

Requirements for electronic non-dimmable control gears for fluorescent lamps and LED

Version 12

Manufacturer: OSRAM GmbH Marcel-Breuer-Str. 6 D-80807 München	Type / Description: Control gear: OT FIT 35 220-240 400 D LT2 UF L (identcode: AM17670)	Manufacturer information Complies: YES/NO	
Specifications:	CEAG data:	Explanation:	
Control gear suitable for a DC voltage range:	186V - 260V DC (for Lead-Battery)	Possible voltage range of the battery in emergency mode. (Not for AT-S ⁺ Systems required)	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
Control gear compatible with the switch-over time of the system?	Switch-over time: 180 ms - 450 ms	Typical switch-over time of CEAG systems between mains supply and emergency power supply	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
Starting behavior of the control gear:	Stable current consumption after less than 1.6 sec. maximum.	A stable operation of the control gear after 1.6 seconds of start up is required for the right functionality of the individual monitoring. With max. 20 luminaires for one current circuit: Δ I in sum < 250 mA are allowed	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
only for fluorescent lamps: Control gear complies with the standard:	DIN EN 60929	AC and/or DC-supplied electronic control gear for tubular fluorescent lamps - Performance requirements	YES <input type="checkbox"/> NO <input type="checkbox"/>
only for fluorescent lamps: Control gear complies with the standard:	DIN EN 61347-2-3 (incl. Attachment J)	Particular requirements for AC and/or DC supplied electronic control gear for fluorescent lamps	YES <input type="checkbox"/> NO <input type="checkbox"/>
only for LED: Control gear complies with the standard:	DIN EN 62384	AC or DC supplied electronic control gear for LED modules - Performance requirements	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
only for LED: Control gear complies with the standard:	DIN EN 61347-2-13	Particular requirements for AC or DC supplied electronic control gear for LED modules	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
Control gear complies with the standard:	DIN EN 55015 (Measured in AC and DC)	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
Control gear complies with the standard:	DIN EN 61000-3-2	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
Control gear complies with the standard:	DIN EN 61000-3-2, Pkt. 7.3 a.)	see *Important note!	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
Control gear complies with the standard:	DIN EN 61547	Equipment for general lighting purposes - EMC immunity requirements	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

Note: The labeling "according to VDE 0108" is not meaningful, because this is not a control gear standard!

Specifications:	CEAG data:	Explanation:	Manufacturer information:
Important for functiontest: Voltage-dependent Input current of the control gear incl. LED in DC and AC operation:	V-CG-S2: >9,4 mA or >12,7 mA = OK V-CG-S: >16 mA or >47 mA = OK V-CG-SE: >16 mA or >47 mA = OK V-CG-SUW: >47 mA = OK CG-K: >16 mA or >47 mA = OK	Minimum current of the LED driver with LED module to GOOD detection via the monitoring module. In the voltage range of 189 - 264V AC on AT-S ⁺ or 186 - 260V DC on ZB-S/LP-STAR the input current must be higher than the specified current values. see *Important note!	AC: see TABLE 1 (AT-S ⁺) DC: see TABLE 1 (ZB-S/LP-STAR)
Important for functiontest: Voltage-dependent No-load current of the control gear (without or defect LED module) in DC and AC - operation*:	V-CG-S2: <5,8 mA or <7,9 mA = n.OK V-CG-S: <10 mA or <28 mA = n.OK V-CG-SE: <10 mA or <28 mA = n.OK V-CG-SUW: <28 mA = n.OK CG-K: <10 mA or <28 mA = n.OK	Maximal current of the LED driver with LED module for BAD detection via the monitoring module. In the voltage range of 189 - 264V AC on AT-S ⁺ or 186 - 260V DC on ZB-S/LP-STAR the input current must be lower than the specified current values. see *Important note!	AC: see TABLE 1 (AT-S ⁺) DC: see TABLE 1 (ZB-S/LP-STAR)
Important for the power consumption of addressable ballast:	V-CG-S2 = 30 A V-CG-S = 30 A V-CG-SE = 30 A V-CG-SUW = 80 A CG-K = 30 A	The max. inrush current of each monitoring module has to be considered!	I _{peak} =17A Th=162μs

Note: Important for the planning - Max. no. Of luminaires per circuit

Important for the contact load SKU: Max. inrush current of each luminaire in AC operation	Max. permitted inrush current per circuit: SKU 2 x 3A (CG) => 120 A SKU 1 x 6A (CG) => 180 A SKU 4 x 1,5A CG-S => 60 A SKU 2 x 3A CG-S => 250 A SKU 1 x 6A CG-S => 250 A SOU CG-S // S ⁺ => 250 A SU S ⁺ => 250 A	Describes the max. inrush current of all luminaires in one circuit to calculate the maximum contact load of the circuit.
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Luminaires for emergency lighting must comply with DIN EN 60598-2-22
(Particular requirements -Luminaires for emergency lighting)

***Important note!**

For AT-S⁺ systems and for battery systems (ZB-S / LP-STAR) with active preliminary time for AC about 300 seconds (EOL detection of T5 lamps) for the function test, the current consumption must be sinusoidal, t.m. all control gears (<25W as well) must have an active PFC (Power Factor Correction)!

See DIN EN 61000-3-2, Pkt. 7.3 a.)

Note EOL (End of Life) detection (T5 > 14Watt): The AC preliminary time is valid for the complete system (e.g. ZB-S), not possible for individual circuits. The modules of the V-CG-S series monitor the current consumption on the primary side of the control gear for LED modules within the specified limits. Failures of individual LEDs (low-impedance) on the secondary side do not inevitably lead to a modification of current consumption on the primary side, and in such cases cannot be detected as a failure.

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Table1:

LED controller type	Values for load range	In AC-operation (230V) / mA (trms)	In AC-operation (240V) / mA (trms)	In DC-operation (186V) / mA (trms)	In DC-operation (216V) / mA (trms)	In DC-operation (240V) / mA (trms)	In DC-operation (260V) / mA (trms)
OT FIT 35 220-240 400 D LT2 UF L	Maximum Load /m. U _{out} = 54V I _{out} = 1050mA	176,80	192,18	181,50	161,84	177,04	128,42
	Minimum Load /m. U _{out} = 27V I _{out} = 800mA		65,00			25,06	
	No Load		52,76	4,13		4,13	3,97
	Short Load		52,80	4,89		4,16	3,96

Maximum inrush current for ECG in AC Operation: I_{peak}=17A T_H=162µs