


Technical requirements for electronic control gears for LED and fluorescent luminaires (dimmable or non-dimmable) for operation on INOTEC central battery systems (CPS 220 / CPS FUSION) and emergency power supply systems (NEA)

- General requirements -

| | |
|-------------------------------|--|
| Manufacturer: | Type / Description: |
| | Luminaire |
| | EVG: OTi DALI 20/220-240/500 NFC S (AM31177) |
| Project / Place / Project ID: | LED: |
| | Specified by: |
| | Name: M.Hutzl |
| | Company: OSRAM GmbH |
| | Date: 25.02.2020 |

| Features | Techn. data / INOTEC requirements | Explanation | Fulfilled (Yes / No) |
|---|--|---|----------------------|
| 1 Voltage range AC | 230V ± 10% | Voltage range in normal mains operation | Yes |
| 2 Voltage range DC | 186V - 260V | Possible voltage range in emergency operation | Yes |
| 3 Control gear suitable for "Joker-Voltage" ? | B2-rectification of the AC voltage (without smoothing) | Pulsating DC voltage  | Yes |
| 4 Control gear compatible with change-over time of the system? | Change-over time: 150 - 1000ms | Typical change-over time of INOTEC systems between mains- and battery operation | Yes |
| 5 Starting behavior of the control gear in AC and DC operation | Stable current consumption within 1.6s | Necessary for individual lamp monitoring (SV). The nominal current of the control gear must be reached within this time if the lamp is intact or defective. | Yes |
| 6 Control gear complies with the standard: (only for fluorescent lamps) | DIN EN 60929 | AC and/or DC-supplied electronic control gear for tubular fluorescent lamps - Performance requirements | Not relevant |
| 7 Control gear complies with the standard: (only for fluorescent lamps) | DIN EN 61347-2-3 (incl. Attachment J) | Particular requirements for AC and/or DC supplied electronic control gear for fluorescent lamps | Not relevant |
| 8 Control gear complies with the standard: (only for LED) | DIN EN 62384 | DC or AC supplied electronic control gear for LED modules - Performance requirements | Yes |
| 9 Control gear complies with the standard: (only for LED) | DIN EN 61347-2-13 | Lamp control gear - Part 2-13: Particular requirements for DC or AC supplied electronic control gear for LED modules | Yes |
| 10 Control gear complies with the standard: | DIN EN 55015 (Measurement on AC and DC) | Limits and methods of measurement of radio interference | Yes |
| 11 Control gear complies with the standard: | DIN EN 61000-3-2 | Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase) | Yes |
| 12 Control gear complies with the standard: | DIN EN 61547 | Equipment for general lighting purposes — EMC immunity requirements | Yes |
| 13 Control gear complies with the DALI-standards: | DIN EN 62386-101 /-102 / -207 | The control and status information for monitoring the luminaire is provided via DALI commands. The DALI commands must be 100% compatible. | Yes |

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

Technical requirements for electronic control gears for LED and fluorescent luminaires (dimmable or non-dimmable) for operation on INOTEC central battery systems (CPS 220 / CPS FUSION) and emergency power supply systems (NEA)
- Technical specifications -



| | |
|-------------------------------|--|
| Manufacturer: | Type / Description: |
| | Luminaire |
| | EVG: OTi DALI 20/220-240/500 NFC S (AM31177) |
| Project / Place / Project ID: | LED: |
| | Specified by: |
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| | Company OSRAM GmbH |
| | Date: 25.02.2020 |

| Features | Explanation | Manufacturer spec. |
|---|--|--------------------|
| 14 Nominal current of the control gear with connected illuminant in AC- operation (230V) | Selection guide for the calculation of the max. number of luminaires per circuit | Table 1 mA |
| 15 Nominal current of the control gear with connected illuminant in DC- operation (186V / 216V / 240V) | Selection guide for the calculation of the necessary battery capacity and selection guide for determination of the monitoring module to recognise a normal working lamp correctly. | Table 1 mA (186V) |
| | | Table 1 mA (216V) |
| | | Table 1 mA (240V) |
| 16 Nominal current of the control gear with connected illuminant at set dimming level in DC-operation (186V / 216V / 240V) (for dimmable control gear) | Selection guide for determination of the monitoring module to recognise a normal working lamp correctly. | Table 1 mA (186V) |
| | | Table 1 mA (216V) |
| | | Table 1 mA (240V) |
| 17 Current consumption of the control gear without or with defective illuminant in DC- operation (186V and 240V) | Selection guide for determination of the monitoring module to recognise a lamp failure correctly. | Table 1 mA (186V) |
| | | Table 1 mA (240V) |
| 18 Current consumption of the control gear without or with defective illuminant in AC- operation (230V) | Selection guide for determination of the monitoring module to recognise a lamp failure correctly. | Table 1 mA |
| 19 Dimming level in emergency mode (DC or "Joker") (for dimmable control gear, if activated) | Important for the safety lighting design | 15 (*1) % |
| 20 DC detection completely deactivatable ? (for dimmable control gear) | To ensure correct operation, the control gear should not react to a change of the input voltage (DC or "Joker"). In this case, the INOTEC DALI module (DALI-SV module or FMD 230/DALI) controls the control gear. | Yes |
| 21 Max. inrush current of the control gear with connected illuminant in AC- operation (230V) | Important for determining the maximum permissible number of luminaires per circuit in order to take account of the maximum contact load capacity of the circuit changeover circuit or monitoring module. | 20 / 200 A / µs |
| 22 Use of DALI commands according to IEC 62386 part 102: - DPAC (level) - RECALL MAX LEVEL 0x05 - RECALL MIN LEVEL 0x06 - QUERY STATUS 0x90 - QUERY ACTUAL LEVEL 0xA0 - QUERY LAMP FAILURE 0x92 | Control and status information for monitoring the luminaires: - Direct setting of a dimming value - Set maximum level - Set minimum level - Requests status telegram - Requests current dimming value - Requests lamp failure status (after 2 / 2.5 / 3 seconds!) | Yes |

Luminaires, which should work as emergency lighting, have to be in accordance with DIN EN 60598-2-22. (Particular requirements - Luminaires for emergency lighting).

Notes:

- *1) The DC-Output Level is locked in DC Mode to 15% as preset factory setting
- *2) Not to be used in high risk areas, special release required

For the correctness:

Garching, 25.02.2020

Place, Date

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DI DS D EM

Signature

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| | | |
|--|---|-------------------|
| Manufacturer: OSRAM GmbH Marcel-Breuer Str. 6 D-80807 München | Product: OTi DALI 20/220-240/500 NFC S (AM31177) | OSRAM GmbH |
|--|---|-------------------|

Table 1

| Values for load range | AC-operation | | DC-Operation (Current measured at driver`s default DC level of 15%) | | | |
|---|-------------------------------|-------------------------------|--|----------------|----------------|----------------|
| | AC-operation @ 230V (mA) | AC-operation @ 240V (mA) | 186V (mA) | 216V (mA) | 240V (mA) | 260V (mA) |
| Minimum Load /mA Uout= 20 V Iout= 200 mA P= 4 W | 37 | 40 | 13 | 13 | 13 | 13 |
| Mid Load /mA Uout= 40 V Iout= 250 mA P= 10 W | 60 | 60 | 17 | 17 | 17 | 17 |
| Maximum Load /mA Uout= 40 V Iout= 500 mA P= 20 W | 100 | 100 | 22 | 22 | 22 | 22 |
| Short Load | 19 | 19 | 12 | 12 | 12 | 12 |
| Open Load | 19 | 19 | 12 | 12 | 12 | 12 |

Remarks:

This table shows the currents consumption of the driver at three different operating points (Pmax, Pmid, Pmin) for AC and DC operation. In DC operation the output current is reduced to 15% light level according default parameter setting. This level can be changed via T4T.