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TDK·Lambda PH-A280 Series

50W to 300W, 200 to 425VDC Input DC-DC Converters

Features

- 200 - 425VDC Input
- Base-plate Cooled
- Full Power at 100°C base plate
- Quarter and Half Brick (300W) Footprint
- EN62477-1 (OVC III, PH300A only)



(Quarter brick shown)

Key Market Segments & Applications

Industrial COTS COMM

Isolated RoHS

Specifications

Model								
Nominal Output Voltage	VDC	3.3V	5V	12V	15V	24V	28V	48V
Input Voltage Range	VDC	200 - 425VDC						
Input Current	A	See model selector						
Output Voltage Adjustment	VDC	See model selector						
Ripple & Noise (max) pk-pk	mV	100	100	150	150	240	280	400 (300W: 480mV)
Line Regulation (max)	mV	10	10	24	30	48	56	96
Load Regulation (max)	mV	10	10	24	30	48	56	96
Overcurrent Protection	%	102 - 150% (Constant current style)						
Overvoltage Protection (1)	%	130 - 200	125 - 150 (1)	50-150W: 115 - 145%, 300W: 125 - 145%				
Remote Sense	-	Yes						
Remote On/Off	-	Yes; Low = ON, Open = OFF						
Operating Temperature	°C	-40°C to +100°C Base-plate, -40°C to +85°C Ambient						
Storage Temperature	°C	-40°C to +100°C						
Temperature Coefficient	%/°C	0.02%/°C						
Humidity (non condensing)	%RH	5 - 95% RH Operating and Non Operating						
Cooling	-	Conduction (See Installation Manual for heatsink selection)						
Withstand Voltage	VAC	Input to Base-plate: 2.5kVAC; Input to Output 3.0kVAC for I min.; Output to Base-plate: 500VAC for 1 min						
Isolation Resistance	MΩ	>100MΩ at 25C and 70%RH, Output to Base plate 500VDC						
Vibration	-	Non Operating, 10-55Hz (sweep for 1 min.) Amplitude 0.825mm constant (Max 49 m/s²) X,Y,Z 1 hour each						
Shock	-	196.1m/s²						
Safety Agency Certifications	-	IEC/EN/UL/CSA60950-1, IEC/EN/UL/CSA62368-1, EN62477-1 (OVC III, PH300A only) and CE Mark						
Weight (Typ)	g	50-150W: 55g, 300W: 100g						
Size (WxHxD)	in (mm)	50 to 150W: 1.46 x 0.5 x 2.30" (37.2 x 12.7 x 58.3) 300W: 2.4 x 0.5 x 2.28" (61.0 x 12.7 x 57.9)						
Warranty	yrs	5 Years						

Note: See Installation Manual for full details, test methods of parameters and application notes
(1) Cycle input or remote on/off to reset. PH300A280-5: 125 - 145%

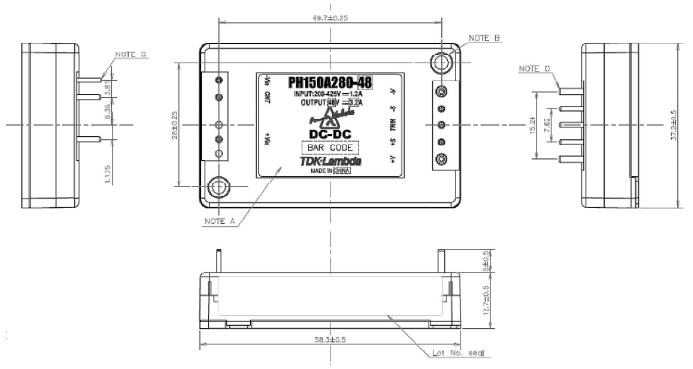
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Model Selector

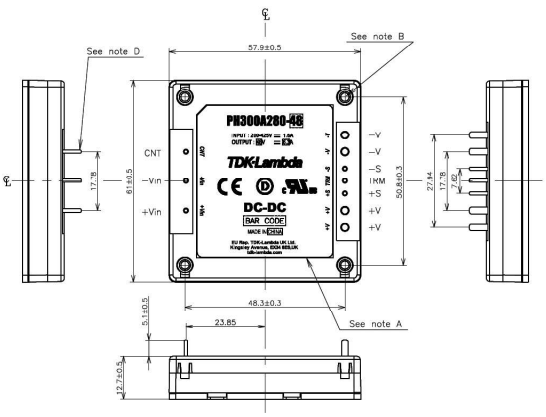
Model	Voltage (V)	Output Adjustment	Output Current (A)	Maximum Power (W)	Input Current (A) (2)	Efficiency (%) (2)
PH75A280-3.3	3.3	2.97 - 3.96	15	49.5	0.22	83
PH100A280-3.3	3.3	2.97 - 3.96	20	66	0.29	83
PH50A280-5	5	4 - 6	10	50.0	0.21	86
PH75A280-5	5	4 - 6	15	75.0	0.32	86
PH100A280-5	5	4 - 6	20	100.0	0.42	86
PH300A280-5	5	2.5 - 6	60	300.0	1.22	89
PH50A280-12	12	9.6 - 13.2	4.2	50.4	0.20	89
PH75A280-12	12	9.6 - 13.2	6.3	75.6	0.31	89
PH100A280-12	12	9.6 - 13.2	8.4	100.8	0.41	89
PH150A280-12	12	9.6 - 13.2	12.5	150.0	0.62	88
PH300A280-12	12	7.2 - 14.4	25	300.0	1.22	89
PH75A280-15	15	12 - 16.5	5	75.0	0.3	90
PH150A280-15	15	12 - 16.5	10	150.0	0.6	90
PH50A280-24	24	19.2 - 26.4	2.1	50.4	0.20	89
PH75A280-24	24	19.2 - 26.4	3.2	76.8	0.31	90
PH100A280-24	24	19.2 - 26.4	4.2	100.8	0.40	90
PH150A280-24	24	19.2 - 26.4	6.3	151.2	0.61	89
PH300A280-24	24	14.4 - 28.8	12.5	300.0	1.2	90.5
PH75A280-28	28	22.4 - 30.8	2.7	75.6	0.3	90
PH150A280-28	28	22.4 - 30.8	5.4	151.2	0.61	90
PH300A280-28	28	16.8 - 33.6	10.8	302.4	1.2	91
PH50A280-48	48	38.4 - 52.8	1.1	52.8	0.21	89
PH75A280-48	48	38.4 - 52.8	1.6	76.8	0.31	90
PH100A280-48	48	38.4 - 52.8	2.1	100.8	0.4	90
PH150A280-48	48	38.4 - 52.8	3.2	153.6	0.6	90
PH300A280-48	48	28.8 - 57.6	6.3	302.4	1.19	92

(2) At 100% load, 280V input

Outline Drawing (50 - 150W)



Outline Drawing (300W)



Heat Sink Accessories

Model	Description
HAQ-10T	PH50A to 150A 25mm transverse fins
HAH-10T	PH300A 25mm transverse fins
HAH-15T	PH300A 38mm transverse fins
HAH-15L	PH300A 38mm longitudinal fins

Options

Suffix	Description
Blank	M3 tapped mounting inserts
/T	3.3mm non-threaded inserts

For Additional Information, please visit
us.tdk-lambda.com/lp/products/pha-series.htm