



P-DUKE POWER

TAD40 Multi Series

2 X 3.5 Inch AC-DC POWER SUPPLIES
Up to 40 Watts

3
YEARS
WARRANTY

ROHS
COMPLIANT

REACH
COMPLIANT



Automation



Datacom



IPC



Industry



Measurement



Telecom



Automobile



Boat



Charger



Medical



PV



Railway

UL US

CB

CE

FC



3000
VAC
Isolation
Voltage

ADJ.
Output
Voltage

Internal
EN55032
Class **B**
Filter

LOW
Cross
Reg.

LOW
Leakage
Current

LOW
Standby
Power

Operating
Altitude
5000
meter

Protection
Class I
Class II

OPP

OVP

SCP

PART NUMBER STRUCTURE

TAD	40	U						C	- xx	yy	-			
Series Name	Output Power (W)	Input Voltage (VAC)	Output Quantity	Output Voltage 1 (VDC)	Output Voltage 2 (VDC)	Output Voltage 3 (VDC)	Output Voltage 3 (VDC)	Protection Type	Vo2 Voltage Code	Vo3 Voltage Code		Connector Options	Application Options	Conformal Coating
				Vo1	Vo2	Vo3 (Triple only)								
A: Open type		U:Universal	D: Dual	3: 5	1: 2.5	M: Minus	1: 2.5	C: CLASS I				 JST	 None	 None
U: U chassis type		85 ~ 264	T: Triple	4: 7.5	2: 3.3	:	2: 3.3	D: CLASS II				M: Molex	C: OVC III	R: Conformal
E: Enclosed type				5: 9	3: 5		3: 5					T: Terminal		Coating
D: Din rail type				6: 12	x: refer to		4: 7.5	:				Block		
				7: 15	Suffix xx		5: 9	(※NRND)						
				8: 18			6: 12	B: CLASS II						
				9: 24			7: 15	(※NRND)						
				0: 28			8: 18							
							9: 24	※NRND: Not recommended for new designs						
							y: refer to							
							Suffix yy							

TECHNICAL SPECIFICATION

All specifications are typical at 230VAC input, full load and 25°C unless otherwise noted

Model Number	Output 1			Output 2			Output 3		Max. Output Power W	Efficiency %	Maximum Capacitor Load μF
	Voltage	Current (Normal)	Current (MAX)	Voltage	Current (Normal)	Current (MAX)	Voltage	Current (MAX)			
	VDC	A	A	VDC	A	A	VDC	A			
TAD40UD32C TUD40UD32C TED40UD32C TDD40UD32C	+5	5	8	+3.3	4	6	---	---	40	89.5	12000 / 2000
TAD40UD63C TUD40UD63C TED40UD63C TDD40UD63C	+12	2.1	3.34	+5	4	6	---	---	40	89	1750 / 2000
TAD40UD62C TUD40UD62C TED40UD62C TDD40UD62C	+12	2.1	3.34	+3.3	4	6	---	---	40	90	1750 / 2000
TAD40UD73C TUD40UD73C TED40UD73C TDD40UD73C	+15	1.7	2.67	+5	4	6	---	---	40	88.5	1670 / 2000
TAD40UD93C TUD40UD93C TED40UD93C TDD40UD93C	+24	1.05	1.67	+5	4	6	---	---	40	86	440 / 2000
TAD40UD03C TUD40UD03C TED40UD03C TDD40UD03C	+28	0.72	1.43	+5	4	6	---	---	40	85.5	220 / 2000
TAD40UT32M3C TUD40UT32M3C TED40UT32M3C TDD40UT32M3C	+5	5	8	+3.3	4	6	-5	0.5	40	89	10000 / 2000 / 420
TAD40UT326C TUD40UT326C TED40UT326C TDD40UT326C	+5	5	8	+3.3	4	6	+12	0.5	40	89	10000 / 2000 / 420
TAD40UT32M6C TUD40UT32M6C TED40UT32M6C TDD40UT32M6C	+5	5	8	+3.3	4	6	-12	0.5	40	89	10000 / 2000 / 420
TAD40UT63M3C TUD40UT63M3C TED40UT63M3C TDD40UT63M3C	+12	2.1	3.34	+5	4	6	-5	0.5	40	88.5	1750 / 2000 / 420
TAD40UT63M6C TUD40UT63M6C TED40UT63M6C TDD40UT63M6C	+12	2.1	3.34	+5	4	6	-12	0.5	40	88	1750 / 2000 / 420

Model Number	Output 1			Output 2			Output 3		Max. Output Power	Efficiency	Maximum Capacitor Load
	Voltage	Current (Normal)	Current (MAX)	Voltage	Current (Normal)	Current (MAX)	Voltage	Current (MAX)			
	VDC	A	A	VDC	A	A	VDC	A			
TAD40UT623C TUD40UT623C TED40UT623C TDD40UT623C	+12	2.1	3.34	+3.3	4	6	+5	0.5	40	88.5	1750 / 2000 / 420
TAD40UT62M6C TUD40UT62M6C TED40UT62M6C TDD40UT62M6C	+12	2.1	3.34	+3.3	4	6	-12	0.5	40	88	1750 / 2000 / 420
TAD40UT73M7C TUD40UT73M7C TED40UT73M7C TDD40UT73M7C	+15	1.7	2.67	+5	4	6	-15	0.5	40	88	1670 / 2000 / 420
TAD40UT936C TUD40UT936C TED40UT936C TDD40UT936C	+24	1.05	1.67	+5	4	6	+12	0.5	40	86	440 / 2000 / 420
TAD40UT93M6C TUD40UT93M6C TED40UT93M6C TDD40UT93M6C	+24	1.05	1.67	+5	4	6	-12	0.5	40	86	440 / 2000 / 420

INPUT SPECIFICATIONS						
Parameter	Conditions		Min.	Typ.	Max.	Unit
Operating input voltage range	AC input		85		264	VAC
	DC input		120		370	VDC
Input frequency	AC input		47		63	Hz
Input current	100VAC				1.05	A
	240VAC				0.55	
No load input power	230VAC			0.15		Watts
Leakage current	264VAC			75		μA
Start up time					1000	ms
Rise time				20		ms
Hold up time	115VAC and Full Load			25		ms
Input inrush current	230VAC			60		A
Input protection	Internal fuse			T3.15A/250VAC		

OUTPUT SPECIFICATIONS

Parameter	Conditions	Min.	Typ.	Max.	Unit
Output power	Pout 1+Pout 2+Pout 3			40	Watts
Initial set voltage accuracy	230VAC and Full Load	Vout 1 Vout 2 - Vout 3		+1.0 +2.0	%
Line regulation	Low Line to High Line at Full Load			+0.2	%
Load regulation	No Load to Full Load	Vout 1 Vout 3		+0.5 +0.7	%
	No Load to Full Load 0.1W Load to Full Load	Vout 2		+1.5 +0.7	%
Cross regulation	Asymmetrical load 25%/100% FL			+1.5	%
Voltage adjustability		Vout 1		+10	%
Minimum load	T□D40UD□□ T□D40UT□□□□; Vout 3 is full load		0 0.5		W
Ripple and noise	Measured by 20MHz bandwidth				
	With a 10μF/25V 1206 X7R MLCC With a 1μF/50V 1206 X7R MLCC	Vout 1 5V Vout 1 12V 15V 24V 28V	100 120 150 240 280		mVp-p
	With a 10μF/25V 1206 X7R MLCC With a 10μF/25V 1206 X7R MLCC	Vout 2 All Vout 3 5V 12V 15V	100 100 120 150		
Temperature coefficient			-0.02	+0.02	%/°C
Transient response	Load step form 50 ~ 75% change at 2.5A/μs	Vout 1 Peak deviation Recovery time		3 600	%Vout μs
Over voltage protection	% of Vout(nom); Latch mode	Vout 1	125	140	%
Over power protection	% of nominal output power; Hiccup mode	Pout 1+Pout 2		145	%
Short circuit protection					Continuous, automatics recovery

GENERAL SPECIFICATIONS

Parameter	Conditions	Min.	Typ.	Max.	Unit
Isolation voltage	1 minute (Reinforced insulation)	Input to Output Input (Output) to F.G.	3000 2500		VAC
Isolation resistance	500VDC		0.1		GΩ
Switching frequency	230VAC	Vout 1 5V Others	70 115 750 510		kHz
Safety approvals	IEC/ EN/ UL 60950-1, 62368-1			UL:E193009 CB:UL(Demko)	
Weight	TAD TUD TED TDD			150 (5.29oz) 198 (6.98oz) 216 (7.62oz) 238 (8.40oz)	
MTBF	MIL-HDBK-217F, Full load			1.716 x 10 ⁶ hrs	

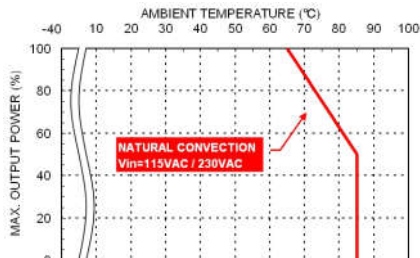
ENVIRONMENTAL SPECIFICATIONS

Parameter	Conditions	Min.	Typ.	Max.	Unit
Operating ambient temperature	Natural convection	With derating	-40	+85	°C
Storage temperature range		-40		+85	°C
Operating altitude				5000	m
Shock				IEC60068-2-27	
Vibration				IEC60068-2-6	
Relative humidity	Non-condensing			5% to 95% RH	

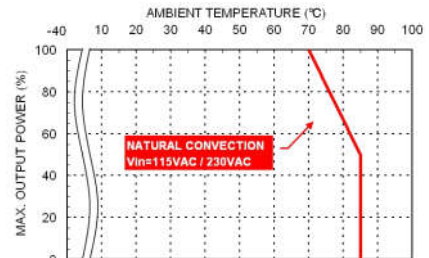
EMC SPECIFICATIONS

Parameter	Conditions	Level
EMI	EN55032 and FCC Part 15 External components may be required for class I application.	Conducted Class B Radiated Class B
Harmonic currents	EN61000-3-2 Full Load	Class A
Voltage flicker	EN61000-3-3	
EMS	EN55024 and Complies with EN 61850-3	
ESD	EN61000-4-2 Air $\pm 15\text{kV}$ and Contact $\pm 6\text{kV}$	Perf. Criteria A
Radiated immunity	EN61000-4-3 20 V/m	Perf. Criteria A
Fast transient	EN61000-4-4 $\pm 4\text{kV}$	Perf. Criteria A
Surge	EN61000-4-5 DM $\pm 2\text{kV}$ and CM $\pm 4\text{kV}$	Perf. Criteria A
Conducted immunity	EN61000-4-6 20 Vr.m.s	Perf. Criteria A
Power frequency magnetic field	EN61000-4-8 100 A/m	Perf. Criteria A
Dip and interruptions	EN61000-4-11	
Damped oscillatory wave	EN61000-4-18 DM $\pm 1\text{kV}$ and CM $\pm 2.5\text{kV}$	Perf. Criteria A

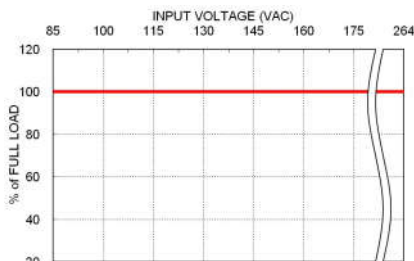
CHARACTERISTIC CURVE



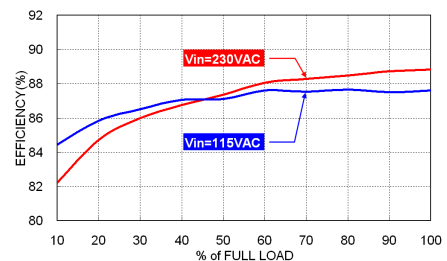
Derating Curve vs. Ambient Temperature
TAD40UD



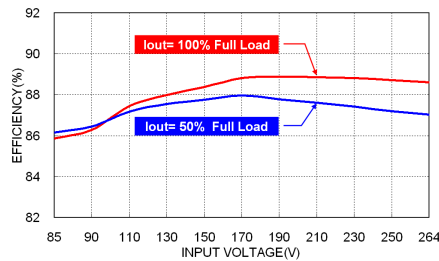
Derating Curve vs. Ambient Temperature
TAD40UT



Derating Curve vs. Input Voltage
TAD40



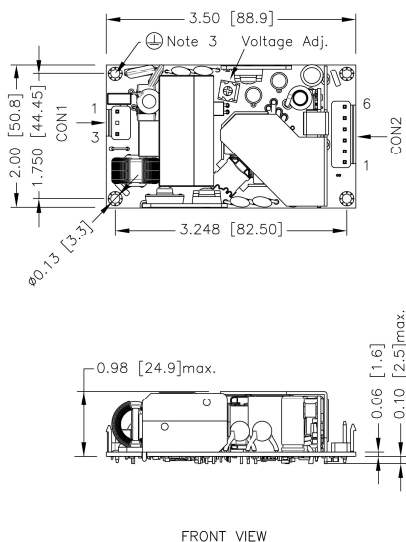
Efficiency vs. Output Load
TAD40UT63M6B



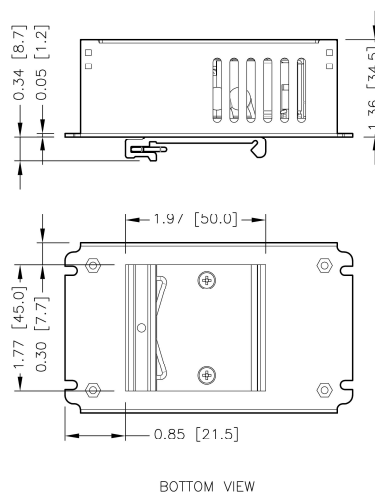
Efficiency vs. Input Voltage
TAD40UT63M6B

MECHANICAL DRAWING

TAD Open type



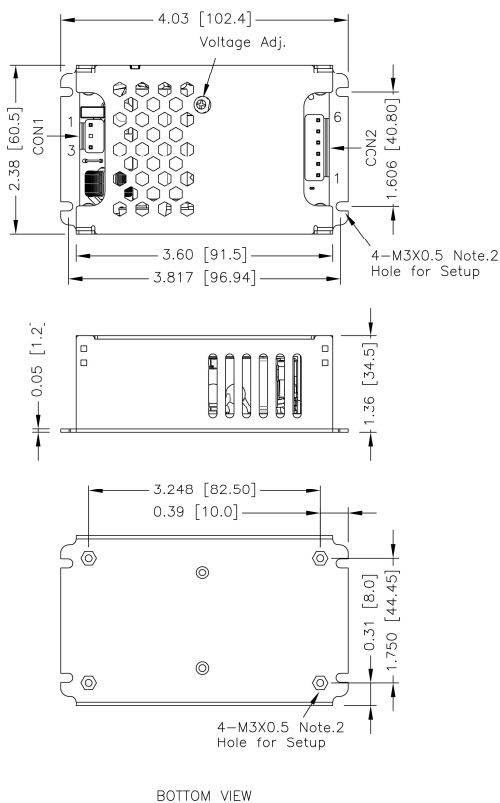
TDD Din rail type



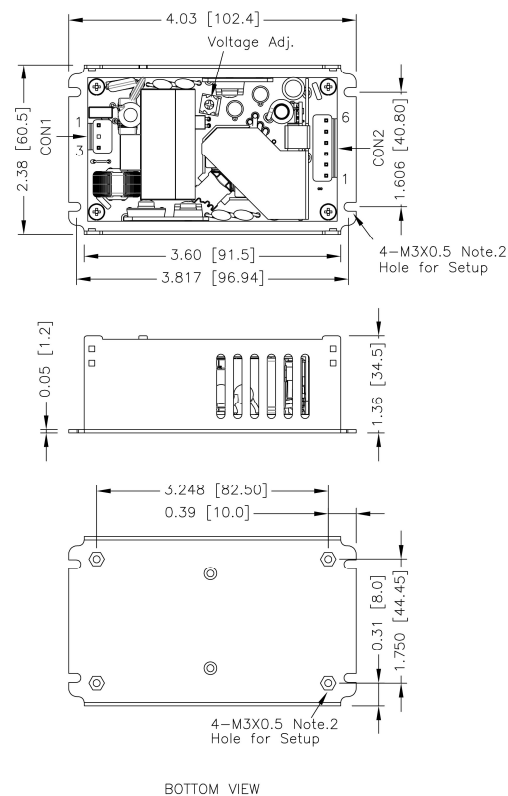
- 1.All dimensions in inch[mm]
Tolerance: $x.xx \pm 0.02 [x.x \pm 0.5]$ $x.xxx \pm 0.010 [x.xx \pm 0.25]$
- 2.The screw locked torque: MAX 5.0kgf-cm/0.49N-m
- 3.The screws holes can be considered as PE connection for CLASS I application.

- 1.All dimensions in inch[mm]
Tolerance: $x.xx \pm 0.02 [x.x \pm 0.5]$ $x.xxx \pm 0.010 [x.xx \pm 0.25]$
- 2.The screw locked torque: MAX 5.0kgf-cm/0.49N-m

TED Enclosed type



TUD U chassis type



- 1.All dimensions in inch[mm]
Tolerance: $x.xx \pm 0.02 [x.x \pm 0.5]$ $x.xxx \pm 0.010 [x.xx \pm 0.25]$
- 2.The screw locked torque: MAX 5.0kgf-cm/0.49N-m

- 1.All dimensions in inch[mm]
Tolerance: $x.xx \pm 0.02 [x.x \pm 0.5]$ $x.xxx \pm 0.010 [x.xx \pm 0.25]$
- 2.The screw locked torque: MAX 5.0kgf-cm/0.49N-m

CONNECTOR CONNECTIONS

CON1 – Input Connector

Pin Number	AC Input	DC Input
		T□D40UDXXC、T□D40UDXXD T□D40UTXXC、T□D40UTXXD
Pin 1	Line	DC+
Pin 3	Neutral	DC-

CON2 – Output Connector

Pin 1	Vout3
Pin 2,3	Com
Pin 4,5	Vout2
Pin 6	Vout1

*Either one of four screws holes of Chassis type can be considered as PE connection for CLASS I application.

CONNECTOR OPTIONS

Blank:

JST Type

Mates with housing

CON1: **VHR-3N**

CON2: **VHR-6N**



Crimp terminals

CON1: **SVH-21T-P1.1**

CON2: **SVH-21T-P1.1**

-M

Molex Type

Mates with housing

CON1: **09-50-8031**

CON2: **09-50-8061**



Crimp terminals

CON1: **SD-2478**

CON2: **SD-2478**

-T

Terminal Block

**Screw locked torque
MAX 2Kgf.cm/0.2N.m**



**Wire dimension range
26 ~ 16AWG**