EMERGENCY LIGHTING DEVICES FOR LED APPLICATIONS





ELECTRONIC EMERGENCY LIGHTING DEVICES WITH IRON PHOSPHATE BATTERIES

For nominal operating periods of 1 hour or 3 hours

Emergency lighting systems spring to life any time normal mains lighting systems fail. Emergency lighting is designed to ensure that staff can safely leave any rooms and that there is sufficient lighting to illuminate rescue paths/ routes as well as to avoid panic situations.

VS emergency lighting devices are designed for use with LED applications and can be operated as part of a combined system with electronic LED drivers.

Emergency Basic

Product features

- Designed for installation in LED luminaires for safety lighting for rescue routes and extremely hazardous workplaces
- For emergency lighting for 1 hrs. or 3 hrs. operating time
- Suitable for emergency lighting acc. to VDE 0108 or EN 50172
- Ambient temperature: 5 to 50 °C

Electrical features

- Mains voltage: 220–240 V ± 10%
- Mains frequency: 50–60 Hz
- Output voltage: 55 V, 105 V or 220 V
- Output power in emergency operation: 2.5–3 W

Rechargeable batteries

- Material: Iron phosphate (LiFePO4)
- Choice of the rechargeable battery depends on desired operating time and installation position.
- Charging time of rechargeable batteries: up to 24 hrs. depending on the capacity

Safety features

- For luminaires of protection class I
- Degree of protection: IP20
- SELV* (186804, 186805, 186806, 186807)
- Surge protection (186804, 186805, 186806, 186807): 3.75 kV
- Metal casing must be earthed using two fixing screws

Status LED

- Intermittent green: battery regeneration after commissioning as well as after each battery replacement
- Permanent green: battery correctly connected, battery charged
- Off: defective battery charge, battery not connected, battery totally flat, defective emergency lighting unit or in emergency operation

Packaging units

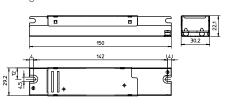
Ref. No.	Packaging unit						
	Pieces	Boxes	Weight				
	per box	per pallet	g				
186804	50	56	109				
186805	50	56	109				
186806	50	56	109				
186807	50	56	109				
186808	50	56	109				
186809	50	56	109				





Dimensions

- Casing: M66
- Length:150 mm
- Width: 30.2 mm
- Height: 22.1 mm



Used standards

- EN 60598-2-22
- EN 61347-2-7
- EN 62384





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.

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Туре	Ref. No.	Ref. No.	Battery		Nominal emergency	Output power in	Min. lumen in	Output voltag	ge
	EM gear	Battery			operation period	emergency	emergency		
			Туре	Shape	hrs.	operation (W)	operation* (lm)	V	V max.
N66 – Dimensio	ons (LxWxH)	: 150x30.2x2	2.1 mm						
EMCc 180.007	186805	183204	3,2 V/4,5 Ah C	Compact	3	2.5-3	250	12-55	60
		183205	3,2V/4,5 Ah L	Linear	3				
EMCc 180.009	186807	183204	3,2 V/4,5 Ah C	Compact	3	2.5-3	250	20-105	120
		183205	3,2 V/4,5 Ah L	Linear	3				
EMCc 180.011	186809	183204	3,2 V/4,5 Ah C	Compact	3	2.5-3	250	100-220	300
		183205	3,2 V/4,5 Ah L	Linear	3				
EMCc 60.006	186804	183202	3,2V/3 Ah C	Compact	1	2.5-3	250	12-55	60
		183203	3,2V/3 Ah L	Linear	1				
EMCc 60.008	186806	183202	3,2V/3 Ah C	Compact	1	2.5-3	250	20-105	120
		183203	3,2V/3 Ah L	Linear	1				
EMCc 60.010	186808	183202	3,2V/3 Ah C	Compact	1	2.5-3	250	100-220	300
		183203	3,2V/3 Ah L	Linear	1	7			

* at 100 lm/W per LED unit

Product lables

Vossloh-Schwabe Deutschland Gmbl Stuttgarter Straße 61/1, D-73614 S		2'381'922	
Lin	U _N (V) f _N (Hz) Batt LiFePO ₄ (V/Ah) Operating time (h) LED voltage (V) No load voltage (V) Power supply (W)	220240 5060 3,2 / 3 1 U=1255 Umax.=60 2.53	+ LED + BATT LED BATT LED B BG
EN 61347-2-7	SELV tc= 65 ^t ta= 5	°C .+50°C	<u>Enice</u> ∺

Vossloh-Schwabe Deutschland Gmb	ta= 5	+50°C N	
Stuttgarter Straße 61/1, D-73614		2'381'921	
N Emergency Unit	U _N (V)	220240	+■– ,⊼,⊡, \
for LED module	f _N (Hz)	5060	
Type EMCc 180.007	Batt LiFePO₄ (V/Ah)	3,2 / 4,5	
RefNo. 186805	Operating time (h)	3	┼╺═───╞┥─┘╶┘
Lout - Made in Switzerland	LED voltage (V)	U=1255	tc IFD
Lin	No load voltage (V)	Umax.=60	BATT LED R B BG
EN 61347-2-7	Power supply (W)	2,53	R B BG

	SELV $tc = 65$ ta = 5	°C .+50°C	EHICE K
Stuttgarter Straße 61/1, D-73614		2'381'923	
N —∎ Emergency Unit for LED module	U _N (V) f _N (Hz)	220240	
I Type EMCc 60.008	T _N (⊓z) Batt LiFePO₄ (V/Ah)	5060 3,2 / 3	Driver
RefNo. 186806 Lout - Made in Switzerland	Operating time (h)	1	+∎≱┘ -┘
	LED voltage (V) No load voltage (V)	U=20105 Umax.=120	
Lin	Power supply (W)	2,53	

Vossloh-Schwabe Deutschland Gmbl Stuttgarter Straße 61/1, D-73614 S		2'381'924	
N →■ Emergency Unit for LED module L →■ Type EMCC 180.009 RefNo. 186807 L →■ Made in Switzerland L →■ EN 60598.2-22 EN 61347-2-7	U _N (V) f _N (Hz) Batt LiFePO ₄ (V/Ah) Operating time (h) LED voltage (V) No load voltage (V) Power supply (W)	220240 5060 3,2 / 4,5 3 U=20105 Umax.=120 2,53	BATT LED R B BG
	tc= 65'	°C 🔊	

Vossion-Schwabe Deutschland Gmb	ta= 5	.+50°C 🤻	
Stuttgarter Straße 61/1, D-73614		2'381'926	▖▁┌╅╅┓╠╣║
N Emergency Unit	U _N (V)	220240	
for LED module	f _N (Hz)	5060	- ■ Driver
Type EMCc 60.010	Batt LiFePO₄ (V/Ah)	3,2/3	
Ref. No. 186808	Operating time (h)	1	+
Lout - Made in Switzerland	LED voltage (V)	U=100220	tc DATT LED
1	No load voltage (V)	Umax.=300	
Lin	Power supply (W)	2,53	RB BG

Vossloh-Schwabe Deutschland Gmb Stuttgarter Straße 61/1, D-73614 3	H EL	°C .+50°C	
N —∎ Emergency Unit for LED module I∎ Type EMCc 180.011	U _N (V) F _N (Hz) Batt LiFePO₄ (V/Ah)	220240 5060 3.2 / 4.5	LED Driver
RefNo. 186809	Operating time (h) LED voltage (V)	3 U=100220	+■¥ J tc BATT LED
Lin	No load voltage (V) Power supply (W)	Umax.=300 2,53	

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

Emergency Smart

With self-diagnosis function

Product features

- Designed for installation in LED luminaires for safety lighting for rescue routes and extremely hazardous workplaces
- For emergency lighting for 1 hrs. or 3 hrs. operating time
- Suitable for emergency lighting acc. to VDE 0108 or EN 50172
- With self-diagnosis function acc. to EN 62034
- Ambient temperature: 5 to 50 °C

Electrical features

- Mains voltage: 220-240 V ± 10%
- Mains frequency: 50–60 Hz
- Output voltage: 55 V, 105 V or 220 V
- Output power in emergency operation: 2.5-3 W

Rechargeable batteries

- Material: Iron phosphate (LiFePO4)
- Choice of the rechargeable battery depends on desired operating time and installation position.
- Charging time of rechargeable batteries: up to 24 hrs. depending on the capacity

Safety features

- For luminaires of protection classes I and IIa
- Degree of protection: IP20
- SELV* (186810, 186811, 186812, 186813)
- Surge protection (186810, 186811, 186812, 186813): 3.75 kV

Status LED

- Intermittent green: battery regeneration after commissioning as well as after each battery replacement
- Permanent green: battery correctly connected, battery charged or self-test operation
- Flashing red: defective battery charge, battery not connected or battery capacity too low
- Flashing intermittent red: defective or unconnected LED luminaire unit
- Off: battery totally flat, defective emergency lighting unit or in emergency operation

Packaging units

Ref. No.	Packaging unit						
	Pieces	Boxes	Weight				
	per box	per pallet	g				
186810	50	56	83				
186811	50	56	83				
186812	50	56	83				
186813	50	56	83				
186814	50	56	83				
186815	50	56	83				

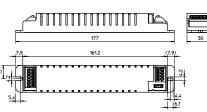
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Dimensions

- Casing: K67
- Length:177 mm
- Width: 30 mm
- Height: 21.5 mm



Used standards

- EN 60598-2-22
- EN 61347-2-7
- EN 62034
- EN 62384







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.

Туре	Ref. No.	Ref. No.	Battery		Nominal emergency	Output power in	Min. lumen in	Output volta	ige	
	EM gear	Battery			operation period	emergency	emergency			
			Туре	Shape	hrs.	operation (W)	operation* (lm)	V	V max.	
K67 – Dimensic	ons (LxWxH)	:177x30x21	.5 mm							
EMCc 180.013	186811	183204	3,2 V/4,5 Ah C	Compact	3	2.5-3	250	12-55	60	
		183205	3,2V/4,5 Ah L	Linear	3					
EMCc 180.015	186813	183204	3,2 V/4,5 Ah C	Compact	3	2.5-3	250	20-105	120	
		183205	3,2 V/4,5 Ah L	Linear	3					
EMCc 180.016	186815	183204	3,2 V/4,5 Ah C	Compact	3	2.5–3	250	100-300	350	
		183205	3,2 V/4,5 Ah L	Linear	3					
EMCc 60.012	186810	183202	3,2V/3 Ah C	Compact	1	2.5-3	250	12-55	60	
		183203	3,2V/3 Ah L	Linear	1					
EMCc 60.014	186812	183202	3,2V/3 Ah C	Compact	1	2.5-3	250	20-105	120	
		183203	3,2V/3 Ah L	Linear	1					
EMCc 60.016	186814	183202	3,2V/3 Ah C	Compact	1	2.5-3	250	100-300	350	
		183203	3,2V/3 Ah L	Linear	1					

* at 100 lm/W per LED unit

Product lables

0	LightTing Vasidi-Scheeb Detechland Graph Lout ← Strabe 31/1 D-73614 Schemdorf Lin ← Freegracy Unit For LED module N ← Type EMCc 60.012 RefNo. 186810 Made in Switzerland 2'382'035	Operating time (h) LED voltage (V) No load voltage (M)	U=1255 Umax.=60	SELV tc= 65°C ta= 5+50°C Automatic self-test tc ● EN 60598-2-22 EN 61347-2-7 EN 62034	•		+ H N Lout LED Driver
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Lighting Vasidi-Scheeb Deutschend GmbH Lout ← 1 Skutgarter Straße 61/1 D-73614 Schemdorf Lin ← 1 For LED module N ← 1 Pote EMC: 180611 Mei roll on in Switzerland Zistigarter Straße 11/1 D-73614 Schemdorf Lin ← 1 For LED module N ← 1 RefNo. 180611 Mei in Switzerland 2/381/911	U _N (M) f _N (Hz) Bat LiFePO ₄ (V/Ah) Operating time (h) LED voltage (V) No load voltage (M) Power supply (M)	U=1255 Umax.=60	SELV tc= 65°C ta= 5+50°C Automatic self-tes tc EN 60598-2-22 EN 61347-2-7 EN 62034		+ N Lout LED Driver
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Vosible Schurche Destachkend GmbH	U _N (V) f _N (Hz) Batt LiFePO₄(V/Ah)	220240 5060 3,2 / 3	SELV tc= 65°C ta= 5+50°C Automatic self-testin	EL-T	<u>С</u> (е	
Lin → for LED module N — Type EMCc 60.014	Operating time (h) LED voltage (V) No load voltage (V) Power supply (W)	U=20105 Umax.=120	tc ●	-		-■-LED Driver

Lin Zel Kenergency Unit for IED module N - Type EMCc 180.015 Nolo	50 (0		+ N Lout LED Driver
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Visite Light Ting Subscription Uir (M 220240 Fin (Hz) t= 65°C III (III (Hz) L= 65°C Lout + In Statistical Gradies Statistical Gradies

LightTing Vasidi-Schuck Deschland Gricht Lout - In Stutgarter Straße 61/1 D-73614 Schemdor Lin - IE Dmodule N - IS (DE Dmodule) Reit-No. 186815 Made in Switzerland Made in Switzerland	U _N (V) f _N (Hz) Bart LiFePO ₄ (V/Ah) Operating time (h) LED voltage (V) No load voltage (V) Power supply (W)	U=100300 Umax.=350	-			+ - N Lout LED Driver	
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Emergency Smart DALI2

With self-diagnosis function

Product features

- Designed for installation in LED luminaires for safety lighting for rescue routes and extremely hazardous workplaces
- For emergency lighting for 1 hrs. or 3 hrs. operating time
- Suitable for emergency lighting acc. to VDE 0108 or EN 50172
- With self-diagnosis function acc. to EN 62034
- Ambient temperature: 5 to 50 °C

Electrical features

- Mains voltage: 220–240 V ± 10%
- Mains frequency: 50–60 Hz
- Output voltage: 55 V, 105 V or 220 V
- Output power in emergency operation: 2.5–3 W

Rechargeable batteries

- Material: Iron phosphate (LiFePO4)
- Choice of the rechargeable battery depends on desired operating time and installation position.
- Charging time of rechargeable batteries: up to 24 hrs. depending on the capacity

Safety features

- For luminaires of protection classes I and II
- Degree of protection: IP20
- SELV (187064, 187065, 187067, 187068)
- DALI2
- Surge protection (187064, 187065, 187067, 187068): 3.75 kV

Status LED

- Intermittent green: battery regeneration after commissioning as well as after each battery replacement
- Permanent green: battery correctly connected, battery charged or self-test operation
- Flashing red: defective battery charge, battery not connected or battery capacity too low
- Flashing intermittent red: defective or unconnected LED luminaire unit
- Off: battery totally flat, defective emergency lighting unit or in emergency operation





Dimensions

- Casing: K67
- Length:177 mm
- Width: 30 mm
- Height: 21.5 mm

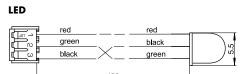


- EN 61347-2-7
- EN 62034
- EN 62384



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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.

Packaging units

Ref. No.	Packaging unit					
	Pieces	Boxes	Weight			
	per box	per pallet	g			
187064	40	56	86			
187065	40	56	86			
187066	40	56	86			
187067	40	56	86			
187068	40	56	86			
187069	40	56	86			

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

Туре	Ref. No.	Ref. No.	Battery		Nominal emergency	Output power in	Min. lumen in	Output volto	ıge
	EM gear	Battery			operation period	emergency	emergency		
			Туре	Shape	hrs.	operation (W)	operation* (lm)	V	V max.
K67 – Dimensia	ons (LxWxH)	: 177x30x21	.5 mm						
EMCd 180.020	187064	183204	3,2 V/4,5 Ah C	Compact	3	2,5-3	250	12-55	60
		183205	3,2V/4,5 Ah L	Linear	3				
EMCd 180.021	187065	183204	3,2 V/4,5 Ah C	Compact	3	2,5-3	250	20-105	120
		183205	3,2 V/4,5 Ah L	Linear	3				
EMCd 180.022	187066	183204	3,2 V/4,5 Ah C	Compact	3	2,5-3	250	100-300	350
		183205	3,2 V/4,5 Ah L	Linear	3				
EMCd 60.023	187067	183202	3,2V/3 Ah C	Compact	1	2,5-3	250	12-55	60
		183203	3,2V/3 Ah L	Linear	1				
EMCd 60.024	187068	183202	3,2V/3 Ah C	Compact	1	2,5-3	250	20-105	120
		183203	3,2V/3 Ah L	Linear	1				
EMCd 60.025	187069	183202	3,2V/3 Ah C	Compact	1	2,5-3	250	100-300	350
		183203	3,2V/3 Ah L	Linear	1				

* at 100 lm/W per LED unit

Product lables

Lout + Vasioh-Schwabe Deutschland GmbH Lin - Vasioh-Schwabe Deutschland GmbH Stuttgarter Straße 61/10-73614 Schomdorf	U _N (V) f _N (Hz) Batt LiFePO₄(V/Ah)	220240 5060 3,2 / 4,5	tc= 65°C tα= 5+50°C SELV	
N _	Operating time (h)	3	tc	
Emergency Unit for LED module	LED voltage (V)	U=1255	EN 60598-2-22	Driver
da – Type EMCd 180.020 da – RefNo. 187064	No load voltage (V)		EN 61347-2-7	
da – Made in Switzerland 2'381'812	Power supply (W)		EN 62034 EN 62386	BATT LED

Lout Vasiloh-Schwabe Deutschland GmbH Lin Stuttgarter Straße 61/1 D-73614 Schorndorf	U _N (V) f _N (Hz) Batt LiFePO4 (V/Ah) Operating time (h) LED voltage (V)	220240 5060 3,2 / 4,5 3 U=20105	tc= 65°C ta= 5+50°C SELV tc	EL-T 240	+ - N Lout LED Driver
dg — Type EMCd 180.021	5 (/	Umax.=120	EN 60598-2-22 EN 61347-2-7 EN 62034 EN 62386	BATT LED	+

	U _N (V) f _N (Hz)		tc= 65°C ta= 5+50°C		
	Batt LiFePO ₄ (V/Ah) Operating time (h)	3,2 / 4,5 3	tc		D
dg - Type EMCd 180.022	No load voltage (V)	Umax.=350	EN 60598-2-22 EN 61347-2-7		river
da – Made in Switzerland 2'381'814	Power supply (W)	2,53	EN 62034 EN 62386	BATT LED	

Lout	U _N (V) f _N (Hz) Batt LiFePO ₄ (V/Ah)	220240 5060 3,2 / 3	tc= 65°C ta= 5+50°C SELV	EL-T Ľ	
	Operating time (h)	1	ltc	DAL	
Emergency Unit for LED module	LED voltage (V)	U=1255	EN 60598-2-22	\sim	Driver
da - Type EMCd 60.023 RefNo. 187067	No load voltage (V)	Umax.=60	EN 61347-2-7		
da —∎ Made in Switzerland 2'382'155	Power supply (W)	2,53	EN 62034 EN 62386		ED

	HTING UTIONS	U _N (V) f _N (Hz)	220240 5060	tc= 65°C ta= 5+50°C SELV		€- -
Lin	1/1 D-73614 Schorndorf	Batt LiFePO₄(V/Ah) Operating time (h)		tc		
L — Emergency Unit 1 Type EMCd 60. da — RefNo. 187068		No load voltage (V)	Umax.=120	EN 60598-2-22		
da — Made in Switzerk	ind 2'382'156	Power supply (W)	2,53	EN 62386	BATT LEI	

	U _N (V) f _N (Hz)		tc= 65°C ta= 5+50°C		
Lin	Batt LiFePO ₄ (V/Ah) Operating time (h)	3,2 / 3 1	tc		
da - Type EMCd 60.025 RefNo. 187069	LED voltage (V) Noload voltage (M)	U=100300 Umax.=350		🖲 B 💽	
da → Made in Switzerland 2'382'157	Power supply (W)		EN 62386	BATT I	LED

DALI2 and self tests for single battery application

Operating mode of the	DALI2 driver (main supply) in combination with	DALI2 driver (mains supply) in conjunction with				
Emergency lighting unit	regular emergency lighting control gear	DALI2 emergency lighting unit				
From commissioning	The luminaire can be controlled during the charging time via DALI2	The luminaire can be controlled via DALI2 as well as a switched				
and after battery	as well as a switched phase controlled. The DALI2 driver is	phase controlled. DALI2 emergency lighting units do not perform				
change (regeneration)	disconnected for discharging (by the emergency lighting unit) from	automatic battery regeneration!				
repeating three times:	the power supply and the lamp.	– DALI2 driver fault message, if applicable.				
24h charging time with	– DALI2 driver fault message, if applicable.	The illuminant shines inevitably with output power in the emergency				
subsequent discharge	The illuminant shines inevitably with output power in the emergency	operation. The discharge starts three times by the emergency lighting				
	operation. The discharge starts three times by the emergency lighting	unit, each time after 24h charging time.				
	unit, each time after 24h charging time.					
Capacity test	The DALI2 driver is disconnected (by the emergency lighting control	The DALI2 driver is disconnected (by the emergency lighting control				
Discharge for at least the	gear for the test) from the mains supply and the light source.	gear for the test) from the mains supply and the light source.				
time of the rated operating	– DALI2 driver fault message, if applicable.	– DALI2 driver fault message, if applicable.				
time	The lamp necessarily operates with emergency power. The test is	The lamp necessarily operates with output power in emergency				
	started autonomously by the emergency lighting unit every 7th day.	mode. The test is started autonomously by the emergency lighting				
		unit every 7th day.				
Function test	The DALI2 driver is disconnected (by the emergency lighting control	The DALI2 driver is disconnected (by the emergency lighting control				
Discharge for 1% of the	gear for the test) from the mains supply and the light source.	gear for the test) from the mains supply and the light source.				
rated operating time	– DALI2 driver fault message, if applicable.	– DALI2 driver fault message, if applicable.				
	The lamp necessarily operates with output power in emergency	The lamp necessarily operates with output power in emergency				
	mode. The test is started autonomously by the emergency lighting	mode. The test is started autonomously by the emergency lighting				
	unit every 7th day.	unit every 7th day.				
Regular operation after	The luminaire can be controlled via DALI2 as well as a switched	The luminaire can be controlled via DALI2 as well as a switched				
Test	phase. However, it is possible that DAL12 control commands were	phase. However, it is possible that DALI2 control commands were				
Automatic charging	not received by the driver during the test or the driver changes	not received by the driver during the test or the driver changes				
	to its start state defined by the manufacturer (mains return).	to its start state defined by the manufacturer (mains return).				
	– possibly unknown operating state of the DALI2 driver.	- possibly unknown operating state of the DALI2 driver.				

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Linear Batterys for Emergency Basic and Smart

LiFePO4 rechargeable batteries

Charging time of rechargeable batteries: up to 24 hrs. depending on the capacity With connection leads (length: 250 mm) and plug; max. lead length: 750 mm

Choice of the rechargeable battery depends on desired operating time and installation position.

Туре	Ref. No.	ELUBAT	Dimensions		Nominal	Weight	Packaging unit	
		No.	Ø	Length	operating period		Pieces	Boxes
			mm	mm	hrs.	g	per box	per pallet
Linear rechargeable batteries								
3,2 V/4,5 Ah L	183205	275809	19	196	3	130	40	32
3,2 V/3 Ah L	183203	275802		131		89	60	32

Storage time rechargeable batteries: max. 1 year; storage temperature: 0–50 $^\circ\mathrm{C}$

g; Product guarantee 5 years in combination with Emergency Smart 2 years in combination with Emergency Basic

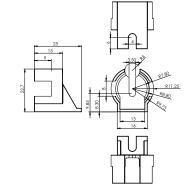
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We will be happy to send you these conditions upon request.

Holders for linear rechargeable batteries

for emergency LED lighting modules Sold separately Two holders per battery required. Material: PBT For linear batteries 183203, 183205 Weight: 4 g, packaging unit: 175 pcs. Type: Batteryholder LiFePO4 Ref. No.: 183206



Compact Batteries for Emergency Basic and Smart

LiFePO4 rechargeable batteries

Charging time of rechargeable batteries: up to 24 hrs. depending on the capacity With connection leads (length: 250 mm) and plug; max. lead length: 750 mm

Choice of the rechargeable battery depends on desired operating time and installation position.

|--|

Туре	Ref. No.	ELUBAT	Dimensions			Nominal	Weight	Packaging unit	
		No.	Length	Width	Height	operating		Pieces	Boxes
			mm	mm	mm	period (hrs.)	g	per box	per pallet
Compact rechargeable batteries									
3,2 V/4,5 Ah C	183204	275813	55	19	65	3	130	36	32
3,2 V/3 Ah C	183202	275810	36	18	65	1	89	60	32
Storage time rechargeable batteries: max. 1 year; storage temperature: 0–50 °C									

Product guarantee

• 5 years in combination with Emergency Smart

- 2 years in combination with Emergency Basic
- The conditions for the Product Guarantee of the Vossloh-Schwabe Group shall apply as publis-
- hed on our homepage

(www.vossloh-schwabe.com).

We will be happy to send you these conditions upon request.

Emergency Complete

With or without self-diagnosis function and integrated battery

Product features

- Designed for independent operation of LED luminaires for safety lighting for rescue routes and extremely hazardous workplaces
- For emergency lighting for 1 hrs. or 3 hrs. operating time
- Suitable for emergency lighting acc. to VDE 0108 or EN 50172
- With self-diagnosis function acc. to EN 62034 (186817, 186816)
- Ambient temperature: 5 to 50 °C
- Iron phosphate (LiFePO4) rechargeable battery is built-in into the casing
- Charging time of rechargeable battery: up to 24 hrs. depending on the capacity

Electrical features

- Mains voltage: 220–240 V ± 10%
- Mains frequency: 50–60 Hz
- Output voltage: 55 V
- Output power in emergency operation: 2.5–3 W

Safety features

- For luminaires of protection classes I and II
- Degree of protection: IP20
- SELV
- Surge protection: 3.75 kV
- Earthing: complete emergency module does not have to be earthed.
 The emergency lighting module features three earth terminals for an LED driver and LED unit, if required.

Status LED

- Intermittent green: battery regeneration after commissioning as well as after each battery replacement
- Permanent green: battery correctly connected, battery charged or self-test operation
- Flashing red: defective battery charge, battery not connected or battery capacity too low
- Flashing intermittent red: defective or unconnected LED luminaire unit
- Off: battery totally flat, defective emergency lighting unit or in emergency operation





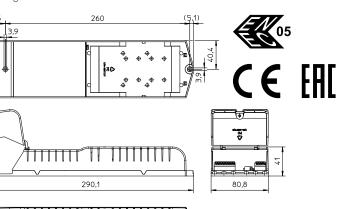
Dimensions

- Casing: K68
- Length: 290.1 mm
- Width: 80.8 mm
- Height: 41 mm

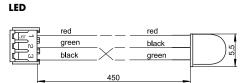
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Used standards

- EN 60598-2-22
- EN 61347-2-7
- EN 62034
- EN 62384







Product guarantee

- 3 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.

Packaging units

Ref. No.	Packaging unit				
	Pieces	Weight			
	per box	per pallet	9		
186817	20	24	389		
186816	20	24	348		
187077	20	24	389		
187076	20	24	348		

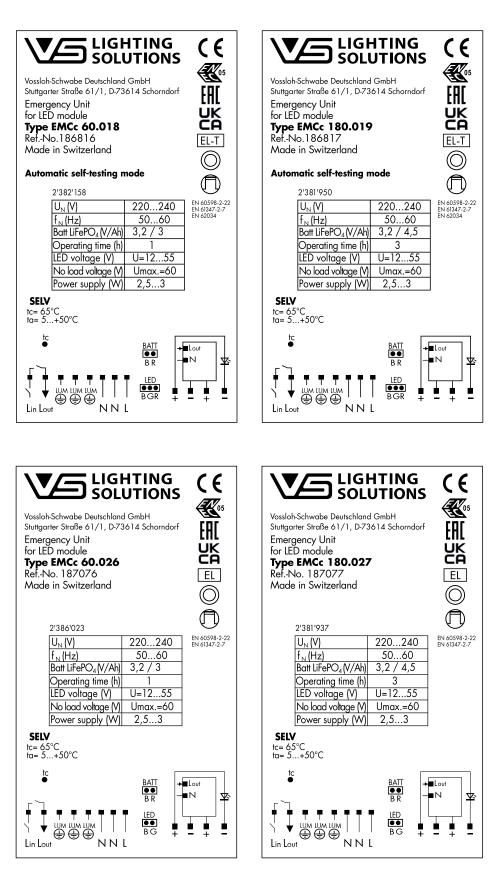
Туре	Ref. No.	Battery	· · · · · · · · · · · · · · · · · · ·		Output power in emergency	Min. lumen in emergency	Output vo	bltage
		Туре	Type Shape		operation (W)	operation* (lm)	v	V max.
K68 – Dimensions	(LxWxH): 290.1	x80.8x41 mm - w	ith self-diagr	osis function				·
EMCc 180.019	186817	3,2 V/4,5 Ah C	Compact	3	2.5-3	250	12-55	60
EMCc 60.018	186816	3,2V/3 Ah C	Compact	1	2.5-3	250	12-55	60
K68 - Dimensions	(LxWxH): 290.1	x80.8x41 mm - w	ithout self-di	agnosis function	·			·
EMCc 180.027	187077	3,2 V/4,5 Ah C	Compact	3	2.5-3	250	12-55	60
EMCc 60.026	187076	3,2V/3 Ah C	Compact	1	2.5-3	250	12-55	60

 * at 100 lm/W per LED unit

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

Verlah-Schwaha Dautschland GmbH - Suthartar Staße 61/1 - 72614 Schunder - Commen Dimension 710

Product lables



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

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 emergency lighting devices, fire and/or other hazards.

Mandatory regulations

- DIN VDE 0100
- EN 60598-1

Emergency Basic

Mechanical mounting

- Mounting position: On an earthed metal surface Installation in an LED luminaire of protection class I. Installation in a separate casing of protection class I or II.I
 Fastening/Earthing: Fix and/or earth using two suitable metal screws
- Installation of the battery and LED driver for constant switching: Installation is possible within the same casing as the emergency lighting unit.
- Ambient temperature of the battery: max. 50 °C
- Length of the status LED lead: 400 mm

Electrical installation

- Connection terminals:Push-in terminals for leads of 0.5-1.5 mm²
- Stripped length: 8.5–10 mm
- Battery connection: Push-in connection with cables
 - (length: 250 mm) (red = + / black = -), max. extension to 750 mm
- Battery discharge current:

The deep discharge protection of all lithium ion batteries is lower than 10 μ A. This makes deliveries with connected battery possible, as long as no logistics restrictions apply.

- Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- Secondary load (LED):

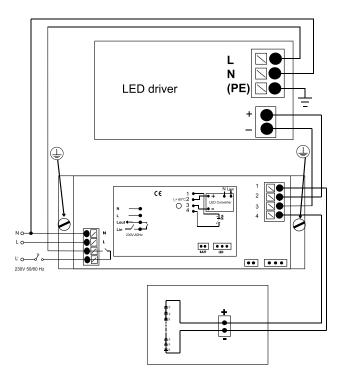
• Polarity:

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.



During mains-powered operation, the current that flows into the LED luminaire is regulated by the LED driver.

During emergency lighting operation, the LED unit will be supplied by the battery. The current that is supplied by the battery during emergency lighting operation is converted into "LED current" by the Basic emergency lighting unit.



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

Emergency Smart

Mechanical mounting

- Mounting position: In an LED luminaire or in a separate casing
- Fastening: Using two suitable screws
- Installation of the battery and LED driver for constant switching: Installation is possible within the same casing as the emergency lighting unit.
- Ambient temperature of the battery: max. 50 °C
- Length of the status LED lead: 400 mm

Electrical installation

- Connection terminals:Push-in terminals for leads of 0.5-1.5 mm²
- Stripped length: 8.5–10 mm
- Battery connection: Push-in connection with cables (length: 250 mm) (red = + / black = -), max. extension to 750 mm

destroy the modules.

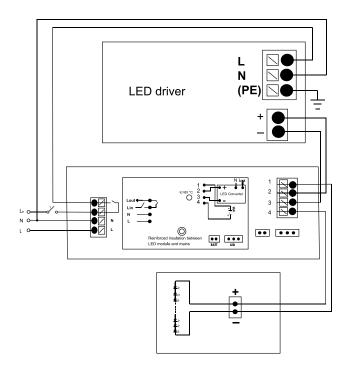
- Battery discharge current:
 - The deep discharge protection of all lithium ion batteries is lower than 10 μ A. This makes deliveries with connected battery possible, as long as no logistics restrictions apply.

Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can

• Polarity:

• Wiring:

- Secondary load (LED):
 - 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.
 - During mains-powered operation, the current that flows into the LED luminaire is regulated by the LED driver.
 - During emergency lighting operation, the LED unit will be supplied by the battery. The current that is supplied by the battery during emergency lighting operation is converted into "LED current" by the Smart emergency lighting unit.



Self-testing function

• Self-test:

Self-testing function in acc. with EN 62034 included.

Every 8 days (random period between 8 and 8.25 days) an automatic self-test will be carried out. During this time, the LED unit will be supplied by the battery for 2 minutes via the emergency smart emergency lighting module.

This ensures the LED unit and the correct functioning of the emergency lighting can be checked.

• Fatigue test: In addition, a quarterly fatigue test is carried out to check battery capacity. The first fatigue test is carried out 8 days after commissioning.

• Battery recovery: Within the space of about four days following commissioning and/or after a change of battery, three short charging and discharging cycles will be automatically carried out to regenerate the battery.

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

Emergency Smart DALI

Mechanical mounting

- Mounting position: In an LED luminaire or in a separate casing
- Fastening: Using two suitable screws
- Installation of the battery and LED driver for constant switching: Installation is possible within the same casing as the emergency lighting unit.
- Ambient temperature of the battery: max. 50 °C
- Length of the status LED lead: 400 mm

Electrical installation

- Connection terminals:Push-in terminals for leads of 0.5-1.5 mm²
- Stripped length: 8.5–10 mm
- Battery connection: Push-in connection with cables (length: 250 mm) (red = + / black = -), max. extension to 750 mm

destroy the modules.

teristics" in this data sheet.

by the LED driver.

emergency lighting unit.

• Battery discharge current:

Secondary load (LED):

The deep discharge protection of all lithium ion batteries is lower than 10 μ A. This makes deliveries with connected battery possible, as long as no logistics restrictions apply.

Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can

The sum of forward voltages of LED loads has to be within the tolerances which are

mentioned in the table "Electrical Charac-

During mains-powered operation, the current

that flows into the LED luminaire is regulated

During emergency lighting operation, the

The current that is supplied by the battery

during emergency lighting operation is con-

LED unit will be supplied by the battery.

verted into "LED current" by the Smart

Polarity:

• Wiring:

Self-testing function

1 0

Self-test:

Self-testing function in acc. with EN 62034 included.

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LED driver

Every 8 days (random period between 8 and 8.25 days) an automatic self-test will be carried out. During this time, the LED unit will be supplied by the battery for 2 minutes via the emergency smart emergency lighting module.

This ensures the LED unit and the correct functioning of the emergency lighting can be checked.

• Fatigue test: In addition, a quarterly fatigue test is carried out to check battery capacity. The first fatigue test is carried out 8 days after commissioning.

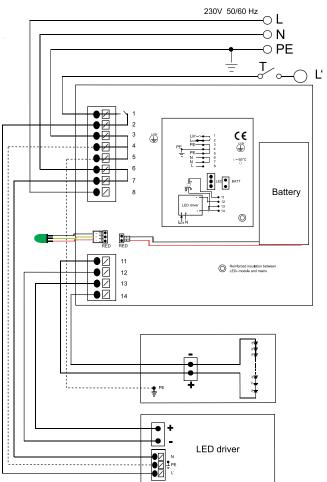
 Battery recovery: Within the space of about four days following commissioning and/or after a change of battery, three short charging and discharging cycles will be automatically carried out to regenerate the battery.



Emergency Complete Mechanical mounting – Emergency Complete • Mounting position: Outside of an LED luminaire; suitable for independent operation • Fastening: Using two suitable screws • Ambient temperature of the battery: max. 50 °C • Length of the status LED lead: 400 mm **Electrical installation** • Connection terminals:Push-in terminals for leads of 0.5-1.5 mm² • Stripped length: 8.5-10 mm • Battery connection: Push-in connection with cables (length: 250 mm) (red = + / black = -), max. extension to 750 mm • Battery discharge current: The deep discharge protection of all lithium ion batteries is lower than 10 µA. This makes deliveries with connected battery possible, as long as no logistics restrictions apply. • Polarity: Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules. • Secondary load (LED): 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: The Emergency Complete casing is fitted with a lid for a cord grip. As shown in the circuit diagram, the following three leads must be connected to the mains terminal of the Emergency Complete unit: - mains cable (switched phase, direct phase, neutral and earth, if required for the driver and/or the LED unit) - LED driver cable (switched phase, neutral and earth, if required) - bus line (DALI)

During mains-powered operation, the current that flows into the LED luminaire is regulated by the LED driver.

During emergency lighting operation, the LED unit will be supplied by the battery. The current that is supplied by the battery during emergency lighting operation is converted into "LED current" by the Complete emergency lighting unit.



Self-testing function

• Self-test:	Self-testing function in acc. with EN 62034 included. Every 8 days (random period between 8 and 8.25 days) an automatic self-test will be carried out. During this time, the LED unit will be supplied by the battery for 2 minutes via the emergency smart emergency lighting module. This ensures the LED unit and the correct
	functioning of the emergency lighting can be checked.
• Fatigue test:	In addition, a quarterly fatigue test is carried out to check battery capacity. The first fatigue test is carried out 8 days after commissioning.
Battery recovery:	Within the space of about four days following commissioning and/or after a change of battery, three short charging and discharging cycles will be automatically carried out to

regenerate the battery.

