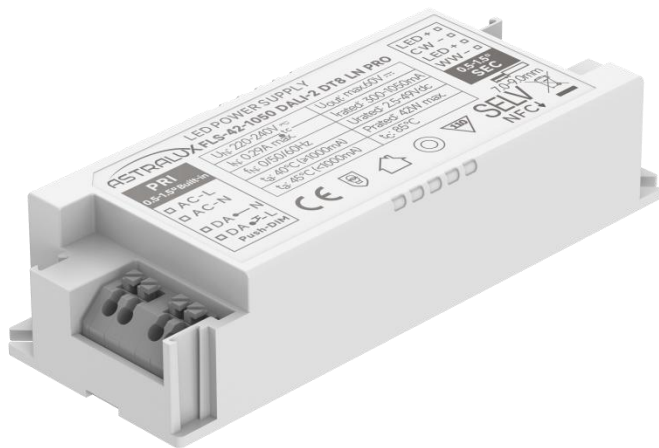


42W DT8 + PUSH Dimming power supply



Features

- For luminaires of protection Class I, II, SELV, Built-in/Independent (With side caps)
- Input Voltage: 220-240VAC, 176-280VDC
- Protections: SCP/OLP/OVP/OTP
- Power Factor: > 0.95
- Efficiency: 90%@900mA,full Load,230Vac
- Support DALI-2,Push Dimming
- Adjustable Output Current with NFC
- Suitable for emergency lighting acc. to EN 50172
- EOFi=100%
- 22mm height
- DALI maintainace(Part 251,252,253)
- 5 years warranty

Applications

- LED panel, LED down light

■ Approve

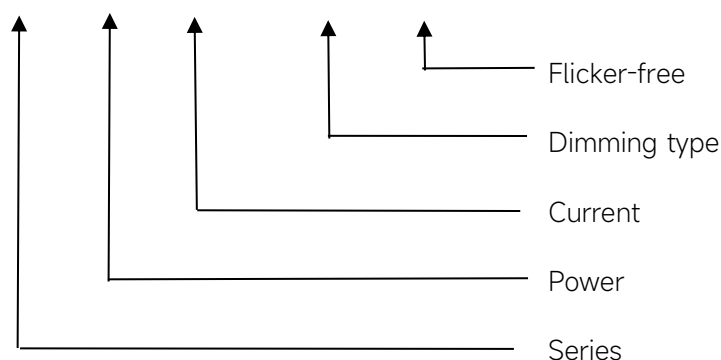


◆ Description

FLS-42-1050 DALI-2 DT8 LN PRO is a 42W constant current LED driver with 300 to 1050mA output current and a forward voltage range from 2.5 to 49Vdc. The output current is adjustable by DIP Switch. With it's dimensions from 98 x 43 x 22mm. It is easy to integrate in LED Panel and down light products. To ensure trouble-free operation, protection is provided against output short circuit and over Load.

◆ Model code

FLS-42-1050 DALI-2 DT8 LN



◆ Specification

| | | | | | |
|-------------|--|---|-----------|------------|-----------|
| Output | Constant Current (mA) | 300-500mA | 550-900mA | 950-1000mA | 1050mA |
| | Voltage Range(VDC) | 9-49VDC | 2.5-45VDC | 2.5-42VDC | 2.5-40VDC |
| | Unload voltage Max.(VDC) | 60VDC | | | |
| | Current Accuracy | ±5% | | | |
| | ² Output current ripple(≤120Hz) | ±3% | | | |
| | SVM | ≤0.4@Full Load | | | |
| | P _{st} | ≤1@Full Load | | | |
| | Efficiency(Typ.) | 90%@900mA,full Load,230Vac | | | |
| | EOFI | 100% | | | |
| Input | Rated input voltage(VAC) | 220-240VAC | | | |
| | Range of input voltage(VAC) | 198-264VAC | | | |
| | Maximum voltage | 300VAC@1 h maximum,unit might not operate in this abnormal condition | | | |
| | Range of input voltage(VDC) | 176-280VDC | | | |
| | Frequency(Hz) | 0/50/60 Hz | | | |
| | Displacement Factor | ≥0.9@full load, 230Vac | | | |
| | Power Factor | >0.95@full load, 230Vac | | | |
| | Input Current max | 0.27A max | | | |
| | Start-up time | < 0.8S | | | |
| | Switch over time(AC/DC mode) | < 0.4S | | | |
| | Standby Power | ≤0.3W, @220Vac | | | |
| | Network Standby Power | ≤0.3W,@220Vac | | | |
| | THD (Typ.) | <10%@full load,230Vac | | | |
| | | | | | |
| Dimming | Dimming | YES | | | |
| | Dimming mode | DALI-2 (IEC 62386-101,102,207,251,252,253) &Push Dimming (Corridor Function) | | | |
| | Dimming depth | 7mA@300-700mA, 1%@750-1050mA | | | |
| | Dimming current range | 1-100% | | | |
| | Dimming method | 1%-12.5% @PWM dimming, 12.5%-100% @AM dimming | | | |
| Protection | Over Load Protection | 103-120% YES/Latch off | | | |
| | Over Voltage Protection | 60VDC YES/Latch off | | | |
| | Short circuit Protection | YES/Latch off | | | |
| | Over Temperature Protection | YES/Auto Resume | | | |
| | | | | | |
| capability | Surge capability (L-N) | 1KV | | | |
| | Surge capability (L/N-Ground) | 2KV | | | |
| Environment | Operating Temperature | -20°C~+40°C@1000-1050mA -20°C~+45°C@300-950mA | | | |
| | Humidity | 20%-90%RH | | | |
| | Tc | 85°C | | | |

| | | |
|------------------|---|--|
| | Storage Temperature | -40°C~+80°C |
| | Life time | > 50000h,@TC=85°C |
| | Noise | ≤25dB(A)@20cm |
| Surface | Dimension | 98 x 43 x 22 mm (With side caps) : 132 X43X22mm |
| | material | PC |
| Standards | Safety | GB19510. 1, GB19510. 14;IEC61347- 1, IEC61347-2- 13;AS/NZS 61347- 1, AS/NZS 61347-2- 13;AS 61347.2.13;EN62384; |
| | EMC | GB/T17743, GB17625. 1;EN55015, EN61000-3-2, EN61000-3-3, EN61547;EN55015, EN61000-3-2, EN61000-3-3, EN61547,EN 62493;EN61000-4-5;EN61000-4-2,3,4,5,6,8,11, EN61547 |
| | Energy Efficiency | Erp2.0 EU 2019/2020 |
| | RoHS | RoHS (2011/65/EU) (EU)2015/863 |
| DALI performance | EN 62386-101 (DALI-2) EN 62386-102 (DALI-2) EN 62386-207 (DALI-2,including part251,252,253) | |
| Note | <p>1.All parameters not specially mentioned are measured at 230VAC input , full load and 25°C of ambient temperature.</p> <p>2.Ripple & Noise are measured at 20MHz of bandwidth by using a 300mm twisted pair-wire terminated with a 0.1uF & 47 uF parallel capacitor.</p> <p>3.DALI protocol comprises 16 groups and 64 addresses.Up to 32 drivers can perform the PUSH dimming at the same time when utilizing one push button.</p> <p>4.The DC input for this product is only used for emergency lighting and applies to functional and safety requirements, EMC is not considered.</p> | |

◆ Parameter

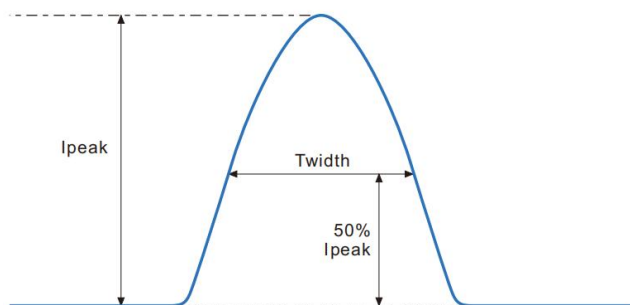
| Number | Output | | | | Switch position | | | |
|--------|-----------------|------------------|-----------------------------|--------------|-----------------|----|----|----|
| | Current (mA) | Voltage (VDC) | Voltage No load (VDC) | Power (W) | 1 | 2 | 3 | 4 |
| 1 | 300mA | 9-49 VDC | 60VDC | 14.7W | -- | -- | -- | -- |
| 2 | 350mA | | | 17.2W | ON | -- | -- | -- |
| 3 | 400mA | | | 19.6W | -- | ON | -- | -- |
| 4 | 450mA | | | 22.1W | ON | ON | -- | -- |
| 5 | 500mA | | | 24.5W | -- | -- | ON | -- |
| 6 | 550mA | 2.5-45VDC | | 24.8W | ON | -- | ON | -- |
| 7 | 600mA | | | 27W | -- | ON | ON | -- |
| 8 | 650mA | | | 29.3W | ON | ON | ON | -- |
| 9 | 700mA | | | 31.5W | -- | -- | -- | ON |
| 10 | 750mA | | | 33.8W | ON | -- | -- | ON |
| 11 | 800mA | | | 36W | -- | ON | -- | ON |
| 12 | 850mA | | | 38.3W | ON | ON | -- | ON |
| 13 | 900mA | | | 40.5W | -- | -- | ON | ON |
| 14 | 950mA | 2.5-42VDC | | 39.9W | ON | -- | ON | ON |

| | | | | | | | | |
|-----|--------|-----------|--|-----|----|----|----|----|
| 15 | 1000mA | | | 42W | -- | ON | ON | ON |
| *16 | 1050mA | 2.5-40VDC | | 42W | ON | ON | ON | ON |

* Factory default

◆ Inrush Current

| I_{peak} | Twidth | B10 | B16 | B20 | C10 | C16 | C20 |
|------------|---------|-----|-----|-----|-----|-----|-----|
| A | μs | pcs | pcs | pcs | pcs | pcs | pcs |



Remarks:

1.The number of drives mounted under different MCBs in the table is the maximum value. Please do not exceed this number during installation.

2.Different brands and models of miniature circuit breakers, the number of drives mounted will be slightly different.

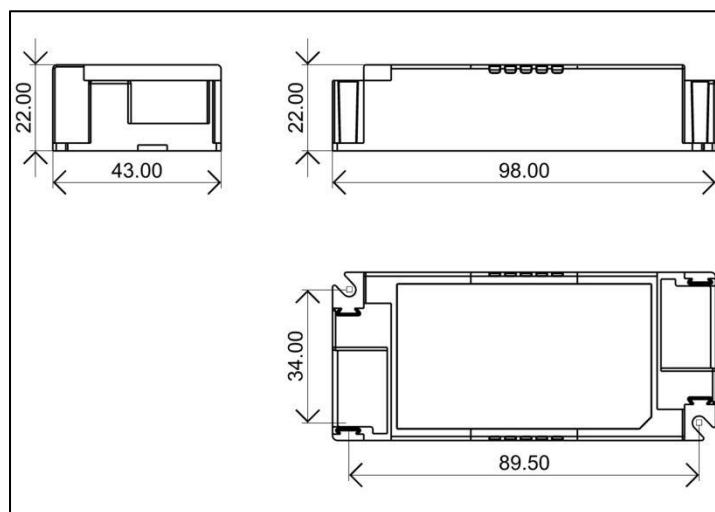
◆ Wiring diagram

DALI dimming application

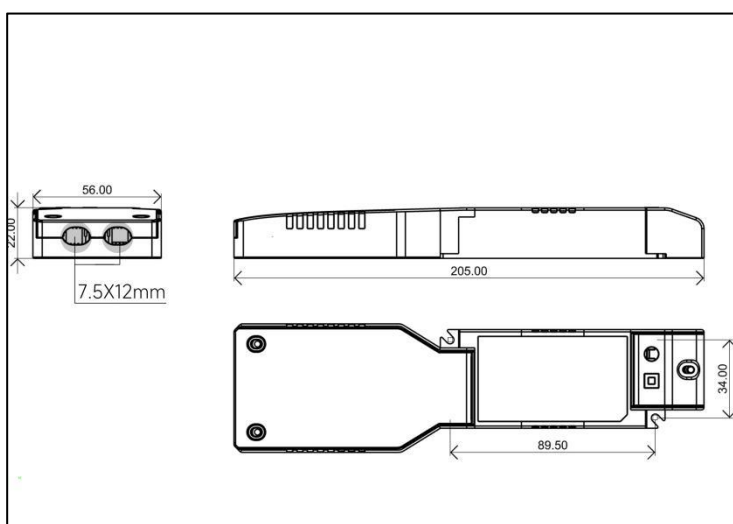
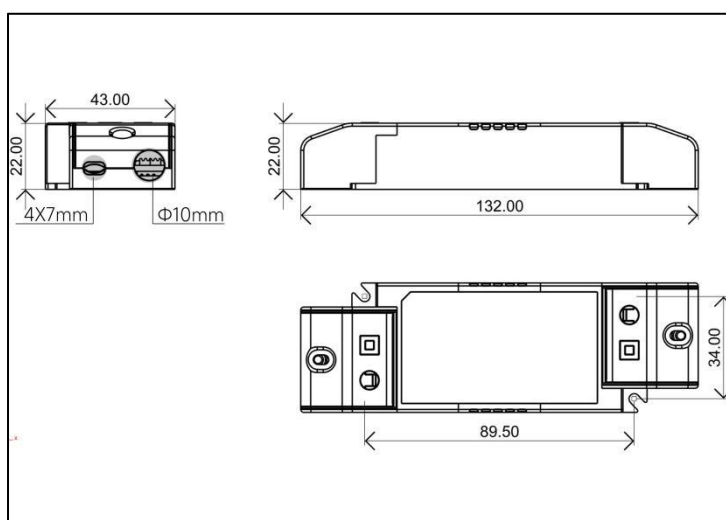
PushDIM dimming application

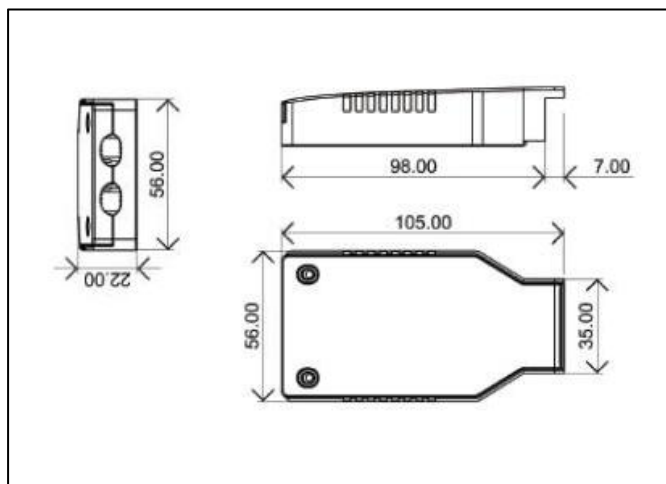
Corridor DIM dimming application

◆ 2D diagram

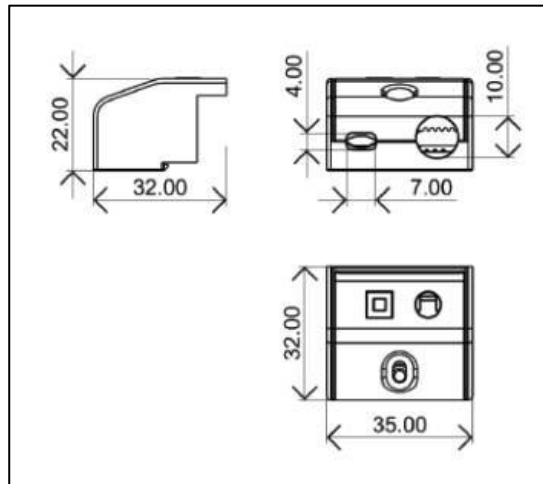


With side caps





A caps

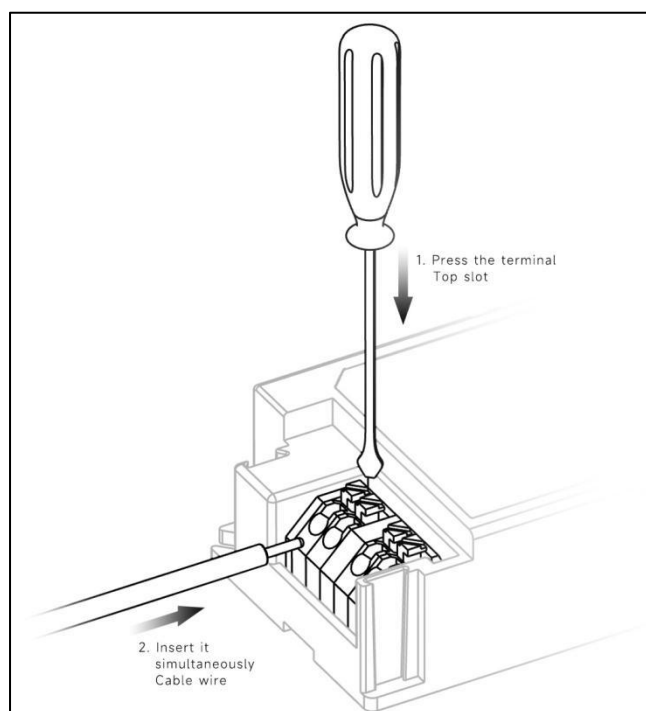


B caps

| | |
|---------------|-------------------------------|
| 132021T0209 | Top,Grey Side Cap and Bottom |
| 132021T0209-2 | Top,White Side Cap and Bottom |
| 1270100280 | Screws for Big Side Cap |
| 126016T0009 | 5P Terminal for Big Side Cap |

| | |
|---------------|---|
| 132021T0198 | Top,Grey,without" Don't Cover" mark+Bottom,White |
| 132021T0198-1 | Top,Grey,with" Don't Cover" mark+Bottom ,Big,White |
| 132021T0198-3 | Top,White,with" Don't Cover" mark+ Side Cap Bottom ,White |
| 1270100280 | Screws |

Terminal



◆ Wiring & Connections

| Specification item | | Value (Unit) |
|--------------------|---------------------------|---|
| Input | Input wire cross-section | 0.5...1.5 mm ² (With side caps: 0.75...1.5 mm ²) |
| | Input wire gauge. | 16...20 AWG (With side caps: 16...22 AWG) |
| | Input wire strip length | 7...9mm |
| Output | Output wire cross-section | 0.5...1.5 mm ² |
| | Output wire gauge. | 16...20 AWG |
| | Output wire strip length | 7...9mm |

◆ Recommended wire

| Small side cap of small hole | Wire type |
|------------------------------|-------------------------|
| 0.5mm ² | H03VVH2-F 2 core&3 core |
| | H03VV-F 2 core&3 core |
| 0.75mm ² | H03VVH2-F 2 core&3 core |
| | H03VV-F 2 core&3 core |
| | H05VV-F 2 core |
| 1.0mm ² | H05VVH2-F 2 core |
| 1.5mm ² | CCC 08(RV-90) |

| Small side cap of big hole | Wire type |
|----------------------------|------------------------------|
| 0.75mm ² | H05VV-F 2 core&3 core&4 core |
| 1.0mm ² | H05VV-F 2 core&3core |
| 1.5mm ² | H05VV-F 2 core&3core |

| Big side cap | Wire type |
|---------------------|------------------------------|
| 0.5mm ² | H03VVH2-F 2 core&3 core |
| | H03VV-F 2 core&3 core |
| 0.75mm ² | H03VVH2-F 2 core&3 core |
| | H03VV-F 2 core&3 core |
| | H05VV-F 2 core&3 core&4 core |
| 1.0mm ² | H05VVH2-F 2 core&3 core |
| 1.5mm ² | CCC 08(RV-90) |
| | H05VV-F 2 core&3core |

Note: Solid wire is risky to use on an angled terminal. Stranded wire is recommended for this kind of use.

◆ Curve for FLS-42-1050 DALI-2 DT8 LN PRO, $I_o=1050\text{mA}$

Lifetime vs. Temperature Curve

Efficiency vs. Load

Power Factor Characteristics

THD vs. Load

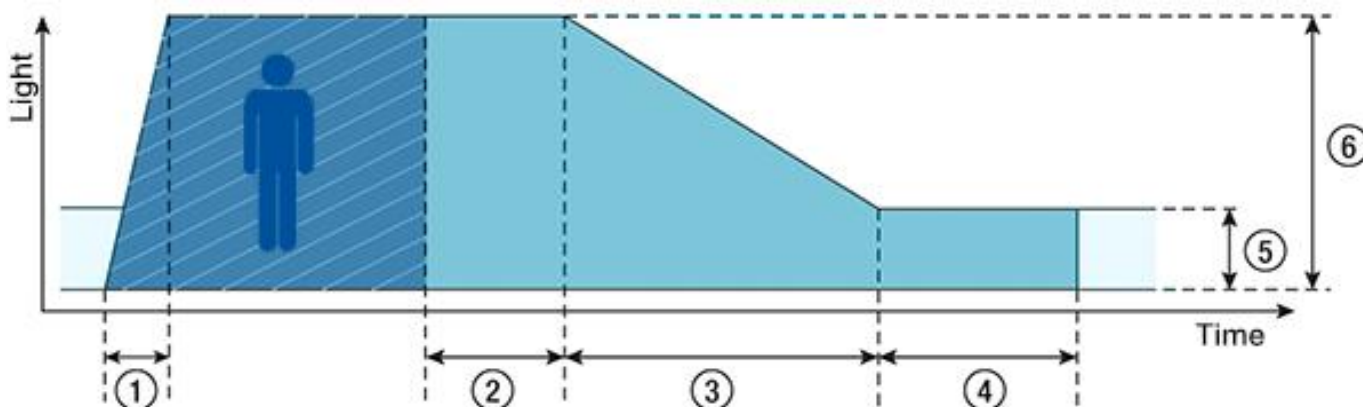
◆ Push dimming operation

| Action | Action duration | Function |
|--------------------------|-----------------|---|
| Short push | <0.5s | Turn on/off |
| Short push twice | <0.5s | LED on: Save current brightness level LED off: Delete saved level and turn on at 100% brightness |
| Short push five times | <3s | Quit Corridor mode |
| Long push | 0.5-14s | Dimming up or down |
| Long push | 15s-2mins | Sync all LEDs to be 100% brightness |
| Long push | >2mins | Enter Corridor mode - LED keep 100% brightness for 2mins. Then brightness will turn to be 10% within 32s if no action during 2mins 100% brightness. |

Note:

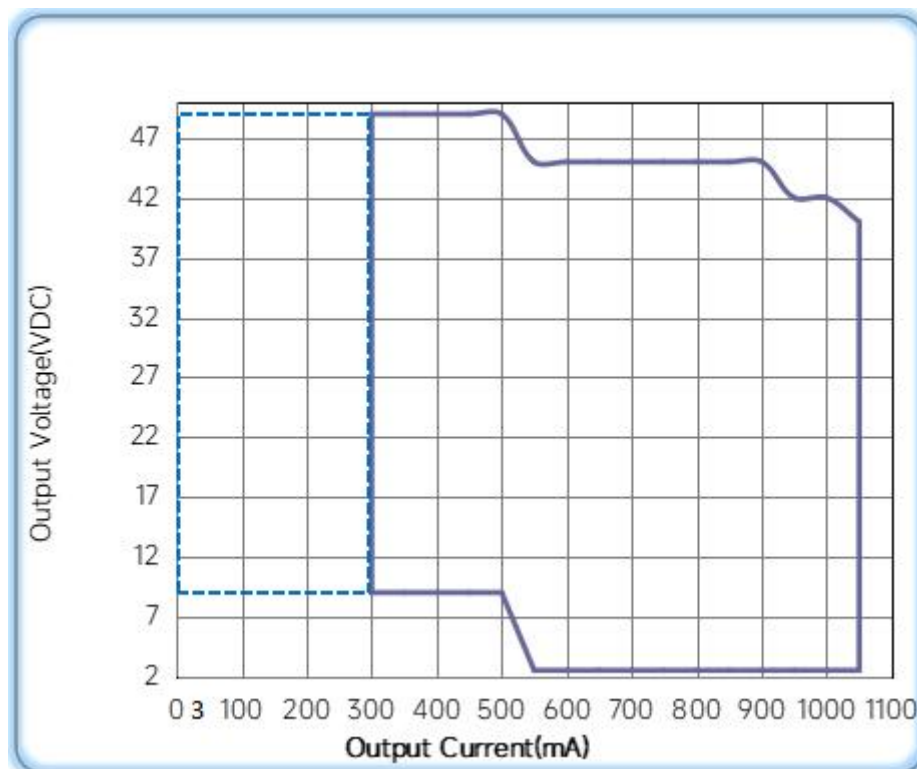
- 1.The factory default brightness is at 100%.
- 2.Up to 30 drivers can perform the PUSH dimming at the same time when utilizing one common push button
- 3.The maximum length of the cable from the push button to the last driver is 200 meters.

◆ Corridor mode



- ◆ **① Fade-in time (0.5s):** the time that starts as soon as the presence of a person is detected. During the fade-in time the luminous intensity is faded up to the presence value.
- ◆ **② Run-on time (120s):** the time that starts as soon as the presence of a person is no longer detected. If the presence of a person is detected again during the run-on time the run-on time is restarted from zero. If no presence is detected during the run-on time the fade time is started as soon as the run-on time expires.
- ◆ **③ Fade time (32s):** the time during which the luminous intensity is faded from the presence value to the absence value.
- ◆ **④ Switch-off delay (Never Off):** the time during which the absence value is held before the lighting is switched off. Depending on the profile selected the switch-off delay may have different values or may not be defined.
- ◆ **⑤ Absence value (default: 10 %):** the luminous intensity when there is no person present.
- ◆ **⑥ Presence value (default: 100 %):** the luminous intensity when persons are present.

◆ Operating window



— Operating Window 100%

- - - Minimum dimming current

◆ Revision Updates

| ITEM | BEFORE | AFTER | VERSION | DATE |
|---------|--------|-------|---------|------------|
| Initial | | | A | 2024/11/23 |
| Tc | 90°C | 85°C | B | 2025/02/18 |
| | | | | |

Remark: The final interpretation of the contents of the specification belongs to Astralux.

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