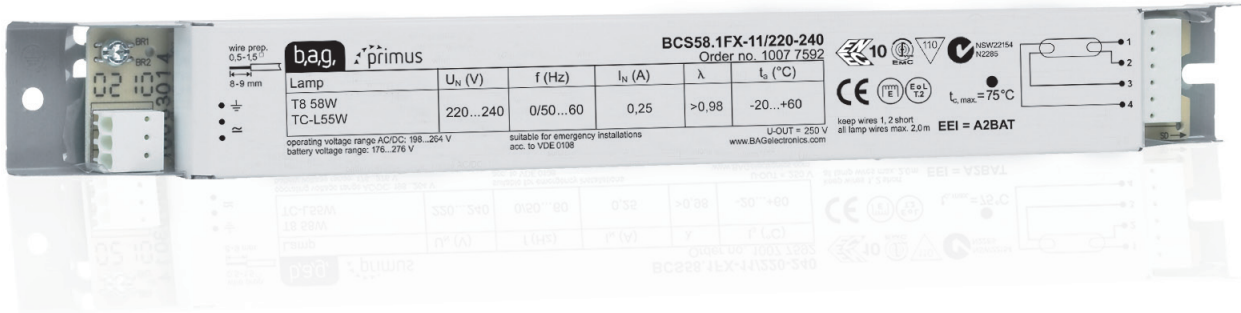




## Non dimmable electronic control gear units for T8 fluorescent lamps



### Performance characteristics

- Compact housing with a flat design for space-saving installation in luminaires
- Best possible Energy Efficiency Class EEI = A2BAT
- Suitable for operation of T5 High Efficiency Lamps for optimal energy saving
- Extended lifetime\*:
  - 75.000 h bei  $t_c = t_{c,max}$ ; failure rate  $\leq 10\%$
  - 100.000 h bei  $t_c = t_{c,max} - 10\text{K}$ ; failure rate  $\leq 10\%$
- Over Voltage Protected: 320 VAC 48 h/ 350 VAC 2 h
- Flicker free light due to high frequency operation of the lamp; no stroboscopic effect
- Constant lamp output independent of mains voltage fluctuations
- Energy controlled, electrode preserving lamp warm start for maximum lamp life independent of the switching frequency; starting time  $< 2\text{ s}$
- Reliable lamp start even at low temperatures of  $-20^\circ\text{C}$
- 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/A1 + Test 2
- Suitable for luminaires with protection class 2
- Automatic restart after lamp replacement
- Certified as thermally protected ballasts, e.g. for application in  $\nabla$ -luminaires
- Suitable for direct current operation and application in emergency lighting installations : Conforms to requirements for emergency lighting acc. to EN 61347-2-3/J
- Fast restart of the lamps after short mains interruptions
- Conformance with international regulations regarding safety and operation, electromagnetic compatibility and immunity to interference

\*For more details please see technical data on page 2

### ECG model

Version	Order no.	Lamp
BCS18.3-4LR-01/220-240	10050999	3/4 x T8 18 W
BCS18.1FX-11/220-240	10077588	1 x T8 18 W
BCS18.2FX-11/220-240	10077589	2 x T8 18 W
BCS36.1FX-11/220-240	10077590	1 x T8 36 W
BCS36.2FX-11/220-240	10077591	2 x T8 36 W
BCS58.1FX-11/220-240	10077592	1 x T8 58 W
BCS58.2FX-11/220-240	10077593	2 x T8 58 W

### Markings



**Technical data**

<b>Mains voltage supply</b>	
Rated voltage range	220 V – 240 V
Max. admissible voltage range (continuous)	198 V – 264 V
Frequency	0/ 50 Hz ... 60 Hz
<b>Battery operation</b>	
Voltage range for continuous operation	198 VDC – 278 VDC
Lowest limiting value for temporary operation	176 - 198 VDC <sup>1)</sup>
<b>Behaviour at mains overvoltage</b>	
Switch-off of the lamp(s) at	approx. 320 VAC <sup>2)</sup>
Overvoltage protection	350 VAC / 2 h
Leakage current	< 0.5 mA / EVG
Stand-by power	< 0.5 W
Ignition time of the lamp	< 2 s
Behaviour in case of defective lamp	Switch-off of the lamp(s)
Automatic restart after lamp replacement	yes
Max. temperature at housing surface	+ 110 °C (acc. EN 61 347-2-3/C)
Nominal service life:	100.000 h at $t_c = t_{c, max} - 10 K$ 75.000 h <sup>3)</sup> at $t_c = t_{c, max}$
<b>Lamp and mains terminals</b>	
Type	90°-connector with release function <sup>4)</sup>
Wire cross section	0.5 mm <sup>2</sup> – 1.5 mm <sup>2</sup>
Wire stripping length	8.0 mm – 9.0 mm
Lamp wire lengths	see "wiring diagrams"

<sup>1)</sup> Reliable lamp ignition only for  $\geq 198$  VDC

<sup>2)</sup> Automatic lamp restart after reaching the nominal input voltage range

<sup>3)</sup> For BCS58.2FX lifetime at  $t_c = t_{c, max}$  50.000 h  
75.000 h at  $t_c = t_{c, max} - 5K$

<sup>4)</sup> Order Number for release tool: 10075741

**Admissible temperatures**

Version	Ambient ( $t_a$ )	Case ( $t_c$ )
BCS18.1FX; BCS18.2FX; BCS36.1FX; BCS36.2FX; BCS58.1FX; BCS18.3-4LR	- 20 °C ... + 60 °C	max. + 75 °C
BCS58.2FX	- 20 °C ... + 55 °C	max. + 75 °C

**Inrush current / Circuit breaker**

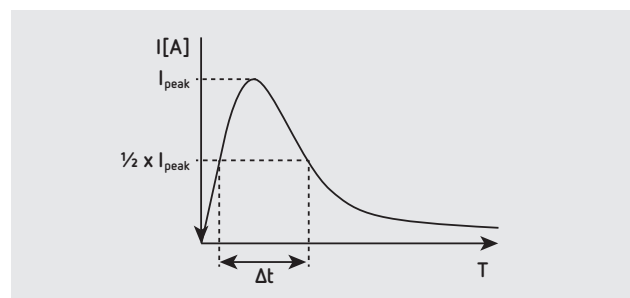
Version	typ $I_{peak} / \Delta t$	No. of ECG at single-pole circuit breakers				
		LS-Typ	10 A	16 A	20 A	25 A
BCS18.3-4LR	28 A / 115 $\mu s$	B	24	39	49	61
		C	32	51	64	80
BCS18.1FX BCS18.2FX	24 A / 145 $\mu s$	B	23	37	47	58
		C	39	62	78	98
BCS36.1FX BCS58.1FX	27 A / 152 $\mu s$	B	20	32	40	50
		C	33	53	67	84
BCS58.2FX	44 A / 122 $\mu s$	B	15	25	31	39
		C	17	27	34	42

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

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 for T8 fluorescent lamps

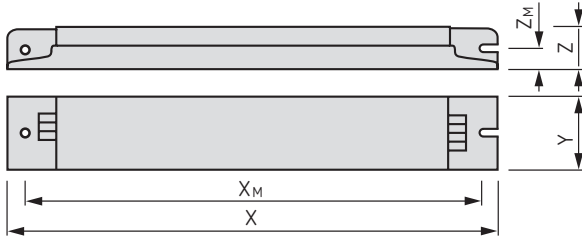
### Operating data



Version	Lamp	System rating	Input current*	Operating frequency	Power factor	Lamp power	Lamp socket	EEI	Approvals
		W	A	kHz		W			
BCS18.3-4LR-01/220-240	3 × T8 18 W	58	0,26	47	0,98	46	G13	A2	a, b
	4 × T8 18 W	76	0,33	47	0,99	56	G13	A2	a, b
BCS18.1FX-11/220-240	1 × T8 18 W	19	0,08	49	0,97	16	G13	A2BAT	a, b
BCS18.2FX-11/220-240	2 × T8 18 W	36	0,16	45	0,97	32	G13	A2BAT	a, b
BCS36.1FX-11/220-240	1 × T8 36 W	35	0,16	44	0,97	32	G13	A2BAT	a, b
BCS36.2FX-11/220-240	2 × T8 36 W	71	0,32	45	0,99	64	G13	A2BAT	a, b
BCS58.1FX-11/220-240	1 × T8 58 W	55	0,25	45	0,99	50	G13	A2BAT	a, b
BCS58.2FX-11/220-240	2 × T8 58 W	108	0,50	45	0,99	100	G13	A2BAT	a, b

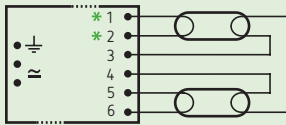
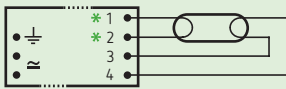
\* at  $U_{\text{Mains}} = 230 \text{ VAC}$

**Dimensions**

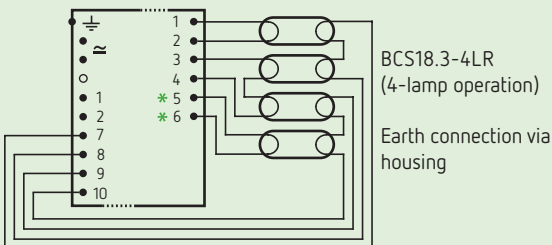
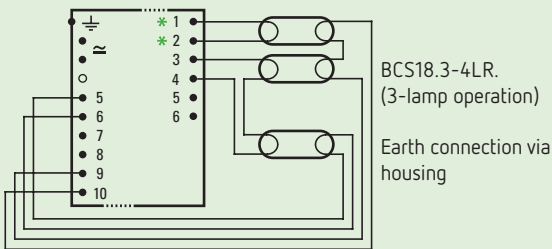


Version	X mm	X <sub>M</sub> mm	Y mm	Z mm	Z <sub>M</sub> mm	Weight kg
BCS18.3-4LR	290	270	42	28	-	0,268
BCS18.1FX; BCS18.2FX	280	265	30	21	9	0,175
BCS36.1FX	280	265	30	21	9	0,185
BCS36.2FX	280	265	30	21	9	0,191
BCS58.1FX	280	265	30	21	9	0,190
BCS58.2FX	280	265	30	21	9	0,209

**Wiring diagrams**



\* keep lamp wires as short as possible  
Terminal 1,2: max. 1m  
Terminal 3,4,5,6: max. 1m



\* keep lamp wires as short as possible  
Terminal 1, 2, 5, 6: max. 1m  
Terminal 3, 4, 7, 8, 9, 10: max. 2m

**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 61347-2-3/J	Particular additional safety requirements for a.c./d.c. supplied electronic ballasts for emergency lighting
EN 60 929	Performance requirements
EN 50 294	Measurement method of total input power of ballast-lamp circuits
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)
Environmental tests for mechanical capacity:	
IEC 60 068-2-6	Test Fc: vibrations (sinusoidal)
IEC 60 068-2-27	Test Ea: shock and bump
IEC 60 068-2-29	Test Eb: shock and bump
Quality management certified according to ISO 9001	