

CC COMPACT DIP SWITCH



COMFORTLINE DIP SWITCH C-R3 LOOP

187215, 187216

Typical Applications

- Office lighting
- Retail lighting
- Residential lighting



ComfortLine DIP Switch C-R3 loop

- **SELECTABLE OUTPUT CURRENT VIA DIP SWITCH**
- **THROUGH-WIRING**
- **SUITABLE FOR EMERGENCY ESCAPE LIGHTING SYSTEMS ACC. TO EN 50172**
- **WITH INTEGRATED CORD GRIP FOR INDEPENDENT OPERATION**
- **SELV**
- **LONG SERVICE LIFE: UP TO 100,000 HRS.**
- **PRODUCT GUARANTEE: 5 YEARS**



ComfortLine DIP Switch C-R3 loop

Product features

- Compact casing shape
- With integrated cord grip
- For through-wiring

Functions

- Selectable current output by DIP switch.
- The output current can be freely adjusted between 300 mA and 1050 mA (187215) or between 650 mA and 1400 mA (187216).
- Suitable for central battery system for emergency lighting acc. to EN 50172

Electrical features

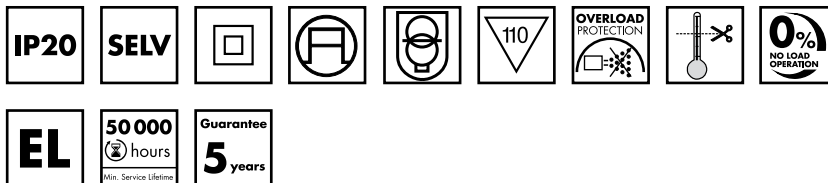
- Mains voltage: 220–240 V ±10%
- Mains frequency: 50–60 Hz
- DC operation: 176–275 V, 0 Hz
- Push-in terminals: primary 0.75–2.5 mm² and secondary 0.5–1.5 mm²
- Power factor at full load: 0.95
- Open circuit voltage (U_{max.}): 59 V
- Secondary side switching of LED modules is not allowed.

Safety features

- Protection against transient main peaks up to 2 kV (between L and N) or up to 4 kV (between L/N–PE)
- Temporary electronic short-circuit protection
- Overload protection
- Overtemperature protection
- Protection against "no load" operation
- Degree of protection: IP20
- Protection class II
- SELV
- SVM: < 0.4
- PstLM: < 1

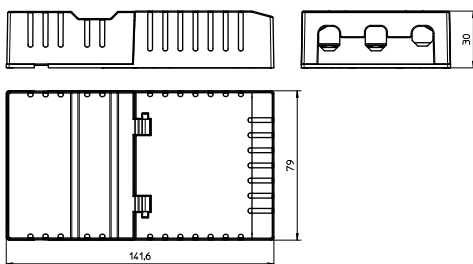
Packaging units

Ref. No.	Packaging unit		
	Pieces per box	Boxes per pallet	Weight g
187215	30	40	157
187216	30	40	170



Dimensions

- Casing: K3.3
- Length: 141.6 mm
- Width: 79 mm
- Height: 30 mm



Applied standards

- EN 61347-1
- EN 61347-2-13
- EN 61547
- EN 61000-3-2
- EN 61000-3-3
- EN 62384
- EN 629493
- EN 55015
- EN 50172
- EN 50581
- EN 62442-3



Product guarantee

- 5 years
- The conditions for the Product Guarantee of the Vossloh-Schwabe Group shall apply as published on our homepage (www.vossloh-schwabe.com). We will be happy to send you these conditions upon request.

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

LED Drivers – ComfortLine DIP Switch C-R3 loop

Electrical characteristics

Max. output W	Type	Ref. No.	Voltage 50–60 Hz V	Mains current mA	Inrush current A / μ s	Current output DC mA (\pm 7.5%)	Voltage output DC (V)	THD %	Efficiency at full load % (230 V)	Ripple < 1000 Hz %
42	ECXe 1050.558	187215	220–240	220–210	5 / 50	300–1050	3–44	< 11	> 90	< 3
52	ECXe 1400.559	187216	220–240	300–252	5 / 50	650–1400	3–42	< 16	> 90	< 3

Maximum ratings

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

Ref. No.	Ambient temperature range		Operation humidity range		Storage temperature range		Storage humidity range		Max. operation temperature at t_c point °C	Degree of protection
	°C min.	°C max.	% min.	% max.	°C min.	°C max.	% min.	% max.		
All	-20	+45	5	95	-40	+50	5	95	+80	IP20

Expected service life time

at operation temperatures at t_c point

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

Product labels

Vossloh-Schwabe Deutschland GmbH
Wasenstrasse 25, D-73660 Urbach
Electronic Converter for LED
Type ECXe 1050.558
Ref.No. 187215
Made in Italy

PRI
Un = 220...240V~
Imax = 220 mA
fn = 50...60 Hz
 λ (Pout>28,6W) = 0,95

SEC
Irated = 300...1050 mA
Urated = 3...44 V
Uout = 59 V
Pmax = 42 W

$t_c = 80^\circ\text{C}$
 $t_a = -20...45^\circ\text{C}$

Range* of application
DC 176...275V;
Imax=270mA

*For DC operation Earth connection is mandatory

SELV **SEC**

DIP SWITCH SETTINGS

1	2	3	4	Irated(A)	Pout(W)
-	-	-	-	300	13,2
-	-	-	ON	350	15,4
-	-	ON	-	400	17,6
-	-	ON	ON	450	19,8
-	ON	-	-	500	22
-	ON	-	ON	550	24,2
-	ON	ON	-	600	26,4
-	ON	ON	ON	650	28,6
ON	-	-	-	700	30,8
ON	-	-	ON	750	33
ON	-	ON	-	800	35,2
ON	-	ON	ON	850	37,4
ON	ON	-	-	900	40
ON	ON	-	ON	950	42
ON	ON	ON	-	1000	42
ON	ON	ON	ON	1050	42

Vossloh-Schwabe Deutschland GmbH
Wasenstrasse 25, D-73660 Urbach
Electronic Converter for LED
Type ECXe 1400.559
Ref.No. 187216
Made in Italy

PRI
Un = 220...240V~
Imax = 300 mA
fn = 50...60 Hz
 λ (Pout>32,8W) = 0,95

SEC
Irated = 650...1400 mA
Urated = 3...42 V
Uout = 59 V
Pmax = 52 W

$t_c = 80^\circ\text{C}$
 $t_a = -20...45^\circ\text{C}$

Range* of application
DC 176...275V;
Imax=330mA

*For DC operation Earth connection is mandatory

SELV **SEC**

DIP SWITCH SETTINGS

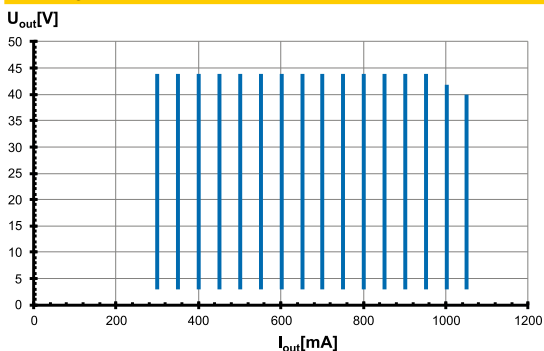
1	2	3	4	Irated(A)	Pout(W)
-	-	-	-	650	27,3
-	-	-	ON	700	29,4
-	-	ON	-	750	30,7
-	-	ON	ON	800	32,8
-	ON	-	-	850	34,8
-	ON	-	ON	900	36
-	ON	ON	-	950	38
-	ON	ON	ON	1000	40
ON	-	-	-	1050	42
ON	-	-	ON	1100	42,9
ON	-	ON	-	1150	44,8
ON	-	ON	ON	1200	46,8
ON	ON	-	-	1250	47,5
ON	ON	-	ON	1300	49,4
ON	ON	ON	-	1350	51,3
ON	ON	ON	ON	1400	52

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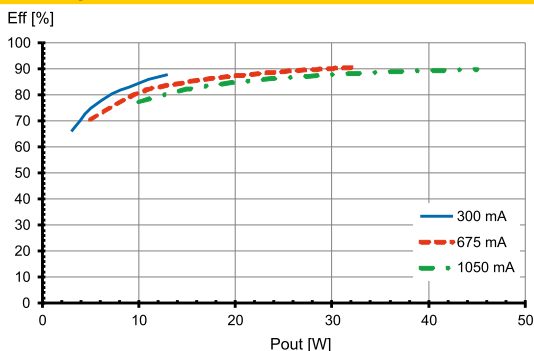
LED Drivers – ComfortLine DIP Switch C-R3 loop

Typ. performance graphs for 187215 / Typ ECXe 1050.558

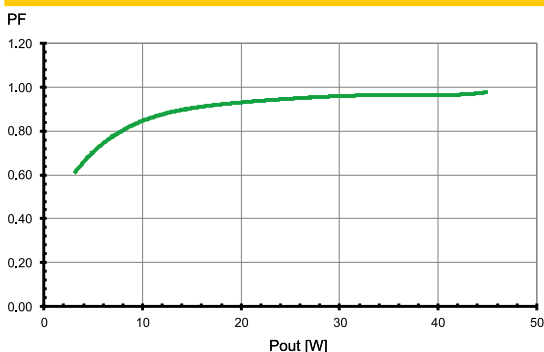
Working area



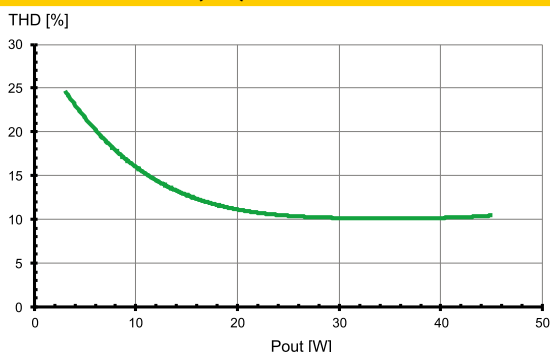
Efficiency



Power factor

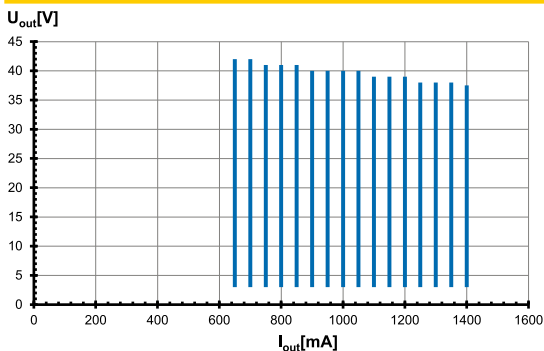


Total harmonic factor (THD)

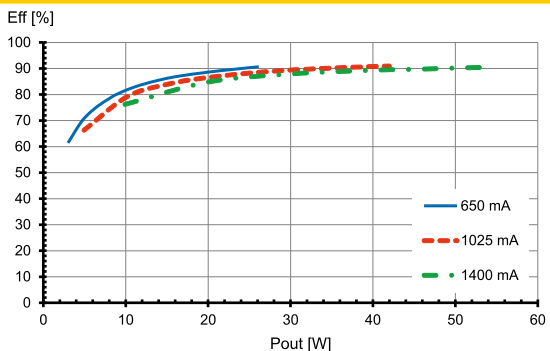


Typ. performance graphs for 187216 / Type ECXe 1400.559

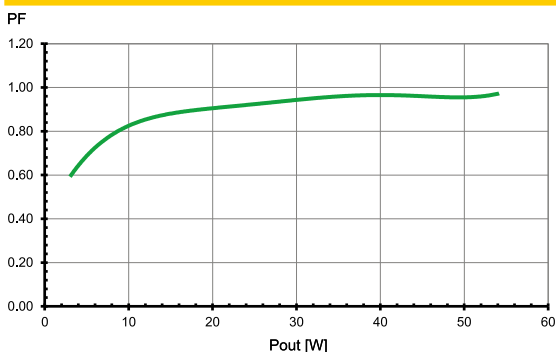
Working area



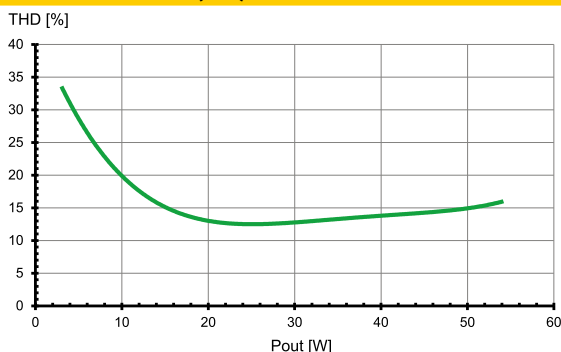
Efficiency



Power factor



Total harmonic factor (THD)



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Safety functions

- Transient mains peaks protection:
Values are in compliance with EN 61547 (interference immunity).
Surges protection between L-N: up to 2 kV
Surge protection between L/N-PE: up to 4 kV
- Short-circuit protection:
The control gear is protected against permanent short-circuit with automatic restart function.
- Overload protection: The control gears have overload protection due to limitation of DC output voltage 59 V. Please check before switch-on mains power supply that the selected LED load is suitable (see Electrical Characteristics on data sheet).
- Overheating: The control gears have overheating protection. In case of overheating the control gear will shut down. For restart switch of the mains for 1 min. and start again.
- 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.

DC and emergency lighting operation

The control gears are suitable for direct voltage operation (DC). Reliable DC operation is guaranteed if the specified working area of LED driver is maintained.

- Light level at DC operation (EOfx):
100 % (not adjustable)
- DC range: 176–275 V
- DC operation: 3 hrs. (acc. to EN 50172)

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Assembly and Safety Information

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

Mandatory regulations

- DIN VDE 0100
- EN 60598-1

Mechanical mounting

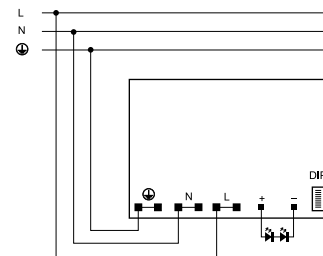
- Mounting position: Any position
- Mounting location: Independent LED drivers do not need to be integrated into a casing.
Installation in outdoor luminaires: degree of protection for luminaire with water protection rate ≥ 4 (e.g. IP54 required).
- Degree of protection: IP20
- Clearance: Min. 0.10 m 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 0.75–2.5 mm² for primary side and 0.5–1.5 mm² for secondary side
- Stripped length: 10–11 mm (for primary side) and 8–9 mm (for secondary side)
- 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 for independent drivers: 1 m

- Polarity: Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- Parallel connection: At secondary side is not allowed.
- Secondary load: The sum of forward voltages of LED loads is within the tolerances which are mentioned in the Electrical Characteristics on the data sheet.

- Wiring diagram:



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 16 A	B 20 A
Automatic cut-out type B				
ECXe 1050.558	187215	32	62	78
ECXe 1400.559	187216	32	62	78
Automatic cut-out type C				
ECXe 1050.558	187215	52	85	104
ECXe 1400.559	187216	52	85	104

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

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