

# DC/DC Converter

full rugged

# ROD05

power supply



## Technical specification

|                            |  |
|----------------------------|--|
| <b>Operating principle</b> | DC / DC converter, isolated  |
| <b>Effectiveness</b>       | ->86 % typ at $U_{ON} = 24 V_{DC}$   |
| <b>Interfaces</b>          | <b>Standard version (TKZ: 759085)</b><br>Input X1 PT02E8-3P<br>Output X2 PT02E8-3SW<br>Grounding bolt M 8 x 30   |
| <b>Input voltage</b>       | <ul style="list-style-type: none"><li>• 16 <math>V_{DC}</math> to 34 <math>V_{DC}</math> (according VG 96916 T5)</li><li>• Internal filter for spike suppression</li><li>• Reverse polarity protection</li><li>• Surge- and spike protection for 28 <math>V_{DC}</math> systems according to MIL-STD-1275</li><li>• ISO 16750-2:2010 for test with „centralized load dump suppression“ for 12 and 24 <math>V_{DC}</math> systems</li></ul> |
| <b>Current consumption</b> | < 20 mA indle to max. 4.5 A apply to UEN   |
| <b>Max. inrush current</b> | <20 A by UEN   |
| <b>Output voltage</b>      | 27.5 $\pm$ 0.5 $V_{DC}$ operation indication by green LED on top<br>internal EMI filter<br>short-circuit proof   |
| <b>Current output</b>      | up to 2.85 A (80 W) at 40° C   |
| <b>Housing</b>             | <ul style="list-style-type: none"><li>• Material: AlMgSi1</li><li>• Dimensions: (L x W x H)<ul style="list-style-type: none"><li>- 175 mm x 80 mm x 53.5 mm (without mounting tabs and ground screw)</li><li>- 175 mm x 113 mm x 55.5 mm (with mounting tabs)</li></ul></li><li>• colourless passivated and green painted RAL 6031HR</li><li>• screen printing lemon RAL 1012</li></ul>  |
| <b>Weight</b>              | ca. 1.0 kg   |



| MIL-STD-810F   | operating   | storage  |
|--|---|--|
| <b>Altitude</b><br>Method 500.4, (Procedure I, II)   | 4572 m (15000 ft)   | 4572 m (15000 ft)  |
| <b>Temperature</b><br>Method 501.4 & 502.4, (Procedure I, II)  | -40°C to +85°C<br>(designed to meet -46°C)                  | -40°C to +90°C   |
| <b>Temperature shock</b><br>Method 503.4, (Procedure I)  | -40°C to +70°C in < 1 min                                   | -40°C to +70°C in < 1 min                                    |
| <b>Humidity</b><br>Method 507.4, (Procedure I)   | N/A   | 95 %   |
| <b>Salt fog*</b><br>Method 509.4, (Procedure I)  | N/A   | 5 %, 35°C  |
| <b>Vibration</b><br>Method 514.5, Category 1<br>Method 514.5, Category 14 (Procedure I)<br>Method 514.5, Category 20 (Procedure I) | 10 – 57 HZ ±0,075 mm,<br>57 – 500 Hz 2 g,<br>Sin., 10kt/min | 10 – 57 HZ ±0,075 mm,<br>57 – 500 Hz 2 g,<br>Sin., 10 kt/min |
| <b>Shock / drop</b><br>Method 516.5, (Procedure I)   | 15 g, 11 ms   | 25 g, 6 ms   |
| *with connected or covered interfaces  |   |  |



## Environmental ratings

- Protection class** IP65 according to EN 60529 (with connected or covered interfaces)
- Designed to meet MIL-STD-810G** advanced temperature range for operating at -46°C
- Resistant to**
  - ice and snow according to MIL-STD-810F Method 521.2 (with connected or covered interfaces)
  - sand and dust according to VG 95332, Bl. 20 (with connected or covered interfaces)
  - solar radiation according MIL-STD-810F Method 505.4 (Procedure I)
  - mold infestation according MIL-STD-810F Method 508.5

## EMI & safety

- Safety** EN 60950-1 used materials incombustible according UL 94V-0
- MTBF** 75.000 h /25°C according MIL-HDBK 217F
- EMI** VG 95373 and MIL-STD-461E (designed to meet)
- Note:** using the same form factor, different input and output voltages (e.g.:  $V_{OUT} = 12 V_{DC}$  or  $14 V_{DC}$ ) be realized project-related.

