

# 4W DC-DC Converter P4D-Series



- Wide 2:1 input range
- Up to 3500 V<sub>DC</sub> isolation
- Continuous short circuit protection
- 24 Pin Standard Package



## Model selection guide

Typ	Input voltage range [V <sub>DC</sub> ]	Output voltage [V <sub>DC</sub> ]	Output current [mA]	Efficiency typ. [%]
<b>Single output</b>				
P4D1205S	9...18	5.0	800	77
P4D1209S	9...18	9.0	445	80
P4D1212S	9...18	12.0	333	80
P4D1215S	9...18	15.0	267	80
P4D1224S	9...18	24.0	167	80
P4D2405S	18...36	5.0	800	79
P4D2409S	18...36	9.0	445	82
P4D2412S	18...36	12.0	333	82
P4D2415S	18...36	15.0	267	82
P4D2424S	18...36	24.0	167	82
P4D4805S	36...72	5.0	800	78
P4D4809S	36...72	9.0	445	82
P4D4812S	36...72	12.0	333	82
P4D4815S	36...72	15.0	267	82
P4D4824S	36...72	24.0	167	82
<b>Dual output</b>				
P4D1205D	9...18	±5.0	±400	77
P4D1209D	9...18	±9.0	±223	80
P4D1212D	9...18	±12.0	±167	80
P4D1215D	9...18	±15.0	±134	80
P4D1224D	9...18	±24.0	±84	80
P4D2405D	18...36	±5.0	±400	79
P4D2409D	18...36	±9.0	±223	82
P4D2412D	18...36	±12.0	±167	82
P4D2415D	18...36	±15.0	±134	82
P4D2424D	18...36	±24.0	±84	82
P4D4805D	36...72	±5.0	±400	76
P4D4809D	36...72	±9.0	±223	82
P4D4812D	36...72	±12.0	±167	82
P4D4815D	36...72	±15.0	±134	82
P4D4824D	36...72	±24.0	±84	82

Input voltage range reach from 9V to 72V and the output voltage range reach from 3.3V to 24V  
 Suffix: "H" for 3.5kV isolation voltage

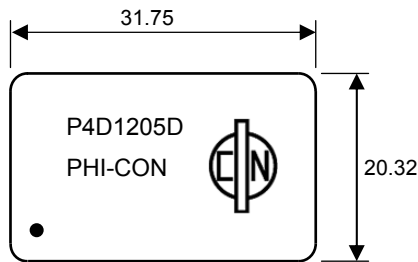
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## Specifications

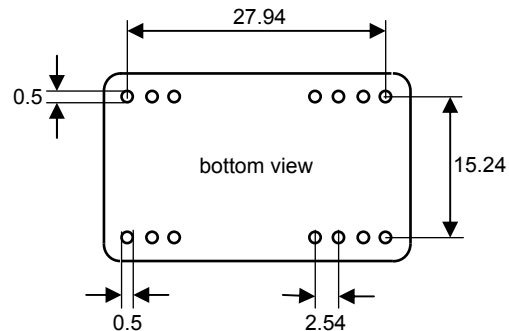
Input	
Voltage range	12 V <sub>DC</sub> , 9...18 V <sub>DC</sub> 24 V <sub>DC</sub> , 18...36 V <sub>DC</sub> 48 V <sub>DC</sub> , 36...72 V <sub>DC</sub>
Filter	Pi Network
Isolation:	
Rated voltage	1500 V <sub>DC</sub> , Standard 3500 V <sub>DC</sub> , Suffix "H"
Resistance	10 <sup>9</sup> Ω
Capacitance	390 pF, typ.
Output	
Voltage accuracy	± 1%, max.
Voltage balance (dual outputs)	± 1%
Ripple and noise (at 20 MHz BW)	60 mVp-p, max.
Short circuit protection	Continuous
Short circuit restart	Automatic
Line voltage regulation	± 0.5%, max.
Load voltage regulation	± 0.5%, max.
Temperature coefficient	± 0.02% / °C

General	
Efficiency	77% to 82%
Switching frequency	100 kHz...400 kHz
Environmental	
Operating temperatur (ambient)	-40 °C to +85 °C
Case temperature	100 °C max.
Storage temperature	-40 °C to +125 °C
Derating	None required
Humidity	Up to 90%, non-condensing
Cooling	Free-air convection
Physical	
Dimensions	31.75 x 20.32 x 10.16 mm
Weight	16.3 g metal, suffix "M", 14.5 g plastic standard

## Dimensions

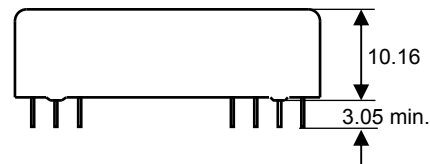


All dimensions in mm  
Tolerance ±0.25 mm



## Pin connections

Pin	Standard		3.5 kV <sub>DC</sub>	
	Single	Dual	Single	Dual
1	+V Input	+V Input	Omitted	Omitted
2	N.C.	-V Output	-V Input	-V Input
3	N.C.	Common	-V Input	-V Input
9	Omitted	Omitted	Omitted	Common
10	-V Output	Common	Omitted	Omitted
11	+V Output	+V Output	N.C.	-V Output
12	-V Input	-V Input	Omitted	Omitted
13	-V Input	-V Input	Omitted	Omitted
14	+V Output	+V Output	+V Output	+V Output
15	-V Output	Common	Omitted	Omitted
16	Omitted	Omitted	-V Output	Common
22	N.C.	Common	+V Input	+V Input
23	N.C.	-V Output	+V Input	+V Input
24	+V Input	+V Input	Omitted	Omitted



*Life Support Policy:* HY-LINE does not authorize the use of any of its products for use in life support devices or systems without the express written approval of an officer of the Company. Life support systems are devices which support or sustain life, and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user. Rev: 11.10 f