



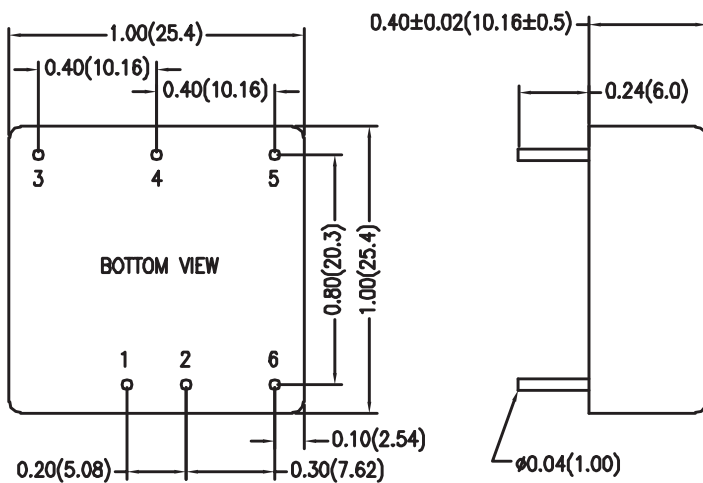
- Efficiency up to 87%
- 1500 VDC Isolation
- Single Output Up to 4.5A
- 4:1 Ultra Wide Input Range
- Remote On/Off Control
- Six Sided Shielding
- RoHS Compliant



# 10 Watt QMH Single and Dual Series



Model Number	Voltage			Current				Efficiency	Capacitive Load
	Input		Output	Input		Output			
	Nom. (VDC)	Range (VDC)	(VDC)	@ No Load (mA)	@ Max Load (mA)	Min (mA)	Max (mA)		
QMH7H24S3R3	24	(9-36)	3.3	30	393	330	2200	86	560
QMH10H24S5	24	(9-36)	5	30	521	300	2000	84	560
QMH10H24S5R1	24	(9-36)	5.1	30	521	300	2000	84	560
QMH10H24S12	24	(9-36)	12	30	494	125	830	86	150
QMH10H24S15	24	(9-36)	15	30	491	100	660	87	150
QMH10H24D5	24	(9-36)	±5	30	514	±150	±1000	84	220
QMH10H24D12	24	(9-36)	±12	30	488	±62	±410	86	100
QMH10H24D15	24	(9-36)	±15	30	491	±50	±330	87	100
QMH7H48S3R3	48	(18-75)	3.3	20	196	330	2200	85	560
QMH10H48S5	48	(18-75)	5	20	260	300	2000	84	560
QMH10H48S5R1	48	(18-75)	5.1	20	260	300	2000	84	560
QMH10H48S12	48	(18-75)	12	20	247	125	830	86	150
QMH10H48S15	48	(18-75)	15	20	246	100	660	87	150
QMH10H48D5	48	(18-75)	±5	20	257	±150	±1000	84	220
QMH10H48D12	48	(18-75)	±12	20	244	±62	±410	86	100
QMH10H48D15	48	(18-75)	±15	20	246	±50	±330	87	100



Pin Connections		
Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	No Pin	Common
5	-Vout	-Vout
6	Remote On/Off	Remote On/Off

See Model Selection Table for Model Specific Parameters

Input Parameters	Min	Typ	Max	Units
Start Voltage 24 Vin	9			VDC
48 Vin	18			
Switching Frequency		400		kHz
Input Filter	Pi Filter			
Output Parameters	Min	Typ	Max	Units
Output Voltage Accuracy		±1.0	±2.0	%
Output Voltage Balance Dual Output, Balanced Loads		±1.0	±2.0	%
Load Regulation Io=15% to 100%		±0.5	±1.2	%
Line Regulation Vin=Min. to Max.		±0.3	±1.0	%
Ripple & Noise (20MHz)		60	100	mV P-P
Ripple & Noise (20MHz) Over Line, Load & Temp			150	mV P-P
Over Power Protection	110			%
Transient Recovery Time 25% Load Step Change		300	600	µs
Transient Response Deviation 25% Load Step Change		±3	±6	%
Temperature Coefficient		±0.01	±0.02	% / °C
Short Circuit Protection	Continuous			
Remote On Off	Min	Typ	Max	Units
DC/DC On	2.5V-50VDC or Open Circuit			
DC/DC Off	0v -1.0VDC or Short Circuit (Pin 2 and Pin 6)			
Control Input Current (on) Vctrl = 5.0V			500	µA
Control Input Current (off) Vctrl = 0V			-500	µA
Control Common	Referenced to Negative Input			
Standby Input Current Supply Off & Nominal Vin			10	mA

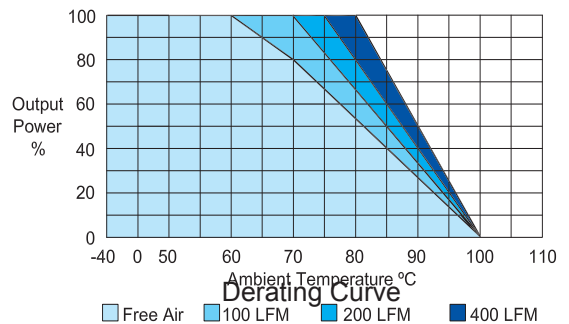
General Specifications	Min	Typ	Max	Units
Isolation Voltage, 60 seconds	1500			VDC
Isolation Resistance 500VDC	1000			Mohms
Isolation Capacitance, 100kHz, 1V		1000	1200	pF
Operating Temperature (Ambient)	-40		+60	°C
Operating Temperature (Case)	-40		+100	°C
Storage Temperature	-40		+125	°C
Humidity			95	%
MTBF MIL-HDBK-217F @25°C, Ground Benign	350			K Hours
Cooling	Free-Air Convection			
Case Size	1.0 x 1.0x 0.4 inches 25.4 x 25.4 x 10.16 mm			
Case Material	Six-Sided shielded, Metal Case UL94-V0			
Weight	15g			

Notes:

- Specifications typical at Ta=+25°C, resistive load, nominal input voltage, full rated output current unless otherwise noted.
- Ripple & Noise measurement bandwidth is 20MHz.
- Transient recovery time is measured to within 1% error band for a step change in output load 75% to 100%.
- 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.

Input Fuse Selection Table	
24V Input	2000 mA Slow-Blow
48V Input	1000 mA Slow-Blow

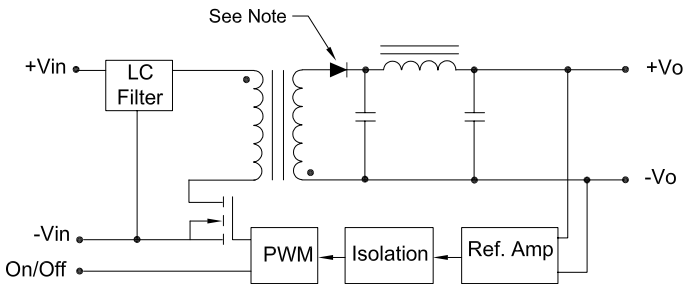
External fusing should be used for system protection due to a catastrophic failure. See ConTech website for Fusing Application Notes to determine the correct fuse.



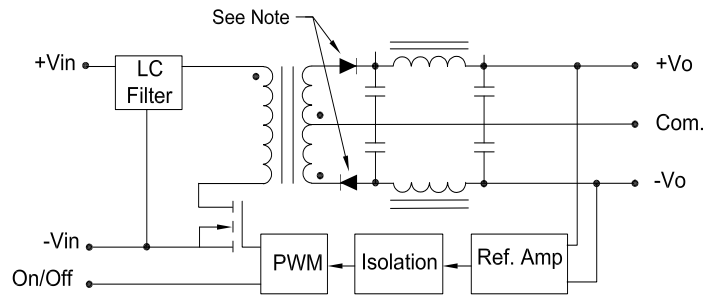
To avoid exceeding the maximum temperature rating of the components inside the power module, the case temperature must be kept below 100°C.



# Block Diagrams



Single Output Block Diagram

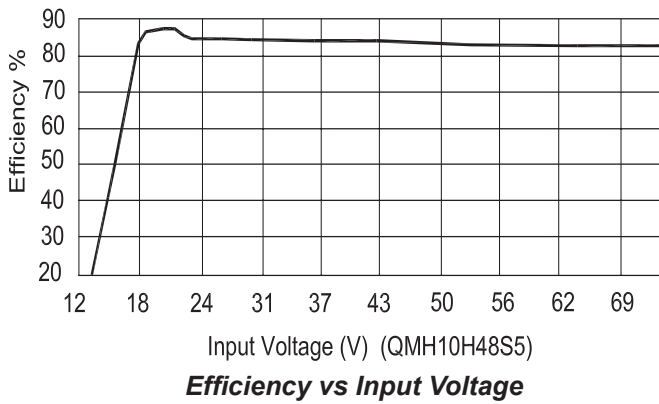


Dual Output Block Diagram

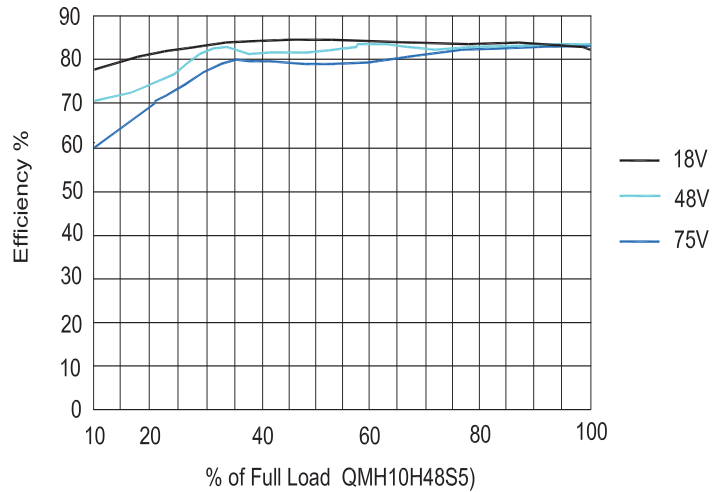
Note: 3.3V - output models use the synchronous-rectifier configuration shown above.  
 5V, 5.1V, 12V, 15V, ±5V, ±12V and ±15V - output models employ a standard,  
 diode-rectification architecture.

# Efficiency Curves

## Single Output

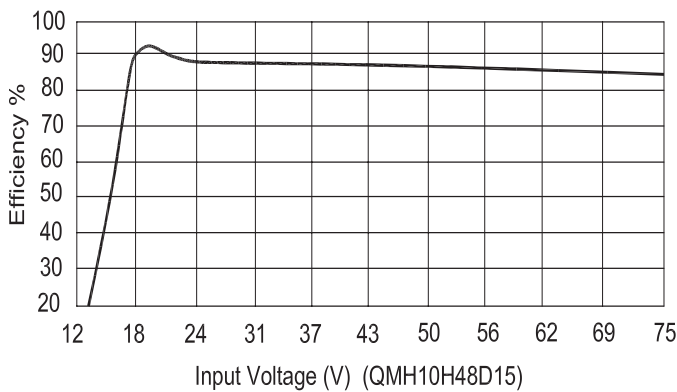


Efficiency vs Input Voltage

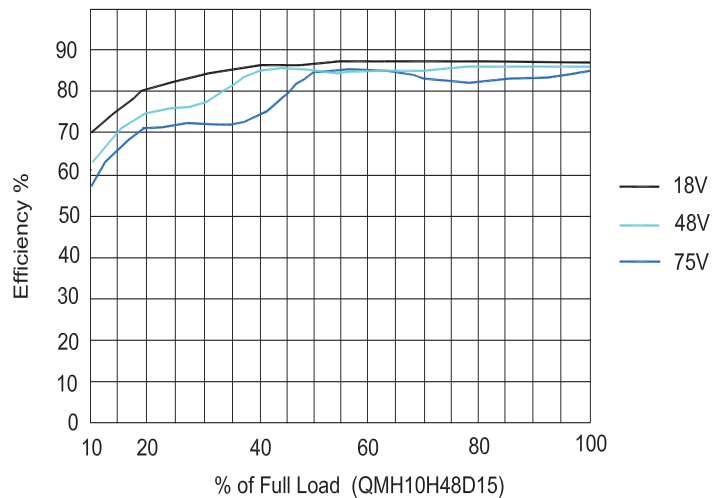


Efficiency vs Output Load

## Dual Output



Efficiency vs Input Voltage



Efficiency vs Output Load

