

CC TRACK  
DIP SWITCH  
DIMMABLE



## PRIMELINE DIP SWITCH UT-260 DALI2

186946, 186947, 186948, 186949

### Typical Applications

For common track systems

- Retail lighting



### PrimeLine DIP switch UT-260 DALI2

- **SELECTABLE OUTPUT CURRENT VIA DIP SWITCH**
- **DIMMABLE: DALI (ED. 2)**
- **VERY LOW RIPPLE CURRENT: < 3%**
- **COMPATIBLE WITH DALI TRACK SYSTEMS**
- **SELV**
- **LONG SERVICE LIFE:  
UP TO 100,000 HRS.**
- **PRODUCT GUARANTEE: 5 YEARS**



## Primeline DIP switch UT-260 DALI2

### Product features

- Adapter with integrated LED driver electronics for DALI-compatible track systems (compatibility see page 5)
- Available in two different casing colours: white and black

### Functions

- Selectable current output by DIP switches
- The output current can be freely adjusted between 325 mA and 700 mA (186946 and 186947) or 675 mA and 1050 mA (186948 and 186949).

### Electrical features

- Mains voltage: 220–240 V  $\pm$ 10%
- Mains frequency: 50–60 Hz
- DC operation: 174 – 280V, 0 Hz
- Push-in terminals: 0.2–0.5 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.

### 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
- 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
ECXd 700.400	48	36	150
ECXd 1050.401	48	36	150



### Applied standards

- EN 61347-1
- EN 61347-2-13
- EN 61547
- EN 61000-3-2
- EN 62384
- EN 62386
- EN 55015



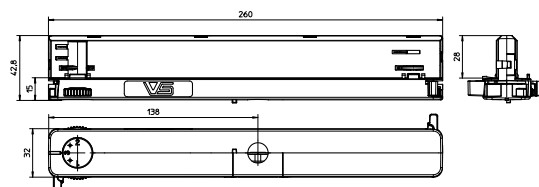
### Dimming

Analogue



### Dimensions

- Casing: UT-260
- Length: 260 mm
- Width: 32 mm
- Height: 42.8 mm



### 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 – Primeline DIP switch UT-260 DALI2

## Electrical characteristics

Max. output W	Type	Ref. No.	Casing colour	Voltage 50–60 Hz V	Mains current mA	Inrush current A / $\mu$ s	Current output DC mA ( $\pm$ 5%)	Voltage output DC (V)	THD at full load % (230 V)	Efficiency at full load % (230 V)	Ripple 100 Hz %
31	ECXd 700.400	<b>186946</b>	white	220–240	170	5 / 50	325–700	20–44	< 15	> 86	< 3
		<b>186947</b>	black								
40	ECXd 1050.401	<b>186948</b>	white	220–240	220	5 / 50	675–1050	5–42	< 15	> 86	< 3
		<b>186949</b>	black								

## 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.		
ECXd 700.400	0	+35	5	95	-40	+100	5	95	+80	IP20
ECXd 1050.401									+85	

## Expected service life time

at operation temperatures at  $t_c$  point

Operation current	Type ECXd 700.400		Type ECXd 1050.401	
	70 °C	80 °C	75 °C	85 °C
hrs.	100,000	50,000	100,000	50,000

## Product labels

**VS LIGHTING SOLUTIONS**  
Vossloh-Schwabe Deutschland GmbH  
Hohe Steinert 8, D-58509 Lüdenscheid  
Electronic Converter for LED  
**Type ECXd 700.400**  
Ref.-No. 186946  
Made in Italy

**PRI**  $U_n = 220...240V$   
 $I_{max} = 170mA$   
 $f_n = 50...60Hz$   
 $\lambda = 0,9 C - 0,95$

**SEC**  $I_{rated} = 325...700 mA$   
 $U = 20...44V$   
 $U_{max} = 59 V$   
 $P_{max} = 31 W$

$t_c = 80^\circ C$   
 $t_a = 0...35^\circ C$

				1		2		3		4		1		2		3		4	
				$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$
-	-	-	-	325	14	ON	-	-	-	325	23	ON	-	-	325	23	ON	-	-
-	-	-	ON	350	15,5	ON	-	-	-	350	24	ON	-	-	350	24	ON	-	-
-	-	ON	-	375	16,5	ON	-	-	-	375	25	ON	-	-	375	25	ON	-	-
-	-	ON	ON	400	17,5	ON	-	-	-	400	26,5	ON	-	-	400	26,5	ON	-	-
-	-	ON	-	425	18,5	ON	-	-	-	425	27,5	ON	-	-	425	27,5	ON	-	-
-	-	ON	ON	450	19,5	ON	-	-	-	450	28,5	ON	-	-	450	28,5	ON	-	-
-	-	ON	-	475	21	ON	-	-	-	475	29,5	ON	-	-	475	29,5	ON	-	-
-	-	ON	ON	500	22	ON	-	-	-	500	31	ON	-	-	500	31	ON	-	-

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**VS LIGHTING SOLUTIONS**  
Vossloh-Schwabe Deutschland GmbH  
Hohe Steinert 8, D-58509 Lüdenscheid  
Electronic Converter for LED  
**Type ECXd 700.400**  
Ref.-No. 186947  
Made in Italy

**PRI**  $U_n = 220...240V$   
 $I_{max} = 170mA$   
 $f_n = 50...60Hz$   
 $\lambda = 0,9 C - 0,95$

**SEC**  $I_{rated} = 325...700 mA$   
 $U = 20...44V$   
 $U_{max} = 59 V$   
 $P_{max} = 31 W$

$t_c = 80^\circ C$   
 $t_a = 0...35^\circ C$

				1		2		3		4		1		2		3		4	
				$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$
-	-	-	-	325	14	ON	-	-	-	325	23	ON	-	-	325	23	ON	-	-
-	-	-	ON	350	15,5	ON	-	-	-	350	24	ON	-	-	350	24	ON	-	-
-	-	ON	-	375	16,5	ON	-	-	-	375	25	ON	-	-	375	25	ON	-	-
-	-	ON	ON	400	17,5	ON	-	-	-	400	26,5	ON	-	-	400	26,5	ON	-	-
-	-	ON	-	425	18,5	ON	-	-	-	425	27,5	ON	-	-	425	27,5	ON	-	-
-	-	ON	ON	450	19,5	ON	-	-	-	450	28,5	ON	-	-	450	28,5	ON	-	-
-	-	ON	-	475	21	ON	-	-	-	475	29,5	ON	-	-	475	29,5	ON	-	-
-	-	ON	ON	500	22	ON	-	-	-	500	31	ON	-	-	500	31	ON	-	-

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**VS LIGHTING SOLUTIONS**  
Vossloh-Schwabe Deutschland GmbH  
Hohe Steinert 8, D-58509 Lüdenscheid  
Electronic Converter for LED  
**Type ECXd 1050.401**  
Ref.-No. 186948  
Made in Italy

**PRI**  $U_n = 220...240V$   
 $I_{max} = 220mA$   
 $f_n = 50...60Hz$   
 $\lambda = 0,9 C - 0,95$

**SEC**  $I_{rated} = 675...1050 mA$   
 $U = 5...42V$   
 $U_{max} = 59 V$   
 $P_{max} = 40 W$

$t_c = 85^\circ C$   
 $t_a = 0...35^\circ C$

				1		2		3		4		1		2		3		4	
				$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$
-	-	-	-	675	28	ON	-	-	-	675	35	ON	-	-	675	35	ON	-	-
-	-	-	ON	700	29	ON	-	-	-	700	36	ON	-	-	700	36	ON	-	-
-	-	ON	-	725	30	ON	-	-	-	725	37	ON	-	-	725	37	ON	-	-
-	-	ON	ON	750	31	ON	-	-	-	750	38	ON	-	-	750	38	ON	-	-
-	-	ON	-	775	32	ON	-	-	-	775	39	ON	-	-	775	39	ON	-	-
-	-	ON	ON	800	33	ON	-	-	-	800	40	ON	-	-	800	40	ON	-	-
-	-	ON	-	825	33	ON	-	-	-	825	40	ON	-	-	825	40	ON	-	-
-	-	ON	ON	850	34	ON	-	-	-	850	40	ON	-	-	850	40	ON	-	-

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**VS LIGHTING SOLUTIONS**  
Vossloh-Schwabe Deutschland GmbH  
Hohe Steinert 8, D-58509 Lüdenscheid  
Electronic Converter for LED  
**Type ECXd 1050.401**  
Ref.-No. 186949  
Made in Italy

**PRI**  $U_n = 220...240V$   
 $I_{max} = 220mA$   
 $f_n = 50...60Hz$   
 $\lambda = 0,9 C - 0,95$

**SEC**  $I_{rated} = 675...1050 mA$   
 $U = 5...42V$   
 $U_{max} = 59 V$   
 $P_{max} = 40 W$

$t_c = 85^\circ C$   
 $t_a = 0...35^\circ C$

				1		2		3		4		1		2		3		4	
				$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$	$I_{total}$	$P_{total}$
-	-	-	-	675	28	ON	-	-	-	675	35	ON	-	-	675	35	ON	-	-
-	-	-	ON	700	29	ON	-	-	-	700	36	ON	-	-	700	36	ON	-	-
-	-	ON	-	725	30	ON	-	-	-	725	37	ON	-	-	725	37	ON	-	-
-	-	ON	ON	750	31	ON	-	-	-	750	38	ON	-	-	750	38	ON	-	-
-	-	ON	-	775	32	ON	-	-	-	775	39	ON	-	-	775	39	ON	-	-
-	-	ON	ON	800	33	ON	-	-	-	800	40	ON	-	-	800	40	ON	-	-
-	-	ON	-	825	33	ON	-	-	-	825	40	ON	-	-	825	40	ON	-	-
-	-	ON	ON	850	34	ON	-	-	-	850	40	ON	-	-	850	40	ON	-	-

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**VS LIGHTING SOLUTIONS**

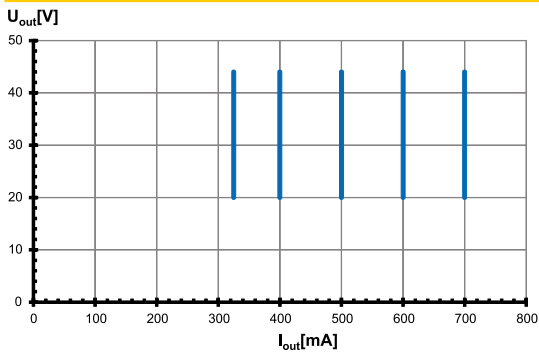
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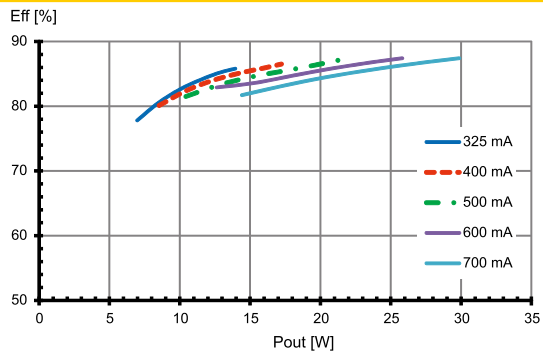
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## Typ. performance graphs for 186946, 186947 / Type ECXd 700.400

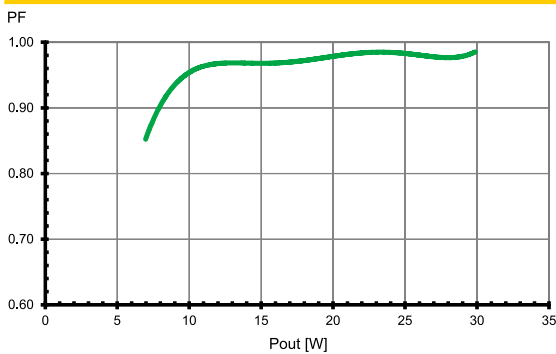
### Working area



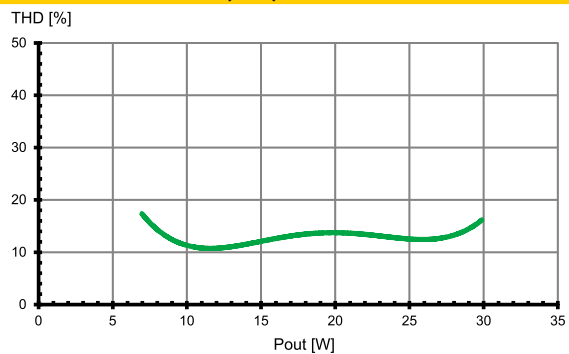
### Efficiency



### Power factor

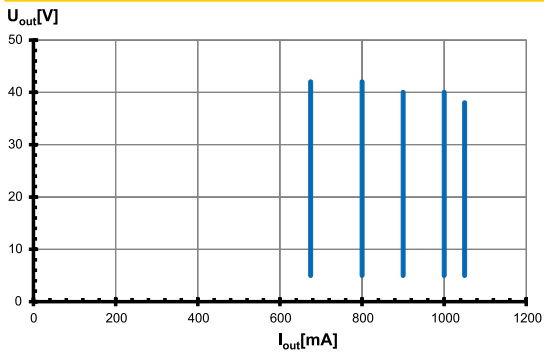


### Total harmonic factor (THD)

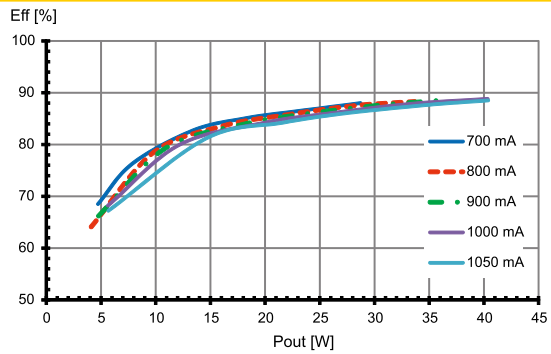


## Typ. performance graphs for 186948, 186949 / Type ECXd 1050.401

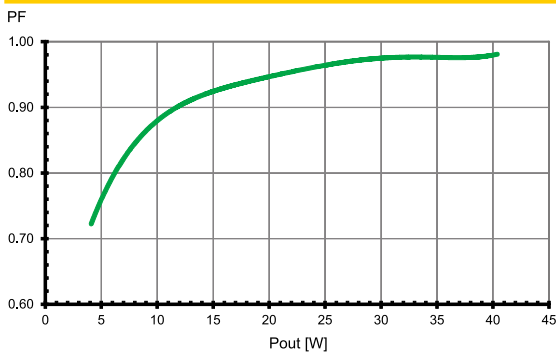
### Working area



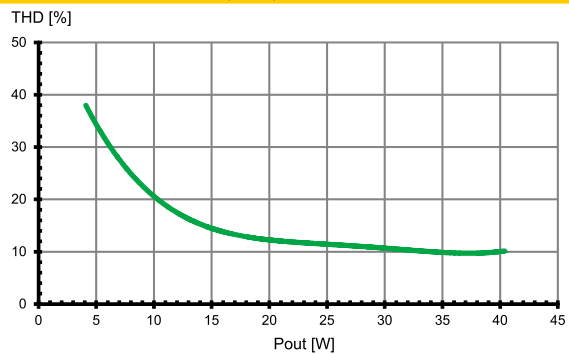
### Efficiency



### 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 between L-N: up to 1 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  
reduces the output current.  
Automatic restart when the fault is removed..
- 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 TRAC PULSE
- XTSC / XTSCF
- STUCCHI
  - 9000-.../..-ST
  - 9000-.../..-R
  - 9000-.../..-H

## 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

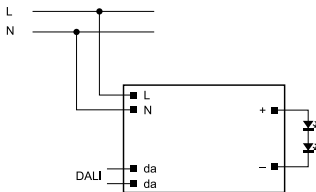
- DIN VDE 0100
- EN 60598-1

### 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
- Clearance: Min. 0.10 m from walls, ceilings and insulation
- 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 0.2–0.5 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>				
ECXd 700.400	<b>186946, 186947</b>	31	50	62
ECXd 1050.401	<b>186948, 186949</b>	31	50	62
<b>Automatic cut-out type C</b>				
ECXd 700.400	<b>186946, 186947</b>	52	85	104
ECXd 1050.401	<b>186948, 186949</b>	52	85	104

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