

Requirements for electronic non-dimmable control gears for fluorescent lamps and LED			Version 14
<b>Manufacturer:</b> <b>OSRAM GmbH</b> <b>Marcel-Breuer-Str. 6</b> <b>D-80807 München</b>	<b>ECG-type:</b> OTi FIT 35/220-240/700 NFC L( 4062172064002 ) <b>Date:</b> 09.06.2021	<b>Manufacturer information</b> Complies: YES/NO	
Specifications:	CEAG data:	Explanation:	
Control gear suitable for a DC voltage range:	<b>186V - 260V DC (for Lead-Battery)</b>	Possible voltage range of the battery in emergency mode. (Not for AT-S+ Systems required)	<b>YES</b>
Control gear compatible with the switch-over time of the system?	<b>Switch-over time:</b> <b>180 ms - 450 ms</b>	Typical switch-over time of CEAG systems between mains supply and emergency power supply	<b>YES</b>
Starting behavior of the control gear:	<b>Stable current consumption after less than 1.6 sec. maximum.</b>	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: $\Delta I$ in sum < 250 mA are allowed	<b>YES</b>
Control gear compatible with CEAG STAR-Technology:	<b>Phase-cut telegram (PAT):</b> <b>max. 30 phases (half waves) with max. 60° phase-cuts</b>	During the CEAG STAR switching process, up to 30 half-waves are cut at a maximum of 60°. The control gear must not exhibit any malfunctions such as switching off, flickering	<b>YES</b>
<u>only for fluorescent lamps:</u> Control gear complies with the standard:	<b>DIN EN 60929</b>	AC and/or DC-supplied electronic control gear for tubular fluorescent lamps - Performance requirements	<b>n/a</b>
<u>only for fluorescent lamps:</u> Control gear complies with the standard:	<b>DIN EN 61347-2-3 (incl. Attachment J)</b>	Particular requirements for AC and/or DC supplied electronic control gear for fluorescent lamps	<b>n/a</b>
<u>only for LED:</u> Control gear complies with the standard:	<b>DIN EN 62384</b>	AC or DC supplied electronic control gear for LED modules - Performance requirements	<b>YES</b>
<u>only for LED:</u> Control gear complies with the standard:	<b>DIN EN 61347-2-13</b>	Particular requirements for AC or DC supplied electronic control gear for LED modules	<b>YES</b>
Control gear complies with the standard:	<b>DIN EN 55015 (Measured in AC and DC)</b>	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment	<b>YES</b>
Control gear complies with the standard:	<b>DIN EN 61000-3-2, Pkt. 7.3 a.)</b>	<b>see *Important note!</b>	<b>YES</b>
Control gear complies with the standard:	<b>DIN EN 61547</b>	Equipment for general lighting purposes - EMC immunity requirements	<b>YES</b>
Note: The labeling "according to VDE 0108" is not meaningful, because this is not a control gear standard!			
Specifications:	CEAG data:	Explanation:	Manufacturer information:
<u>Important for functiontest:</u> Voltage-dependent Input current of the control gear incl. LED in DC and AC operation:	<b>V-CG-S2: &gt;9,4 mA or &gt;12,7 mA = OK</b> <b>V-CG-S: &gt;16 mA or &gt;47 mA = OK</b> <b>V-CG-SE: &gt;16 mA or &gt;47 mA = OK</b> <b>V-CG-SUW: &gt;47 mA = OK</b> <b>CG-K: &gt;16 mA or &gt;47 mA = OK</b>	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. <b>see *Important note!</b>	<b>see Table</b>
<u>Important for functiontest:</u> Voltage-dependent No-load current of the control gear (without or defect LED module) in DC and AC - operation*:	<b>V-CG-S2: &lt;5,8 mA or &lt;7,9 mA = n.OK</b> <b>V-CG-S: &lt;10 mA or &lt;28 mA = n.OK</b> <b>V-CG-SE: &lt;10 mA or &lt;28 mA = n.OK</b> <b>V-CG-SUW: &lt;28 mA = n.OK</b> <b>CG-K: &lt;10 mA or &lt;28 mA = n.OK</b>	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. <b>see *Important note!</b>	<b>see Table</b>
Important for the power consumption of addressable ballast:	<b>V-CG-S2 = 30 A</b> <b>V-CG-S = 30 A</b> <b>V-CG-SE = 30 A</b> <b>V-CG-SUW = 80 A</b> <b>CG-K = 30 A</b>	The max. inrush current of each monitoring module has to be considered!	<b>see Table</b>
<b>Note: Important for the planning - Max. no. Of luminaires per circuit</b>			
<u>Important for the contact load SKU:</u> Max. inrush current of each luminaire in AC operation	<b>Max. permitted inrush current per circuit:</b> <b>SKU 2 x 3A (CG) =&gt; 120 A</b> <b>SKU 1 x 6A (CG) =&gt; 180 A</b> <b>SKU 4 x 1,5A CG-S =&gt; 60 A</b> <b>SKU 2 x 3A CG-S =&gt; 250 A</b> <b>SKU 1 x 6A CG-S =&gt; 250 A</b> <b>SOU CG-S // S+ =&gt; 250 A</b> <b>SU S+ =&gt; 250 A</b>	<b><math>I_{peak} = &lt;16 A, TH = 100 \mu s</math></b>  The declaration of the inrush current of the luminaire is important, to calculate the max. possible luminaires on one circuit, to consider the max. contact load limitation of the circuit.	
<b>Luminaires for emergency lighting must comply with DIN EN 60598-2-22 (Particular requirements -Luminaires for emergency lighting)</b> <b>*Important note!</b>			
<b>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 (&lt;25W as well) must have an active PFC (Power Factor Correction)!</b> <b>See DIN EN 61000-3-2, Pkt. 7.3 a.)</b>			
<b>Note EOL (End of Life) detection (T5 &gt; 14Watt): The AC preliminary time is valid for the complete system (e.g. ZB-S), not possible for individual circuits.</b> 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.			

Manufacturer: OSRAM GmbH Marcel-Breuer Str. 6 D-80807 München	Product:  <b>OT FIT 35/220-240/700 NFC L</b> <b>( 4062172064002 )</b>	<b>OSRAM GmbH</b>
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Table 1

Values for load range	AC-operation				DC-Operation			
	189VAC/50Hz Itrms_in ( mA )	230VAC/50Hz Itrms_in ( mA )	240VAC/50Hz Itrms_in ( mA )	264VAC/50Hz Itrms_in ( mA )	186VDC Itrms_in ( mA )	216VDC Itrms_in ( mA )	240VDC Itrms_in ( mA )	260VDC Itrms_in ( mA )
Min. Load /mA P_out= 5 W	not supported (51)	52	52	54	40	37	35	33
Mid. Load /mA P_out= 15 W	not supported (103)	90	88	85	98	85	77	73
Max. Load /mA P_out= 35 W	not supported (221)	183	175	161	217	186	168	155
Short/Open Load	not supported (28)	32	33	35	18	17	17	17

**Remarks:**

- 1.) This table shows the currents consumption of the driver at three different operating points (Pmax, Pmid, Pmin) for AC and DC operation.
- 2.) This table is intended for rough design decisions . It is not a replacement for individual functional measurements!