

1200-1500W Multiple Output Modular Power Supplies

Features

- ◆ Full Medical Isolation (MOPP)
- ◆ Low Speed, Low Audible Noise Fans
- ◆ Up to 16 Outputs
- ◆ Industry Leading Flexibility
- ◆ 7 Year Warranty
- ◆ Suitable for B and BF Rated Equipment
- ◆ PMBus™ Communication Option



Key Market Segments & Applications



Specifications

Model		QM7
Input Voltage Range	VAC	1200W output: 90 - 264VAC; 1500W output: 150 - 264VAC
Input Frequency Range	Hz	47 - 63Hz (440Hz with reduced PFC)
Input Current (Max) 90/150VAC	A	15.7A / 11.8A
Inrush Current	A	<45A at 25°C and 264VAC (cold start)
Touch Current	µA	<100µA (with 4 or fewer modules) (1)
Power Factor Correction	-	Meets EN61000-3-2, PF > 0.95 with 50 - 100% load
Efficiency	-	Up to 91%, configuration dependent
Overcurrent Protection	-	Hiccup/constant current style - Module dependent (1)
Overvoltage Protection	-	Latching. Output shut down, cycle AC to reset (1)
Overtemperature Protection	-	Converter: auto restart (fan off); Modules: individually protected
Hold up time	ms	1200W output: >20ms; 1500W output: >16ms
Leakage Current (maximum)	µA	L option: 300µA; R option: 150µA (264VAC, 63Hz)
Remote Sense Compensation	-	Module dependent (1)
AC Fail Signal	-	Available with all Signal Option Types
DC Good Signal	-	Open collector, standard on all output modules
Remote on/off	-	Converter: Inhibit or Enable (Signal Option Type dependent). Modules: Inhibit.
PMBus™ Interface	-	Power supply on/off, fan speed/warning, temperature read back/warning, run time and manufacturing data
Standby Output	-	5V/250mA or 5V/2A (Standby Option Type dependent)
Operating Temperature	°C	-20 to +70°C, derate linearly to 50% load from 50 to 70°C; -40°C start up.
Storage Temperature	°C	-40°C to +70°C (max 12 months)
Humidity (Non condensing)	%RH	5 - 95%RH
Cooling	-	Two variable, low speed internal fans
Audible Noise	dB(A)	QM7F: 43.6 dB(A) @ 25°C / 57.3 dB(A) @ 50°C per BS ISO 3744:2010
Withstand Voltage	-	Input to Output: 4kVAC (production tested to 4.3kVDC) (2 x MOPP), Input to Ground: 1.5kVAC (1 x MOPP), Output to Ground: 1.5kVAC (1 x MOPP), Output to Output: 200VDC
Vibration	-	Conforms to EN60068-2-6, IEC68-2-6, MIL-STD-810G, Method 514.6, Pro I
Shock	-	Conforms to EN60068-2-27, EN60068-2-47, IEC68-2-27, IEC68-2-47, JIS C0041-1987, MIL-STD-810G, Method 516.6, Pro I, IV
Safety Agency Certifications	-	IEC/UL/CSA/EN UL 60950-1, IEC/UL/CSA/EN 60601-1, ANSI/AAMI ES60601-1 & CE Mark. IEC/EN61010 included in 60950 report
Altitude	m	5,000m
Emissions	-	EN61000-6-3:2007, EN60601-1-2:2015 4th Edition, EN55011B, EN55032B, Class B radiated & conducted
Immunity	-	EN61000-6-2:2005, EN60601-1-2:2015
Size (W x H x D)	in	6.9 x 2.5 x 10.6"
	mm	176 x 63.3 x 270mm
Weight	g	See Application Notes
Warranty	yrs	Seven Years

(1) See website for detailed specifications

The extensive range of output modules and options make it possible to achieve almost any combination of Volts and Amps. Create your own QM configuration online at <https://config.emea.tdk-lambda.com/nv>. This method checks your configuration and offers the optimum solution.

Single Output Modules				
Module	Voltage Range	Current	Power	Slots Used
DM	2.8 - 3.8V	10A	35W	1
SB	3.3 - 3.74V	37A	138W	1
DM	4.25 - 5.75V	10A	50W	1
SB	5 - 5.5V	30A	150W	1
SC	5 - 5.5V	60A	300W	2
ZD	5 - 5.3V	80A	400W	3
ZF	5 - 5.3V	110A	550W	4
YC	6.6 - 7.48V	37A	276W	2
YC	10 - 11V	30A	300W	2
YF	10 - 11V	60A	600W	4
DM	11.9 - 16.1V	10A	120W	1
SB	12 - 13.2V	25A	300W	1
SC	12 - 13.2V	50A	600W	2
ZD	12 - 12.8V	65A	780W	3
ZF	12 - 12.8V	85A	1080W	4
SB	15 - 16.5V	20A	300W	1
ZC	15 - 16V	34A	510W	2
YB	20.4 - 27.6V	9.8A	200W	1
DM	20.8 - 28.2V	5A	120W	1
SB	24 - 26.4V	12.5A	300W	1
SC	24 - 26.4V	25A	600W	2
ZD	24 - 25.6V	30A	720W	3
YF	24 - 26.4V	50A	1200W	4
SB	28 - 30.8V	10.7A	300W	1
ZC	28 - 29.9V	18A	504W	2
YC	30 - 33V	20A	600W	2
YB	40.8 - 55.2V	4.9A	200W	1
YC	48 - 52.8V	12.5A	600W	2
YF	48 - 52.8V	25A	1200W	4
YC	56 - 61.6V	10.7A	600W	2

Dual Output Modules (all single slot)						
Maximum module power 200W (Total power from channel 1 + Channel 2)						
Module	V1 Voltage Range	V1 Current	V1 Power	V2 Voltage Range	V2 Current	V2 Power
DH	10.2 ⁽¹⁾ - 13.8V	10A	120W	10.2 - 13.8V	10A	120W
DH	10.2 ⁽¹⁾ - 13.8V	10A	120W	20.4 - 27.6V	5A	120W
DM	11.9 - 16.1V	10A	120W	2.8 - 3.8V	10A	35W
DM	11.9 - 16.1V	10A	120W	4.25 - 5.75V	10A	50W
DM	11.9 - 16.1V	10A	120W	11.9 - 16.1V	8.3A	100W
DM	11.9 - 16.1V	10A	120W	23.5 - 24.5V	4.16A	100W
DH	20.4 ⁽²⁾ - 27.6V	5A	120W	20.4 - 27.6V	5A	120W
DM	20.8 - 28.2V	5A	120W	2.8 - 3.8V	10A	35W
DM	20.8 - 28.2V	5A	120W	4.25 - 5.75V	10A	50W
DM	21.6 - 28.2V	5A	120W	23.5 - 24.5V	4.16A	100W

Note: For DH module voltages below 10.8V(1) and 21.6V(2), a minimum load of 1W must be applied to channel 1.

Standby / Signals Options							
Option Type	Standby 1			Standby 2			PSU on/off
	Voltage	Max Current	Power	Voltage	Max Current	Power	
E5L	5V	250mA	1.25W	Not available			Enable
E5H	5V	250mA	1.25W	5V	2A	10W	Enable
T5L	5V	250mA	1.25W	Not available			Inhibit
T5H	5V	250mA	1.25W	5V	2A	10W	Inhibit
P5H	Not available			5V	2A	10W	*

*see PMBus™ App Note

Converter / Output Module Configurations

Converter Configurations

Converter: **QM7** 7 slots wide

Cooling: **F** Variable speed Forward air - standard
R Reverse air (contact sales for details)
C Customer air - no fan

Input Connection: **S** Screw

Input fuse: **D** Dual AC fuses
E Single AC fuse in Live line (contact sales for details)

Standby/Signals: blank none
E5L see Standby / Signals Options table for details
E5H see Standby / Signals Options table for details
T5L see PMBus™ App Note
T5H see PMBus™ App Note
P5H see PMBus™ App Note

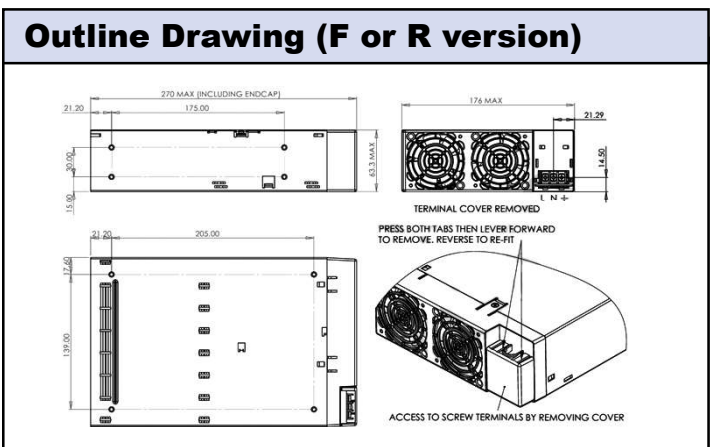
Leakage Current (max leakage current at 264 VAC, 63Hz): **L** 300µA
R 150µA (contact sales for details)

Single Output Module Configurations

Required output voltage → **V1** | Module type **SB** | Output connection **S** Screw terminal

Dual Output Module Configurations

Output 1 required voltage (enter 0 if not required) → **V1** | / | **V2** | Module type **DM** | Output connection **S** Screw terminal



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Output Module Signals

See Long Form datasheet output module specifications for Module Good, Module Inhibit, Remote Sense availability.

For Additional Information, please visit us.tdk-lambda.com/lp/products/qm-series.htm

