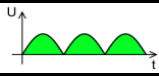


Technical requirements for electronic control gears for LED and fluorescent luminaires (dimmable or non-dimmable) for operation on INOTEC central battery systems (CPS 220 / CPS FUSION) and emergency power supply systems (NEA)

- General requirements -

| | |
|-------------------------------|---------------------|
| Manufacturer: | Type / Description: |
| | Luminaire |
| | EVG: |
| Project / Place / Project ID: | LED: |
| | Specified by: |
| | Name: |
| | Company: |
| | Date: |

| Features | Techn. data / INOTEC requirements | Explanation | Fulfilled (Yes / No) |
|---|--|---|----------------------|
| 1 Voltage range AC | 230V ± 10% | Voltage range in normal mains operation | |
| 2 Voltage range DC | 186V - 260V | Possible voltage range in emergency operation | |
| 3 Control gear suitable for "Joker-Voltage" ? | B2-rectification of the AC voltage (without smoothing) | Pulsating DC voltage  | |
| 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 | |
| 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. | |
| 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 | |
| 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 | |
| 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 | |
| 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 | |
| 10 Control gear complies with the standard: | DIN EN 55015 (Measurement on AC and DC) | Limits and methods of measurement of radio interference | |
| 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) | |
| 12 Control gear complies with the standard: | DIN EN 61547 | Equipment for general lighting purposes — EMC immunity requirements | |
| 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. | |

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: |
| Project / Place / Project ID: | LED: |
| | Specified by: |
| | Name: |
| | Company: |
| | Date: |

| 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 | 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. | mA (186V) |
| | | | mA (216V) |
| | | | 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. | mA (186V) |
| | | | mA (216V) |
| | | | 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. | mA (186V) |
| | | | 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. | mA |
| 19 | Dimming level in emergency mode (DC or "Joker") (for dimmable control gear, if activated) | Important for the safety lighting design | % |
| 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. | |
| 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. | A / μ s |
| 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!) | |

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:

For the correctness:

Place, Date

Signature

| | | |
|--|--|-------------------|
| Manufacturer: OSRAM GmbH Marcel-Breuer Str. 6 D-80807 München | Product: OTi DALI 150_220-240_700 D NFC IND L G2 (4062172290180) | OSRAM GmbH |
|--|--|-------------------|

Table 1

| Values for load range | AC-operation | | | | DC-Operation (For DALI Devices @ default DC Dim level e.g. 15%) | | | |
|--|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--|-------------------------|-------------------------|-------------------------|
| | 189VAC/50Hz Itrms_in (mA) | 230VAC/50Hz Itrms_in (mA) | 240VAC/50Hz Itrms_in (mA) | 264VAC/50Hz Itrms_in (mA) | 186VDC Idc_in (mA) | 216VDC Idc_in (mA) | 240VDC Idc_in (mA) | 260VDC Idc_in (mA) |
| Min. Load /mA Uout= 64.7 V Iout= 200 mA P= 13.0 W PF: 0.614 | not supported (105.9) | 110,5 | 109,5 | 110,5 | 19,9 | 15,4 | 13,4 | 12,2 |
| Mid. Load /mA Uout= 107.4 V Iout= 700 mA P= 75.3 W PF: 0.961 | not supported (350.2) | 370,6 | 355,8 | 328,2 | 68,4 | 58,6 | 62,6 | 48,4 |
| Max. Load /mA Uout= 213.9 V Iout= 700 mA P= 150 W PF: 0.986 | not supported (647.8) | 696,8 | 667,1 | 608,2 | 129,0 | 111,0 | 99,2 | 91,6 |
| Short/Open Load PF: 0.015 | not supported (63.9) | 68,9 | 70,3 | 78,4 | 0,8 | 0,7 | 0,7 | 0,7 |

Remarks:

- 1.) This table shows the currents consumption of the driver at three different operating points (Pmax, Pmid, Pmin) for AC and DC operation.
- 2.) This table is intended for rough design decisions . It is not a replacement for individual functional measurements!