



## Non-dimmable constant voltage electronic control gear for single-channel LED module applications



### Performance characteristics

- Single output channels for high power solid state lighting applications
- Max. output voltage is limited to 60 VDC SELV equiv.
- Very high energy efficiency of up to 91%
- Soft start and low output voltage ripple for extended LED lifetime
- For use with IEC protection class I luminaires
- Total protected ECG against abnormal operations e.g. short circuit, open circuit, over load
- Suitable for direct current operation and application in emergency lighting installations referring to EN 61347-2-3/J
- High design flexibility thanks to flat housing for build in luminaires
- Easy installation due to push-in terminals with release button for wiring and standard M4 screws for fixing
- Certified as thermally protected device, e.g. for application in ▽-luminaires
- Conformance with international regulations regarding safety and operation, electromagnetic compatibility and immunity to interference

### ECG model

Version	Order no.	Type of LED modules
CVS148-70LS-01/220-240	10087298	1 x 48 V; max. 1,46 A

### Usable for

- Low, Mid and High Power LED modules with an operation voltage of constant 48 VDC.
- Parallel connection of multiple constant voltage LED modules

### Targeted lighting applications

- Office & education
- Public buildings
- Industry
- Hospitality

### Markings





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### 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 VDC
<b>Behaviour at mains overvoltage</b>	
Switch-off of the LEDs at	approx. 320 VAC
Overvoltage protection	350 VAC / 2 h
<b>Leakage current</b>	< 0.5 mA / ECG
<b>Total harmonic distortion (THD)</b>	< 10 %
<b>Output voltage tolerance</b>	± 5 %
<b>Max. ripple output voltage</b>	± 10 %
<b>Degree of protection</b>	IP 20
<b>Output voltage limitation</b>	60 VDC, SELV equivalent
<b>Behaviour in case of output open circuit operation</b>	protected – limitation of output voltage no current flow
<b>Behaviour in case of underload operation</b>	protected – limitation of output voltage
<b>Behavior in case of overload operation</b>	protected – reduced output voltage
<b>Behaviour in case of output short circuit operation</b>	protected – reduced operation current
<b>Max. temperature at housing surface in case of failure</b>	+ 110 °C (acc. EN 61 347-2-13/C)
<b>Terminals</b>	
Type	90°-connector with push button
Wire cross section	0.5 mm <sup>2</sup> – 1.5 mm <sup>2</sup>
Wire stripping length	7.5 mm – 8.5 mm

### Admissible temperatures

Version	Ambient (t <sub>a</sub> )	Case (t <sub>c</sub> )
CVS148	- 25 °C ... + 50 °C	max. + 75 °C

### Service life

Version	Nominal service life	Extended service life	Failure rate during service life
CVS148	50,000 h (operation at t <sub>c</sub> = 75 °C)	100,000 h (operation at t <sub>c</sub> = 65 °C)	< 10 %

### Inrush current / Circuit breaker

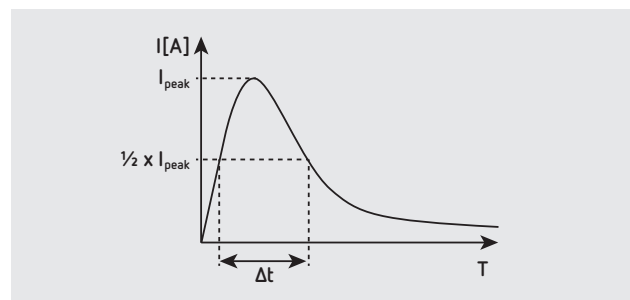
Version	typ. I <sub>peak</sub> / Δt	No. of ECG at single-pole circuit breakers				
		LS-Typ	10 A	16 A	20 A	25 A
CVS148	32 A / 140 μs	B	18	30	37	47
		C	23	37	47	58

All data for U<sub>supply</sub> = 230 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.





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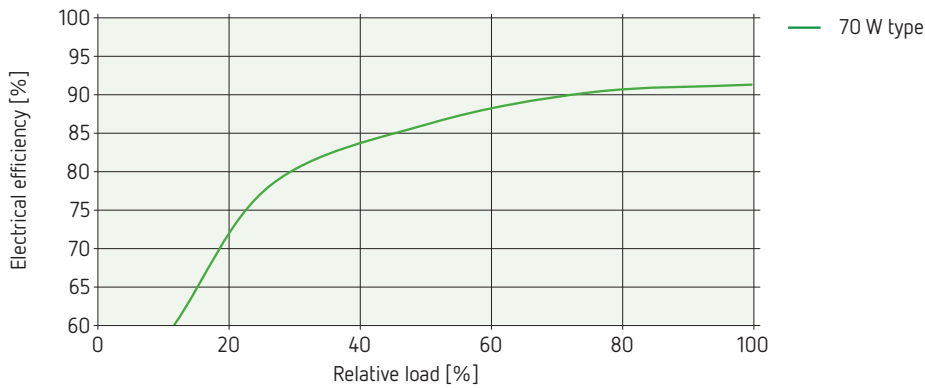
### Operating data



Version	Input Current *	Power factor *	Max. system power *	ECG efficiency *	Constant output voltage	Min. output current	Max. output current	Min. total output power	Max. total output power	Approvals
	A		W	%		A	A			
CSV148	0.34	0.98	77	91	48	0.02	1.46	1	70	a, b

\* Nominal operation: 230 VAC; 100% load

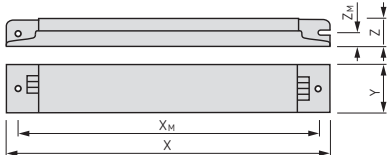
### Efficiency over load





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### Dimensions



Version	X	X <sub>M</sub>	Y	Z	Z <sub>M</sub>	Weight	Pieces per box
	mm	mm	mm	mm	mm	kg	pcs.
CVS148	280	270	39	21	9	0.3	30

### Wiring diagrams

1 channel



### Conformance with regulations

EN 61347-1	General and safety requirements
EN 61347-2-13	Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules
EN 62384	Performance characteristics: DC or AC supplied electronic control gear for LED modules
EN 61547	Equipment for general lighting purposes EMC immunity requirements
EN 55015	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
Environmental tests for mechanical capacity:	
IEC 60068-2-6	Test F <sub>c</sub> : vibrations (sinusoidal)
IEC 60068-2-27	Test E <sub>a</sub> : shock and bump
IEC 60068-2-29	Test E <sub>b</sub> : shock and bump
Quality management certified according to ISO 9001	