# CC LINEAR DIP SWITCH





### EASYLINE DIP SWITCH L GEN. 2 HP

187651, 187652

#### **Typical Applications**

Built-in in linear luminaires for

- Office lighting
- Industry Lighting
- Retail lighting

EasyLine DIP switch L Gen. 2 HF

- SELECTABLE OUTPUT CURRENT VIA DIP SWITCH
- VERY LOW RIPPLE CURRENT: < 3%
- ENEC APPROVED
- LONG SERVICE LIFE: UP TO 100.000 HRS.
- PRODUCT GUARANTEE: 5 YEARS



# EasyLine DIP switch L Gen. 2 HP

#### **Product features**

• Linear casing shape

#### **Functions**

• Selectable current output via DIP switch

#### **Electrical features**

- Mains voltage: 220-240 V ±10%
- Mains frequency: 50-60 Hz
- DC operation: 176-280 V, 0 Hz
- Push-in terminals: 0.5-1.5 mm<sup>2</sup>
- Power factor at full load: 0.98
- Max. working voltage (U<sub>OUT</sub>): 350 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) and up to 4 kV (between L, N and PE)
- Electronic short-circuit protection
- Overload protection
- Overtemperature protection
- Protection against "no load" operation
- Degree of protection: IP20
- Protection class I

#### Packaging units

Ref. No.	Packaging unit						
	Pieces	Boxes	Weight				
	per box	per pallet	g				
187651	20	2520	213				
187652	20	2520	230				

#### **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.



















#### **Applied standards**

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

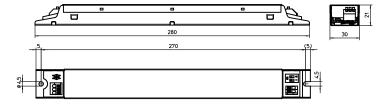
#### **Dimensions**

Ref. No.	Casing	Length	Width	Height
		mm	mm	mm
187651	M7.5	280	30	21
187652				





#### M7.5



#### **Electrical characteristics**

Мах.	Туре	Ref. No.	Voltage	Mains	Inrush	Current	Voltage	THD	Efficiency	Ripple
output			50-60 Hz	current	current	output DC	output	at full load	at full load	100 Hz
W			V	mA	A / µs	mA (± 5%)	DC (V)	% (230 V)	% (230 V)	%
66	ECXe 350.776	187651	220-240	570-480	51.4 / 402	200	160-330	<4	>96	<3
83						250				
99	]					300				
116	]					350				
116	ECXe 500.777	187652	220-240	810-700	53.3 / 394	350	160-330	<5	>96	<3
132						400				
149						450				
165						500				

#### **Maximum ratings**

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

Ref. No.	Ambient temper	Ambient temperature Operation humidity		Storage temperature		Storage humidity		Max. operation	Degree of	
	range		range		range		range		temperature at t <sub>c</sub> point	protection
	°C min.	°C max.	% min.	% max.	°C min.	°C max.	% min.	% max.	°C	
187651	-25	+50	10	90	-40	+85	5	95	+80	IP20
187652									+85	

#### **Operating Life**

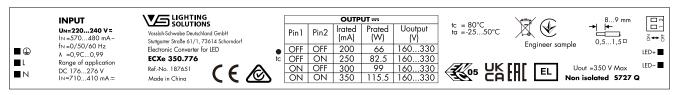
at operation temperatures at t<sub>c</sub> point

Operation	Ref. No.								
current	18 <i>7</i> 651		187652	187652					
all types	80°C	70°C	85°C	75°C					
hrs.	50.000	100.000	50.000	100.000					

#### **DIP** switch settings

Pin 1	Pin 2	Operation current (mA)			
		187651	187652		
OFF	OFF	200	350		
ON	OFF	250	400		
OFF	ON	300	450		
ON ON		350	500		

#### **Product labels**

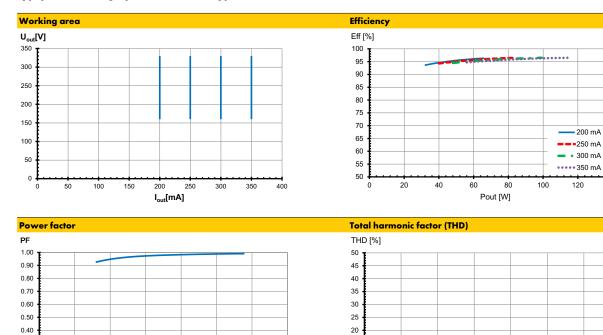


	INPUT	LIGHTING			OUTP	UT <del></del>		]				89 mm	2
	UN=220240 V≂ IN=810700 mA~	Vossloh-Schwabe Deutschland GmbH Stuttgarter Straße 61/1, 73614 Schorndorf	Pin 1	Pin2	lrated (mA)	Prated (W)	Uoutput (V)		tc = 85°C ta =-2550°C	<b>A E</b>	Engineer sample	9 → ← □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□	 8 <del></del> 5
	fn =0/50/60 Hz λ =0,92C0,99	Electronic Converter for LED	OFF	OFF	350	115.5	160330	●tc		/···( <b>O</b>		0,51,5 -	LED+
<b>■</b> [	Range of application	ECXe 500.777	OFF	ON	400	132	160330	<b>U</b> IC					_
1	DC 176276 V	RefNo. 187652	ON	OFF	450	148.5	160330		<i>6 🙈</i> 🗉	<i>⋽</i> ℤℴℴᆝ		Uout =350 V Max	LED-
■ N	IN=1020620 mA≔	Made in China	ON	ON	500	165	160330		تا ك	7 /7802 (	CULIL	Non isolated S727	Q

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 187651 / Type ECXe 350.776

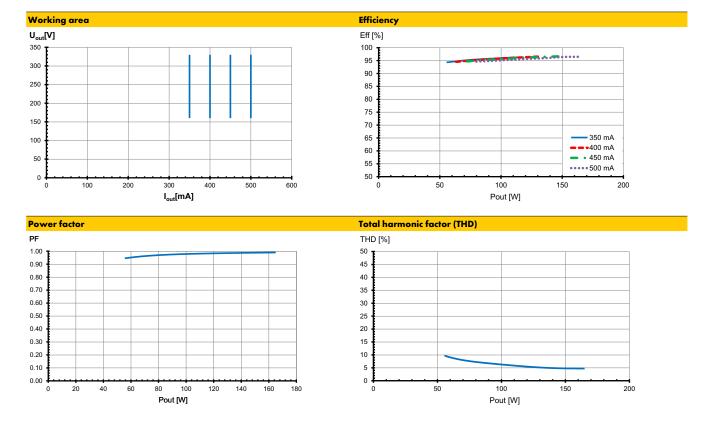


120

#### Typ. performance graphs for 187652 / Type ECXe 500.777

Pout [W]

40



15

10

120

Pout [W]

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0.30

0.10

## LED Drivers - EasyLine DIP switch L Gen. 2 HP

#### **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 gears are protected against

permanent short-circuit with automatic restart

function.

• Overload protection: The control gears only work 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: Built-in: Any position inside a luminaire

is allowed

Independent application: Drivers are not allowed to use for independent applications

• Mounting location: LED drivers are designed for integration into

luminaires or comparable devices.

Installation in outdoor luminaires: degree of

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<sub>c</sub> point must not exceed the

specified maximum value.

• Fastening: Using M4 screws in the designated holes

#### **Electrical installation**

Connection

terminals: Push-in terminals for rigid conductors with

a section of  $0.5-1.5 \ \text{mm}^2$ 

• Stripped length: 8-9 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.

Polarity:
 Please ensure the correct polarity of the leads

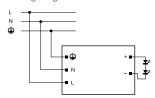
prior to commissioning. Reversed polarity can

destroy the modules.

• 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

reduced by 20% for multi-pole fuses. The considered circuit impedance equals 400 m $\Omega$  (approx. 20 m [2.5 mm²] of conductor from the power supply to the distributor and a further 15 m to the luminaire).

Туре	Ref. No.		c cut-out t no. of VS	′ '			
Automatic cut-o	Automatic cut-out type		B 13 A	B 16 A	C 10 A	C 13 A	C 16 A
ECXe 350.776	187651	3	4	6	6	8	10
ECXe 500.777	187652	3	4	5	6	8	9

 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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