

15W DC-DC Converter P15C-Series



PHI-CON

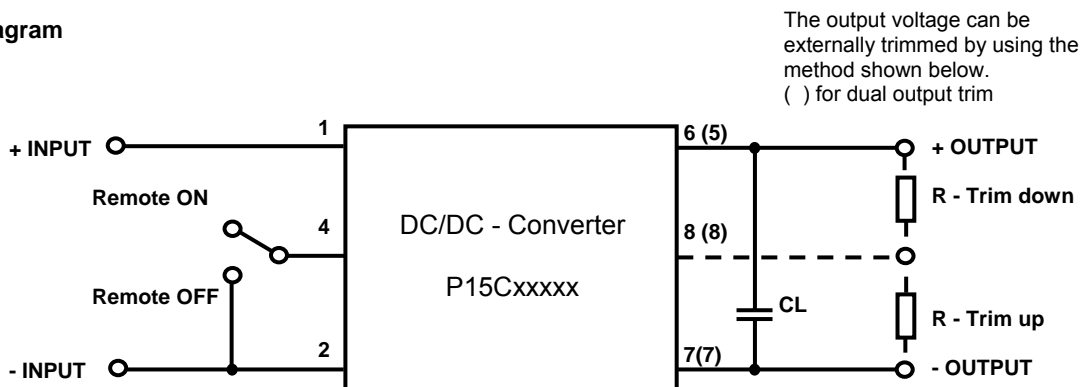
- Output voltage up to 140V
- 4:1 wide input voltage range
- Six-Sided continuous shield
- High efficiency up to 86%
- Standard 2" x 1.6" x 0.4" package
- Fixed switching frequency



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. [µF]
Single output						
P15C24S05	9 ... 36	822	5	3000	79	6800
P15C24S12	9 ... 36	801	12	1250	82	890
P15C24S15	9 ... 36	801	15	1000	82	570
P15C48S05	18 ... 75	411	5	3000	80	6800
P15C48S12	18 ... 75	401	12	1250	82	890
P15C48S15	18 ... 75	401	15	1000	82	570
P15C48S110	20 ... 72	382	110	140	84	-
P15C48S140	20 ... 72	373	140	110	86	-
Dual output						
P15C24D05	9 ... 36	822	±5	±1500	80	2 x 1700
P15C24D12	9 ... 36	801	±12	±625	82	2 x 300
P15C24D15	9 ... 36	801	±15	±500	82	2 x 200
P15C48D05	18 ... 75	411	±5	±1500	80	2 x 1700
P15C48D12	18 ... 75	401	±12	±625	82	2 x 300
P15C48D15	18 ... 75	401	±15	±500	82	2 x 200

Circuit diagram



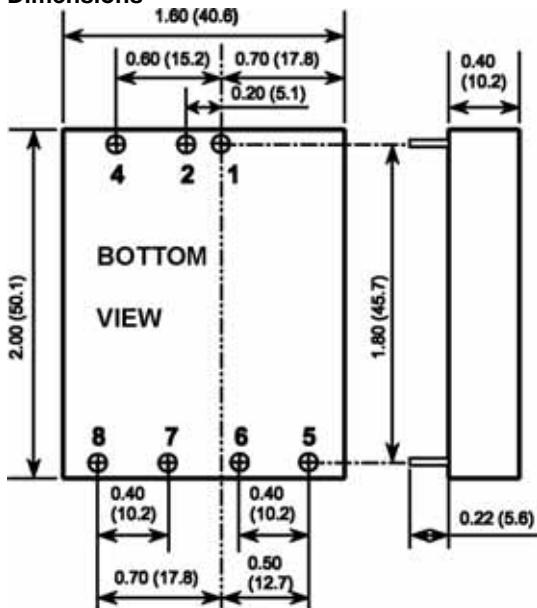
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Specifications

Input	
Voltage range	24V type : 9 ... 36 V _{DC} 48V type : 18 ... 75 V _{DC} HV type : 20 ... 72 V _{DC}
Filter	π Pi type
Input surge voltage for 100mS max.	24V type : 50 V _{DC} max. 48V type : 100 V _{DC} max.
Remote CTRL	On: open or 3.5...12 V _{DC} Off : 0...1.2 V _{DC}
Remote CTRL input current	-2.5mA
Remote CTRL input reference	-Input
Output	
Power	15W max
Voltage accuracy	± 2%
Trim adjustment range	±10 %
Ripple and noise (at 20 MHz BW)	5, 12, 15 V type: 75 mVp-p 110 V type: 100mVp-p 140 V type: 250mVp-p
Short circuit protection	Hiccup, automatics recovery
Line voltage regulation	± 0.5%
Load voltage regulation 10% to full load	single: ± 1% dual: ± 5% 110 V, 140 V type: ± 1%
Transient response recovery time	500 μs at 25 % load chance
Temperature coefficient	± 0.02% / °C
Minimum load	10 % to maintain the specified regulation

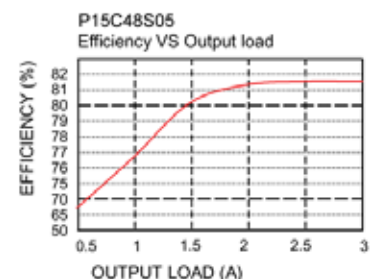
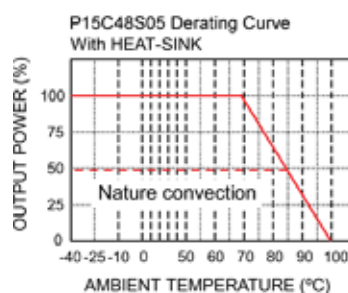
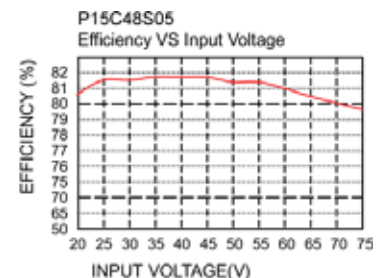
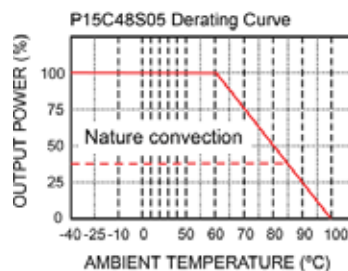
General	
Efficiency	See table
Switching frequency	300 kHz, typ.
Isolation voltage	1600 V _{DC}
Isolation Resistance	10 ⁹ Ω min.
Isolation Capacitance	300 pF, max.
MTBF	2x10 ⁶ hrs
Standard in accordance with	EN60950, IEC60950, UL1950
Environmental	
Operating temperature	-40 °C to +85 °C (with derating)
Storage temperature	-55 °C to +105 °C
Maximum case temp.	+100 °C
Thermal impedance	10°C/W 8.24 °C/W with heat-sink 7G-0011A
Thermal shock	MIL-STD-810D
Vibration	2G, 10-55 Hz, 30 min., XYZ-axis
Humidity	5% to 95% RH
Cooling	Free-air convection
Physical	
Dimensions	2 x 1.6 x 0.4 inches 50.8 x 40.6 x 10.4 mm
Weight	48 g
Case material	Nickel-coated copper
Potting material	Epoxy (UL94-V0)
Conducted & radiated emissions	EN55022 Level A

Dimensions



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

Derating



Pin connections

Pin	Single	Dual
1	+ Input	+ Input
2	- Input	- Input
4	CTRL	CTRL
5	No pin	+ Output
6	+ Output	Common
7	- Output	- Output
8	Trim	Trim

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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