

Light is OSRAM

OSRAM

EATON – Conformity certificate with central battery systems


1. OTi DALI Linear SELV
 - 1.1 OTi DALI 35 /220-240/700 LT2 L
 - 1.2 OTi DALI 50/220-240/1A4 LT2 L
 - 1.3 OTi DALI 80/220-240/1A6 LT2 L
 - 1.4 OTi DALI 80/220-240/2A1 LT2 L

2. OTi DALI Linear non isolated
 - 2.1 OTi DALI 35 /220-240/400 LT2 L
 - 2.2 OTi DALI 60 /220-240/550 LT2 L
 - 2.3 OTi DALI 90 /220-240/700 LT2 L
 - 2.4 OTi DALI 90 /220-240/1A0 LT2 L

3. OTi DALI Ultraflat
 - 3.1 OTi DALI 35 /220-240/400 D LT2 UF L
 - 3.2 OTi DALI 75 /220-240/700 D LT2 UF L

4. OTi DALI Compact SELV
 - 4.1 OTi DALI 15/220-240/1A0 LT2
 - 4.2 OTi DALI 25/220-240/700 LT2
 - 4.3 OTi DALI 35/220-240/1A0 LT2
 - 4.4 OTi DALI 50/220-240/1A4 LT2 FAN

Requirements for dimmable DALI control gears for fluorescent lamps and LED			Version 0
Manufacturer: OSRAM GmbH Marcel-Breuer-Str.6 D-80807 München	Type / description: EVG-family: OTi DALI 35 /220-240/700 LT2 L		
Features:	CEAG Data:	Comment:	Complies: (yes /no)
Control gear suitable for a DC voltage range:	186V - 260V DC (with lead-battery) 186V - 275V DC (with 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.	Necessary for an individual monitoring. $\Delta I < 12,5 \text{ mA}$ per luminaire, with max. 20 luminaires per circuit: $\Delta I \text{ Sum} < 250 \text{ mA}$	Yes
<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	Not relevant
<u>only for fluorescent lamps:</u> Control gear complies with the standard:	DIN EN 61347-2-3 (inkl. Anhang J)	Particular requirements for AC and/or DC supplied electronic control gear for fluorescent lamps	Not relevant
<u>only for LED:</u> Control gear complies with the standard:	DIN EN 62384	DC or AC supplied electronic control gear for LED modules - Performance requirements	Yes
<u>only for LED:</u> Control gear complies with the standard:	DIN EN 61347-2-13	Particular requirements for DC or AC supplied electronic control gears for LED	Yes
Control gear complies with the standard:	DIN EN 55015 (Measurement on 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 $\leq 16 \text{ A}$ per phase)	
Control gear complies with the standard:	DIN EN 61547	Equipment for general lighting purposes - EMC immunity requirements	
Control gear complies with DALI standard VDE 0108 is not a standard for ECG, marking is not applicable	DIN EN 62386-101 /-102 / -207**	Control gear must have the DALI Logo	Yes
Features:	CEAG-Data:	Comment:	Manufacturer's instructions:
<u>Important for function test!</u> According to IEC 62386 Part 102 Support of: DALI command 145 (Query Control Gear) DALI command 146 (Query Lamp Failure)	According to IEC 62386 Part 102	To detect a lamp failure, the V-CG-SB.1 module send DALI Command queries (145/146) to the DALI ECG.	Ja
<u>Important for DC light output:</u> Behavior in DC operation: - Unlocked DC light output level - Locked DC light output level	DC light output settings on V-CG-SB.1 only active if control gear is unlocked!	In case of locked DC light output level, the DC level of V-CG-SB.1 is not active	locked DC [] unlocked DC [x]
<u>Important for lighting design:</u> If locked DC light output the lightout level in % is required	No control of light output level from V-CG-SB.1 in DC operation possible!	Fixed light output level on DALI LED driver in case of a locked DC light output level.	15% on DC, value unlocked
<u>Important for the contact load SKU:</u> 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.	See OTi DALI 35 L - Overview
<u>Important for lighting design:</u> Luminous flux ratio: DC-operation at 186 V in comparison to 230 V AC-operation	-	Light output in battery operation of the ballast, for the light calculation.	15%
Luminaires, which are used for emergency lighting, must be according to the standard DIN EN 60598-2-22 (particular requirements - Luminaires for emergency lighting)			
**Control of V-CG-SB.1 to the DALI LEDdriver is 100% done via DALI-commands according to IEC 62386-101 /-102, so the DALI LED driver must sign with the DALI logo.			
max. 1 DALI-Driver to wire with V-CG-SB.1			
Stand: 20.Okt.2014			

Hersteller: OSRAM GmbH Marcel-Breuer-Str.6 D-80807 München	Typ / Bezeichnung: EVG-Typ: OTi DALI 35 /220-240/700 LT2 L	
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ECG type	Max. inrush current for ECG AC-operation	Values for load range	I_N in AC-operation (220-240 C)	I_N in DC-operation (176-276 V)	I_{NoLoad} in AC-operation	I_{NoLoad} in DC-operation
OTi DALI 35/220-240/700 LT2 L	$I_p = 32A$; TH = 100 μs	Maximum load [Iout 700mA] Minimum load [Iout 200mA]	180 mA (240V)	40mA (240V)	21 mA [220VAC] 20 mA [240VAC]	22 mA [176VDC] 20 mA [240VDC] 19 mA [276VDC]

Requirements for dimmable DALI control gears for fluorescent lamps and LED			Version 0
Manufacturer: OSRAM GmbH Marcel-Breuer-Straße 6 80807 München	Type / description: ECG-family: OTI DALI 50/220-240/1A4 LT2 L		
Features	CEAG data:	Comment	Complies
Operating voltage range DC:	DC: 186 V - 275 V at -10 °C	Possible voltage range of the battery in emergency mode (<i>Not necessary for AT-S+ System</i>)	YES
Switching time: from AC to DC from DC to AC	Installation switching times: 180 ms - 450 ms 180 ms - 450 ms	Typical switch over time of CEAG CPS/LPS-devices	YES
starting characteristic controlgear:	Stable current consumption lower after 1,6 s	necessary for selective control $\Delta I < 12,5 \text{ mA}$ per luminaire, at max. 20 luminaires for one current circuit: ΔI in summ $< 250 \text{ mA}$	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 (Measurement on AC And 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 $\leq 16 \text{ A}$ 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
LED module fullfills the standard:	DIN EN 62031	LED modules for general lighting — Safety specifications	N/A
*VDE 0108 is not a standard for ECG, marking is not applicable			
Features	CEAG-Data:	Comment:	Manufacturer's instructions:
No load current of the ballast (without tube or with defect tube) in DC-operation	V-CG-S2: $>9,4 \text{ mA}$ oder $>12,7 \text{ mA} = \text{OK}$ V-CG-S: $>16 \text{ mA}$ oder $>47 \text{ mA} = \text{OK}$ V-CG-SE: $>16 \text{ mA}$ oder $>47 \text{ mA} = \text{OK}$ V-CG-SUW: $>47 \text{ mA} = \text{OK}$ CG-K: $>16 \text{ mA}$ oder $>47 \text{ mA} = \text{OK}$	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.)	see "OTi DALI 50 1A4 LT2 L"
voltage dependent = No load current of the ballast (without or with defect LED module) in DC and AC - operation*:	V-CG-S2: $<5,8 \text{ mA}$ oder $<7,9 \text{ mA} = \text{n.OK}$ V-CG-S: $<10 \text{ mA}$ oder $<28 \text{ mA} = \text{n.OK}$ V-CG-SK: $<10 \text{ mA}$ oder $<28 \text{ mA} = \text{n.OK}$ V-CG-SUW: $<28 \text{ mA} = \text{n.OK}$ CG-K: $<10 \text{ mA}$ oder $<28 \text{ mA} = \text{n.OK}$	selection aid for monitoring modules: these values are not allowed to exceed the 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.)	see "OTi DALI 50 1A4 LT2 L"
Max. inrush current each converter/luminaire in AC-operation:	Max. permitted inrush current per circuit: SKU 2 x 3A (CG) $\Rightarrow 120 \text{ A}$ SKU 1 x 6A (CG) $\Rightarrow 180 \text{ A}$ SKU 4 x 1,5A CG-S $\Rightarrow 60 \text{ A}$ SKU 2 x 3A CG-S $\Rightarrow 250 \text{ A}$ SKU 1 x 6A CG-S $\Rightarrow 250 \text{ A}$ SOU CG-S // S* $\Rightarrow 250 \text{ A}$ SU S* $\Rightarrow 250 \text{ A}$	Describes the max. inrush current of all ballasts in a circuit, to calculate the maximum contact rating of the circuit.	see "OTi DALI 50 1A4 LT2 L"
Lightoutput in DC-operation at 186 V in comparison to 230 V AC operation	-	In battery operation of the ballast, for the light calculation	
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) Funktionsüberwachung erfolgt DALI-Seitig über den DALI-Treiber Control of function is done via DALI-Driver Max. 1 DALI- Driver OTI DALI 50 L to wire with 1 V-CG-SB.1 PFC inside OTI DALI 50 L			

Manufacturer: OSRAM GmbH Marcel-Breuer-Straße 6 80807 München	Type / Description: ECG-family: OTI DALI 50/220-240/1A4 LT2 L	
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ECG type	Max. inrush current for ECG AC-operation	Lamp type	I_N in AC-operation	I_N in DC-operation	I_{NoLoad} in AC-operation	I_{NoLoad} in DC-operation
OTI DALI 50/220-240/1A4 LT2 L	53 A pk, th = 200 μ s	Maximum load Minimum load [Iout 600mA]	164mA 83mA (240V)	154mA 71mA (240V)	36 mA [220VAC] 36 mA [240VAC]	12 mA [176VDC] 8 mA [240VDC] 7 mA [276VDC]
	53 A pk, th = 200 μ s	Maximum load Minimum load [Iout 1400mA]	262mA 158mA (240V)	252mA 147mA (240V)	36 mA [220VAC] 36 mA [240VAC]	12 mA [176VDC] 8 mA [240VDC] 7 mA [276VDC]

Requirements for dimmable DALI control gears for fluorescent lamps and LED	Version 0
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Manufacturer: OSRAM GmbH Marcel-Breuer-Straße 6 80807 München	Type / description: ECG-family: OTI DALI 80/220-240/2A1 LT2 L
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Specifications	CEAG data:	Explanation	Fullfilled (YES/NO)
Operating voltage range DC:	DC: 186 V - 275 V at -10 °C	Possible voltage range of the battery in emergency mode (<i>Not necessary for AT-S+ System</i>)	YES
Switching time: from AC to DC from DC to AC	Installation switching times: 180 ms - 450 ms 180 ms - 450 ms	Typical switch over time of CEAG CPS/LPS-devices	YES
starting characteristic controlgear:	Stable current consumption lower after 1,6 s	necessary for selective control $\Delta I < 12,5$ mA per luminaire, at max. 20 luminaires for one current circuit: ΔI in summ < 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 (Measurement on AC And 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
LED module fullfills the standard:	DIN EN 62031	LED modules for general lighting — Safety specifications	N/A

*VDE 0108 is not a standard for ECG, marking is not applicable

Features	CEAG-Data:	Comment:	Manufacturer's instructions:
No load current of the ballast (without tube or with defect tube) in DC-operation	V-CG-SB.1	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 voltage range 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.)	see "OTi DALI 80 2A1 LT2"
voltage dependent = No load current of the ballast (without or with defect LED module) in DC and AC - operation*:	V-CG-SB.1	selection aid for monitoring modules: these values are not allowed to exceed the def. limits for the voltage range 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.)	see "OTi DALI 80 2A1 LT2"
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.	see "OTi DALI 80 2A1 LT2"
Lightoutput in DC-operation at 186 V in comparison to 230 V AC operation	-	In battery operation of the ballast, for the light calculation	

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)

Funktionsüberwachung erfolgt DALI-Seitig über den DALI-Treiber
Control of function is done via DALI-Driver

Max. 1 DALI- Driver OTI DALI 50 L to wire with 1 V-CG-SB.1

PFC inside OTi DALI 50 L

Manufacturer: OSRAM GmbH Marcel-Breuer-Straße 6 80807 München	Type / Description: ECG-family: OTI DALI 80/220-240/2A1 LT2 L	
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ECG type	Max. inrush current for ECG AC-operation	Lamp type	I_N in AC-operation	I_N in DC-operation	I_{NoLoad} in AC-operation	I_{NoLoad} in DC-operation
OTI DALI 80/220-240/2A1 LT2 L	$I_{max} = 53 A$ $T_h = 200 \mu s$	Maximum load Minimum load [out 1000mA]	261mA 119mA (240V)	248mA 105mA (240V)	43 mA [220VAC] 43 mA [240VAC]	13 mA [176VDC] 9 mA [240VDC] 8 mA [276VDC]
	$I_{max} = 53 A$ $T_h = 200 \mu s$	Maximum load Minimum load [out 2100mA]	393mA 225mA (240V)	381mA 214mA (240V)	43 mA [220VAC] 43 mA [240VAC]	13 mA [176VDC] 9 mA [240VDC] 8 mA [276VDC]

Requirements for dimmable DALI control gears for fluorescent lamps and LED			Version 0
Manufacturer: OSRAM GmbH Marcel-Breuer-Straße 6 80807 München		Type / description: ECG-family: OTI DALI 80/220-240/1A6 LT2 L	
Specifications	CEAG data:	Explanation	Fullfilled (YES/NO)
Operating voltage range DC:	DC: 186 V - 275 V at -10 °C	Possible voltage range of the battery in emergency mode (<i>Not necessary for AT-S+ System</i>)	YES
Switching time: from AC to DC from DC to AC	Installation switching times: 180 ms - 450 ms 180 ms - 450 ms	Typical switch over time of CEAG CPS/LPS-devices	YES
starting characteristic controlgear:	Stable current consumption lower after 1,6 s	necessary for selective control $\Delta I < 12,5 \text{ mA}$ per luminaire, at max. 20 luminaires for one current circuit: ΔI in summ $< 250 \text{ mA}$	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 (Measurement on AC And 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 $\leq 16 \text{ A}$ 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
LED module fullfills the standard:	DIN EN 62031	LED modules for general lighting — Safety specifications	N/A
*VDE 0108 is not a standard for ECG, marking is not applicable			
Features	CEAG-Data:	Comment:	Manufacturer's instructions:
No load current of the ballast (without tube or with defect tube) in DC-operation	V-CG-SB.1	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 voltage range 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.)	see "OTI DALI 80 1A6 LT2 L"
voltage dependent = No load current of the ballast (without or with defect LED module) in DC and AC - operation*:	V-CG-SB.1	selection aid for monitoring modules: these values are not allowed to exceed the def. limits for the voltage range 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.)	see "OTI DALI 80 1A6 LT2 L"
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.	see "OTI DALI 80 1A6 LT2 L"
Lightoutput in DC-operation at 186 V in comparison to 230 V AC operation	-	In battery operation of the ballast, for the light calculation	
<p>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)</p> <p>Funktionsüberwachung erfolgt DALI-Seitig über den DALI-Treiber Control of function is done via DALI-Driver</p> <p>Max. 1 DALI-Driver OTI DALI 80 L to wire with 1 V-CG-SB.1</p> <p>PFC inside OTI DALI 80 L</p>			

Manufacturer: OSRAM GmbH Marcel-Breuer-Straße 6 80807 München	Type / Description: ECG-family: OTI DALI 80/220-240/1A6 LT2 L	
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ECG type	Max. inrush current for ECG AC-operation	Lamp type	I_N in AC-operation	I_N in DC-operation	I_{NoLoad} in AC-operation	I_{NoLoad} in DC-operation
OTi DALI 80/220-240/1A6 LT2 L	$I_{max} = 53 A$ $T_h = 200 \mu s$	Maximum load Minimum load [Iout 600mA]	168mA 87mA (240V)	155mA 67mA (240V)	42 mA [220VAC] 43 mA [240VAC]	12 mA [176VDC] 8 mA [240VDC] 7 mA [276VDC]
	$I_{max} = 53 A$ $T_h = 200 \mu s$	Maximum load Minimum load [Iout 1550mA]	380mA 180mA (240V)	367mA 167mA (240V)	42 mA [220VAC] 43 mA [240VAC]	12 mA [176VDC] 8 mA [240VDC] 7 mA [276VDC]

Requirements for dimmable DALI control gears for fluorescent lamps and LED

Version 0

Manufacturer: Osram GmbH Marcel-Breuer-Straße 6 D-80807 München	Type / description: ECG-type: Oti DALI 35/220-240/400 LT2 L (ident code: AM00139)		
Features:	CEAG data:	Comment:	Complies: (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. $\Delta I < 12,5 \text{ mA}$ per luminaire, with max. 20 luminaires per circuit $\Delta I \text{ sum} < 250 \text{ mA}$	Yes
<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	not relevant
<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	not relevant
<u>only for LED:</u> Control gear complies with the standard:	DIN EN 62384	DC. Or AC supplied electronic control gear for LED modules - Performance requirements	Yes
<u>only for LED:</u> Control gear complies with 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 (Measurement on AC And 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 $\leq 16 \text{ A}$ per phase)	Yes
Fullfilled the standard:	DIN EN 61547	Equipment for general lighting purposes — EMC immunity requirements	(*3) Yes
Fullfilled the DALI standards:	DIN EN 62386-101 / -102 / -207	Control gear must have the DALI Logo	(*1) Yes
<small>Note: VDE 0108 is not a standard for ECG, marking is not applicable</small>			
Features:	CEAG-Data:	Comment:	Manufacturer's instructions:
<u>Important for function test!</u> According to IEC 62386 Part 102 Support of : DALI command 145 (Query Control Gear) DALI command 146 (Query Lamp Failure)	According to IEC 62386 Part 102	To detect a lamp failure, the V-CG-SB.1 module send DALI command queries (145/146) to the DALI LED driver	Yes
<u>Important for DC light output:</u> Behavior in DC operation: - Unlocked DC light output level - Locked DC light output level	DC light output settings on V-CG-SB.1 only active if control gear is unlocked!	In case of locked DC light output level, the DC level of V-CG-SB.1 is not active !	Unlocked DC [] Locked DC [x]
<u>Important for lighting design:</u> If locked DC light output the lightout level in % is required	No control of light output level from V-CG-SB.1 in DC operation possible!	Locked light output level in %, e.g. 15%	(*2) 15%
<u>Important for the contact load SKU:</u> 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.	Ip=17A / Th=183µs
<u>Important for lighting design:</u> Luminous flux ratio: DC-operation at 186 V in comparison to 230 V AC operation	-	Light output In battery operation of the ballast, for the light calculation	(*2) 15%
Luminaires, which are used for emergency lighting, must be according to the standard DIN EN 60598-2-22 (particular requirements - Luminaires for emergency lighting)			
*1: Control of V-CG-SB.1 to the DALI LED driver is 100% done via DALI-commands according to IEC 62386-101 /-102 so the DALI LED driver must sign with the DALI logo			
*2: The DC Output Level is locked in DC Mode to 15%, it is possible to unlock with DALI magic and Tuner 4 Tronic			
*3: Not to be used in high risk areas, special release required			
Max. 1 DALI- Driver to wire with 1 V-CG-SB.1			
In use of manifold ballasts, the different lamp failure detection of the manufacturer must be consider! Some devices don't detect a failure if one lamp is defect.			
Date: 22.June.2017			

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



Manufacturer:
OSRAM GmbH
Marcel-Breuer Str. 6
D-80807 München

Product:
Oti DALI 35/220-240/400 LT2 L



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)
Oti DALI 35/220-240/400 LT2 L	Umin, Imin	44,09	44,26	10,03	8,74	8,20	7,88
	Umin, Imax	123,13	112,08	24,43	20,61	18,63	17,31
	Umax, Imin	102,03	99,37	25,12	21,73	19,68	18,20
	Umax, Imax	113,60	110,54	39,25	33,78	30,52	28,47
	Open Load	25,02	31,37	2,30	2,21	2,17	2,14
	Short Load	25,02	31,38	2,29	2,22	2,17	2,15


Maximum inrush current for ECG in AC Operation


I_{peak}= 17 A
TH= 183 µs

Requirements for dimmable DALI control gears for fluorescent lamps and LED

Version 0

Manufacturer: Osram GmbH Marcel-Breuer-Straße 6 D-80807 München	Type / description: ECG-type: Oti DALI 60/220-240/550 LT2 L (ident code: AM00138)		
Features:	CEAG data:	Comment:	Complies: (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. <i>(Not for AT-S* Systems required)</i>	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. $\Delta I < 12,5 \text{ mA}$ per luminaire, with max. 20 luminaires per circuit $\Delta I \text{ sum} < 250 \text{ mA}$	Yes
<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	not relevant
<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	not relevant
<u>only for LED:</u> Control gear complies with the standard:	DIN EN 62384	DC. Or AC supplied electronic control gear for LED modules - Performance requirements	Yes
<u>only for LED:</u> Control gear complies with 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 (Measurement on AC And 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 $\leq 16 \text{ A}$ per phase)	Yes
Fullfilled the standard:	DIN EN 61547	Equipment for general lighting purposes — EMC immunity requirements	(*3) Yes
Fullfilled the DALI standards:	DIN EN 62386-101 / -102 / -207	Control gear must have the DALI Logo	(*1) Yes
<small>Note: VDE 0108 is not a standard for ECG, marking is not applicable</small>			
Features:	CEAG-Data:	Comment:	Manufacturer's instructions:
<u>Important for function test!</u> According to IEC 62386 Part 102 Support of: DALI command 145 (Query Control Gear) DALI command 146 (Query Lamp Failure)	According to IEC 62386 Part 102	To detect a lamp failure, the V-CG-SB.1 module send DALI command queries (145/146) to the DALI LED driver	Yes
<u>Important for DC light output:</u> Behavior in DC operation: - Unlocked DC light output level - Locked DC light output level	DC light output settings on V-CG-SB.1 only active if control gear is unlocked!	In case of locked DC light output level, the DC level of V-CG-SB.1 is not active !	Unlocked DC [] Locked DC [x]
<u>Important for lighting design:</u> If locked DC light output the lightout level in % is required	No control of light output level from V-CG-SB.1 in DC operation possible!	Locked light output level in %, e.g. 15%	(*2) 15%
<u>Important for the contact load SKU:</u> 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.	Ip=23 A / Th=193 µs
<u>Important for lighting design:</u> Luminous flux ratio: DC-operation at 186 V in comparison to 230 V AC operation	-	Light output in battery operation of the ballast, for the light calculation	(*2) 15%
Luminaires, which are used for emergency lighting, must be according to the standard DIN EN 60598-2-22 (particular requirements - Luminaires for emergency lighting)			
*1: Control of V-CG-SB.1 to the DALI LED driver is 100% done via DALI-commands according to IEC 62386-101 / -102 so the DALI LED driver must sign with the DALI logo			
*2: The DC Output Level is locked in DC Mode to 15%, it is possible to unlock with DALI magic and Tuner 4 Tronic			
*3: Not to be used in high risk areas, special release required			
Max. 1 DALI- Driver to wire with 1 V-CG-SB.1			
In use of manifold ballasts, the different lamp failure detection of the manufacturer must be consider! Some devices don't detect a failure if one lamp is defect.			
Date: 22.June.2017			

Requirements for electronic non-dimmable control gears for fluorescent lamps and LED	 <i>Powering Business Worldwide</i>
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Manufacturer: OSRAM GmbH Marcel-Breuer Str. 6 D-80807 München	Product: Oti DALI 60/220-240/550 LT2 L	
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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)
Oti DALI 60/220-240/550 LT2 L	U _{min} , I _{min}	55,24	55,02	13,78	11,75	10,77	9,66
	U _{min} , I _{max}	162,98	145,63	31,61	27,01	24,22	22,37
	U _{max} , I _{min}	149,36	144,12	36,39	31,09	27,88	25,73
	U _{max} , I _{max}	299,57	286,26	60,68	52,15	46,62	42,95
	Open Load	25,25	31,65	1,11	2,21	2,16	2,14
	Short Load	24,68	31,66	1,11	2,21	2,16	2,14

Maximum inrush current for ECG in AC Operation

I_{peak}= 23 A
 TH= 193 μs

Requirements for dimmable DALI control gears for fluorescent lamps and LED

Version 0

Manufacturer: Osram GmbH Marcel-Breuer-Straße 6 D-80807 München	Type / description: ECG-type: Oti DALI 90/220-240/700 LT2 L (ident code: AM00140)		
Features:	CEAG data:	Comment:	Complies: (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. $\Delta I < 12,5 \text{ mA}$ per luminaire, with max. 20 luminaires per circuit $\Delta I \text{ sum} < 250 \text{ mA}$	Yes
<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	not relevant
<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	not relevant
<u>only for LED:</u> Control gear complies with the standard:	DIN EN 62384	DC. Or AC supplied electronic control gear for LED modules - Performance requirements	Yes
<u>only for LED:</u> Control gear complies with 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 (Measurement on AC And 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 $\leq 16 \text{ A}$ per phase)	Yes
Fullfilled the standard:	DIN EN 61547	Equipment for general lighting purposes — EMC immunity requirements	(*3) Yes
Fullfilled the DALI standards:	DIN EN 62386-101 / -102 / -207	Control gear must have the DALI Logo	(*1) Yes
Note: VDE 0108 is not a standard for ECG, marking is not applicable			
Features:	CEAG-Data:	Comment:	Manufacturer's instructions:
<u>Important for function test!</u> According to IEC 62386 Part 102 Support of : DALI command 145 (Query Control Gear) DALI command 146 (Query Lamp Failure)	According to IEC 62386 Part 102	To detect a lamp failure, the V-CG-SB.1 module send DALI command queries (145/146) to the DALI LED driver	Yes
<u>Important for DC light output:</u> Behavior in DC operation: - Unlocked DC light output level - Locked DC light output level	DC light output settings on V-CG-SB.1 only active if control gear is unlocked!	In case of locked DC light output level, the DC level of V-CG-SB.1 is not active !	Unlocked DC [] Locked DC [x]
<u>Important for lighting design:</u> If locked DC light output the lightout level in % is required	No control of light output level from V-CG-SB.1 in DC operation possible!	Locked light output level in %, e.g. 15%	(*2) 15%
<u>Important for the contact load SKU:</u> 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.	Ip=27A / Th=193µs
<u>Important for lighting design:</u> Luminous flux ratio: DC-operation at 186 V in comparison to 230 V AC operation	-	Light output In battery operation of the ballast, for the light calculation	(*2) 15%
Luminaires, which are used for emergency lighting, must be according to the standard DIN EN 60598-2-22 (particular requirements - Luminaires for emergency lighting)			
*1: Control of V-CG-SB.1 to the DALI LED driver is 100% done via DALI-commands according to IEC 62386-101 / -102 so the DALI LED driver must sign with the DALI logo			
*2: The DC Output Level is locked in DC Mode to 15%, it is possible to unlock with DALI magic and Tuner 4 Tronic			
*3: Not to be used in high risk areas, special release required			
Max. 1 DALI-Driver to wire with 1 V-CG-SB.1			
In use of manifold ballasts, the different lamp failure detection of the manufacturer must be consider! Some devices don't detect a failure if one lamp is defect.			
Date: 22.June.2017			

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



Manufacturer:
OSRAM GmbH
Marcel-Breuer Str. 6
D-80807 München

Product:
Oti DALI 90/220-240/700 LT2 L



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)
Oti DALI 90/220-240/700 LT2 L	Umin, Imin	91,97	90,62	20,81	17,71	15,88	15,04
	Umin, Imax	198,93	177,43	41,00	34,96	31,30	28,89
	Umax, Imin	300,20	287,10	63,29	54,41	48,55	44,78
	Umax, Imax	453,47	431,25	85,51	73,26	65,96	60,48
	Open Load	25,38	32,04	2,28	2,19	2,14	2,13
	Short Load	25,53	32,04	1,50	2,18	2,15	2,12

Maximum inrush current for ECG in AC Operation

I_{peak}= 27 A
TH= 193 µs

Requirements for dimmable DALI control gears for fluorescent lamps and LED

Version 0

Manufacturer: Osram GmbH Marcel-Breuer-Straße 6 D-80807 München	Type / description: ECG-type: Oti DALI 90/220-240/1A0 LT2 L (ident code: AM00141)		
Features:	CEAG data:	Comment:	Complies: (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. $\Delta I < 12,5 \text{ mA}$ per luminaire, with max. 20 luminaires per circuit $\Delta I \text{ sum} < 250 \text{ mA}$	Yes
<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	not relevant
<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	not relevant
<u>only for LED:</u> Control gear complies with the standard:	DIN EN 62384	DC. Or AC supplied electronic control gear for LED modules - Performance requirements	Yes
<u>only for LED:</u> Control gear complies with 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 (Measurement on AC And 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 $\leq 16 \text{ A}$ per phase)	Yes
Fullfilled the standard:	DIN EN 61547	Equipment for general lighting purposes — EMC immunity requirements	(*3) Yes
Fullfilled the DALI standards:	DIN EN 62386-101 / -102 / -207	Control gear must have the DALI Logo	(*1) Yes
<small>Note: VDE 0108 is not a standard for ECG, marking is not applicable</small>			
Features:	CEAG-Data:	Comment:	Manufacturer's instructions:
<u>Important for function test!</u> According to IEC 62386 Part 102 Support of : DALI command 145 (Query Control Gear) DALI command 146 (Query Lamp Failure)	According to IEC 62386 Part 102	To detect a lamp failure, the V-CG-SB.1 module send DALI command queries (145/146) to the DALI LED driver	Yes
<u>Important for DC light output:</u> Behavior in DC operation: - Unlocked DC light output level - Locked DC light output level	DC light output settings on V-CG-SB.1 only active if control gear is unlocked!	In case of locked DC light output level, the DC level of V-CG-SB.1 is not active !	Unlocked DC [] Locked DC [x]
<u>Important for lighting design:</u> If locked DC light output the lightout level in % is required	No control of light output level from V-CG-SB.1 in DC operation possible!	Locked light output level in %, e.g. 15%	(*2)15%
<u>Important for the contact load SKU:</u> 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.	Ip=27A / Th=193µs
<u>Important for lighting design:</u> Luminous flux ratio: DC-operation at 186 V in comparison to 230 V AC operation	-	Light output In battery operation of the ballast, for the light calculation	(*2) 15%
Luminaires, which are used for emergency lighting, must be according to the standard DIN EN 60598-2-22 (particular requirements - Luminaires for emergency lighting)			
<p>*1: Control of V-CG-SB.1 to the DALI LED driver is 100% done via DALI-commands according to IEC 62386-101 /-102 so the DALI LED driver must sign with the DALI logo</p> <p>*2: The DC Output Level is locked in DC Mode to 15%, it is possible to unlock with DALI magic and Tuner 4 Tronic</p> <p>*3: Not to be used in high risk areas, special release required</p> <p>Max. 1 DALI-Driver to wire with 1 V-CG-SB.1</p> <p>In use of manifold ballasts, the different lamp failure detection of the manufacturer must be consider! Some devices don't detect a failure if one lamp is defect.</p>			
<small>Date: 22.June.2017</small>			

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



Manufacturer:
OSRAM GmbH
Marcel-Breuer Str. 6
D-80807 München

Product:
Oti DALI 90/220-240/1A0 LT2 L

OSRAM

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)
Oti DALI 90/220-240/1A0 LT2 L	Umin, Imin	87,22	86,13	19,24	16,45	15,08	13,84
	Umin, Imax	280,59	245,61	48,13	41,07	37,00	34,13
	Umax, Imin	298,93	285,87	62,24	53,51	47,77	44,22
	Umax, Imax	446,08	424,50	83,72	71,80	64,67	59,28
	Open Load	25,62	32,97	2,27	2,19	2,15	2,12
	Short Load	25,62	32,97	1,54	2,19	2,15	2,13

Maximum inrush current for ECG in AC Operation

I_{peak}= 27 A
TH= 193 μs

Requirements for dimmable DALI control gears for fluorescent lamps and LED

Version 0

Manufacturer: Osram GmbH Marcel-Breuer-Straße 6 D-80807 München	Type / description: ECG-type: Oti DALI 35/220-240/400 D LT2 UF L (ident code: AB47614)		
Features:	CEAG data:	Comment:	Complies: (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. $\Delta I < 12,5 \text{ mA}$ per luminaire, with max. 20 luminaires per circuit $\Delta I \text{ sum} < 250 \text{ mA}$	Yes
<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	not relevant
<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	not relevant
<u>only for LED:</u> Control gear complies with the standard:	DIN EN 62384	DC. Or AC supplied electronic control gear for LED modules - Performance requirements	Yes
<u>only for LED:</u> Control gear complies with 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 (Measurement on AC And 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 $\leq 16 \text{ A}$ per phase)	Yes
Fullfilled the standard:	DIN EN 61547	Equipment for general lighting purposes — EMC immunity requirements	Yes
Fullfilled the DALI standards:	DIN EN 62386-101 /-102 / -207*	Control gear must have the DALI Logo	Yes

Note: VDE 0108 is not a standard for ECG, marking is not applicable

Features:	CEAG-Data:	Comment:	Manufacturer's instructions:
<u>Important for function test!</u> According to IEC 62386 Part 102 Support of : DALI command 145 (Query Control Gear) DALI command 146 (Query Lamp Failure)	According to IEC 62386 Part 102	To detect a lamp failure, the V-CG-SB.1 module send DALI command queries (145/146) to the DALI LED driver	Yes
<u>Important for DC light output:</u> Behavior in DC operation: - Unlocked DC light output level - Locked DC light output level	DC light output settings on V-CG-SB.1 only active if control gear is unlocked!	In case of locked DC light output level, the DC level of V-CG-SB.1 is not active !	Unlocked DC [] Locked DC [x]
<u>Important for lighting design:</u> If locked DC light output the lightout level in % is required	No control of light output level from V-CG-SB.1 in DC operation possible!	Locked light output level in %, e.g. 15% (**)	15%
<u>Important for the contact load SKU:</u> 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.	Ip=17A / Th=126µs
<u>Important for lighting design:</u> Luminous flux ratio: DC-operation at 186 V in comparison to 230 V AC operation	-	Light output in battery operation of the ballast, for the light calculation (**)	15%

Luminaires, which are used for emergency lighting, must be according to the standard DIN EN 60598-2-22 (particular requirements - Luminaires for emergency lighting)

*Control of V-CG-SB.1 to the DALI LED driver is 100% done via DALI-commands according to IEC 62386-101 /-102 so the DALI LED driver must sign with the DALI logo

** The DC Output Level is locked in DC Mode to 15%, it is possible to unlock with DALI magic and Tuner 4 Tronic
Max. 1 DALI- Driver to wire with 1 V-CG-SB.1

In use of manifold ballasts, the different lamp failure detection of the manufacturer must be consider! Some devices don't detect a failure if one lamp is defect.

Date: 18.Jan.2017

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



Manufacturer:
OSRAM GmbH
Marcel-Breuer Str. 6
D-80807 Munchen

Product
Oti DALI 35/220-240/400 D LT2 UF L

OSRAM

LED controller type	Values for load range	I _{in} in AC-operation (230V) / mA (trms)	I _{in} in AC-operation (240V) / mA (trms)	I _{in} in DC-operation (186V) / mA (trms)	I _{in} in DC-operation (216V) / mA (trms)	I _{in} in DC-operation (240V) / mA (trms)	I _{in} in DC-operation (260V) / mA (trms)
Oti DALI 35/220-240/400 D LT2 UF L	Umin, Imin	63,86	65,23	34,21	29,82	26,47	24,38
	Umin, Imax	125,95	118,29	137,60	118,11	105,70	97,17
	Umax, Imin	110,58	98,29	99,78	90,74	76,61	85,52
	Umax, Imax	200,91	175,38	207,19	181,40	162,67	149,51
	Open Load	32,01	40,26	5,56	5,89	3,75	6,45
	Short Load	32,08	40,36	3,75	5,84	6,23	6,23

Maximum inrush current for ECG in AC Operation

I_{peak}= 17 A
TH= 126 µs

Requirements for dimmable DALI control gears for fluorescent lamps and LED

Version 0

Manufacturer: Osram GmbH Marcel-Breuer-Straße 6 D-80807 München	Type / description: ECG-type: Oti DALI 75/220-240/700 D LT2 UF L (ident code: AB47615)		
Features:	CEAG data:	Comment:	Complies: (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. $\Delta I < 12,5$ mA per luminaire, with max. 20 luminaires per circuit ΔI sum < 250 mA	Yes
<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	not relevant
<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	not relevant
<u>only for LED:</u> Control gear complies with the standard:	DIN EN 62384	DC, Or AC supplied electronic control gear for LED modules - Performance requirements	Yes
<u>only for LED:</u> Control gear complies with 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 (Measurement on AC And 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 61547	Equipment for general lighting purposes — EMC immunity requirements	Yes
Fullfilled the DALI standards:	DIN EN 62386-101 /-102 / -207*	Control gear must have the DALI Logo	Yes

Note: VDE 0108 is not a standard for ECG, marking is not applicable

Features:	CEAG-Data:	Comment:	Manufacturer's instructions:
<u>Important for function test!</u> According to IEC 62386 Part 102 Support of : DALI command 145 (Query Control Gear) DALI command 146 (Query Lamp Failure)	According to IEC 62386 Part 102	To detect a lamp failure, the V-CG-SB.1 module send DALI command queries (145/146) to the DALI LED driver	Yes
<u>Important for DC light output:</u> Behavior in DC operation: - Unlocked DC light output level - Locked DC light output level	DC light output settings on V-CG-SB.1 only active if control gear is unlocked!	In case of locked DC light output level, the DC level of V-CG-SB.1 is not active !	Unlocked DC [] Locked DC [x]
<u>Important for lighting design:</u> If locked DC light output the lightout level in % is required	No control of light output level from V-CG-SB.1 in DC operation possible!	Locked light output level in %, e.g. 15% (**)	15%
<u>Important for the contact load SKU:</u> 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.	Ip=18A / Th=171µs
<u>Important for lighting design:</u> Luminous flux ratio: DC-operation at 186 V in comparison to 230 V AC operation	-	Light output in battery operation of the ballast, for the light calculation (**)	15%

Luminaires, which are used for emergency lighting, must be according to the standard DIN EN 60598-2-22 (particular requirements - Luminaires for emergency lighting)

*Control of V-CG-SB.1 to the DALI LED driver is 100% done via DALI-commands according to IEC 62386-101 /-102 so the DALI LED driver must sign with the DALI logo

** The DC Output Level is locked in DC Mode to 15%, it is possible to unlock with DALI magic and Tuner 4 Tronic

Max. 1 DALI-Driver to wire with 1 V-CG-SB.1

In use of manifold ballasts, the different lamp failure detection of the manufacturer must be consider! Some devices don't detect a failure if one lamp is defect.

Date: 18.Jan. 2017

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



Manufacturer:
OSRAM GmbH
Marcel-Breuer Str. 6
D-80807 Munchen

Product
Oti DALI 75/220-240/700 D LT2 UF L

OSRAM

LED controller type	Values for load range	I _i in AC-operation (230V) / mA (trms)	I _i in AC-operation (240V) / mA (trms)	I _i in DC-operation (186V) / mA (trms)	I _i in DC-operation (216V) / mA (trms)	I _i in DC-operation (240V) / mA (trms)	I _i in DC-operation (260V) / mA (trms)
Oti DALI 75/220-240/700 D L T2 UF L	Umin, Imin	66,73	65,76	16,84	13,50	11,59	10,49
	Umin, Imax	203,67	181,69	38,73	34,78	31,12	27,09
	Umax, Imin	176,01	159,91	41,44	37,01	33,18	28,99
	Umax, Imax	360,35	346,15	78,50	67,47	61,90	57,25
	Open Load	31,69	39,83	5,16	5,44	5,74	5,96
	Short Load	31,32	39,86	5,16	5,47	5,75	6,05

Maximum inrush current for ECG in AC Operation

I_{peak}= 18 A
T_H= 171 μs

Requirements for dimmable DALI control gears for fluorescent lamps and LED

Version 0

Manufacturer: OSRAM GmbH Marcel - Breuer - Straße 6 D 80807 München	Type / description: ECG-type: OTi DALi 15/220-240/1A0 LT2		
Features:	CEAG data:	Comment:	Complies: (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. $\Delta I < 12,5 \text{ mA}$ per luminaire, with max. 20 luminaires per circuit $\Delta I \text{ sum} < 250 \text{ mA}$	Yes
<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	not relevant
<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	not relevant
<u>only for LED:</u> Control gear complies with the standard:	DIN EN 62384	DC. Or AC supplied electronic control gear for LED modules - Performance requirements	Yes
<u>only for LED:</u> Control gear complies with 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 (Measurement on AC And 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 $\leq 16 \text{ A}$ per phase)	Yes
Fullfilled the standard:	DIN EN 61547	Equipment for general lighting purposes — EMC immunity requirements	Yes
Fullfilled the DALI standards:	DIN EN 62386-101 /-102 / -207*	Control gear must have the DALI Logo	Yes

Note: VDE 0108 is not a standard for ECG, marking is not applicable

Features:	CEAG-Data:	Comment:	Manufacturer's instructions:
<u>Important for function test!</u> According to IEC 62386 Part 102 Support of : DALI command 145 (Query Control Gear) DALI command 146 (Query Lamp Failure)	According to IEC 62386 Part 102	To detect a lamp failure, the V-CG-SB.1 module send DALI command queries (145/146) to the DALI LED driver	Yes
<u>Important for DC light output:</u> Behavior in DC operation: - Unlocked DC light output level - Locked DC light output level	DC light output settings on V-CG-SB.1 only active if control gear is unlocked!	In case of locked DC light output level, the DC level of V-CG-SB.1 is not active !	Unlocked DC [] Locked DC [X] **)
<u>Important for lighting design:</u> If locked DC light output the lightout level in % is required	No control of light output level from V-CG-SB.1 in DC operation possible!	Locked light output level in %, e.g. 15%	15% **)
<u>Important for the contact load SKU:</u> 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.	5A / 45µs
<u>Important for lighting design:</u> Luminous flux ratio: DC-operation at 186 V in comparison to 230 V AC operation	-	Light output In battery operation of the ballast, for the light calculation	15% **)

Luminaires, which are used for emergency lighting, must be according to the standard DIN EN 60598-2-22 (particular requirements - Luminaires for emergency lighting)

*Control of V-CG-SB.1 to the DALI LED driver is 100% done via DALI-commands according to IEC 62386-101 /-102 so the DALI LED driver must sign with the DALI logo

** The lightout level is locked in DC-operation. Factory setting is 15% of the maximum level. It is possible to change the behavior of the controlgear in DC-operation. For this the software DALI magic is needed.

Max. 1 DALI- Driver to wire with 1 V-CG-SB.1

In use of manifold ballasts, the different lamp failure detection of the manufacturer must be consider! Some devices don't detect a failure if one lamp is defect.

Date: 20.Oct.2014

Manufacturer: OSRAM GmbH Marcel-Breuer Str. 6 D-80807 München	Product: Oti DALI 15/220-240/1A0 LT2 ident code: AB32361	
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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)
Oti DALI 15/220-240/1A0 LT2	Umin, Imin	30,04	30,45	6,87	6,09	5,62	5,28
	Umin, Imax	64,01	59,25	14,76	13,23	12,34	11,71
	Umax, Imin	50,14	49,38	12,63	11,33	10,58	10,07
	Umax, Imax	78,11	75,56	18,13	16,19	15,06	14,36
	Open Load	18,53	21,04	12,88	12,54	12,17	11,44
	Short Load	18,53	21,04	11,89	11,50	11,17	10,97

Maximum inrush current for ECG in AC Operation

I_{peak}=
T_H=

8 A
17 μs

Requirements for dimmable DALI control gears for fluorescent lamps and LED

Version 0

Manufacturer: Osram GmbH Marcel-Breuer-Straße 6 D-80807 München	Type / description: ECG-type: Oti DALI 25/220-240/700 LT2 (ident code: AB42877)		
Features:	CEAG data:	Comment:	Complies: (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. $\Delta I < 12,5 \text{ mA}$ per luminaire, with max. 20 luminaires per circuit $\Delta I \text{ sum} < 250 \text{ mA}$	Yes
<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	not relevant
<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	not relevant
<u>only for LED:</u> Control gear complies with the standard:	DIN EN 62384	DC. Or AC supplied electronic control gear for LED modules - Performance requirements	Yes
<u>only for LED:</u> Control gear complies with 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 (Measurement on AC And 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 $\leq 16 \text{ A}$ per phase)	Yes
Fullfilled the standard:	DIN EN 61547	Equipment for general lighting purposes — EMC immunity requirements	Yes (*3)
Fullfilled the DALI standards:	DIN EN 62386-101 /-102 / -207	Control gear must have the DALI Logo (*1)	Yes
<small>Note: VDE 0108 is not a standard for ECG, marking is not applicable</small>			
Features:	CEAG-Data:	Comment:	Manufacturer's instructions:
<u>Important for function test!</u> According to IEC 62386 Part 102 Support of : DALI command 145 (Query Control Gear) DALI command 146 (Query Lamp Failure)	According to IEC 62386 Part 102	To detect a lamp failure, the V-CG-SB.1 module send DALI command queries (145/146) to the DALI LED driver	Yes
<u>Important for DC light output:</u> Behavior in DC operation: - Unlocked DC light output level - Locked DC light output level	DC light output settings on V-CG-SB.1 only active if control gear is unlocked!	In case of locked DC light output level, the DC level of V-CG-SB.1 is not active !	Unlocked DC [] Locked DC [x]
<u>Important for lighting design:</u> If locked DC light output the lightout level in % is required	No control of light output level from V-CG-SB.1 in DC operation possible!	Locked light output level in %, e.g. 15% (*2)	15%
<u>Important for the contact load SKU:</u> 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.	Ip=10,2A / Th=38µs
<u>Important for lighting design:</u> Luminous flux ratio: DC-operation at 186 V in comparison to 230 V AC operation	-	Light output in battery operation of the ballast, for the light calculation (*2)	15%
Luminaires, which are used for emergency lighting, must be according to the standard DIN EN 60598-2-22 (particular requirements - Luminaires for emergency lighting)			
*1: Control of V-CG-SB.1 to the DALI LED driver is 100% done via DALI-commands according to IEC 62386-101 /-102 so the DALI LED driver must sign with the DALI logo			
*2: The DC Output Level is locked in DC Mode to 15%, it is possible to unlock with DALI magic and Tuner 4 Tronic			
*3: Not to be used in high risk areas, special release required			
Max. 1 DALI-Driver to wire with 1 V-CG-SB.1			
In use of manifold ballasts, the different lamp failure detection of the manufacturer must be consider! Some devices don't detect a failure if one lamp is defect.			
Date: 21.March.2017			

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



Manufacturer:
OSRAM GmbH
Marcel-Breuer Str. 6
D-80807 München

Product:
Oti DALI 25/220-240/700 LT2



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)
Oti DALI 25/220-240/700 LT2	Umin, Imin	53,57	55,04	9,15	9,68	9,54	9,20
	Umin, Imax	65,49	69,47	13,29	11,88	12,00	12,04
	Umax, Imin	65,40	66,14	13,82	12,16	12,17	12,22
	Umax, Imax	133,81	130,29	36,14	31,83	29,23	27,51
	Open Load	34,54	42,92	11,08	10,97	10,85	10,81
	Short Load	34,51	42,90	11,05	10,96	10,83	10,77

Maximum inrush current for ECG in AC Operation

I_{peak}= 10,2 A
TH= 38 µs

Requirements for dimmable DALI control gears for fluorescent lamps and LED

Version 0

Manufacturer: Osram GmbH Marcel-Breuer-Straße 6 D-80807 München	Type / description: ECG-type: Oti DALI 35/220-240/1A0 LT2 (ident code: AB42876)		
Features:	CEAG data:	Comment:	Complies: (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. $\Delta I < 12,5$ mA per luminaire, with max. 20 luminaires per circuit ΔI sum < 250 mA	Yes
<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	not relevant
<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	not relevant
<u>only for LED:</u> Control gear complies with the standard:	DIN EN 62384	DC. Or AC supplied electronic control gear for LED modules - Performance requirements	Yes
<u>only for LED:</u> Control gear complies with 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 (Measurement on AC And 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 61547	Equipment for general lighting purposes — EMC immunity requirements	Yes (*3)
Fullfilled the DALI standards:	DIN EN 62386-101 /-102 / -207	Control gear must have the DALI Logo (*1)	Yes
Note: VDE 0108 is not a standard for ECG, marking is not applicable			
Features:	CEAG-Data:	Comment:	Manufacturer's instructions:
<u>Important for function test!</u> According to IEC 62386 Part 102 Support of : DALI command 145 (Query Control Gear) DALI command 146 (Query Lamp Failure)	According to IEC 62386 Part 102	To detect a lamp failure, the V-CG-SB.1 module send DALI command queries (145/146) to the DALI LED driver	Yes
<u>Important for DC light output:</u> Behavior in DC operation: - Unlocked DC light output level - Locked DC light output level	DC light output settings on V-CG-SB.1 only active if control gear is unlocked!	In case of locked DC light output level, the DC level of V-CG-SB.1 is not active !	Unlocked DC [] Locked DC [x]
<u>Important for lighting design:</u> If locked DC light output the lightout level in % is required	No control of light output level from V-CG-SB.1 in DC operation possible!	Locked light output level in %, e.g. 15% (*2)	15%
<u>Important for the contact load SKU:</u> 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.	Ip=10,4A / Th=54µs
<u>Important for lighting design:</u> Luminous flux ratio: DC-operation at 186 V in comparison to 230 V AC operation	-	Light output In battery operation of the ballast, for the light calculation (*2)	15%
Luminaires, which are used for emergency lighting, must be according to the standard DIN EN 60598-2-22 (particular requirements - Luminaires for emergency lighting)			
*1: Control of V-CG-SB.1 to the DALI LED driver is 100% done via DALI-commands according to IEC 62386-101 /-102 so the DALI LED driver must sign with the DALI logo			
*2: The DC Output Level is locked in DC Mode to 15%, it is possible to unlock with DALI magic and Tuner 4 Tronic			
*3: Not to be used in high risk areas, special release required			
Max. 1 DALI- Driver to wire with 1 V-CG-SB.1			
In use of manifold ballasts, the different lamp failure detection of the manufacturer must be consider! Some devices don't detect a failure if one lamp is defect.			
Date: 21.March.2017			

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



Manufacturer:
OSRAM GmbH
Marcel-Breuer Str. 6
D-80807 München

Product:
Oti DALI 35/220-240/1A0 LT2



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)
Oti DALI 35/220-240/1A0 LT2	U _{min} , I _{min}	59,70	61,05	11,08	11,09	10,61	10,22
	U _{min} , I _{max}	98,09	91,20	20,96	18,14	16,25	15,74
	U _{max} , I _{min}	98,44	95,94	21,91	19,04	17,14	16,14
	U _{max} , I _{max}	149,22	145,12	52,19	45,62	41,55	38,86
	Open Load	34,00	42,24	10,93	10,78	10,66	10,59
	Short Load	34,00	42,24	10,86	10,77	10,66	10,59

Maximum inrush current for ECG in AC Operation

I_{peak}= 10,4 A
TH= 54 μs

Requirements for dimmable DALI control gears for fluorescent lamps and LED

Version 0

Manufacturer: Osram GmbH Marcel-Breuer-Straße 6 D-80807 München	Type / description: ECG-type: Oti DALI 50/220-240/1A4 LT2 FAN (ident code: AB42878)		
Features:	CEAG data:	Comment:	Complies: (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. $\Delta I < 12,5 \text{ mA}$ per luminaire, with max. 20 luminaires per circuit $\Delta I \text{ sum} < 250 \text{ mA}$	Yes
<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	not relevant
<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	not relevant
<u>only for LED:</u> Control gear complies with the standard:	DIN EN 62384	DC. Or AC supplied electronic control gear for LED modules - Performance requirements	Yes
<u>only for LED:</u> Control gear complies with 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 (Measurement on AC And 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 $\leq 16 \text{ A}$ per phase)	Yes
Fullfilled the standard:	DIN EN 61547	Equipment for general lighting purposes — EMC immunity requirements	Yes (*3)
Fullfilled the DALI standards:	DIN EN 62386-101 /-102 / -207	Control gear must have the DALI Logo (*1)	Yes
<small>Note: VDE 0108 is not a standard for ECG, marking is not applicable</small>			
Features:	CEAG-Data:	Comment:	Manufacturer's instructions:
<u>Important for function test!</u> According to IEC 62386 Part 102 Support of : DALI command 145 (Query Control Gear) DALI command 146 (Query Lamp Failure)	According to IEC 62386 Part 102	To detect a lamp failure, the V-CG-SB.1 module send DALI command queries (145/146) to the DALI LED driver	Yes
<u>Important for DC light output:</u> Behavior in DC operation: - Unlocked DC light output level - Locked DC light output level	DC light output settings on V-CG-SB.1 only active if control gear is unlocked!	In case of locked DC light output level, the DC level of V-CG-SB.1 is not active !	Unlocked DC [] Locked DC [x]
<u>Important for lighting design:</u> If locked DC light output the lightout level in % is required	No control of light output level from V-CG-SB.1 in DC operation possible!	Locked light output level in %, e.g. 15% (*2)	15%
<u>Important for the contact load SKU:</u> 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.	Ip=20A / Th=194µs
<u>Important for lighting design:</u> Luminous flux ratio: DC-operation at 186 V in comparison to 230 V AC operation	-	Light output in battery operation of the ballast, for the light calculation (*2)	15%

Luminaires, which are used for emergency lighting, must be according to the standard DIN EN 60598-2-22 (particular requirements - Luminaires for emergency lighting)

*1: Control of V-CG-SB.1 to the DALI LED driver is 100% done via DALI-commands according to IEC 62386-101 /-102 so the DALI LED driver must sign with the DALI logo

*2: The DC Output Level is locked in DC Mode to 15%, it is possible to unlock with DALI magic and Tuner 4 Tronic

*3: Not to be used in high risk areas, special release required

Max. 1 DALI-Driver to wire with 1 V-CG-SB.1

In use of manifold ballasts, the different lamp failure detection of the manufacturer must be consider! Some devices don't detect a failure if one lamp is defect.

Date: 03.Feb.2017

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



Manufacturer:
OSRAM GmbH
Marcel-Breuer Str. 6
D-80807 München

Product

Oti DALI 50/220-240/1A4 LT2 FAN

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)
Oti DALI 50/220-240/1A4 LT2 FAN	U _{min} , I _{min}	97,43	96,10	19,11	16,57	15,28	14,24
	U _{min} , I _{max}	136,96	125,50	26,81	23,13	21,28	20,14
	U _{max} , I _{min}	212,14	204,29	40,38	35,03	31,89	29,97
	U _{max} , I _{max}	273,06	262,16	65,27	56,14	50,84	47,37
	Open Load	57,57	59,78	47,88	45,19	42,94	40,98
	Short Load	57,62	59,80	47,89	45,20	42,95	40,99

Maximum inrush current for ECG in AC Operation

I_{peak}= 20 A
T_H= 194 µs