



PHI-CON

# 4W DC-DC Converter P4Z-Series

- Wide 4:1 input range
- Full SMD technology
- Up to 3500 V<sub>DC</sub> isolation
- MTBF > 0.96 MHours
- Continuous short circuit protection
- Low profile metal package available
- Mobile / battery driven applications, Distributed power networks, Data communications equipments, Telecommunication instruments, Process / machine control equipments



## Model selection guide

Typ	Input nominal voltage [V <sub>DC</sub> ]	Output voltage [V <sub>DC</sub> ]	Output current [mA]	Efficiency typ. [%]
Single output				
P4Z243R3S4	9...36	3.3	1200	77
P4Z2405S4	9...36	5.0	800	80
P4Z2409S4	9...36	9.0	445	80
P4Z2412S4	9...36	12.0	333	83
P4Z2415S4	9...36	15.0	267	83
P4Z2418S4	9...36	18.0	223	80
P4Z2424S4	9...36	24.0	167	81
P4Z483R3S4	18...72	3.3	1200	77
P4Z4805S4	18...72	5.0	800	80
P4Z4809S4	18...72	9.0	445	82
P4Z4812S4	18...72	12.0	333	81
P4Z4815S4	18...72	15.0	267	81
P4Z4818S4	18...72	18.0	223	81
P4Z4824S4	18...72	24.0	167	82
Dual output				
P4Z243R3D4	9...36	±3.3	±600	76
P4Z2405D4	9...36	±5.0	±400	78
P4Z2409D4	9...36	±9.0	±223	80
P4Z2412D4	9...36	±12.0	±167	82
P4Z2415D4	9...36	±15.0	±134	80
P4Z2418D4	9...36	±18.0	±112	80
P4Z2424D4	9...36	±24.0	±84	80
P4Z483R3D4	18...72	±3.3	±600	75
P4Z4805D4	18...72	±5.0	±400	79
P4Z4809D4	18...72	±9.0	±223	81
P4Z4812D4	18...72	±12.0	±167	82
P4Z4815D4	18...72	±15.0	±134	81
P4Z4818D4	18...72	±18.0	±112	80
P4Z4824D4	18...72	±24.0	±84	80

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

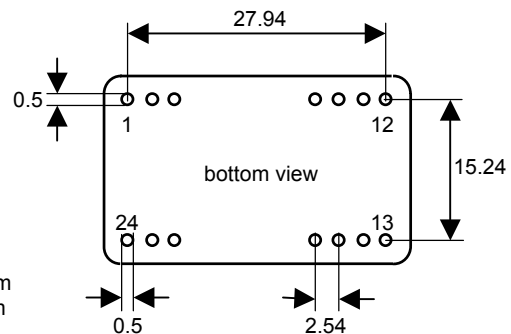
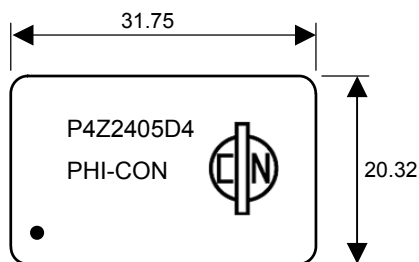
# 4W DC-DC Converter P4Z-Series

## Specifications

<b>Input :</b>	
Voltage range	24 V <sub>DC</sub> , 9...36 V <sub>DC</sub> 48 V <sub>DC</sub> , 36...72 V <sub>DC</sub>
Filter	Pi Network
<b>Isolation:</b>	
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.
<b>Output:</b>	
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

<b>General:</b>	
Efficiency	72% to 78%
Switching frequency	260 kHz, typ.
<b>Environmental:</b>	
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
<b>Physical :</b>	
Dimensions	31.75x20.32x10.16 mm
Weight	26 g metal, standard, 21.5 g plastic suffix "P"
Case material	Standard, nickel-coated copper metal

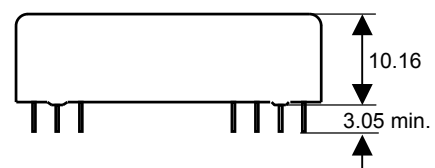
## Dimensions



All dimensions in mm  
Tolerance ±0.25 mm

## Pin connections

Pin	Standard		3.5KV <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: 5.05 f