



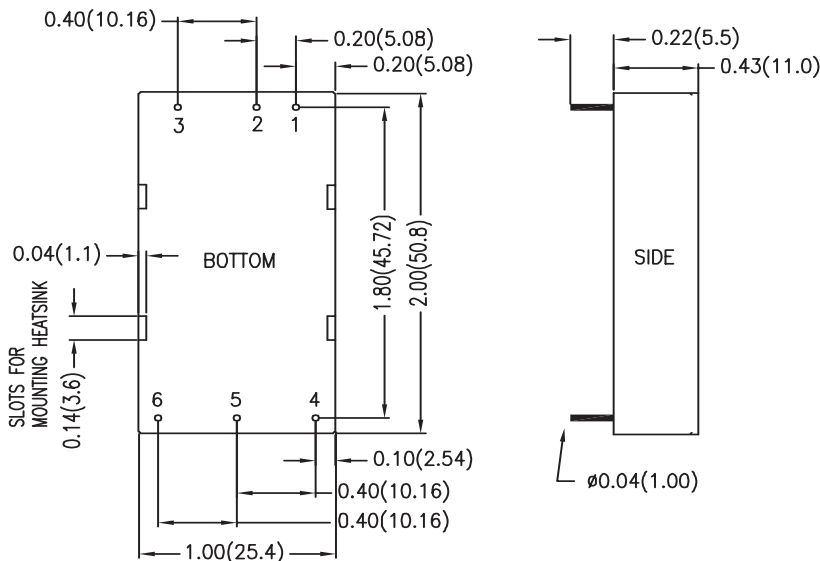
- Efficiency up to 92%
- 1500VDC Isolation
- MTBF > 328,000 Hours
- 2:1 Wide Input
- Over Voltage Protection
- Short Circuit Protection
- Six Sided Shielding
- Remote On/Off Control
- RoHS Compliant
- CSA 60950 Approved



## 40 Watt TMH Single and Dual Series



Model Number	Voltage			Current				Over Voltage Protection	Input Overvoltage (1000ms)	Reflected Ripple Current	Efficiency	Capacitive Load
	Input		Output	Input		Output						
	Nom. (VDC)	Range (VDC)	(VDC)	@ No Load (mA)	@ Max Load (mA)	Min (mA)	Max (mA)	Typ (mA)	Max (VDC)	mA (Typ)	@ Max Load (% Typ)	Max (Dual each output)
TMH26H12S3R3	12	9-18	3.3	120	2470	0	8000	3.9	25	50	89	21000µF
TMH40H12S5	12	9-18	5	160	3750	0	8000	6.2	25	50	89	13600µF
TMH40H12S12	12	9-18	12	160	3750	0	3330	15	25	50	89	2400µF
TMH40H12S15	12	9-18	15	150	3700	0	2670	18	25	50	90	1500µF
TMH40H12D12	12	9-18	±12	70	3790	±145	±1670	±15	25	50	88	1200µF
TMH40H12D15	12	9-18	±15	60	3790	±110	±1330	±18	25	50	88	750µF
TMH26H24S3R3	24	18-36	3.3	75	1220	0	8000	3.9	50	30	90	21000µF
TMH40H24S5	24	18-36	5	80	1830	0	8000	6.2	50	30	91	13600µF
TMH40H24S12	24	18-36	12	85	1830	0	3330	15	50	30	91	2400µF
TMH40H24S15	24	18-36	15	75	1830	0	2670	18	50	30	91	1500µF
TMH40H24D12	24	18-36	±12	50	1870	±145	±1670	±15	50	30	89	1200µF
TMH40H24D15	24	18-36	±15	45	1870	±110	±1330	±18	50	30	89	750µF
TMH26H48S3R3	48	36-75	3.3	40	610	0	8000	3.9	100	20	90	21000µF
TMH40H48S5	48	36-75	5	50	920	0	8000	6.2	100	20	91	13600µF
TMH40H48S12	48	36-75	12	50	910	0	3330	15	100	20	92	2400µF
TMH40H48S15	48	36-75	15	50	910	0	2670	18	100	20	92	1500µF
TMH40H48D12	48	36-75	±12	65	940	±145	±1670	±15	100	20	89	1200µF
TMH40H48D15	48	36-75	±15	65	940	±110	±1330	±18	100	20	89	750µF



Dimensions are inches (mm) unless noted

Tolerance: Inches      Millimeters  
 X.XX ±0.01      X.X ±0.25  
 X.XXX ±0.005      X.XX ±0.13  
 Pin      ±0.002      ±0.05

Pin Connections		
Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	Remote On/Off	Remote On/Off
4	+Vout	+Vout
5	-Vout	Common
6	Trim	-Vout

See Model Selection Table for Model Specific Parameters

Input Parameters	Min	Typ	Max	Units
Start Voltage 12 Vin 24 Vin 48 Vin			9 18 36	VDC
Under Voltage Shutdown 12 Vin 24 Vin 48 Vin		8.3 16.5 33		VDC
Switching Frequency		320		kHz
Input Filter	LC Filter			
Output Parameters	Min	Typ	Max	Units
Output Voltage Accuracy			±1.0	%
Output Voltage Balance Dual Output, Balanced Loads			±2.0	%
Load Regulation Min. Load to Full Load	Single		±0.5	%
	Dual		±1.0	%
Line Regulation Vin=Min. to Max.			±0.5	%
Ripple & Noise (20MHz) 3.3V & 5 V Models		100		mV P-P
Ripple & Noise (20 MHz) 12V & 15V Models		150		mV P-P
Ripple & Noise Dual Outputs Models		150		mV P-P
Over Power Protection			150	%
Transient Recovery Time 25% Load Step Change		250		µs
Temperature Coefficient			±0.02	% / °C
Short Circuit Protection	Hiccup Automatic Recovery			
General Specifications	Min	Typ	Max	Units
Isolation Voltage, 60 seconds	1500			VDC
Isolation Resistance 500VDC	1000			Mohms
Isolation Capacitance, 100kHz, 1V			1500	pF
Operating Temperature (Ambient) 3.3 Volt Output Single 5, 12 and 15 Volt Output Dual 12 and 15 Volt Output	-40		+66 +46 +40	°C
Operating Temperature (Case)	-40		+105	°C
Storage Temperature	-55		+125	°C
Thermal Impedance Natural Convection Natural Convection with heatsink	12.0 10.0			°C/W
Humidity			95	%
MTBF MIL-HDBK-217F @25°C, Ground Benign	328			K Hours
Cooling	Free-Air Convection			
Case Size	2.0 x 1.0 x 0.43 inches 50.8 x 25.4 x 11.0 mm			
Case Material	Six Sided Shielding Metal Case (UL94V-0)			
Weight	30g			
Agency Approval	CSA 60950 Approved			

Remote On/Off Control	Min	Typ	Max	Units
DC/DC On	3.5V - 12V or Open Circuit			
DC/DC Off	0V - 1.2V or Short Circuit			
Control Input Current (on) Vctrl = 5.0V		0.5		mA
Control Input Current (off) Vctrl = 0 V		-0.5		mA
Control Common	Referenced to Negative Input			
Standby Input Current Nominal Vin		2.5		mA
Output Voltage Trim	Min	Typ	Max	Units
Trim Up / Down Range % of nominal output voltage	±10			%

Input Fuse Selection Table	
12V Input	8000 mA Slow-Blow
24V Input	4000 mA Slow-Blow
48V Input	2000 mA Slow-Blow

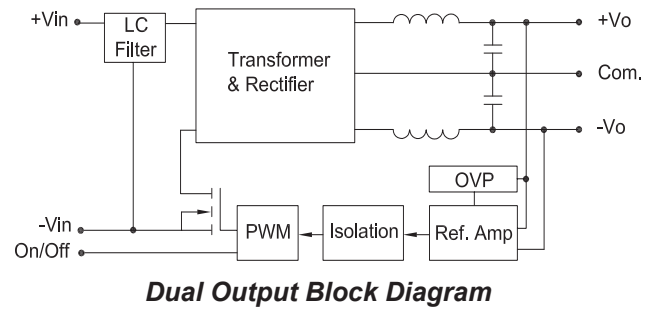
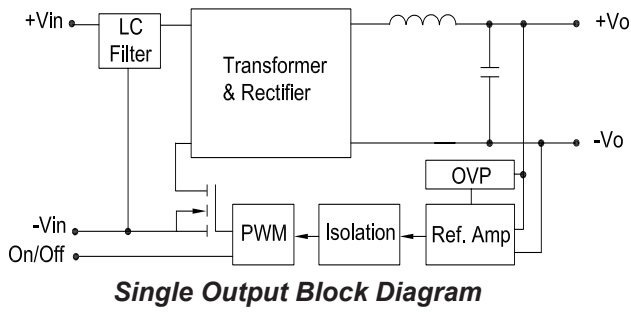
External fusing should be used for system protection due to a catastrophic failure. See ConTech website for Fusing Application Notes to determine the correct fuse.

Notes:

- Specifications typical at Ta=+25°C, resistive load, nominal input voltage, full rated output current unless otherwise noted.
- Transient recovery time is measured to within 1% error band for a step change in output load 75% to 100%.
- ConTech power converters require a minimum output loading to maintain specified regulation. Operation under no-load conditions will not damage these modules; however, they may not meet all specifications listed.
- The series has a limitation of a maximum connected capacitance at the output. The power module may be operated in current limiting mode during start-up, affecting the ramp-up and the startup time.
- Ripple & Noise measurement bandwidth is 20MHz, measured with a 1 µF M/C and a 10 µF T/C.
- Water washability - ConTech DC/DC converters are designed to withstand most solder/wash processes. Careful attention should be used when assessing the applicability in your specific manufacturing process. Converters are not hermetically sealed.
- See ConTech website for Definition of Terms, Application Notes, and Test Setups and Parameters. [www.ConTech-us.com/appnotes.html](http://www.ConTech-us.com/appnotes.html)
- Specifications subject to change without notice.
- See ConTech website [www.ConTech-us.com/pdf/rohs.pdf](http://www.ConTech-us.com/pdf/rohs.pdf) for RoHS Statement.

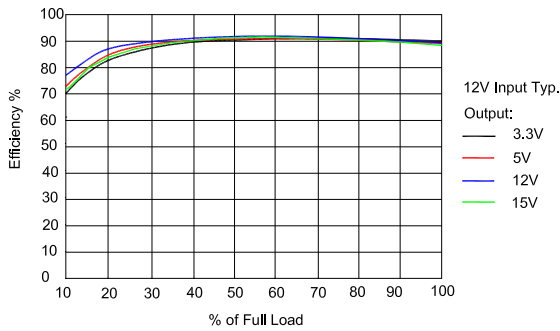
# Block Diagrams

# 40 Watt TMH

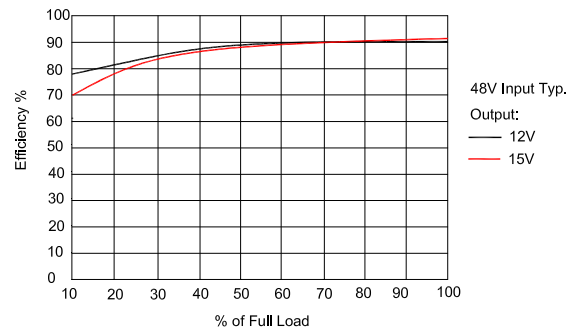
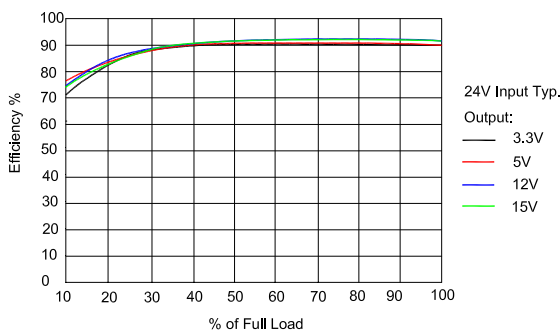
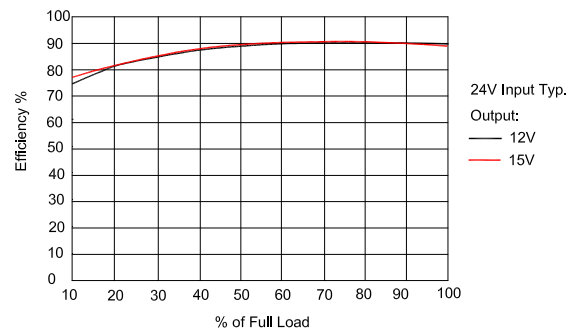
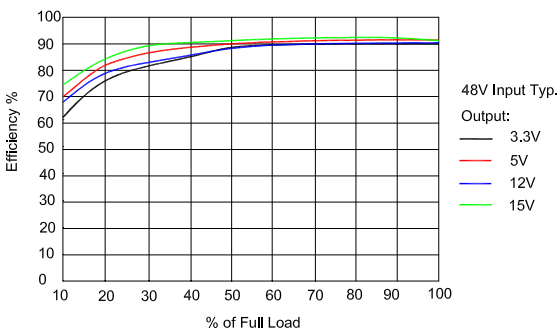
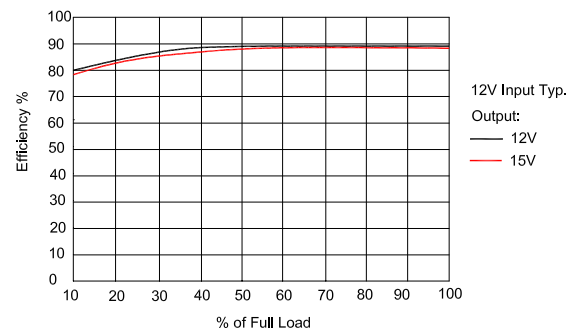


# Efficiency Curves

## Single Output @ 25°C



## Dual Output @ 25°C



# Derating Curves

To avoid exceeding the maximum temperature rating of the components inside the power module, the case temperature must be kept below 105°C.

