

250-500W, Wide Range Input, Non-isolated, DIN Rail DC-DC Converters



The DDA DIN rail mount, non-isolated step-down converters are ideal for creating additional high current output voltages from a single output 12V, 24V or 48V AC-DC power supply. The highly efficient DDA series accepts a very wide DC input and has a wide output adjustment range, with a choice of single or dual output models.

Features	Benefits
• 250W Single Output, 325W and 500W Dual Output Power Levels	• High Power Density
• High Efficiency up to 95%	• Less Waste Heat
• Wide Input Range - 9 up to 53V	• One Part For Multiple Applications
• Wide 3.3 to 24V Output Adjustment	• Accommodates Non-Standard Voltages
• Narrow 36.5mm Width	• More Space Available For Other DIN Rail Devices
• Convection Cooled	• Easy To Cool In End System

Model Selector

Part Number	Output Voltage 1		Output Voltage 2		Maximum Output Current	Maximum Output Power
	Nominal (V) ⁽¹⁾	Adjust Range (V)	Nominal (V) ⁽¹⁾	Adjust Range (V)		
DDA250N-S1PX-12-001	12V	3.3 to 15V	NA	NA	20A / NA	250W / NA
DDA500N-D2PP-1205-001	12V	3.3 to 15V	5V	3.3 to 15V	20A / 20A	250W / 250W
DDA325N-D2PN-1212-001	12V	3.3 to 24V	-12V	-3.3 to -24V	14A / 8A	250W / 75W

Consult factory for other output voltage combinations.

Specification

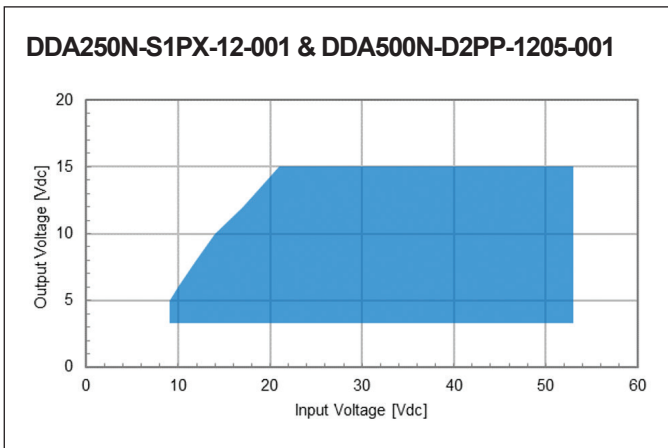
Model(s)	DDA250	DDA500	DDA325
Input			
Input Voltage range	Vdc	9 to 53V (Turn on at 10V or greater)	
Input Current (Max.)	A	20A	35A
Efficiency	-	92 - 95%	
Conducted & Radiated EMI	-	EN55032 Class A	
Immunity	-	EN55024	
Safety Certifications and Markings	-	IEC/UL/CSA/EN 62368-1, CE Mark and UKCA Mark	
Output			
Switching Frequency	kHz	400	
Line Regulation	mV	25mV	20mV
Load Regulation	mV	150mV	100mV
External Load Capacitance	uF	0 - 1000uF each output voltage	
Output Ripple & Noise (pk-pk)	mV	60mV	50mV each output voltage
Overcurrent Protection Threshold	A	28A	22 / 15A
Overvoltage Protection	V	None	
Remote On / Off	-	To enable the output(s), connect the on/off pins to the GND pin(s) on the top connector	
Remote Sense	-	(+) Sense, compensating up to 5% of output voltage	
Power Good	-	Open collector(s), low on fail	
Indicators	-	A green LED indicates the output is OK	
Parallel Operation	-	Not possible	
Series operation	-	Not possible	

Specification			
Model(s)	DDA250	DDA500	DDA325
Environmental			
Operating Temperature	°C	-40 to 100 (see full technical datasheet on website)	
Storage Temperature	°C	-55 to 125	
Cooling	-	Convection or forced air	
Other			
MTBF - Telcordia SR-332	-	>5Mhrs; 100% Load, Ta = 40°C	
Weight	g	450	
Size (WxHxD)	mm	36.5 x 123.4 x 115	
Size (WxHxD)	In	1.44 x 4.86 x 4.53	
Case Material	-	Metal	
DIN Rail type	-	Suitable for mounting on DIN Rail TS-35/7.5 or TS35/15	
Warranty	yrs	3	

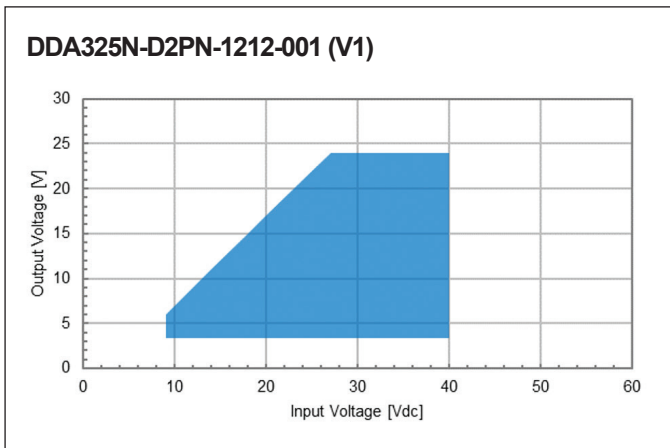
See website for detailed specifications, test methods and installation manual.

- (1) Output voltage cannot exceed input voltage (see graphs below).
- (2) For Output Derating, check the Installation Manual and detailed Specifications.

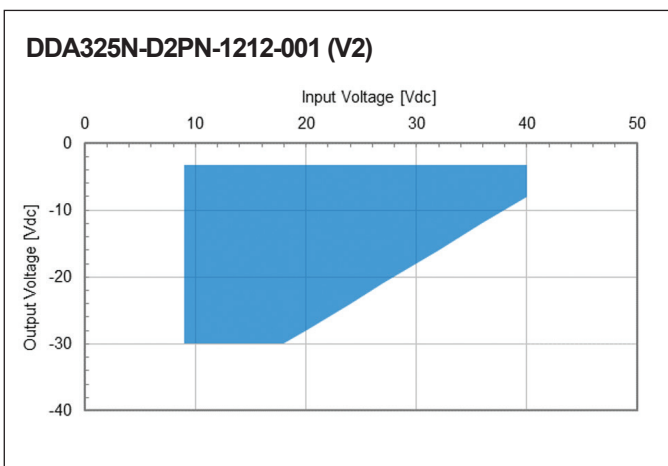
Output vs. Input Voltage Operating Range



Output vs. Input Voltage Operating Range

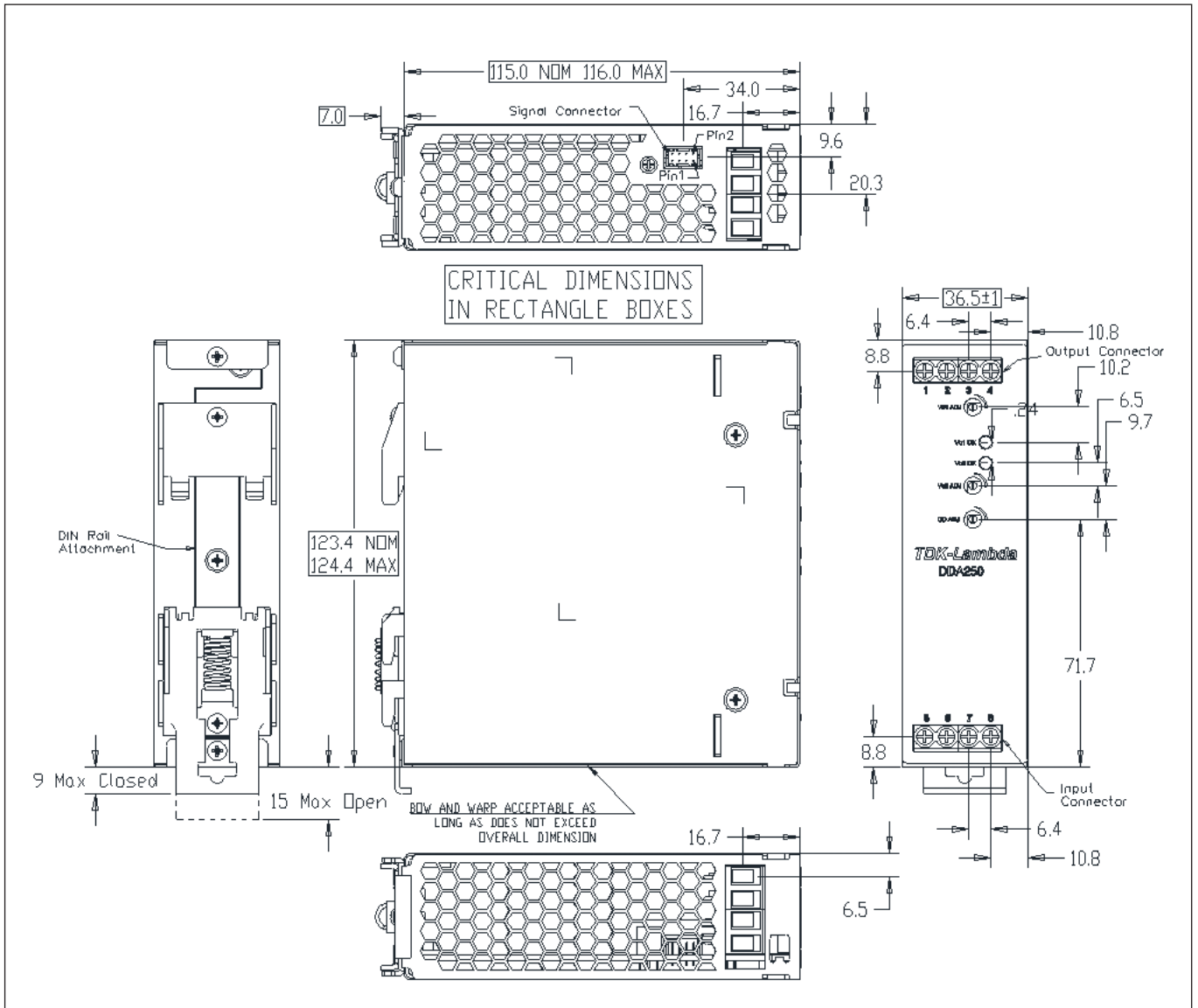


Output vs Input Voltage Operating Range



Mechanical Specification

Recommended Hole Pattern (top view)



Front Panel Connectors			
#	Function	#	Function
1	Vo2 (-)	5	On/Off Vo2
2	Vo2 (+)	6	On/Off Vo1
3	Vo1 (-)	7	VIN (-)
4	Vo1 (+)	8	VIN (+)

Signal Collector Pinout			
PIN	Function	PIN	Function
1	Vo1 SENSE (+)	5	Vo1 PWR GOOD
2	Vo2 SENSE (+)	6	Vo2 PWR GOOD
3	N/C	7	CC Ref (N/C)
4	Signal GND	8	Signal GND



TDK-Lambda France SAS

Tel: +33 1 60 12 71 65
france@fr.tdk-lambda.com
www.emea.lambda.tdk.com/fr



Italy Sales Office

Tel: +39 02 61 29 38 63
info.italia@it.tdk-lambda.com
www.emea.lambda.tdk.com/it



Netherlands

info@nl.tdk-lambda.com
www.emea.lambda.tdk.com/nl



TDK-Lambda Germany GmbH

Tel: +49 7841 666 0
info@de.tdk-lambda.com
www.emea.lambda.tdk.com/de



Austria Sales Office

Tel: +43 2256 655 84
info@at.tdk-lambda.com
www.emea.lambda.tdk.com/at



Switzerland Sales Office

Tel: +41 44 850 53 53
info@ch.tdk-lambda.com
www.emea.lambda.tdk.com/ch



Nordic Sales Office

Tel: +45 8853 8086
info@dk.tdk-lambda.com
www.emea.lambda.tdk.com/dk



TDK-Lambda UK Ltd.

Tel: +44 (0) 12 71 85 66 66
info@uk.tdk-lambda.com
www.emea.lambda.tdk.com/uk



TDK-Lambda Ltd.

Tel: +9 723 902 4333
info@tdk-lambda.co.il
www.emea.lambda.tdk.com/il



C.I.S.

Commercial Support:

Tel: +7 (495) 665 2627

Technical Support:

Tel: +7 (812) 658 0463
info@tdk-lambda.ru
www.emea.lambda.tdk.com/ru



TDK-Lambda Americas

Tel: +1 800-LAMBDA-4 or 1-800-526-2324
tia.powersolutions@tdk.com
www.us.lambda.tdk.com



TDK Electronics do Brasil Ltda

Tel: +55 11 3289-9599
sales.br@tdk-electronics.tdk.com
www.tdk-electronics.tdk.com/en



TDK-Lambda Corporation

Tel: +81-3-6778-1113
www.jp.lambda.tdk.com



TDK-Lambda (China) Electronics Co. Ltd.

Tel: +86 21 6485-0777
tfc.powersolutions@tdk.com
www.lambda.tdk.com.cn



TDK-Lambda Singapore Pte Ltd.

Tel: +65 6251 7211
tis.marketing@tdk.com
www.sg.lambda.tdk.com



TDK India Private Limited, Power Supply Division

Tel: +91 80 4039-0660
mathew.philip@tdk.com
www.sg.lambda.tdk.com

