Light is OSRAM

EATON – Conformity certificate with central battery systems

1. OT 24V - Indoor
   1.1 OT 50/220-240/24

2. OT FIT SELV
   2.1 OT FIT 35/220-240/700 CS L
   2.2 OT FIT 50/220-240/1A0 CS L
   2.3 OT FIT 80/220-240/1A6 CS L

3. OT FIT non-isolated
   3.1 OT FIT 35/220-240/350 D LT2 L
   3.2 OT FIT 75/220-240/550 D LT2 L
   3.3 OT FIT 30/220-240/125 D L
   3.4 OT FIT 50/220-240/250 D L
   3.5 OT FIT 50/220-240/350 D L

4. OT FIT Compact SELV
   4.1 OT FIT 15/220-240/350 CS
   4.2 OT FIT 25/220-240/500 CS
   4.3 OT FIT 35/220-240/700 CS
   4.4 OT FIT 50/220-240/1A0 CS

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Powering Business Worldwide

Requirements for electronic non-dimmable control gears for fluorescent lamps and LED	Version 0

Manufacturer:	Type / Description: Constant current LED controlgear Control gear: OT 50/220-240/24
Osram GmbH **Marcel-Breuer-Straße 6** **D-80807 München**	

Specifications:	CEAG data:	Explanation:	Fulfilled: (Yes / No)
Voltagerange DC	**186V - 275V DC**	Possible voltage range of the battery in emergency mode. *(Not for AT-S + Systems required)*	**YES (176-276 V)**
Switch over time: From AC to DC	**Switch-over time:** **180 ms - 450 ms**	Typical switch over time of EATON CPS/LPS-devices	**YES**
starting characteristic controlgear:	**Stable current consumption** **after less than 1.6 sec. maximum.**	Necessary for selective control Δ I < 12,5 mA per luminaire, at max. 20 luminaires for one current circuit Δ I sum < 250 mA	**YES**
Fullfilled the standard*:	**DIN EN 62384**	DC. Or AC supplied electronic control gear for LED modules - performance requirements	**YES**
Fullfilled the standard*:	**DIN EN 61347-2-13**	Lamp controlgear — Part 2‑13: Particular requirements for d. c. or a. c. supplied electronic controlgear for LED modules	**YES**
Fullfilled the standard*:	**DIN EN 55015** **(Messung bei AC und DC)**	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment	**YES**
Fullfilled 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**
Fullfilled the standard*:	**DIN EN 61000-3-2, Pkt. 7.3 a.)**	is forceful necessary for AT-S+ Systems special for LED drivers!! (sinusoidal current draw)	**YES**
Fullfilled the standard*:	**DIN EN 61547**	Equipment for general lighting purposes — EMC immunity requirements	**YES**
Fullfilled the standard*:	**DIN EN 62031**	**LED modules for general lighting — Safety specifications**	**N/A**

* The labeling "according to VDE 0108" is not meaningful, because it is not a ballast standard !

Specifications:	EATON data:	Explanation:	Manufacturer specification:
No load current of the ballast **(without tube or with defect tube) in DC-operation**	**V-CG-S2: >9,4 mA oder >12,7 mA = OK** **V-CG-S: >16 mA oder >47 mA = OK** **V-CG-SE: >16 mA oder >47 mA = OK** **V-CG-SUW: >47 mA = OK** **CG-K: >16 mA oder >47 mA = OK**	selection aid for monitoring modules also for identification of the max. luminaire quantity per circuit and the required battery capacity. these values are not allowed to be failed below def. limits for the voltagerange of: 186 - 275V DC und 189 - 264 V AC **(for AT-S+ Systems must be the current draw sinusoidal See DIN EN 61000-3-2, clause 7.3 a.)**	**AC:YES, TO BE TESTED WITH EATON SYSTEM** **DC: YES, TO BE TESTED WITH EATON SYSTEMAC**
voltage dependent = No load current of the ballast (without or with defect LED module) in DC and AC - operation*:	**V-CG-S2: <5,8 mA oder <7,9 mA = n.OK** **V-CG-S: <10 mA oder <28 mA = n.OK** **V-CG-SK: <10 mA oder <28 mA = n.OK** **V-CG-SUW: <28 mA = n.OK** **CG-K: <10 mA oder <28 mA = n.OK**	Selection guide for the monitoring modules. In the voltage range of 186 - 275V DC and 189 - 264V AC the no-load current must be lower. **see *Important note!**	**AC:YES, TO BE TESTED WITH CEAG SYSTEM** **DC: YES, TO BE TESTED WITH CEAG SYSTEM**
Max. inrush current each converter/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 ballasts in a circuit, to calculate the maximum contact rating of the circuit.	< 30 A / < 215 us
Lightoutput in DC-operation at 186 V in comparison to 230 V AC operation	-	In battery operation of the ballast, for the light calculation	**at 25 °C EBLF > 0,98 acc. Datasheet**

luminaires, which are used for emergency lighting, must be according to the standard DIN EN 60598-2-22 (particular requirements - Luminaires for emergency lighting) and DIN EN 62471 classification group 1 (Photobiological safety for lamps and lamp systems)

*The modules of the family V-CG-S can controll only the input current of the LED converters, in the above defined tolerances. Individual failures of LEDs (low resistive) on the secudary side of the converters could also create input current values out of CEAG "definition", so that the CEAG modules on the input side of converters could produce wrong informations for the emergency controlling station.

**ballast is switching off by temperature ta > 45°C (full load)

***)information to EN 60598-2-22 was not tested

Date: 20.Oct.2014

Manufacturer: OSRAM GmbH Marcel-Breuer-Str.6 D-80807 München	Type / Description: Constant current LED controlgear Control gear: OT 50/220-240/24					
LED controlgear type	**Max. inrush current for ECG AC-operation**	**Values for load range**	**I_N in AC-operation (220-240 V)**	**I_N in DC-operation (176-276 V)**	**I_{NoLoad} in AC-operation**	**I_{NoLoad} in DC-operation**
OT 50/220-240/24	Ip = 30 A; TH = 215 µs	Maximum load 50W	270 mA (220V) 250 mA (240V)	266 mA (220V) 242 mA (240V	34 mA (220V) 33 mA (240V)	28mA [176VDC] 24 mA [240VDC] 21 mA [276VDC]

EATON
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Requirements for electronic non-dimmable control gears for fluorescent lamps and LED			Version 0
Manufacturer: **OSRAM GmbH** **Marcel-Breuer-Str.6** **D-80807 München**	**Type / Description: Constant current LED controlgear** **LED controlgear: OT FIT 35/220-240/700 CS L** **LED controlgear: OT FIT 50/220-240/1A0 CS L**		
Specifications:	**CEAG Data:**	**Explanation:**	**Fulfilled: (Yes / No)**
Control gear suitable for a DC voltage range:	**186V - 275V DC**	Possible voltage range of the battery in emergency mode *(Not necessary for AT-S+ System)*	**Yes**
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**
Starting behavior of the control gear:	**Stable current consumption after less than 1.6 sec. maximum.**	Necessary for an individual monitoring. D I < 12,5 mA per luminaire, with max. 20 luminaires per circuit D I sum < 250 mA	**Yes**
Control gear complies with the standard:	**DIN EN 62384**	AC or DC supplied electronic control gear for LED modules - Performance requirements	**Yes**
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**
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**
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**
Control gear complies with the standard:	**DIN EN 61000-3-2, Pkt. 7.3 a.)**	**Mandatory for control gears for LED modules in combination with AT-S+ Systems! (Current consumption must be sinusoidal.)**	**Yes**
Control gear complies with the standard:	**DIN EN 61547**	Equipment for general lighting purposes — EMC immunity requirements	**Yes**
LED module complies with the standard	**DIN EN 62031**	LED modules for general lighting — Safety specifications	**N/A**

* The labeling "according to VDE 0108" is not meaningful, because it is not a ballast standard !

Specifications:	**CEAG-Datas**	**Explanation:**	**Fulfilled: (Yes / No)**
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**	Selection guide for the monitoring modules as well as for the calculation of the max. number of luminaires per circuit and the necessary battery capacity. In the voltage range of 186 - 275V DC and 189 - 264V AC the input current must be higher. The current consumption must be sinusoidal for AT-S+ Systems. See DIN EN 61000-3-2, Pkt. 7.3 a.)	**AC:** **see attachment converter overview list** **DC:**
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-SK: <10 mA or <28 mA = n.OK** **V-CG-SUW: <28 mA = n.OK** **CG-K: <10 mA or <28 mA = n.OK**	Selection guide for the monitoring modules. In the voltage range of 186 - 275V DC and 189 - 264V AC the no-load current must be lower. The current consumption must be sinusoidal for AT-S+ Systems. See DIN EN 61000-3-2, Pkt. 7.3 a.)	**AC:** **see attachment converter overview list** **DC:**
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	**IPK=20A** **tHW=180µs**
Luminous flux ratio: 186 V DC operation in comparison to 230 V AC operation	**-**	Light output in battery operation is needed for the light calculation.	**see attachment converter overview listt**

prep. Sniegon 07-2012 (7.2.2013)

Luminaires for emergency lighting must comply with DIN EN 60598-2-22 (Particular requirements -Luminaires for emergency lighting) and DIN EN 62471 classification group 1 (Photobiological safety of lamps and lamp systems).

*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.

PFC inside

Manufacturer: OSRAM GmbH Marcel-Breuer-Str.6 D-80807 München	Type / Description: Constant current LED controlgear LED controlgear: OT FIT 35/220-240/700 CS L LED controlgear: OT FIT 50/220-240/1A0 CS L	

LED controlgear type	Max. inrush current for ECG AC-operation	Values for load range	I_N in AC-operation (220-240 V)	I_N in DC-operation (176-276 V)	I_{NoLoad} in AC-operation	I_{NoLoad} in DC-operation
OT FIT 35/220-240/700 CS L	Ip = 20 A; TH = 150 µs	Maximum load Minimum load [Iout 500mA]	139mA 82 mA (240V)	131 mA 69 mA (240V)	41 mA [220VAC] 42 mA [240VAC]	19 mA [176VDC] 16 mA [240VDC] 14 mA [276VDC]
		Maximum load Minimum load [Iout 600mA]	161 mA 93 mA (240V)	153 mA 82 mA (240V)	44 mA [220VAC] 43 mA [240VAC]	21 mA [176VDC] 17 mA [240VDC] 16 mA [276VDC]
		Maximum load Minimum load [Iout 700mA]	172 mA 110 mA (240V)	166 mA 100 mA (240V)	45 mA [220VAC] 46 mA [240VAC]	25 mA [176VDC] 20 mA [240VDC] 18 mA [276VDC]
OT FIT 50/220-240/1A0 CS L	Ip = 20 A; TH = 150 µs	Maximum load Minimum load [Iout 700mA]	200 mA 120 mA (240V)	193 mA 110 mA (240V)	45 mA [220VAC] 45 mA [240VAC]	24 mA [176VDC] 20 mA [240VDC] 17 mA [276VDC]
		Maximum load Minimum load [Iout 825 mA]	239 mA 1125 mA (240V)	234 mA 128 mA (240V)	45 mA [220VAC] 46 mA [240VAC]	24 mA [176VDC] 20 mA [240VDC] 17 mA [276VDC]
		Maximum load Minimum load [Iout 1050 mA]	268 mA 156 mA (240V)	265 mA 149 mA (240V)	45 mA [220VAC] 46 mA [240VAC]	25 mA [176VDC] 20 mA [240VDC] 18 mA [276VDC]

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Requirements for electronic non-dimmable control gears for fluorescent lamps and LED			Version 0
Manufacturer: **OSRAM GmbH** **Marcel-Breuer-Str.6** **D-80807 München**	**Type / Description: Constant current LED controlgear** **LED controlgear: OT FIT 80/220-240/1A6 CS L**		
Specifications:	**CEAG data:**	**Explanation:**	**Fulfilled: (Yes / No)**
Control gear suitable for a DC voltage range:	**186V - 275V DC**	Possible voltage range of the battery in emergency mode. *(Not for AT-S$^+$ Systems required)*	**Yes**
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**
Starting behavior of the control gear:	**Stable current consumption after less than 1.6 sec. maximum.**	Necessary for an individual monitoring. Δ I < 12,5 mA per luminaire, with max. 20 luminaires per circuit Δ I sum < 250 mA	**Yes**
Control gear complies with the standard:	**DIN EN 62384**	AC or DC supplied electronic control gear for LED modules - Performance requirements	**Yes**
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**
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**
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**
Control gear complies with the standard:	**DIN EN 61000-3-2, Pkt. 7.3 a.)**	**Mandatory for control gears for LED modules in combination with AT-S$^+$ Systems! (Current consumption must be sinusoidal.)**	**Yes**
Control gear complies with the standard:	**DIN EN 61547**	Equipment for general lighting purposes - EMC immunity requirements	**Yes**
LED module complies with the standard:	**DIN EN 62031**	LED modules for general lighting - Safety specifications	**N/A**

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

Specifications:	**CEAG data:**	**Explanation:**	**Manufacturer specification:**
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**	Selection guide for the monitoring modules as well as for the calculation of the max. number of luminaires per circuit and the necessary battery capacity. In the voltage range of 186 - 275V DC and 189 - 264V AC the input current must be higher. **The current consumption must be sinusoidal for AT-S+ Systems. See DIN EN 61000-3-2, Pkt. 7.3 a.)**	**AC:** **see attachment converter overview list** **DC:**
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-SK: <10 mA or <28 mA = n.OK** **V-CG-SUW: <28 mA = n.OK** **CG-K: <10 mA or <28 mA = n.OK**	Selection guide for the monitoring modules. In the voltage range of 186 - 275V DC and 189 - 264V AC the no-load current must be lower. **The current consumption must be sinusoidal for AT-S$^+$ Systems. See DIN EN 61000-3-2, Pkt. 7.3 a.)**	**AC:** **see attachment converter overview list** **DC:**
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	**I_{PK}=32A** **t_{HW}=200µs**
Luminous flux ratio: 186 V DC operation in comparison to 230 V AC operation	**-**	Light output in battery operation is needed for the light calculation.	**see attachment converter overview list**

Luminaires for emergency lighting must comply with DIN EN 60598-2-22 (Particular requirements -Luminaires for emergency lighting) and DIN EN 62471 classification group 1 (Photobiological safety of lamps and lamp systems).

*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.

PFC inside

Manufacturer: OSRAM GmbH Marcel-Breuer-Str.6 D-80807 München	Type / Description: Constant current LED controlgear LED controlgear: OT FIT 80/220-240/1A6 CS L	

LED controlgear type	Max. inrush current for ECG AC-operation	Values for load range	I_N in AC-operation (220-240 V)	I_N in DC-operation (176-276 V)	I_{NoLoad} in AC-operation	I_{NoLoad} in DC-operation
OT FIT 80/220-240/1A6 CS L	I_{PK} = 32 A; t_{HW} = 200 µs	Maximum load Minimum load [Iout 1200mA]	312mA 175mA (240V)	307 mA 166 mA (240V)	77 mA [220VAC] 76 mA [240VAC]	26 mA [176VDC] 22 mA [240VDC] 16 mA [276VDC]
		Maximum load Minimum load [Iout 1400mA]	362 mA 201 mA (240V)	357 mA 193 mA (240V)	77 mA [220VAC] 76 mA [240VAC]	26 mA [176VDC] 22 mA [240VDC] 16 mA [276VDC]
		Maximum load Minimum load [Iout 1550mA]	385 mA 228 mA (240V)	417 mA 241 mA (240V)	77 mA [220VAC] 76 mA [240VAC]	26 mA [176VDC] 22 mA [240VDC] 16 mA [276VDC]

Note: I_{OUT} is not reduced when ECG is DC operated. I_{OUT} is limited to 820 mA in case of Ta < T <= 70°C

Note: 100 percent @ Ta = 25°C and more than 50 percent when operated 1 hour @ T = 70°C

Information in this document is subject to change without notice

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

Version 8

Manufacturer: **OSRAM GmbH** **Marcel-Breuer-Str. 6** **D-80807 München**	**Type / Description:** **Control gear: OT FIT 35/220-240/350 D LT2 L (ident code: AM02960)**		
Specifications:	**CEAG data:**	**Explanation:**	**Fulfilled: (Yes / No)**
Control gear suitable for a DC voltage range:	**186V - 260V DC (for Lead-Battery)** **186V - 275V DC (for NiCD-Battery)**	Possible voltage range of the battery in emergency mode. *(Not for AT-S+ Systems required)*	**YES**
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**
Starting behavior of the control gear:	**Stable current consumption after less than 1.6 sec. maximum.**	Necessary for an individual monitoring. Δ I < 12,5 mA per luminaire, with max. 20 luminaires per circuit Δ I sum < 250 mA	**YES**
only for flourescent lamps: Control gear complies with the standard:	**DIN EN 60929**	AC and/or DC-supplied electronic control gear for tubular fluorescent lamps - Performance requirements	**Not relevant**
only for flourescent 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	**Not relevant**
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**
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**
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**
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**
Control gear complies with the standard:	**DIN EN 61000-3-2, Pkt. 7.3 a.)**	**see *Important note!**	**YES**
Control gear complies with the standard:	**DIN EN 61547**	Equipment for general lighting purposes - EMC immunity requirements	**YES**

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

Specifications:	**CEAG data:**	**Explanation:**	**Manufacturer specification:**
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**	Selection guide for the monitoring modules as well as for the calculation of the max. number of luminaires per circuit and the necessary battery capacity. In the voltage range of 186 - 275V DC and 189 - 264V AC the input current must be higher. **see *Important note!**	**AC: see TABLE 1** **DC: see TABLE 1**
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-SK: <10 mA or <28 mA = n.OK** **V-CG-SUW: <28 mA = n.OK** **CG-K: <10 mA or <28 mA = n.OK**	Selection guide for the monitoring modules. In the voltage range of 186 - 275V DC and 189 - 264V AC the no-load current must be lower. **see *Important note!**	**AC: see TABLE 1** **DC: see TABLE 1**
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.	**Ipeak=13A TH=93µs**
Important for lighting design: Luminous flux ratio: 186 V DC operation in comparison to 230 V AC operation	-	Light output in battery operation is needed for the light calculation.	**100%**

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

Date: 09.Jan..2017

Table1:

Manufacturer:	Product:	
OSRAM GmbH Marcel-Breuer Str. 6 D-80807 München	**OT FIT 35/220-240/350 D LT2 L**	OSRAM

LED controller type	Values for load range			I_N in AC-operation (230V) / mA (trms)	I_N in AC-operation (240V) / mA (trms)	I_N in DC-operation (186V) / mA (trms)	I_N in DC-operation (216V) / mA (trms)	I_N in DC-operation (240V) / mA (trms)	I_N in DC-operation (260V) / mA (trms)
OT FIT 35/220-240/350 D LT2 L	Maximum Load /mA	Uout=	216V	161,37	155,97	189,74	162,85	0,27	135,80
		Iout=	350mA						
	Minimum Load /mA	Uout=	54V		48,03			23,29	
		Iout=	75mA						
	No Load				28,68	0,38		0,38	0,55

Maximum inrush current for ECG in AC Operation: I_{peak}=13A T_H=93µs

EATON
Powering Business Worldwide

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

Version 8

Manufacturer:	**Type / Description:**
OSRAM GmbH **Marcel-Breuer-Str. 6** **D-80807 München**	**Control gear: OT FIT 75/220-240/550 D LT2 L (ident code: AM02961)**

Specifications:	**CEAG data:**	**Explanation:**	**Fulfilled: (Yes / No)**
Control gear suitable for a DC voltage range:	**186V - 260V DC (for Lead-Battery)** **186V - 275V DC (for NiCD-Battery)**	Possible voltage range of the battery in emergency mode. *(Not for AT-S+ Systems required)*	**YES**
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**
Starting behavior of the control gear:	**Stable current consumption after less than 1.6 sec. maximum.**	Necessary for an individual monitoring. Δ I < 12,5 mA per luminaire, with max. 20 luminaires per circuit Δ I sum < 250 mA	**YES**
only for flourescent lamps: Control gear complies with the standard:	**DIN EN 60929**	AC and/or DC-supplied electronic control gear for tubular fluorescent lamps - Performance requirements	**Not relevant**
only for flourescent 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	**Not relevant**
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**
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**
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**
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**
Control gear complies with the standard:	**DIN EN 61000-3-2, Pkt. 7.3 a.)**	**see *Important note!**	**YES**
Control gear complies with the standard:	**DIN EN 61547**	Equipment for general lighting purposes - EMC immunity requirements	**YES**

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

Specifications:	**CEAG data:**	**Explanation:**	**Manufacturer specification:**
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**	Selection guide for the monitoring modules as well as for the calculation of the max. number of luminaires per circuit and the necessary battery capacity. In the voltage range of 186 - 275V DC and 189 - 264V AC the input current must be higher. **see *Important note!**	**AC: see TABLE 1** **DC: see TABLE 1**
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-SK: <10 mA or <28 mA = n.OK** **V-CG-SUW: <28 mA = n.OK** **CG-K: <10 mA or <28 mA = n.OK**	Selection guide for the monitoring modules. In the voltage range of 186 - 275V DC and 189 - 264V AC the no-load current must be lower. **see *Important note!**	**AC: see TABLE 1** **DC: see TABLE 1**
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.	**Ipeak=13A TH=93µs**
Important for lighting design: Luminous flux ratio: 186 V DC operation in comparison to 230 V AC operation	-	Light output in battery operation is needed for the light calculation.	**100%**

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

Date: 09.Jan.2017

Table1:

Manufacturer: OSRAM GmbH Marcel-Breuer Str. 6 D-80807 München	Product: **OT FIT 75/220-240/550 D LT2 L**	OSRAM

LED controller type	Values for load range			I_N in AC-operation (230V) / mA (trms)	I_N in AC-operation (240V) / mA (trms)	I_N in DC-operation (186V) / mA (trms)	I_N in DC-operation (216V) / mA (trms)	I_N in DC-operation (240V) / mA (trms)	I_N in DC-operation (260V) / mA (trms)
OT FIT 75/220-240/550 D LT2 L	Maximum Load /mA	Uout= Iout=	216V 350mA	358,54	348,13	441,91	378,08	0,34	312,46
	Minimum Load /mA	Uout= Iout=	54V 75mA		61,75			38,56	
	No Load				27,60	0,38		0,38	0,54

Maximum inrush current for ECG in AC Operation: I_{peak}=33A T_H=147µs

Requirements for electronic non-dimmable control gears for fluorescent lamps and LED			Version 0
Manufacturer: **OSRAM GmbH** **Marcel-Breuer-Str.6** **D-80807 München**	**Type / Description: Constant current LED controlgear** **LED controlgear: OT FIT 30/220-240/125 D L** **LED controlgear: OT FIT 50/220-240/250 D L** **LED controlgear: OT FIT 50/220-240/350 D L**		
Specifications:	**CEAG data:**	**Explanation:**	**Fulfilled: (Yes / No)**
Control gear suitable for a DC voltage range:	**186V - 275V DC**	Possible voltage range of the battery in emergency mode. *(Not for AT-S+ Systems required)*	**Yes**
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**
Starting behavior of the control gear:	**Stable current consumption after less than 1.6 sec. maximum.**	Necessary for an individual monitoring. Δ I < 12,5 mA per luminaire, with max. 20 luminaires per circuit Δ I sum < 250 mA	**Yes**
Control gear complies with the standard:	**DIN EN 62384**	AC or DC supplied electronic control gear for LED modules - Performance requirements	**Yes**
Control gear complies with the standard:	**DIN EN 61347-2-13 (incl. Attachement J)**	Particular requirements for AC or DC supplied electronic control gear for LED modules	**Yes**
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**
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**
Control gear complies with the standard:	**DIN EN 61000-3-2, Pkt. 7.3 a.)**	**Mandatory for control gears for LED modules in combination with AT-S+ Systems! (Current consumption must be sinusoidal.)**	**Yes**
Control gear complies with the standard:	**DIN EN 61547**	Equipment for general lighting purposes - EMC immunity requirements	**Yes**
LED module complies with the standard:	**DIN EN 62031**	LED modules for general lighting - Safety specifications	**N/A**
The labeling "according to VDE 0108" is not meaningful, because this is not a control gear standard!			
Specifications:	**CEAG data:**	**Explanation:**	**Manufacturer specification:**
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**	Selection guide for the monitoring modules as well as for the calculation of the max. number of luminaires per circuit and the necessary battery capacity. In the voltage range of 186 - 275V DC and 189 - 264V AC the input current must be higher. **The current consumption must be sinusoidal for AT-S+ Systems. See DIN EN 61000-3-2, Pkt. 7.3 a.)**	**AC:** **see attachment converter overview list** **DC:**
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-SK: <10 mA or <28 mA = n.OK** **V-CG-SUW: <28 mA = n.OK** **CG-K: <10 mA or <28 mA = n.OK**	Selection guide for the monitoring modules. In the voltage range of 186 - 275V DC and 189 - 264V AC the no-load current must be lower. **The current consumption must be sinusoidal for AT-S+ Systems. See DIN EN 61000-3-2, Pkt. 7.3 a.)**	**AC:** **see attachment converter overview list** **DC:**
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	**IPK=20A** **tHW=100µs**
Luminous flux ratio: 186 V DC operation in comparison to 230 V AC operation	-	Light output in battery operation is needed for the light calculation.	**> 50%**
Luminaires for emergency lighting must comply with DIN EN 60598-2-22 (Particular requirements -Luminaires for emergency lighting) and DIN EN 62471 classification group 1 (Photobiological safety of lamps and lamp systems).			
*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	Type / Description: Constant current LED controlgear LED controlgear: OT FIT 30/220-240/125 D L LED controlgear: OT FIT 50/220-240/250 D L LED controlgear: OT FIT 50/220-240/350 D L	

LED controlgear type	Max. inrush current for ECG AC-operation	Values for load range	I_N in AC-operation (220-240 V)	I_N in DC-operation (176-276 V)	I_{NoLoad} in AC-operation	I_{NoLoad} in DC-operation
OT FIT 30/220-240/125 D L	IPK = 20 A tHW < 100 µs	Maximum load Minimum load [Iout 125mA]	140 mA > 28 mA (230V)	140 mA > 16 mA (240V)	< 28 mA (230V)	< 10mA [186VDC] < 10mA [240VDC] < 10mA [275VDC]
OT FIT 50/220-240/250 D L	IPK = 20 A tHW < 100 µs	Maximum load Minimum load [Iout 250mA]	270 mA > 47 mA (230V)	270 mA > 47 mA (240V)	< 47 mA (230V)	< 10mA [186VDC] < 10mA [240VDC] < 10mA [275VDC]
OT FIT 50/220-240/350 D L	IPK = 20 A tHW < 100 µs	Maximum load Minimum load [Iout 350mA]	270 mA > 47 mA (230V)	270 mA > 47 mA (240V)	< 28 mA (230V)	< 10mA [186VDC] < 10mA [240VDC] < 10mA [275VDC]

Note: IOUT is not reduced when ECG is DC operated.
Note: POUT is 100 percent @ Ta = 25°C and more than 50 percent when operated 1 hour @ T = 70°C
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Requirements for electronic non-dimmable control gears for fluorescent lamps and LED			Version 8
Manufacturer: **OSRAM GmbH** **Marcel-Breuer-Str.6** **D-80807 München**	**Type / Description: Constant current LED controlgear** **OT FIT 15/220-240/350 CS** **OT FIT 50/220-240/1A0 CS**		
Specifications:	**CEAG Data:**	**Explanation:**	**Fulfilled: (Yes / No)**
Control gear suitable for a DC voltage range:	**186V - 260V DC (for Lead-Battery)** **186V - 275V DC (for NiCD-Battery)**	Possible voltage range of the battery in emergency mode *(Not necessary for AT-S+ System)*	**Yes**
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**
Starting behavior of the control gear:	**Stable current consumption after less than 1.6 sec. maximum.**	Necessary for an individual monitoring. D I < 12,5 mA per luminaire, with max. 20 luminaires per circuit D I sum < 250 mA	**Yes**
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	**N/A**
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	**N/A**
only for LED: Control gear complies with the standard:	**DIN EN 62384**	AC or DC supplied electronic control gear for LED modules - Performance requirements	**N/A**
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**
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**
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**
Control gear complies with the standard:	**DIN EN 61000-3-2, Pkt. 7.3 a.)**	**see *Important note!**	**Yes**
Control gear complies with the standard:	**DIN EN 61547**	Equipment for general lighting purposes - EMC immunity requirements	**Yes**

* The labeling "according to VDE 0108" is not meaningful, because it is not a ballast standard !

Specifications:	**CEAG-Datas**	**Explanation:**	**Fulfilled: (Yes / No)**
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**	Selection guide for the monitoring modules as well as for the calculation of the max. number of luminaires per circuit and the necessary battery capacity. In the voltage range of 186 - 275V DC and 189 - 264V AC the input current must be higher. see *Important note!	**AC:** **see attachment converter overview list** **DC:**
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-SK: <10 mA or <28 mA = n.OK** **V-CG-SUW: <28 mA = n.OK** **CG-K: <10 mA or <28 mA = n.OK**	Selection guide for the monitoring modules. In the voltage range of 186 - 275V DC and 189 - 264V AC the no-load current must be lower. see *Important note!	**AAC:** **see attachment converter overview list** **DC:**
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.	**IPK=25A** **tHW=200µs**
Important for lighting design: Luminous flux ratio: 186 V DC operation in comparison to 230 V AC operation	-	Light output in battery operation is needed for the light calculation.	**a>50%**
prep. Egger 12-2013			

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

Manufacturer: OSRAM GmbH Marcel-Breuer-Str.6 D-80807 München	Type / Description: Constant current LED controlgear OT FIT 15/220-240/350 CS OT FIT 50/220-240/1A0 CS					
LED controlgear type	**Max. inrush current for ECG AC-operation**	**Values for load range**	**I_N in AC-operation (220-240 V)**	**I_N in DC-operation (176-276 V)**	**I_{NoLoad} in AC-operation**	**I_{NoLoad} in DC-operation**
OT FIT 15/220-240/350 CS	IPK = 15 A; tHW = 275 µs	Maximum load Minimum load [Iout 250mA]	71 mA 53 mA (240V)	65 mA 44 mA (240V)	29 mA [220VAC] 31 mA [240VAC]	17 mA [176VDC] 12 mA [240VDC] 11 mA [276VDC]
		Maximum load Minimum load [Iout 300mA]	85 mA 58 mA (240V)	80 mA 50 mA (240V)	29 mA [220VAC] 31 mA [240VAC]	17 mA [176VDC] 12 mA [240VDC] 11 mA [276VDC]
		Maximum load Minimum load [Iout 350mA]	101 mA 67 mA (240V)	97 mA 60 mA (240V)	29 mA [220VAC] 31 mA [240VAC]	17 mA [176VDC] 12 mA [240VDC] 11 mA [276VDC]
OT FIT 50/220-240/1A0 CS	IPK = 25 A; tHW = 200 µs	Maximum load Minimum load [Iout 800mA]	198 mA 127 mA (240V)	194 mA 120 mA (240V)	43 mA [220VAC] 44 mA [240VAC]]	25 mA [176VDC] 18 mA [240VDC] 16 mA [276VDC]
		Maximum load Minimum load [Iout 900 mA]	228 mA 141 mA (240V)	224 mA 134 mA (240V)	43 mA [220VAC] 44 mA [240VAC]	25 mA [176VDC] 18 mA [240VDC] 16 mA [276VDC]
		Maximum load Minimum load [Iout 1050 mA]	248 mA 162 mA (240V)	245 mA 156 mA (240V)	43 mA [220VAC] 44 mA [240VAC]	25 mA [176VDC] 18 mA [240VDC] 16 mA [276VDC]

Note: IOUT is not reduced when ECG is DC operated. IOUT is limited to 250 mA (FIT 15) / 800 mA (FIT 50) in case of Ta < T <= 70°C
Note: 100 percent @ Ta = 25°C and more than 50 percent when operated 1 hour @ T = 70°C
Note: The powerfactor is << 0.9 if ECG has no load. The AC current is different from DC current then. This ECG is not suitable for ATS+ system
Information in this document is subject to change without notice

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Requirements for electronic non-dimmable control gears for fluorescent lamps and LED			Version 8
Manufacturer: **OSRAM GmbH** **Marcel-Breuer-Str.6** **D-80807 München**	**Type / Description: Constant current LED controlgear** **OT FIT 25/220-240/500 CS** **OT FIT 35/220-240/700 CS**		
Specifications:	**CEAG Data:**	**Explanation:**	**Fulfilled: (Yes / No)**
Control gear suitable for a DC voltage range:	**186V - 260V DC (for Lead-Battery)** **186V - 275V DC (for NiCD-Battery)**	Possible voltage range of the battery in emergency mode *(Not necessary for AT-S+ System)*	**Yes**
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**
Starting behavior of the control gear:	**Stable current consumption after less than 1.6 sec. maximum.**	Necessary for an individual monitoring. Δ I < 12,5 mA per luminaire, with max. 20 luminaires per circuit Δ I sum < 250 mA	**Yes**
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	**N/A**
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	**N/A**
only for LED: Control gear complies with the standard:	**DIN EN 62384**	AC or DC supplied electronic control gear for LED modules - Performance requirements	**N/A**
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**
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**
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**
Control gear complies with the standard:	**DIN EN 61000-3-2, Pkt. 7.3 a.)**	**see *Important note!**	**Yes**
Control gear complies with the standard:	**DIN EN 61547**	Equipment for general lighting purposes - EMC immunity requirements	**Yes**

* The labeling "according to VDE 0108" is not meaningful, because it is not a ballast standard !

Specifications:	**CEAG-Datas**	**Explanation:**	**Fulfilled: (Yes / No)**
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**	Selection guide for the monitoring modules as well as for the calculation of the max. number of luminaires per circuit and the necessary battery capacity. In the voltage range of 186 - 275V DC and 189 - 264V AC the input current must be higher. see *Important note!	**AC:** **see attachment converter overview list** **DC:**
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-SK: <10 mA or <28 mA = n.OK** **V-CG-SUW: <28 mA = n.OK** **CG-K: <10 mA or <28 mA = n.OK**	Selection guide for the monitoring modules. In the voltage range of 186 - 275V DC and 189 - 264V AC the no-load current must be lower. see *Important note!	**AAC:** **see attachment converter overview list** **DC:**
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.	**IPK=25A** **tHW=200µs**
Important for lighting design: Luminous flux ratio: 186 V DC operation in comparison to 230 V AC operation	-	Light output in battery operation is needed for the light calculation.	**a>50%**
prep. Egger 12-2013			

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

Manufacturer: OSRAM GmbH Marcel-Breuer-Str.6 D-80807 München	Type / Description: Constant current LED controlgear OT FIT 25/220-240/500 CS OT FIT 35/220-240/700 CS					
LED controlgear type	**Max. inrush current for ECG AC-operation**	**Values for load range**	**I_N in AC-operation (220-240 V)**	**I_N in DC-operation (176-276 V)**	**I_{NoLoad} in AC-operation**	**I_{NoLoad} in DC-operation**
OT-FIT 25/220-240/500 CS	IPK = 15 A; tHW = 275 µs	Maximum load Minimum load [Iout 400mA]	115 mA 70 mA (240V)	109 mA 60 mA (240V)	34 mA [220VAC] 35 mA [240VAC]	17 mA [176VDC] 14 mA [240VDC] 13 mA [276VDC]
		Maximum load Minimum load [Iout 450mA]	125 mA 76 mA (240V)	120 mA 67 mA (240V)	34 mA [220VAC] 35 mA [240VAC]	17 mA [176VDC] 14 mA [240VDC] 13 mA [276VDC]
		Maximum load Minimum load [Iout 300mA]	131 mA 84 mA (240V)	126 mA 76 mA (240V)	34 mA [220VAC] 35 mA [240VAC]	17 mA [176VDC] 14 mA [240VDC] 13 mA [276VDC]
OT-FIT 35/220-240/700 CS	IPK = 25 A; tHW = 200 µs	Maximum load Minimum load [Iout 550mA]	150 mA 92 mA (240V)	140 mA 80 mA (240V)	45 mA [220VAC] 46 mA [240VAC]	23 mA [176VDC] 19 mA [240VDC] 17 mA [276VDC]
		Maximum load Minimum load [Iout 600 mA]	160 mA 98 mA (240V)	150 mA 87 mA (240V)	45 mA [220VAC] 46 mA [240VAC]	23 mA [176VDC] 19 mA [240VDC] 17 mA [276VDC]
		Maximum load Minimum load [Iout 700 mA]	180 mA 114 mA (240V)	170 mA 105 mA (240V)	45 mA [220VAC] 46 mA [240VAC]	23 mA [176VDC] 19 mA [240VDC] 17 mA [276VDC]

Note: I_{OUT} is not reduced when ECG is DC operated. IOUT is limited to 400 mA (FIT 25) / 550 mA (FIT 35) in case of Ta < T <= 70°C

Note: 100 percent @ Ta = 25°C and more than 50 percent when operated 1 hour @ T = 70°C

Note: 100 percent @ Ta = 25°C and more than 50 percent when operated 1 hour @ T = 70°C

Information in this document is subject to change without notice