

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

Version 12

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| Manufacturer: Osram GmbH Marcel-Breuer-Straße 6 D-80807 München | Type / Description: Control gear: OT FIT 35/220-240/350 D NFC L (identcode: AM10972) | 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) |
| 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 |
| 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: ΔI in sum < 250 mA are allowed |
| <u>only for fluorescent lamps:</u> Control gear complies with the standard: | DIN EN 60929 | AC and/or DC-supplied electronic control gear for tubular fluorescent lamps - Performance requirements |
| <u>only for fluorescent lamps:</u> 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 |
| <u>only for LED:</u> Control gear complies with the standard: | DIN EN 62384 | AC or DC supplied electronic control gear for LED modules - Performance requirements |
| <u>only for LED:</u> Control gear complies with the standard: | DIN EN 61347-2-13 | Particular requirements for AC or DC supplied electronic control gear for LED modules |
| 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 |
| 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 \leq 16 A per phase) |
| Control gear complies with the standard: | DIN EN 61000-3-2, Pkt. 7.3 a.) | see *Important note! |
| Control gear complies with the standard: | DIN EN 61547 | Equipment for general lighting purposes - EMC immunity requirements |

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

| Specifications: | CEAG data: | Explanation: | Manufacturer information: |
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| <u>Important for function test:</u> 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 Table1 (AT-S+) DC: see Table1 (ZB-S/LP-STAR) |
| <u>Important for function test:</u> 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 Table1 (AT-S+) DC: see Table1 (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! | $I_{peak} = 15A$ TH=256 μ s |

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

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| <u>Important for the contact load SKU:</u> 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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Manufacturer:
OSRAM GmbH
Marcel-Breuer Str. 6
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Product:
OT FIT 35/220-240/350 D NFC L

OSRAM

Table1:

| LED controller type | Values for load range | In in AC-operation (230V) / mA (trms) | In in AC- operation (240V) / mA (trms) | In in DC-operation (186V) / mA (trms) | In in DC- operation (216V) / mA (trms) | In in DC- operation (240V) / mA (trms) | In in DC- operation (260V) / mA (trms) |
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| OT FIT 35/220-240/350 D NFC L | Maximum Load /m Uout= 54V Iout= 1050mA | 177,35 | 171,50 | 211,58 | 180,92 | 162,78 | 149,80 |
| | Minimum Load /m. Uout= 27V Iout= 800mA | | 55,67 | | | 29,76 | |
| | No Load | | 32,91 | 0,68 | | 0,68 | 0,73 |
| | Short Load | | 31,86 | 0,44 | | 2,58 | 1,73 |

Maximum inrush current for ECG in AC Operation: I_{peak}=15A T_H=256µs