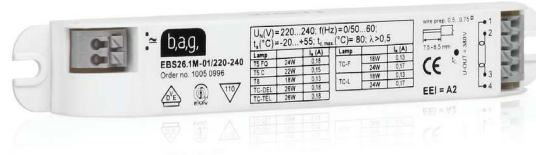


EBS
Minipower

Non-dimmable electronic control gear units

T5, T8 and compact lamps with system ratings $\leq 25\text{W}$



Sample Image: Original product may differ!

Performance characteristics

- Electronic control gear units for T5, T8 and compact lamps with system ratings $\leq 25\text{W}$
- Flicker free light due to high frequency operation of the lamp; no stroboscopic effect
- Small ergonomic housing design; space-saving installation in luminaires
- Electrode preserving lamp warm start for maximum lamp life independent of the switching frequency; starting time $< 1,2\text{ s}$
- Suitable for use in protection class 2 luminaires
- Automatic restart after lamp replacement
- Automatic safety switch-off in case of abnormal lamp operation, e.g. defective electrodes and end of lamp life; tested acc. to EN 61 347-2-3
- Overvoltage protection up to 320 VAC (2h)
- Suitable for direct current operation and application in emergency lighting installations
- Certified as thermally protected ballasts, e.g. for application in F-luminaires
- Nominal life time: 40.000 h with failure rate $\leq 10\%$ at $t_c = t_{c, \max}$

ECG model

Version	Order no.	Lamp
EBS16.1C-01/220-240& EBS16.1M-01/220-240	10050989& 10050993	1 x T5 6 W
		1 x T5 8 W
		1 x T5 13 W
		1 x T8 16 W
		1 x TC-DD 10 W
		1 x TC-DD 16 W
		1 x TC-DEL 10 W
		1 x TC-SE 7 W
		1 x TC-SE 9 W
		1 x TC-SE 11 W
EBS21.1C-01/220-240& EBS21.1M-01/220-240	10050990& 10050994	1 x T5 14 W
		1 x T5 21 W
		1 x TC-DEL/-TEL 13 W
		1 x TC-DEL/-TEL 18W
EBS26.1C-01/220-240& EBS26.1M-01/220-240	10050992& 10050996	1 x T5C 22 W
		1 x T5FQ 24 W
		1 x TC-L/-F 24 W
		1 x TC-DEL/-TEL 26 W

Markings



Technical data

Mains voltage supply	
Rated voltage range	220 V – 240 V
Max. admissible voltage range (continuous)	198 V – 264 V
Frequency	0/50 ... 60 Hz
Behaviour at mains overvoltage	
Overvoltage protection	320 VAC / 2 h
Leakage current	< 0.5 mA / EVG
Ignition time of the lamp	< 1.2 s
Automatic restart after lamp replacement	yes
Max. temperature at housing surface	+ 120 °C (acc. EN 61 347-2-3/C)
Nominal service life:	40,000 h with failure rate $\leq 10\%$ and operation at $t_c = t_{c, \max}$
Lamp and mains terminals	
for solid or stranded wire 45°-connector with push button	
Wire cross section	0.5 mm ² – 1.5 mm ²
Wire stripping length	7.5 mm ² – 8.5 mm ²
Lamp wire lengths	see "wiring diagrams"

Admissible temperatures

Version	Ambient (t_a)	Case (t_c)
EBS16.1C-01; EBS16.1M-01; EBS21.1M-01	- 20°C...+55°C	max. + 75 °C
EBS21.1C-01; EBS26.1C-01; EBS26.1M-01	- 20°C...+55°C	max. + 80°C

Inrush current/Circuit breaker

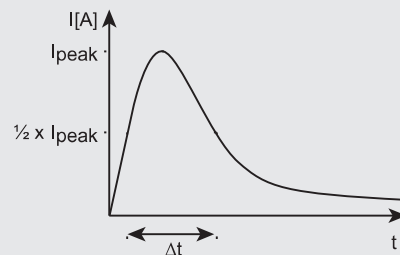
Version	typ $I_{\text{peak}} / \Delta t$	No. of ECG at single-pole circuit breakers				
		LS-Typ	10 A	16 A	20 A	25 A
EBS16.1C-01	14 A / 60 μs	B	77	123	154	193
		C	129	206	258	322
EBS16.1M-01	15 A / 72 μs	B	65	104	131	164
		C	109	174	218	273
EBS21.1C-01	14 A / 66 μs	B	73	117	147	184
		C	123	196	246	307
EBS21.1M-01	20 A / 108 μs	B	33	52	66	82
		C	55	87	109	137
EBS26.1C-01	29 A / 122 μs	B	23	37	46	58
		C	38	62	77	96
EBS26.1M-01	19 A / 86 μs	B	50	80	101	126
		C	84	134	168	210

All data for $U_{\text{supply}} = 230\text{ VAC}$, mains impedance = 1 Ω

In case of multipolar CB the max. no. is reduced by 20 %

The max. number may differ depending on CB manufacturer. Please consider the specifications of the manufacturer.

Basically, CB with C-characteristics are recommended to be used in lighting groups.



Non-dimmable electronic control gear units

T5, T8 and compact lamps with system ratings $\leq 25\text{W}$

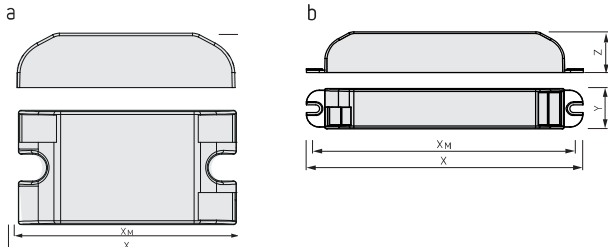
Operating data



Version	Lamp	System rating	Input current*	Operating frequency	Power factor	Lamp power	EEL	Approvals
		W	A	kHz		W		
EBS16.1C-01/220-240& EBS16.1M-01/220-240	1 x T5 6 W	6,9	0,06	> 40	> 0,50	6	A2	a,b
	1 x T5 8 W	9	0,07	> 40	> 0,50	8	A2	a,b
	1 x T5 13 W	15	0,09	> 40	> 0,50	11	A2	a,b
	1 x T8 16 W	15	0,10	> 40	> 0,50	14	A2	a,b
	1 x TC-DD 10 W	12	0,08	> 40	> 0,50	9	A2	a,b
	1 x TC-DD 16 W	14	0,10	> 40	> 0,50	15	A2	a,b
	1 x TC-DEL 10 W	12	0,08	> 40	> 0,50	9	A2	a,b
	1 x TC-SE 7 W	8	0,06	> 40	> 0,50	7	A2	a,b
	1 x TC-SE 9 W	10	0,07	> 40	> 0,50	8	A2	a,b
	1 x TC-SE 11 W	12	0,09	> 40	> 0,50	10	A2	a,b
EBS21.1C-01/220-240& EBS21.1M-01/220-240	1 x T5 14 W	17	0,12	> 40	> 0,55	14	A2	a,b
	1 x T5 21 W	22	0,16	> 40	> 0,55	21	A2	a,b
	1 x TC-DEL/ TEL 13 W	14	0,12	> 40	> 0,55	13	A2	a,b
	1 x TC-DEL/ -TEL 18 W	17	0,13	> 40	> 0,55	16	A2	a,b
EBS26.1C-01/220-240& EBS26.1M-01/220-240	1 x T5C 22 W	21	0,15	> 40	> 0,55	18	A2	a,b
	1 x T5FQ 24 W	24	0,18	> 40	> 0,55	22	A2	a,b
	1 x TC-L/ -F 24 W	24	0,17	> 40	> 0,55	20	A2	a,b
	1 x TC-DEL/ -TEL 26 W	25	0,18	> 40	> 0,55	23	A2	a,b

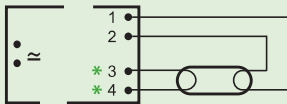
* at $U_{\text{Mains}} = 230 \text{ VAC}$

Dimensions



Version	X	X _M	Y	Z	Skizze	Weight
	mm	mm	mm	mm		kg
EBS16.1C-01	80	70	41	19	a	0,05
EBS16.1M-01	150	140	22	22	b	0,05
EBS21.1C-01	80	70	41	19	a	0,05
EBS21.1M-01	150	140	22	22	b	0,05
EBS26.1C-01	80	70	41	19	a	0,05
EBS26.1M-01	150	140	22	22	b	0,05

Wiring diagrams



* keep lamp wires as short as possible

Wire lengths terminal 1, 2: max. 1.0 m

Wire lengths terminal 3, 4: max. 2.0 m

Conformance with regulations

EN 61 347-1 General and safety requirements
EN 61 347-2-3

EN 61 347-2-3 / C Requirements for thermally protected ballasts

EN 61 000-3-2 Limits for harmonic current emissions

EN 61 000-3-3 Limitation of voltage fluctuations and flicker

General EMC immunity:

EN 61 000-4-2 Electrostatic discharge

EN 61 000-4-3 Radiated, radio-frequency, electromagnetic field

EN 61 000-4-4 Electrical fast transient/burst

EN 61 000-4-5 Surge

EN 61 000-4-6 Conducted disturbances, induced by radio-frequency fields

EN 61 000-4-8 Power frequency magnetic field

EN 61 000-4-11 Voltage dips, short interruptions and voltage variations

EN 61 547 EMC immunity: equipment for general lighting purposes

EN 55 015 Radio disturbances, frequencies < 300MHz (CDN method)

Quality management certified according to ISO 9001