

AC-DC POWER SUPPLIES

UNIVERSAL INPUT, UP TO 65 WATTS

INDUSTRIAL APPLICATIONS

UI65 SERIES



FEATURES

- Universal Input Range
- 0.11 Watt Low Standby Power Consumption
- Compact Package: 2.00" x 3.00"
- Wide Input Voltage Range 85 - 264 Vac, 47 - 63 hz
- Built-in Class B EMI Filter
- Output Voltage Adjustable (Single Output Only)
- 3000 Vac Input to Output Reinforced Insulation
- Protection Type Class I and Class II
- Low Leakage Current Under 75µa
- Operating Altitude 5000M
- 3 Year Warranty
- Safety Meets: UL60950-1, EN60950-1 and IEC60950-1
- CE Marked: Design Meet IEC 61850-3
- Compliant to RoHS II & Reach

SELECTION GUIDE

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

Input Range Vac	Output Voltage Vdc	Output Current at Convection Cooled 73°C Ta A	Max. Output Power W	Input Power at No Load W	Efficiency %	Model Number*
85 - 264	5	10	50	0.11	90	UI65-5SB
85 - 264	7.5	8.67	65	0.11	90	UI65-7.5SB
85 - 264	9	7.23	65	0.11	91	UI65-9SB
85 - 264	12	5.42	65	0.11	92.5	UI65-12SB
85 - 264	15	4.34	65	0.11	93.5	UI65-15SB
85 - 264	24	2.71	65	0.11	93.5	UI65-24SHB
85 - 264	24	2.71	65	0.11	92	UI65-24SB
85 - 264	28	2.33	65	0.11	93.5	UI65-28SHB
85 - 264	28	2.33	65	0.11	91.5	UI65-28SB
85 - 264	36	1.81	65	0.11	92.5	UI65-36SB
85 - 264	48	1.36	65	0.11	93	UI65-48SB
85 - 264	53	1.24	65	0.11	92.5	UI65-53SB

* Open Type: UIO
 Chassis Type: UIT
 Din Rail: UID
 Enclosed (Standard): UI

Screw Terminal: Suffix "T"
 Class II Protection Type: Use Suffix "B"
 Class I Protection Type: No Suffix

UI65 SINGLE SERIES

Input Specifications			Output Specifications			
Voltage range	85 Min., 264 Max., Vac	AC input	Output power, Watt	65 Max.		
	120 Min., 370 Max., Vdc	DC input	Initial set voltage accuracy, %	-1 Min., 1 Max.	230Vac and Full Load	
Input frequency, Hz	47 Min., 63 Max.	AC input	Line regulation, %	-0.2 Min., 0.2 Max.	Low Line to High Line at Full Load	
Input current, A	1.6 Max.	100Vac and full load	Load regulation, %	-0.7 Min., 0.7 Max.	No Load to Full Load, 5Vout	
	0.9 Max.	240Vac and full load		-0.5 Min., 0.5 Max.	Others	
-0.6 Min., 0.6 Max.				10% Load to 90% Load, 5Vout		
No load input power, Watts	0.11 Typ.	230Vac	-0.4 Min., 0.4 Max.	Others		
			Leakage current, μ A	75 Max.	264Vac	Voltage adjustability, %
Start-up time, ms	1000 Max.	Ripple and noise, mVp-p				-10 Min., 10 Max.
			Rise time, ms	20 Typ.	Minimum load, %	0 Typ.
Hold-up time, ms	16 Typ.	115Vac and full load			Temperature coefficient, %/°C	Measured by 20MHz bandwidth
			Input inrush current, A	60 Max.		230Vac
Input protection	T3.15A/250Vac	Internal fuse in line and neutral				
			150 Typ.	With a 0.1 μ F/100V 1206 X7R MLCC, 48Vout, 53Vout		
Transient response peak deviation, %	3Vout, Max.	Load step change from 50-75% at 2.5A/ μ s	Transient response recovery time, μ s	600, Typ.		
			Over voltage protection, %	125 Min., 140 Max.	% of Vout(nom); Latch mode	
Over load protection, %	145 Typ.	% of Iout rated; Hiccup mode	Over load protection, %	145 Typ.		
			Short circuit protection	Continuous, automatic recovery		

General Specifications			
Isolation voltage, Vac	1 minute (2MOPP isolation)	Input to Output	3000 Min.
		Input (Output) to F.G.	2500 Min.
Isolation resistance, G Ω	500Vdc		0.1 Min.
Switching frequency, kHz	230Vac	5Vout	60 Typ.
		7.5Vout	80 Typ.
		9Vout	70 Typ.
		Others	120 Typ.

Environmental Specifications			
Operating ambient temperature, °C	Natural Convection with derating	-40 Min.	85 Max.
Storage temperature range, °C		-40 Min.	85 Max.
Operating altitude, m			5000 Max.
Shock		IEC60068-2-27	
Vibration		IEC60068-2-6	
Relative humidity	Non-condensing	5% to 95% RH	

UI65 SINGLE SERIES

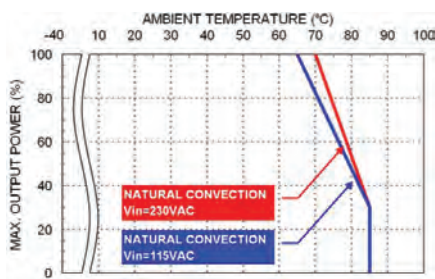
Physical Specifications			EMC Specifications			
Design meet safety standard	UL60950-1, EN60950-1, IEC60950-1		Specifications	Conditions		Level
Weight, g	117 (4.13oz)	UIO	EMI ⁽¹⁾	EN55011, EN55022 and FCC Part 15	Conducted	Class B
	157 (5.54oz)	UIT				Radiated
	172 (6.07oz)	UI	Harmonic currents	EN61000-3-2	Full load	Class A
	193 (6.81oz)	UID	Voltage flicker	EN61000-3-3		
			ESD	EN61000-4-2	Air ±15KV and Contact ±6KV	
Dimensions	2.00" × 3.00" (50.8mm × 76.2mm)		Radiated immunity	EN61000-4-3	20V/m	Perf. Criteria A
			Fast transient	EN61000-4-4	±4KV	Perf. Criteria B
MTBF	1.494 × 10 ⁶ hrs , MIL-HDBK-217F, Full load		Surge	EN61000-4-5	DM ±2KV and CM ±4KV	
			Conducted immunity	EN61000-4-6	20 Vr.m.s	
			Power frequency magnetic field	EN61000-4-8	100 A/M	
			Dip and interruptions	EN60600-4-11	230Vac 50Hz, 30%, 20mS	Perf. Criteria A
					230Vac 50Hz, 30%, 500mS	Perf. Criteria A
		230Vac 50Hz, 60%, 1000mS	Perf. Criteria A			
		230Vac 50Hz, >95%, 10mS	Perf. Criteria A			
		100Vac 50Hz, >95%, 5000mS	Perf. Criteria B			
		Damped Oscillatory Wave	EN61000-4-18	DM ±1kV and CM ± 2.5kV		Perf. Criteria A

Note:

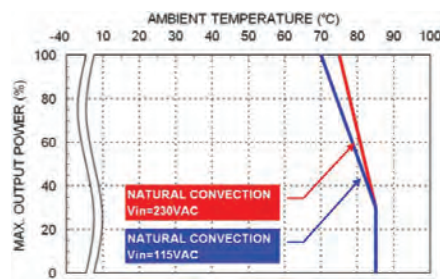
1. External components may be required for Class I application. For further information, please contact Polytron Devices, Inc.

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

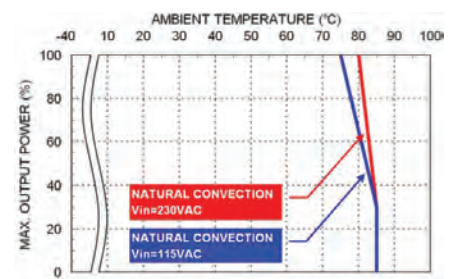
Characteristic Curve



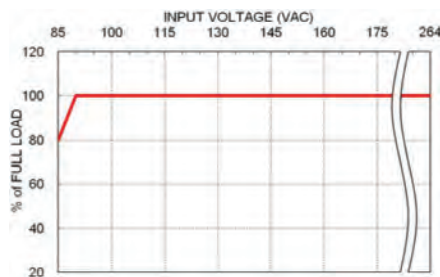
Derating Curve vs. Ambient Temperature



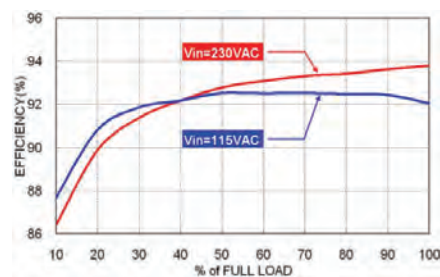
Derating Curve vs. Ambient Temperature



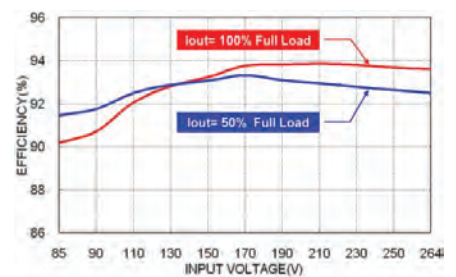
Derating Curve vs. Ambient Temperature



Derating Curve vs. Input Voltage



Efficiency vs. Output Load



Efficiency vs. Input Voltage

UI65 SINGLE SERIES

Pin Connectors

CON1: INPUT CONNECTOR

PIN	
1	Line
3	Neutral

MATES WITH

JST Housing	VHR-3N
JST Crimp Terminals	SVH-21T-P1.1

CON2: OUTPUT CONNECTOR

PIN	
1, 2	-Vout
3, 4	+Vout

MATES WITH

JST Housing	VHR-4N
JST Crimp Terminals	SVH-21T-P1.1

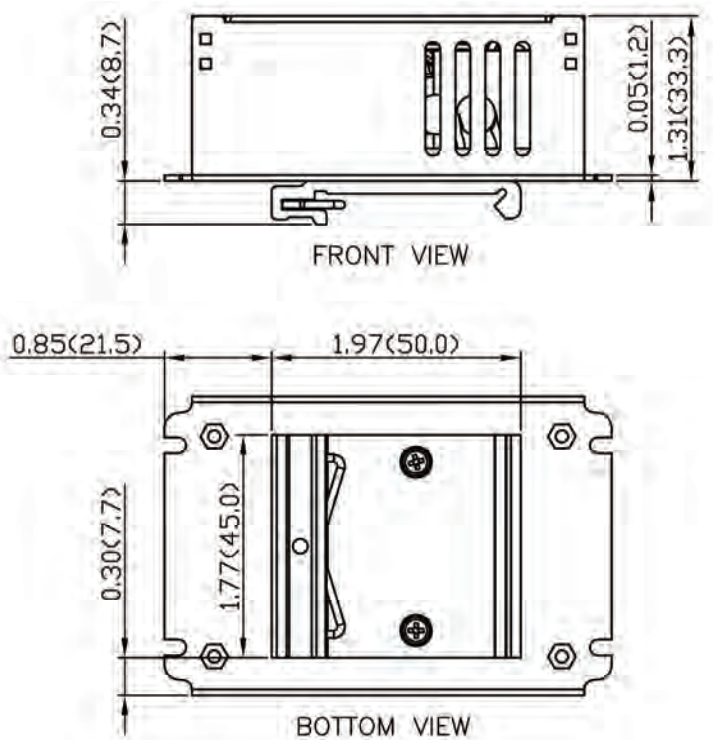
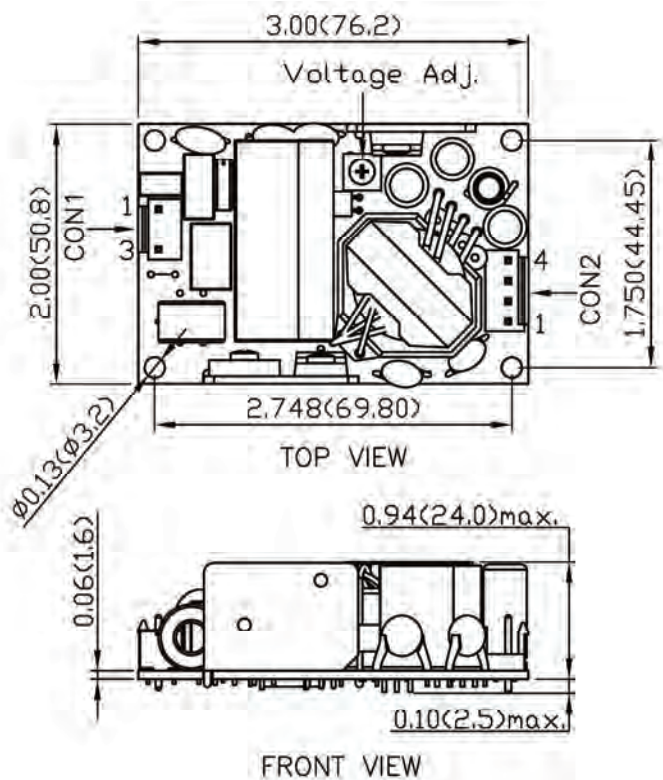
Note:

1. Either one of four screws holes of Open/ Chassis Type can be considered as PE connection for Class I application.

Mechanical Drawing

Open Type

DIN Rail Type



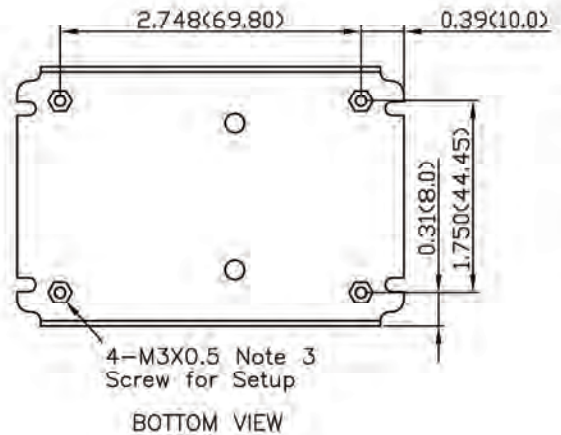
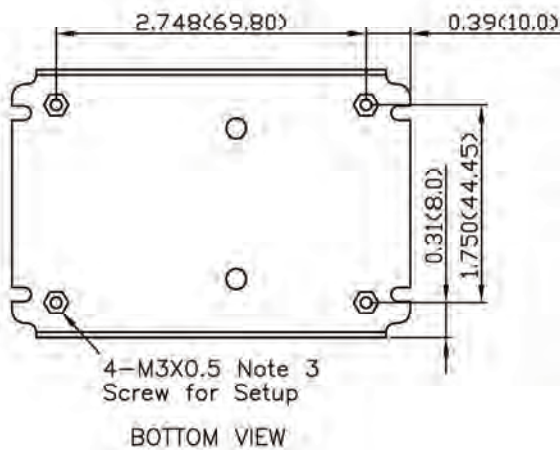
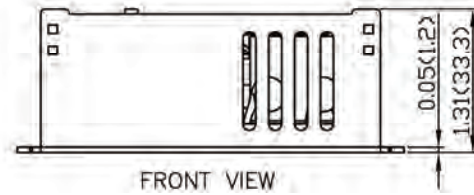
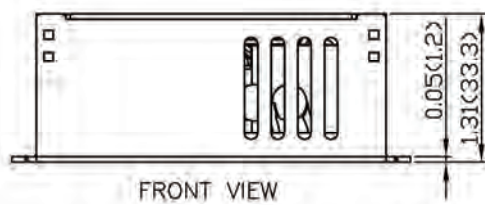
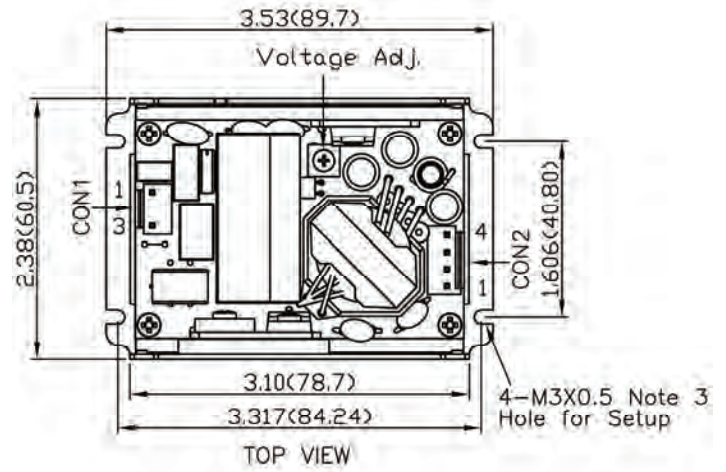
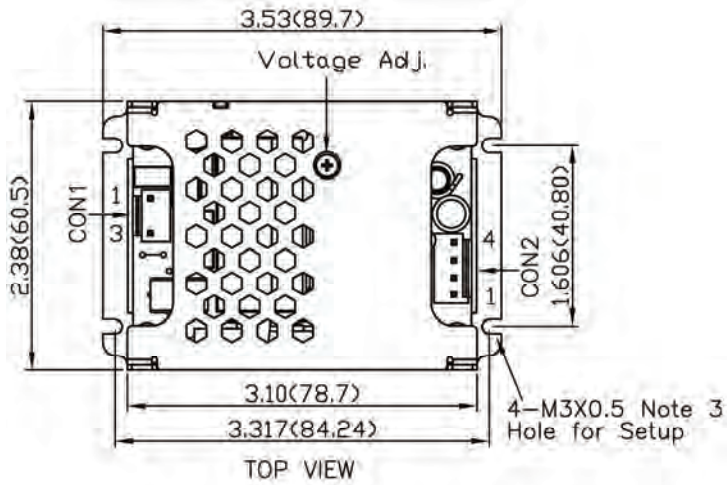
1. All dimensions in inch (mm)
2. Tolerance :x.xx±0.02 (x.x±0.5)
x.xxx±0.01 (x.xx±0.25)
3. M3 × 0.5 screw locked torque MAX
5Kgf.cm/0.49N.m

UI65 SINGLE SERIES

Mechanical Drawing

Enclosed Type

U Chassis 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. M3 × 0.5 screw locked torque MAX
5Kgf.cm/0.49N.m