CC LINEAR DIP SWITCH

COMFORTLINE DIP SWITCH L-LV DALI2

187653, 187654, 187655

Typical Applications
Built-in in linear luminaires for
- Office lighting
- Industry lighting

DALI 2

PUSH

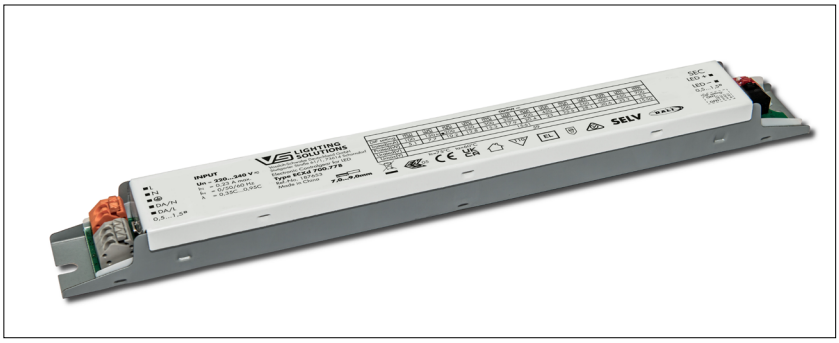
ComfortLine DIP switch L-LV DALI2

- **SELECTABLE OUTPUT CURRENT VIA DIP SWITCH**
- **VERY LOW RIPPLE CURRENT: < 2 %**
- **ENEC APPROVED**
- **LONG SERVICE LIFE: UP TO 100.000 HRS.**
- **PRODUCT GUARANTEE: 5 YEARS**

5 YEARS GUARANTEE

LIGHTING SOLUTIONS
Vossloh-Schwabe Deutschland GmbH · Stuttgarter Straße 61/1 · 73614 Schorndorf · Germany · Phone +49 7181/8002-0 · Fax +49 7181/8002-122 · www.vossloh-schwabe.com

ComfortLine
DIP switch L-LV DALI2



Product features
- Linear casing shape

Functions
- Selectable current output via DIP switch
- DALI2 dimmable with additional parts -251, -252, -253

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 mm²
- Power factor at full load: 0.98
- Max. working 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) and up to 2 kV (between L, N and PE)
- Electronic short-circuit protection
- Overload protection
- Protection against "no load" operation
- Degree of protection: IP20
- Over temperature protection
- Protection class I

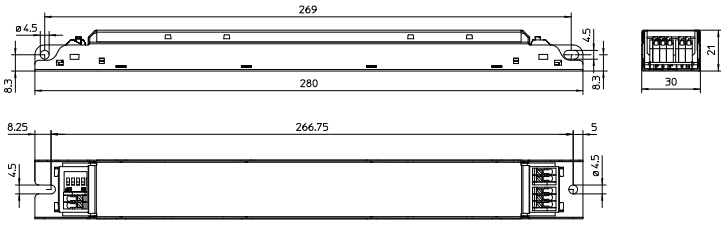
Packaging units

Ref. No.	Packaging unit		
	Pieces per box	Boxes per pallet	Weight g
187653	56	32	182
187654	56	32	191
187655	56	32	221

IP20 | OVERLOAD PROTECTION | 0% NO LOAD OPERATION | 100 000 hours Min. Service Lifetime | Guarantee 5 years | EL | PUSH | SELV

Applied standards
- EN 61347-1
- EN 61347-2-13
- EN 61547
- EN 61000-3-2
- EN 62384
- EN 55015
- IEC 62386 DALI Ed. 2 part 101, 102, 207, 251, 252, 253
- EN 50172

Dimensions
- Casing: M7.6
- Length: 280 mm
- Width: 30 mm
- Height: 21 mm



Dimming
Analogue

DALI 2

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.

LIGHTING SOLUTIONS
Vossloh-Schwabe Deutschland GmbH · Stuttgarter Straße 61/1 · 73614 Schorndorf · Germany · Phone +49 7181/8002-0 · Fax +49 7181/8002-122 · www.vossloh-schwabe.com

CC-ComfortLine-DIP-switch-L-LV-DALI2_187653-187654-187655_EN – 2/8 – 09/2025

Electrical characteristics

Max. output W	Type	**Ref. No.**	Voltage 50–60 Hz V	Mains current mA	Inrush current A / µs	Current output DC mA (± 5%)	Voltage output DC (V)	THD at full load % (230 V)	Efficiency at full load % (230 V)	Ripple 100 Hz %
5.1	ECXd 700.778	**187653**	220–240	180–167	7.3 / 40	100	15–51	4	90	2
7.7						150				
10						200				
13						250				
15						300				
18						350				
20						400				
23						450				
26						500				
28						550				
31						600				
33						650				
35						700	15–50			
18	ECXd 1050.779	**187654**	220–240	262–244	12 / 40	350	15–51	3	91	2
20						400				
23						450				
26						500				
28						550				
31						600				
33						650				
36						700				
38						750				
41						800				
43						850				
46						900				
48						950				
50						1000	15–50			
49						1050	15–47			
54	ECXd 1800.780	**187655**	220–240	372–343	14 / 32	1050	15–50	3	92	1
56						1100				
59						1150				
61						1200				
64						1250				
65						1300				
68						1350				
70						1400				
73						1450				
74						1500	15–49			
74						1550	15–48			
75						1600	15–46.8			
75						1650	15–45.4			
75						1700	15–44			
75						1750	15–43			
76						1800	15–42			

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
187653	-25	+60	10	90	-25	+85	10	90	+75	IP20
187654									+80	
187655										

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

LIGHTING SOLUTIONS
Vossloh-Schwabe Deutschland GmbH · Stuttgarter Straße 61/1 · 73614 Schorndorf · Germany · Phone +49 7181/8002-0 · Fax +49 7181/8002-122 · www.vossloh-schwabe.com

Operating Life

at operation temperatures at t_c point

Operation current	Ref. No. 187653		187654, 187655	
all types	75°C	65°C	80°C	70°C
hrs.	50.000	100.000	50.000	100.000

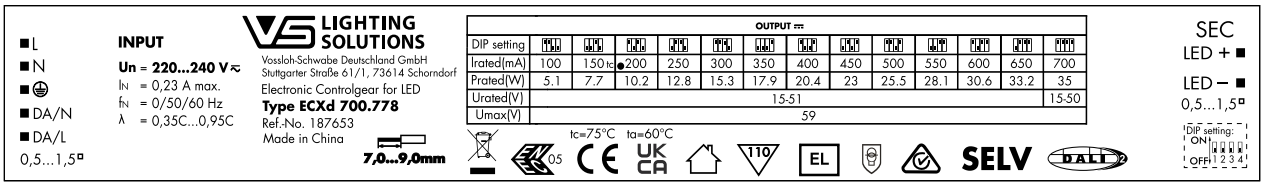
DIP switch settings

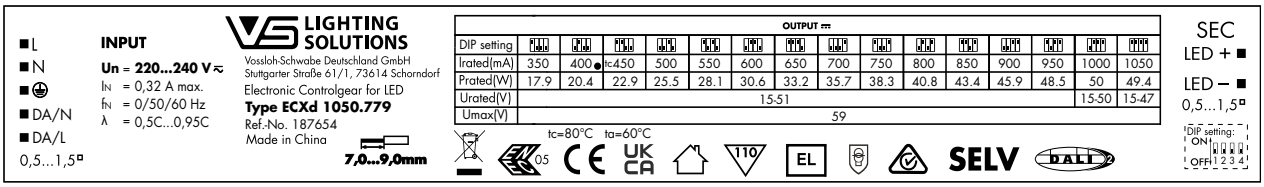
Pin 1	Pin 2	Pin 3	Pin 4	Operation current (mA) 187653
ON	ON	OFF	OFF	100
OFF	OFF	ON	OFF	150
ON	OFF	ON	OFF	200
OFF	ON	ON	OFF	250
ON	ON	ON	OFF	300
OFF	OFF	OFF	OFF	350
ON	OFF	OFF	ON	400
OFF	ON	OFF	ON	450
ON	ON	OFF	ON	500
OFF	OFF	ON	ON	550
ON	OFF	ON	ON	600
OFF	ON	ON	ON	650
ON	ON	ON	ON	700

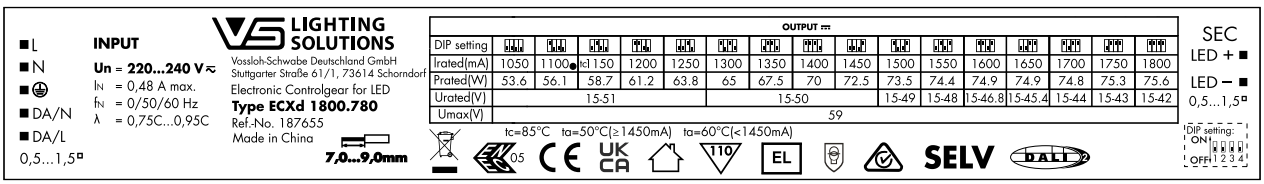
Pin 1	Pin 2	Pin 3	Pin 4	Operation current (mA) 187654
ON	OFF	OFF	OFF	350
OFF	ON	OFF	OFF	400
ON	ON	OFF	OFF	450
OFF	OFF	ON	OFF	500
ON	OFF	ON	OFF	550
OFF	ON	ON	OFF	600
ON	ON	ON	OFF	650
OFF	OFF	OFF	ON	700
ON	OFF	OFF	ON	750
OFF	ON	OFF	ON	800
ON	ON	OFF	ON	850
OFF	OFF	ON	ON	900
ON	OFF	ON	ON	950
OFF	ON	ON	ON	1000
ON	ON	ON	ON	1050

Pin 1	Pin 2	Pin 3	Pin 4	Operation current (mA) 187655
OFF	OFF	OFF	OFF	1050
ON	OFF	OFF	OFF	1100
OFF	ON	OFF	OFF	1150
ON	ON	OFF	OFF	1200
OFF	OFF	ON	OFF	1250
ON	OFF	ON	OFF	1300
OFF	ON	ON	OFF	1350
ON	ON	ON	OFF	1400
OFF	OFF	OFF	ON	1450
ON	OFF	OFF	ON	1500
OFF	ON	OFF	ON	1550
ON	ON	OFF	ON	1600
OFF	OFF	ON	ON	1650
ON	OFF	ON	ON	1700
OFF	ON	ON	ON	1750
ON	ON	ON	ON	1800

Product labels



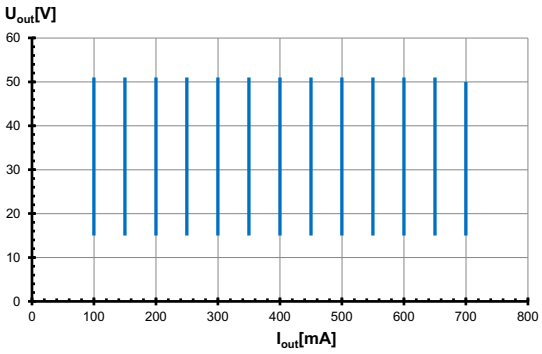




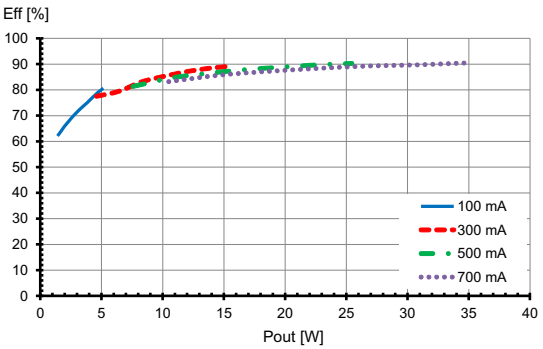
LIGHTING SOLUTIONS
Vossloh-Schwabe Deutschland GmbH · Stuttgarter Straße 61/1 · 73614 Schorndorf · Germany · Phone +49 7181/8002-0 · Fax +49 7181/8002-122 · www.vossloh-schwabe.com

Typ. performance graphs for 187653 / Type ECXd 700.778

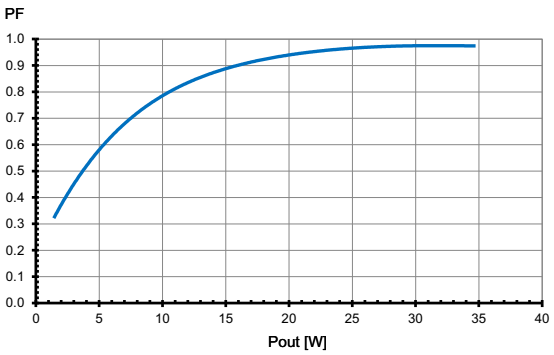
Working area



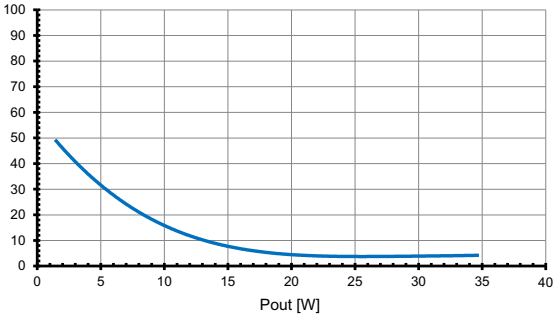
Efficiency



Power factor

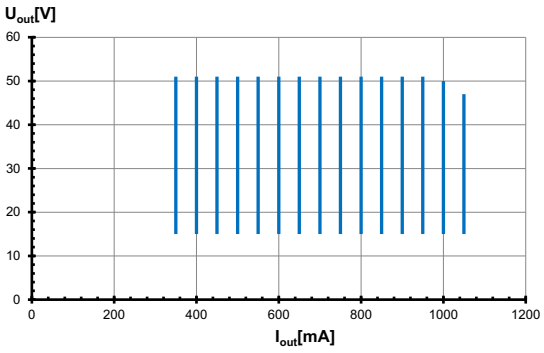


Total harmonic factor (THD)

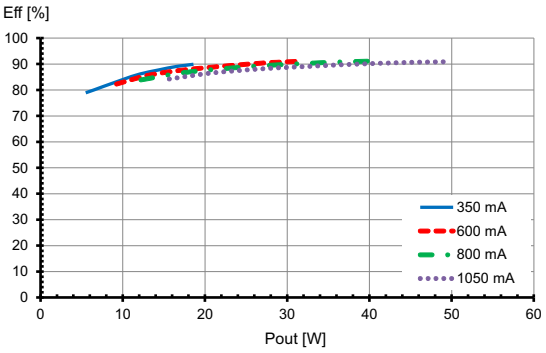


Typ. performance graphs for 187654 / Type ECXd 1050.779

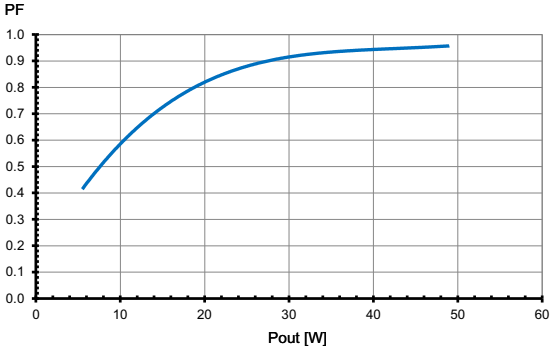
Working area



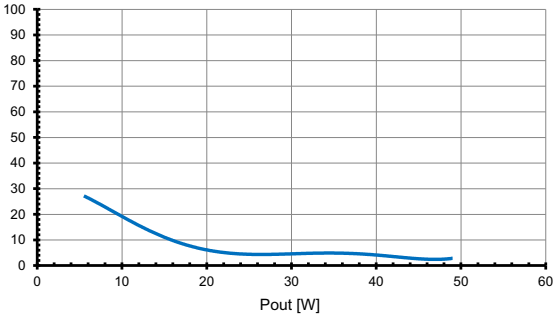
Efficiency



Power factor



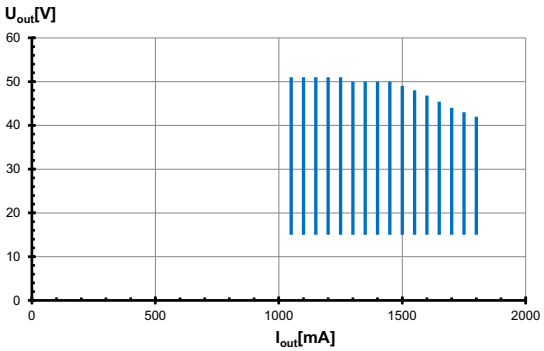
Total harmonic factor (THD)



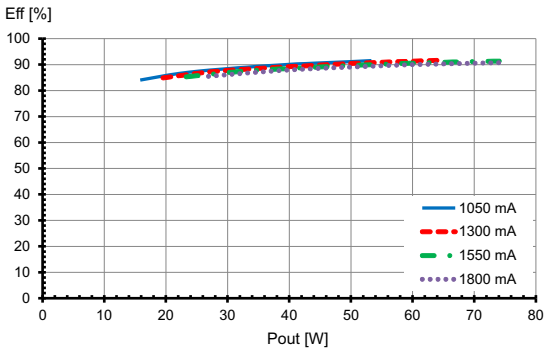
LIGHTING SOLUTIONS
Vossloh-Schwabe Deutschland GmbH · Stuttgarter Straße 61/1 · 73614 Schorndorf · Germany · Phone +49 7181/8002-0 · Fax +49 7181/8002-122 · www.vossloh-schwabe.com

Typ. performance graphs for 187655 / Type ECXd 1800.780

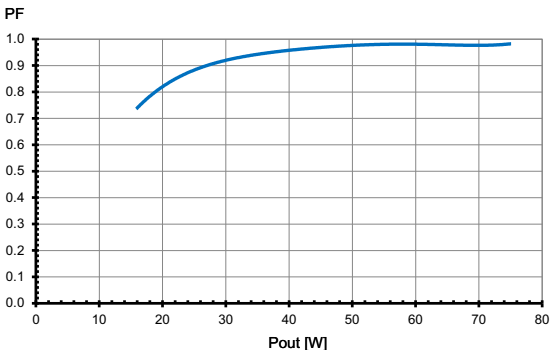
Working area



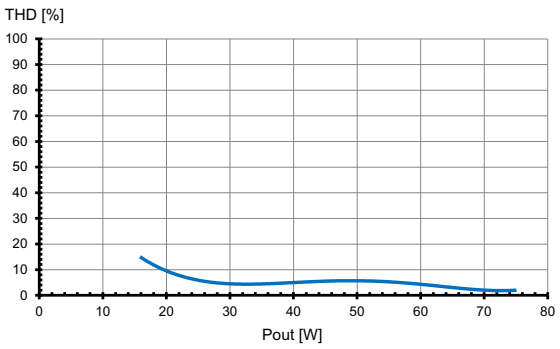
Efficiency



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 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.

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 (EOFX):
  100 % (not adjustable): 187653 and 187654
  10 % (not adjustable): 187655
- DC range: 176-280 V

Output voltage (U_{OUT})

According to EN 61347-1, U_{OUT} indicates which voltage can occur at the output terminals directly or between the output terminals and the PE terminal of the LED driver. This value is given for non-insulated drivers.
The used LED module must have an insulation voltage that is at least as high as the specified U_{OUT} voltage of the driver.

Leakage current

Leakage currents are present in all electronic converters or luminaires with PE connection and must be observed especially when using non-insulated LED drivers. The PCB surfaces of LED modules form a capacitance with grounded LED aluminum circuit boards, heat sinks or mounting plates. This leads to capacitive leakage currents between the connection poles of the LED (+ and –) and the PE terminal. These capacitances should be kept as small as possible, since they are responsible for a possible glowing or flickering of the LEDs in standby mode. In extreme cases, the maximum permissible leakage current of the luminaire according to EN 60598 paragraph 10.3 may be exceeded. The leakage current is also relevant when using RCD circuit breakers.

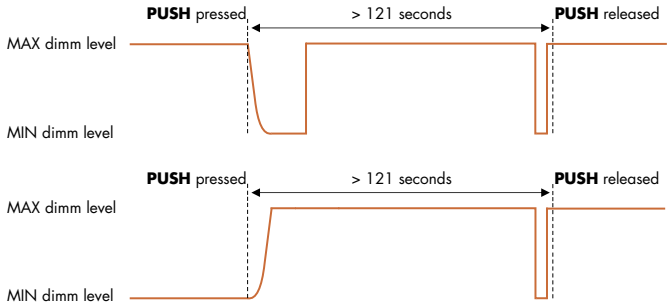
LIGHTING SOLUTIONS
Vossloh-Schwabe Deutschland GmbH · Stuttgarter Straße 61/1 · 73614 Schorndorf · Germany · Phone +49 7181/8002-0 · Fax +49 7181/8002-122 · www.vossloh-schwabe.com

PUSH function

- The PUSH function enables direct switching and dimming control of the LED driver via a standard momentary push button.
- Single-button operation for ON/OFF and dimming.
- Automatic detection of PUSH signal.
- Operating voltage: 220-240 V ±10%
- Note: Operation outside this range may result in signal loss or damage to the input.
- Supports up to 30 drivers on a single push-button circuit.
- Maximum cable length from push button to last driver: 200 m.

Functionality Overview:

- ON/OFF Switching: Short press(< 0.5 s) toggles the driver output ON or OFF.
- Brightness Memory: Double short press (< 0.5 s) while the driver is ON stores the current brightness level. Double short press while OFF deletes the stored level and restores 100% brightness on next power-up.
- Dimming Control: Long press (0.5–14 s) initiates continuous dimming in the current direction (up or down).Releasing the button stops dimming. Each subsequent long press reverses the dimming direction.
- Synchronization: Long press (15 s to 2 min) synchronizes all connected drivers to 100% brightness.
- Corridor Mode Activation: to enter Corridor Mode, the PUSH button must be held for longer than 2 minutes. During this period, the driver performs a predefined brightness transition sequence depending on the initial dimming state:
  - If the driver is at MAX dimming level, brightness fades to MIN within 4 seconds, remains at MIN for 6 seconds, then returns to MAX (sync level) and stays there for 107 seconds, followed by a brief transition to MIN and back to MAX within 3 seconds; releasing the button 1 second after reaching MAX activates Corridor Mode.
  - If the driver is at MIN dimming level, brightness increases to MAX within 4 seconds (fade-in), reaches sync level after 6 seconds, remains at MAX for 107 seconds, then briefly drops to MIN and returns to MAX within 3 seconds; releasing the button 1 second after reaching MAX activates Corridor Mode.
  - Once activated, the driver maintains 100% brightness for 2 minutes, then dims to 10% within 32 seconds if no further input is detected.

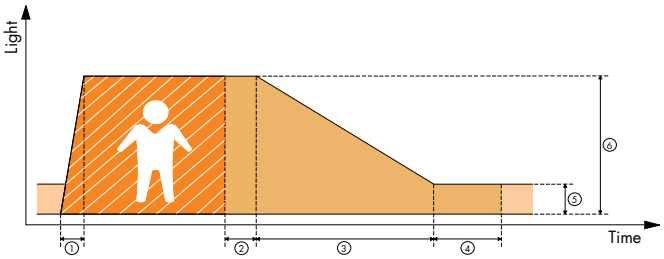


- Corridor Mode Exit: Five short presses (< 3 s) exit Corridor Mode and return to standard PUSH operation.

Corridor Function

The Corridor Function enables adaptive lighting control in areas such as corridors, stairwells, or passageways, using a standard motion detector in combination with the LED driver. This function ensures energy-efficient lighting by automatically adjusting the light output based on occupancy.

- Presence Detected: When a person enters the monitored area, the lighting instantly increases (fades in) to the preset presence value (100% brightness). The light remains at this level as long as presence is detected.
- Absence Detected: Once the area is vacated, a run-on time begins. If no new presence is detected during this period, the light output will fade down to a lower absence value (10% brightness) or switch off completely, depending on the configuration.



Parameter Definitions

- (1) Fade-in Time (0.5s): The time required for the light to ramp up from the absence value to the presence value when motion is detected.
- (2) Run-on Time (120s): After the last detected presence, the light remains at the presence value for this duration. If new motion is detected, the timer resets.
- (3) Fade-out Time (32s): The time over which the light output decreases from the presence value to the absence value after the run-on time expires.
- (4) Switch-off Delay: The time the absence value is held before the light switches off completely (if configured). In some profiles, this may be set to "Never Off".
- (5) Absence Value (10%): The maintained light output when no presence is detected. This can be set to 0% (off) if desired.
- (6) Presence Value (100%): The light output level when occupancy is detected.

LIGHTING SOLUTIONS
Vossloh-Schwabe Deutschland GmbH · Stuttgarter Straße 61/1 · 73614 Schorndorf · Germany · Phone +49 7181/8002-0 · Fax +49 7181/8002-122 · www.vossloh-schwabe.com

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

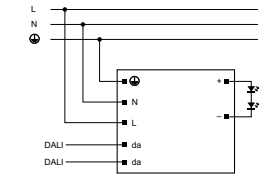
- DIN VDE 0100
- EN 60598-1

Mechanical mounting

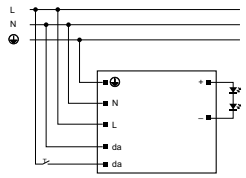
- Mounting position: Built-in: Any position inside a luminaire is allowed
  Independent application: Drivers are not allowed to use for independent applications
- Mounting location: LED drivers are designed for integration into luminaires or comparable devices.
  Installation in outdoor luminaires: degree of 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

Electrical installation

- Connection terminals: Push-in terminals for rigid conductors with a section of 0.5–1.5 mm²
- 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:



DALI



PUSH

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 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 700.778	**187653**	50	65	80	50	65	80
ECXd 1050.779	**187654**	34	45	55	34	45	55
ECXd 1800.780	**187655**	24	31	38	24	31	38

– 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.

LIGHTING SOLUTIONS
Vossloh-Schwabe Deutschland GmbH · Stuttgarter Straße 61/1 · 73614 Schorndorf · Germany · Phone +49 7181/8002-0 · Fax +49 7181/8002-122 · www.vossloh-schwabe.com