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POWERBOX Industrial Line
PHB75W Series
49.5-75W 4:1 Single Output
DC/DC Converter

Features

49.5W - 75W isolated output
Efficiency to 85%
300 kHz switching frequency
4 : 1 input range
Regulated outputs
Continuous short circuit protection
Five-sided metal case
Half-brick size meet industrial standard

Input

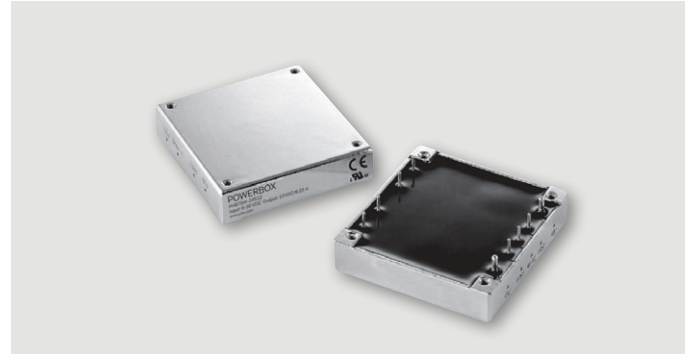
Voltage range	24V : 9-36VDC	
	48V : 18-75VDC	
Under voltage lockout	24Vin power up	8.8V
	24Vin power down	8V
	48Vin power up	17V
	48Vin power down	16V
Postive logic remote ON/OFF ^{3,4}		
Input filter	PI type	

Output

Voltage accuracy	±1% max.
Transient response	<500µs
External trim adj. range	±10%
Ripple and noise 20MHz BW	3.3V & 5V: 40mV rms max, 100mV pk-pk max.
	12V & 15V: 60mV rms max, 150mV pk-pk max.
	24V: 100mV rms max, 240mV pk-pk max. 48V: 200mV rms, max, 480mV pk-pk, max.
Temperature coefficient	±0.03%/°C max.
Short circuit protection	Continuous
Line regulation ¹	±0.2% max.
Load regulation ²	±0.2% max.
Overvoltage protection	115-140%, trip range, % Vo nom.
Current limit	110-160% nominal output.

Environmental

Operating temperature	-40°C to +100°C
Storage temperature	-55°C to +105°C
Thermal shutdown	Case temperature 110°C typical



General

Efficiency	See table
Isolation voltage	1500VDC min, input/output, input/case, output/case
Isolation resistance	10 ⁷ ohms, min.
Switching frequency	300kHz typ.
Case material	Aluminum
Dimensions	57.9 x 61.0 x 12.7 mm
Weight	94g

Standards

Safety standards	UL60950-1 approval
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Note:

1. Measured from high line to low line.
2. Measured from full load to zero load.
3. Logic compatibility: Open collector ref to -Vin. Module ON Open circuit. Module OFF <0.8VDC.
4. Suffix "N" to the model number with negative logic remote ON/OFF. Module ON <0.8VDC. Module OFF >Open circuit.

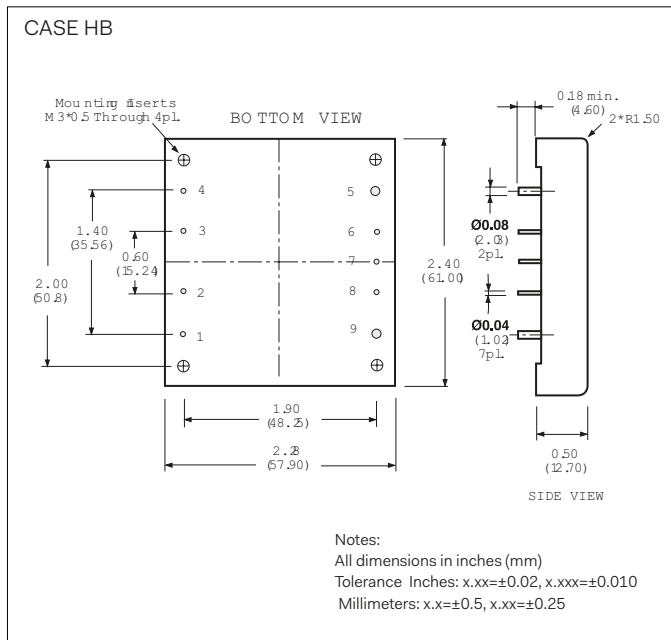
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Model Number	Input Voltage	Output Voltage	Output Current		Input Current		Efficiency	Capacitor Load Max
			Min	Max	No Load	Full Load		
PHB75W-24S33	9-36 VDC	3.3 VDC	0 mA	15 A	50 mA	2611 mA	79%	15000µF
PHB75W-24S05	9-36 VDC	5 VDC	0 mA	15 A	50 mA	3811 mA	82%	15000µF
PHB75W-24S12	9-36 VDC	12 VDC	0 mA	6.25 A	50 mA	3765 mA	83%	6250µF
PHB75W-24S15	9-36 VDC	15 VDC	0 mA	5 A	50 mA	3720 mA	84%	5000µF
PHB75W-24S24	9-36 VDC	24 VDC	0 mA	3.12 A	50 mA	3720 mA	84%	3120µF
PHB75W-24S48	9-36 VDC	48 VDC	0 mA	1.56 A	50 mA	3811 mA	82%	1560µF
PHB75W-48S33	18-75 VDC	3.3 VDC	0 mA	15 A	50 mA	1289 mA	80%	15000µF
PHB75W-48S05	18-75 VDC	5 VDC	0 mA	15 A	50 mA	1883 mA	83%	15000µF
PHB75W-48S12	18-75 VDC	12 VDC	0 mA	6.25 A	50 mA	1860 mA	84%	6250µF
PHB75W-48S15	18-75 VDC	15 VDC	0 mA	5 A	50 mA	1838 mA	85%	5000µF
PHB75W-48S24	18-75 VDC	24 VDC	0 mA	3.12 A	50 mA	1835 mA	85%	3120µF
PHB75W-48S48	18-75 VDC	48 VDC	0 mA	1.56 A	50 mA	1860 mA	84%	1560µF

Note:

1. Nominal input voltages 24 or 48 VDC.

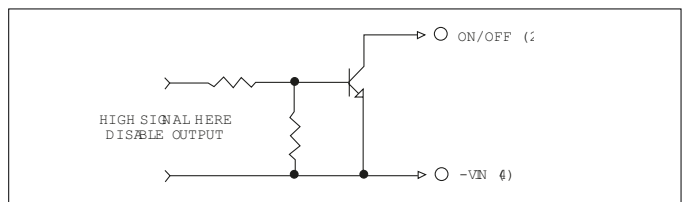
Mechanical



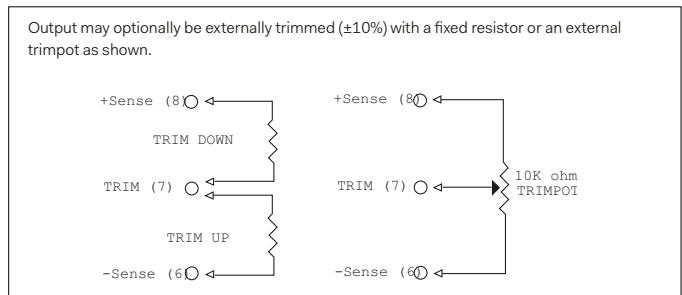
Pin Connection

Pin	Function
1	+V Input
2	ON/OFF
3	CASE
4	-V Input
5	-V Output
6	-Sense
7	Trim
8	+Sense
9	+V Output

Remote On/Off Control



External Output Trimming



Specifications are subject to change without notice.