

# JETDi20R (15R)-R1, LP

## Features

- Up to 30 W nominal output power
- 21x33x10 (mm) metal aluminum case with mounting holes
- Low Profile version (LP) of 9 mm height available on request
- Case operating temp. range up to -60° to +130° C on request
- Standard input 15-50 (80) VDC
- Efficiency up to 89 %
- Adjustable output voltage
- No minimal load required, low input no-load current
- Remote on/off
- EMC standard of EN 55022 class A



## Description

JETDi20R-R1 are the series of isolated DC/DC converters meant to work under both heavy electrical and environmental conditions. **Up to 30 Watts** of power packed in **21x33x10 (mm) case** offers you flexibility of wide input range with both extremely low and high case temperatures of **-40° to +110° C**. The units feature a system of over-current and short-circuit protection and over-voltage protection. Standard functions include remote on/off, energy-saving zero-load operation. The units maintain high efficiency across broad load range. Its versatility allows you to implement the converter in a vast number of industrial applications, supplying capacitive, constant-power and impulse load.

## Models specification

15 W					
Model	Input voltage range*	Power nom.**	Output voltage nom.***	Output current nom.	Efficiency typ.
JETDi 15R - 27W S3.3-R1	15-50 VDC (80 VDC transient)	9.9 W	3.3 V	3.00 A	85 %
JETDi 15R - 27W S05-R1		15 W	05 V	3.00 A	88 %
JETDi 15R - 27W S12-R1		15 W	12 V	1.25 A	89 %
JETDi 15R - 27W S15-R1		15 W	15 V	1.00 A	89 %
JETDi 15R - 27W S24-R1		15 W	24 V	0.63 A	89 %

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20 W					
Model	Input voltage range*	Power nom.**	Output voltage nom.***	Output current nom.	Efficiency typ.
JETDi 20R - 27W S3.3-R1	15-50 VDC (80 VDC transient)	13.2 W	3.3 V	4.00 A	85 %
JETDi 20R - 27W S05-R1		20 W	05 V	4.00 A	88 %
JETDi 20R - 27W S12-R1		20 W	12 V	1.67 A	89 %
JETDi 20R - 27W S15-R1		20 W	15 V	1.33 A	89 %
JETDi 20R - 27W S24-R1		20 W	24 V	0.83 A	89 %

\* Models with custom input voltage range may be provided on request.

\*\* Units with output power up to 30 W may be provided on request.

\*\*\* Models with custom output voltage may be provided on request.

General specifications		
Switching frequency		300 kHz typ. (PWM modulation)
Temperature ranges	operating case temp.	-40° C to +110° C (up to -60° C to +130° C on request)
	storage temp.	-60° C to +130° C
Over-temperature protection		+115° C typ.
Cooling method		Natural convection or forced air cooling
Thermal resistance	natural convection without heatsink	18.7 K/W typ.
Humidity (non-condensing)		5-95 % rel. H
Insulation	input/output	1500 VDC
	input/case	1500 VDC
	output/case	1000 VDC
Isolating resistance @ 500 VDC		>20 MOhm
Thermal shock, mechanical shock & vibration		MIL-STD-810F
Safety standards		IEC/EN 60950-1
Typical MTBF (Tcase = 50° C; Pout = 0.7·Pout,max)		200 000 hrs
Weight (max)		33 g

Input specifications		
Input current (no load), typ.		10 mA
Input voltage range - standard**	27W	15-50 VDC (1s transient 80 VDC)
Start-up voltage for 27W input range		Start-up at <15 VDC
EMC standard compliance*		MIL-STD-461F, EN 55022 - class A (class B with JETDF2.5 for JETDiR10, JETDF5 for JETDiR15,20)

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Output specifications		
Output voltage adjustment	range	±5 %
Output voltage regulation	input variance $U_{in,min}$ to $U_{in,max}$	±0.5 %
	load variance 10 % to 100 %	±2 %
Ripple and noise (peak-to-peak)	20 MHz bandwidth	<2 %
Protection	over-load	<130 % of $P_{out,nom}$
	short-circuit	>150 % of $I_{out,nom}$ with automatic recovery
	over-voltage	<130 % $U_{out}$
Capacitive load (max)	5 VDC model:	typ. 4500 $\mu$ F
Minimum load		Not required
Remote On/Off	method	Connect ON to -IN or apply 0-0.5 VDC to ON
	input current consumption during OFF state	3 mA typ.

\* See product page for DC/DC filters at [www.aeps-group.com](http://www.aeps-group.com).

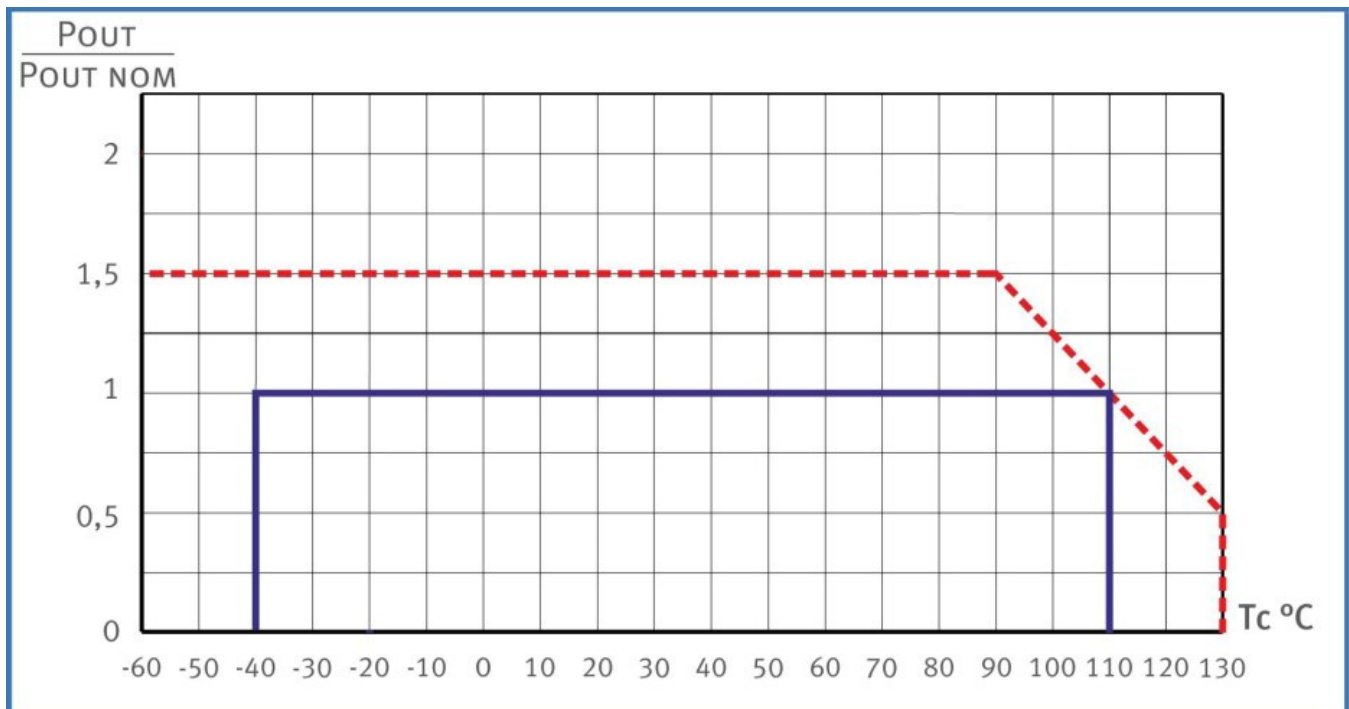
\*\* Units with custom input voltage ranges may be provided on request.

Please contact the tech. team at [aeps@aeps-group.cz](mailto:aeps@aeps-group.cz) for more information.

*All specifications are valid for normal climatic conditions, nominal output voltage and current, unless otherwise stated.*

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## Maximum output power based on case temperature



—— Standard maximum power output based on case temperature.

- - - Possible range of output power for customized product.

### Note:

Before attaching a heatsink, the product label on converter has to be removed for optimal performance. Thermal paste or a thermal pad must be placed between the unit surface and a heatsink for quality contact. Please contact us for choosing these components and their application.

For volume orders we can supply the converters with heatsink already mounted.

For modeling optimal heatsink and its delivery, with goal of providing allowed case temperatures, please contact us directly at [aeps@aeps-group.cz](mailto:aeps@aeps-group.cz).

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## Dimensions

PIN-OUT	
Pin #	Pin name
1	GND
2	ON
3	-Vin
4	+Vin
5	+Vout
6	-Vout
7	Trim

Dimensions in mm, [inch]

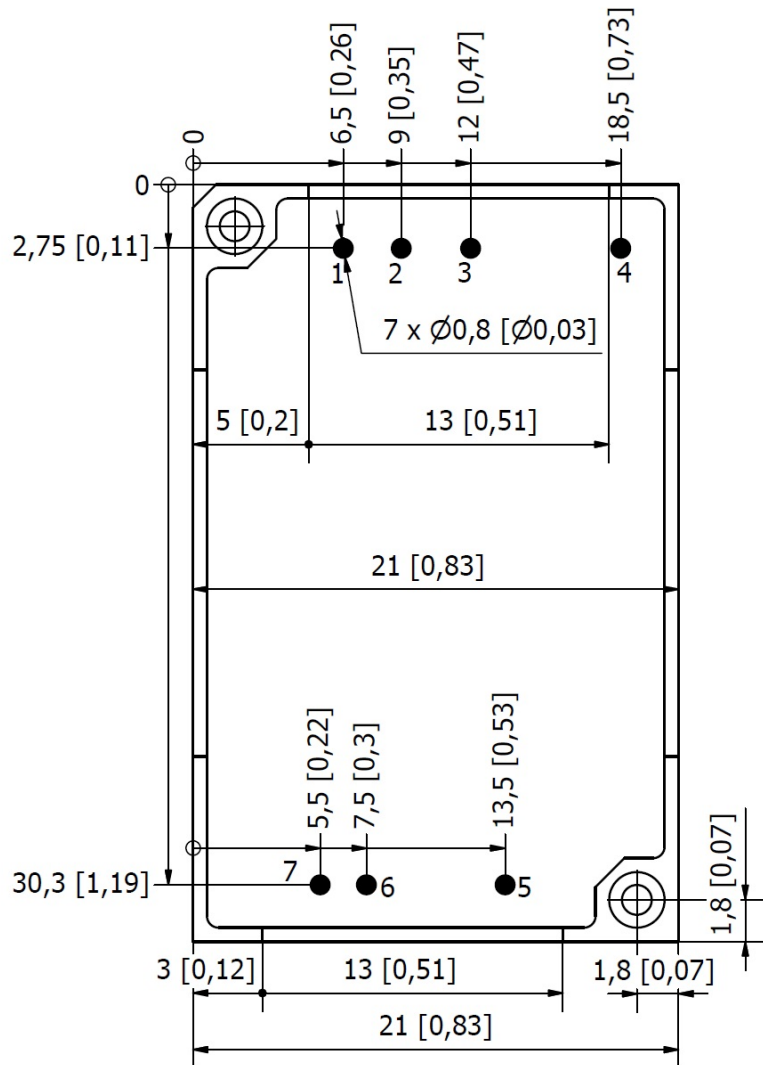
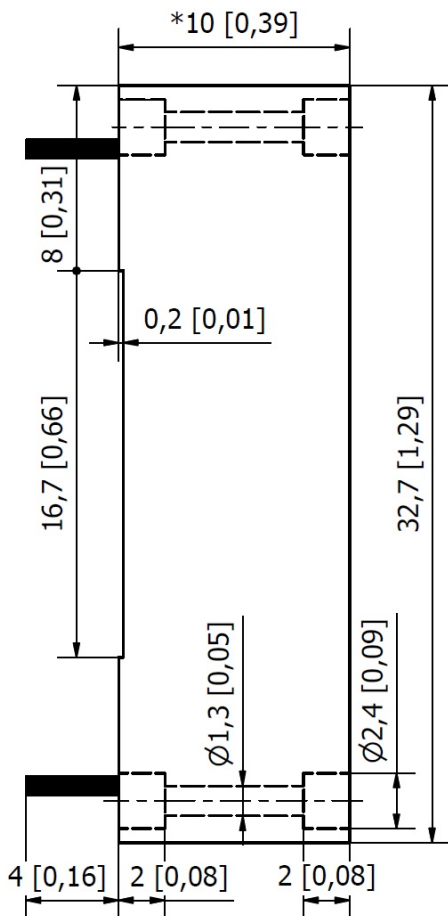
Pin diameter  $\varnothing$  0.8 [0.03]

Mounting: two 1.3 mm holes for M1.2 screw

Tolerances:  $\pm 0.2$  [ $\pm 0.01$ ]

Case outside dimensions, tolerances:  $\pm 0.5$  [ $\pm 0.02$ ]

L	32.7 mm
W	21 mm
H*	10 mm, for LP - 9 mm



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## Additional information

The label with sign “remove before use” can be placed on the top surface of the module and must be removed before installation.

Please, note that all information in this material is for reference only. Further detailed information (including: additional requirements, manuals and circuit schemes) is found at <http://www.aeps-group.com> or provided via an email request at [aeps@aeps-group.com](mailto:aeps@aeps-group.com).

According to company’s policy in view of constant improvements of the production design the manufacturer reserves the right to change the contents of specifications and promotional materials without prior notice! Make sure you are using the latest documentation downloadable at <http://www.aeps-group.com>.

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