

10W DC-DC Converter P10B-Series



PHI-CON

- 10 W Output Power
- 2:1 Wide Input Voltage Range
- Optional Remote Control Input
- International Safety Standard
- Six-Sided Continuous Shield
- High Efficiency up to 86%
- Standard 2" X 1" X 0.4" Package
- Fixed Switching Frequency



Model selection guide

Typ	Input nominal voltage [V _{DC}]	Input current full-load [mA]	Output voltage [V _{DC}]	Output current [mA]	Efficiency typ. [%]	Capacitor load max. [uF]
Single output						
P10B12S33	9-18	724	3.3	2000	80	6800
P10B12S05	9-18	1028	5	2000	81	4700
P10B12S12	9-18	1064	12	830	82	690
P10B12S15	9-18	1088	15	670	81	470
P10B24S33	18-36	362	3.3	2000	80	6800
P10B24S05	18-36	534	5	2000	82	4700
P10B24S12	18-36	519	12	830	84	690
P10B24S15	18-36	523	15	670	84	470
P10B48S33	36-75	183	3.3	2000	79	6800
P10B48S05	36-75	260	5	2000	84	4700
P10B48S12	36-75	253	12	830	86	690
P10B48S15	36-75	258	15	670	85	470
Dual output						
P10B12D05	9-18	1068	±5	±1000	82	2 x 680
P10B12D12	9-18	1053	±12	±416	83	2 x 330
P10B12D15	9-18	1014	±15	±333	84	2 x 110
P10B24D05	18-36	548	±5	±1000	80	2 x 680
P10B24D12	18-36	520	±12	±416	84	2 x 330
P10B24D15	18-36	520	±15	±333	84	2 x 110
P10B48D05	36-75	267	±5	±1000	82	2 x 680
P10B48D12	36-75	254	±12	±416	86	2 x 330
P10B48D15	36-75	260	±15	±333	84	2 x 110

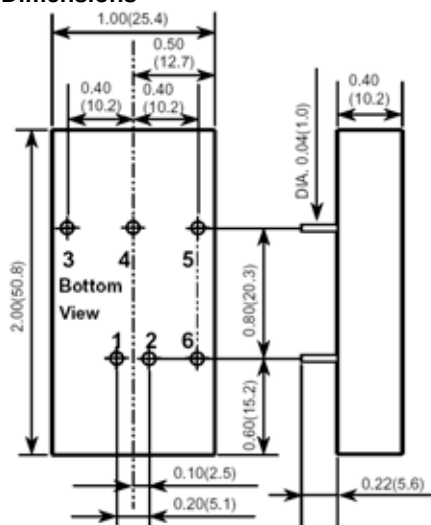
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Specifications

Input	
Voltage range	9..18, 18..36, 36..75V _{DC}
Filter	π Pi type
Input surge voltage for 100mS max.	12V type : 36 V _{DC} max. 24V type : 50 V _{DC} max. 48V type : 100 V _{DC} max.
Remote CTRL (Option)	On: open or 3.5..12 V _{DC}
Positive logic Suffix "P"	Off : 0...1.2 V _{DC}
Negative logic Suffix "N"	On : 0...1.2 V _{DC} Off: open or 3.5..12 V _{DC}
Remote CTRL input current	-2.5mA
Remote CTRL input reference	-Input
Output	
Power	10W max
Voltage accuracy	± 2%
Ripple and noise (at 20 MHz BW)	Single type: 50mVp-p Dual type: 75mVp-p
Short circuit protection	Hiccup, automatic recovery
Line voltage regulation	± 1%
Load voltage regulation	single: ± 1% dual: ±2%
Temperature coefficient	± 0.02% / °C
Minimum load	10% to maintain the specified regulation

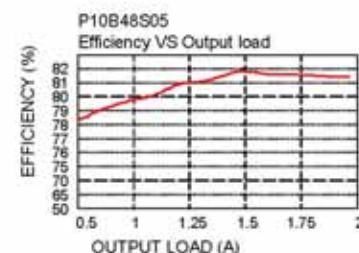
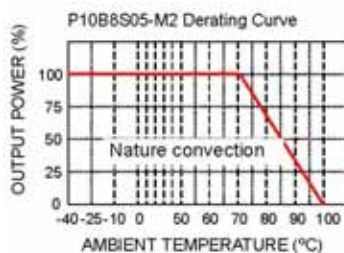
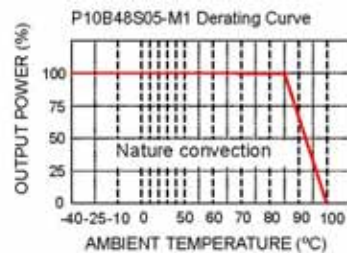
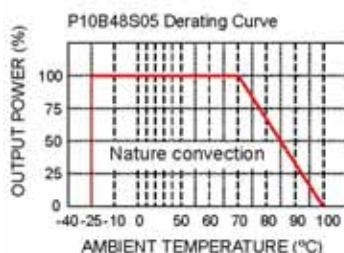
General	
Efficiency	See table
Switching frequency	300 kHz, typ.
Isolation voltage	1600 V _{DC}
Isolation Leakage current	1 mA
Isolation Resistance	10 ⁹ Ω
Isolation Capacitance	300 pF, typ.
Environmental	
Operating temperature	-25 °C to +85 °C
	(standard, derating)
Option “-M1”	-40 °C to +85 °C (no derating)
Option “-M2”	-40 °C to +85 °C (with derating)
Storage temperature	-55 °C to +105 °C
Maximum case temp.	+100 °C
Humidity	5% to 95% RH
Cooling	Free-air convection
Physical	
Dimensions	1 x 2 inches
	50.8x10.2x25.4 mm
Weight	27 g
Case material	Nickel-coated copper

Dimensions



All dimensions in inches (mm)
Pin Pitch tolerance ± 0.014 (0.35)

Derating



Pin connections

Pin	Standard	
	Single	Dual
1	+ Input	+ Input
2	- Input	- Input
3	+ Output	+ Output
4	No Pin	Common
5	- Output	- Output
6	CTRL (Option)	CTRL (Option)

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: 10 / 2004 f