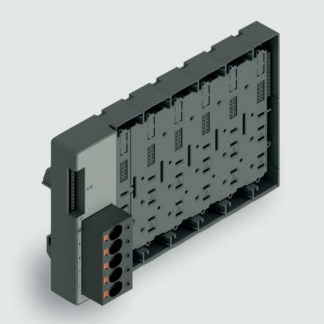
# Technical data sheet

## Compact extension module



### Identification

| | |
|---|---|
| Type | LUNA EW-006 |
| Part No. | 819603.006 |

### Product version

| | |
|---|---|
| Hardware revision | A |
| Datasheet version | 01 |

### Use/Application/Properties

| | |
|---|---|
| Description | Compact extension module with 6 slots, for connecting up to 6 additional LUNA modules. For use on rail vehicles. |

### Bus interface

| | **Local bus** |
|---|---|
| Bus system | L-Bus² |
| Connection type, incoming bus | X30: Socket connector (data bridge) |
| Connection type, incoming bus | Socket connector 10-pole, bottom |
| Connection type, continuing bus | X31: Socket connector (data bridge) |

### Technical data

| | |
|---|---|
| Rated voltage $U_N$ | DC 24 V |
| Rated current | Max. DC 100 A (max. DC 50 A per pin) |
| Storage temperature range | -40 °C … +85 °C |
| Connection type | Push-In<br>5 × Push-In, min 0.5 mm², max. 16 mm²<br>AWG 18 – 4 |
| Strip length | 18 mm |
| Screwdriver | 4,0 × 0,8 mm |

### General

| | |
|---|---|
| Dimensions (w × h × d) | 170.0 mm × 110.0 mm × 46.8 mm |

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| | |
|---|---|
| Weight/unit | 0.272 kg |
| Housing material | PA 6.6 |
| Color of the housing | Basalt grey |
| Mounting | DIN rail mounting |
| Installation place | 1: closed electrical operating areas<br>2: driver's cabin and passenger area |
| Installation position | Installation position:<br>Any position or angle possible<br>Installation space:<br>Bottom: 30 mm<br>Top: 30 mm<br>Right/left: 0 mm<br>DIN rail spacing: 150 mm (note the bending radius of the cables!) |

## Electrical isolation

| | |
|---|---|
| Potential groups | See diagram "Potential groups" |

## Environmental service conditions

| | |
|---|---|
| **Altitude** | 2000 m |
| Operating temperature class | OT4: -40 °C … +70 °C |
| Switch-on extended Operating temperature class | ST1+ST2: OTx + 15 °C |
| Temperature variation class | H1:no requirements |
| Shock/Vibration | Category 1, class B |
| Useful life class | L4: 20 years |
| Degree of pollution | PD2 |
| Over voltage category | OV2 |
| Socket and edge connector | K2: Sockets for ICs and/or edge connectors are not used |
| Protective coating class | PC2: lacquered on both sides |
| Degree of protection | IP20 |

## Failure Rate Prediction (MTBF)

| | |
|---|---|
| Standards | Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709<br>Failure Rates of Components – Expected values: SN 29500 |
| Failure rate at +45 °C | 283 fit |
| Failure rate at +45 °C | 3530949 h |
| | 1 fit equals one failure per $10^9$ component hours |
| | The indicated temperature is the mean component ambient temperature. |
| Comments | The results are valid under following conditions:<br>Automotive environment or industrial areas without extreme dust levels and harmful substances.<br>Continuous operation 8760 h per year. |

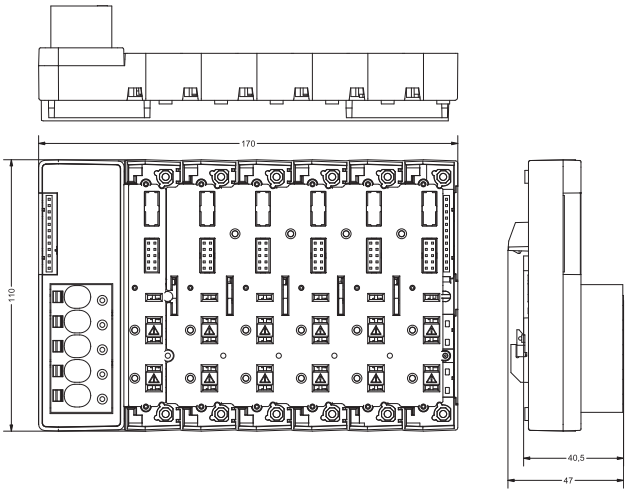
## Standards/Certifications

| | |
|---|---|
| Standards | **EN 50155:2021:** Railway applications – Rolling stock – Electronic equipment<br>**EN 50121-3-2:2016+A1:2019:** Railway applications – Electromagnetic compatibility – Part 3-2: Rolling stock – Apparatus<br>**EN 50124-1:2017:** Railway applications – Insulation coordination – Part 1: Basic requirements – Clearances and creepage distances for all electrical and electronic equipment<br>**EN 61373:1999:** Railway applications – Rolling stock equipment – Shock and vibration tests<br>**EN 61373:2010:** Railway applications – Rolling stock equipment – Shock and vibration tests<br>**EN 61373/AC:2017:** Railway applications – Rolling stock equipment – Shock and vibration tests<br>**Regulation No. EMC 06:** Technical Rules on Electromagnetic Compatibility - Verification of radio compatibility of rail vehicles with railroad radio services<br>**EN 45545-2:2020+A1:2023** Railway applications - Fire protection on railway vehicles - Part 2: Requirements for fire behaviour of materials and components |

## Equipment/Spare parts

| | |
|---|---|
| Accessories | Optional accessories<br>Cover of the module slot (780610.225.2) |

## Dimensions



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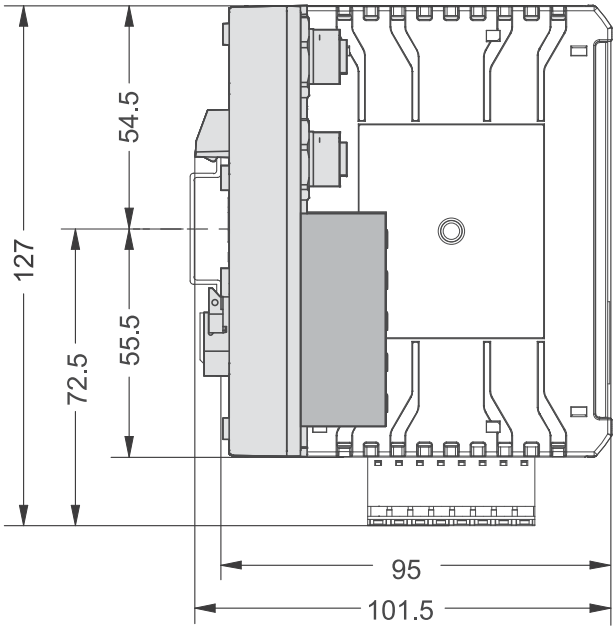
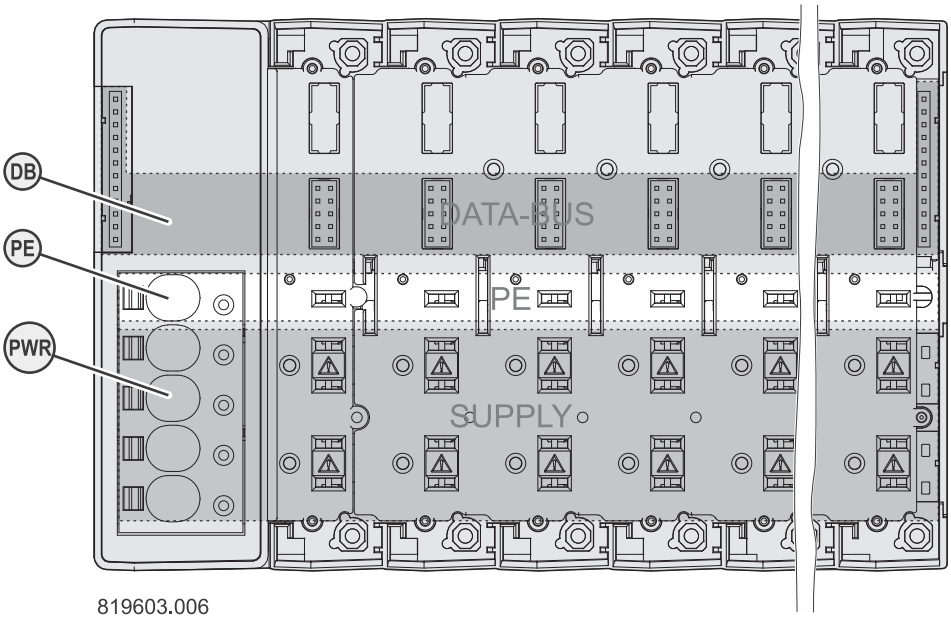



## Potential groups




819603.006
819603.011

**1.**
**DE** Potentialgruppen
**EN** *Potential groups*
**FR** *Groupes de potentiel*

(DB): Data-Bus
(PE): PE
(PWR): Supply

**2.**
**DE** Kapazitive Kopplung
**EN** *Capacitive coupling*
**FR** *Couplage capacitif*

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**3.**
**DE** Trennspannung/
**EN** *Isolating voltage/*
**FR** *Tension d´isolement*

3.1
Basisisolierung/
*Basic insulation/*
*Isolation de base*

–

3.2
Verstärkte Isolierung/
*Reinforced insulation/*
*Isolation renforcée*

AC 1500 V:
**PWR ⇔ DB+PE**

3.3
Funktionsisolierung/
*Fonctional insulation/*
*Isolation fonctionnelle*

AC 500 V:
**DB ⇔ PE**