CC COMPACT DIMMABLE

PRIMELINE NFC C DALI2 Dx

187446

Typical Applications

Built-in in compact luminaires for

- Shop lighting
- Office lighting
- Downlights

PrimeLine NFC C DALI2 Dx

- **SELECTABLE OUTPUT CURRENT VIA NFC**
- **DIMMABLE: DALI (ED.2) D4i SPECIFICATION (PARTS 250/251/252/253)**
- **SUITABLE FOR EMERGENCY ESCAPE LIGHTING SYSTEMS ACC. TO EN 50172 (EL)**
- **VARIOUS CORD GRIPS CAN BE ATTACHED**
- **SELV**
- **LONG SERVICE LIFE: UP TO 100.000 HRS.**
- **PRODUCT GUARANTEE: 5 YEARS**

5 YEARS GUARANTEE

LIGHTING SOLUTIONS

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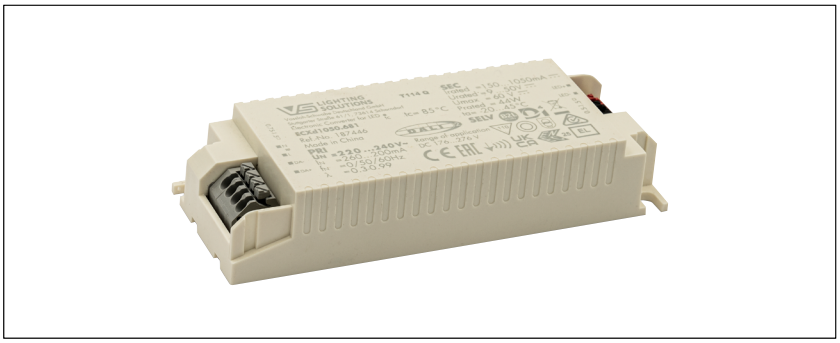
PrimeLine NFC C DALI2 Dx



Product features

- Compact casing shape

Functions

- Programmable via NFC interface (contactless)
  - Selectable current output
  - Programmable CLO function
  - Adjustable DC level
- With integrated switchable DALI power supply
- EL: 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, 0 Hz
- DC Operation: 176-276 V (range of application)
- Push-in terminals:
  rigid 0.5–1.5 mm²
  strand 0.75–1.5 mm²
- Power factor at full load: > 0.95
- Open circuit voltage ($U_{max.}$): 60 V
- Secondary side switching of LED modules is not allowed.

Dimming

- Dimming range: 1 to 100%

Safety features

- Protection against transient main peaks up to 1 kV (between L and N)
- Electronic short-circuit protection
- Overload protection
- 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
187446	20	198	160

Product guarantee

- 5 years
  for operation at recommended operation temperature (see table for expected service life time on the next page)
- 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.

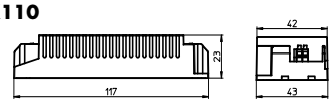
Dimming

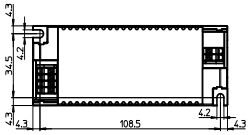
Analogue

Dimensions

Ref. No.	Casing	Length mm	Width mm	Height mm
187446	K110	117	42	23

K110





Cord grip "sl" for K107 / K110

Available for independent operation
A cord grip consists of an upper and lower part.
For independent operation of the LED drivers, two cord grips are required for each LED driver.
Permitted diameter of the cable mantle: 3-7mm
Packaging unit: 20 pcs.
Ref. No.: 187450 (1pcs Cord Grip sl for K107)

Cord grip "ws" for K107/K110

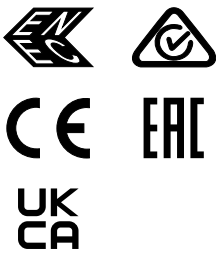
Available for independent operation
Available separately
2 cord grips per LED driver required
Permitted diameter of the cable mantle: 3-9mm
Packaging unit: 20 pcs.
Ref. No.: 187451 (1pcs Cord Grip ws for K107)

Cord grip "LILO" for K107/K110

Available for independent operation
Available separately
Permitted diameter of the cable mantle: 5-12mm
Packaging unit: 20 pcs.
Best.-Nr.: 187452 (1pcs LILO(5pin) for K107)

Applied standards

- EN 61347-1
- EN 61347-2-13
- EN 61547
- EN 61000-3-2/EN 61000-3-3
- EN 62384
- EN 55015
- EN 61000-4-2/EN 61000-4-5
- IEC 62386 ed.2 part 101/102/207/250/251/252/253



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

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Electrical characteristics

Max. output W	Type	**Ref. No.**	Voltage 50–60 Hz V	Mains current mA	Inrush current A / µs	Current output DC mA (± 8% 150-350mA ±5% 350-1050mA)	Voltage output DC (V)	THD at full load % (230 V)	Efficiency at full load % (230 V)	Ripple 100 Hz %
44	ECXd 1050.681	**187446**	220–240	260–200	17/198	150-1050	9-50 (see working area)	4	88	<5

Maximum ratings

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

Ref. No.	Ambient temperature range °C min.	°C max.	Operation humidity range % min.	% max.	Storage temperature range °C min.	°C max.	Storage humidity range % min.	% max.	Max. operation temperature at t_c point °C	Degree of protection
187446	–20	+45	10	60	–40	+85	5	95	+85	IP20

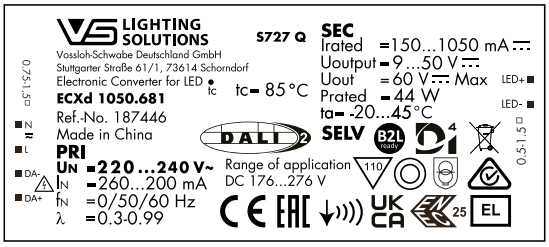
Expected service life time

at operation temperatures at t_c point

Operation current	Ref. No. **187446**	
All	75 °C*	85 °C
hrs.	100.000	50.000

* recommended operation temperature

Product labels



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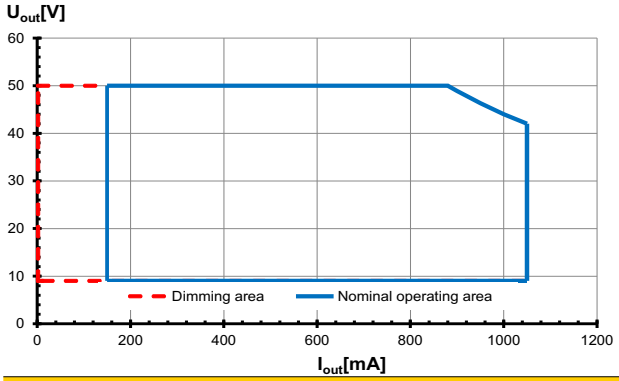
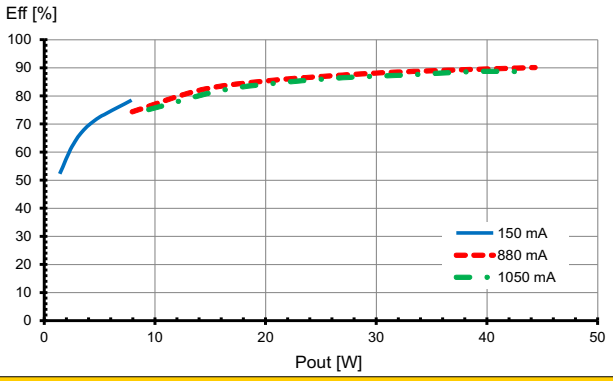
Typ. performance graphs for 187446 / ECXd 1050.681

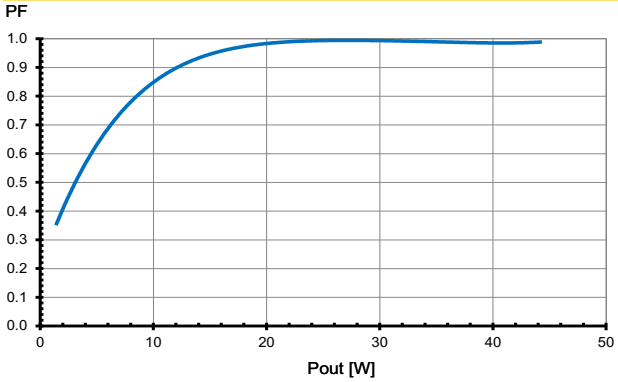
Working area



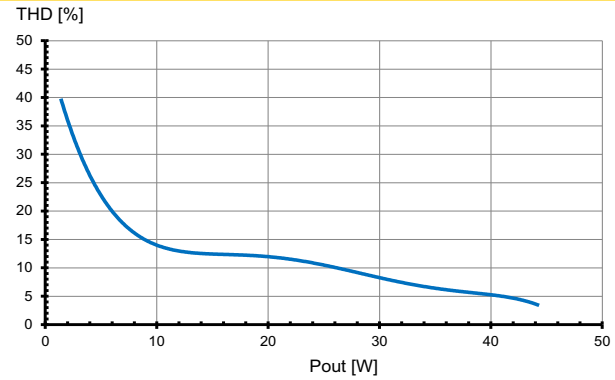
Efficiency



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
- 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. In case of overheating (Tc max. + approx. 10°) the output current of the control gear will be reduced to 30%. After the temperature will drop below the critical temperature value, the output current rises again to the previously set value.
- 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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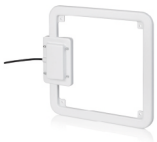
Parametrization via NFC

- 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 (EOF): 15% (adjustable)
  - DC level range: 0/1–100% (programmable via NFC)
  - DC operation: acc. to EN 60598-2-22 the LED current reduction at high temperature is limited to 50% to nominal current.
- Constant lumen output (CLO)
  - In the most cases the CLO function is used to reduce system performance over the life of an LED system.
  - The luminous flux of LED modules decreases in a step-wise manner up to the end of the modules' service life. To guarantee constant luminous flux, the output of the control gear must be gradually increased over its service life.
  - Defining the CLO function its needed to program the start, provisional and end value, respectively the LED lifetime via the NFC programmer.
- Current adjustment (mA)
  - Factory setting: 700 mA
  - Programmable output current
- DALI-Configuration
  - Programming of Short address, Groups, Fade times and Scenes
  - Programming of Lightevel for Power On, System Failure, Min and Max
- Luminaire Info
  - Store Luminaire information data according EN 62386-251
- Diagnostics and Maintenance
  - Set configurable values described in EN 62386-253,
  - Read counters described in EN 62386-252, -253
    (Refresh rate is 1 hours of control gear operating time.)

The driver can be programmed via NFC at the earliest 15 seconds after the mains voltage has been switched off.

Feig Programmer



Feig NFC antenna

VS NFC LED Driver
(operation device)

System architecture – NFC configuration

- With a Feig Programmer or the Feig NFC antenna, contactless programming of NFC LED drivers is possible.
- The LED driver is programmed via NFC in a de-energised state.
- The use of the NFC programmer is flexible in the production or already in the pre-assembly process. A complex commissioning is not required. The operation and parameterization is done in the simplest way. All operating parameters can be individually programmed and updated.
- The exact description of the programming can be found in the operation manual of the NFC programmer.

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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

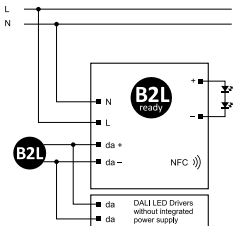
- DIN VDE 0100
- EN 60598-1

Mechanical mounting

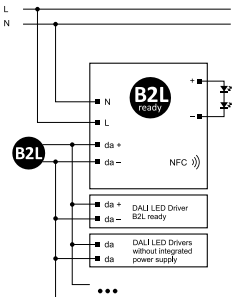
- Mounting position: Built-in: Any position inside a luminaire is allowed
  Independent application: Drivers are allowed to use for independent applications with separate cord grip.
- Mounting location: LED drivers are designed for integration into luminaires or comparable devices.
  Independent LED 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
  built-in: 0,5-1,5mm² PVC cable
  independent: 0,75-1,5mm² PVC cable
- Stripped length: 7–8 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: 2 m
- 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 is within the tolerances which are mentioned in the Electrical Characteristics on the data sheet.
- Parallel wiring: Parallel connection of LED loads is not allowed.
- Wiring diagram:



B2L with one B2L ready LED driver



B2L with more than two B2L ready LED drivers

- DALI wiring – Blu2Light ready:
  As a standard DALI bus is single isolated, the DALI lead must be rated for mains voltage.
  The power supply and the DALI lead can be laid in a single cable provided the cable does not exceed a maximum length of 100 m, e.g. using 5x1.5 mm².
  Please observe the maximum lengths of the DALI lead during installation:

	≥ 1.5 mm²	1 mm²	0.75 mm²	0.5 mm²
6.2 Ω max.	300 m	180 m	130 m	80 m

- DALI power supply – Blu2Light ready:
  The DALI2-B2L interface has an integrated power supply for further DALI devices, e.g. sensors. The DALI control system is connected via the terminal pair da+/da-.
  Please pay attention to the polarity.
- DALI supply voltage: Guaranteed possible current output: 50 mA
  Note: With a parallel connection, the sum of guaranteed current output is the basis for calculating additional DALI participants.
  Please take the current consumption of active DALI devices (e.g. sensors) from the corresponding data sheet. Passive DALI devices (f.e. drivers without DALI power supply) are assumed to have a current consumption of 2 mA.
  Max. possible current output: 62 mA
  Note: When DALI power supplies are connected in parallel, it must be ensured that the sum of the maximum possible current output of all voltage sources on the DALI bus does not exceed 250 mA.

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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 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.					
Automatic cut-out type		B 10 A	B 13 A	B 16 A	C 10 A	C 13 A	C 16 A
ECXd 1050.681	**187446**	24	31	38	34	44	55

– 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.

EU compliance information

Hereby, Vossloh-Schwabe Deutschland GmbH declares that the radio equipment type PrimeLine NFC C DALI2 Dx is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: www.vossloh-schwabe.com.

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