



### > Description

This series of inverters is designed to supply interior fluorescent tubes in rolling stocks applications. Depending on its different versions, it is possible to supply 1 or 2 tubes from 5 W to 35 W.

### > Input Specifications

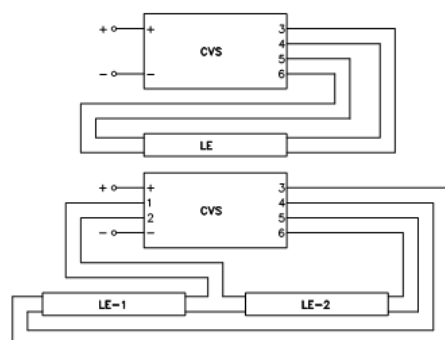
| Product reference                | 24V version          | 72V version    | 110V version    |
|----------------------------------|----------------------|----------------|-----------------|
| Nominal input voltage            | 24 VDC               | 72 VDC         | 110 VDC         |
| Input voltage range              | 16,8 to 30 VDC       | 50,4 to 90 VDC | 77 to 137,5 VDC |
| Input transients voltage         | 14,4—33,6V/100ms     | 43 –101V/100ms | 66V—154V/100ms  |
| Reverse input voltage protection | Yes, by serial diode |                |                 |
| Inrush current limitation        | < 20 In              |                |                 |

### > Output Specifications

| Product reference                                | ICR 007 1D01 | ICR 016 2D01 | ICR 035 2D01 |
|--------------------------------------------------|--------------|--------------|--------------|
| Output signal                                    | Sinus        |              |              |
| Output frequency                                 | 30 to 85kHz  |              |              |
| Dimming                                          | No           | No           | Yes          |
| Nominal output power (depending on applications) | 5 to 7W      | 5 to 16W     | 14 to 35W    |
| Efficiency                                       | > 74%        |              |              |
| Thermal protection                               | No           |              |              |
| Overvoltage protection                           | Yes          |              |              |
| Permanent short circuit protection               | Yes          |              |              |

| Product reference               | ICR 007 1D01                                                               | ICR 016 2D01                                                                            | ICR 035 2D01                                                                                                                      |
|---------------------------------|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Fluorescent tubes configuration | PL-S PRO 5W or similar<br>PL-S PRO 6W or similar<br>PL-S PRO 7W or similar | PL-S PRO 5W or similar<br>(1 or 2 tubes)<br>TL Mini PRO 8W or similar<br>(1 or 2 tubes) | TL5 35W or similar (1 tube)<br>TL5 28W or similar (1 tube)<br>TL5 21W or similar (1 tube)<br>TL5 14W or similar<br>(1 or 2 tubes) |

### > Environmental Details



| Product reference                      | All references                             |
|----------------------------------------|--------------------------------------------|
| Operating temperature range            | -25°C to +55°C                             |
| Ambient temperature around the product | -25°C to +70°C                             |
| Derating                               | Without derating                           |
| Storage temperature range              | -40°C to +75°                              |
| Temperature coefficient                | < 2.10 <sup>-4</sup> /°C                   |
| Relative humidity at 40°C              | 95%                                        |
| Cooling                                | Natural convection                         |
| Insulation resistance                  | > 10 MΩ / 500 VDC                          |
| Dielectric strength                    | 1 500 Vrms between input+output and ground |
| MTBF (according to UTE C 80 801)       | GM 40°C: 300 000 h                         |
| Burn in (ON-OFF test)                  | 100 000 cycles                             |
| Coating                                | PCB coated with varnish                    |
| Protection index                       | IP40                                       |



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## > Applicable Norms

| Item                                           | Reference    | Level                                  | Compliance |
|------------------------------------------------|--------------|----------------------------------------|------------|
| EMC                                            | EN 50121-3-2 |                                        | X          |
| Radiated emissions                             | EN 55011     | Class A radiated                       | X          |
| Conducted emissions                            | EN 55011     | Class A + 20 dB conducted              | X          |
| Vibrations                                     | EN 61373     | category 1, mounted in cabin (class B) | X          |
| Shocks                                         | NFF 62011    | ½ sinus pulse (18ms, 30m/s)            | X          |
| Electrostatic discharges                       | EN 61000-4-2 | D.E.S 6kV contact, 8kV in the air      | X          |
| Radiated immunity                              | EN 61000-4-3 | 20 V/m                                 | X          |
| Fast transients                                | EN 61000-4-4 | 2kV                                    | X          |
| Conducted perturbations                        | EN 61000-4-6 | 3Vrms                                  | X          |
| Surge                                          | EN 50155     | 5/50µs 1800V                           | X          |
| Electronic equipments used into rolling-stocks | STM-E-001    |                                        | X          |

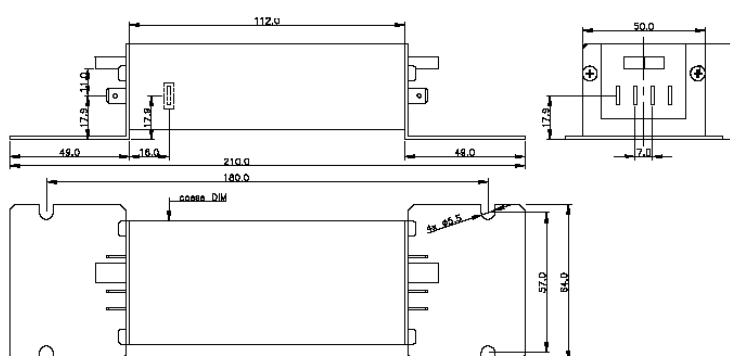
## > Mechanical Characteristics

| Product reference | ICR 007 1D01             | ICR 016 2D01  | ICR 035 2D01  |
|-------------------|--------------------------|---------------|---------------|
| Box material      | Aluminium                |               |               |
| Potting           | No                       |               |               |
| Dimension         | 115 x 50 x 42            | 236 x 50 x 39 | 210 x 64 x 39 |
| Weight            | <200g                    | <290g         | <310g         |
| Fixing            | 4 x Ø5,5mm               | 2 x Ø5,5mm    | 4 x Ø5,5mm    |
| Input connector   | 6,35 faston clamps       |               |               |
| Output connector  | LMI compatible connector |               |               |

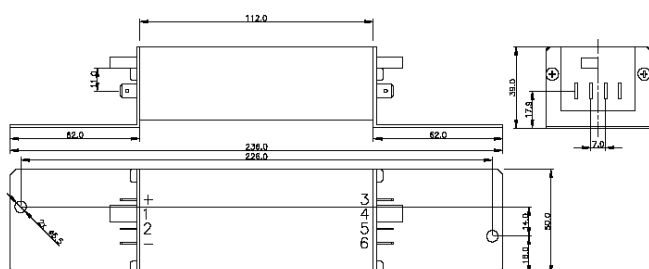
Pinout: According to norm (XPF 61-031: connectors for transistor ballasts)

## > Technical Drawing

ICR 035 2D01



ICR 016 2D01



ICR 007 1D01

