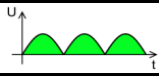


Technical requirements for electronic control gears for LED and fluorescent luminaires (dimmable or non-dimmable) for operation on INOTEC central battery systems (CPS 220 / CPS FUSION) and emergency power supply systems (NEA)

- General requirements -

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

| Features | Techn. data / INOTEC requirements | Explanation | Fullfilled (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 POWER ON 0x93 | 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 status whether lamp is switched on (after 2 / 2.5 / 3 seconds and cyclically every 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

Stand: Apr. 2021

Philip Qiu

Signature

| | | |
|--|--|--------------------------|
| Manufacturer: Inventronics GmbH Berliner Allee 65 86153 Augsburg, Germany www.inventronicsglobal.com | Product: <p style="text-align: center;">OT 75_170-240_0A7 4DIM NFC G3 CE (AM41130)</p> | Inventronics GmbH |
|--|--|--------------------------|

Table 1

| Values for load range | AC-operation | | | DC-Operation (For DALI Devices @ default DC Dim level e.g. 15%) | | | |
|--|--------------------------------|--------------------------------|--------------------------------|--|-------------------------|-------------------------|-------------------------|
| | 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= 50 V Iout= 150 mA | 66.4 | 65.6 | 68.9 | 51.9 | 45.7 | 42.2 | 39.8 |
| | PF: 0.5934 | PF: 0.5754 | PF: 0.490 | PF: NA | PF: NA | PF: NA | PF: NA |
| Mid. Load /mA Uout= 107 V Iout= 350 mA | 176.6 | 170.2 | 159.0 | 211.5 | 182.2 | 164.8 | 152.3 |
| | PF: 0.9693 | PF: 0.9617 | PF: 0.9365 | PF: NA | PF: NA | PF: NA | PF: NA |
| Max. Load /mA Uout= 107 V Iout= 700 mA | 350.5 | 336.5 | 306.4 | 327.7 | 281.4 | 252.5 | 232.4 |
| | PF: 0.9925 | PF: 0.9905 | PF: 0.9833 | PF: NA | PF: NA | PF: NA | PF: NA |
| Short/Open Load | 45.0 | 46.2 | 49.4 | 23.2 | 22.4 | 21.8 | 21.4 |
| | PF: 0.02 | PF: 0.018 | PF: 0.016 | PF: NA | PF: NA | PF: NA | PF: NA |

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!