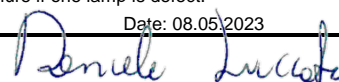
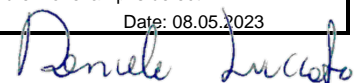


Requirements for dimmable DALI control gears for fluorescent lamps and LED			Version 5
<b>Manufacturer:</b> <b>Inventronics GmbH</b> <b>Parking 31-33, 85748 Garching</b> <b>Germany</b> <b>www.inventronicsglobal.com</b>	<b>Type / description:</b> ECG-type: OT DX 165/170-240/1A0 DIMA NFC G2 CE (EAN: 4052899631717) Date: 08.05.2023		<b>Manufacturer information</b> <b>Complies: YES/NO</b>
<b>Features:</b>	<b>CEAG data:</b>	<b>Explanation:</b>	
Control gear suitable for a DC voltage range:	186V - 260V DC (for Lead-Battery)	Possible voltage range of the battery in emergency mode. (Not for AT-S* Systems required)	Yes
Control gear compatible with the switch-over time of the system?	<b>Switch-over time:</b> 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:	<b>Stable current consumption after less than 1.6 sec. maximum.</b>	A stable operation of the control gear after 1.6 seconds of start up is required for the right functionality of the individual monitoring. With max. 20 luminaires for one current circuit: $\Delta I$ in sum < 250 mA are allowed	Yes
Control gear compatible with CEAG STAR-Technology:	<b>Phase-cut telegram (PAT):</b> <b>max. 30 phases (half waves) with max. 60° phase-cuts</b>	During the CEAG STAR switching process, up to 30 half-waves are cut at a maximum of 60°. The control gear must not exhibit any malfunctions such as switching off, flickering	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 61547	Equipment for general lighting purposes — EMC immunity requirements	Yes
Fullfilled the DALI standards:	DIN EN 62386-101 /-102 / -207*	<b>Control gear must have the DALI Logo*</b>	Yes
Note: VDE 0108 is not a standard for ECG, marking is not applicable			
<b>Features:</b>	<b>CEAG-Data:</b>	<b>Explanation:</b>	<b>Manufacturer information:</b>
<u>Important for function test!</u> According to IEC 62386 Part 102 Support of: <b>DALI command 145</b> (Query Control Gear) <b>DALI command 146</b> (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. These DALI commands are necessary to ensure the lamp failure detection, and must be support by the control gear.	Yes
<u>Important for DC operation:</u> DALI light level	In case of locked DALI light level in DC operation (EOF=Emergency Output Level), the V-CG-SB.1 can not change the light level !	In DC-emergency case the DALI-Light Level is locked to prevent unwanted changes of the luminous flux.	Not locked
<u>Important for lighting design:</u> If DALI-Light level is locked, the value of the preset DC-Lightlevel ( in % ) is required		Pre-set DC-Light Level e.g. 15% (DALI-value 185 for logarithmic dimming curve)	(*1) 100%
<b>Note: Important for the planning - Max. no. Of luminaires per circuit</b>			
<u>Important for the contact load SKU:</u> Max. inrush current each converter/luminaire in AC-operation:	<b>Max. permitted inrush current per circuit:</b> 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	<b>3.3A/3000µs per pcs.</b>  The declaration of the inrush current of the luminaire is important, to calculate the max. possible luminaires on one circuit, to consider the max. contact load limitation of the circuit.	
<b>Luminaires, which are used for emergency lighting, must be according to the standard DIN EN 60598-2-22 (particular requirements - Luminaires for emergency lighting)</b>			
*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			
(*1) Emergency feature is disable and factory setting is 100% of the Dali light level. In DC mode at the 100% of Dali light level, the output current is limited. It is possible enable Emergency feature with DALI magic and Tuner 4 Tronic.			
<b>Max. 1 DALI- Driver to wire with 1 V-CG-SB.1</b>			
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: 08.05.2023			



Requirements for dimmable DALI control gears for fluorescent lamps and LED			Version 5
<b>Manufacturer:</b> <b>Inventronics GmbH</b> <b>Parking 31-33</b> <b>85748 Garching, Germany</b> <b>www.inventronicsglobal.com</b>	<b>Type / description:</b> ECG-type: OT DX 165/170-240/1A0 DIMA NFC G2B CE (EAN: 4052899631724) Date: 08.05.2023		<b>Manufacturer information</b> <b>Complies: YES/NO</b>
<b>Features:</b>	<b>CEAG data:</b>	<b>Explanation:</b>	
Control gear suitable for a DC voltage range:	186V - 260V DC (for Lead-Battery)	Possible voltage range of the battery in emergency mode. (Not for AT-S* Systems required)	Yes
Control gear compatible with the switch-over time of the system?	<b>Switch-over time:</b> 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:	<b>Stable current consumption after less than 1.6 sec. maximum.</b>	A stable operation of the control gear after 1.6 seconds of start up is required for the right functionality of the individual monitoring. With max. 20 luminaires for one current circuit: $\Delta I$ in sum < 250 mA are allowed	Yes
Control gear compatible with CEAG STAR-Technology:	<b>Phase-cut telegram (PAT):</b> <b>max. 30 phases (half waves) with max. 60° phase-cuts</b>	During the CEAG STAR switching process, up to 30 half-waves are cut at a maximum of 60°. The control gear must not exhibit any malfunctions such as switching off, flickering	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 61547	Equipment for general lighting purposes — EMC immunity requirements	Yes
Fullfilled the DALI standards:	DIN EN 62386-101 /-102 / -207*	<b>Control gear must have the DALI Logo*</b>	Yes
Note: VDE 0108 is not a standard for ECG, marking is not applicable			
<b>Features:</b>	<b>CEAG-Data:</b>	<b>Explanation:</b>	<b>Manufacturer information:</b>
<u>Important for function test!</u> According to IEC 62386 Part 102 Support of: <b>DALI command 145</b> (Query Control Gear) <b>DALI command 146</b> (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. These DALI commands are necessary to ensure the lamp failure detection, and must be support by the control gear.	Yes
<u>Important for DC operation:</u> DALI light level	In case of locked DALI light level in DC operation (EOF=Emergency Output Level), the V-CG-SB.1 can not change the light level !	In DC-emergency case the DALI-Light Level is locked to prevent unwanted changes of the luminous flux.	Not locked
<u>Important for lighting design:</u> If DALI-Light level is locked, the value of the preset DC-Lightlevel ( in % ) is required		Pre-set DC-Light Level e.g. 15% (DALI-value 185 for logarithmic dimming curve)	(*1) 100%
<b>Note: Important for the planning - Max. no. Of luminaires per circuit</b>			
<u>Important for the contact load SKU:</u> Max. inrush current each converter/luminaire in AC-operation:	<b>Max. permitted inrush current per circuit:</b> 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	<b>71A/173µs per pcs.</b>  The declaration of the inrush current of the luminaire is important, to calculate the max. possible luminaires on one circuit, to consider the max. contact load limitation of the circuit.	
<b>Luminaires, which are used for emergency lighting, must be according to the standard DIN EN 60598-2-22 (particular requirements - Luminaires for emergency lighting)</b>			
*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			
(*1) Emergency feature is disable and factory setting is 100% of the Dali light level. In DC mode at the 100% of Dali light level, the output current is limited. It is possible enable Emergency feature with DALI magic and Tuner 4 Tronic.			
<b>Max. 1 DALI- Driver to wire with 1 V-CG-SB.1</b> 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: 08.05.2023			




<b>Manufacturer:</b> Inventronics GmbH Parkring 31-33 85748 Garching, Germany <a href="http://www.inventronicsglobal.com">www.inventronicsglobal.com</a>	<b>Products:</b> <b>OT DX 165/170-240/1A0 DIMA NFC G2 CE</b> EAN: 4052899631717 <b>OT DX 165/170-240/1A0 DIMA NFC G2B CE</b> EAN: 4052899631724	<b>INVENTRONICS GmbH</b> 
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Table 1

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)
<b>OT DX 165/170-240/1A0 DIMA NFC G2 CE</b> <b>OT DX 165/170-240/1A0 DIMA NFC G2B CE</b>	Maximum Load /mA Uout = 38 V Iout = 1050 mA	771	739	799	663	620	565
	Medium Load /mA Uout = 38 V Iout = 525 mA	392	377	478	407	366	360
	Minimum Load /mA Uout = 15 V Iout = 150 mA	90	91	83	64	65	60
	No Load	44	46	8	9	9	10
	Short Load	44	46	7	9	9	10

Maximum inrush current for ECG in AC Operation:

	Ipeak [A]	TH [µs]
OT DX 165/170-240/1A0 DIMA NFC G2 CE	3.3	3000
OT DX 165/170-240/1A0 DIMA NFC G2B CE	71	173