

# DTX42K48

42 Amps

**Total Power:** 50 Watts  
**Input Voltage:** 48V  
**# of Outputs:** Single



## Special Features

- Fully Digital-mode DC-DC converter
- Extensive PMBus™ command set implementation for maximum control opportunity
- Efficiency optimizer (Pat. Pending)
- Self Diagnostics (Pat. Pending)
- User accessible data storage
- Low profile SMT termination for tight-fit applications (portable equipment, etc)
- User accessible operating code for optimum flexibility
- Basic Insulation

## Safety

UL, cUL 60950 (Pending)  
TUV EN60950 (Pending)

## Electrical Specifications

Input	
Input range	36 to 75VDC
Input surge	100V / 100ms
Under voltage lock-out	Programmable 34V - 36V (default turn-on) 30V - 33V (default turn-off)
Output	
Line regulation	±0.18%Vo
Load regulation	±0.1%Vo
Output voltage setpoint	±0.5%
Noise/ripple <sup>2</sup>	25mV Typ
Remote sense	Differential mode - up to 10%Vo
Transient response <sup>2</sup>	Programmable Loop compensation Default: 5% Vo deviation 50% to 75% load change
Overvoltage protection	Programmable range and mode Default - 115% lo
Over current protection	Programmable range and mode Default - 115% lo
Over temperature protection	Programmable range and mode Default - 110°C (at ref sense point)
Switching frequency	Programmable - 380 KHz default
Isolation Voltage	1500 Vdc
Control	
Voltage Adjust	Programmable range: 0.96V to 1.44V
Enable	Programmable Logic (positive and negative)

## Environmental Specifications

Ambient air operating temperature range	-40°C to +85°C
Storage temperature	-40°C to +125°C
MTBF	>1 million hours



## Ordering Information

Input Voltage	Output Voltage	Output Current	Efficiency	Model Number
36V to 75V	1.2V	42A	86% (Typ)	DTX42K48-S

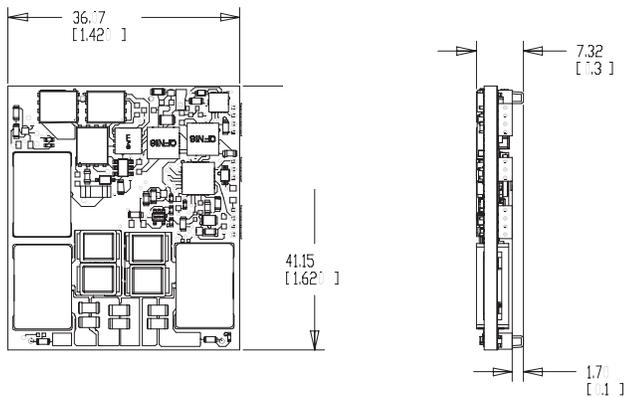
## Pin Assignments

Power Train		PMBus™		ADC Input		Programming†	
Pin No	Symbol	Pin No	Symbol	Pin No	Symbol	Pin No	Symbol
1	+Vin	12	PMBus SDA	14	ADC Ext	16	C2Bus Gnd
2	Enable	13	PMBus SCL			17	C2CK
3	-Vin	15	PMBus Gnd			18	C2D
4	+Sense					19	-Vin
5, 7, 9	+Vout					20	C2CK300
6, 8, 10	-Vout					21	C2D 300
11	-Sense					22	C2_Prog Bias

### Notes:

- All specifications are typical at nominal line, full load and  $T_A = 25^\circ\text{C}$  unless otherwise noted.
- Measurements taken with output capacitive termination: 10mF tantalum in parallel with 0.1mF ceramic capacitor.
- Programming pins for advance feature sets / customer specific features not required for normal operation.
- Technical reference Notes should be consulted for detailed information when available.
- All specifications subject to change without notice.

## Mechanical Outline



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