

6W DC-DC Converter P6X-Series



PHI-CON

- 6 W maximum output power
- Adjustable Output Voltage
- 2:1 wide input voltage range
- Five-Sided continuous shield
- Small package 1.6" x 1" x 0.33"
- Short circuit protection

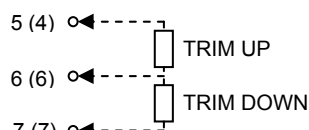


Model selection guide

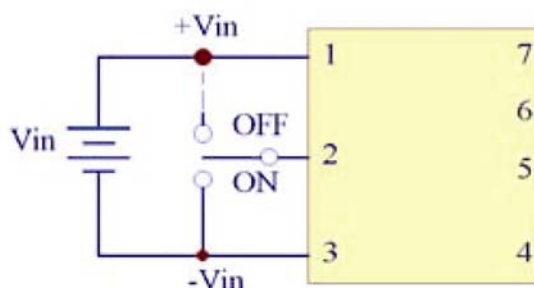
Typ	Input nominal voltage [V _{DC}]	Input current full-load [mA]	Output voltage [V _{DC}]	Output current [mA]	Efficiency typ. [%]	Capacitor load max. [μF]
Single output						
P6X05S33	4.5...9	1131	3.3	1200	74	6600
P6X05S05	4.5...9	1370	5.0	1000	77	3000
P6X05S12	4.5...9	1519	12.0	500	83	1400
P6X12S33	9...18	573	3.3	1200	76	6600
P6X12S05	9...18	658	5.0	1000	80	3000
P6X12S12	9...18	617	12.0	500	85	1400
P6X24S33	18...36	286	3.3	1200	77	6600
P6X24S05	18...36	321	5.0	1000	82	3000
P6X24S12	18...36	309	12.0	500	85	1400
P6X48S33	36...75	143	3.3	1200	77	6600
P6X48S05	36...75	165	5.0	1000	80	3000
P6X48S12	36...75	155	12.0	500	85	1400
Dual output						
P6X05D12	4.5...9	1519	±12.0	±250	83	2 x 510
P6X12D12	9...18	617	±12.0	±250	85	2 x 510
P6X24D12	18...36	309	±12.0	±250	85	2 x 510
P6X48D12	36...75	155	±12.0	±250	85	2 x 510

Trimming

Output can be externally trimmed by using the method shown below. () for dual output



Remote Control



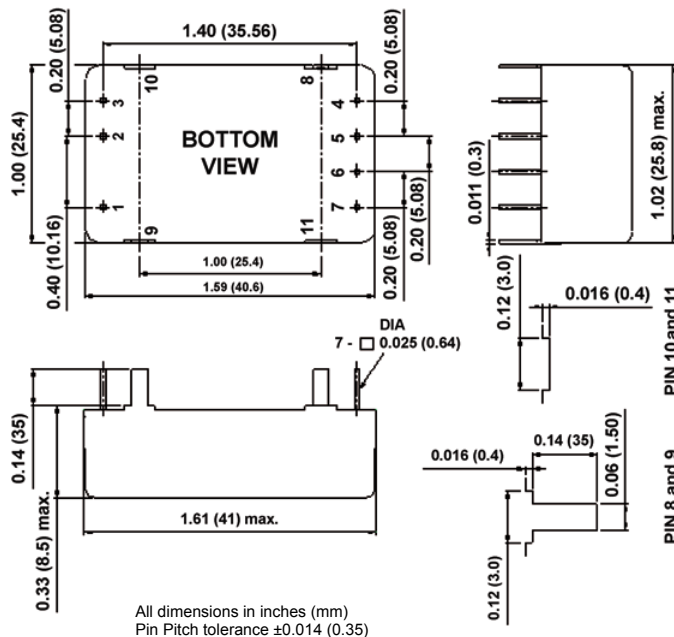
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Specifications

Input	
Voltage range	5V type: 4.5...9 V _{DC} 12V type: 9...18 V _{DC} 24V type: 18...36 V _{DC} 48V type: 36...75 V _{DC}
Filter	L-C type
EMC external filter capacitor for EN55022 class A	5V type: 220 µF / 16 V _{DC} 12V type: 220 µF / 25 V _{DC} 24V type: 100 µF / 50 V _{DC} 48V type: 100 µF / 100 V _{DC}
Input surge voltage for 100mS max.	5V type : 15 V _{DC} max. 12V type : 36 V _{DC} max. 24V type : 50 V _{DC} max. 48V type : 100 V _{DC} max.
Output	
Power	6 W max.
Voltage accuracy	± 2%
Minimum load	0%
Line regulation	± 0.2%
Load voltage regulation	± 0.5% between 10% and 100% load
Ripple and noise (at 50 MHz BW)	100mVp-p max.
Transient response recovery time	500 µs / 25% load step change
Short circuit protection	continuous, automatic recovery
Voltage adjustability	± 10%
Over current protection	150%
Temperature coefficient	± 0.02% / °C

General	
Efficiency	See table
Switching frequency	100 to 1500 kHz
Isolation voltage	500 V _{AC}
Isolation Resistance	50° Ω @ 500 V
Isolation Capacitance	300 pF, max.
Safety standards in accordance with	IEC60950, UL60950, EN60950
MTBF	@Ta 40 °C, 100% stress: 1.5x10 ⁶ hrs
Bellcore TR-NWT-000332	
Environmental	
Operating temperature	-20 °C to +70 °C (with derating)
Storage temperature	-40 °C to +85 °C
Thermal shock	MIL-STD-810D
Cooling	Nature convection
Vibration	10..55..10 Hz, sweep 15 minutes, amplitude 1.5 mm, max. 9 G X,Y, Z 2 hrs each axis
Relative humidity operating and storage	20% to 95% RH
Physical	
Dimensions	1.6 x 1 x 0.33 inches 41 x 25.8 x 8.5 mm
Weight	20 g
Base material	None
Case material	Metal

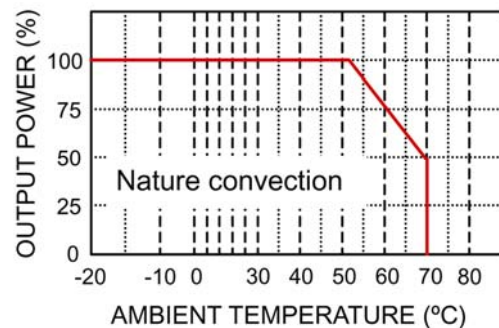
Dimensions



Pin connections

Pin	Single	Dual
1	+ Input	+ Input
2	CTRL	CTRL
3	- Input	- Input
4	N.C.	Common
5	- Output	- Output
6	Trim	Trim
7	+ Output	+ Output

Derating



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.

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