

PU Series

30-200 WATTS MULTIPLE OUTPUT AC/DC GENERAL

Features

- Full range input voltage
- Input surge current protection
- Small size, light weight
- Overvoltage and overcurrent protection
- CE (LVD) compliant
- Enclosed units standard
- Open PCB option (except PU200)



Specifications

INPUT

Voltage	PU30, PU40, PU65: 85–264Vac. PU110: 85–264Vac. PU110, PU200: Auto ranging 90–130Vac, 180–264Vac.
Frequency	47Hz–63Hz.
Input current	PU30, 0.8A @ 115V, 0.5A @ 230V. PU40, 1.2A @ 115V, 0.7A @ 230V. PU65, 1.6A, @ 115V, 1.0A @ 230V. PU110: 3.2A @ 115V, 1.8A @ 230V. PU150: 3.4A @ 115V, 2.0A @ 230V. PU200: 4.5A @ 115V, 2.6A @ 230V.
Inrush current	PU30, 40, 65: 15A @ 115V, 30A @ 230VAC. PU110: 15A @ 115V, 30A @ 230V. PU150, PU200: 20A @ 115V, 40A @ 230V.
Efficiency	65%–70% at full load
Isolation	Input – Output: 3000Vac Input – Ground: 1500Vac Output – Ground: 500Vac

OUTPUT

Voltage	See table.
Voltage adjustment	±10% by internal potentiometer, V1 only.
Current	See table.
Ripple & noise	PU30, 40, 65, 110: 1% (mV pk-pk). PU200: 2% (mV pk-pk)
Line regulation	±0.5% at full load.
Load regulation	See table (Tol.%).
Overvoltage protection	Provided on V1 only set at 112%–132% of nominal.
Overcurrent protection	Protected for short current conditions.
Temp. coefficient	All outputs ±0.04% per °C.
Transient response	Max. excursion 4% recovering to 1% within 500µs after 25% load change.
Holdup time	PU30, 40, 65 :Typ 10mS at nominal input. PU110, 200: 12mS min. at 110VAC
MTBF	PU30, 40, 65, 110: 400,000 hrs @ 25°C. PU150: 300,000 hrs at full load @ 25°C PU200: 450,000 hrs at full load @ 25°C.
Power fail	TTL logic high for normal operation and TTL low upon loss of input. (PU110, PU150, PU200 only).

ENVIRONMENTAL

Operating temperature	0°C to 70°C. Derate linearly to 50% at 70°C.
Storage temperature	-40°C to +85°C
Relative humidity	5%–95% non-condensing.

STANDARDS

Safety standards	UL1950, CSA22.2, TÜV, EN60950 approvals only for PCB, CE LVD 73/23/EEC.
C-Tick	AS/NZS CISPR11 Group 1, Class A
EMC standards	EN61000-3-2, EN61000-3-3, EN61000-4-2, -3, -4 -5, -6, -8, -11
EMI standards	EN55024, EN55022-B FCC-B, VCCI-B

MECHANICAL

Connector type	PU30 & PU40: Input Molex 09-50-3031; Output Molex 09-50-3061 PU65: Input Molex 09-50-3031; Output Molex 09-50-3081; Crimp terminals Molex 2878. PU110: Molex, Input Molex 09-50-3051 Output Molex 09-50-3131 Crimp terminals Molex 2878. PU150: Molex, Input Molex 09-50-3051 Output Molex 09-50-3131 Crimp terminals Molex 2878. P4 with Molex 51110-0851 and pins 50394-8100. PU200: Screw terminals.
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PU Series

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Selection Table

MODEL NUMBER	OUTPUT #1				OUTPUT #2				OUTPUT #3				OUTPUT #4				MAX OUTPUT POWER4
	VNOM	IMIN	IMAX	TOL	VNOM	IMIN	IMAX	TOL	VNOM	IMIN	IMAX	TOL	VNOM	IMIN	IMAX	TOL	
PU30-23SLC	+5V	0.3A	3A	3%	+12V	0.3A	1.5A	5%									30W
PU30-24SLC	+5V	0.3A	3A	3%	+15V	0.2A	1.5A	5%									30W
PU30-25SLC	+5V	0.3A	3A	3%	+24V	0.1A	1.0A	5%									30W
PU30-30SLC	+5V	0.3A	3A	3%	+12V	0.3A	1.5A	5%	-5V	0.05A	0.2A	10%					30W
PU30-31SLC	+5V	0.3A	3A	3%	+12V	0.3A	1.5A	5%	-12V	0.05A	0.2A	10%					30W
PU30-32SLC	+5V	0.3A	3A	3%	+15V	0.2A	1.5A	5%	-15V	0.05A	0.2A	10%					30W
PU30-33SLC	+5V	0.3A	3A	3%	+15V	0.2A	1.5A	5%	-12V	0.05A	0.2A	10%					30W
PU40-23SLC	+5V	0.5A	3A	3%	+12V	0.2A	2A	5%									40W
PU40-24SLC	+5V	0.5A	3A	3%	+15V	0.2A	2A	5%									40W
PU40-25SLC	+5V	0.5A	3A	3%	+24V	0.1A	1A	5%									40W
PU40-30SLC	+5V	0.5A	3A	3%	+12V	0.2A	2A	5%	-5V	0.05A	0.3A	10%					40W
PU40-31SLC	+5V	0.5A	3A	3%	+12V	0.2A	2A	5%	-12V	0.05A	0.3A	10%					40W
PU40-32SLC	+5V	0.5A	3A	3%	+15V	0.2A	2A	5%	-15V	0.05A	0.3A	10%					40W
PU40-33SLC	+5V	0.5A	3A	3%	+15V	0.2A	2A	5%	-12V	0.05A	0.3A	10%					40W
PU40-39SLC	+5V	0.5A	3A	3%	+24V	0.1A	1A	5%	-12V	0.05A	0.3A	10%					40W
PU65-23C	+5V	1A	6A	3%	+12V	0.5A	3A	5%									65W
PU65-24C	+5V	1A	6A	3%	+15V	0.4A	3A	5%									65W
PU65-25C	+5V	1A	6A	3%	+24V	0.3A	2A	5%									65W
PU65-30C	+5V	1A	6A	3%	+12V	0.5A	3A	5%	-5V	0.1A	0.5A	10%					65W
PU65-31C	+5V	1A	6A	3%	+12V	0.5A	3A	5%	-12V	0.1A	0.5A	10%					65W
PU65-32C	+5V	1A	6A	3%	+15V	0.4A	3A	5%	-15V	0.1A	0.5A	10%					65W
PU65-33C	+5V	1A	6A	3%	+15V	0.4A	3A	5%	-12V	0.1A	0.5A	10%					65W
PU65-35-1C	+5V	1A	2A	3%	+15V	0.3A	1.2A	5%	-24V	0.2A	1A	10%					65W
PU65-39C	+5V	1A	6A	3%	+24V	0.3A	2A	5%	-12V	0.1A	0.5A	10%					65W
PU65-40C	+5V	1A	6A	3%	+12V	0.5A	3A	5%	-12V	0.1A	0.5A	10%	-5V	0.1A	0.5A	10%	65W
PU65-45-1C	+5V	1A	6A	3%	+12V	0.2A	1A	5%	+25V	0.1A	0.75A	10%	-12V	0.1A	1A	10%	65W
PU110-23C	+5V	0A	10A	3%	+12V	0A	5A,9A	3%									110W
PU110-31C	+5V	0A	10A	3%	+12V	0A	5A,9A	3%	-12V	0A	1A	4%					110W
PU110-32C	+5V	0A	10A	3%	+15V	0A	4A,7.5A	3%	-15V	0A	1A	4%					110W
PU110-40C	+5V	0A	10A	3%	+12V	0A	5A,9A	3%	-12V	0A	1A	4%	-5V	0A	1A	4%	110W
PU110-41C	+5V	0A	10A	3%	+15V	0A	4A,7.5A	3%	-15V	0A	1A	4%	+24V	0A	1A	4%	110W
PU110-42C	+5V	0A	10A	3%	+12V	0A	5A,9A	3%	-12V	0A	1A	4%	12V	0A	1A	4%	110W
PU110-45C	+5V	0A	10A	3%	+12V	0A	5A,9A	3%	-12V	0A	1A	4%	+24V	0A	1A	4%	110W
PU110-45-1C	+5V	0A	10A	3%	+12V	0A	5A,9A	3%	-12V	0A	1A	4%	+24V	1.5A	3A	10%	110W
PU110-45-2C	+5V	0A	10A	3%	+24V	0A	3A,5A	3%	-12V	0A	1A	4%	+12V	0A	1A	4%	110W
PU110-46C	+5V	0A	10A	3%	+15V	0A	4A,7.5A	3%	-15V	0A	1A	4%	-5V	0A	1A	4%	110W
PU150-23C	+5V	2.0A	22A,30A	2%	+12V	0A	8A,10A	3%									150W
PU150-24C	+5V	2.0A	22A,30A	2%	+15V	0A	6.4A,8A	3%									150W
PU150-25C	+5V	2.0A	22A,30A	2%	+24V	0A	4.5A,5A	3%									150W
PU150-30C	+5V	2.0A	22A,30A	2%	+12V	0A	8A,10A	3%	-5V	0A	2.5A	3%					150W
PU150-31C	+5V	2.0A	22A,30A	2%	+12V	0A	8A,10A	3%	-12V	0A	2.5A	3%					150W

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Selection Table

MODEL NUMBER	OUTPUT #1				OUTPUT #2				OUTPUT #3				OUTPUT #4				MAX OUTPUT
	VNOM	IMIN	IMAX	TOL	VNOM	IMIN	IMAX	TOL	VNOM	IMIN	IMAX	TOL	VNOM	IMIN	IMAX	TOL	POWER4
PU150-32C	+5V	2.0A	22A,30A	2%	+15V	0A	6.4A,8A	3%	-15V	0A	2A	3%					150W
PU150-33C	+5V	2.0A	22A,30A	2%	+15V	0A	6.4A,8A	3%	-12V	0A	2.5A	3%					150W
PU150-40C	+5V	2.0A	22A,30A	2%	+12V	0A	8A,10A	3%	-12V	0A	2.5A	3%	5V	0A	5A	3%	150W
PU150-41C	+5V	2.0A	22A,30A	2%	+15V	0A	6.4A,8A	3%	-15V	0A	2A	3%	24V	0A	4.5A,5A	3%	150W
PU150-42C	+5V	2.0A	22A,30A	2%	+12V	0A	8A,10A	3%	-12V	0A	2.5A	3%	12V	0A	4.5A,5A	3%	150W
PU150-44C	+5V	2.0A	22A,30A	2%	+12V	0A	8A,10A	3%	-15V	0A	2A	3%	15V	0A	4A,4.5A	3%	150W
PU150-45C	+5V	2.0A	22A,30A	2%	+12V	0A	8A,10A	3%	-12V	0A	2.5A	3%	24V	0A	4.5A,5A	3%	150W
PU200-23C	+5V	3.0A	30A	2%	+12V	0A	8A	4%									200W
PU200-24C	+5V	3.0A	30A	2%	+15V	0A	6A	4%									200W
PU200-25C	+5V	3.0A	30A	2%	+24V	0A	4A	4%									200W
PU200-30C	+5V	3.0A	30A	2%	+12V	0A	8A	4%	-5V	0A	6A	4%					200W
PU200-31C	+5V	3.0A	30A	2%	+12V	0A	8A	4%	-12V	0A	4A	4%					200W
PU200-32C	+5V	3.0A	30A	2%	+15V	0A	6A	4%	-15V	0A	4A	4%					200W
PU200-33C	+5V	3.0A	30A	2%	+15V	0A	6A	4%	-12V	0A	4A	4%					200W
PU200-40C	+5V	3.0A	30A	2%	+12V	0A	8A	4%	-12V	0A	4A	4%	5V	0A	6A	4%	200W
PU200-41C	+5V	3.0A	30A	2%	+15V	0A	6A	4%	-15V	0A	4A	4%	24V	0A	4A	4%	200W
PU200-42C	+5V	3.0A	30A	2%	+12V	0A	8A	4%	-12V	0A	4A	4%	12V	0A	4A	4%	200W
PU200-44C	+5V	3.0A	30A	2%	+12V	0A	8A	4%	-15V	0A	4A	4%	15V	0A	4A	4%	200W
PU200-45C	+5V	3.0A	30A	2%	+12V	0A	8A	4%	-12V	0A	4A	4%	24V	0A	4A	4%	200W

PU Series

30-200 WATTS MULTIPLE OUTPUT AC/DC GENERAL

PU30, PU40,

Note: (1) All multiple output models may be operated at no-load without damage. At no-load, output voltage tolerance increases to 10%.
 (2) Safety agency approvals are for the above listed models in PCB format. To order a model with a metallic L-bracket or box, add suffix "B" for L-bracket format or "C" for enclosed format to the model number, e.g. PU30-14SLC and PU40-14SLC.

PU65

Note: (1) All multiple output models may be operated at no-load without damage. At no-load, output voltage tolerance increases to 10%.
 (2) Safety agency approvals are for the above listed models in PCB format. To order a model with a metallic L-bracket or box, add suffix "B" for L-bracket format or "C" for enclosed format to the model number, e.g. PU65-25C.

PU110

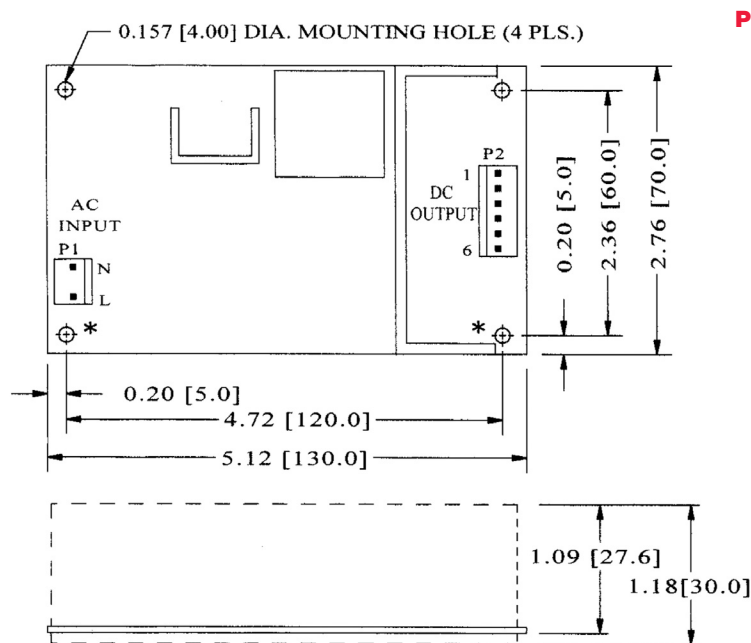
Note: (1) Peak output current with 10% maximum duty cycle for less than 60 seconds. Total peak power must not exceed 130 watts.
 (2) 110 watts maximum at 25 CFM forced air cooling or 80 watts maximum at convection cooling, except model PU110-10-1A which is rated maximum 60W at convection cooling or 72W at 25 CFM forced air cooling.
 (3) Safety agency approvals are for the above listed models in PCB format. To order models with metallic L-bracket or box, change suffix "A" to "B" for L-bracket format, to "C" for enclosed format, e.g. PU110-31C.
 (4) The output #1 of model PU110-45-1A needs a minimum current of 2A to support the other outputs at their maximum rated loads.

PU150

Note: (1) Safety agency approvals are for the above listed models in U-bracket format. To order model with a metallic cover, change suffix "B" to "C" for enclosed format, e.g. PU150-45C.
 (2) Output #1 can be built for one-wire current sharing. Add suffix "Z", e.g. PU150-45B-Z for this requirement.
 (3) The maximum current of each output shall be derated to 75% if no forced air is provided by user.
 (4) The output #1 of all multiple output models needs a minimum load of 2A to support the other outputs at their maximum rated loads.

PU200

Note: (1) Add suffix "B" for U-bracket format and "C" for enclosed format, e.g. PU200-45C.
 (2) Peak current is 12A on +12V, 9A on +15V and 6A on +24V.
 (3) Output #4 is floating. It can be connected externally for positive or negative output.
 (4) 200 watts for "C" version with a cover-and-fan assembly. 150 watts for "B" version without moving air (maximum current of output #1 & #2 derated to 70%), or 200 watts with 25 CFM forced air provided by user.
 (5) When the remote Sense facility is not used, +Sense must be connected to +V, and -Sense to Return, on P2 connector.
 (6) All models may be operated at no-load. At no-load, output voltage tolerance increases to 10%.



PU30

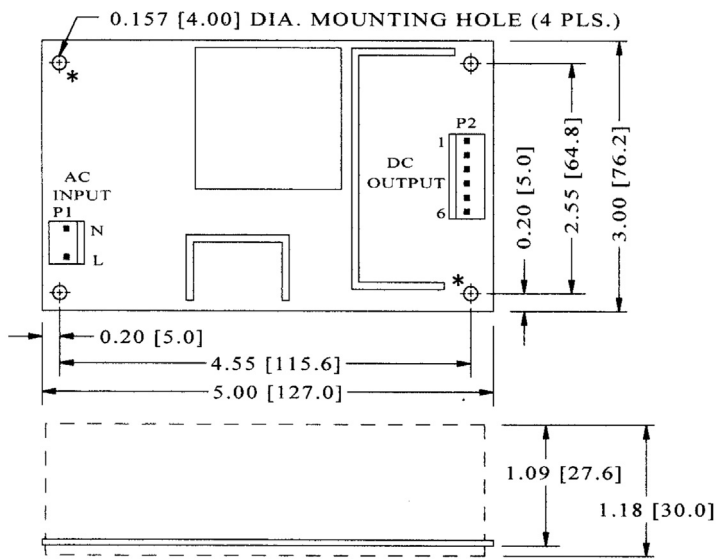
MULTIPLE OUTPUT MODELS

MODEL/PIN		1	2	3	4	5	6
PU30-23SL	PU30-24SL	Output 1	Output 1	Common Return	Common Return	N.C.	Output 2
PU30-25SL							
PU30-30SL	PU30-31SL	Output 1	Output 1	Common Return	Common Return	Output 3	Output 2
PU30-32SL	PU30-33SL						

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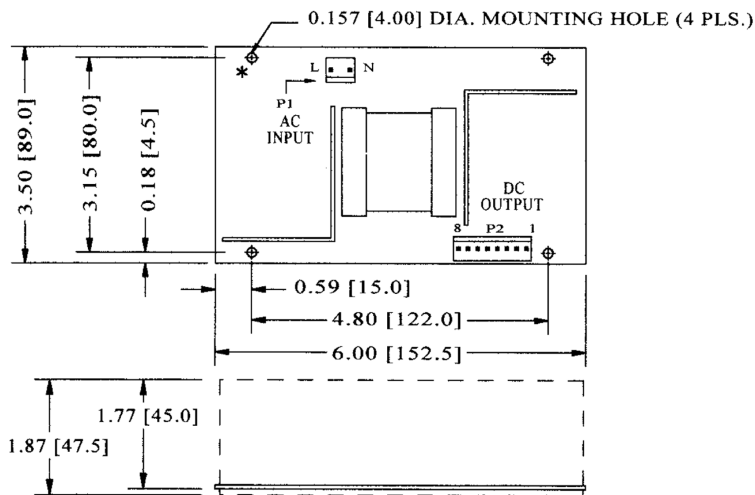
PU40



MULTIPLE OUTPUT MODELS

MODEL/PIN		1	2	3	4	5	6
PU30-23SL	PU30-24SL	Output 2	Output 1	Output 1	Common	Common Return	N.C.
PU30-25SL							
PU30-30SL	PU30-31SL	Output 2	Output 1	Output 1	Common	CommonReturn	Output 3
PU30-32SL	PU30-33SL						

PU65

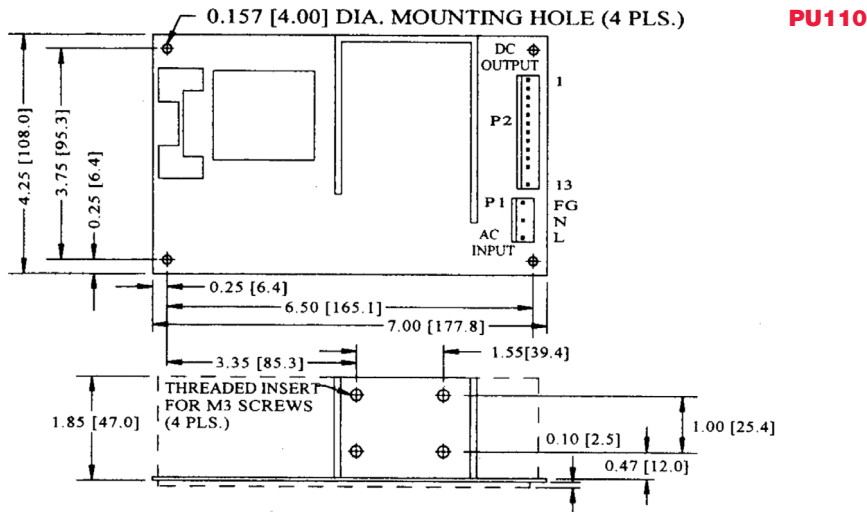


MULTIPLE OUTPUT MODELS

MODEL/PIN		1	2	3	4	5	6	7	8
PU65-23	PU65-24	Output1	Output 1	Common Return	Common Return	Output 2	Output 2	N.C.	N.C.
PU65-25									
PU65-30	PU65-31								
PU65-32	PU65-33	Output 1	Output1	CommonReturn	Common Return	Ouptut 2	Output 2	Output 3	N.C.
PU65-35-1	PU65-39								
PU65-40	PU65-45-1	Output 1	Output 1	Common Return	Common Return	Output 2	Output 2	Output 3	Output4

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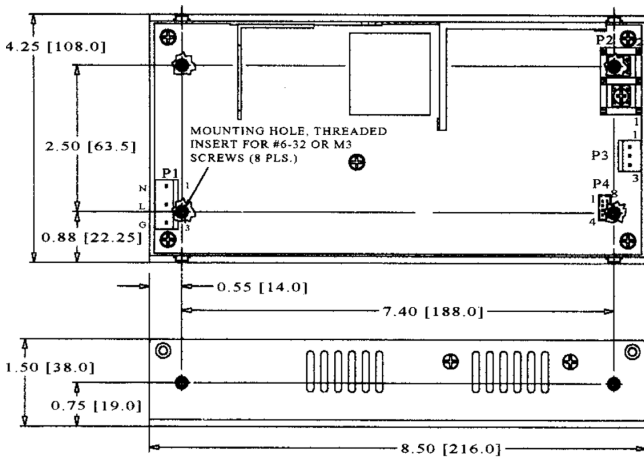
PU110

MULTIPLE OUTPUT MODELS

MODEL/PIN	1,2,3	4,5	6,7	8,9	10	11	12	13	
PU110-23A	Output 1	Common Return	Common Return	Output 2	P.F.D.	N.C.	Key	N.C.	
PU110-31A	PU110-32A	Output 1	Common Return	Common Return	Output 2	P.F.D.	Output 3	Key	N.C.
PU110-40A	PU110-41A	Output 1	Common Return	Common Return	Output 2	P.F.D.	Output 3	Key	Output 4
PU110-42A	PU110-45A								
PU110-45-1A	PU110-45-2A								
PU110-46A									

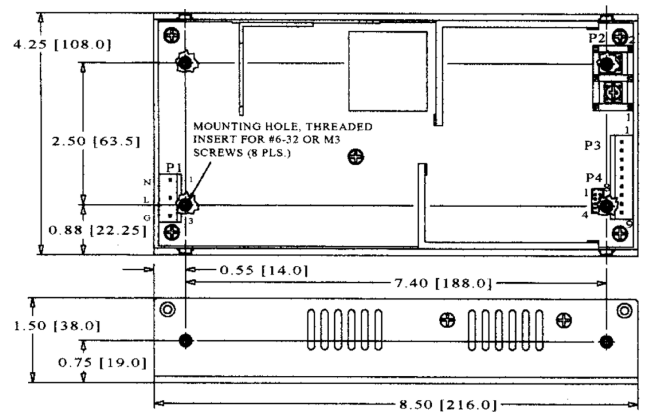
PU150

Single Output



PU150

Multiple Output



MULTIPLE OUTPUT MODELS

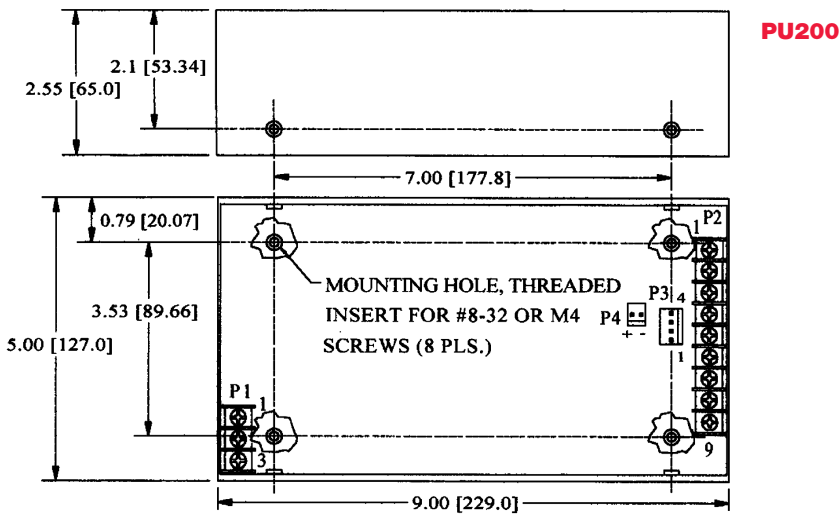
MODEL/CONNECTOR PIN	P1	1	2	3	P2	1	2	P3	1	2	3	4	5,6,7	8,9
PU150-23	PU150-24	AC	AC	AC	COM.	Output 1	N.C.	N.C.	PFD	N.C.	COM.	RET.	Output 2	
PU150-25		Neutral	Live	Ground	RET.									
PU150-30	PU150-31	AC	AC	AC	COM.	Output 1	N.C.	N.C.	PFD	Output3	COM.	RET.	Output 2	
PU150-32	PU150-33	Neutral	Live	Ground	RET.									
PU150-40	PU150-41	AC	AC	AC	COM.	Output 1	Output 4	Output 4	PFD	Output3	COM.	RET.	Output 2	
PU150-42	PU150-44	Neutral	Live	Ground	RET.		Return							
PU150-45														

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MULTIPLE OUTPUT MODELS

MODEL/CONNECTOR PIN		P4 1	2	3	4	5	6	7	8
PU150-23	PU150-30	Inhibit	Inhibit	+12V	N.C.	COM.	-Sense	+Sense	Current Share
PU150-31	PU150-40	-ve	+ve	(FAN)		RET			
PU150-42	PU150-44								
PU150-45									
PU150-30	PU150-31	Inhibit	Inhibit	+15V	N.C.	COM.	-Sense	+Sense	Current Share
PU150-32	PU150-33	-ve	+ve	(FAN)		RET			
PU150-40	PU150-41	Inhibit	Inhibit	+24V	N.C.	COM.	-Sense	+Sense	Current Share
PU150-42	PU150-44	-ve	+ve	(FAN)		RET			
PU150-45									



MULTIPLE OUTPUT MODELS

MODEL/CONNECTOR PIN		P1			P2				P3					
		1	2	3	1,2	3,4,5	6	7	8	9	1	2	3	4
PU200-23	PU200-24	AC Live	AC Neutral	AC Ground	Output 1	COM. RET.	Output 2	N.C.	N.C.	N.C.	FAN	COM. RET.	COM. RET.	PFD
PU200-30	PU200-31	AC Live	AC Neutral	AC Ground	Output 1	COM. RET.	Output 2	Output 3	N.C.	N.C.	FAN	COM. RET.	COM. RET.	PFD
PU200-32	PU200-33													
PU200-40	PU200-41	AC Live	AC Neutral	AC Ground	Output 1	COM. RET.	Output 2	Output 3	Output 4	Output 4	FAN	COM. RET.	COM. RET.	PFD
PU200-42	PU200-44								Return					
PU200-45														