TDK·Lambda CUS800M and CUS1000M Series

3.3” x 6.7” 680W to 1000W AC-DC Power Supplies

https://product.tdk.com/en/power/cus-m
www.emea.lambda.tdk.com/cus1000m

Medical Industrial Test LED Broadcast COMM

The very compact CUS800M and CUS1000M AC-DC power supplies are packaged in a 3.3” x 6.7” footprint and can deliver up to 800W or 1000W with efficiencies up to 95.5%. All models have medical (IEC 60601-1) and audio/video, information and communication technology equipment (IEC 62368-1) certifications. A variable speed fan, 5V 2A standby voltage, remote on/off, remote sense and a Power Good signal is standard.

Features	Benefits
• Medical Certifications (2 x MOPP)	• Generally required for B and BF Type Medical Equipment
• ≤0.250mA Leakage Current	• Simpler System Compliance
• Class B Conducted and Radiated EMI	• Easier System EMC Compliance
• Compact 3.3 x 6.7 x 1.67” Size	• Space Saving in End Equipment
• Variable Speed Cooling Fan	• Lower Audible Noise

Model Selector

Model	Nominal Output Voltage (V)	Output Adjustment (V)	Maximum Current (A)	Peak Current (A)	Maximum Power (W)	Maximum Peak Power (W)	Efficiency 115 / 230Vac (%)
CUS800M-12	12	11.7 - 12.6	56.7	66.7	680.4	800.4	90.8 / 92.5
CUS1000M-12	12	11.7 - 12.6	66.7	83.4	800.4	1000.8	92 / 93.6
CUS800M-24	24	23.4 - 25.9	33.4	-	801.6	-	92 / 94
CUS1000M-24	24	23.4 - 25.9	41.7	-	1000.8	-	93 / 95
CUS800M-36	36	35.1 - 38.8	22.2	-	799.2	-	92.5 / 94.6
CUS1000M-36	36	35.1 - 38.8	27.8	-	1000.8	-	93.3 / 95.3
CUS800M-48	48	46.8 - 51.8	16.7	-	801.6	-	92.2 / 94
CUS1000M-48	48	46.8 - 51.8	20.9	-	1003.2	-	93.5 / 95.5

CUS1000M	-	12

CUS800M (680 to 800W)
CUS1000M (804 to 1000W)

Output voltage
12, 24, 36, 48

Specifications

Model		CUS800M	CUS1000M
Input			
Input Voltage Range (Operating)	Vac	85 - 265 (Derate linearly to 90% load from 90 to 85)	
Nominal Input Voltage Range	Vac	100 - 240 (Note: Safety certified for 90-264Vac only)	
Input Frequency	Hz	47 - 63	
Input Current at 115 / 230Vac	A	8.0 / 4.0	10.0 / 5.0
Inrush Current at 115 / 230Vac (Cold Start)	A	25 / 50	
Leakage Current	uA	<250 at 265Vac 60Hz	
Touch Current (Enclosure Leakage)	uA	Not applicable	
Power Factor (115 / 230Vac)	-	0.99 / 0.95	
Harmonic Compliance	-	Meets IEC61000-3-2 Class A	
No Load Power Consumption	W	Typically <0.6W at 230Vac (Remote off and no load on 5Vsb)	
Hold Up Time (typ) at 115Vac Input	ms	14	11
Efficiency	-	See model selector	
Conducted & Radiated EMI	-	EN55032, EN55011-B, FCC-B	
Immunity	-	Compliant with EN60601-1-2;2015 (Ed4), IEC61000-4.2, -3, -4, -5, -6, -8, -11	
Insulation Class	-	Class I	
Safety Certifications and Markings	-	IEC/EN/UL62368-1, 60601-1 and ES60601-1. CE Mark and UKCA Mark	

Immunity

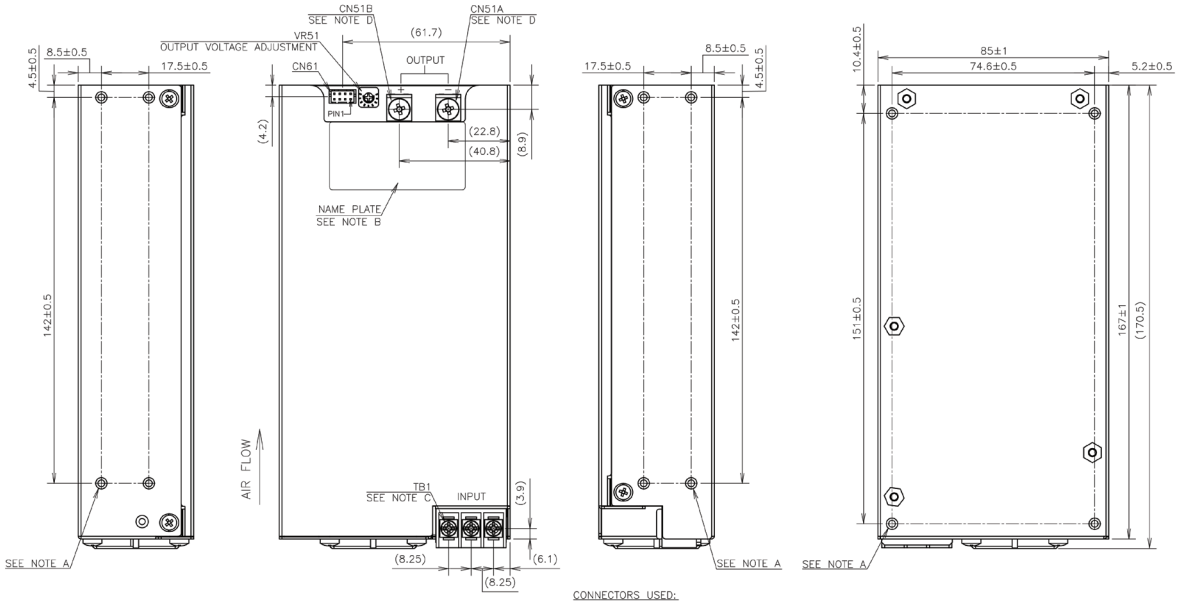
Test	Standard	Test Level	Criteria	Notes (The power stated below is total power (main output + standby output))	
				CUS800M	CUS1000M
ESD	EN61000-4-2	3	A	-	
Radiated Susceptibility	EN61000-4-3	3	A	-	
Electrical Fast Transient Burst	EN61000-4-4	4	A	AC input power port	
Surge	EN61000-4-5	3		-	
Conducted Susceptibility	EN61000-4-6	3	A	-	
Magnetic fields	EN61000-4-8	4	A	-	
Voltage Dips and Input Interruptions	EN61000-4-11 Class 3 Industrial, incl EN55024 (100Vac)	0% for 1/2 cycle	A	A; < 530W, B; > 530W	A; < 530W, B; > 530W
		0% for 1 cycle	A/B	A; < 330W, B; > 330W	A; < 400W, B; > 400W
		40% for 10/12 cycles	A/B		
		70% for 25/30 cycles	A		
		80% for 250/300 cycles	A		
		0% for 250/300 cycles	B		
	EN61000-4-11 Class 3 Industrial, incl EN55024 (240Vac)	0% for 1/2 cycle	A	A; < 430W, B; > 430W	A; < 530W, B; > 530W
		0% for 1 cycle	A/B		
		40% for 10/12 cycles	A		
		70% for 25/30 cycles	A		
		80% for 250/300 cycles	A		
		0% for 250/300 cycles	B		
	EN60601-1-2:2015 (100Vac)	0% for 1/2 cycle	A	A; < 430W, B; > 430W	A; < 530W, B; > 530W
		0% for 1 cycle	A/B		
		70% for 25/30 cycles	A		
		0% for 250/300 cycles	B		
	EN60601-1-2:2015 (240Vac)	0% for 1/2 cycle	A	A; < 430W, B; > 430W	A; < 530W, B; > 530W
		0% for 1 cycle	A/B		
		70% for 25/30 cycles	A		
		0% for 250/300 cycles	B		
SEMI F47 Line Dip	SEMI F47	-	-	At input voltages > 200Vac	

Specifications

Model		CUS800M	CUS1000M
Output			
Line Regulation	mV	12V: 60, 24V: 120, 36V: 180, 48V: 240	
Load Regulation	mV	12V: 120, 24V: 240, 36V: 360, 48V: 480	
External Load Capacitance	uF	12 - 36V: 10,000, 48V: 7,000	
Ripple & Noise	mV	12V: 240, 24V: 360, 36V: 480, 48V: 480	
Temperature Coefficient	%/°C	±0.02	
Minimum Load	-	No minimum load required	
Overcurrent Protection(1)	A	12V: >70.1, 24V: >35.1, 36V: >23.4, 48V >17.6	12V: >87.6, 24V: >43.8, 36V: >29.2, 48V >22
Overvoltage Protection	-	12V: 13.8 - 16.2, 24V: 27.6 - 32.4, 36V: >41.4 - 48.6, 48V >55.2 - 64.8	
Overtemperature Protection	-	Latching (unit shutdown), cycle AC input to reset	
Remote Sense	-	0.5V total compensation	
Remote On/Off	-	Opto-isolated. Inhibit: Low = ON, High = OFF	
Power Good	-	Combined AC Fail and DC OK opto isolated signal	
Standby Voltage	-	5V 2A	
Parallel Operation	-	Not possible	
Environmental			
Operating Temperature (-25°C start-up)	°C	-20 to +70, derate linearly to 60% load from 40 to 70	
Storage Temperature	°C	-40 to +75	
Humidity (non condensing)	%RH	10 - 95. Operating and storage	
Cooling	-	Variable speed fan, air exits across output terminals. Typical 30dBA at 20% load, 42dBA at full load	
Altitude	m	5,000. Operating, transportation and storage	
Withstand Voltage (For 1 minute)	Vac	Input to Ground 2,000 (1xMOPP), Input to Output 4,000 (2xMOPP), Output to Ground 1,500 (1xMOPP)	
Isolation Resistance	MΩ	>100 at 25°C, 70%RH & 500Vdc	
Vibration (Non Operating)	-	10-55Hz (1 min sweep). Maximum 19.6m/s^2, 1 hour each	
Shock	-	<196m/s^2	
Other			
Weight (Typ)	g	CUS800M: 810, CUS1000M: 850	
Size (LxWxH)	mm	171 x 85 x 42.5	
Size (LxWxH)	Inches	6.73 x 3.35 x 1.67	
Connectors	-	Screw terminals. Signals: JST B8B PHDSS	
Warranty	yrs	5	

Notes:
See website for detailed specifications, test methods and installation manual
Specification parameters apply at 25°C ambient temperature unless otherwise stated.
(1) Hiccup with automatic recovery. If the output is shorted, an AC power reset may be required

Outline Drawing



NOTE:

A: 12−M3 TAPPED & STANDOFF HOLES FOR CUSTOMER'S CHASSIS MOUNTING HOLES. ALL MUST BE SCREWED IN ORDER TO CONFORM THE VIBRATION AND EMI SPEC. SCREW PENETRATION DEPTH 4.5mm MAX, RECOMMENDED TORQUE : 0.49N•m(5kgf•cm).

B: MODEL NAME, INPUT VOLTAGE RANGE, NOMINAL OUTPUT VOLTAGE,MAXIMUM OUTPUT CURRENT, SAFETY MARKING(FOR ONLY APPROVED PRODUCTS) AND COUNTRY OF MANUFACTURE ARE SHOWN HEREIN ACCORDANCE WITH THE SPECIFICATIONS.

C: 3−M3 SCREWS FOR TB1, RECOMMENDED TORQUE: 0.49N•m(5kgf•cm)

D: 2−M4 SCREWS FOR CN51A & CN51B, RECOMMENDED TORQUE: 1.18N•m(12kgf•cm)

CONNECTORS USED:

PART DESCRIPTION	PART NAME	MANUFACT.	QTY
TB1	T825−01−03P−KC	TIANLI	1
CN51A/CN51B	M4 TERMINAL		2
CN61	B8B−PHDSS(LF)(SN)	J.S.T	1

RECOMMENDED MATCHING HOUSINGS, PINS & TOOL (NOT INCLUDED WITH THE PRODUCT):

	PART DESCRIPTION	PART NAME	MANUFACT.	QTY
CN61	SOCKET HOUSING	PHDR−08VS	J.S.T	1
	TERMINAL PINS	SPHD−001T−P0.5		8
	HAND CRIMPING TOOL	YC−610R,YC−611R		−

PIN CONFIGURATION AND FUNCTIONS OF CN61

CN61

PIN No.	FUNCTION
1	STBY+: STANDBY SUPPLY + (5V+)
2	STBY−: STANDBY SUPPLY − (5V−)
3	S+: REMOTE SENSE+
4	S−: REMOTE SENSE−
5	NC CONNECTION
6	PG: POWER GOOD SIGNAL
7	R+: REMOTE ON/OFF TERMINAL +
8	R−: REMOTE ON/OFF TERMINAL −

TDK-Lambda France SAS
Tel: +33 1 60 12 71 65
tlf.fr-powersolutions@tdk.com
www.emea.lambda.tdk.com/fr

Italy Sales Office
Tel: +39 02 61 29 38 63
tlf.it-powersolutions@tdk.com
www.emea.lambda.tdk.com/it

Netherlands
tlf.nl-powersolutions@tdk.com
www.emea.lambda.tdk.com/nl

TDK-Lambda Germany GmbH
Tel: +49 7841 666 0
tlg.powersolutions@tdk.com
www.emea.lambda.tdk.com/de

Austria Sales Office
Tel: +43 2256 655 84
tlg.at-powersolutions@tdk.com
www.emea.lambda.tdk.com/at

Switzerland Sales Office
Tel: +41 44 850 53 53
tlg.ch-powersolutions@tdk.com
www.emea.lambda.tdk.com/ch

Nordic Sales Office
Tel: +45 8853 8086
tlg.dk-powersolutions@tdk.com
www.emea.lambda.tdk.com/dk

TDK-Lambda UK Ltd.
Tel: +44 (0) 12 71 85 66 66
tlu.powersolutions@tdk.com
www.emea.lambda.tdk.com/uk

TDK-Lambda Ltd.
Tel: +9 723 902 4333
tli.powersolutions@tdk.com
www.emea.lambda.tdk.com/il-en

TDK-Lambda Americas
Tel: +1 800-LAMBDA-4 or 1-800-526-2324
tla.powersolutions@tdk.com
www.us.lambda.tdk.com

TDK Electronics do Brasil Ltda
Tel: +55 11 3289-9599
sales.br@tdk-electronics.tdk.com
www.tdk-electronics.tdk.com/en

TDK-Lambda Corporation
Tel: +81-3-6778-1113
www.jp.lambda.tdk.com

TDK-Lambda (China) Electronics Co. Ltd.
Tel: +86 21 6485-0777
tlc.powersolutions@tdk.com
www.lambda.tdk.com.cn

TDK-Lambda Singapore Pte Ltd.
Tel: +65 6251 7211
tls.marketing@tdk.com
www.sg.lambda.tdk.com

TDK India Private Limited, Power Supply Division
Tel: +91 80 4039-0660
mathew.philip@tdk.com
www.sg.lambda.tdk.com

For Additional Information, please visit
https://product.tdk.com/en/power/