POLYTRON DEVICES

DATA SHEET

AC-DC POWER SUPPLY

UP TO 300 WATTS

INDUSTRIAL APPLICATIONS

KUIP300 SERIES

FEATURES

- Peak Power
- 3,000 Vac Reinforced Insulation
- Adjustable Output Voltage
- Internal EN55032 Class B Filter
- Low Leakage Current
- Low Standby Power
- Operating Altitude 5,000 Meters
- Class I and Class II Protection
- Fan Speed Control
- Remote ON/OFF
- Power Good
- Output Current Protection
- Short Circuit Protection
- Over Voltage Protection
- Over Temperature Protection
- OVCIII
- Safety Meets IEC/ EN/ UL 62368-1
- Compliant to RoHS and REACH

SELECTION GUIDE All specifications are typical at nominal input, full load and 25°C, unless otherwise noted.

Input Voltage Range Vdc	Output Voltage Vdc	Output Current Natural Convection A	Output Current Forced Air Cooling with 21 CFM mA	Input Power at No Load W	Efficiency %	Model Number	Maximum Capacitor Load µF
85 - 264	12	15	25	0.3	91	KUIP300-12S	20,000
85 - 264	15	12	20	0.3	92	KUIP300-15S	12,000
85 - 264	18	10	16.66	0.3	93	KUIP300-18S	9,000
85 - 264	24	7.5	12.5	0.3	93	KUIP300-24S	2,400
85 - 264	28	6.42	10.71	0.3	93	KUIP300-28S	2,000
85 - 264	36	5	8.33	0.3	93	KUIP300-36S	1,000
85 - 264	48	3.75	6.25	0.3	93	KUIP300-48S	650
85 - 264	53	3.4	5.67	0.3	93	KUIP300-53S	470

* **AC Input: Standard:** No Suffix
OVC III (2000m): Suffix "C"
DC Input: Suffix "G"
Class I: Standard
Class II: Suffix "B"
Enclosed Type: Standard
Open Type: KUIPO300
Base Plate Type: KUIPU300
DIN Rail Type: KUIPD300

No external FAN with fixed fan speed control: Suffix F3
No External FAN with variable fan speed control: Suffix F4

For Enclosed and DIN Rail Type Only:
External Fan with variable speed control: Suffix F2
External FAN with fixed fan speed control: Suffix F1

44 Richboynton Road, Dover, New Jersey 07801 U.S.A. ▪ Tel: 973-328-3200 ▪ Fax: 973-328-3130 ▪ sales@polytrondevices.com ▪ **www.daburn.com**

KUIP300 SERIES

Input Specifications

Operating input voltage range, Vdc	85 Min., 264 Max.	AC Input
	120 Min., 370 Max.	DC Input
Input frequency, Hz	47 Min., 63 Max.	AC Input
Input current, A	3.9 Max.	100Vac and Full Load
	1.6 Max.	240Vac and Full Load
No load input power, W	3 Typ.	230Vac, Option-F (with Fan)
	0.3 Typ.	Others
Leakage current, μa	300 Max.	264Vac
Power factor	0.9 Min.	230Vac and Full Load
Start up time, ms	2,000 Max.	
Rise time, ms	30 Typ.	
Hold up time, ms	10 Min.	115Vac and 225W
Input inrush current, A	70 Max.	230Vac
Input protection	Internal fuse, T5.0A/250VAC	

Output Specifications

Output power, W	300 Max.	Forced air cooling
Output peak power, W	360 Max.	
Output peak power time, s	5 Typ.	
Output leak power duty, %	20 Typ.	
Output peak power average operation, %	50 Typ.	% of Full Load
Initial set voltage accuracy, %	-1 Min., 1 Max.	230Vac and Full Load
Line regulation, %	-0.2 Min., 0.2 Max.	Low Line to High Line at Full Load
Load regulation, %	-0.5 Min., 0.5 Max.	No Load to Full Load
	-0.4 Min., 0.4 Max.	10% Load to 90% Load
Voltage adjustability, %	-10 Min., 10 Max.	Maximum output deviation is inclusive of remote sense
Minimum load, %	0 Typ.	
Ripple and noise, mVp-p	Measured by 20MHz bandwidth with a 1μF/100V 1206 X7R MLCC	
	120 Typ.	12Vout
	150 Typ.	15Vout
	180 Typ.	18Vout
	240 Typ.	24Vout
	280 Typ.	28Vout
	360 Typ.	36Vout
	480 Typ.	48Vout
	530 Typ.	53Vout
Temperature coefficient, %/°C	-0.02 Min., 0.02 Max.	
Transient response peak deviation, %	3 Typ.	Load step from 50 ~ 75% change at 2.5A/μs, Vout
Transient response recovery time, μs	600 Typ.	Recovery within 1% Vout
Over voltage protection, %	115 Min., 135 Max.	% of Vout(nom); Latch mode
Over load protection, %	150 Typ.	% of Iout rated; Hiccup mode
Short circuit protection	Continuous, automatic recovery	
Main output remote control, mA	Open or 3 ~ 12 VDC	Positive Logic, Main power ON
	Short or 0 ~ 1.2VDC	Referenced to "-Control", Main power OFF
	-0.5 Min., 1 Max.	Standby power always present, Input current of Control
Main output Power Good signal	Power good, Low	Referenced to "GND"
	Power off, Open collector	
Standby power supply, mA	1,000 Max.	Standby and fan power supply total power 8W, 5Vout
Fan power supply, mA	500 Max.	12Vout

General Specifications

Isolation voltage, Vac	1 minute (Reinforced insulation)	Input to Output	3,000 Min.		
		Input (Output) to F.G.	1,500 Min.		
Isolation resistance, GΩ	500Vdc		0.1 Min.		
Switching frequency, kHz	230Vac, Full Load			140 Typ.	

KUIP300 SERIES

Environmental Specifications

Operating ambient temperature, °C	With derating, Option —F (with Fan)	-40 Min.		80 Max.
	Others	-40 Min.		85 Max.
Storage temperature range, °C	With derating, Option —F (with Fan)	-40 Min.		80 Max.
	Others	-40 Min.		85 Max.
Over temperature protection, °C	Internal thermistor ; Hiccup mode		125 Typ.	
Operating altitude, m				5,000 Max.
Shock		IEC60068-2-27		
Vibration		IEC60068-2-6		
Relative humidity	Non-condensing	5% to 95% RH		

Physical Specifications

Design meet safety standard	IEC/ EN/ UL 62368-1	
Weight, g (oz)	210g (7.40oz)	Open type
	318g (11.21oz)	Enclosed type
	260g (9.17oz)	Base plate type
	340g (11.99oz)	Din rail type
MTBF	MIL-HDBK-217F Ta=25°C, Full load, 1.056 x 10^6 hrs	
Dimensions	2.09" × 4" × 1.26"	Open type
	2.44" × 4.6" × 2.32"	Enclosed type
	2.44" × 4.6" × 1.56"	Base plate type
	2.44" × 4.6" × 2.32"	Din rail type

EMC Specifications

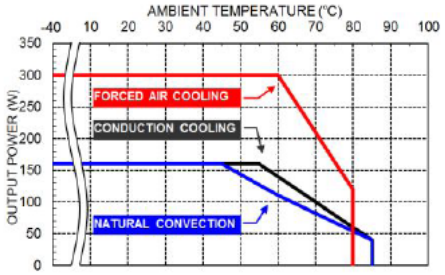
Specifications	Conditions		Level
EMI	EN55032 and FCC Part 15	Conducted	Class B
		Radiated	Class A
Harmonic currents	EN61000-3-2	Full Load	Class A
Voltage flicker	EN61000-3-3		
EMS	EN55035		
ESD	EN61000-4-2		Perf. Criteria A
Radiated immunity	EN61000-4-3	20 V/m	Perf. Criteria A
Fast transient	EN61000-4-4	±2kV	Perf. Criteria A
Surge	EN61000-4-5	DM±1kVandCM±2kV	Perf. Criteria A
Conducted immunity	EN61000-4-6	20 Vr.m.s	Perf. Criteria A
Power frequency magnetic field	EN61000-4-8	30 A/m	Perf. Criteria A
Dip and interruptions	EN61000-4-11		

Note:

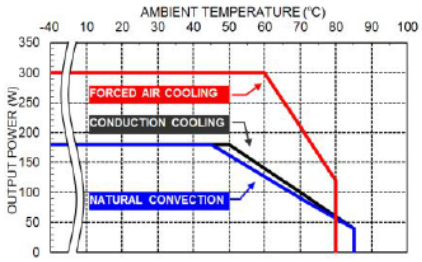
1. For further information, please contact Polytron Devices.

CAUTION: This power module is not internally fused. An input line fuse must always be used.

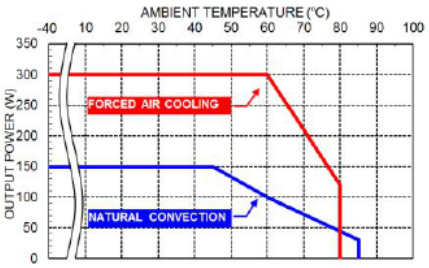
Characteristic Curve



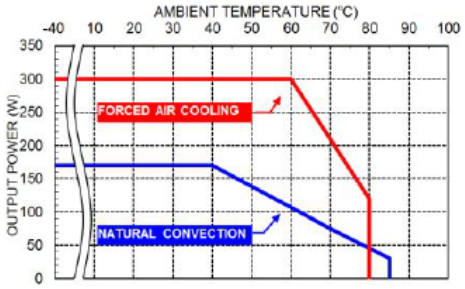
Derating Curve vs. Ambient Temperature
Vin=115VAC Open type



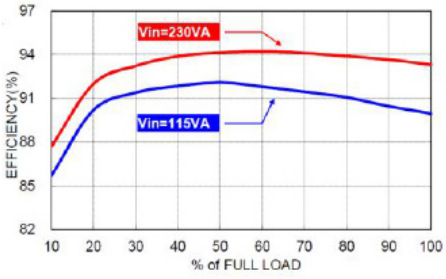
Derating Curve vs. Ambient Temperature
Vin=230VAC Open type



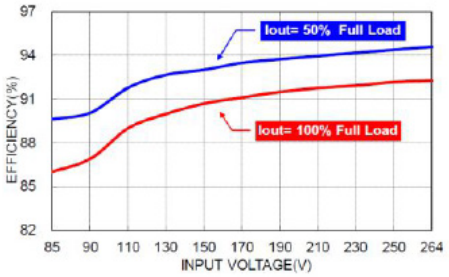
Derating Curve vs. Ambient Temperature
Vin=115VAC Enclosed type / Din rail type



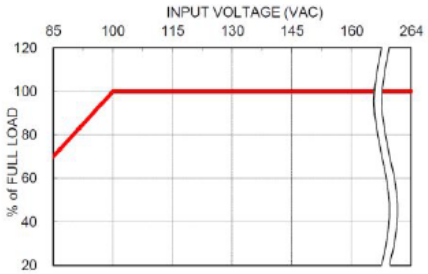
Derating Curve vs. Ambient Temperature
Vin=230VAC Enclosed type / Din rail type



Efficiency vs. Output Load
KUIP300-24S with Forced air cooling



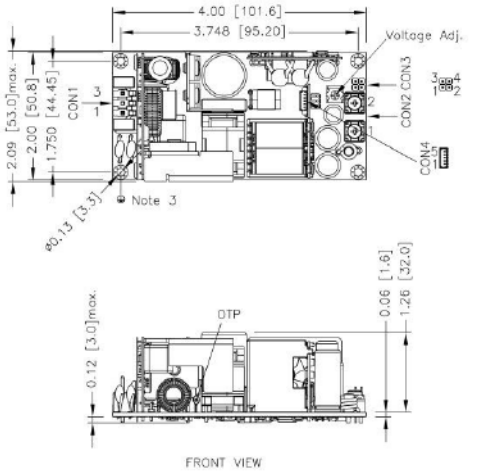
Efficiency vs. Input Voltage
KUIP300-24S with Forced air cooling



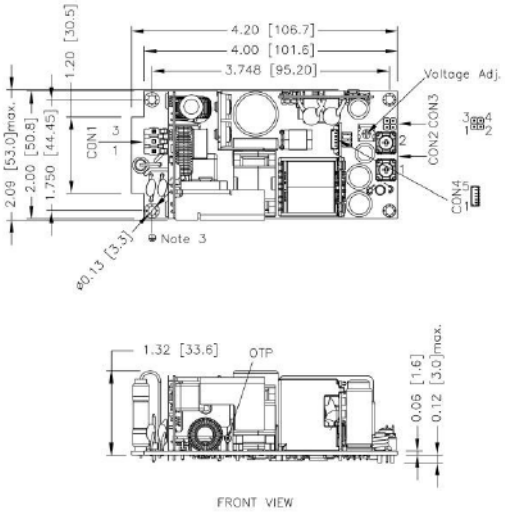
Derating Curve vs. Input Voltage

Mechanical Drawing

Open type- AC Input

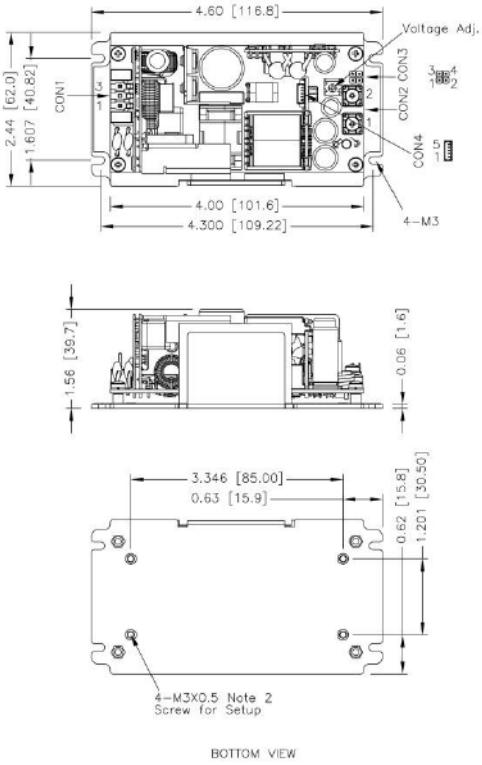


Open type- DC Input



1. All dimensions in inch (mm)
2. Tolerance: x.xx±0.02 (x.x±0.5)x.xxx±0.01 (x.xx±0.25)
3. Pin pitch tolerance ±0.01 (0.25)
4. Pin dimension tolerance ±0.004(0.1)
5. Mounting screws should always be used.
6. The screw locked torque:
   MAX 5.0kgf-cm(0.49N-m)

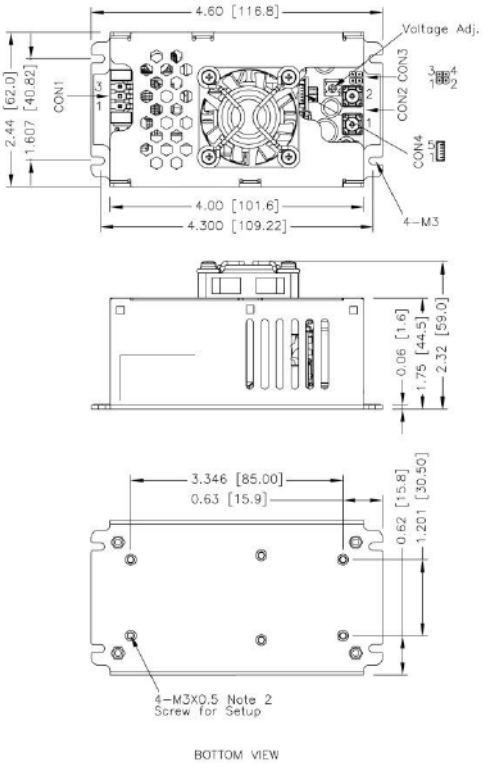
Base plate type



1. All dimensions in inch (mm)
2. Tolerance: x.xx±0.02 (x.x±0.5)x.xxx±0.01 (x.xx±0.25)
3. The screw locked torque: MAX 5Kgf.cm/0.49N.m
4. The CON2 locked torque: MAX 16.8Kgf.cm/1.65N.m

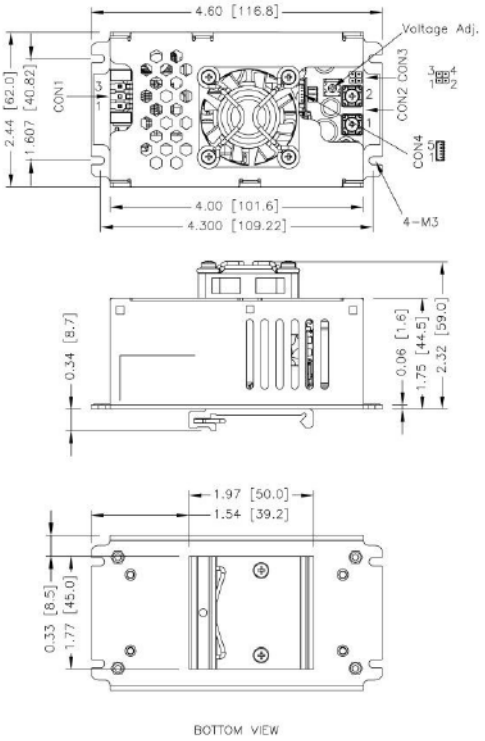
Mechanical Drawing (continued)

Enclosed type with FAN



1. All dimensions in inch (mm)
2. Tolerance: x.xx±0.02 (x.x±0.5)x.xxx±0.01 (x.xx±0.25)
3. The screw locked torque: MAX 5Kgf.cm/0.49N.m
4. The CON2 locked torque: MAX 16.8Kgf.cm/1.65N.m

Din rail type with FAN



1. All dimensions in inch (mm)
2. Tolerance: x.xx±0.02 (x.x±0.5)x.xxx±0.01 (x.xx±0.25)
3. The CON2 locked torque: MAX 16.8Kgf.cm/1.65N.m

Connector Connections

CON1 - Input Connector		
Pin 3	Line	DC+
Pin 1	Neutral	DC-

Mates with:
Molex housing : 09-93-0300, 09-50-3031, 09-50-8031
Molex crimp terminals : 2478

CON2 - Output Connector	
Pin 1	+Vout
Pin 2	-Vout

Mates with:
KST ring terminal : RVS2-3.7

CON3 - Aux Connector	
Pin 1	+Fan
Pin 2	-Fan
Pin 3	+V Sense
Pin 4	-V Sense

Mates with:
Molex housing : 90143-0004
Molex crimp terminals : 90119

CON4 - Aux Connector	
Pin 1	+Standby
Pin 2	-Standby
Pin 3	+PG
Pin 4	-Control
Pin 5	+Control

Mates with:
Molex housing : 51021-0500
Molex crimp terminals : 50058,50079