



## Single and Dual Output 6W DC-DC Converters



Features	Benefits
• 60601-1 approval	• Easier system approval
• I/O isolation 5kVAC, 2MOPP	• Patient protection at 250VAC rms working voltage
• 0.25 $\mu$ A low leakage	• Wide range of medical applications
• 4:1 Wide input range	• Less parts to inventory

Specification																	
Model	PXC-M06 (W)																
Rated input voltage range	24V nominal: 9-36VDC, 48V nominal: 18-75VDC																
Input surge voltage (max 3 seconds)	24V Nom : 50VDC   48V Nom: 100VDC																
Switching frequency	250kHz																
Maximum input current (no load)	See Table																
Fusing	No internal fuse																
Max output power (W)	6																
Voltage accuracy	Single/Dual $\pm$ 1%																
Voltage adjustment (Note 1)	Single output 3.3V, 5V & 12V: $\pm$ 10%, 15V & 24V: -10%/+20% Dual output $\pm$ 5V, $\pm$ 12V & $\pm$ 15V: $\pm$ 10%																
Line regulation (LL to HL at full load)	Single output $\pm$ 0.2%, Dual output $\pm$ 0.5%																
Ripple and noise (Note 7)	Measured with a 20MHz bandwidth - see table																
Start up time (Nominal Vin and constant resistive load)	Power on: 30ms, Remote ON/OFF: 30ms																
Start up voltage	24Vin(nom) 9V, 48V(nom) 18V																
Shutdown voltage	24Vin(nom) 8V, 48V(nom) 16V																
Remote on/off (option) (Note 1 & Note 6)	DC ON: OPEN or 0 to 1.2VDC DC OFF: 2.2 to 12VDC																
Efficiency	See Table																
Over current protection, factory set	Hiccup, 150% of rated full load																
Short circuit protection (Note 2)	Continuous, auto recovery																
Overvoltage protection	<table border="0"> <tr> <td>3.3V output</td> <td>3.7 to 5V</td> </tr> <tr> <td>5V output</td> <td>5.6 to 7.0V</td> </tr> <tr> <td>12V output</td> <td>13.5 to 16V</td> </tr> <tr> <td>15V output</td> <td>18.3 to 22.0V</td> </tr> <tr> <td>24V output</td> <td>29.1 to 34.5V</td> </tr> <tr> <td>5V/5V output</td> <td>5.6 to 7.0V</td> </tr> <tr> <td>12V/12V output</td> <td>13.5 to 18.2V</td> </tr> <tr> <td>15V/15V output</td> <td>17.0 to 22.0V</td> </tr> </table>	3.3V output	3.7 to 5V	5V output	5.6 to 7.0V	12V output	13.5 to 16V	15V output	18.3 to 22.0V	24V output	29.1 to 34.5V	5V/5V output	5.6 to 7.0V	12V/12V output	13.5 to 18.2V	15V/15V output	17.0 to 22.0V
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15V/15V output	17.0 to 22.0V																
Operating temperature	-40°C ~ +88°C (without derating), +88°C ~ +105°C (with derating - see curve)																
Storage temperature	-55°C ~ +125°C																
Thermal shock	MIL-STD-810F																
Relative humidity (non condensing)	5% to 95% RH																
Transient response (25% step load change)	250 $\mu$ S																
Isolation voltage (1 minute) (Note8)	5kVAC																
Isolation capacitance (max)	17pF																
MTBF MIL-HDBK-217F (Note 3)	644,400 hrs																
Vibration	MIL-STD-810F																
Conducted and radiated emissions (Note 4)	EN55011, EN55022, Class A and FCC part 18																
Immunity (Note 5)	EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6: Perf. Criteria A																
Safety	IEC60601-1, ANSI/AAMI ES60601-1, EN60601-1, CE Mark																
Size (H x W x D)	10.2 x 20.3 x 31.8 mm																
Weight	14g																
Connector	PCB mount																
Cooling	Convection																
Warranty yrs	5																

Notes: See page 2

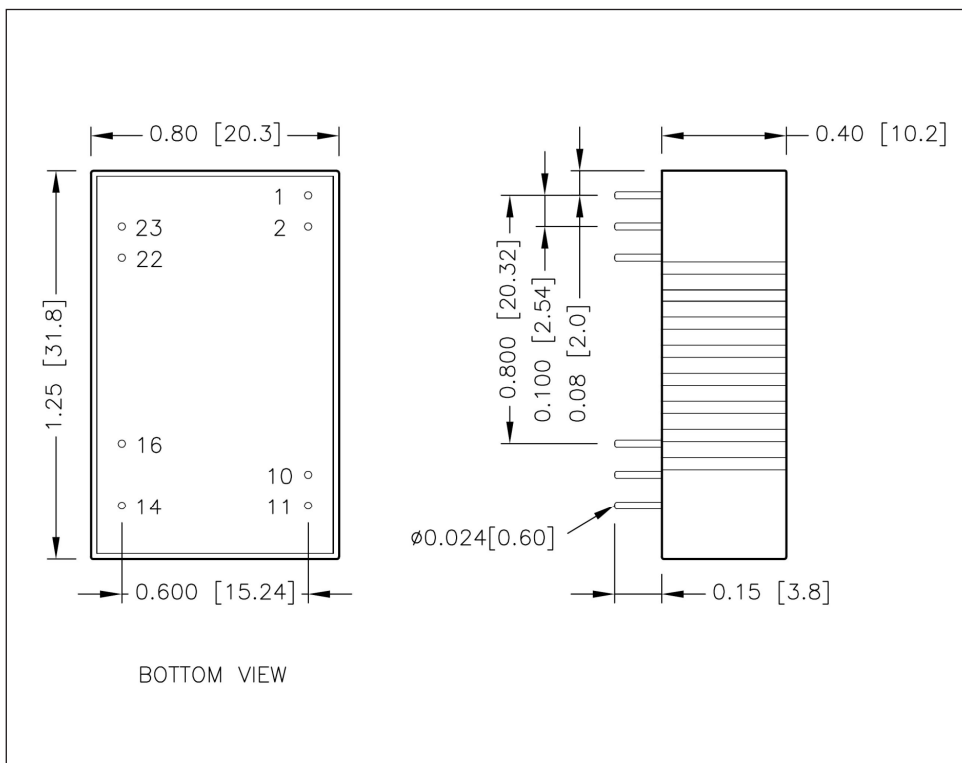
## Model Selector

Model	Input Voltage (VDC)	Output Voltage (VDC)	Output Current Full Load (mA)	Output <sup>(7)</sup> Ripple & Noise (mV)	Input Current No Load mA	Efficiency % <sup>(2)</sup>	Maximum Capacitive Load <sup>(2)</sup>
PXC-M06-24WS3P3	9 ~ 36	3.3	1800	30	6	83	2100
PXC-M06-24WS05	9 ~ 36	5	1200	30	6	86	1500
PXC-M06-24WS12	9 ~ 36	12	500	40	6	89	260
PXC-M06-24WS15	9 ~ 36	15	400	40	6	89	210
PXC-M06-24WS24	9 ~ 36	24	250	50	6	88.5	75
PXC-M06-24WD05	9 ~ 36	±5	±600	30	6	85	± 860
PXC-M06-24WD12	9 ~ 36	±12	±250	40	6	88.5	± 150
PXC-M06-24WD15	9 ~ 36	±15	±200	40	6	88.5	± 110
PXC-M06-48WS3P3	18 ~ 75	3.3	1800	30	4	82.5	2100
PXC-M06-48WS05	18 ~ 75	5	1200	30	4	86.5	1500
PXC-M06-48WS12	18 ~ 75	12	500	40	4	88	260
PXC-M06-48WS15	18 ~ 75	15	400	40	4	88.5	210
PXC-M06-48WS24	18 ~ 75	24	250	50	4	88	75
PXC-M06-48WD05	18 ~ 75	±5	±600	30	4	85	± 860
PXC-M06-48WD12	18 ~ 75	±12	±250	40	4	88	± 150
PXC-M06-48WD15	18 ~ 75	±15	±200	40	4	87	± 110

### Notes

- Not available for A type pin configuration
- Typical value at nominal input voltage and full load.
- ML-HDBK-217F Notice2 @Ta=25°C, Full load (Ground Benign, controlled environment).
- Built in Class A filter. Class B can be achieved with the addition of external components for further information contact your local TDK-Lambda sales office
- Meeting EN61000-4-4 and 61000-4-5 requires and additional input electrolytic capacitor: 5V input - 1000µF/25V, 12V & 24V input - 470µF/50V and 48V input - 330µF/100V
- The ON/OFF control pin voltage is referenced to -Vin. The ctrl pin input current is <1mA. Remote off input current is typically 2.5mA
- For R & N, measure the 24V output with a 4.7µF/50V X7R MLCC. All other outputs use a 10µF/25V X7R MLCC. Nominal input, full load at +25°C
- Reinforced insulation 8mm at 250VAC

## Outline Drawing PXC-M06 (W)



## Pin Assignment PXC-M06 (W)

PIN	Single	Dual
1	CtrlL (Option) / No pin*	CtrlL (Option) / No pin*
2	-Vin	-Vin
10	Trim (option) / No Pin*	Trim (option) / No Pin*
11	No Pin / NC **	-Vout
14	+Vout	+Vout
16	-Vout	Common
22	+Vin	+Vin
23	+Vin	+Vin

### NOTES:

\* If the Ctrl or Trim option is not selected there will be no pin fitted in the corresponding pin number position.

\*\* Pin 11 is "No pin" for PXC-M06-xxWSxxx-T, PXC-M06-xxWSxxx-PT

Pin 11 is "NC" for: PXC-M06-xxWSxxx, PXC-M06-xxWSxxx-P

## Options

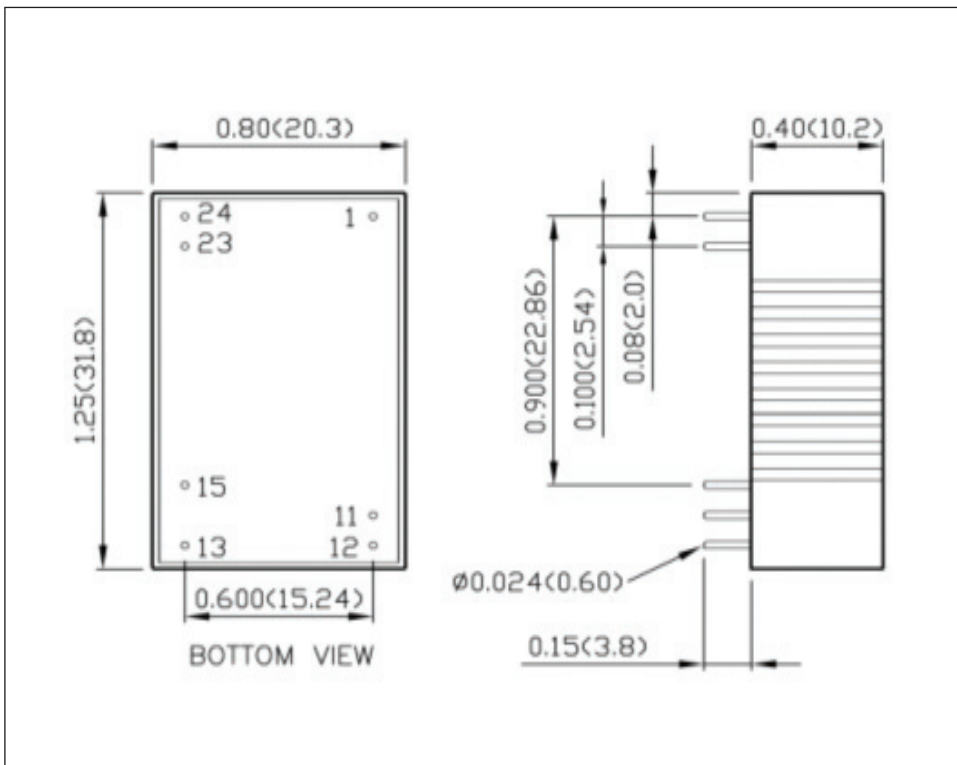
Suffix	Description
P	Positive Logic
T	Trim
PT	Positive Logic & Trim

Standard part is no suffix. Add P, T, or PT as required

## External Output Trimming

The output of the PXC-M06 (W) can be adjusted by connecting an external resistor. **See application note on the website.**

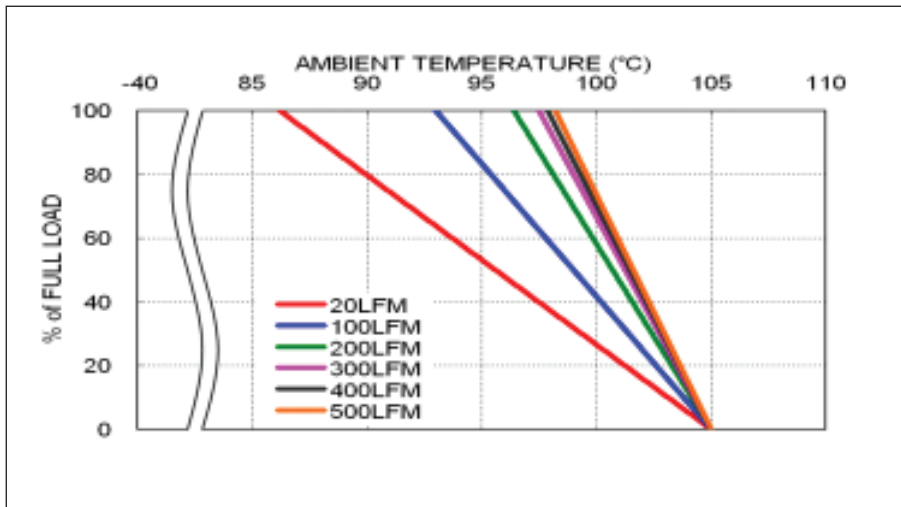
## Outline Drawing PXC-M06 (W) A-type



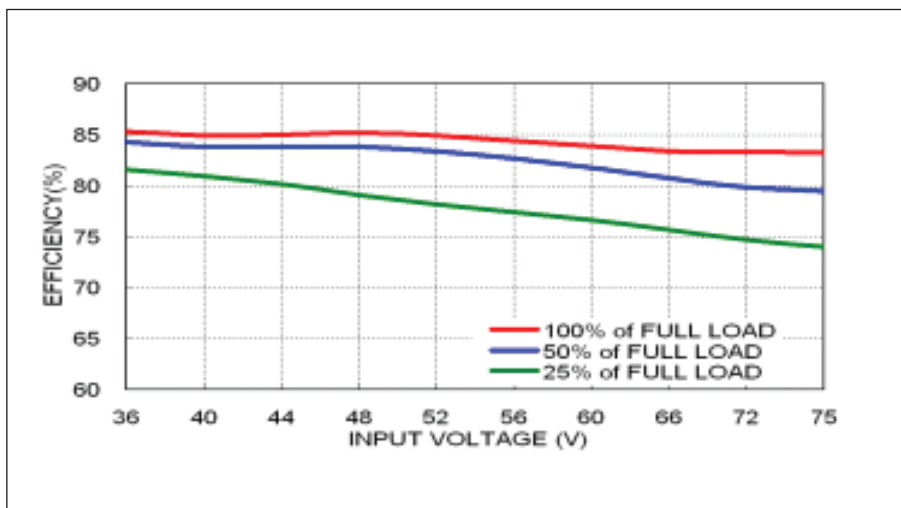
## Pin Assignment PXC-M06 (W) A-type

PIN	Single	Dual
1	+Vin	+Vin
11	No Pin	Common
12	-Vout	No Pin
13	+Vout	-Vout
15	No Pin	+Vout
23	-Vin	-Vin
24	-Vin	-Vin

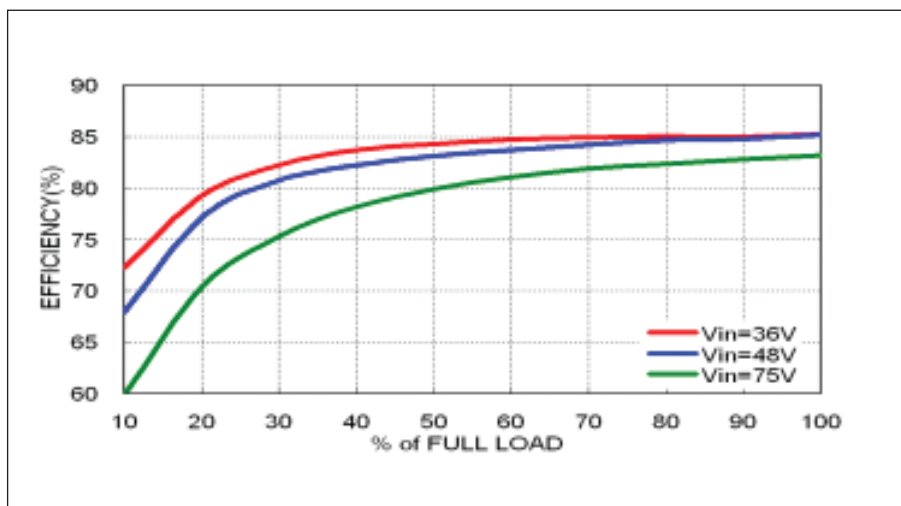
## PXC-M06-48WS05A Derating curve



## PXC-M06-48WS05A Efficiency Vs Input Voltage



## PXC-M06-48WS05A Efficiency Vs Output Voltage





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