



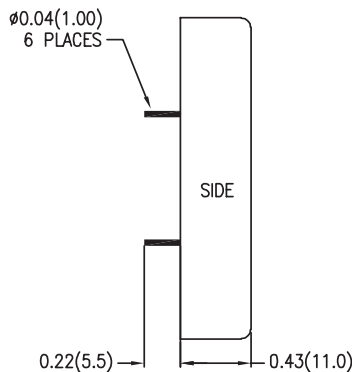
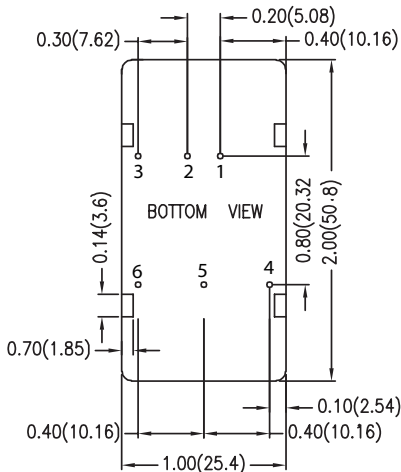
10 Watt RQH Single Series



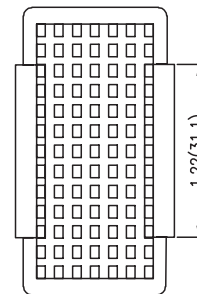
- Designed specifically for Railway Applications
- Input voltages of 24 (9-36)VDC, 48(18-75)VDC or 110 (40-160)VDC
- Efficiency up to 88%
- 2250VDC Isolation
- Overload Protection
- Short Circuit Protection
- Over Voltage Protection
- Remote On/Off
- Voltage Trim
- Optional Heatsink
- RoHS Compliant



Model Number	Voltage			Current			Overvoltage Protection (VDC)	Efficiency @ Max Load (% Typ)	Capacitive Load Max (Dual each output)
	Input		Output	Input		Output			
	Nom. (VDC)	Range (VDC)	(VDC)	@ No Load (mA)	@ Max Load (mA)	Max (mA)			
RQH10R24S5	24	9 - 36	5	25	496	2000	6.2	84	2200µF
RQH10R24S12	24	9 - 36	12	25	483	830	15	86	330µF
RQH10R24S15	24	9 - 36	15	25	481	670	18	87	220µF
RQH10R24S24	24	9 - 36	24	25	474	417	27	88	100µF
RQH10R48S5	48	18 - 75	5	15	245	2000	6.2	85	2200µF
RQH10R48S12	48	18 - 75	12	15	239	830	15	87	330µF
RQH10R48S15	48	18 - 75	15	15	241	670	18	87	220µF
RQH10R48S24	48	18 - 75	24	15	242	417	27	86	100µF
RQH10R110S5	110	40 - 160	5	10	111	2000	6.2	82	2200µF
RQH10R110S12	110	40 - 160	12	10	107	830	15	85	330µF
RQH10R110S15	110	40 - 160	15	10	107	670	18	85	220µF
RQH10R110S24	110	40 - 160	24	10	107	417	27	85	100µF

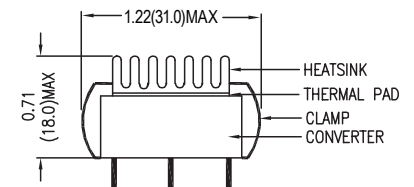


Optional Heatsink
For heatsink order HS01.
Comes with thermal pad and clamps



Dimensions are inches (mm) unless noted

Tolerance:	Inches	Millimeters
	X.XX ±0.02	X.X ±0.5
	X.XXX ±0.01	X.XX ±0.25
Pin	±0.002	±0.05



Black Anodized Aluminum
Weight: 9 grams

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



See Model Selection Table for Model Specific Parameters

Input Parameters	Min	Typ	Max	Units
Input Surge Voltage (100ms max.) 24 Vin 48 Vin 110 Vin	-0.7 -0.7 -0.7		50 100 170	VDC
Startup Threshold Voltage 24 Vin 48 Vin 110 Vin			9 18 40	VDC
Under Voltage Shutdown 24 Vin 48 Vin 110 Vin		7.5 16 37		VDC
Start-up Time		50		mS
Switching Frequency		320		kHz
Input Filter	Internal Pi Network			
Conducted EMI	Meets EN 55022, EN55011, FCC part 15, Class A			
Output Parameters	Min	Typ	Max	Units
Output Voltage Accuracy			±1.0	%
Load Regulation Min. Load to Full Load			±0.5	%
Line Regulation Vin=Min. to Max. @ Full Load			±0.2	%
Minimum Load	No Minimum Load Required			
Ripple & Noise (20MHz) See Note 2. 5 Vo Models 12 Vo, 15 Vo 24 Vo			50 100 150	mV P-P
Transient Recovery Time 25% Load Step Change			300	µs
Transient Response Deviation		±3	±5	%
Temperature Coefficient			±0.02	% / °C
Over Current Protection	Current limitation at 150% typ of Iout max., Hiccup			
Short Circuit Protection	Hiccup mode 0.7Hz typ.			
General Specifications	Min	Typ	Max	Units
Isolation Voltage, 60 seconds (reinforced insulation)	2250			VDC
Insulation Voltage Input/Output to case	1500			VDC
Isolation Resistance 500VDC	1000			Mohms
Isolation Capacitance, 100kHz, 1V		1500		pF
Temperature	Min	Max w/o heatsink	Max with Heatsink	Units
Operating Temperature Natural Convection, Vin nom, Load 100% Inom. Power derating see derating curves.				
XX.24S24	-40	+88	+92	°C
XX.24S15, XX.48S12, XX.48S15	-40	+87	+90	°C
XX.24S12 XX.48S24	-40	+85	+89	°C
XX.48S5, XX.110S12, XX.110S15, XX.110S24	-40	+84	+88	°C
XX.24S5	-40	+82	+86	°C

XX.110S5	-40	+78	+83	°C
	Min	Typ	Max	Units
Thermal Impedance Natural Convection without heatsink with heatsink	12.1 9.8			°C/W
Case Temperature	-40		+105	
Storage Temperature	-50		+125	°C
Humidity (Operating)			95	%
MTBF MIL-HDBK-217F @25°C, Ground Benign	TBD			k Hours
Cooling	Free-Air Convection			
Case Size	1.00 x 2.00 x 0.43 inches 50.8 x 25.4 x 11.0 mm			
Case Material	Black Anodized Aluminum Alloy			
Weight (Converter only)	TBD			
Vibration and Thermal Shock	Meets EN61373			
Railway Standard	Meets EN50155			
Railway EMC Standard	Meets EN50121-3-2			
Agency Approvals (Pending)	UL60950-1			

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	% of nominal output voltage ±10%			

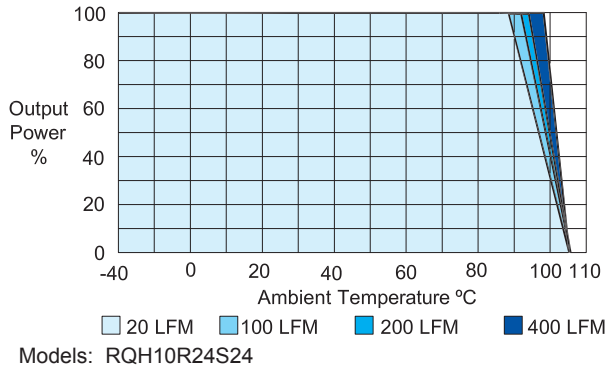
Notes:

- Specifications typical at Ta=+25°C, resistive load, nominal input voltage and rated output current unless otherwise noted.
- Ripple & Noise measurement with a 10µF/25V MLCC (5Vo, 12Vo and 15 Vo) and a 4.7µF 50V MLCC (24Vo).
- 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.
- Natural Convection is about 20 LFM but is not equal to still air. (0 LFM)
- See ConTech website for Definition of Terms, Application Notes, and Test Setups and Parameters. www.ConTech-us.com/appnotes.html.
- Specifications subject to change without notice.
- See ConTech website www.ConTech-us.com/pdf/rohs.pdf for RoHS Statement.

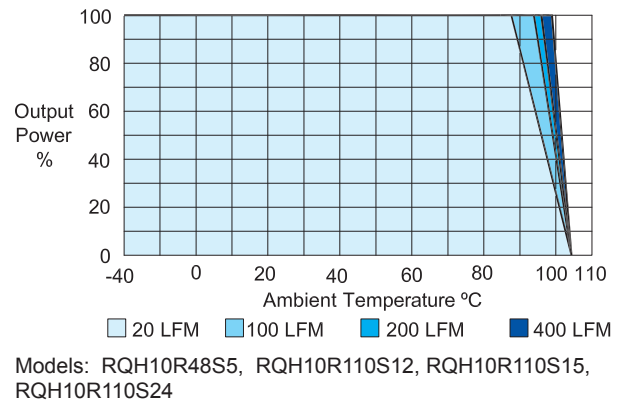
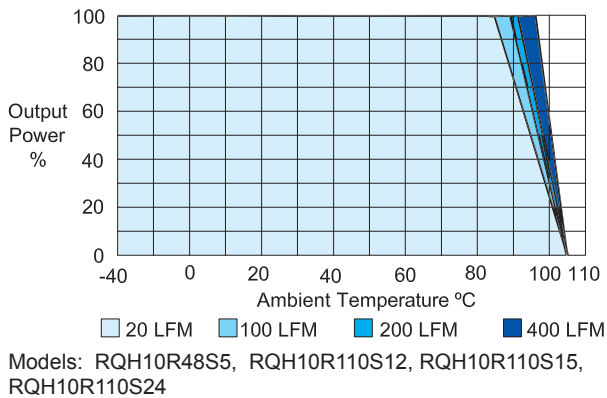
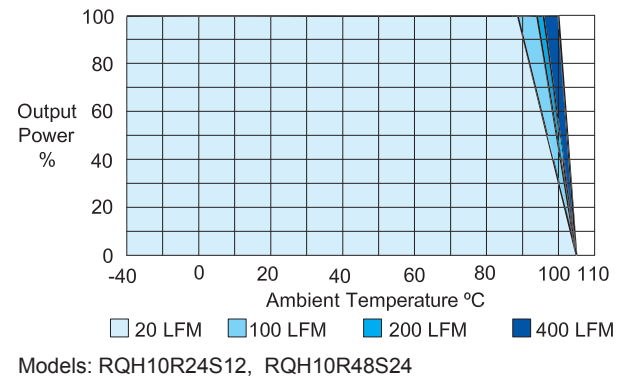
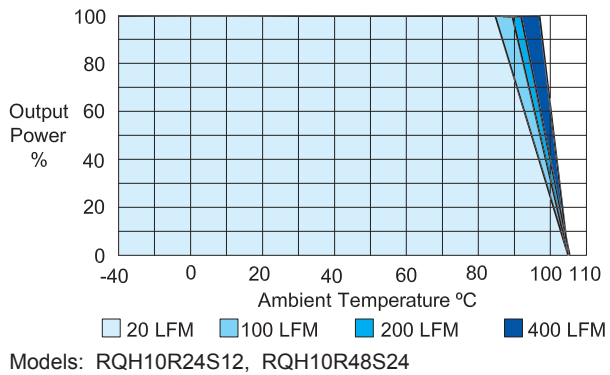
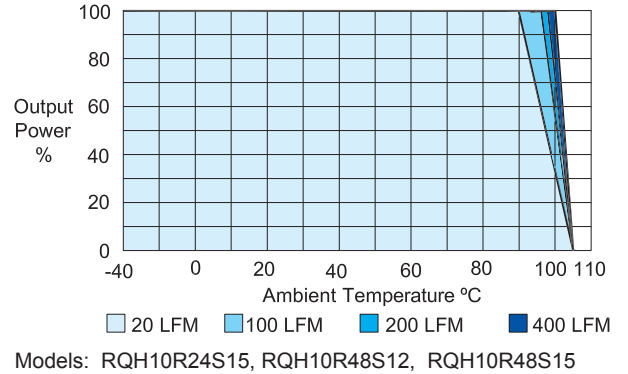
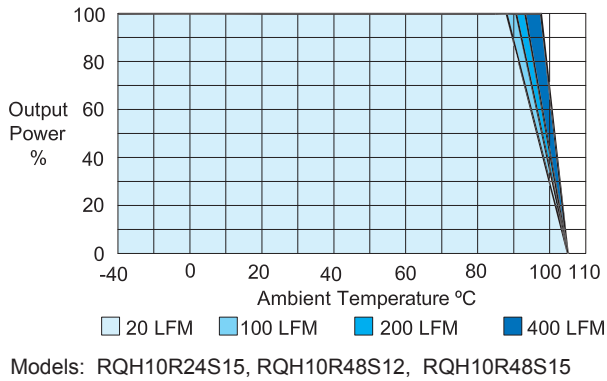
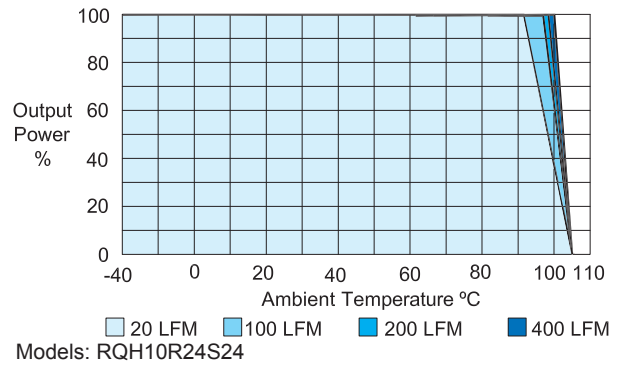
Derating Curves

10 Watt RQH

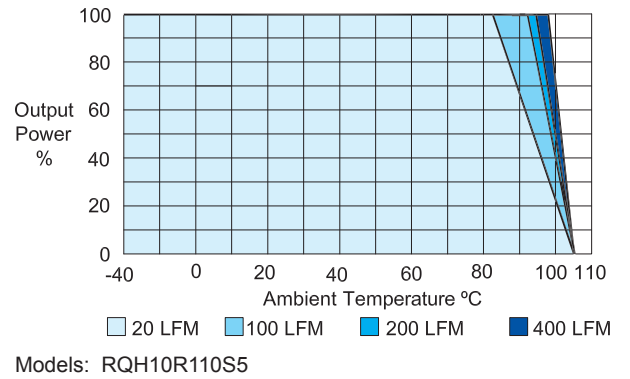
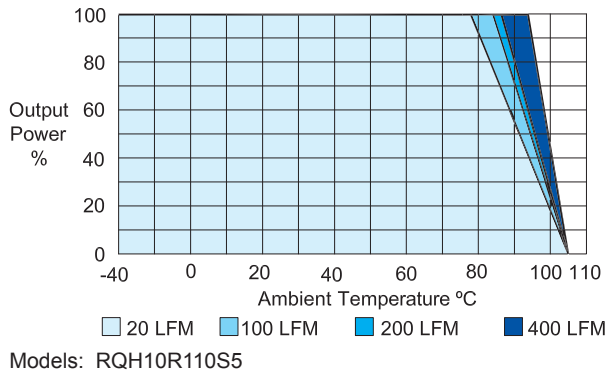
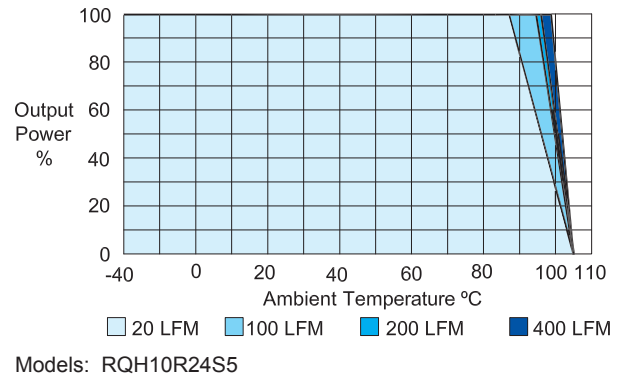
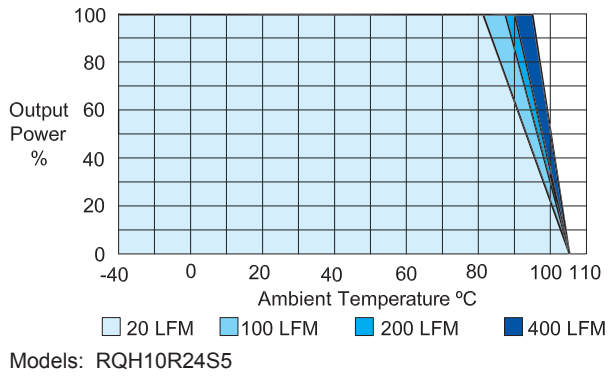
Without Heatsink



With Heatsink

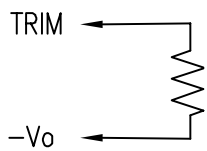


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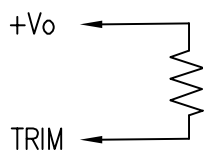


External Output Trimming:

Output can be trimmed using the method below.



Trim Up



Trim Down