

40W DC-DC Converter P40A-Series



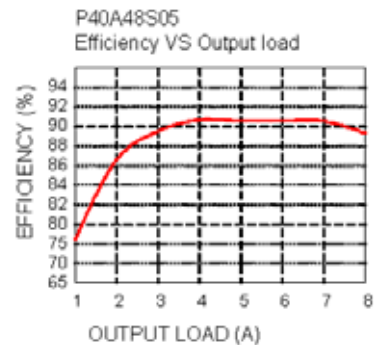
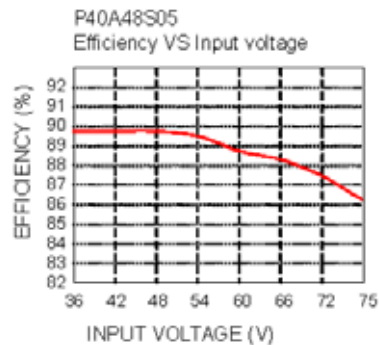
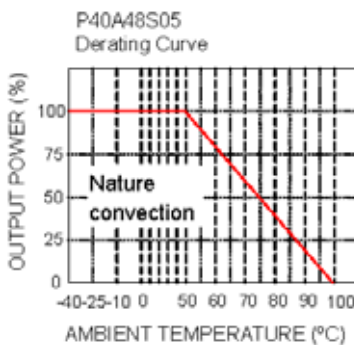
- Offer single, dual and triple output
- 40 W Output power
- 2:1 Wide input voltage range
- International safety standard approval
- Six-Sided continuous shield
- High efficiency up to 90%
- Standard 2" X 2" X 0.4" package
- Fixed switching frequency



Model selection guide

Typ	Input		Output 1			Output 2 (or Dual Output)			Efficiency typ.	Output ripple & Noise
	nominal voltage	current full load	voltage	current	capacitor load max.	voltage	current	capacitor load max.		
	[V _{DC}]	[mA]	[V _{DC}]	[A]	[μF]	[V _{DC}]	[A]	[μF]	[%]	[mV _{p-p}]
Single output										
P40A24S3P3	18-36	1325	3.3	8.0	21000				87	50
P40A24S05	18-36	1961	5.0	8.0	13600				89	50
P40A24S12	18-36	2048	12.0	3.3	2360				88	75
P40A24S15	18-36	1985	15.0	2.6	1510				89	75
P40A48S3P3	36-75	655	3.3	8.0	21000				88	50
P40A48S05	36-75	969	5.0	8.0	13600				90	50
P40A48S12	36-75	1000	12.0	3.3	2360				89	75
P40A48S15	36-75	992	15.0	2.6	1510				89	75
Dual output										
P40A24D3305	18-36	1729	3.3	4.0	11000	5.0	4.0	6800	84	100 @1μF
P40A48D3305	36-75	854	3.3	4.0	11000	5.0	4.0	6800	85	100 @1μF
Triple output										
P40A24T3312	18-36	1512	3.3	6.0	13000	±12.0	±0.4	2 x 330	85	75
P40A24T3315	18-36	1481	3.3	6.0	13000	±15.0	±0.3	2 x 110	85	75
P40A24T0512	18-36	1989	5.0	6.0	6800	±12.0	±0.4	2 x 330	87	75
P40A24T0515	18-36	1958	5.0	6.0	6800	±15.0	±0.3	2 x 110	87	75
P40A48T3312	36-75	747	3.3	6.0	13000	±12.0	±0.4	2 x 330	86	75
P40A48T3315	36-75	732	3.3	6.0	13000	±15.0	±0.3	2 x 110	86	75
P40A48T0512	36-75	982	5.0	6.0	6800	±12.0	±0.4	2 x 330	88	75
P40A48T0515	36-75	967	5.0	6.0	6800	±15.0	±0.3	2 x 110	88	75

Derating



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Specifications

Input	
Voltage range	18-36, 36-75V _{DC}
Filter (see note 1)	L-C type
Under voltage lockout	
24V Input model	DC-DC On max. 17.8 V _{DC} DC-DC Off min. 16 V _{DC}
48V Input model	DC-DC On max. 36 V _{DC} DC-DC Off min. 34 V _{DC}
Output	
Output Power	40 W max.
Voltage accuracy full load and nominal V _{in}	Single / Dual: ±1% Triple main: ±1% Auxiliary ±3%
Voltage adjustability (see note 2)	Single output only ±10%
Ripple and noise (at 20 MHz BW)	See table measured with C _L 104pF
Short circuit protection	Hiccup, automatics recovery
Line voltage regulation LL to HL at Full Load	Single/Dual: ±0.5% Triple main: ±1% Triple auxiliary: ±5%
Load voltage regulation	single: ± 0.5% dual: ±1% Triple Main: ±2% Triple Auxiliary: ±5%
Temperature coefficient	± 0.02% / °C, max
Minimum load	Single: and Dual: 0% Triple: 10% of full load

General	
Efficiency	See table
Switching frequency	300 kHz, typ.
Environmental	
Operating temperature	-40°C to +85°C (with derating)
Storage temperature range	-55 °C to +105 °C
Maximum case temp.	+100 °C
Relative humidity	5% to 95%
Cooling	Free-air convection
Physical	
Dimensions	2 x 2 inches 50.8 x 50.8 x 10.2 mm
Weight	60 g
Case material	Nickel-coated copper
Isolation	
Rated voltage	1600 V _{DC} , min
Resistance	10 ⁸ Ω, min.
Capacitance	1000pF, max
Remote control	
Remote control on	Open 3.5V < V _r < 12V
Remote control off	Short or 0V < V _r < 1.2V (referenced to - Input)
Pin: CTRL	

Note1: An external filter capacitor is required for normal operation. The capacitor should be capable of handling 1A ripple current for 24V and 48V models. Example: 220µF/ 100V, ESR <90mΩ.

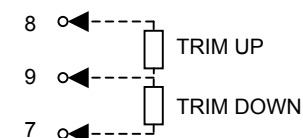
Note2: Maximum output deviation is 10% inclusive of remote sense and trim. If remote sense is not being used, the +SENSE should be connected to its corresponding +OUTPUT and likewise the sense should be connected to its corresponding -OUTPUT.

Pin connections

Pin	Standard		
	Single	Dual	Triple
1	+ Input	+ Input	+ Input
2	- Input	- Input	- Input
3	CTRL	CTRL	CTRL
4	NC	3.3 V	+ AUX
5	- Sense (note 2)	3.3V RTN (COM)	Common
6	+Sense (note 2)	NC	- AUX
7	+ Output	NC	+ Output
8	- Output	5V	- Output (COM)
9	TRIM	5V RTN (COM)	NC

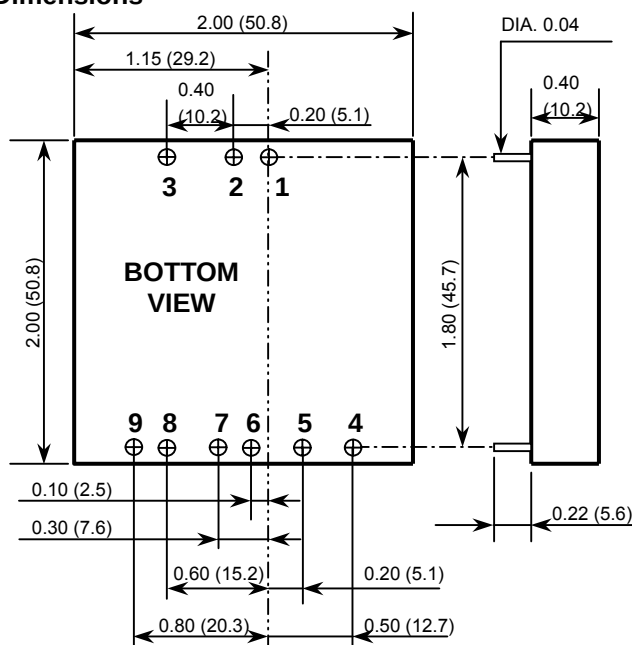
Trimming

Output can be externally trimmed by using the method shown below.



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 / 2004 f

Dimensions



1. All dimensions in Inches (mm)
2. Pin pitch tolerance ±0.014(0.35)