

# DR100N-13,8

## switching regulator

### Switching regulator for vehicle applications



- DC/DC wide range input
- Regulated output
- Input filtered against interference from thyristor vehicle drives
- solid construction
- Parallel connectable without control lead
- Efficiency up to 95%
- Non-isolated output
- FE-Version: Connector horizontal (see fig. 6.2)

Abbildung ähnlich / device similar to figure



DR - derivative table

Type	Input voltage	Output voltage	Max. output current	Cat. No.
DR100N-13,8	24-48 VDC (18-72 VDC)	13,8 VDC	7 A	a.A.
DR100N-13,8/FE	24-48 VDC (18-72 VDC)	13,8 VDC	7 A	a. A.

\*The lower input voltage tolerance-value  $U_{Tol/min}$  is only valid for regular operation and not for the start of operation

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## 1 Input

<b>Input voltage range</b>	see DR - derivative table (valid for continuous operation)	
<b>input fuse</b>	No integrated input fuse. An external fuse must be connected in series and must be dimensioned according to the application.	
<b>Reverse polarity protection</b>	If polarity is reversed, the input fuse to be connected in series is tripped (no polarity reversal protection is integrated on the module).	
<b>Input filter</b>	< 400 V / 20 µs	input fuse ist tripped at overload
<b>no load input current</b>	15 mA - 26 mA	-

## 2 Output

<b>Output voltage <math>U_{\text{nom}}</math></b>	see DR - derivative table (valid for continuous operation)	
<b>Over voltage protection</b>	transient suppressor diode	
<b>Current limiting</b>	approx. $1,1 \times I_{\text{nom}}$	Hick-Up
<b>Load regulation static (0-100%)</b>	± 0,5%	-
<b>Load step response (10-90%)</b>	< 2%	-
<b>Line regulation (<math>\pm 10\%</math>)</b>	± 0,5%	-
<b>Switching frequency</b>	approx. 60 kHz	-
<b>Short circuit protection</b>	continuous (Hick-Up)	
<b>Ripple (20 MHz)</b>	< 100 mVpp	-
<b>Noise (20 MHz)</b>	< 200 mVpp	-

## 3 Electromagnetic Compatibility (EMC)

According to EN61204-3 (device class IV according to table 1):

<b>Emitted interference</b>	acc. to 6.4.1 (with antenna)	Class B
<b>immunity</b>	acc. to 7.2.2	high test severity levels

## 4 Environment

<b>operating temperature (Ambient)</b>	-35°C ... +80°C	measured at temperature reference point (see figure 6.1)
<b>Cooling</b>	Cooling via air convection and contact to mounting surface. For safe operating, a good thermal connection between mounting surface and the heat sink (application) have to be provided.	

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#### Overtemperature protection

The module switches off reversibly at temperatures above the defined maximum temperature.

**Storage temperature** -45°C ... +85°C

-

**Humidity** 95% RH

-

**Degree of protection acc. to DIN EN 60529** IP67 without connector

## 5 General data

<b>Insulation strength</b>	1 kV <sub>DC</sub>	Input / output and enclosure
<b>Certification</b>	CE	-
<b>Installation orientation</b>		any desired installation orientation
<b>Connectors</b>	AMP MATE-N-LOCK	Male socket 4-pole pin assignment see fig. 6.1 and fig.6.2
<b>Efficiency</b>	≤ 95%	-
<b>Dimensions (LxWxH)</b>	130 x 80 x 37 mm (without connector)	Standard version see fig. 6.1 FE-Version see fig. 6.2
<b>Enclosure</b>	Aluminium	-
<b>Gewicht</b>	approx.. 500g	-

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## 6 Dimensions

All dimensions are given in millimetres and have a general tolerance according to DIN ISO 2768 - m.

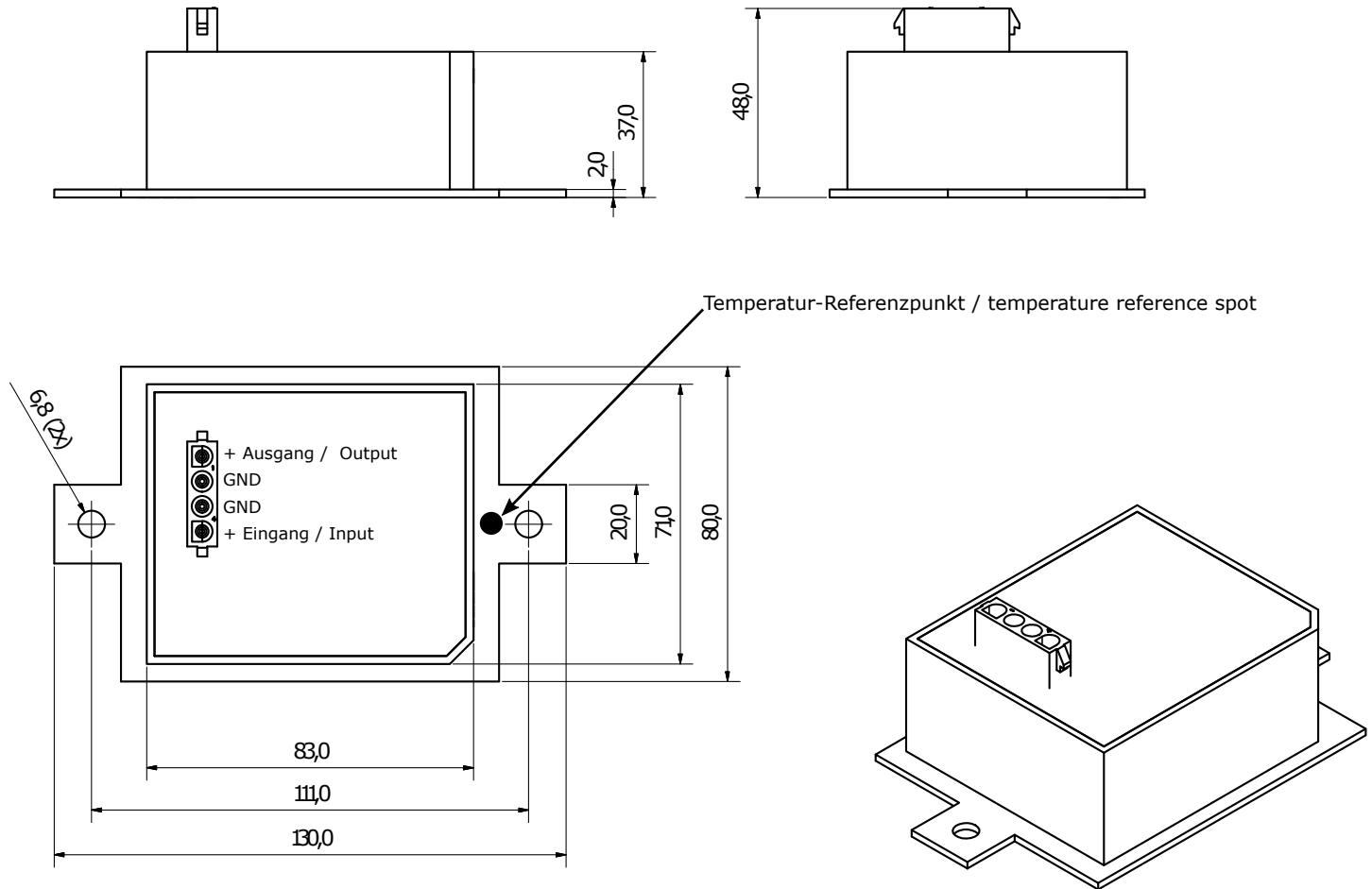


Figure 6.1: Standard-version (connector vertical)

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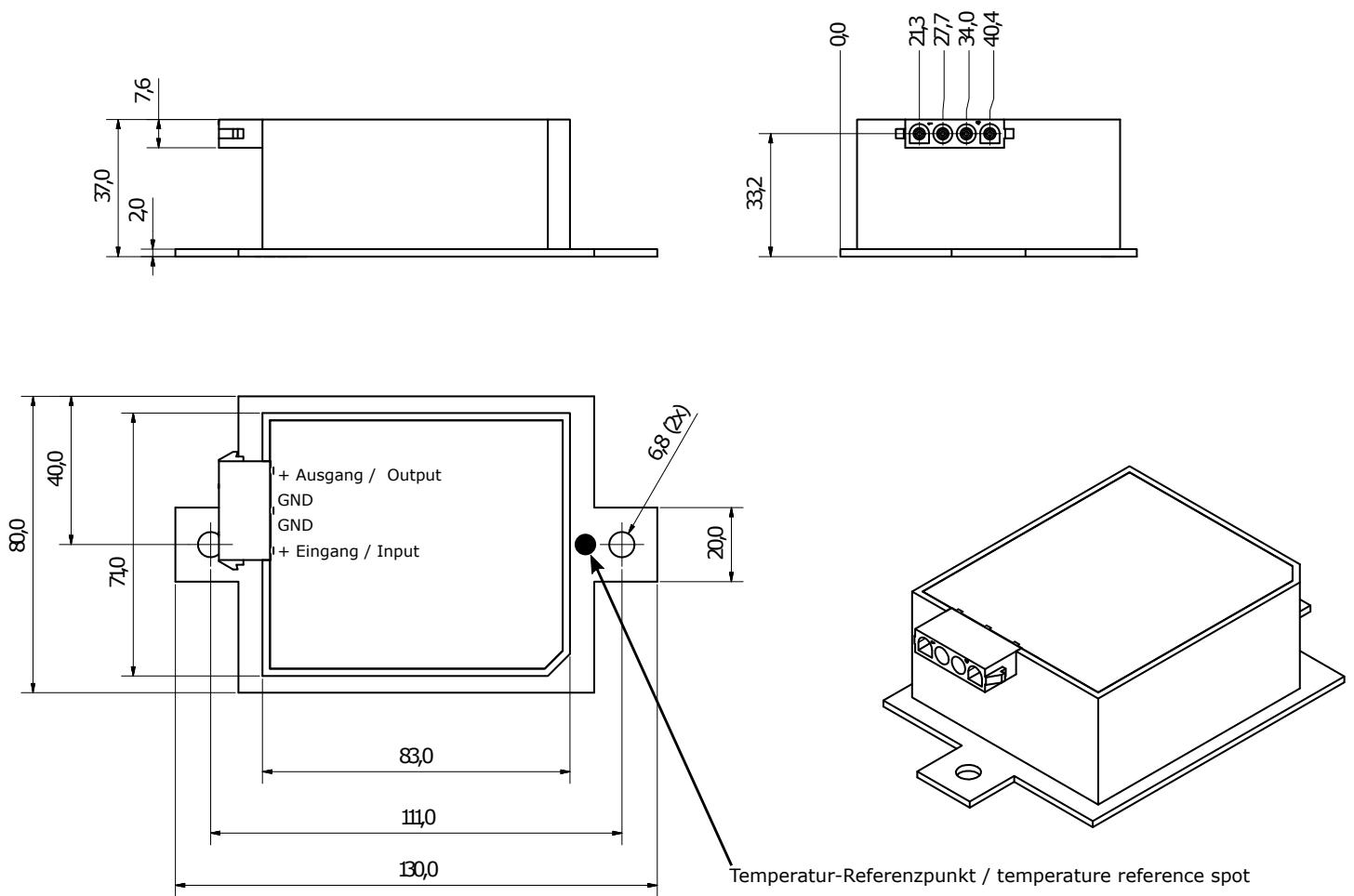


Figure 6.2: FE-version (connector horizontal)

## 7 Important (safety-) notes

Generally it is recommended to use by Deutronic released equipment, only. Because only in this way an appropriate technical suitability and an adequate dimensioning can be ensured for professional use. Equipment and accessories have to be selected and installed in accordance with the requirements and under attention of the existing safety guidelines.

Moreover pay attention of a safe interlock at the respective device to ensure the operational safety and to avoid damages. If worn, the cables must be replaced immediately!

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