

# 1.4

## Ex-Searchlight series SEB 8 .., SEB 9 .. and SEB 10

(Zone 1, 2, 21, 22)

### Portable searchlights for harsh conditions

The explosion-protected portable searchlight series SEB 8/9/10 provides a strong and reliable light source for inspection, maintenance and repair work in almost all explosive gas and dust atmospheres. In addition to this, these searchlights with their integrated emergency lighting function can also be used for safety lighting, in the ADR version as a warning light in accordance with the traffic regulations and in the DIN version as the preferred fire service light.

### Technique for your safety

This extremely robust and bright series of searchlights with the high degree of protection IP 65 is ideally suited for use in all work areas with high mechanical requirements and a humid environment. They reliably supply a light intensity of up to 19,000 cd. Depending on the used type this is ensured by the bright 5.5W halogen main bulb or the two high-power LEDs of SEB 10 series together with the corresponding maintenance-free, high-performance battery.

### Don't get left in the dark

Five LEDs supply information on the current operation and charge status at all times. Thus, the SEB 8/SEB 9/SEB 10 shows you in good time whether the battery is discharged or charged, or if it needs to be replaced. In addition, the circuit protects the electronics against deep discharge and overcharge - only the energy actually consumed is recharged. This increases the lifetime of the battery. So that the user does not get left in the dark, the searchlight automatically turns on the secondary light in the event of a filament break of the main bulb or before the end of the battery capacity.

### Search and working light

The explosion-protected portable SEB 8/SEB 9/SEB 10 searchlights are suitable for control and rescue operations of fire departments and emergency services. The electronics of the lights is protected fully against electromagnetic fields (EMV) that occur, for example during the operation of radio equipment. They also comply with the EU Directive 95/54/EC concerning EMC requirements for radio interference suppression for use in motor vehicles (e1 certificate). Especially for applications where a consistent working light is required, the slip-on prismatic lens (SEB 8 / 9) or the separate work light of the SEB 10 provides automatically a square-shaped illumination with an even light distribution - without significant losses. By fitting coloured slip-on filters they can be used also for signalling and warning purposes (red, green, orange).



### Features

- Operational safety due to the indication of the available duration
- Innovative LED lens system with optimised light power (SEB 10) up to 365 lm
- Broken filament detection and automatic switch over to secondary light for halogen version
- Focussing beam- from searchlight to work light (SEB 8/9) or 2-lens system with search and work light (SEB 10)
- No overcharging of the battery due to a recharge dependent on the used capacity
- High degree of protection IP65



### SEB 10 - the LED solution

The new SEB 10 / SEB 10 L series with innovative LED technology offers several innovations:

- 2-lens system for optimised light distribution (search / work light)
- Lithium iron phosphate battery with excellent energy density for long life
- Searchlight boost circuit for temporary increase of the light flow to approx. 150 %
- Safety circuit for low battery capacity, the current is reduced to 50%, resulting in a safety margin of approx. 30 - 60 min.
- Shock and vibration resistant construction- no broken filament possible.

Of course, all relevant standards of the latest generations are met. The use in fire brigade vehicles is possible due to the compliance with the latest DIN 14642.

### Tailor-made charging technique

Depending on the application, we offer different charging options for our searchlights. All versions can be charged by connecting them to the 10-33 V vehicle supply with our vibration-proof Kfz.90 vehicle charger, or the mains supply (230 V ~) with the LG 443 charge. The types SEB 8 L / SEB 8 L / SEB 9 L / SEB 10 L can also be charged directly at 230 V ~ mains by an integrated power supply with a connection cable in the head of the luminaire.

### Approved searchlight for public forces

Thanks to the universal application possibilities and the compliance with all relevant standards, the complete SEB series is suitable for control and rescue operations of fire departments and emergency services of all kinds.

Therefore, it is listed at almost all professional and volunteer fire brigades in Germany and has been very successfully for many years.

The robust, tried and tested technology in the high degree of protection IP 65 ensures reliable operation even under high mechanical stress and in a humid environment. The ergonomic one-hand operation ensures a user-friendly handling.

With the NiCd or NiMh battery and an operating time of 5.5 resp. 7 hours, the SEB 8/9 provides reassuring safety reserves on site and surpasses the requirements of the relevant standard by far. The SEB 10 has a powerful lithium iron phosphate battery and ensures 6 hours of operation.

Depending on the type of luminaire, the focussing from search to work light and a max. luminous intensity of 19,000 cd/ 12,000 cd or the new two-lens technology of the LED version is available. Thus, all required lighting tasks are met exactly according to the standard.

### Approvals and test certificates

These searchlights are the only ones of this kind to meet the construction and test standards listed below; they have been issued with the following approvals and test certificates:

- DIN14642 (German Institute for Standardisation) for explosion protected hand lamps with motor vehicle charger, edition 7/2011, for equipping fire brigade vehicles.
- EC Type Examination Certificate for explosion protection in explosive gas and dust atmospheres (ATEX Certificate)
- ECC type approval of the Federal Office for Motor Vehicles for meeting the requirements of the EMC Directive 95/54/EC for use in motor vehicles (e1 certificate)
- Shock test report according to DIN EN 60068-2-27 for the use of the light fittings in fire brigade vehicles (DIN 1846-2:2001)
- General design approval of the Federal Office for Motor Vehicles for the use of the SEB 8 as a warning light (type SEB 8 ADR).



### Ordering details

Type	Scope of delivery	Order unit	Order No.
SEB 10 incl. LG 443	Package unit lamp SEB 10 - 1 1147 000 820 and LG 443 1 1540 000 443	1	<b>1 1147 443 820</b>
SEB 10 incl. Motor vehicle charger 90	Package unit lamp SEB 10 - 1 1147 000 820 and Vehicle charger 1 1145 000 792	1	<b>1 1147 792 820</b>
SEB 10	with twin-lens high power LED system Lithium-Iron-Phosphate battery (rechargeable with LG 443 or motor vehicle charger 90)	1	<b>1 1147 000 820</b>
SEB 10 L	with twin-lens high power LED system Lithium-Iron-Phosphate battery (rechargeable rechargeable directly about mains lead, with LG 443 or motor vehicle charger 90)	1	<b>1 1147 000 810</b>
SEB 9	with halogen lamp with double bulb, pilot, diffusing lens and battery (rechargeable with LG 443 or motor vehicle charger)	1	<b>1 1147 009 002</b>
SEB 9 L	with halogen lamp with double bulb, pilot, diffusing lens and battery (rechargeable directly about mains lead, with LG 443 or motor vehicle charger 90)	1	<b>1 1147 009 001</b>
SEB 8	with halogen lamp with double bulb, pilot, diffusing lens and battery (rechargeable with LG 443 or motor vehicle charger)	1	<b>1 1147 000 002</b>
SEB 8 L	with halogen lamp with double bulb, pilot, diffusing lens and battery (rechargeable directly about mains lead, LG 443 or motor vehicle charger 90)	1	<b>1 1147 000 001</b>

1



## Accessories



Type	Content	Application	Order unit	Order No.
Halogen lamp with double bulb 5.5 V/ 5.5 W		for SEB 8 and SEB 9	1	<b>1 2061 000 040</b>



Incandescent lamp 4.8 V/ 0.3 A (pilot lamp)		for SEB 8/9	10	<b>1 2041 450 000</b>
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Motor vehicle charger 90	Charger 10 V - 33 V DC	for SEB 8/9/10	1	<b>1 1145 000 792</b>
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Wall bracket SW	console without charging module	for SEB 8/9/10	1	<b>1 1145 000 795</b>
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LG 443	220 V - 250 V AC	for SEB 8/9/10	1	<b>1 1540 000 443</b>
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Battery set with LiFe P04 battery set 9.6 V/ 3 Ah, rechargeable		for SEB 10/ 10L	1	<b>2 1147 904 012</b>
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Battery set with NC battery 4.8 V/ 5 Ah, rechargeable		for SEB 8/8L DIN	1	<b>2 1147 512 000</b>
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Battery set with NC battery 4.8 V/ 7 Ah, rechargeable		for SEB 8/ 8L	1	<b>2 1147 701 000</b>
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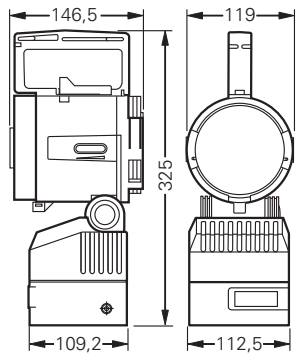
Battery set with NiMH battery 4.8 V/ 9.5 Ah, rechargeable		for SEB 9/ 9L	1	<b>2 1147 791 000</b>
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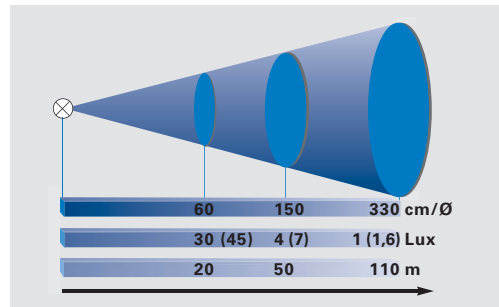
## Dimension drawing / Range-diagram / Indication of residual operating time

Series SEB 8 / SEB 9 / SEB 10

Dimension drawing SEB 8/ SEB 9/ SEB 10

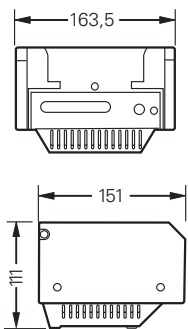


Range-diagram SEB 10

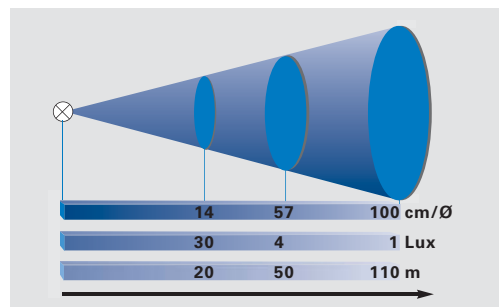


Values in brackets for boost operation

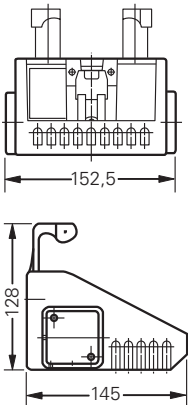
Dimension drawing LG 443



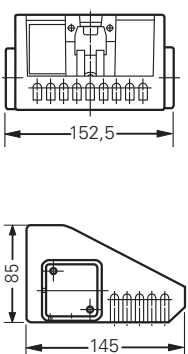
Range-diagram SEB 9 / 8



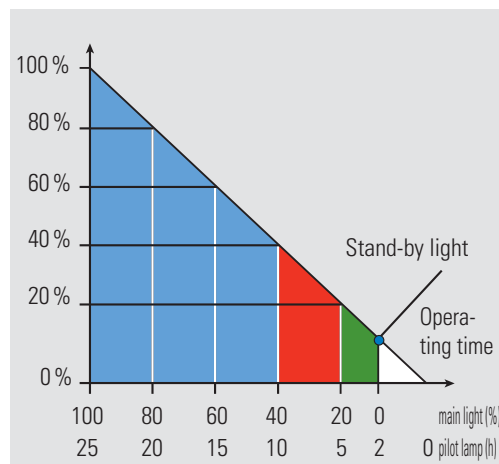
Dimension drawing motor vehicle charger 90



Dimension drawing wall bracket SW



Indication of residual operating time (SEB 8 / SEB 9 only)



Dimensions in mm



### Technical data

	SEB 10	SEB 10 L
EC-Type Examination Certificate	BVS 15 ATEX E 122 X	BVS 15 ATEX E 122 X
Marking accd. to 2014/34/EU	Ⓜ II 2 G Ex e ib mb IIC T4 Gb Ⓜ II 2 D Ex tb IIIC T85 °C Db	Ⓜ II 2 G Ex e ib mb IIC T4 Gb Ⓜ II 2 D Ex tb IIIC T85 °C Db
EC-Type approval acc. guideline 2009/19/EG (EMV in vehicles)	e1 058129	e1 058129
Permissible ambient temperature	-20 °C up to +40 °C, specified data 0 °C up to +30 °C (battery)	-20 °C up to +40 °C, specified data 0 °C up to +30 °C (battery)
Battery	9.6 V 3 Ah rechargeable LiFePO <sub>4</sub> battery	9.6 V 3 Ah rechargeable LiFePO <sub>4</sub> battery
Rated voltage (charger)	–	220 - 250 V AC
Frequency (charger)	–	50 - 60 Hz
Charging duration	max. 8 h (depends on the state of charge)	max. 8 h (depends on the state of charge)
Rated operating duration (main light)	5.5 h up to 6 h	5.5 h up to 6 h
Switch	Flashing light – Working light – OFF – Search light – Boost function search light (max. 10 min)	Flashing light – Working light – OFF – Search light – Boost function search light (max. 10 min)
Protection class	III	III / II
Lamp / Illuminant	2 high efficiency LED-Systems	2 high efficiency LED-Systems
Rated luminous flux	230 lm (search light)/ 365 lm (search light boost function)	230 lm (search light)/ 365 lm (search light boost function)
Max. luminous intensity	12000 cd (search light) 19000 cd (search light boost function) 1000 cd (working light)	12000 cd (search light) 19000 cd (search light boost function) 1000 cd (working light)
Dimensions (L x W x H)	325 x 119 x 146.5 mm	325 x 119 x 146.5 mm
Function	microprocessor-controlled operating period indication, capacity-dependent charge flashing light, emergency light, back-up light when low capacity, rechargeable with LG 443 or motor vehicle charger 90)	microprocessor-controlled operating period indication, capacity-dependent charge flashing light, emergency light, back-up light when low capacity, rechargeable directly with mains cord, with LG 443 or motor vehicle charger 90)
Enclosure colour	black	black
Enclosure material	Polyamide	Polyamide
Weight	1.55 kg	2.1 kg
Light aperture	Ø 98 mm, mineral glass	Ø 98 mm, mineral glass
Degree of protection accd. to EN 60529	IP66	IP66
Scope of delivery	with twin-lens LED-system, battery	with twin-lens LED-system, battery, internal charger unit,



## Technical data

	SEB 9	SEB 9 L
EC-Type Examination Certificate	BVS 09 ATEX E 005	BVS 08 ATEX E 116
EC-Type approval acc. guideline 2009/49/EC EMV in vehicles	<span style="border: 1px solid black; padding: 2px;">e1</span> 035969	<span style="border: 1px solid black; padding: 2px;">e1</span> 035969
Marking accd. to 2014/34/EU	<span style="border: 1px solid black; padding: 2px;">II 2 G Ex e ib IIC T4 Gb</span> <span style="border: 1px solid black; padding: 2px;">II 2 D Ex tb IIIC T85 °C Db</span>	<span style="border: 1px solid black; padding: 2px;">II 2 G Ex e ib IIC T4 Gb</span> <span style="border: 1px solid black; padding: 2px;">II 2 D Ex tb IIIC T85 °C Db</span>
Permissible ambient temperature	-20 °C up to +40 °C, specified data 0 °C up to +30 °C (battery)	-20 °C up to +40 °C, specified data 0 °C up to +30 °C (battery)
Battery	4.8 V/ 9.0 Ah rechargeable NiMH battery	4.8 V/ 9.0 Ah rechargeable NiMH battery
Rated voltage (charger)	–	230 V AC
Frequency (charger)	–	50 - 60 Hz
Charging duration	max. 14 h (dep. on the state of charge)	max. 14 h (dep. on the state of charge)
Rated operating duration (main light)	7 h	7 h
Switch	Service – pilot lamp – OFF – main light – signal light	Service – pilot lamp – OFF – main light – signal light
Protection class	III	II/III
Lamp / Illuminant	5.5 V / 5.5 W halogen lamp with double bulb	5.5 V / 5.5 W halogen lamp with double bulb
Rated luminous flux	approx. 100 lm	approx. 100 lm
Lamp cap	BA 15d	BA 15d
Lamp cap pilot lamp	BA 9s	BA 9s
Max. luminous intensity	15000 cd	15000 cd
Pilot lamp	4.8 V/0.3 A	4.8 V/0.3 A
Dimensions (L x W x H)	325 x 119 x 146.5 mm	325 x 119 x 146.5 mm
Function	microprocessor-controlled operating period indication, capacity-dependent charge flashing light, emergency light, switching for standby light or in case of broken filament, (rechargeable with LG 443 or motor vehicle charger)	microprocessor-controlled operating period indication, capacity-dependent charge flashing light, emergency light, switching for standby light or in case of broken filament, internal charger unit, rechargeable with LG 443 or motor vehicle charger
Enclosure colour	black	black
Enclosure material	Polyamide	Polyamide
Weight	1.9 kg	2.2 kg
Light aperture	Ø 98 mm, mineral glass	Ø 98 mm, mineral glass
Degree of protection accd. to EN 60529	IP65	IP65
Scope of delivery	with halogen lamp with double bulb, pilot, diffusing lens and battery	with halogen lamp with double bulb, pilot, diffusing lens and battery, internal charger unit,



## Technical data

	SEB 8	SEB 8 L
EC-Type Examination Certificate	BVS 08 ATEX E 116	BVS 08 ATEX E 116
EC-Type approval acc. guideline 2009/19/EG (EMV in vehicles)	035969	035969
Marking accd. to 2014/34/EU	II 2 G Ex e ib IIC T4 Gb II 2 D Ex tb IIIC T85 °C Db	II 2 G Ex e ib IIC T4 Gb II 2 D Ex tb IIIC T85 °C Db
Permissible ambient temperature	-20 °C up to +40 °C, specified data 0 °C up to +30 °C (battery)	-20 °C up to +40 °C, specified data 0 °C up to +30 °C (battery)
Battery	4.8 V/ 7 Ah rechargeable NC battery	4.8 V/ 7 Ah rechargeable NC battery
Rated voltage (charger)	–	230 V AC
Frequency (charger)	–	50 - 60 Hz
Charging duration	max. 14 h (dep. on the state of charge)	max. 14 h (dep. on the state of charge)
Rated operating duration (main light)	5.5 h	5.5 h
Switch	Service – pilot lamp – OFF – main light – signal light	Service – pilot lamp – OFF – main light – signal light
Protection class	III	II/III
Lamp / Illuminant	5.5 V / 5.5 W halogen lamp with double bulb	5.5 V / 5.5 W halogen lamp with double bulb
Rated luminous flux	approx. 100 lm	approx. 100 lm
Lamp cap	BA 15d	BA 15d
Lamp cap pilot lamp	BA 9s	BA 9s
Max. luminous intensity	15000 cd	15000 cd
Pilot lamp	4.8 V/0.3 A	4.8 V/0.3 A
Dimensions (L x W x H)	325 x 119 x 146.5 mm	325 x 119 x 146.5 mm
Function	microprocessor-controlled operating period indication, capacity-dependent charge flashing light, emergency light, switching for standby light or in case of broken filament, (re-chargeable with LG 443 or motor vehicle charger)	microprocessor-controlled operating period indication, capacity-dependent charge flashing light, emergency light, switching for standby light or in case of broken filament, internal charger unit, rechargeable with LG 443 or motor vehicle charger
Enclosure colour	black	black
Enclosure material	Polyamide	Polyamide
Weight	2.2 kg	2.5 kg
Light aperture	Ø 98 mm, mineral glass	Ø 98 mm, mineral glass
Degree of protection accd. to EN 60529	IP65	IP65
Scope of delivery	with halogen lamp with double bulb, pilot, diffusing lens and battery	with halogen lamp with double bulb, pilot, diffusing lens and battery, internal charger unit,





## Technical data

	Charger LG443 for SEB 10/9/8..	Motor vehicle charger 90 for SEB 10/9/8..	Wall bracket SW for SEB 10/9/8..
Permissible ambient temperature	-0 °C up to +30 C	-0 °C up to +30 C	-20 °C up to +40 C
Rated voltage	220 - 250 V AC	10 - 33 V DC	
Frequency	50 - 60 Hz		
Protection class	II	III	III
Dimensions (L x W x H)	163.5 x 151 x 111	152.5 x 145 x 128	152.5 x 145 x 85
Enclosure colour	black	black	black
Enclosure material	ABS	ABS	ABS
Weight	1.3 kg	0.65 kg	0.55 kg
Degree of protection accd. to EN 60529	IP31	IP31	