

# CC TRACK DIP SWITCH



## COMFORTLINE DIP SWITCH UT-170 GEN. 2

**187378, 187379, 187380, 187381, 187382, 187383, 187384,  
187385, 187386, 187387, 187388, 187389**

### Typical Applications

For common track systems

- Retail lighting

### ComfortLine DIP switch UT-170 Gen. 2

- **SELECTABLE OUTPUT CURRENT VIA DIP SWITCH**
- **VERY LOW RIPPLE CURRENT: < 3%**
- **COMPATIBLE WITH DIFFERENT  
3-PHASE TRACK SYSTEMS**
- **SELV**
- **LONG SERVICE LIFE:  
UP TO 100,000 HRS.**
- **PRODUCT GUARANTEE: 5 YEARS**



## ComfortLine DIP switch UT-170

### Product features

- Adapter with integrated LED driver electronics for common 3-phase track systems (compatibility see page 5)
- Available in three different casing colours: white (RAL 9016) and black (RAL 9005) and grey (RAL 7040)

### Functions

- Selectable current output by DIP switches
- Four variants available: 15 W, 21 W, 31 W, 44 W
- The output current can be selected between 250 mA to 1050 mA

### Electrical features

- Mains voltage: 220–240 V ±10%
- Mains frequency: 50–60 Hz
- Push-in terminals: 0.2–0.75 mm<sup>2</sup>
- Power factor at full load: > 0.95
- Open circuit voltage (U<sub>max.</sub>): 59 V
- Secondary side switching of LED modules is not allowed.
- SVM: < 0.4
- P<sub>si</sub>LM: < 1

### Safety features

- Protection against transient main peaks up to 2 kV (between L and N), up to 4 kV (between L/N and PE)
- Electronic short-circuit protection
- Overtemperature protection
- Protection against overload
- Degree of protection: IP20
- Protection class II
- SELV

### Packaging units

Type	Packaging unit		
	Pieces per box	Boxes per pallet	Weight g
ECXe 350.650	30	96	120
ECXe 500.651	30	96	130
ECXe 700.652	30	96	130
ECXe 1050.653	30	96	130

### 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](http://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.



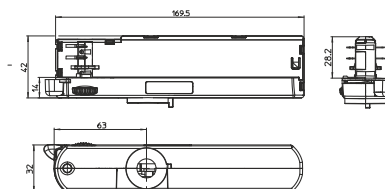
### Applied standards

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



### Dimensions

- Casing: UT-170.2
- Length: 169.5 mm
- Width: 32 mm
- Height: 42 mm



## Electrical characteristics

Max. output W	Type	Ref. No.	Casing colour	Voltage 50–60 Hz V	Mains current mA	Inrush current A / $\mu$ s	Voltage output DC (V)	Efficiency at full load % (230 V)	Ripple 100 Hz %
15	ECXe 350.650	<b>187378</b>	white (RAL 9016)	220-240	78-73	5/150	30-42	87	< 3
		<b>187379</b>	black (RAL 9005)						
		<b>187380</b>	grey (RAL 7040)						
21	ECXe 500.651	<b>187381</b>	white (RAL 9016)	220-240	112-103	5/150	30-42	88	< 3
		<b>187382</b>	black (RAL 9005)						
		<b>187383</b>	grey (RAL 7040)						
31	ECXe 700.652	<b>187384</b>	white (RAL 9016)	220-240	165-153	5/150	30-42	89	< 3
		<b>187385</b>	black (RAL 9005)						
		<b>187386</b>	grey (RAL 7040)						
44	ECXe 1050.653	<b>187387</b>	white (RAL 9016)	220-240	226-208	5/150	30-42	89	< 3
		<b>187388</b>	black (RAL 9005)						
		<b>187389</b>	grey (RAL 7040)						

## Maximum ratings

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

Type	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.		
ECXe 350.650	-20	35	5	60	-40	85	5	60	50	IP20
ECXe 500.651	-20	35	5	60	-40	85	5	60	60	IP20
ECXe 700.652	-20	35	5	60	-40	85	5	60	70	IP20
ECXe 1050.653	-20	35	5	60	-40	85	5	60	75	IP20

## Expected service life time

at operation temperatures at  $t_c$  point

Operation current	Type ECXe350.650		Type ECXe 500.651		Type ECXe 700.652		Type ECXe 1050.653	
	40 °C	50 °C	70 °C	60 °C	60 °C	70 °C	65 °C	75 °C
hrs.	100,000	50,000	100,000	50,000	100,000	50,000	100,000	50,000

## Product labels

### ECXe 350.650

**VS LIGHTING SOLUTIONS**  
 Vossloh-Schwabe Deutschland GmbH  
 Stuttgarter Straße 61/1, 73614 Schorndorf  
**Type ECXe 350.650**  
 Ref.-No. 187378  
 MADE IN ITALY

Constant Current LED Power Supply  
 PRI: 220-240V~ 50-60Hz; Imax=0.08A;  
 $\lambda$  (Pout=10W)=0.95  
 SEC: 250-350mA (C.C.); 30-42V ---  
 14.7W max; Uout=59V ---  
 $t_c = 50^\circ\text{C}; t_a = -20 \dots 35^\circ\text{C}$

Pout	Iout	1	2
10.5W	250mA	-	-
11.6W	275mA	ON	-
13.6W	325mA	ON	ON
14.7W	350mA	ON	ON

Before use, always check S50 dipswitch setting  
 0.2 - 0.5 mm<sup>2</sup>  
 Fmax 50N SELV 8.5 - 9 mm

**VS LIGHTING SOLUTIONS**  
 Vossloh-Schwabe Deutschland GmbH  
 Stuttgarter Straße 61/1, 73614 Schorndorf  
**Type ECXe 350.650**  
 Ref.-No. 187379  
 MADE IN ITALY

Constant Current LED Power Supply  
 PRI: 220-240V~ 50-60Hz; Imax=0.08A;  
 $\lambda$  (Pout=10W)=0.95  
 SEC: 250-350mA (C.C.); 30-42V ---  
 14.7W max; Uout=59V ---  
 $t_c = 50^\circ\text{C}; t_a = -20 \dots 35^\circ\text{C}$

Pout	Iout	1	2
10.5W	250mA	-	-
11.6W	275mA	ON	-
13.6W	325mA	ON	ON
14.7W	350mA	ON	ON

Before use, always check S50 dipswitch setting  
 0.2 - 0.5 mm<sup>2</sup>  
 Fmax 50N SELV 8.5 - 9 mm

**VS LIGHTING SOLUTIONS**  
 Vossloh-Schwabe Deutschland GmbH  
 Stuttgarter Straße 61/1, 73614 Schorndorf  
**Type ECXe 350.650**  
 Ref.-No. 187380  
 MADE IN ITALY

Constant Current LED Power Supply  
 PRI: 220-240V~ 50-60Hz; Imax=0.08A;  
 $\lambda$  (Pout=10W)=0.95  
 SEC: 250-350mA (C.C.); 30-42V ---  
 14.7W max; Uout=59V ---  
 $t_c = 50^\circ\text{C}; t_a = -20 \dots 35^\circ\text{C}$

Pout	Iout	1	2
10.5W	250mA	-	-
11.6W	275mA	ON	-
13.6W	325mA	ON	ON
14.7W	350mA	ON	ON

Before use, always check S50 dipswitch setting  
 0.2 - 0.5 mm<sup>2</sup>  
 Fmax 50N SELV 8.5 - 9 mm

Pin		Output W	Current mA	Voltage V	Factory settings (mA)
1	2				
OFF	OFF	10,5	250	30-42	250
OFF	ON	11,6	275	30-42	
ON	OFF	13,7	325	30-42	
ON	ON	14,7	350	30-42	

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**ECXe 500.651**

**VS LIGHTING SOLUTIONS**  
 Vossloh-Schwabe Deutschland GmbH  
 Stuttgarter Straße 61/1, 73614 Schorndorf  
**Type ECXe 500.651**  
 Ref.-No. 187381

Constant Current LED Power Supply

MADE IN ITALY

PR1: 220-240V~ 50-60Hz; Imax=0,11A;  
 $\lambda$  (Pout>18W)=0,95  
 SEC: 350-500mA (C.C.); 30-42V ---  
 21W max; Uout=59V ---  
 tc=60°C; ta=-20...35°C

Before use, always check S50 dipswitch setting

Pout	Iout	1	2
14.7W	350mA	-	-
16.8W	400mA	-	ON
18.9W	450mA	ON	-
21.0W	500mA	ON	ON

0.2 - 0.5 mm<sup>2</sup>  
 8.5 - 9 mm

Fmax 50N SELV

**VS LIGHTING SOLUTIONS**  
 Vossloh-Schwabe Deutschland GmbH  
 Stuttgarter Straße 61/1, 73614 Schorndorf  
**Type ECXe 500.651**  
 Ref.-No. 187382

Constant Current LED Power Supply

MADE IN ITALY

PR1: 220-240V~ 50-60Hz; Imax=0,11A;  
 $\lambda$  (Pout>18W)=0,95  
 SEC: 350-500mA (C.C.); 30-42V ---  
 21W max; Uout=59V ---  
 tc=60°C; ta=-20...35°C

Before use, always check S50 dipswitch setting

Pout	Iout	1	2
14.7W	350mA	-	-
16.8W	400mA	-	ON
18.9W	450mA	ON	-
21.0W	500mA	ON	ON

0.2 - 0.5 mm<sup>2</sup>  
 8.5 - 9 mm

Fmax 50N SELV

**VS LIGHTING SOLUTIONS**  
 Vossloh-Schwabe Deutschland GmbH  
 Stuttgarter Straße 61/1, 73614 Schorndorf  
**Type ECXe 500.651**  
 Ref.-No. 187383

Constant Current LED Power Supply

MADE IN ITALY

PR1: 220-240V~ 50-60Hz; Imax=0,11A;  
 $\lambda$  (Pout>18W)=0,95  
 SEC: 350-500mA (C.C.); 30-42V ---  
 21W max; Uout=59V ---  
 tc=60°C; ta=-20...35°C

Before use, always check S50 dipswitch setting

Pout	Iout	1	2
14.7W	350mA	-	-
16.8W	400mA	-	ON
18.9W	450mA	ON	-
21.0W	500mA	ON	ON

0.2 - 0.5 mm<sup>2</sup>  
 8.5 - 9 mm

Fmax 50N SELV

**ECXe 500.651**

Pin	Pin	Output W	Current mA	Voltage V	Factory settings (mA)
1	2				
OFF	OFF	14,7	350	30-42	350
OFF	ON	16,8	400	30-42	
ON	OFF	18,9	450	30-42	
ON	ON	21,0	500	30-42	

**ECXe 700.652**

**VS LIGHTING SOLUTIONS**  
 Vossloh-Schwabe Deutschland GmbH  
 Stuttgarter Straße 61/1, 73614 Schorndorf  
**Type ECXe 700.652**  
 Ref.-No. 187384

Constant Current LED Power Supply

MADE IN ITALY

PR1: 220-240V~ 50-60Hz; Imax=0,17A;  
 $\lambda$  (Pout>22W)=0,95  
 SEC: 550-750mA (C.C.); 30-42V ---  
 31.5W max; Uout=59V ---  
 tc=70°C; ta=-20...35°C

Before use, always check S50 dipswitch setting

Pout	Iout	1	2
23.1W	550mA	-	-
25.2W	600mA	-	ON
29.4W	700mA	ON	-
31.5W	750mA	ON	ON

0.2 - 0.5 mm<sup>2</sup>  
 8.5 - 9 mm

Fmax 50N SELV

**VS LIGHTING SOLUTIONS**  
 Vossloh-Schwabe Deutschland GmbH  
 Stuttgarter Straße 61/1, 73614 Schorndorf  
**Type ECXe 700.652**  
 Ref.-No. 187385

Constant Current LED Power Supply

MADE IN ITALY

PR1: 220-240V~ 50-60Hz; Imax=0,17A;  
 $\lambda$  (Pout>22W)=0,95  
 SEC: 550-750mA (C.C.); 30-42V ---  
 31.5W max; Uout=59V ---  
 tc=70°C; ta=-20...35°C

Before use, always check S50 dipswitch setting

Pout	Iout	1	2
23.1W	550mA	-	-
25.2W	600mA	-	ON
29.4W	700mA	ON	-
31.5W	750mA	ON	ON

0.2 - 0.5 mm<sup>2</sup>  
 8.5 - 9 mm

Fmax 50N SELV

**VS LIGHTING SOLUTIONS**  
 Vossloh-Schwabe Deutschland GmbH  
 Stuttgarter Straße 61/1, 73614 Schorndorf  
**Type ECXe 700.652**  
 Ref.-No. 187386

Constant Current LED Power Supply

MADE IN ITALY

PR1: 220-240V~ 50-60Hz; Imax=0,17A;  
 $\lambda$  (Pout>22W)=0,95  
 SEC: 550-750mA (C.C.); 30-42V ---  
 31.5W max; Uout=59V ---  
 tc=70°C; ta=-20...35°C

Before use, always check S50 dipswitch setting

Pout	Iout	1	2
23.1W	550mA	-	-
25.2W	600mA	-	ON
29.4W	700mA	ON	-
31.5W	750mA	ON	ON

0.2 - 0.5 mm<sup>2</sup>  
 8.5 - 9 mm

Fmax 50N SELV

**ECXe 700.652**

Pin	Pin	Output W	Current mA	Voltage V	Factory settings (mA)
1	2				
OFF	OFF	23,1	550	30-42	550
OFF	ON	25,2	600	30-42	
ON	OFF	29,4	700	30-42	
ON	ON	31,5	750	30-42	

**ECXe 1050.653**

**VS LIGHTING SOLUTIONS**  
 Vossloh-Schwabe Deutschland GmbH  
 Stuttgarter Straße 61/1, 73614 Schorndorf  
**Type ECXe 1050.653**  
 Ref.-No. 187387

Constant Current LED Power Supply

MADE IN ITALY

PR1: 220-240V~ 50-60Hz; Imax=0,22A;  
 $\lambda$  (Pout>28W)=0,95  
 SEC: 800-1050mA (C.C.); 30-42V ---  
 44.1W max; Uout=59V ---  
 tc=75°C; ta=-20...35°C

Before use, always check S50 dipswitch setting

Pout	Iout	1	2
33.6W	800mA	-	-
37.8W	900mA	-	ON
39.9W	950mA	ON	-
44.1W	1050mA	ON	ON

0.2 - 0.5 mm<sup>2</sup>  
 8.5 - 9 mm

Fmax 50N SELV

**VS LIGHTING SOLUTIONS**  
 Vossloh-Schwabe Deutschland GmbH  
 Stuttgarter Straße 61/1, 73614 Schorndorf  
**Type ECXe 1050.653**  
 Ref.-No. 187388

Constant Current LED Power Supply

MADE IN ITALY

PR1: 220-240V~ 50-60Hz; Imax=0,22A;  
 $\lambda$  (Pout>28W)=0,95  
 SEC: 800-1050mA (C.C.); 30-42V ---  
 44.1W max; Uout=59V ---  
 tc=75°C; ta=-20...35°C

Before use, always check S50 dipswitch setting

Pout	Iout	1	2
33.6W	800mA	-	-
37.8W	900mA	-	ON
39.9W	950mA	ON	-
44.1W	1050mA	ON	ON

0.2 - 0.5 mm<sup>2</sup>  
 8.5 - 9 mm

Fmax 50N SELV

**VS LIGHTING SOLUTIONS**  
 Vossloh-Schwabe Deutschland GmbH  
 Stuttgarter Straße 61/1, 73614 Schorndorf  
**Type ECXe 1050.653**  
 Ref.-No. 187389

Constant Current LED Power Supply

MADE IN ITALY

PR1: 220-240V~ 50-60Hz; Imax=0,22A;  
 $\lambda$  (Pout>28W)=0,95  
 SEC: 800-1050mA (C.C.); 30-42V ---  
 44.1W max; Uout=59V ---  
 tc=75°C; ta=-20...35°C

Before use, always check S50 dipswitch setting

Pout	Iout	1	2
33.6W	800mA	-	-
37.8W	900mA	-	ON
39.9W	950mA	ON	-
44.1W	1050mA	ON	ON

0.2 - 0.5 mm<sup>2</sup>  
 8.5 - 9 mm

Fmax 50N SELV

**ECXe 1050.653**

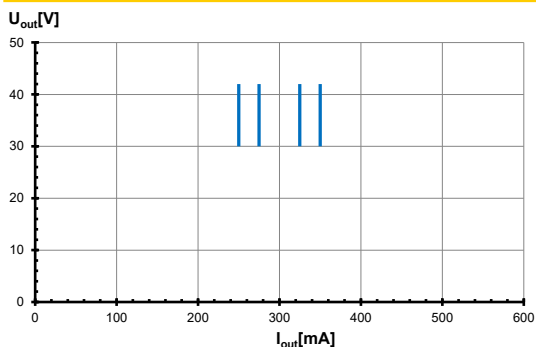
Pin	Pin	Output W	Current mA	Voltage V	Factory settings (mA)
1	2				
OFF	OFF	33,6	800	30-42	800
OFF	ON	37,8	900	30-42	
ON	OFF	39,9	950	30-42	
ON	ON	44,1	1050	30-42	

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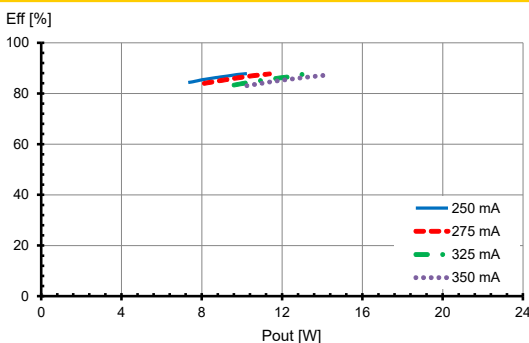


## Typ. performance graphs for 187378, 187379, 187380 / Typ ECXe 350.650

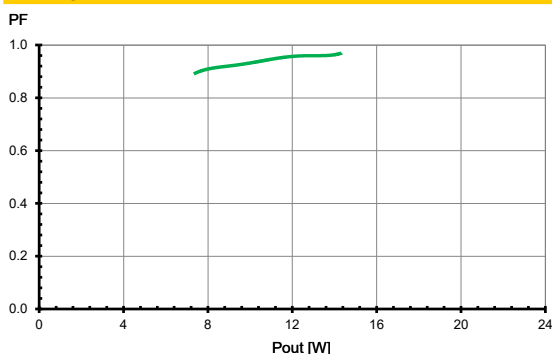
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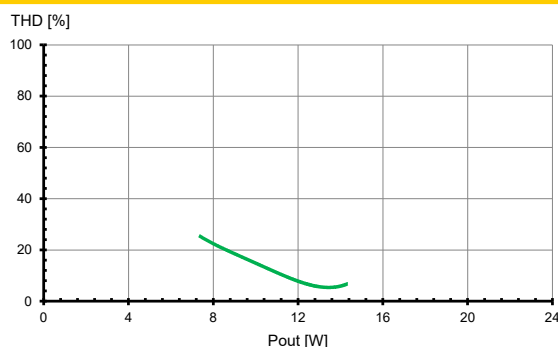
### Effizienz



### Leistungsfaktor

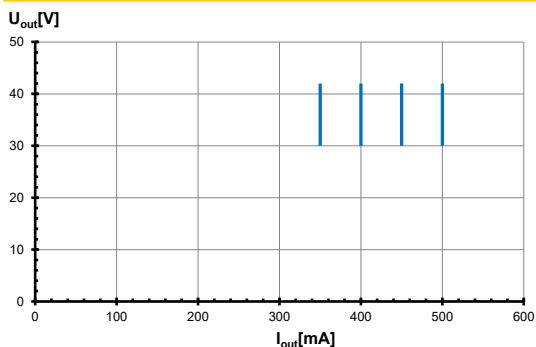


### Klirrfaktor (THD)

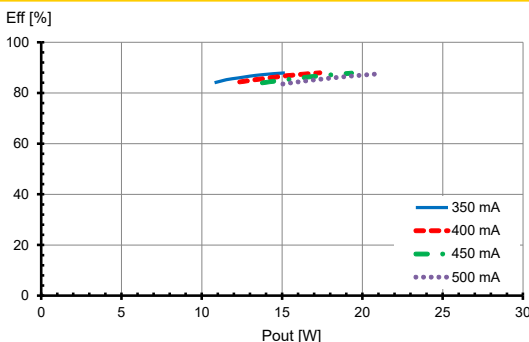


## Typ. performance graphs for 187381, 187382, 187383 / Typ ECXe 500.651

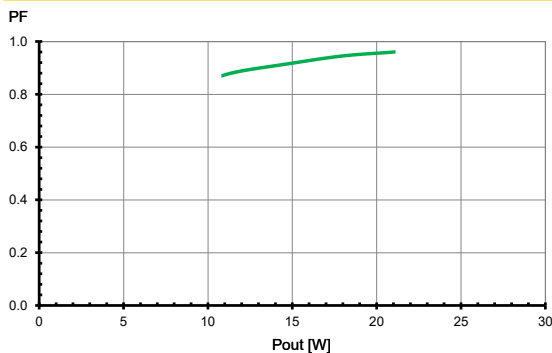
### Arbeitsbereich



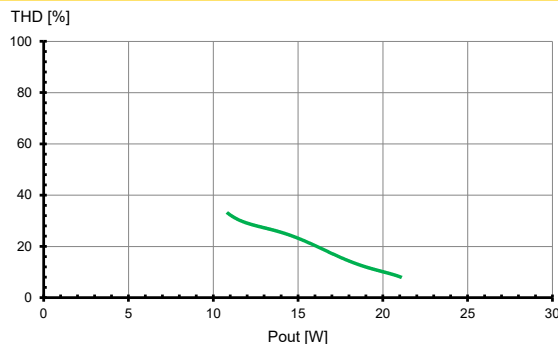
### Effizienz



### Leistungsfaktor



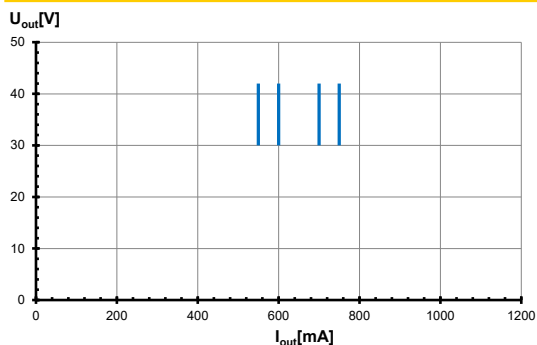
### Klirrfaktor (THD)



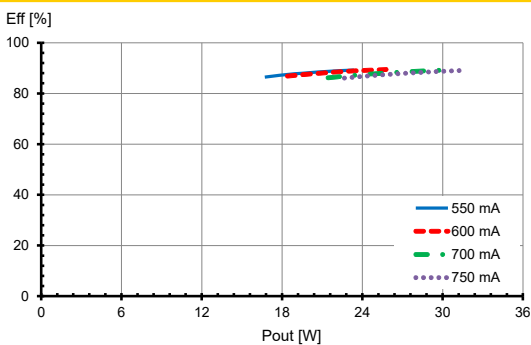
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## Typ. performance graphs for 187384, 187385, 187386 / Typ ECXe 700.652

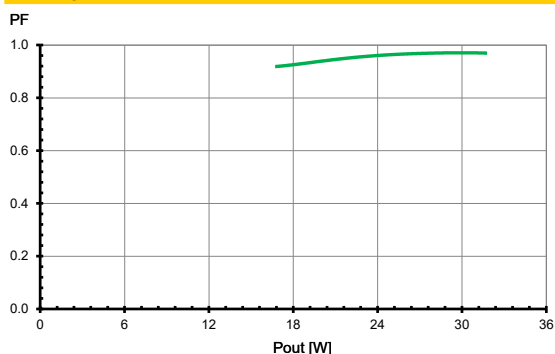
### Arbeitsbereich



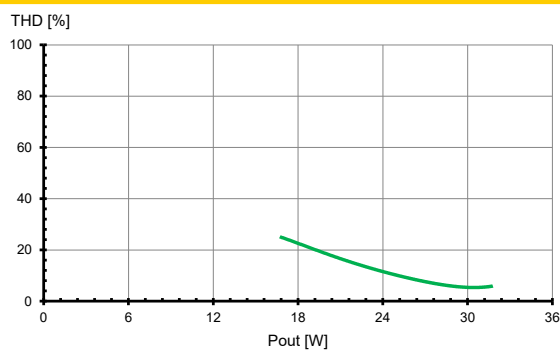
### Effizienz



### Leistungsfaktor

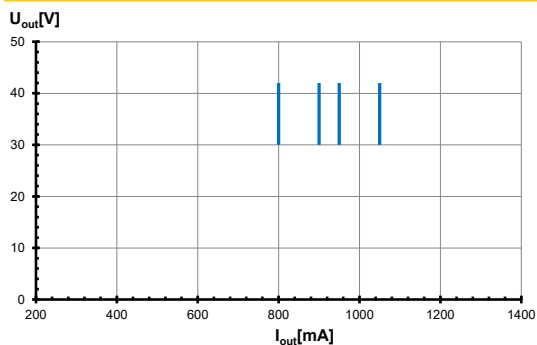


### Klirrfaktor (THD)

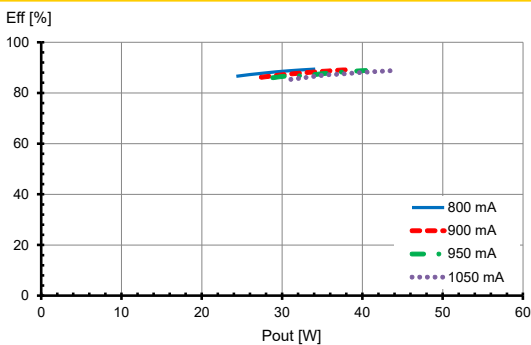


## Typ. performance graphs for 187387, 187388, 187389 / Typ ECXe 1050.653

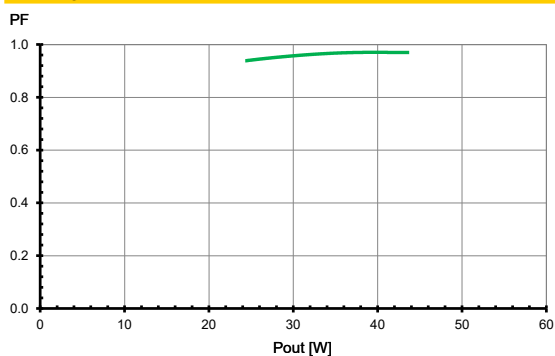
### Arbeitsbereich



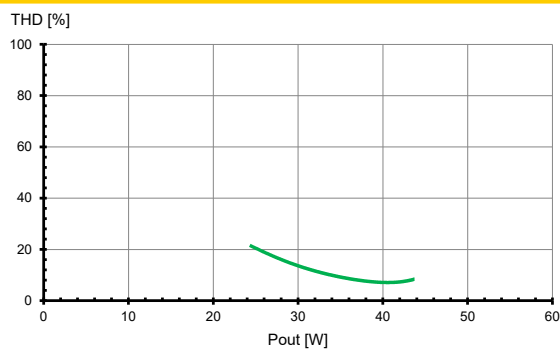
### Effizienz



### Leistungsfaktor



### Klirrfaktor (THD)



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## Safety functions

- Transient mains peaks protection:  
Values are in compliance with EN 61547 (interference immunity).  
Surges between L–N: up to 2 kV  
Surges between L/N–PE: up to 4 kV
- Short-circuit protection: The control gear is protected against permanent short-circuit with automatic restart function.
- Overload protection: The control gear only works in range of rated output power and voltage problemfree.  
Please check before switch-on mains power supply that the selected LED load is suitable (see electrical characteristics on data sheet).
- Overheating: The control gear has overheating protection acc. to IEC 61347-1 C 5a).  
In case of overheating the control gear will not shut down and the service life time will reduce.
- 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.

## Compatibility of track rails

Suitable for following tracks

- Global
- PowerGear
- Ivela
- Stucci
- Side
- Zumtobel
- Eutrac
- Erco

Not suitable for

- IG DALI

Vossloh-Schwabe does not guarantee the compatibility of the tracks and the track-adapter, because manufacturing tolerances of the tracks or changes made at the tracks by the manufacturer could affect the compatibility between the tracks and the adapter.

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

## 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

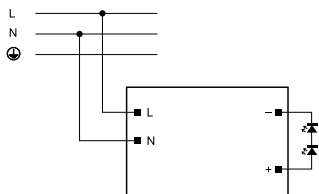
- DIN VDE 0100
- EN 60598-1

### Mechanical mounting

- Mounting position and location:
  - Common track system
- 3-phase option: 3 phases are selectable with a rotary switch. The neutral is in a fixed position in the track.
- Degree of protection: IP20
- Fastening: Double mechanical locking for perfect track fixing
- Load: max. up to 50 N

### Electrical installation

- Connection terminals: Push-in terminals for rigid or flexible conductors with a section of 0.2–0.75 mm<sup>2</sup>
- Stripped length: 8.5–10 mm
- 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 has to be within the tolerances which are mentioned in the table "Electrical Characteristics" in this 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 mm<sup>2</sup>] 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
<b>Automatic cut-out type B</b>				
all types	<b>all types</b>	31	50	78
<b>Automatic cut-out type C</b>				
all types	<b>all types</b>	52	85	104

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