

# CC COMPACT DIMMABLE



## COMFORTLINE DIP SWITCH C-R5 100 V DALI2

**187220**

### Typical Applications

Built-in in compact luminaires

- Office lighting
- Residential lighting



### ComfortLine DIP Switch C-R5 100 V DALI2

- **SELECTABLE OUTPUT CURRENT VIA DIP SWITCH**
- **DIMMABLE: DALI (ED. 2) AND PUSH BUTTON**
- **WIDE INPUT VOLTAGE RANGE: 100–240 V**
- **WITH INTEGRATED CORD GRIP FOR INDEPENDENT OPERATION**
- **SELV**
- **SUITABLE FOR BUILT-IN INTO FURNITURE**
- **PRODUCT GUARANTEE: 5 YEARS**



## ComfortLine DIP Switch C-R5 100 V DALI2

### Product features

- Compact casing shape
- For independent operation with cord grip

### Functions

- Selectable current output by DIP switches
- The output current can be adjusted between 350 and 700 mA.

### Electrical features

- Mains voltage: 100–240 V  $\pm 10\%$
- Mains frequency: 50–60 Hz
- Push-in terminals: 0.5–1.5 mm<sup>2</sup>
- Power factor at full load: > 0.9
- Standby losses: < 0.5 W
- Open circuit voltage ( $U_{max.}$ ): 60 V
- Secondary side switching of LED modules is not allowed.

### Dimming

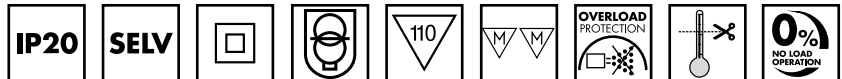
- Dimming range: 1 to 100%
- If no dimming interface is connected, brightness will stay at 100%.

### Safety features

- Protection against transient main peaks up to 1 kV (between L and N)
- Electronic short-circuit protection
- Overload protection
- Overtemperature protection
- Protection against "no load" operation
- Degree of protection: IP20
- Protection class II
- SELV

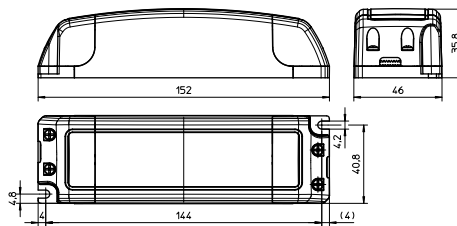
### Packaging units

Ref. No.	Packaging unit		
	Pieces per box	Boxes per pallet	Weight g
187220	20	112	256



### Dimensions

- Casing: K94
- Length: 152 mm
- Width: 46 mm
- Height: 35.8 mm



### Applied standards

- EN 61347-1
- EN 61347-2-13
- EN 61547
- EN 61000-3-3
- EN 62384
- EN 55015
- IEC 62386 ed. 2 part 102/103/207
- VDE 0710-T14



### Dimming

Analogue



### 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.

# LED Drivers – ComfortLine DIP Switch C-R5 100 V DALI2

## Electrical characteristics

Max. output W	Type	Ref. No.	Voltage 50–60 Hz V	Mains current mA	Inrush current A / $\mu$ s	Current output DC mA ( $\pm$ 5%)	Voltage output DC (V)	THD %	Efficiency at full load % (230 V)	Ripple 100 Hz %
30	ECXd 700.562	<b>187220</b>	100–240	356–149	21 / 234	350–700	10–43	15	> 87	< 5

## 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.		
187220	-15	+45	20	60	-40	+85	5	95	+80	IP20

## Expected service life time

at operation temperatures at  $t_c$  point

Operation current	Ref. No.	
	187220	
Max.	70 °C	80 °C
hrs.	50,000	30,000

## Product labels

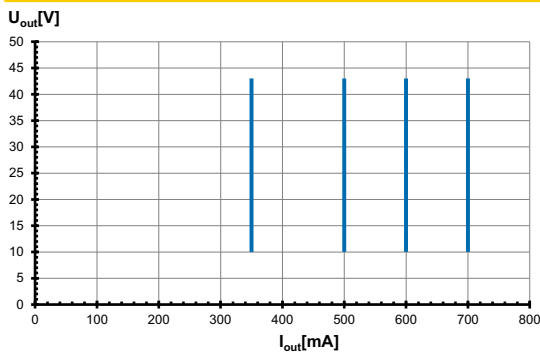
187220 / ECXd 700.562				
Pin		Output W	Current mA	Factory settings (mA)
1	2			
OFF	OFF	15	350	350
ON	OFF	21	500	
OFF	ON	26	600	
ON	ON	30	700	

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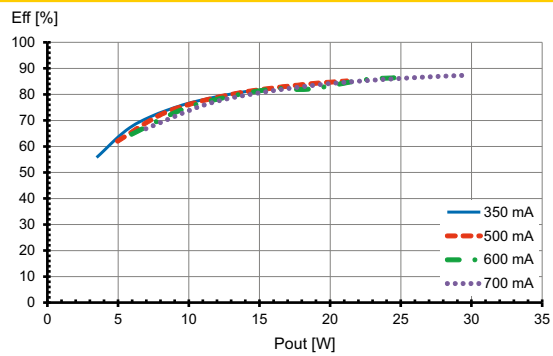
# LED Drivers – ComfortLine DIP Switch C-R5 100 V DALI2

## Typ. performance graphs for 187220 / Type ECXd 700.562 at 230 V

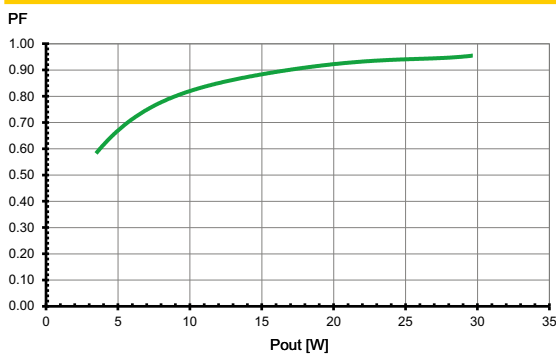
### Working area



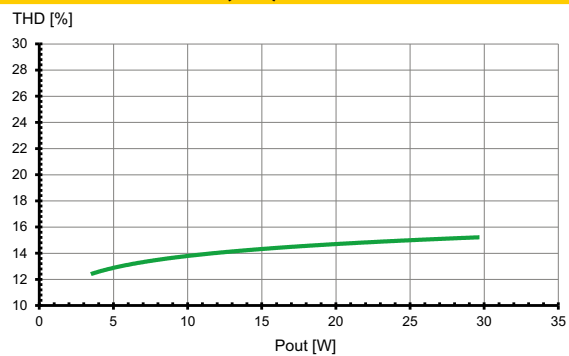
### Efficiency



### Power factor

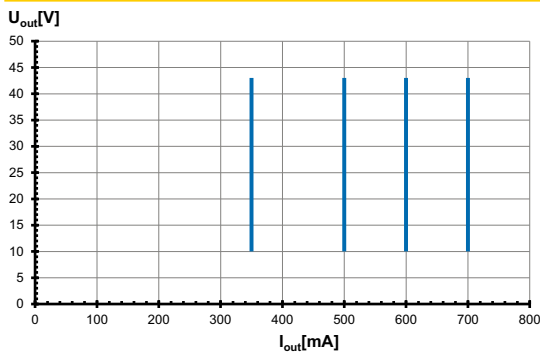


### Total harmonic factor (THD)

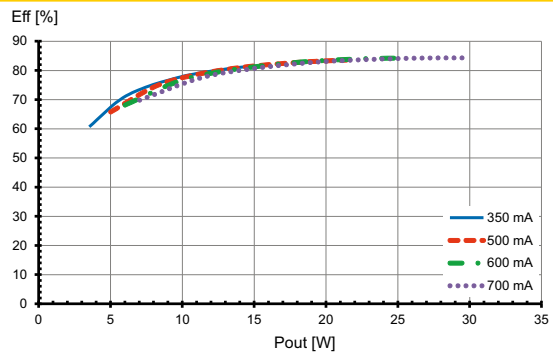


## Typ. performance graphs for 187220 / Type ECXd 700.562 at 100 V

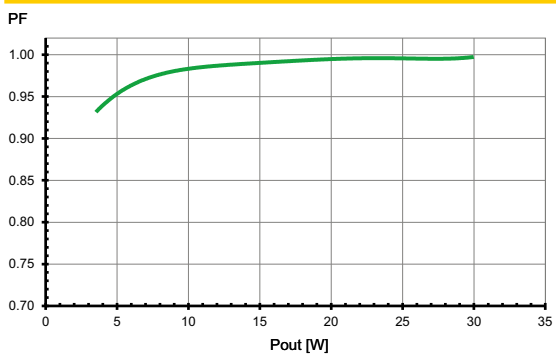
### Working area



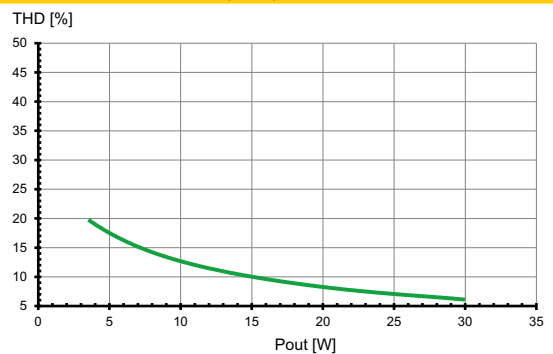
### Efficiency



### Power factor



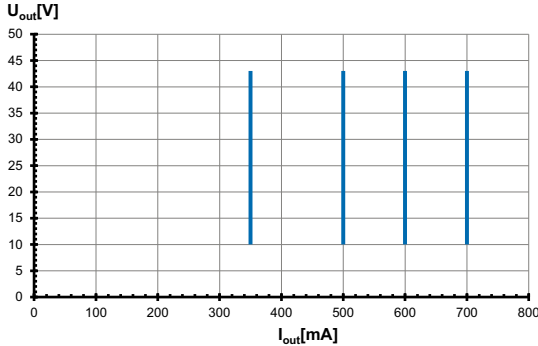
### Total harmonic factor (THD)



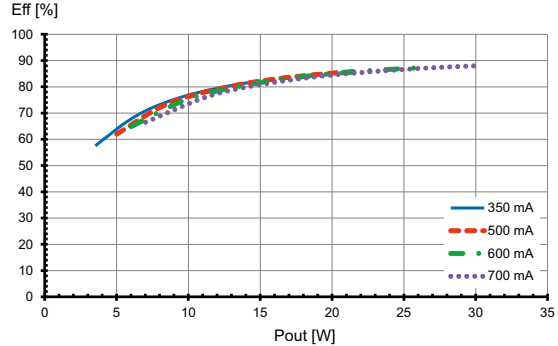
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## Typ. performance graphs for 187220 / Type ECXd 700.562 at 240 V

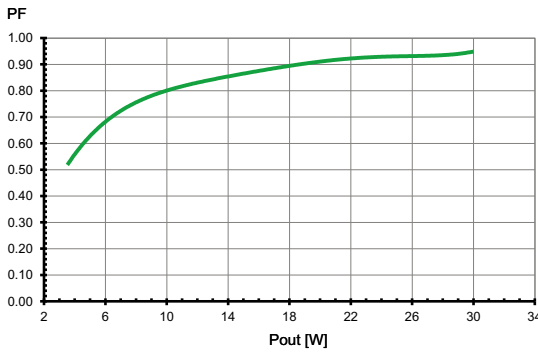
### Working area



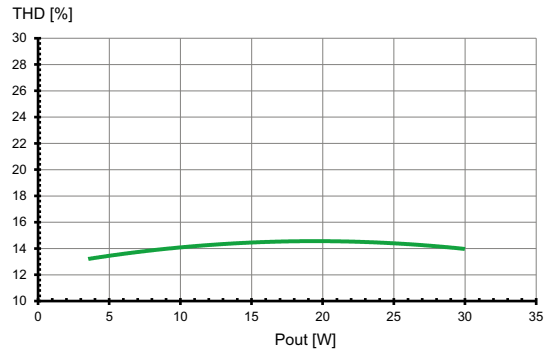
### Efficiency



### Power factor



### Total harmonic factor (THD)



## Safety functions

- Transient mains peaks protection:
  - Values are in compliance with EN 61547 (interference immunity).
  - Surges between L-N: up to 1 kV
  - Surges between L/N-PE: up to 2 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 < 60 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.
  - The temperature reduces the output current of the control gear in the event of overheating.
- 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.

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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

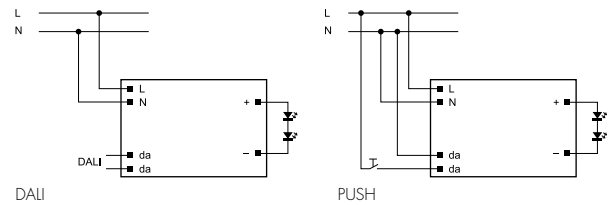
- Mounting position: Independent application: Drivers with integrated cord grip are allowed to use for independent applications.
- Mounting location: Independent LED drivers do not need to be integrated into a casing.  
Installation in outdoor luminaires: degree of protection for luminaire with water protection rate  $\geq 4$  (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 0.5–1.5 mm<sup>2</sup>
- 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.  
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.
- 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.

### 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>Automatic cut-out type</b>		B 10 A	B 13 A	B 16 A	C 10 A	C 13 A	C 16 A
ECXd 700.562	<b>187220</b>	16	21	26	27	35	44

– 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.

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