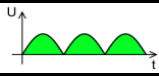


**Technical requirements for electronic control gears for LED and fluorescent luminaires (dimmable or non-dimmable) for operation on INOTEC central battery systems (CPS 220 / CPS FUSION) and emergency power supply systems (NEA)**

**- 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 <b>AC- operation (230V)</b>  | 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 <b>DC- operation (186V / 216V / 240V)</b>  | 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 <b>at set dimming level in DC-operation (186V / 216V / 240V)</b> (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 <b>without</b> or with <b>defective</b> illuminant in <b>DC- operation (186V and 240V)</b>  | 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 <b>without</b> or with <b>defective</b> illuminant in <b>AC- operation (230V)</b>   | 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 <b>completely</b> 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 <b>AC- operation (230V)</b>  | 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 / $\mu$ s        |
| 22       | Use of DALI commands according to IEC 62386 part 102:<br>- DPAC (level)<br>- RECALL MAX LEVEL 0x05<br>- RECALL MIN LEVEL 0x06<br>- QUERY STATUS 0x90<br>- QUERY ACTUAL LEVEL 0xA0<br>- QUERY LAMP POWER ON 0x93 | Control and status information for monitoring the luminaires:<br>- Direct setting of a dimming value<br>- Set maximum level<br>- Set minimum level<br>- Requests status telegram<br>- Requests current dimming value<br>- Requests status whether lamp is switched on<br><b>(after 2 / 2.5 / 3 seconds and cyclically every 3 seconds)</b> |                    |

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