

CC COMPACT SIMPLE FIX



EasyLine SIMPLE FIX C-R30

**186341, 186349, 186350, 186351, 186353, 186430,
186431, 186501, 186502, 186508, 186522, 186548,
186708, 186709**

Typical Applications

Built-in in compact luminaires for

- Residential lighting

EasyLine Simple Fix C-R30

- **FOR CONDUCTOR CROSS SECTION:
UP TO 2.5 MM²**
- **WITH INTEGRATED CORD GRIP
FOR INDEPENDENT OPERATION**
- **SELV**
- **SUITABLE FOR BUILT-IN INTO FURNITURE**
- **LONG SERVICE LIFE:
UP TO 50,000 HRS.**
- **PRODUCT GUARANTEE: 5 YEARS**



EasyLine Simple Fix C-R30

Product features

- Compact casing shape

Electrical features

- Mains voltage: 220–240 V $\pm 10\%$
- Mains frequency: 50–60 Hz
- Push-in terminals: 0.5–2.5 mm² or 1.5–2.5 mm² (186708, 186709)
- Power factor at full load:

Ref. No.	Power factor
186341, 186349, 186350, 186431	> 0.5
186508, 186708	> 0.9
186353, 186430, 186522, 186548	> 0.95
186501,	> 0.97
186351, 186502, 186709	> 0.98

- Open circuit voltage (U_{max.}):

Ref. No.	U _{max.} V
186508	40
186708, 186709	50
186341, 186349, 186350, 186351, 186353, 186501, 186502	60
186431	63
186522	80
186430	90
186548	98

- Secondary side switching of LED modules is not allowed.

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



Packaging units

Ref. No.	Packaging unit		
	Pieces per box	Boxes per pallet	Weight g
186341	20	174	65
186349	20	174	70
186350	20	174	70
186351	20	100	140
186353	20	100	140
186430	20	100	200
186431	20	174	140
186501	20	100	110
186502	20	100	150
186508	20	192	62
186522	20	100	220
186548	20	100	180
186708	20	165	74
186709	20	165	74

Applied standards

- EN 61347-1
- EN 61347-2-13
- EN 61547
- EN 61000-3-2 (except 186431, 186501, 186502, 186522, 186548)
- EN 62384 (except 186349, 186350, 186351)
- EN 55015



außer 186430, 186431



186341, 186350, 186431



186708, 186709



Product guarantee

- 5 years for operation at recommended operation temperature (see table for expected service life time on page 4)
- The conditions for the Product Guarantee of the Vossloh-Schwabe Group shall apply as published on our homepage (www.vossloh-schwabe.com). We will be happy to send you these conditions upon request.

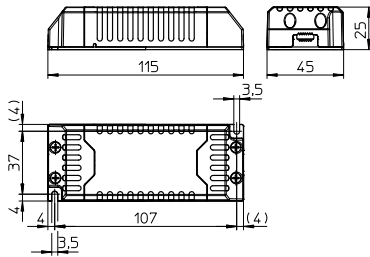
The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

LED Drivers – EasyLine Simple Fix C-R30

Dimensions

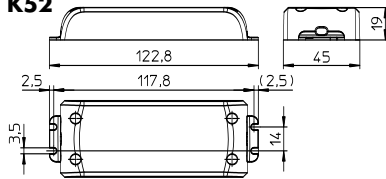
Ref. No.	Casing	Length mm	Width mm	Height mm
186708, 186709	K51.1	115	45	25
186341, 186349, 186350, 186431, 186508	K52	122.8	45	19
186351, 186430	K53	153	41.4	32
186353	K54	166	52	24
186501, 186502, 186522, 186548	K55	171	41	32

K51.1



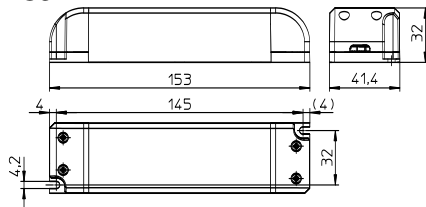
K51.1 – 186708, 186709

K52



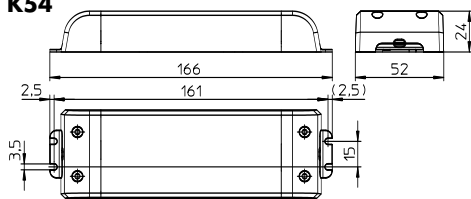
K52 – 186341, 186349, 186350, 186431, 186508

K53



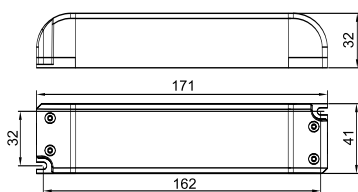
K53 – 186351, 186430

K54



K54 – 186353

K55



K55 – 186501, 186502, 186522, 186548

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

LED Drivers – EasyLine Simple Fix C-R30

Electrical characteristics

Max. output W	Type	Ref. No.	Voltage 50–60 Hz V	Mains current mA	Inrush current A / μ s	Current output DC mA	Voltage output DC [V]	Efficiency at full load % (230 V)	Ripple 100 Hz %
10	ECXe 250.268	186708	220–240	55–50	8.4 / 300	250	20–40	> 87	< 28
12	ECXe 350.269	186709	220–240	66–60	10 / 154	300	20–40	> 86	< 30
12	ECXe 500.189	186508	220–240	75–65	3 / 40	500	15–24	> 82	< 30
12.6	ECXe 350.078	186341	220–240	130–110	18.4 / 89	350	8.4–36	> 83	< 5
15	ECXe 500.082	186349	220–240	90–70	25.9 / 127	500	8.4–30	> 85	< 5
20	ECXe 350.142	186431	220–240	190–170	21.8 / 98	350	18–57	> 85	< 6
20.3	ECXe 700.083	186350	220–240	200–185	25.3 / 127	700	8.4–29	> 87	< 5
25.2	ECXe 700.086	186353	220–240	130–115	13.4 / 76	700	22–36	> 84	< 40
30	ECXe 350.141	186430	220–240	160–145	20 / 161	350	57–86	> 89	< 10
31	ECXe 700.182	186501	220–240	160–140	19 / 78	700	30–45	> 90	< 37.4
31.5	ECXe 1050.084	186351	220–240	150–145	23 / 191	1050	20–30	> 88	< 5
47	ECXe 1050.183	186502	220–240	245–215	7 / 270	1050	27–45	> 91	< 29.8
60	ECXe 700.206	186548	220–240	300–280	20 / 72	700	43–86	> 91	< 40
60	ECXe 1050.183	186522	220–240	295–270	8 / 238	1050	25–58	> 91	< 36.9

Maximum ratings

Exceeding the maximum ratings can lead to reduction of service life or destruction of the drivers.

Ref. No.	Ambient temperature range		Operation humidity range		Storage temperature range		Storage humidity range		Max. operation temperature at t_c point °C	Degree of protection
	°C min.	°C max.	% min.	% max.	°C min.	°C max.	% min.	% max.		
186708	-20	+50	20	60	-40	+85	10	95	+75	IP20
186709	-20	+50	20	60			10	90	+70	
186508	-15	+45	5	60			5	95	+75	
186341, 186349, 186350, 186351, 186431, 186548			20	60						
186502, 186522									+85	
186501									+80	
186353, 186430									+70	

Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No.									
	186353, 186430, 186709		186341, 186349, 186350, 186351, 186431, 186508, 186548, 186708				186501		186502, 186522	
All	60 °C*	70 °C	65 °C*	75 °C			70 °C*	80 °C	75 °C*	85 °C
hrs.	50,000	30,000	50,000	30,000			50,000	30,000	50,000	30,000

* recommended operation temperature

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

LED Drivers – EasyLine Simple Fix C-R30

Product labels

VSL LIGHTING SOLUTIONS
Vossloh-Schwabe Deutschland GmbH
Hohe Steinert 8, D-58509 Lüdenscheid
Electronic Converter for LED
LED

tc: test point

Type Approved Safety
Regular Production Surveillance
TÜV Rheinland
www.tuv.com

Type ECx 250.268
Ref. No. 186708
Made in PRC 中国制造

SEC Irated = 250 mA
U = 20...40 V_m
U_{max} = 50 V
Prated = 10 W
SELV

PRI UN = 220...240 V~
I_N = 55...50 mA
f_N = 50/60 Hz
λ = 0,9C

t_a = -20...50°C
t_c = 75°C

VSL LIGHTING SOLUTIONS
Vossloh-Schwabe Deutschland GmbH
Hohe Steinert 8, D-58509 Lüdenscheid
Electronic Converter for LED
LED

tc: test point

Type Approved Safety
Regular Production Surveillance
TÜV Rheinland
www.tuv.com

Type ECx 300.269
Ref. No. 186709
Made in PRC 中国制造

SEC Irated = 300 mA
U = 20...40 V_m
U_{max} = 50 V
Prated = 12 W
SELV

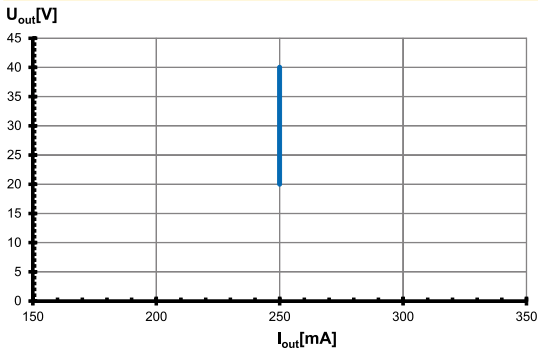
PRI UN = 220...240 V~
I_N = 66...60 mA
f_N = 50/60 Hz
λ = 0,9C

t_a = -20...50°C
t_c = 75°C

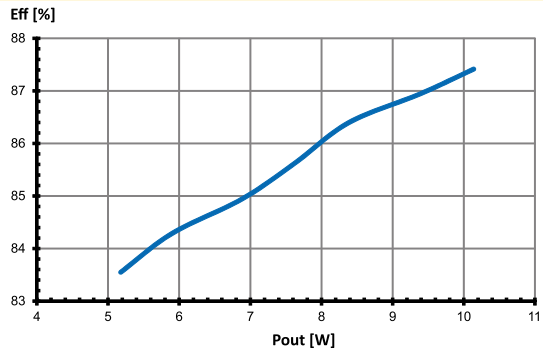
The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

Typ. performance graphs for 186708 / Type ECXe 250.268

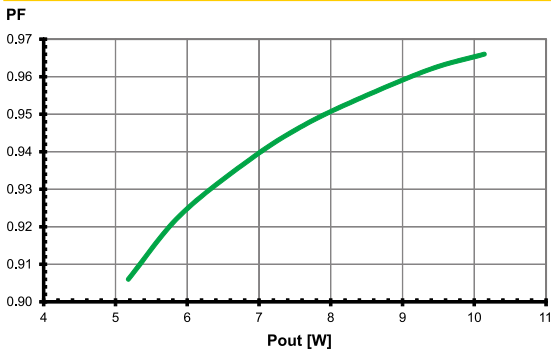
Working area



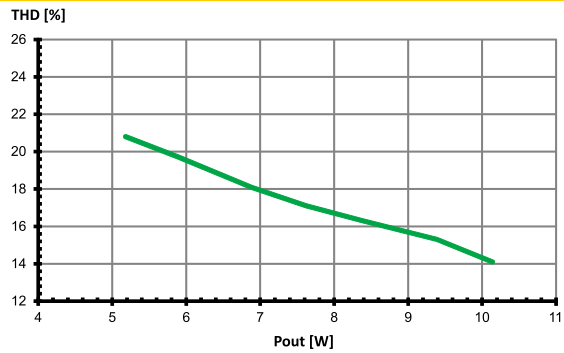
Efficiency



Power factor

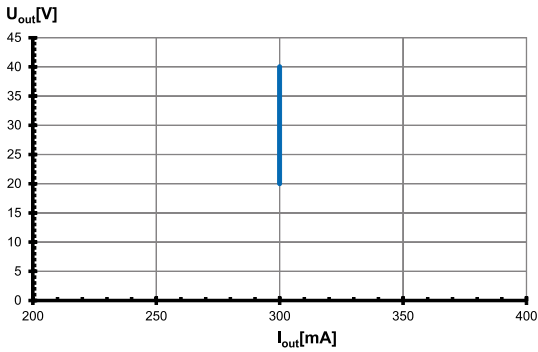


Total harmonic factor (THD)

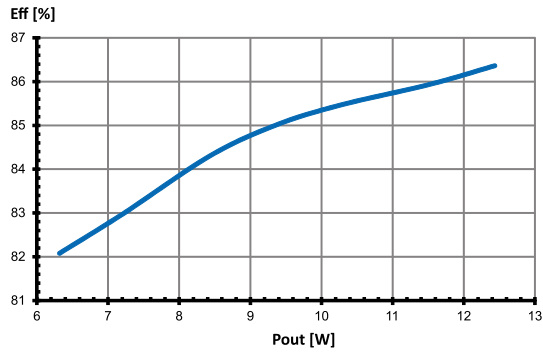


Typ. performance graphs for 186709 / Type ECXe 300.269

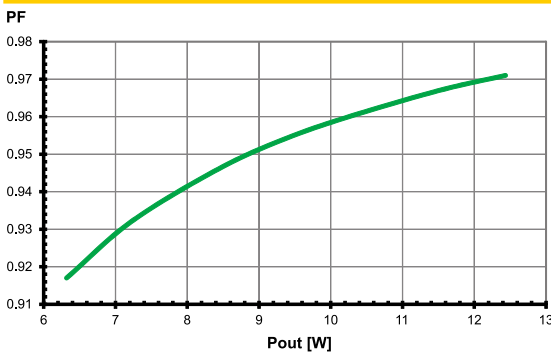
Working area



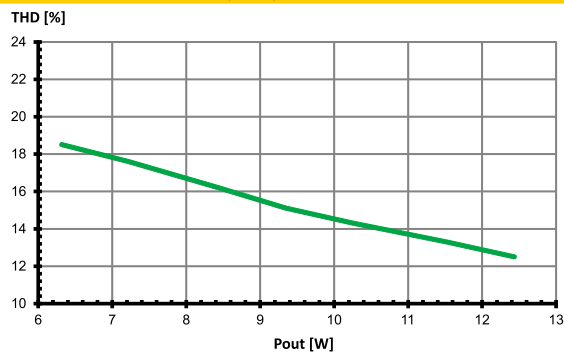
Efficiency



Power factor



Total harmonic factor (THD)



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

Safety functions

- Transient mains peaks protection:
Values are in compliance with EN 61547
(interference immunity).
Surges between L-N: up to 1 kV
- Short-circuit protection: The control gear is protected against short-term short-circuit
- Overload protection: The control gear only works in range of rated output power and voltage problemfree.
Please check before switch-on mains power supply that the selected LED load is suitable (see Electrical Characteristics on data sheet).
- No load operation: The control gear is protected against no load operation (open load).
- If any of the above mentioned safety functions will be triggered, disconnect the control gear from the power supply then find and eliminate the cause of the problem.

Assembly and Safety Information

Installation must be carried out under observation of the relevant regulations and standards. Installation must be carried out in a voltage-free state (i.e. disconnection from the mains). The following advices must be observed; non-observance can result in the destruction of the LED drivers, fire and/or other hazards.

Mandatory regulations

- DIN VDE 0100
- EN 60598-1

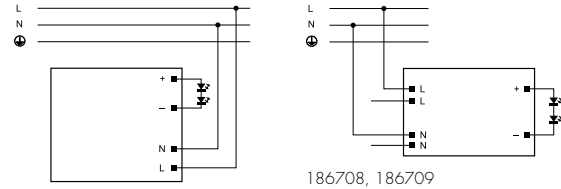
Mechanical mounting

- Mounting position: Independent application: Drivers are allowed to use for independent applications
- Mounting location: Independent LED drivers do not need to be integrated into a casing.
Installation in outdoor luminaires: degree of protection for luminaire with water protection rate ≥ 4 (e.g. IP54 required).
- Degree of protection: IP20
- Clearance: Min. 0.10 m from walls, ceilings and insulation
- Surface: Solid and plane surface for optimum heat dissipation required.
- Heat transfer: If the driver is destined for installation in a luminaire, sufficient heat transfer must be ensured between the driver and the luminaire casing.
LED drivers should be mounted with the greatest possible clearance to heat sources. During operation, the temperature measure at the driver's t_c point must not exceed the specified maximum value.
- Fastening: Using M4 screws in the designated holes
- Tightening torque: 0.2 Nm

Electrical installation

- Connection terminals: Push-in terminals for rigid or flexible conductors with a section of 0.5–2.5 mm²
- Stripped length: 8.5–10 mm
- Wiring: The mains conductor within the luminaire must be kept short (to reduce the induction of interference).
Mains and lamp conductors must be kept separate and if possible should not be laid in parallel to one another.
Max. secondary side lead length: 3 m
- Polarity: Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- Through-wiring: Is not allowed.
- Secondary load: The sum of forward voltages of LED loads is within the tolerances which are mentioned in the Electrical Characteristics on the data sheet.

- Parallel wiring: Parallel connection of LED loads is not allowed.
- Wiring diagram:



Selection of automatic cut-outs for VS LED drivers

- Dimensioning automatic cut-outs
High transient currents occur when an LED driver is switched on because the capacitors have to load. Ignition of LED modules occurs almost simultaneously. This also causes a simultaneous high demand for power. These high currents when the system is switched on put a strain on the automatic conductor cut-outs, which must be selected and dimensioned to suit.
- Release reaction
The release reaction of the automatic conductor cut-outs comply with VDE 0641, part 11, for B, C characteristics. The values shown in the following tables are for guidance purposes only and are subject to system-dependent change.
- No. of LED drivers
The maximum number of VS LED drivers applies to cases where the devices are switched on simultaneously. Specifications apply to single-pole fuses. The number of permissible drivers must be reduced by 20% for multi-pole fuses. The considered circuit impedance equals 400 mΩ (approx. 20 m [2.5 mm²] of conductor from the power supply to the distributor and a further 15 m to the luminaire).

Type	Ref. No.	Automatic cut-out type and possible no. of VS drivers pcs.					
		B 10 A	B 13 A	B 16 A	C 10 A	C 13 A	C 16 A
ECXe 350.078	186341	52	68	83	87	113	139
ECXe 500.082	186349	25	33	40	42	55	68
ECXe 700.083	186350	26	34	41	43	56	69
ECXe 1050.084	186351	18	24	29	31	40	49
ECXe 700.086	186353	76	100	123	76	100	123
ECXe 350.141	186430	25	33	41	42	55	68
ECXe 350.142	186431	39	51	63	52	68	84
ECXe 700.182	186501	57	74	91	62	81	100
ECXe 1050.183	186502	40	53	65	40	53	65
ECXe 500.189	186508	151	196	242	151	186	242
ECXe 1050.183	186522	31	40	50	31	40	50
ECXe 700.206	186548	31	40	50	31	40	50
ECXe 250.268	186708	31	41	50	52	68	84
ECXe 350.269	186709	31	41	50	52	68	84

- To limit capacitive inrush currents the current carrying capacity of each circuit breaker (fuse) can be increased by a factor of 2.5 with the help of our ESB (Ref. No.: 149820, 149821, 149822) inrush current limiters.

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