## **Light is 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 di	mmable DALI control gears	for fluorescent lamps and LED	Version 0				
Manufacturer: OSRAM GmbH Marcel-Breuer-Str.6 D-80807 München	OSRAM GmbH Type / description: Marcel-Breuer-Str.6 EVG-family: OTI DALI 35 /220-240/700 LT2 L						
Features:	CEAG Data:	Comment:	Compies: (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 <sup>+</sup> 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 mA per luminaire, with max. 20 luminaires per circuit: $\Delta$ 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	Not relevant				
only for fluorescent lamps: 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				
only for LED: Control gear complies with the standard:	DIN EN 62384	DC or AC 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 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 ≤ 16 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		Control gear must have the DALI Logo	Yes				
VDE 0108 is not a standard for ECG, marking is not	applicable	T	Manufacturer`s				
Features:	CEAG-Data:	Comment:	instructions:				
Important for function test! 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.					
Important for DC light output: 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 ]				
Important for lighting design: 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				
Important for the contact load SKU: 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 maimum contact rating of the circuit.	See OTi DALI 35 L - Overview				
Important for lighting design: 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.

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



ECG type	Max. inrush current for ECG AC-operation	Values for load range	I <sub>N</sub> I <sub>N</sub> I <sub>N</sub> in AC-operation (220-240 C) (176-276 V)		I <sub>NoLoad</sub> in AC-operation	I <sub>NoLoad</sub> in DC-operation
OTi DALI 35/220-240/700 LT2 L	lp = 32A; TH = 100 μs	Maximum load [lout 700mA] Minimum load [lout 200mA]	180 mA (240V)	40mA (240V)	21 mA [ 220VAC ] 20 mA [ 240VAC ]	22 mA [ 176VDC ] 20 mA [ 240VDC ] 19 mA [ 276VDC ]



requirements for t		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	Compies				
Operating voltage range DC:	DC: 186 V - 275 V at -10 °C	Possible voltage range of the battery in emergency mode (Not necessary for AT-S+ System)	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 charakteristic controlgear:	Stable current consumption lower after 1,6 s	necessary for selective control Δ I < 12,5 mA per luminaire, at max. 20 luminaires for one current circuit: Δ I 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 fareaful necessary for AT S <sup>+</sup> Systems special for LED					
Fullfilled the standard*:	DIN EN 61547	Equipment for general lighting purposes — EMC immunity requirements	YES				
LED module fullfilles 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 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.)	see "OTi DALI 50 1A4 LT 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 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	these values are not allowed to exceed the def. limits for the voltagerange of:  186 - 275V DC und 189 - 264 V AC  (for AT-S4 Systems must be the current draw sinusoidal					
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 SU 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 50 1A4 LT. L"				
Lightoutput in DC-operation at 186 V in comparison to 230 V AC operation	-	In battery opertion 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

prep. Sniegon 07-2012 (7.2.2013)

Manufacturer:

OSRAM GmbH Marcel-Breuer-Straße 6 80807 München

## Type / Description:

ECG-family: OTI DALI 50/220-240/1A4 LT2 L



ECG type	Max. inrush current for ECG AC-operation	Lamp type	I <sub>N</sub> in AC-operation	I <sub>N</sub> in DC-operation	I <sub>NoLoad</sub> in AC-operation	I <sub>NoLoad</sub> in DC-operation
OTi DALI 50/220-240/1A4 LT2 L	53 A pk, th = 200 μs	Maximum load Minimum load [lout 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 μs	Maximum load Minimum load [lout 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	s for fluorescent lamps and LED	Version 0
Manufacturer: OSRAM GmbH Marcel-Breuer-Straße 6 80807 München		Type / description: OTI DALI 80/220-240/2A1 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 (Not necessary for AT-S+ System)	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: $\Delta$ I 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 <sup>+</sup> 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 fullfilles 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 ap	pplicable		
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 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 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 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 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	-	In battery opertion 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



ECG type	Max. inrush current for ECG AC-operation	Lamp type	I <sub>N</sub> in AC-operation	I <sub>N</sub> in DC-operation	I <sub>NoLoad</sub> in AC-operation	I <sub>NoLoad</sub> in DC-operation
OTI DALI 80/220-240/2A1 LT2 L	I max = 53 A Th = 200 μs	Maximum load Minimum load [lout 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 Th = 200 μs	Maximum load Minimum load [lout 2100mA]	393mA 225mA (240V)	381mA 214mA (240V)	43 mA [ 220VAC ] 43 mA [ 240VAC ]	13 mA [ 176VDC ] 9 mA [ 240VDC ] 8 mA [ 276VDC ]



Requirements f	or dimmable DALI control gear	s for fluorescent lamps and LED	Version 0			
Manufacturer:  OSRAM GmbH  Marcel-Breuer-Straße 6  80807 München  Type / description:  CGF(amily: 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 (Not necessary for AT-S+ System)	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: $\Delta$ I 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 fullfilles 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 ap	plicable					
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. Iuminaire 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 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 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 80 1A6 LT2 L			
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 SU 1 x 6A CG-S => 250 A SU 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 opertion 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 80 L to wire with 1 V-CG-SB.1

PFC inside OTi DALI 80 L

Sniegon 05-2014

Manufacturer:

OSRAM GmbH Marcel-Breuer-Straße 6 80807 München

## Type / Description:

ECG-family: OTI DALI 80/220-240/1A6 LT2 L



ECG type	Max. inrush current for ECG AC-operation	Lamp type	I <sub>N</sub> in AC-operation	I <sub>N</sub> in DC-operation	I <sub>NoLoad</sub> in AC-operation	I <sub>NoLoad</sub> in DC-operation
OTI DALI 80/220-240/1A6 LT2 L	I max = 53 A Th = 200 μs	Maximum load Minimum load [lout 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 Th = 200 μs	Maximum load Minimum load [lout 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: Type / description: Osram GmhH Marcel-Breuer-Straße 6 ECG-type: Oti DALI 35/220-240/400 LT2 L (ident code: AM00139) D-80807 München Features: Comment: Complies: (Yes/No) Control gear suitable for 186V - 260V DC (for Lead-Battery) Possible voltage range of the battery in emergency mode. Yes a DC voltage range: 186V - 275V DC (for NiCD-Battery) (Not for AT-S<sup>+</sup> Systems required) Control gear compatible with the Switch-over time: Typical switch-over time of CEAG systems between Yes switch-over time of the system? 180 ms - 450 ms mains supply and emergency power supply Necessary for an individual monitoring. Stable current consumption Starting behavior of the control gear: 1 < 12,5 mA per luminaire, with max. 20 luminaires per Yes after less than 1.6 sec. maximum. circuit A I sum < 250 mA only for flourescent lamps: AC and/or DC-supplied electronic control gear for tubular Control gear complies with the DIN FN 60929 not relevant fluorescent lamps - Performance requirements standard: only for flourescent lamps: Particular requirements for AC and/or DC supplied electronic Control gear complies with the DIN EN 61347-2-3 (incl. Attachment J) not relevant control gear for fluorescent lamps standard: only for LED: DC. Or AC supplied electronic control gear for LED modules Control gear complies with the **DIN EN 62384** Yes Performance requirements standard: only for LED: Lamp controlgear — Part 2-13: Particular requirements for Control gear complies with the DIN EN 61347-2-13 Yes d. c. or a. c. supplied electronic controlgear for LED modules **DIN EN 55015** Limits and methods of measurement of radio disturbance Fullfilled the standard: Yes (Measurement on AC And DC) characteristics of electrical lighting and similar equipment Electromagnetic compatibility (EMC) — Part 3-2: Limits -Fullfilled the standard: DIN EN 61000-3-2 Limits for harmonic current emissions (equipment input Yes current ≤ 16 A per phase) Equipment for general lighting purposes — EMC immunity Fullfilled the standard: **DIN EN 61547** (\*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 Manufacturer's CEAG-Data: Features: Comment: instructions: Important for function test! According to IEC 62386 Part 102 Support of : To detect a lamp failure, the V-CG-SB.1 module send DALI command 145 According to IEC 62386 Part 102 Yes DALI command queries (145/146) to the DALI LED driver (Query Control Gear) DALI command 146 (Query Lamp Failure) Important for DC light output: Unlocked DC [ ] DC light output settings on V-CG-SB.1 In case of locked DC light output level, the DC level of Behavior in DC operation: Unlocked DC light output level only active if control gear is unlocked! V-CG-SB.1 is not active ! Locked DC [x] Locked DC light output level Important for lighting design: No control of light output level from V-CG-If locked DC light output the lightout Locked light output level in %, e.g. 15% (\*2) 15% SB.1 in DC operation possible! evel in % is required Max. permitted inrush current per circuit: SKU 2 x 3A (CG) => 120 A SKU 1 x 6A (CG) => 180 A Important for the contact load SKU: SKU 4 x 1,5A CG-S => 60 A Describes the max. inrush current of all ballasts in a circuit, to Max, inrush current each Ip=17A / Th=183µs SKU 2 x 3A CG-S => 250 A converter/luminaire in calculate the maximum contact rating of the circuit. AC-operation: SKU 1 x 6A CG-S => 250 A SOU CG-S // S\* => 250 A SU S\* => 250 A Important for lighting design: Luminous flux ratio: Light output In battery opertion of the ballast, (\*2) 15% DC-operation at 186 V in comparison for the light calculation to 230 V AC operation

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

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

<sup>\*1:</sup> 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

<sup>\*2:</sup> The DC Output Level is locked in DC Mode to 15%, it is possibe to unlock with DALI magic and Tuner 4 Tronic

<sup>\*3:</sup> Not to be used in high risk areas, special release required



Manufacturer:	Product:	
OSRAM GmbH		CODAM
Marcel-Breuer Str. 6	Oti DALI 35/220-240/400 LT2 L	USRAM
D-80807 München		

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

Ipeak=

17 A

TH=

183 µs



#### Requirements for dimmable DALI control gears for fluorescent lamps and LED Version 0 Manufacturer: Type / description: Osram GmbH Marcel-Breuer-Straße 6 ECG-type: Oti DALI 60/220-240/550 LT2 L (ident code: AM00138) D-80807 München Features: Comment: Complies: (Yes/No) Control gear suitable for 186V - 260V DC (for Lead-Battery) Possible voltage range of the battery in emergency mode. Yes a DC voltage range: 186V - 275V DC (for NiCD-Battery) (Not for AT-S+ Systems required) Control gear compatible with the Switch-over time: Typical switch-over time of CEAG systems between Yes switch-over time of the system? 180 ms - 450 ms mains supply and emergency power supply Necessary for an individual monitoring. Stable current consumption Starting behavior of the control gear: $\Delta$ I < 12,5 mA per luminaire, with max. 20 luminaires per Yes after less than 1.6 sec. maximum. circuit Δ I sum < 250 mA only for flourescent lamps: AC and/or DC-supplied electronic control gear for tubular Control gear complies with the DIN FN 60929 fluorescent lamps - Performance requirements standard only for flourescent lamps: Particular requirements for AC and/or DC supplied electronic Control gear complies with the DIN EN 61347-2-3 (incl. Attachment J) not relevant control gear for fluorescent lamps standard: only for LED: DC. Or AC supplied electronic control gear for LED modules Control gear complies with the DIN EN 62384 Yes Performance requirements standard: only for LED: Lamp controlgear — Part 2-13: Particular requirements for Control gear complies with the DIN EN 61347-2-13 Yes d. c. or a. c. supplied electronic controlgear for LED modules **DIN EN 55015** Limits and methods of measurement of radio disturbance Fullfilled the standard: Yes (Measurement on AC And DC) characteristics of electrical lighting and similar equipment Electromagnetic compatibility (EMC) — Part 3-2: Limits Fullfilled the standard: DIN EN 61000-3-2 Limits for harmonic current emissions (equipment input Yes current ≤ 16 A per phase) Equipment for general lighting purposes — EMC immunity Fullfilled the standard: **DIN EN 61547** (\*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 Manufacturer's CEAG-Data: Features: Comment: instructions: Important for function test! According to IEC 62386 Part 102 Support of : To detect a lamp failure, the V-CG-SB.1 module send **DALI command 145** According to IEC 62386 Part 102 Yes DALI command queries (145/146) to the DALI LED driver (Query Control Gear) DALI command 146 (Query Lamp Failure) Important for DC light output: Unlocked DC [ ] DC light output settings on V-CG-SB.1 Behavior in DC operation: In case of locked DC light output level, the DC level of Unlocked DC light output level only active if control gear is unlocked! V-CG-SB.1 is not active ! Locked DC [x] Locked DC light output level Important for lighting design: No control of light output level from V-CG-If locked DC light output the lightout Locked light output level in %, e.g. 15% (\*2) 15% SB.1 in DC operation possible! level in % is required Max. permitted inrush current per circuit: SKU 2 x 3A (CG) => 120 A SKU 1 x 6A (CG) => 180 A Important for the contact load SKU: SKU 4 x 1,5A CG-S => 60 A Max. inrush current each Describes the max. inrush current of all ballasts in a circuit, to lp=23 A / Th=193 μs SKU 2 x 3A CG-S => 250 A converter/luminaire in calculate the maximum contact rating of the circuit. AC-operation: SKU 1 x 6A CG-S => 250 A SOU CG-S // S\* => 250 A SU S\* => 250 A Important for lighting design: Luminous flux ratio: Light output In battery opertion of the ballast, DC-operation at 186 V in comparison (\*2) 15% for the light calculation to 230 V AC operation

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

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

<sup>\*1:</sup> 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

<sup>\*2:</sup> The DC Output Level is locked in DC Mode to 15%, it is possibe to unlock with DALI magic and Tuner 4 Tronic

<sup>\*3:</sup> Not to be used in high risk areas, special release required



 Manufacturer:
 Product:

 OSRAM GmbH
 Oti DALI 60/220-240/550 LT2 L

 D-80807 München
 Oti DALI 60/220-240/550 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 60/220-240/550 LT2 L							
	Umin, Imin	55,24	55,02	13,78	11,75	10,77	9,66
	Umin, Imax	162,98	145,63	31,61	27,01	24,22	22,37
	Umax, Imin	149,36	144,12	36,39	31,09	27,88	25,73
	Umax, Imax	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

lpeak=

23 A

TH=

193 µs



#### Requirements for dimmable DALI control gears for fluorescent lamps and LED Version 0 Manufacturer: Type / description: Osram GmbH Marcel-Breuer-Straße 6 ECG-type: Oti DALI 90/220-240/700 LT2 L (ident code: AM00140) D-80807 München Features: Comment: Complies: (Yes/No) Control gear suitable for 186V - 260V DC (for Lead-Battery) Possible voltage range of the battery in emergency mode. Yes a DC voltage range: 186V - 275V DC (for NiCD-Battery) (Not for AT-S+ Systems required) Control gear compatible with the Switch-over time: Typical switch-over time of CEAG systems between Yes switch-over time of the system? 180 ms - 450 ms mains supply and emergency power supply Necessary for an individual monitoring. Stable current consumption Δ I < 12,5 mA per luminaire, with max. 20 luminaires per Starting behavior of the control gear: Yes after less than 1.6 sec. maximum. circuit A I sum < 250 mA only for flourescent lamps: AC and/or DC-supplied electronic control gear for tubular fluorescent lamps - Performance requirements Control gear complies with the **DIN EN 60929** not relevant standard: only for flourescent lamps: Particular requirements for AC and/or DC supplied electronic Control gear complies with the DIN EN 61347-2-3 (incl. Attachment J) not relevant control gear for fluorescent lamps standard: only for LED: DC. Or AC supplied electronic control gear for LED modules Control gear complies with the **DIN EN 62384** Yes Performance requirements standard: only for LED: Lamp controlgear — Part 2-13: Particular requirements for Control gear complies with the DIN EN 61347-2-13 Yes d. c. or a. c. supplied electronic controlgear for LED modules standard: DIN FN 55015 Limits and methods of measurement of radio disturbance Fullfilled the standard: Yes (Measurement on AC And DC) characteristics of electrical lighting and similar equipment Electromagnetic compatibility (EMC) - Part 3-2: Limits -Fullfilled the standard: DIN EN 61000-3-2 Limits for harmonic current emissions (equipment input Yes current ≤ 16 A per phase) Equipment for general lighting purposes — EMC immunity Fullfilled the standard: **DIN EN 61547** (\*3) Yes DIN EN 62386-101 /-102 / -207 Fullfilled the DALL standards: Control gear must have the DALI Logo (\*1) Yes Note: VDE 0108 is not a standard for ECG, marking is not applicable Manufacturer's Features: CEAG-Data: Comment: instructions: Important for function test! According to IEC 62386 Part 102 Support of : To detect a lamp failure, the V-CG-SB.1 module send DALI command 145 According to IEC 62386 Part 102 Yes DALI command queries (145/146) to the DALI LED driver (Query Control Gear) DALI command 146 (Query Lamp Failure) Important for DC light output: Unlocked DC [ ] Behavior in DC operation: DC light output settings on V-CG-SB.1 In case of locked DC light output level, the DC level of Unlocked DC light output level only active if control gear is unlocked! V-CG-SB.1 is not active! Locked DC [x] Locked DC light output level Important for lighting design: No control of light output level from V-CGf locked DC light output the lightout Locked light output level in %, e.g. 15% (\*2) 15% SB.1 in DC operation possible! evel in % is required Max. permitted inrush current per circuit: SKU 2 x 3A (CG) => 120 A SKU 1 x 6A (CG) => 180 A Important for the contact load SKU: SKU 4 x 1,5A CG-S => 60 A Max. inrush current each Describes the max. inrush current of all ballasts in a circuit, to lp=27A / Th=193μs SKU 2 x 3A CG-S => 250 A converter/luminaire in calculate the maximum contact rating of the circuit. SKU 1 x 6A CG-S => 250 A AC-operation: => 250 A SOU CG-S // S\* SU S\* => 250 A Important for lighting design: Light output In battery opertion of the ballast, Luminous flux ratio: (\*2) 15% DC-operation at 186 V in comparison for the light calculation to 230 V AC operation

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

\*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

<sup>\*1:</sup> 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

<sup>2:</sup> The DC Output Level is locked in DC Mode to 15%, it is possibe to unlock with DALI magic and Tuner 4 Tronic



Manufacturer:	Product:	
OSRAM GmbH		CODAM
Marcel-Breuer Str. 6	Oti DALI 90/220-240/700 LT2 L	USRAM
D-80807 München		

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

lpeak=

27 A

TH=

193 µs



Manufacturer: Osram GmbH	. 1	Type / description:						
Marcel-Breuer-Straße 6 D-80807 München	ECG-type: Oti DALI 90/220-240/1A0 L	ALI 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 <sup>+</sup> 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 $\Delta$ 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	DC. Or AC supplied electronic control gear for LED modules - Performance requirements	Yes					
ontrol gear complies with the andard:		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	(*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, mar	king is not applicable							
Features:	CEAG-Data:	Comment:	Manufacturer's instructions:					
Important for function test! 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					
Important for DC light output: 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 ]					
Important for lighting design: 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%					
Max. permitted inrush current per circuit:   SKU 2 x 3A (CG) => 120 A     SKU 2 x 3A (CG) => 180 A     SKU 4 x 1,5A CG-S => 60 A     SKU 4 x 3A CG-S => 250 A     AC-operation:   SKU 1 x 6A CG-S => 250 A     SOU CG-S // S* => 250 A		Describes the max. inrush current of all ballasts in a circuit, to calculate the maximum contact rating of the circuit.	lp=27A / Th=193μs					
Important for lighting design: Luminous flux ratio: DC-operation at 186 V in comparison to 230 V AC operation	SU S* => 250 A	Light output In battery opertion 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)

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

<sup>\*1:</sup> 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

<sup>\*2:</sup> The DC Output Level is locked in DC Mode to 15%, it is possibe to unlock with DALI magic and Tuner 4 Tronic

<sup>\*3:</sup> Not to be used in high risk areas, special release required Max. 1 DALI- Driver to wire with 1 V-CG-SB.1



Manufacturer:	Product:	
OSRAM GmbH		CODAN
Marcel-Breuer Str. 6	Oti DALI 90/220-240/1A0 LT2 L	OSRAM
D-80807 München		

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

Ipeak=

27 A

TH=

193 µs



#### Requirements for dimmable DALI control gears for fluorescent lamps and LED Version 0 Type / description: Osram GmbH Marcel-Breuer-Straße 6 ECG-type: Oti DALI 35/220-240/400 D LT2 UF L (ident code: AB47614) D-80807 München Features: **CEAG data:** Comment: Complies: (Yes/No) Control gear suitable for 186V - 260V DC (for Lead-Battery) Possible voltage range of the battery in emergency mode. Yes a DC voltage range: 186V - 275V DC (for NiCD-Battery) (Not for AT-S + Systems required) Control gear compatible with the switch-Switch-over time: Typical switch-over time of CEAG systems between Yes over time of the system? 180 ms - 450 ms mains supply and emergency power supply Necessary for an individual monitoring. Stable current consumption Starting behavior of the control gear: $\Delta$ I < 12,5 mA per luminaire, with max. 20 luminaires per circuit Yes after less than 1.6 sec. maximum. Δ I sum < 250 mA only for flourescent lamps: AC and/or DC-supplied electronic control gear for tubular DIN EN 60929 Control gear complies with the not relevant fluorescent lamps - Performance requirements standard: only for flourescent lamps: Particular requirements for AC and/or DC supplied electronic Control gear complies with the DIN EN 61347-2-3 (incl. Attachment J) not relevant control gear for fluorescent lamps standard: only for LED: DC. Or AC supplied electronic control gear for LED modules -Control gear complies with the **DIN EN 62384** Yes Performance requirements standard: only for LED: Lamp controlgear - Part 2-13: Particular requirements for d, c Control gear complies with the DIN EN 61347-2-13 Yes or a. c. supplied electronic controlgear for LED modules standard: **DIN EN 55015** Limits and methods of measurement of radio disturbance Fullfilled the standard: Yes (Measurement on AC And DC) characteristics of electrical lighting and similar equipment Electromagnetic compatibility (EMC) — Part 3-2: Limits — Fullfilled the standard: DIN EN 61000-3-2 Limits for harmonic current emissions (equipment input current Yes ≤ 16 A per phase) Equipment for general lighting purposes — EMC immunity Fullfilled the standard: **DIN EN 61547** Yes requirements 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 Manufacturer's Features: CEAG-Data: Comment: instructions: Important for function test! According to IEC 62386 Part 102 Support of : To detect a lamp failure, the V-CG-SB.1 module send DALI command 145 According to IEC 62386 Part 102 Yes DALI command queries (145/146) to the DALI LED driver (Query Control Gear) **DALI command 146** (Query Lamp Failure) Important for DC light output: In case of locked DC light output level, the DC level of Unlocked DC [ ] Behavior in DC operation: DC light output settings on V-CG-SB.1 - Unlocked DC light output level only active if control gear is unlocked! V-CG-SB.1 is not active! Locked DC [x] Locked DC light output level Important for lighting design: No control of light output level from V-CG-If locked DC light output the lightout Locked light output level in %, e.g. 15% (\*\*) 15% SB.1 in DC operation possible! level in % is required Max. permitted inrush current per circuit: SKU 2 x 3A (CG) => 120 A SKU 1 x 6A (CG) => 180 A Important for the contact load SKU: SKU 4 x 1,5A CG-S => 60 A Max, inrush current each Describes the max, inrush current of all ballasts in a circuit, to Ip=17A / Th=126us SKU 2 x 3A CG-S => 250 A converter/luminaire in calculate the maximum contact rating of the circuit, SKU 1 x 6A CG-S => 250 A AC-operation: SOU CG-S // S\* => 250 A SU S+ => 250 A Important for lighting design: Luminous flux ratio: Light output In battery opertion of the ballast. 15% DC-operation at 186 V in comparison for the light calculation (\*\*) to 230 V AC operation

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 possibe 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



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

Product:

Oti DALI 35/220-240/400 D LT2 UF 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)	li 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 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

Ipeak= TH=

17 A 126 μs



#### Requirements for dimmable DALI control gears for fluorescent lamps and LED Version 0 Manufacturer Type / description: Osram GmbH Marcel-Breuer-Straße 6 ECG-type: Oti DALI 75/220-240/700 D LT2 UF L (ident code: AB47615) D-80807 München Features CEAG data: Comment: Complies: (Yes/No) Control gear suitable for 186V - 260V DC (for Lead-Battery) Possible voltage range of the battery in emergency mode. a DC voltage range: 186V - 275V DC (for NiCD-Battery) (Not for AT-S \* Systems required) Control gear compatible with the switch Switch-over time: Typical switch-over time of CEAG systems between Yes over time of the system? 180 ms - 450 ms mains supply and emergency power supply Necessary for an individual monitoring. Stable current consumption Starting behavior of the control gear: Δ I < 12,5 mA per luminaire, with max. 20 luminaires per circuit Yes after less than 1.6 sec. maximum. Δ I sum < 250 mA only for flourescent lamps: AC and/or DC-supplied electronic control gear for tubular Control gear complies with the DIN FN 60929 not relevant fluorescent lamps - Performance requirements standard: only for flourescent lamps: Particular requirements for AC and/or DC supplied electronic Control gear complies with the DIN EN 61347-2-3 (incl. Attachment J) not relevant control gear for fluorescent lamps standard: only for LED: DC. Or AC supplied electronic control gear for LED modules -Control gear complies with the DIN EN 62384 Yes Performance requirements standard: only for LED: Lamp controlgear — Part 2-13: Particular requirements for d. c. Control gear complies with the DIN EN 61347-2-13 Yes or a. c. supplied electronic controlgear for LED modules standard: **DIN EN 55015** Limits and methods of measurement of radio disturbance Fullfilled the standard: Yes (Measurement on AC And DC) characteristics of electrical lighting and similar equipment Electromagnetic compatibility (EMC) — Part 3-2: Limits — Fullfilled the standard: DIN EN 61000-3-2 Limits for harmonic current emissions (equipment input current Yes ≤ 16 A per phase) Equipment for general lighting purposes — EMC immunity Fullfilled the standard: **DIN EN 61547** Yes Fullfilled the DALL standards: DIN FN 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 Manufacturer's Features: CEAG-Data: Comment: instructions: Important for function test! According to IEC 62386 Part 102 Support of : To detect a lamp failure, the V-CG-SB.1 module send DALI command 145 According to IEC 62386 Part 102 Yes DALI command queries (145/146) to the DALI LED driver (Query Control Gear) DALI command 146 (Query Lamp Failure) Important for DC light output: Behavior in DC operation: Unlocked DC [ ] DC light output settings on V-CG-SB.1 In case of locked DC light output level, the DC level of Unlocked DC light output level only active if control gear is unlocked! V-CG-SB.1 is not active! Locked DC [x] Locked DC light output level Important for lighting design: No control of light output level from V-CG-If locked DC light output the lightout Locked light output level in %, e.g. 15% (\*\*) 15% SB.1 in DC operation possible! level in % is required Max. permitted inrush current per circuit: SKU 2 x 3A (CG) => 120 A SKU 1 x 6A (CG) => 180 A Important for the contact load SKU: SKU 4 x 1,5A CG-S => 60 A Max, inrush current each Describes the max. inrush current of all ballasts in a circuit, to lp=18A / Th=171µs SKU 2 x 3A CG-S => 250 A converter/luminaire in calculate the maximum contact rating of the circuit. SKU 1 x 6A CG-S => 250 A AC-operation: SOU CG-S // S\* => 250 A SU S<sup>+</sup> => 250 A Important for lighting design: Luminous flux ratio: Light output In battery opertion of the ballast, DC-operation at 186 V in comparison 15% for the light calculation (\*\*) to 230 V AC operation 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

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

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.

so the DALI LED driver must sign with the DALI logo

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

Date: 18.Jan. 2017



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	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)
Dti DALI 75/220-240/700 D LT2 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

lpeak=

18 A 171 μs



#### Version 0 Requirements for dimmable DALI control gears for fluorescent lamps and LED Manufacturer: Type / description: OSRAM GmbH Marcel - Breuer - Straße 6 ECG-type: OTi DALi 15/220-240/1A0 LT2 D 80807 München Complies: (Yes/No) Features: CEAG data: Comment: 186V - 260V DC (for Lead-Battery) Possible voltage range of the battery in emergency mode. Control gear suitable for Yes a DC voltage range: 186V - 275V DC (for NiCD-Battery) (Not for AT-S<sup>+</sup> Systems required) Control gear compatible with the Switch-over time: Typical switch-over time of CEAG systems between Yes switch-over time of the system? 180 ms - 450 ms mains supply and emergency power supply Necessary for an individual monitoring. Stable current consumption $\Delta$ I < 12,5 mA per luminaire, with max. 20 luminaires per Starting behavior of the control gear: Yes after less than 1.6 sec. maximum. circuit ∆ I sum < 250 mA only for flourescent lamps: AC and/or DC-supplied electronic control gear for tubular Control gear complies with the DIN EN 60929 not relevant fluorescent lamps - Performance requirements standard: only for flourescent lamps: Particular requirements for AC and/or DC supplied electronic Control gear complies with the DIN EN 61347-2-3 (incl. Attachment J) not relevant control gear for fluorescent lamps standard: only for LED: DC. Or AC supplied electronic control gear for LED modules **DIN EN 62384** Control gear complies with the Yes Performance requirements standard: only for LED: Lamp controlgear — Part 2-13: Particular requirements for Control gear complies with the DIN EN 61347-2-13 Yes d. c. or a. c. supplied electronic controlgear for LED modules standard: **DIN FN 55015** Limits and methods of measurement of radio disturbance Fullfilled the standard: Yes (Measurement on AC And DC) characteristics of electrical lighting and similar equipment Electromagnetic compatibility (EMC) — Part 3-2: Limits — Fullfilled the standard: DIN EN 61000-3-2 Limits for harmonic current emissions (equipment input Yes current ≤ 16 A per phase) Equipment for general lighting purposes — EMC immunity **DIN EN 61547** Fullfilled the standard: Yes requirements 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 Manufacturer's CEAG-Data: Features: Comment: instructions: Important for function test! According to IEC 62386 Part 102 Support of: To detect a lamp failure, the V-CG-SB.1 module send DALI command 145 According to IEC 62386 Part 102 Yes DALI command gueries (145/146) to the DALI LED driver (Query Control Gear) DALI command 146 (Query Lamp Failure) Important for DC light output: Unlocked DC [ ] Behavior in DC operation: DC light output settings on V-CG-SB.1 In case of locked DC light output level, the DC level of Unlocked DC light output level only active if control gear is unlocked! V-CG-SB.1 is not active! Locked DC [X]\*\*) Locked DC light output level Important for lighting design: No control of light output level from V-CG-Locked light output level in %, e.g. 15% 15% \*\*) f locked DC light output the lightout SB.1 in DC operation possible! evel in % is required Max. permitted inrush current per circuit: SKU 2 x 3A (CG) => 120 A SKU 1 x 6A (CG) => 180 A Important for the contact load SKU: SKU 4 x 1,5A CG-S => 60 A Describes the max, inrush current of all ballasts in a circuit. Max. inrush current each 5A / 45µs SKU 2 x 3A CG-S => 250 A converter/luminaire in to calculate the maximum contact rating of the circuit. SKU 1 x 6A CG-S => 250 A AC-operation: SOU CG-S // S\* => 250 A SU S\* => 250 A Important for lighting design: Luminous flux ratio: Light output In battery opertion of the ballast, 15% \*\*) DC-operation at 186 V in comparison for the light calculation to 230 V AC operation

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



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

Ipeak=

8 A TH= 17 µs



Manufacturer: Osram GmbH Marcel-Breuer-Straße 6 D-80807 München	ECG-type: Oti DALI 25/220-240/700 L	Type / description: T2 (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 <sup>+</sup> 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	DC. Or AC supplied electronic control gear for LED modules - Performance requirements	Yes	
only for LED: Control gear complies with the standard:	e 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:	d: DIN EN 55015 Limits and methods of measurement of radio disturbar characteristics of electrical lighting and similar equipm		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, ma	rking is not applicable			
Features:	CEAG-Data:	Comment:	Manufacturer's instructions:	
Important for function test! 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	
Important for DC light output: 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 [ x	
mportant for lighting design: 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%	
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     Converter/luminaire in   SKU 2 x 3A CG-S   => 250 A     AC-operation:   SKU 1 x 6A CG-S   => 250 A     SOU CG-S // S*   => 250 A		Describes the max. inrush current of all ballasts in a circuit, to calculate the maximum contact rating of the circuit.	lp=10,2A / Th=38µs	
Important for lighting design: Luminous flux ratio: DC-operation at 186 V in comparison to 230 V AC operation	SU S* => 250 A	Light output In battery opertion 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)

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

<sup>\*1:</sup> 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

<sup>\*2:</sup> The DC Output Level is locked in DC Mode to 15%, it is possibe to unlock with DALI magic and Tuner 4 Tronic

<sup>\*3:</sup> Not to be used in high risk areas, special release required Max. 1 DALI- Driver to wire with 1 V-CG-SB.1



Manufacturer: OSRAM GmbH	Product:	
Marcel-Breuer Str. 6	Oti DALI 25/220-240/700 LT2	OSRAM
D-80807 München		001011

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 (260) / 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

Ipeak= TH=

10,2 A 38 μs



#### Requirements for dimmable DALI control gears for fluorescent lamps and LED Version 0 Manufacturer: Type / description: Osram GmbH Marcel-Breuer-Straße 6 ECG-type: Oti DALI 35/220-240/1A0 LT2 (ident code: AB42876) D-80807 München Features: Comment: Complies: (Yes/No) Control gear suitable for 186V - 260V DC (for Lead-Battery) Possible voltage range of the battery in emergency mode. Yes a DC voltage range: 186V - 275V DC (for NiCD-Battery) (Not for AT-S+ Systems required) Control gear compatible with the Switch-over time: Typical switch-over time of CEAG systems between Yes switch-over time of the system? 180 ms - 450 ms mains supply and emergency power supply Necessary for an individual monitoring. Stable current consumption Starting behavior of the control gear: Δ I < 12,5 mA per luminaire, with max. 20 luminaires per Yes after less than 1.6 sec. maximum. circuit A I sum < 250 mA only for flourescent lamps: AC and/or DC-supplied electronic control gear for tubular Control gear complies with the **DIN EN 60929** not relevant fluorescent lamps - Performance requirements standard: only for flourescent lamps: Particular requirements for AC and/or DC supplied electronic Control gear complies with the DIN EN 61347-2-3 (incl. Attachment J) not relevant control gear for fluorescent lamps standard: only for LED: DC. Or AC supplied electronic control gear for LED modules -Control gear complies with the **DIN EN 62384** Yes Performance requirements standard: only for LED: Lamp controlgear — Part 2-13: Particular requirements for Control gear complies with the DIN EN 61347-2-13 Yes d. c. or a. c. supplied electronic controlgear for LED modules **DIN EN 55015** Limits and methods of measurement of radio disturbance Fullfilled the standard: Yes (Measurement on AC And DC) characteristics of electrical lighting and similar equipment Electromagnetic compatibility (EMC) - Part 3-2: Limits Fullfilled the standard: DIN EN 61000-3-2 Limits for harmonic current emissions (equipment input Yes current ≤ 16 A per phase) Equipment for general lighting purposes - EMC immunity Fullfilled the standard: **DIN FN 61547** Yes (\*3) requirements Fullfilled the DALL standards: DIN FN 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 Manufacturer's CEAG-Data: Features: Comment: instructions: Important for function test! According to IEC 62386 Part 102 Support of : To detect a lamp failure, the V-CG-SB.1 module send DALI command 145 According to IEC 62386 Part 102 Yes DALI command queries (145/146) to the DALI LED driver (Query Control Gear) DALI command 146 (Query Lamp Failure) Important for DC light output: Unlocked DC [ ] Behavior in DC operation: DC light output settings on V-CG-SB.1 In case of locked DC light output level, the DC level of Unlocked DC light output level only active if control gear is unlocked! V-CG-SB.1 is not active! Locked DC [x] Locked DC light output level Important for lighting design: No control of light output level from V-CG-If locked DC light output the lightout Locked light output level in %, e.g. 15% (\*2) 15% SB.1 in DC operation possible! level in % is required Max. permitted inrush current per circuit: SKU 2 x 3A (CG) => 120 A SKU 1 x 6A (CG) => 180 A Important for the contact load SKU: SKU 4 x 1,5A CG-S => 60 A Max, inrush current each Describes the max, inrush current of all ballasts in a circuit, to lp=10,4A / Th=54μs SKU 2 x 3A CG-S => 250 A converter/luminaire in calculate the maximum contact rating of the circuit. SKU 1 x 6A CG-S => 250 A AC-operation: SOU CG-S // S\* => 250 A SU S\* => 250 A Important for lighting design: Luminous flux ratio: Light output In battery opertion of the ballast, 15% DC-operation at 186 V in comparison for the light calculation (\*2) to 230 V AC operation

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

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

<sup>\*1:</sup> 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

<sup>\*2:</sup> The DC Output Level is locked in DC Mode to 15%, it is possibe to unlock with DALI magic and Tuner 4 Tronic

<sup>\*3:</sup> Not to be used in high risk areas, special release required



Manufacturer: OSRAM GmbH	Product:	000011
Marcel-Breuer Str. 6	Oti DALI 35/220-240/1A0 LT2	OSRAM
D-80807 München		

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 35/220-240/1A0 LT2							
	Umin, Imin	59,70	61,05	11,08	11,09	10,61	10,22
	Umin, Imax	98,09	91,20	20,96	18,14	16,25	15,74
	Umax, Imin	98,44	95,94	21,91	19,04	17,14	16,14
	Umax, Imax	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

Ipeak= TH=

10,4 A 54 μs



#### Requirements for dimmable DALI control gears for fluorescent lamps and LED Version 0 Manufacturer: Type / description: Osram GmbH Marcel-Breuer-Straße 6 ECG-type: Oti DALI 50/220-240/1A4 LT2 FAN (ident code: AB42878) D-80807 München Features: CEAG data: Comment: Complies: (Yes/No) 186V - 260V DC (for Lead-Battery) 186V - 275V DC (for NiCD-Battery) Possible voltage range of the battery in emergency mode. Control gear suitable for a DC voltage range: (Not for AT-S + Systems required) Control gear compatible with the switch-Switch-over time: Typical switch-over time of CEAG systems between Yes over time of the system? 180 ms - 450 ms mains supply and emergency power supply Necessary for an individual monitoring. Stable current consumption Δ I < 12,5 mA per luminaire, with max. 20 luminaires per circuit Starting behavior of the control gear: Yes after less than 1.6 sec. maximum. Δ I sum < 250 mA only for flourescent lamps: AC and/or DC-supplied electronic control gear for tubular DIN EN 60929 Control gear complies with the not relevant fluorescent lamps - Performance requirements standard: only for flourescent lamps: Particular requirements for AC and/or DC supplied electronic Control gear complies with the DIN EN 61347-2-3 (incl. Attachment J) not relevant control gear for fluorescent lamps standard: only for LED: DC. Or AC supplied electronic control gear for LED modules -Control gear complies with the **DIN EN 62384** Yes Performance requirements standard: only for LED: Lamp controlgear — Part 2-13: Particular requirements for d. c. DIN FN 61347-2-13 Control gear complies with the Yes or a. c. supplied electronic controlgear for LED modules standard: **DIN EN 55015** Limits and methods of measurement of radio disturbance Fullfilled the standard: Yes (Measurement on AC And DC) characteristics of electrical lighting and similar equipment Electromagnetic compatibility (EMC) - Part 3-2: Limits -Fullfilled the standard: DIN EN 61000-3-2 Limits for harmonic current emissions (equipment input current Yes ≤ 16 A per phase) Equipment for general lighting purposes — EMC immunity Fullfilled the standard: **DIN EN 61547** Yes (\*3) requirements 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 Manufacturer's Features: CFAG-Data: Comment: instructions: Important for function test! According to IEC 62386 Part 102 Support of: To detect a lamp failure, the V-CG-SB.1 module send DALI command 145 According to IEC 62386 Part 102 Yes DALI command queries (145/146) to the DALI LED driver (Query Control Gear) DALI command 146 (Query Lamp Failure) Important for DC light output: Unlocked DC [ ] Behavior in DC operation: DC light output settings on V-CG-SB.1 In case of locked DC light output level, the DC level of Unlocked DC light output level only active if control gear is unlocked! V-CG-SB.1 is not active ! Locked DC [x] Locked DC light output level Important for lighting design: No control of light output level from V-CG-If locked DC light output the lightout Locked light output level in %, e.g. 15% (\*2) 15% SB.1 in DC operation possible! level in % is required Max. permitted inrush current per circuit: SKU 2 x 3A (CG) => 120 A SKU 1 x 6A (CG) => 180 A Important for the contact load SKU: SKU 4 x 1,5A CG-S => 60 A Max. inrush current each Describes the max. inrush current of all ballasts in a circuit, to Ip=20A / Th=194µs SKU 2 x 3A CG-S => 250 A converter/luminaire in calculate the maximum contact rating of the circuit. SKU 1 x 6A CG-S => 250 A AC-operation: SOU CG-S // S\* => 250 A SU S\* => 250 A Important for lighting design: Luminous flux ratio: Light output In battery opertion of the ballast, 15% DC-operation at 186 V in comparison for the light calculation (\*2) to 230 V AC operation

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

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

<sup>\*1:</sup> 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

<sup>\*2:</sup> The DC Output Level is locked in DC Mode to 15%, it is possibe to unlock with DALI magic and Tuner 4 Tronic

<sup>\*3:</sup> Not to be used in high risk areas, special release required



 Manufacturer:
 OSRAM GmbH

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

 D-80807 München
 Oti DALI 50/220-240/1A4 LT2 FAN

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)
ti DALI 60/220-240/1A4 LT2 FAN					er mecon personne en competition paper (ES) (ES) (ES)		
	Umin, Imin	97,43	96,10	19,11	16,57	15,28	14,24
	Umin, Imax	136,96	125,50	26,81	23,13	21,28	20,14
	Umax, Imin	212,14	204,29	40,38	35,03	31,89	29,97
	Umax, Imax	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

Ipeak= TH= 20 A 194 µs