety features

Temporary electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

**Protection class II**

**SELV**

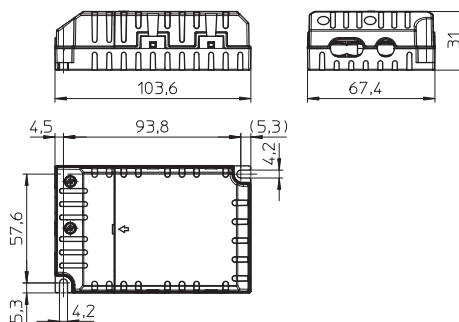
Product guarantee: 3 years

### Expected service life time

at operation temperatures at  $t_c$  point

Operation current	Ref. No. all types	
all	80 °C	70 °C
hrs.	30,000	50,000

### K2.1



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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### K2.1 – Dimensions: 103.6x67.4x31 mm

28.5	ECXe 700.199	<b>186531</b>	220–240	145–130	500 ±7.5%	25–57	< 60	> 89	–20 to 50	80	135
34.2				175–160	600 ±7.5%			> 90			
40				200–185	700 ±7.5%			> 90			
34.4	ECXe 1050.200	<b>186532</b>	220–240	185–160	800 ±7.5%	25–43	< 60	> 89	–20 to 50	80	155
39.8				210–185	925 ±7.5%			> 89			
45				245–210	1050 ±7.5%			> 89			

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

**250/350/500 mA / max. 20 W**  
**500/600/700 mA / max. 21 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: > 0.93

### Connection details

Mains voltage: 220–240 V ±10%

Mains frequency: 50–60 Hz

Push-in terminals: 0.2–1.5 mm<sup>2</sup>

### Expected service life time

at operation temperatures at  $t_c$  point

Operation current	Ref. No. all types	
	80 °C	70 °C
hrs.	30,000	50,000

### Selectable current output

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

### Safety features

Temporary electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

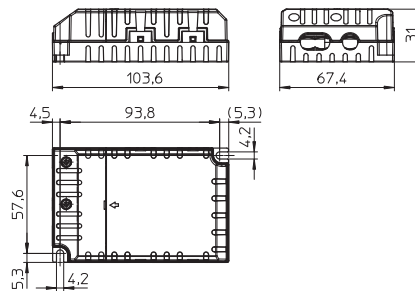
Degree of protection: IP20

### Protection class II

### SELV

Product guarantee: 3 years

### K2.1



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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### K2.1 – Dimensions: 103.6x67.4x31 mm

10	ECXe 500.164	<b>186463</b>	220–240	53–48	250 ±7.5%	17–40	< 60	> 83	–20 to 50	75	145
14				73–67	350 ±7.5%			> 84			
20				104–95	500 ±7.5%			> 85			
15	ECXe 700.165	<b>186464</b>	220–240	80–71	500 ±7.5%	17–30	< 60	> 85	–20 to 40	75	145
18				94–86	600 ±7.5%			> 85			
21				110–100	700 ±7.5%			> 85			

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

**500/600/700 mA / max. 37 W**

**800/925/1050 mA / max. 54 W**

Compact casing shape for built-in operation.

### 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

Push-in terminals

primary: 0.25–1.5 mm<sup>2</sup>

secondary: 0.25–1.5 mm<sup>2</sup>

The output current can be selected with the connection of the different connection terminals with 500/600/700 mA or 800/925/1050 mA.

### Safety features

Temporary electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

### Protection class II SELV equivalent

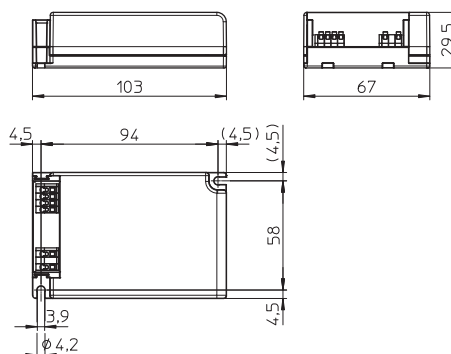
Product guarantee: 3 years



### Expected service life time

at operation temperatures at  $t_c$  point

Operation current	Ref. No.			
	186524		186525	
all	75 °C	65 °C	80 °C	70 °C
hrs.	35,000	50,000	35,000	50,000



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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#### Dimensions: 103x67x29.5 mm

27	ECXe 700.195	<b>186524*</b>	220–240	150	500 ±5%	27–54	< 60	> 87	–20 to 55	75	162
32				180	600 ±5%	27–54					
35				200	700 ±5%	27–50					
37				220	700 ±5%	27–54					
43	ECXe 1050.196	<b>186525*</b>	220–240	250	800 ±5%	27–54	< 60	> 87	–20 to 50	80	183
50				280	925 ±5%	27–54					
50				280	1050 ±5%	27–50					
54				320	1050 ±5%	27–54					

\* Phase-out products (available until June 2018)

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

**500/600/700 mA / max. 25 W**

Compact casing shape for built-in operation.

### 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

Push-in terminals

primary: 0.25–1.5 mm<sup>2</sup>

secondary: 0.25–1.5 mm<sup>2</sup>

The output current can be selected with the connection of the different connection terminals with 500/600/700 mA.

### Safety features

Temporary electronic short-circuit protection

Overload and overtemperature protection

Protection against "no load" operation

Degree of protection: IP20

### Protection class II

### SELV equivalent

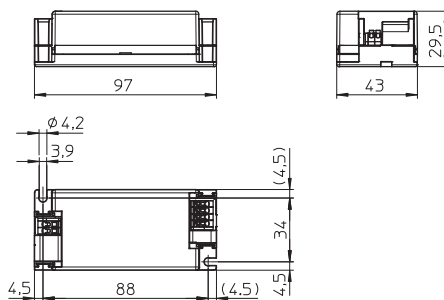
Product guarantee: 3 years



### Expected service life time

at operation temperatures at  $t_c$  point

Operation current	Ref. No. 186523	
all	80 °C	70 °C
hrs.	35,000	50,000



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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#### Dimensions: 97x43x29.5 mm

18	ECXe 700.194	186523*	220–240	120	500 ±5%	20–36	< 60	> 85	–20 to 50	80	90
21				140	600 ±5%						
25				160	700 ±5%						

\* Phase-out products (available until June 2018)

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 ±10%

Mains frequency: 50–60 Hz

Push-in terminals: 0.2–1.5 mm<sup>2</sup>

### 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: 3 years

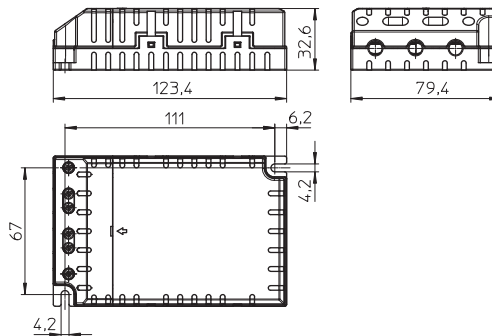


### Expected service life time

at operation temperatures at  $t_c$  point

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

### 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 DC V	Efficiency at full load % [230 V]	Ambient temperature $t_a$ °C	Casing temperature $t_c$ °C	Weight g
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### K3.2 – Dimensions: 123.4x79.4x32.6 mm

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

\* Phase-out products (available until December 2016)

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. 15 W**
- 500 mA / max. 21.5 W**
- 700 mA / max. 30 W / 38.5 W**
- 1050 mA / max. 45 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 ±10%

Mains frequency: 50–60 Hz

Push-in terminals: 0.5–2.5 mm<sup>2</sup>

### 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: 3 years

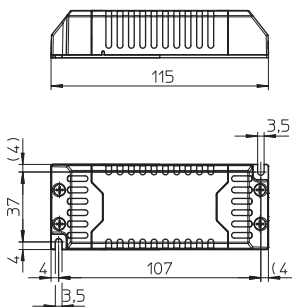


### Expected service life time

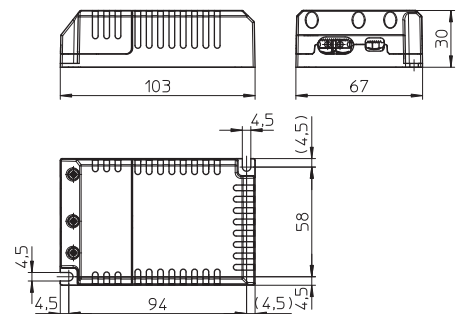
at operation temperatures at  $t_c$  point

Operation current	Best.-Nr.			
	186591, 186592	186593, 186594, 186595		
all	75 °C	65 °C	80 °C	70 °C
hrs.	30,000	50,000	30,000	50,000

**K51.1**



**K26.1**



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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**K51.1 – Dimensions: 115x45x25 mm**

15	ECXe 350.229	<b>186591</b>	220–240	90–70	350 ±7.5%	30–43	< 60	> 80	0 to 50	75	82
21.5	ECXe 500.230	<b>186592</b>	220–240	130–100	500 ±7.5%	30–43	< 60	> 80	0 to 50	75	94

**K26.1 – Dimensions: 103x67x30 mm**

30	ECXe 700.231	<b>186593</b>	220–240	160–140	700 ±7.5%	30–43	< 60	> 80	0 to 50	80	120
38.5	ECXe 700.232	<b>186594</b>	220–240	205–180	700 ±7.5%	30–55	< 60	> 80	0 to 50	80	140
45	ECXe 1050.233	<b>186595</b>	220–240	235–210	1050 ±7.5%	30–43	< 60	> 80	0 to 50	80	140

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 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

Push-in terminals: 0.2–1.5 mm<sup>2</sup>

### 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



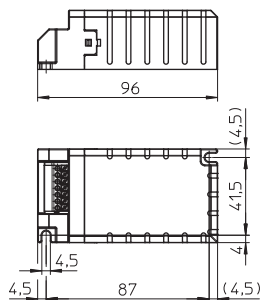
### Expected service life time

at operation temperatures at  $t_c$  point

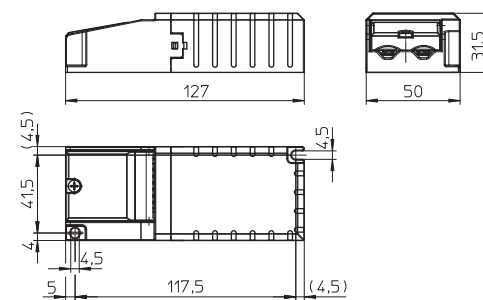


Operation current	Ref. No. 186393		186394, 186395	
	75 °C	65 °C	–	–
700 mA	–	–	75 °C	65 °C
1050 mA	–	–	–	–
hrs.	50,000	100,000	50,000	100,000

**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
<b>K35 – Dimensions: 96x50x31.5 mm</b>											
30	ECXe 700.112	<b>186393*</b>	220–240	155–140	700 ±5%	17–42	< 60	> 88	–25 to 50	75	130
<b>K35 – Dimmable – Dimensions: 96x50x31.5 mm</b>											
37,8	ECXd 1050.113	<b>186394*</b>	220–240	200–180	1050 ±10%	18–36	< 60	> 85	–10 to 40	75	140
<b>K35 with cord grip – Dimmable – Dimensions: 127x50x31.5 mm</b>											
37,8	ECXd 1050.113	<b>186395*</b>	220–240	200–180	1050 ±10%	18–36	< 60	> 85	–10 to 40	75	155

\* Phase-out products (available until June 2017)

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. 11 W**  
**500 mA / max. 16 W**  
**700 mA / max. 17 W**  
**1050 mA / max. 20 W**

### 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 ±10%

Mains frequency: 50–60 Hz

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

Screw terminals: 2.5 mm<sup>2</sup>

With integrated cord grip

### Safety features

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

### Protection class II

### SELV equivalent

Product guarantee: 5 years

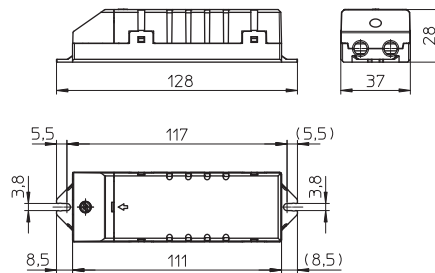


### Expected service life time

at operation temperatures at  $t_c$  point

Operation current	Ref. No.							
	186424		186425		186426		186427	
350 mA	70 °C	60 °C	–	–	–	–	–	–
500 mA	–	–	75 °C	65 °C	–	–	–	–
700 mA	–	–	–	–	75 °C	65 °C	–	–
1050 mA	–	–	–	–	–	–	75 °C	65 °C
hrs.	50,000	100,000	50,000	100,000	50,000	100,000	50,000	100,000

### K39



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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### K39 – Dimensions: 128x37x28 mm

11	ECXe 350.009	<b>186424*</b>	176–264	75–51	350 ±5%	2–32	34	> 87	–20 to 50	70	71
			220–240	122–117							
16	ECXe 500.010	<b>186425*</b>	176–264	106–72	500 ±5%	2–32	34	> 88	–20 to 50	75	71
			220–240	160–155							
17	ECXe 700.011	<b>186426*</b>	176–264	117–79	700 ±5%	2–25	34	> 87	–20 to 50	75	71
			220–240	188–178							
20	ECXe 1050.012	<b>186427*</b>	176–264	137–92	1050 ±5%	2–19	34	> 87	–20 to 45	75	71
			220–240	210–202							

\* Phase-out products (available until September 2017)

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 ±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 mm<sup>2</sup>

### 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

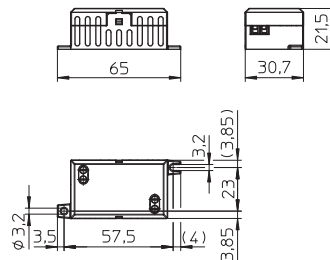
at operation temperatures at  $t_c$  point

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

### 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
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### K29 – Dimensions: 65x30.7x21.5 mm

8.75	ECXe 350.192	<b>186519</b>	176–264	60–39	350 ±5%	3–25	26	> 78	–25 to 50	80	35
			220–240	79–73							

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 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 mm<sup>2</sup>

### Safety features

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

### Protection class II

### SELV

Product guarantee: 3 years



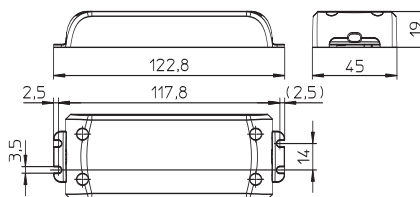
### Expected service life time

at operation temperatures at  $t_c$  point

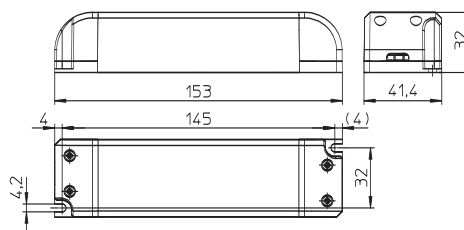


Operation current	Ref. No.		186505		186447, 186448, 186449, 186450	
	186415, 186416, 186451	70 °C	75 °C	65 °C	70 °C	60 °C
hrs.	30,000	50,000	30,000	50,000	30,000	50,000

### 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
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#### K52 – Dimensions: 122.8x45x19 mm

6	ECXd 150.151	<b>186447</b>	220–240	40–35	150 ±8%	27–41	60	> 78	–15 to 45	70	70
10	ECXd 500.152	<b>186448</b>	220–240	60–50	500 ±8%	13–20	30	> 80	–15 to 45	70	70
12	ECXd 250.153	<b>186449</b>	220–240	70–60	250 ±8%	27–48	60	> 80	–15 to 45	70	70

#### K53 – Dimensions: 153x41.4x32 mm

18	ECXd 350.130	<b>186415</b>	220–240	100–90	350 ±8%	32–52	60	> 85	–15 to 45	80	70
18	ECXd 700.134	<b>186450</b>	220–240	95–85	700 ±8%	16–26	35	> 85	–15 to 45	70	140
21	ECXd 500.186	<b>186505</b>	220–240	110–100	500 ±8%	28–42	50	> 85	–15 to 45	75	100
25	ECXd 700.131	<b>186416</b>	220–240	140–120	700 ±8%	22–36	60	> 85	–15 to 45	80	140
36	ECXd 700.155	<b>186451</b>	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 mm<sup>2</sup>, length: 180 mm

secondary: 2x0.5–0.75 mm<sup>2</sup>, length: 180 mm

### Safety features

Electronic short-circuit protection

Overload protection

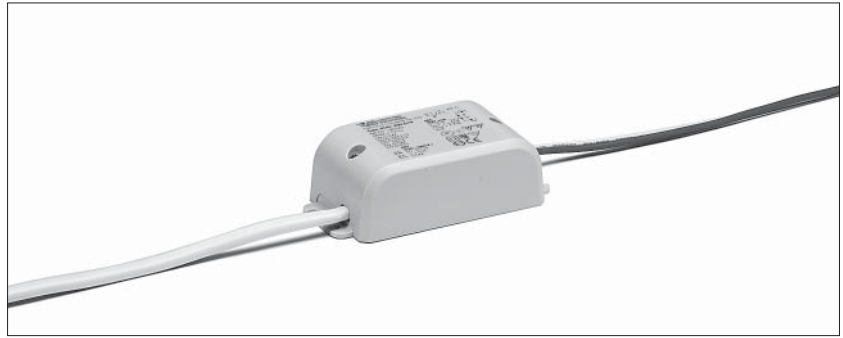
Protection against "no load" operation

Degree of protection: IP20

### Protection class II

### SELV

Product guarantee: 3 years

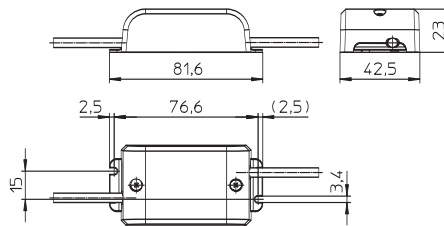


### Expected service life time

at operation temperatures at  $t_c$  point

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

### K51



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	DC	DC	% [230 V]	$t_a$ °C	$t_c$ °C	g

### K51 – Dimensions: 82x42.5x23 mm

5.2	ECXe 700.161	<b>186458</b>	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 ±10%  
 Mains frequency: 50–60 Hz  
 Pre-assembled connection leads  
     primary: 2x0.75 mm<sup>2</sup>, length: 180 mm  
     secondary: 2x0.5–0.75 mm<sup>2</sup>, length: 180 mm

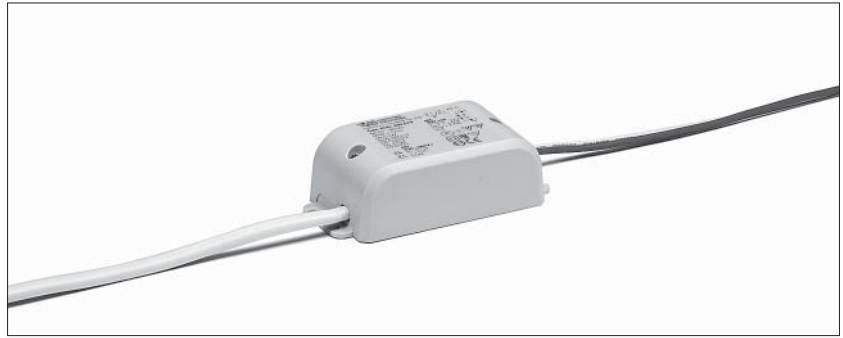
### Safety features

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

### Protection class II

### SELV

Product guarantee: 3 years

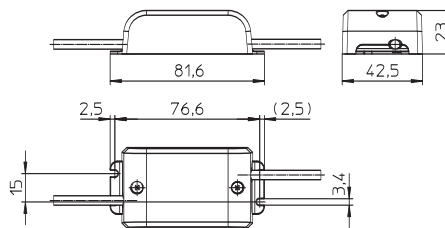


### Expected service life time

at operation temperatures at  $t_c$  point

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

### 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	<b>186348</b>	220–240	45–30	700 ±5%	2.8–8	< 60	> 70	–15 to 45	75	45
7	ECXe 350.079	<b>186342</b>	220–240	50–36	350 ±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

**350 mA / max. 20 W**

**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 ±10%

Mains frequency: 50–60 Hz

Screw terminals: 0.5–2.5 mm<sup>2</sup>

### Safety features

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

### Protection class II

### SELV

Product guarantee: 3 years

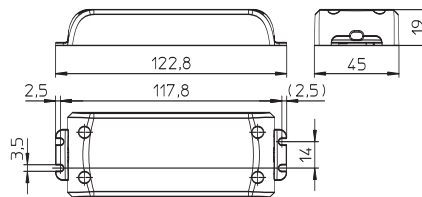


### Expected service life time

at operation temperatures at  $t_c$  point

Operation current	Ref. No.			
	186508	186507		
350 mA	—	—	75 °C	65 °C
500 mA	70 °C	60 °C	—	—
hrs.	30,000	50,000	30,000	50,000

### K52



### Products under development; preliminary technical datas

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
<b>K52 – Dimensions: 122.8x45x19 mm</b>											
12	ECXe 500.189	<b>186508</b>	220–240	64–58	500 ±5%	8–24	< 60	> 85	–15 to 45	70	65
20	ECXe 350.188	<b>186507</b>	220–240	107–98	350 ±5%	40–57	< 60	> 85	–15 to 45	75	70

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 ±10%

Mains frequency: 50–60 Hz

Screw terminals: 0.5–2.5 mm<sup>2</sup>

### Safety features

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

### Protection class II

#### SELV

Product guarantee: 3 years

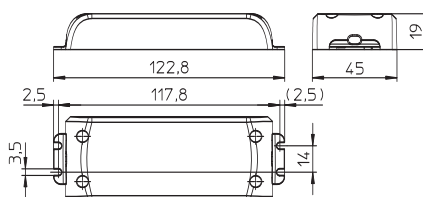


### Expected service life time

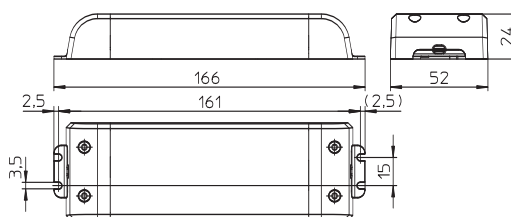
at operation temperatures at  $t_c$  point

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

### 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
<b>K52 – Dimensions: 122.8x45x19 mm</b>											
12.6	ECXe 350.078	<b>186341</b>	220–240	100–70	350 ±5%	8.4–36	< 60	> 83	–15 to 45	75	65
15	ECXe 500.082	<b>186349</b>	220–240	90–70	500 ±5%	8–30	< 60	> 83	–15 to 45	75	70
20	ECXe 350.142	<b>186431</b>	220–240	110–95	350 ±5%	16–57	< 60	> 85	–15 to 45	70	140
20.3	ECXe 700.083	<b>186350</b>	220–240	115–100	700 ±5%	8–29	< 60	> 83	–15 to 45	75	70
<b>K54 – Dimensions: 166x52x24 mm</b>											
25.2	ECXe 700.086	<b>186353</b>	220–240	130–115	700 ±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 mm<sup>2</sup>

### Safety features

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

### Protection class II

### SELV

Product guarantee: 3 years

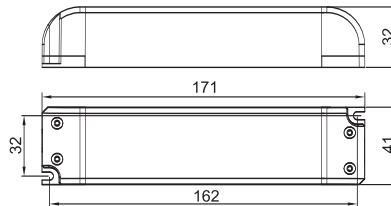


### Expected service life time

at operation temperatures at  $t_c$  point

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

### 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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### K53 – Dimensions: 171x41x32 mm

31	ECXe 700.182	<b>186501</b>	220–240	160–140	700 ±8%	30–45	< 55	> 87	–15 to 45	75	110
47	ECXe 1050.183	<b>186502</b>	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 ±10%

Mains frequency: 50–60 Hz

Screw terminals: 0.5–2.5 mm<sup>2</sup>

#### Safety features

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

#### Protection class II

#### SELV

Product guarantee: 3 years

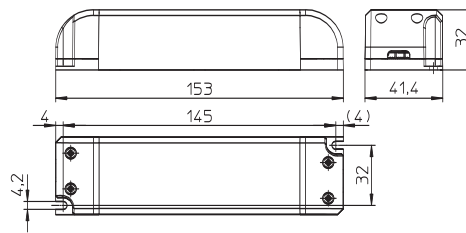


#### Expected service life time

at operation temperatures at  $t_c$  point

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

#### 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
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#### K53 – Dimensions: 153x41.4x32 mm

30	ECXe 350.141	<b>186430</b>	220–240	160–140	350 ±6%	57–86	< 90	> 89	–15 to 45	70	200
31.5	ECXe 1050.084	<b>186351</b>	220–240	150–145	1050 ±6%	20–30	< 60	> 88	–15 to 45	75	140
60	ECXe 700.206	<b>186548*</b>	220–240	320–294	700 ±8%	43–86	< 120	> 85	–15 to 45	75	180
60	ECXe 1050.183	<b>186522*</b>	220–240	320–294	1050 ±8%	40–58	< 70	> 85	–15 to 45	75	180

\* Products under development; preliminary technical datas

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 – Dimmable with Programmable Current

**350–1050 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: > 0.95

Constant lumen output



### 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%.

### Programmability

The output current can be freely adjusted in 1 mA steps between 350 mA and 1050 mA (factory setting: 350 mA).

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



### Connection details

Mains voltage: 220–240 V

Mains frequency: 50–60 Hz

Pre-assembled connection leads:

primary: 0.75 mm<sup>2</sup>, length: 300 mm

secondary: 0.75 mm<sup>2</sup>, length: 300 mm



### Safety features

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



### Double isolated

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP65

### Protection class II

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



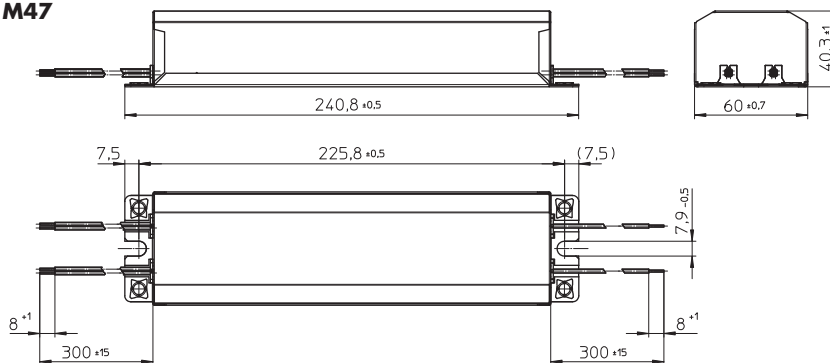
1-10V	
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### Expected service life time

at operation temperatures at t<sub>c</sub> point

Operation current	Ref. No. all types	
	80 °C	70 °C
350–1050 mA	50,000	100,000
hrs.		

### M47



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			50–60 Hz	mA	DC	DC	DC	% (230 V)	t <sub>a</sub> °C	t <sub>c</sub> °C	g
150	ECXd 1050G.146	<b>186442</b>	220–240	757–694	350–1050 <sup>+5%</sup>	85–260	< 310	> 91	–40 to 60	80	1050

**Dimensions: 240.8x60x40.3 mm**

\* 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 – 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%.

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 ± 10%

Mains frequency: 50–60 Hz

K37: Push-in terminals: 0.75–2.5 mm<sup>2</sup>

K37 with cord grip:

Pre-assembled connection leads:

primary: 5x1 mm<sup>2</sup>, 200 mm

secondary: 2x1.5 mm<sup>2</sup>, 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



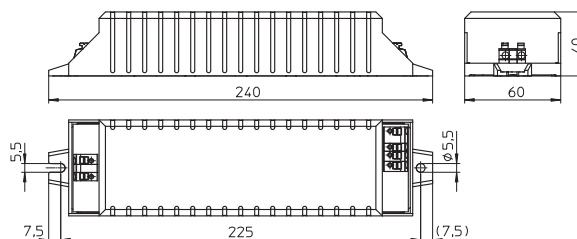
### Expected service life time

at operation temperatures at  $t_c$  point

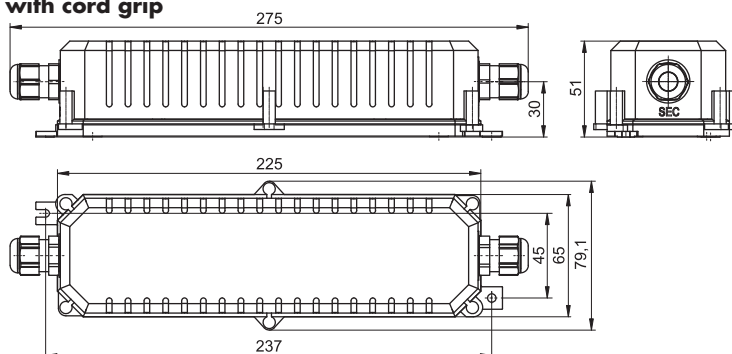
Operation current	Ref. No. all types	
all	75 °C	65 °C
hrs.	50,000	100,000



### 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
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#### K37 – Dimensions: 240x60x40 mm

150	ECXd 700.023	<b>186202</b>	220–277	735–585	700 +5/-10%	48–215	445	> 93	–40 to 60	75	440
					400 +5/-10%	48–375					

#### K37 with cord grip – Dimensions: 275x79.1x51 mm

150	ECXd 700.023	<b>186203</b>	220–277	735–585	700 +5/-10%	48–215	445	> 93	–40 to 60	75	560
					400 +5/-10%	48–375					

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.

## PrimeLine LED Drivers – Dimmable

**700, 1000, 1400 mA / max. 91 W**

The nominal current can be set to 700 mA, 1000 mA, 1400 mA with a dip switch or it can be adjusted with a DALI signal.

### Electrical characteristics

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

Power factor at full load: > 0.98

### Dimming

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

Dimming range: 10 to 100%

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

### MidNight – Multi-Step dimming

The MidNight concept is based on dimmable ballasts for integration in lampposts; these ballasts can be programmed to create different light scenes with different dimm settings.

**Note:** If DALI is not used, MidNight protocol is activated.

After the first switch-on of mains voltage the driver is waiting for 7 seconds to supply voltage to the LEDs.

### Connection details

Mains voltage: 220–240 V ±10%

Mains frequency: 50–60 Hz

Push-in terminals: 0.75–2.5 mm<sup>2</sup>

### Safety features

Protection against transient main peaks

up to 2 kV (between L and N) and

up to 4 kV (between L, N and PE)

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

Product guarantee: 5 years



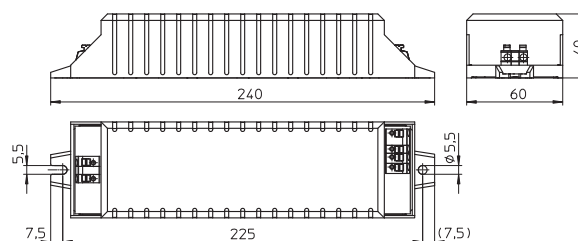
### Expected service life time

at operation temperatures at  $t_c$  point

Operation current	Ref. No. 186367	
700 mA	70 °C	60 °C
1000 mA	80 °C	70 °C
1400 mA	85 °C	75 °C
hrs.	50,000	100,000



### K37



Max. output	Type	Ref. No.	Mains voltage	Mains current	Current output	Voltage output	Max. voltage without load	Efficiency at full load	Ambient temperature $t_a$	Casing temperature $t_c$	Weight	
W			50–60 Hz		DC	DC	DC	% (230 V)	°C	°C	g	
<b>K37 – Dimensions: 240x60x40 mm</b>												
82	ECXd 1400.096	<b>186367</b>	220–240	450–150	700 ±5%	43–117	< 120	> 90	–40 to 50	70	445	
91					1000 ±5%	33–91				–40 to 45		80
					1400 ±5%	22–64				–40 to 40		85

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 ±10%

Mains frequency: 50–60 Hz

Pre-assembled connection leads:

primary: 2x0.75 mm<sup>2</sup>

secondary: 4x0.75 mm<sup>2</sup>

### 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

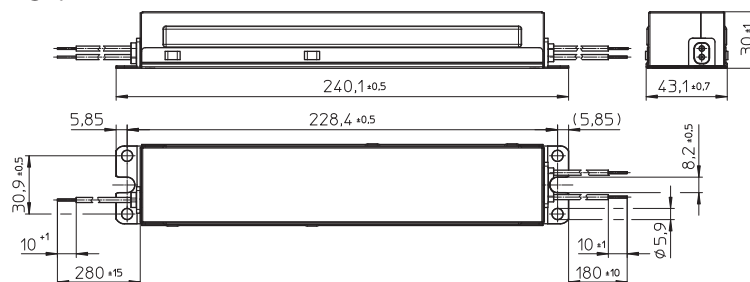
at operation temperatures at  $t_c$  point

1-10V	
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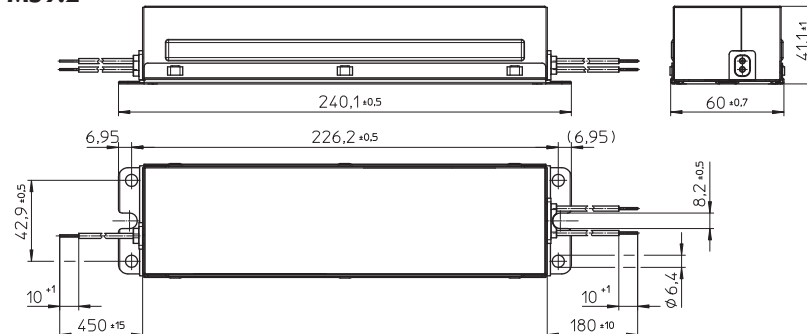
Operation current	Ref. No.	186400, 186402	186401	
700 mA	85 °C	75 °C	80 °C	70 °C
hrs.	50,000	100,000	50,000	100,000



### 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
<b>M59.1 – Dimensions: 240.1x43.1x30 mm</b>											
75	ECXd 700G.117	<b>186400</b>	120–277	700–304	700 ±5%	54–107	< 250	> 88	–40 to 55	85	625
<b>M59.2 – Dimensions: 240.1x60x41.1 mm</b>											
100	ECXd 700G.118	<b>186401</b>	120–277	917–398	700 ±5%	70–143	< 250	> 88	–40 to 55	80	1070
150	ECXd 700G.119	<b>186402</b>	120–277	1363–591	700 ±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 mm<sup>2</sup>, length: 300 mm

secondary: 6x0.75 mm<sup>2</sup>, length: 300 mm

### Safety features

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

Electronic short-circuit protection

Overload protection

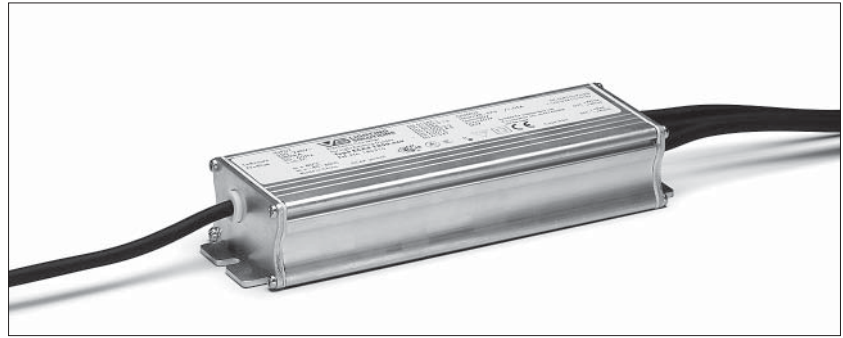
Protection against "no load" operation

Degree of protection: IP67

### Protection class II

#### SELV

Product guarantee: 5 years



### Expected service life time

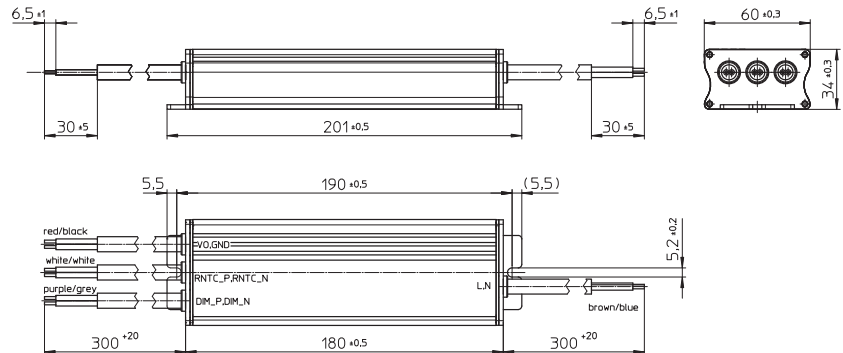
at operation temperatures at  $t_c$  point

I-10V	
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Operation current	Ref. No.	
1050 mA	80 °C	70 °C
hrs.	50,000	100,000



### 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	DC mA	DC V	V	% (230 V)	$t_a$ °C	$t_c$ °C	g

### M57 – Dimensions: 201x60x34 mm

60	ECXd 1050.069	<b>186316</b>	220–240	310–280	1050 ± 5%	28–57	< 60	> 88	–40 to 50	80	730
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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. 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 ±10%

Mains frequency: 50–60 Hz

Pre-assembled connection leads:

primary: 2x0.75 mm<sup>2</sup>, length: 228 mm

secondary: 4x0.75 mm<sup>2</sup>, 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

Product guarantee: 5 years



### Expected service life time

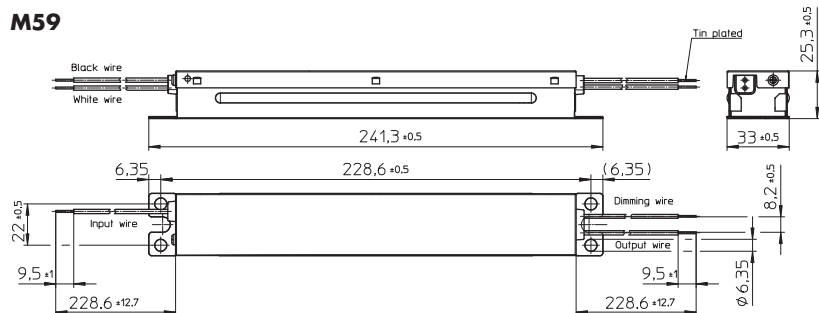
at operation temperatures at  $t_c$  point

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

1-10V	
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### M59



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	DC mA	DC V	V	% (230 V)	$t_a$ °C	$t_c$ °C	g
38.5	ECXd 700G.177	<b>186490</b>	120–277	440–200	700 ±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 ±10%  
Mains frequency: 50–60 Hz  
Pre-assembled connection leads:  
primary: 3x0.75 mm<sup>2</sup>  
secondary: 2x0.75 mm<sup>2</sup>

#### 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



#### Expected service life time

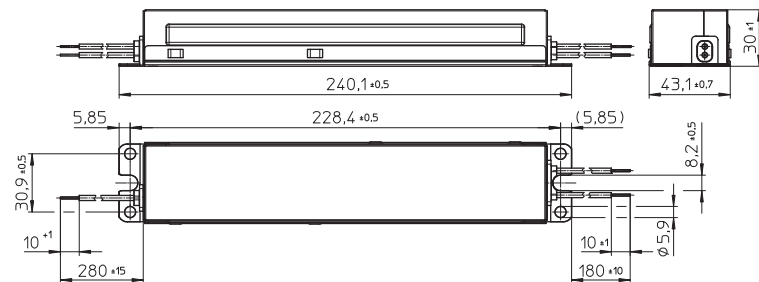
at operation temperatures at  $t_c$  point

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

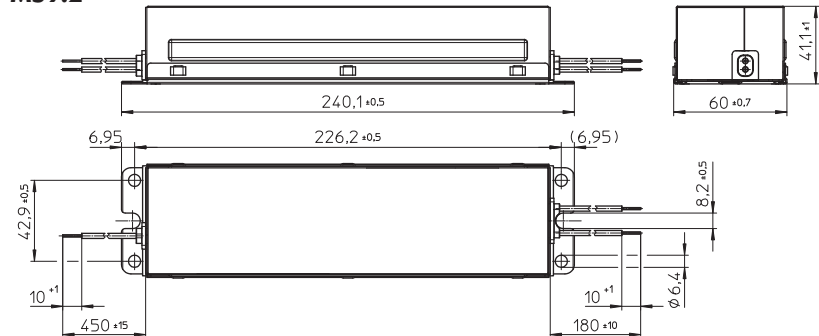
#### Protection class II

Product guarantee: 5 years

#### M59.1



#### M59.2



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			50–60 Hz		DC	DC	DC	% [230 V]	$t_a$	$t_c$	g
			V	mA	mA	V	V		°C	°C	

#### M59.1 – Dimensions: 240.1x43.1x30 mm

75	ECXe 700G.114	<b>186397</b>	120–277	700–304	700 ±5%	54–107	< 250	> 88	–40 to 55	85	625
					400 ±5%						

#### M59.2 – Dimensions: 240.1x60x41.1 mm

100	ECXe 700G.115	<b>186398*</b>	120–277	917–398	700 ±5%	70–143	< 250	> 88	–40 to 55	80	1070
					400 ±5%						
150	ECXe 700G.190	<b>186509*</b>	120–277	1363–591	700 ±5%	107–214	< 250	> 88	–40 to 55	85	1070
					400 ±5%						

\* Products under development; preliminary technical datas

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 ±10%

Mains frequency: 50–60 Hz

Pre-assembled connection leads:

primary: 2x0.75 mm<sup>2</sup>, length: 228 mm

secondary: 2x0.75 mm<sup>2</sup>, 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

Product guarantee: 5 years

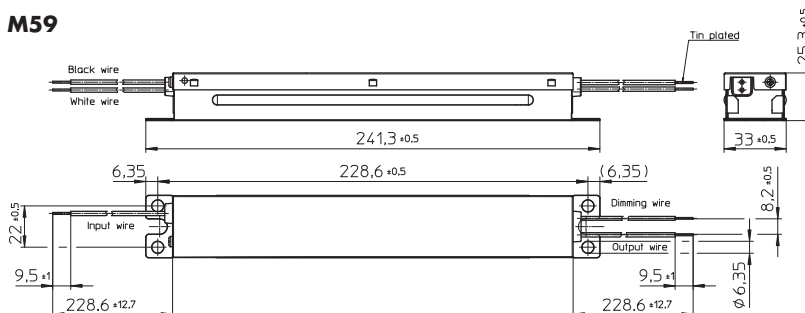


### Expected service life time

at operation temperatures at  $t_c$  point

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

### M59



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	DC mA	DC V	V	% (230 V)	$t_a$ °C	$t_c$ °C	g
<b>M59 – Dimensions: 241.3x33x25.3 mm</b>											
38.5	ECXe 700G.176	<b>186489</b>	120–277	440–200	700 ±5%	32–55	60	> 85	–30 to 55	80	393

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 ±10%

Mains frequency: 50–60 Hz

Pre-assembled connection leads:

primary: 2x0.75 mm<sup>2</sup>, length: 450 mm

secondary: 2x0.75 mm<sup>2</sup>, 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

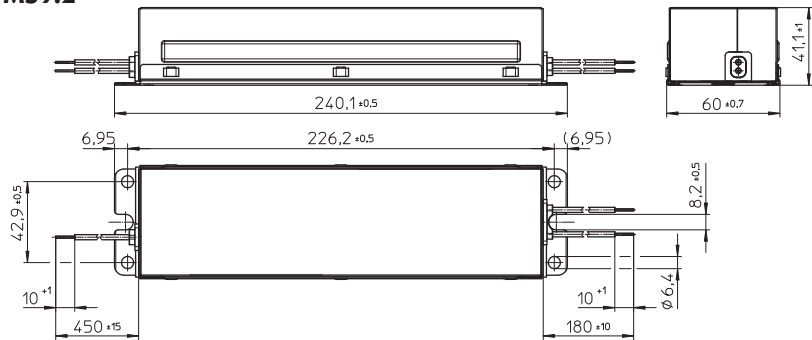


### Expected service life time

at operation temperatures at  $t_c$  point

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

### 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
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### M59.2 – Dimensions: 240.1x60x41.1 mm

150	ECXe 700G.116	<b>186399</b>	120–277	1363–591	700 ±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

**350 mA / max. 40 W**

**700 mA / max. 40 W**

**1050 mA / max. 40 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 ±10%

Mains frequency: 50–60 Hz

Push-in terminals: 0.75–2.5 mm<sup>2</sup>

### 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: IP20

### Protection class II

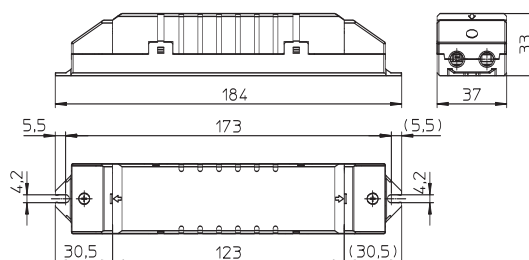
Product guarantee: 5 years

### Expected service life time

at operation temperatures at  $t_c$  point

Operation current	Ref. No. 186550		186551		186552	
	70 °C	60 °C	—	—	—	—
350 mA	70 °C	60 °C	—	—	—	—
700 mA	—	—	70 °C	60 °C	—	—
1050 mA	—	—	—	—	75 °C	65 °C
hrs.	50,000	100,000	50,000	100,000	50,000	100,000

### K39.2



### Products under development; preliminary technical datas

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
<b>K39.2 – Dimensions: 184x37x33 mm</b>											
40	ECXe 350.207	<b>186550</b>	120–277	387–168	350 ±5%	78–114	< 120	> 86	–25 to 50	70	160
40	ECXe 700.208	<b>186551</b>	120–277	387–168	700 ±5%	39–57	< 60	> 86	–25 to 50	70	160
40	ECXe 1050.209	<b>186552</b>	120–277	387–168	1050 ±5%	26–38	< 60	> 86	–25 to 50	75	160

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. 42 W**

### Electrical characteristics

Secondary side switching of LED modules is not allowed.

Power factor at full load: > 0.97

### Connection details

Mains voltage: 220–240 V ±10%

Mains frequency: 50–60 Hz

Push-in terminals: 0.75–2.5 mm<sup>2</sup>

### 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 protection

Protection against "no load" operation

Degree of protection: IP20

Protection class I

### SELV equivalent

Product guarantee: 5 years

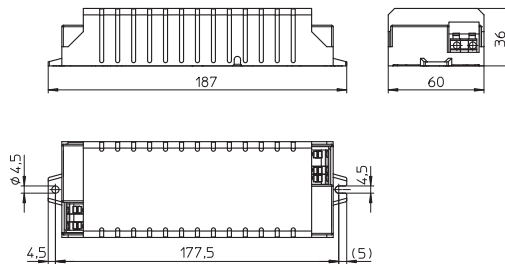


### Expected service life time

at operation temperatures at  $t_c$  point

Operation current	Ref. No.		
	186175		
350	70 °C	60 °C	
hrs.	50,000	100,000	

### K30



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			50–60 Hz		DC	DC	DC	% [230 V]	$t_a$	$t_c$	g
V			V	mA	mA	V	V		°C	°C	

### K30 – Dimensions: 187x60x36 mm

42	ECXe 350.015	<b>186175*</b>	220–240	210–190	350 ±5%	40–115	120	> 90	–30 to 60	70	270
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\* Phase-out products (available until December 2016)

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

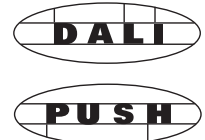
Mains voltage: 220–240 V ± 10%  
 Mains frequency: 50–60 Hz  
 DC operation: 198–264 V DC, 0 Hz  
 (can be reduced to 176 V with reduced service life time)  
 Push-in terminals: 0.2–1.5 mm<sup>2</sup>

### 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)

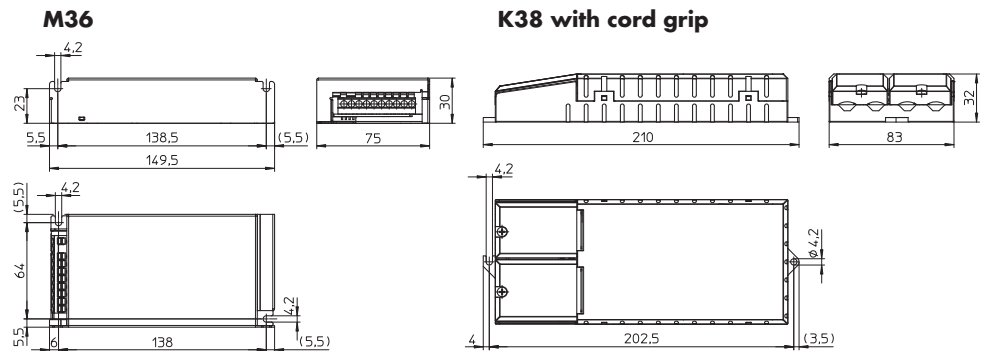
R (k)	Nominal current (%)
10	100
< 1.49	60
< 1.13	0 (off)



### Expected service life time

at operation temperatures at  $t_c$  point

Operation current	Ref. No.	186299	186303	186300	186304
700 mA	70 °C	60 °C	—	—	80 °C
1050 mA	—	—	75 °C	65 °C	—
hrs	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
<b>M36 – Dimensions: 149.5x75x30 mm</b>												
112	ECXd 700.058	<b>186299</b>	198–264	595–445	700 ±5%	85–160	< 450	> 91	yes	–25 to 50	70	288
			220–240	550–510								
126	ECXd 1050.060	<b>186303</b>	198–264	660–495	1050 ±5%	85–120	< 450	> 91	yes	–25 to 50	75	288
			220–240	630–590								
<b>K38 with cord grip – Dimensions: 210x83x32 mm</b>												
112	ECXd 700.058	<b>186300</b>	198–264	595–445	700 ±5%	85–160	< 450	> 91	yes	–25 to 50	80	335
			220–240	550–510								
126	ECXd 1050.060	<b>186304</b>	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 mm<sup>2</sup>  
(NTC interface: 0.2–0.5 mm<sup>2</sup>)

### 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)

<b>1-10V</b>	
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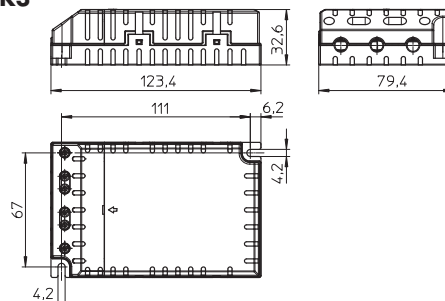


### Expected service life time

at operation temperatures at  $t_c$  point

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

### 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
38.7/ 45.1/ 51.6/ 60.2	ECXd 1400.025	<b>186208</b>	198–264 220–240	315–290 350–265	900 <sup>+5/-10%</sup> / 1050 <sup>+5/-10%</sup> / 1200 <sup>+5/-10%</sup> / 1400 <sup>+5/-10%</sup>	20–43	< 52	> 85	–20 to 50	85	230

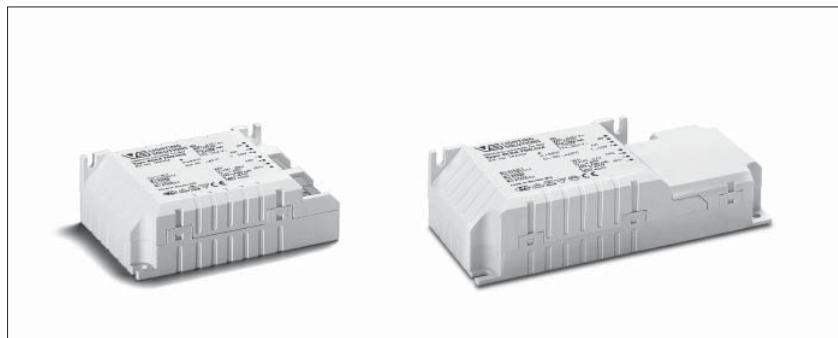
The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.



## 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

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

<b>1-10V</b>	
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### 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%.

### Expected service life time

at operation temperatures at  $t_c$  point

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

### Connection details

Mains voltage: 220–240 V ±10%  
Mains frequency: 50–60 Hz  
DC operation: 176–264 V DC, 0 Hz  
Push-in terminals: 0.2–1.5 mm<sup>2</sup>  
(NTC interface: 0.2–0.5 mm<sup>2</sup>)

### Safety features

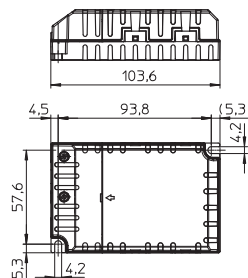
Electronic short-circuit protection  
Overload protection  
Protection against "no load" operation  
Degree of protection: IP20

### Protection class II

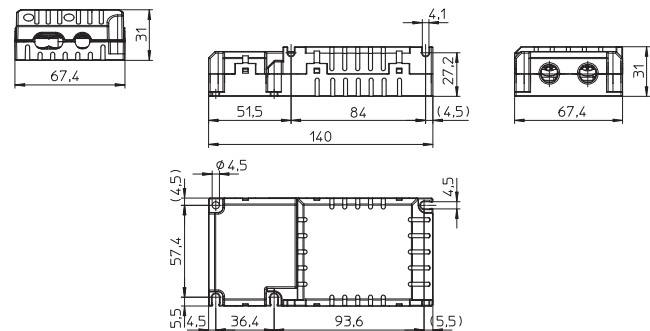
#### SELV

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

**K2**



**K2 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
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#### K2 – Dimensions: 103.6x67.4x31 mm

19.95/	ECXd 700.024	<b>186326</b>	176–264	265–175	350 +5/-10%/	20–57	60	> 85	–20 to 50	75	190
28.5/			220–240	220–200	500 +5/-10%/						
34.2/					600 +5/-10%/						
39.9					700 +5/-10%						

#### K2 with cord grip – Dimensions: 140x67.4x31 mm

19.95/	ECXd 700.024	<b>186327</b>	176–264	265–175	350 +5/-10%/	20–57	60	> 85	–20 to 50	75	220
28.5/			220–240	220–200	500 +5/-10%/						
34.2/					600 +5/-10%/						
39.9					700 +5/-10%						

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 mm<sup>2</sup>

### 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 Nurata NCP18XH103J03RB)

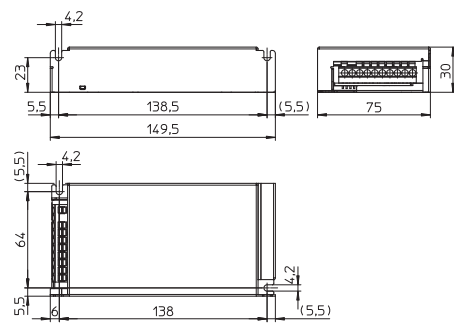
R (k)	Nominal current (%)
10	100
< 1.49	60
< 1.13	0 (off)

### Expected service life time

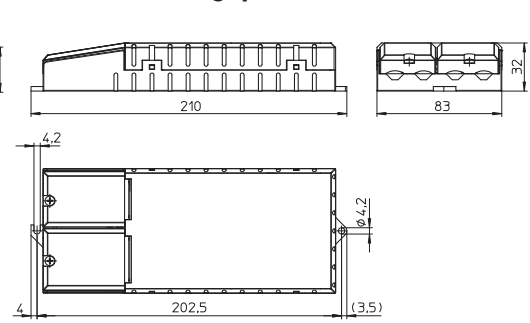
at operation temperatures at t<sub>c</sub> point

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

### 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 <sub>a</sub> °C	Casing temperature t <sub>c</sub> °C	Weight g
<b>M36 – Dimensions: 149.5x75x30 mm</b>												
112	ECXe 700.057	<b>186297</b>	198–264	595–445	700 ±5%	85–160	< 450	> 91	yes	–25 to 50	70	288
			220–240	550–510								
126	ECXe 1050.059	<b>186301</b>	198–264	660–495	1050 ±5%	85–120	< 450	> 91	yes	–25 to 50	75	288
			220–240	630–590								
<b>K38 with cord grip – Dimensions: 210x83x32 mm</b>												
112	ECXe 700.057	<b>186298</b>	198–264	595–445	700 ±5%	85–160	< 450	> 91	yes	–25 to 50	80	335
			220–240	550–510								
126	ECXe 1050.059	<b>186302</b>	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.

## EasyLine LED Drivers

**700–2800 mA / max. 50–201.6 W**

These electronic LED constant current drivers are especially designed for use in industrial hall lighting systems as well as 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: 220–240 V ±10%

Mains frequency: 50–60 Hz

Pre-assembled connection leads:

primary: 3x2.08 mm<sup>2</sup>, length: 320 mm

secondary: 2x2.08 mm<sup>2</sup>, length: 320 mm

### Safety features

Protection against transient main peaks up to 1.5 kV (between L and N)

Electronic short-circuit protection

Overload protection

Protection against "no load" operation

Degree of protection: IP67

Protection class I

Product guarantee: 3 years

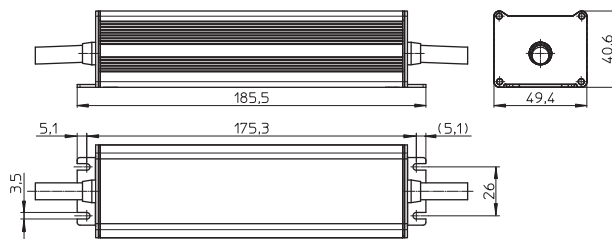


### Expected service life time

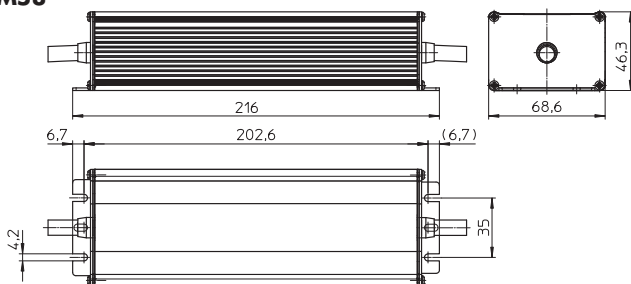
at operation temperatures at  $t_c$  point

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

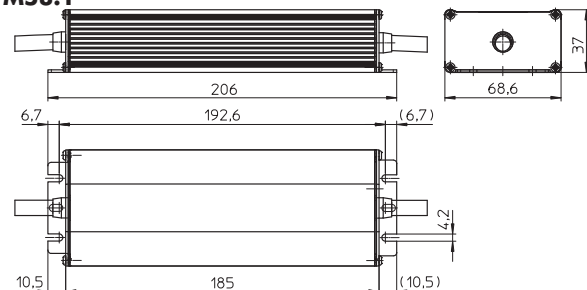
#### M56



#### M58



#### M58.1



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
<b>M56 – Dimensions: 185.5x49.4x40.6 mm</b>											
50	ECXe 700.156	<b>186452</b>	220–240	255–235	700 ±5%	35–72	75	> 88	–30 to 50	75	520
75	ECXe 1050.157	<b>186453</b>	220–240	380–350	1050 ±5%	35–72	75	> 88	–30 to 50	75	520
<b>M58 – Dimensions: 216x68.6x46.3 mm</b>											
100	ECXe 1400.158	<b>186454</b>	220–240	510–470	1400 ±5%	30–72	75	> 90	–30 to 50	75	600
122.4	ECXe 1700.159	<b>186455</b>	220–240	625–580	1700 ±5%	30–72	75	> 90	–30 to 50	75	600
<b>M58.1 – Dimensions: 206x68.6x37 mm</b>											
151.2	ECXe 2100.160	<b>186456</b>	220–240	750–690	2100 ±5%	45–72	85	> 90	–30 to 50	75	840
172.8	ECXe 2400.167	<b>186510</b>	220–240	910–850	2400 ±5%	45–72	85	> 85	–30 to 50	75	840
201.6	ECXe 2800.168	<b>186477</b>	220–240	1040–960	2800 ±5%	45–72	85	> 85	–30 to 50	75	840

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](http://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 mm<sup>2</sup>  
 Degree of protection: IP20

### Connections

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

### Software download

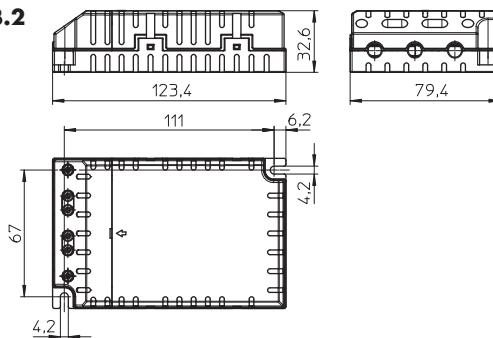
See product page under [www.vossloh-schwabe.com](http://www.vossloh-schwabe.com)

### Functions

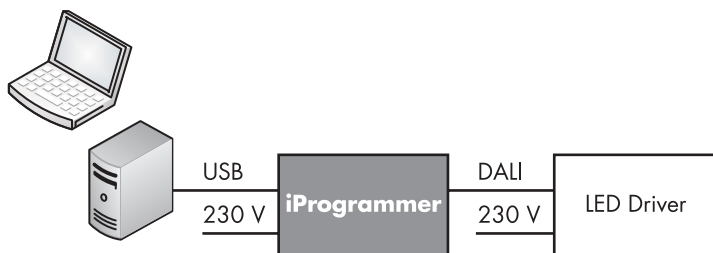
Configuring "3C" LED drivers



K3.2



### Connection



Type	Ref. No.	Connection to PC/Laptop	Functions	Dimensions mm (LxWxH)	Weight g
iProgrammer	<b>186428</b>	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.