

TOTAL POWER INT.

TPS180 SWITCHING MODE 180W U CHANNEL POWER SUPPLY



KEY FEATURES

- *Universal input
- *Built-in EMI filter
- *Optional remote sense on main output
- *Optional constant current charger
- *Optional Power Good signal/Optional cover
- *Optional $\pm 12\text{VDC}/\pm 24\text{VDC}/\pm 48\text{VDC}$ input
- *Optional constant current change (for single output)

APPLICATIONS

- *Telecommunications/Medical machines
- *Computer peripherals/Business machines
- *Test & industrial equipments

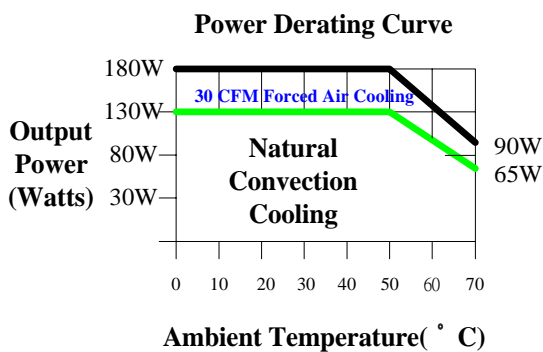
ELECTRICAL SPECIFICATIONS

INPUT

- *Input range-----90~264 VAC, auto ranging
- *Frequency-----47~63Hz
- *Inrush current-----40A typical, Cold start @25°C, 115VAC
- *Efficiency-----65%~85% typical at full load
- *EMI filter-----FCC Class B conducted, CISPR 22 Class B conducted, EN55022 class B Conducted
- *Line regulation----- +/- 0.5% typical

OUTPUT

- *Maximum power----180W with 30 CFM forced air (Refer next page)
- *Hold-up time -----10ms typical at full load and 115 VAC nominal line
- *Overload protection-Short circuit protection.
- *Overvoltage protection -----Main output 20% to 40% above nominal output
- *Ripple/Noise ----- +/- 1% Max. @full load (Optional +/- 0.5% per inquiry)



EMI & EMC

- *FCC part 15, Class B
- *CISPR 22 / EN55022, Class B
- *VCCI ,Class 2
- *CE,EN 61000-3-2 (Class A) (Optional) and -3; EN 61000-4-2,-3,-4,-5,-6 and -11

SAFETY APPROVAL

- *UL1950 / c UL
- *Optional CSA 22.2, LEVEL 3 (COMPLY WITH)
- *TUV EN60950
- *Optional UL 2601 (EMI Class A)(COMPLY WITH)

ENVIRONMENTAL

- *Operating temperature : 0 to 50°C ambient; derate each output at 2.5% per degree from 50°C to 70°C
- *Humidity: Operating; non-condensing, 5% to 95%
- *Vibration : 10~55 Hz at 1G 3 minutes period, 30 minutes along X, Y and Z axis
- *Storage temperature: -40 to 85°C
- *Temperature coefficient: +/- 0.05% per degree C
- *MTBF demonstrated: >100,000 hours at full load and 25°C ambient conditions

MODEL	OUTPUT VOLTAGE	ADJUSTMENT RANGE	MAXIMUM OUTPUT CURRENT	PEAK OUTPUT CURRENT(NOTE1)	MINIMUM OUTPUT CURRENT	TOTAL REGULATION(NOTE3)	RIPPLE & NOISE %P-P(NOTE2)	PEAK OUTPUT POWER(NOTE1)
TPS180-10	+5V	±10% Typical	36A	43.2A	0A	±3%	±1%	210W Typical
TPS180-11	+12V	±10% Typical	15A	18A	0A	±3%	±1%	210W Typical
TPS180-12	+15V	±10% Typical	12A	14.4A	0A	±3%	±1%	210W Typical
TPS180-13	+24V	±10% Typical	7.5A	9A	0A	±3%	±1%	210W Typical
TPS180-14	+48V	±10% Typical	3.75A	4.5A	0A	±3%	±1%	210W Typical
TPS180-15	+36V	±10% Typical	5 A	6A	0A	±3%	±1%	210W Typical
TPS180-16	+56V	±10% Typical	3.2A	3.8A	0A	±3%	±1%	210W Typical
TPS180-17	+18V	±10% Typical	10A	12A	0A	±3%	±1%	210W Typical
TPS180-18	+3.3V	±10% Typical	36A	43.2A	0A	±5%	±1.5%	210W Typical

DUAL OUTPUT MODEL SELECTION CHART

TPS180-20	+5 V	±10% Typical	22A	26.4A	2.2A	±5%	±1%	210W Typical
	+12V	Fixed	9A	10.8A	0.9A	±5%	±1%	
TPS180-21	+5 V	±10% Typical	22A	26.4A	2.2A	±5%	±1%	210W Typical
	+24V	Fixed	4.5A	5.4A	0.45A	±5%	±1%	
TPS180-22	+5 V	±10% Typical	22A	26.4A	2.2A	±5%	±1%	210W Typical
	- 5 V	Fixed	22A	26.4A	2.2A	±5%	±1%	
TPS180-23	+12V	±10% Typical	9A	10.8A	0.9A	±5%	±1%	210W Typical
	- 12 V	Fixed	9A	10.8A	0.9A	±5%	±1%	
TPS180-24	+15 V	±10% Typical	7.2A	8.6A	0.72A	±5%	±1%	210W Typical
	- 15 V	Fixed	7.2A	8.6A	0.72A	±5%	±1%	
TPS180-25	+3.3V	Fixed	25A	30A	2.5A	±5%	±1.5%	210W Typical
	+12 V	±10% Typical	10A	12A	1A	±5%	±1%	
TPS180-26	+ 12V	±10% Typical	10.5A	12.6A	1.05A	±5%	±1%	210W Typical
	+ 24V	Fixed	4 A	4.8A	0.4 A	±5%	±1%	
TPS180-27	+ 10.3V	±10% Typical	8.5A	10.2A	0.85A	±5%	±1%	210W Typical
	+ 24V	Fixed	4.8A	5.8A	0.48A	±5%	±1%	
TPS180-28	+ 5 V	±10% Typical	25A	30A	2.5A	±5%	±1%	210W Typical
	+ 3.3V	Fixed	18A	21.6A	1.8A	±5%	±1.5%	

TRIPLE OUTPUT MODEL SELECTION CHART

TPS180-30	+ 5V	±10% Typical	22 A	26.4 A	2.2 A	±5%	±1%	210W Typical
	+12V	Fixed	9 A	10.8 A	0.9 A	±5%	±1%	
	- 5 V	Fixed	1.5A	1.8 A	0.15 A	±10%	±1%	
TPS180-31	+ 5V	±10% Typical	22 A	26.4 A	2.2 A	±5%	±1%	210W Typical
	+12V	Fixed	7.5A	9 A	0.75 A	±5%	±1%	
	-12V	Fixed	2 A	2.4 A	0.2 A	±10%	±1%	
TPS180-32	+ 5V	±10% Typical	22A	26.4A	2.2 A	±5%	±1%	210W Typical
	+15V	Fixed	6 A	7.2 A	0.6 A	±5%	±1%	
	-15V	Fixed	1.5A	1.8 A	0.15 A	±10%	±1%	
TPS180-33	+ 5V	±10% Typical	25A	30 A	2.5 A	±5%	±1%	210W Typical
	+15V	Fixed	5.5A	6.6 A	0.55 A	±5%	±1%	
	- 5 V	Fixed	3 A	3.6 A	0.3 A	±10%	±1%	
TPS180-34	+ 5V	±10% Typical	25A	30 A	2.5 A	±5%	±1%	210W Typical
	+15V	Fixed	5.5A	6.6 A	0.55 A	±5%	±1%	
	-12 V	Fixed	2 A	2.4 A	0.2 A	±10%	±1%	
TPS180-35	+ 5 V	±10% Typical	20A	24 A	2 A	±5%	±1%	210W Typical
	-12V	Fixed	1.3A	1.6 A	0.13 A	±5%	±1%	
	+24V	Fixed	4.5A	5.4 A	0.45 A	±10%	±1%	
TPS180-36	+ 5V	±10% Typical	20A	24 A	2 A	±5%	±1%	210W Typical
	+12V	Fixed	8A	9.6 A	0.8 A	±5%	±1%	
	- 12V	Fixed	2A	2.4 A	0.2 A	±10%	±1%	
TPS180-37	+ 5V	±10% Typical	20A	24 A	2 A	±5%	±1%	210W Typical
	+12V	Fixed	7.5A	9 A	0.75 A	±5%	±1%	
	+24V	Fixed	1.2A	1.4 A	0.12 A	±10%	±1%	
TPS180-38	+ 5 V	±10% Typical	10A	12 A	1 A	±5%	±1%	210W Typical
	+ 24V	Fixed	2.7A	3.2A	0.27 A	±5%	±1%	
	+12V	Fixed	9 A	10.8 A	0.9 A	±10%	±1%	
TPS180-39	+18V	±10% Typical	5.8A	7 A	0.58 A	±5%	±1%	210W Typical
	- 18V	Fixed	5.8A	7 A	0.58 A	±5%	±1%	
	+ 5 V	Fixed	3A	3.6 A	0.3 A	±10%	±1%	

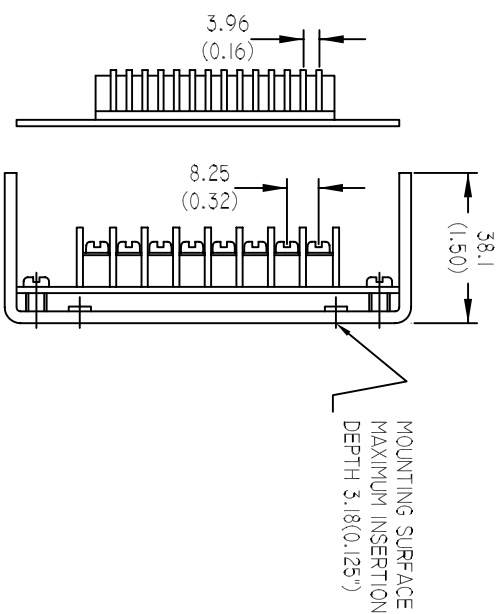
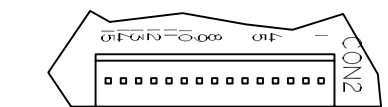
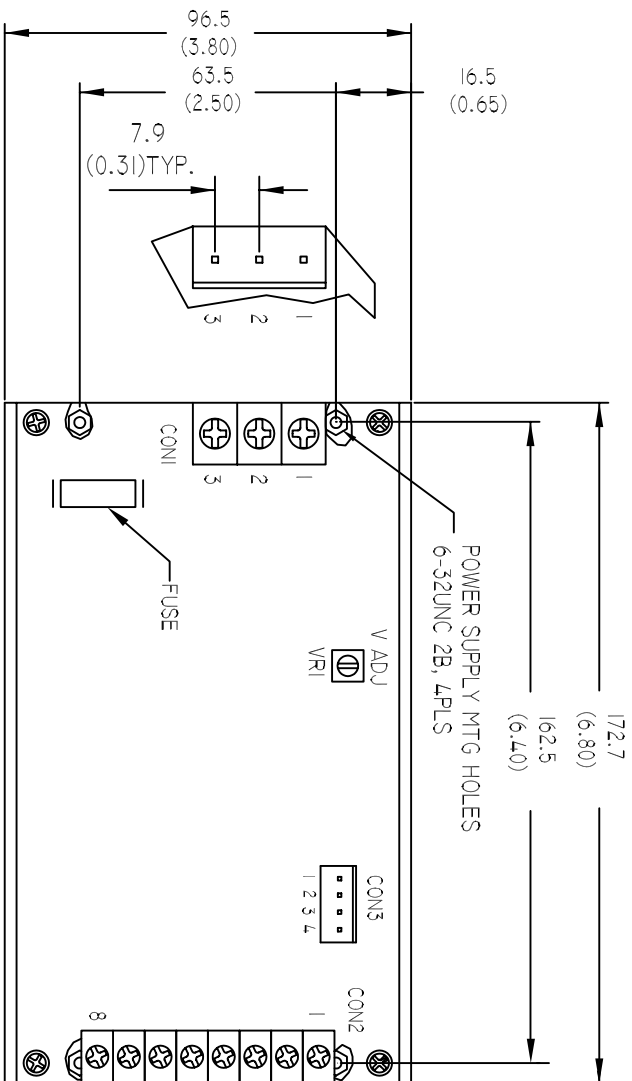
MODEL	OUTPUT VOLTAGE	ADJUSTMENT RANGE	MAXIMUM OUTPUT CURRENT	PEAK OUTPUT CURRENT(NOTE1)	MINIMUM OUTPUT CURRENT	TOTAL REGULATION(NOTE3)	RIPPLE & NOISE %P-P(NOTE2)	PEAK OUTPUT POWER(NOTE1)
TPS180-40	+ 5V	±10% Typical	22A	26.4 A	2.2A	±5%	±1%	210W Typical
	+12V	Fixed	7.5A	9 A	0.75A	±5%	±1%	
	- 12V	Fixed	1.2A	1.4 A	0.12A	±10%	±1%	
	- 5 V	Fixed	1.2A	1.4 A	0.12A	±10%	±1%	
TPS180-41	+ 5V	±10% Typical	22A	26.4 A	2.2A	±5%	±1%	210W Typical
	+12V	Fixed	6.3A	7.6 A	0.63A	±5%	±1%	
	- 12V	Fixed	2.2A	2.6 A	0.22A	±10%	±1%	
	- 5 V	Fixed	2.2A	2.6 A	0.22A	±10%	±1%	
TPS180-42	+ 5V	±10% Typical	22A	26.4 A	2.2A	±5%	±1%	210W Typical
	+12V	Fixed	4.5A	5.4 A	0.45A	±5%	±1%	
	- 15V	Fixed	2.2A	2.6 A	0.22A	±10%	±1%	
	+15V	Fixed	2.2A	2.6 A	0.22A	±10%	±1%	
TPS180-43	+ 5V	±10% Typical	13.5A	16.2A	1.35A	±5%	±1%	210W Typical
	+12V	Fixed	5.2A	6.2A	0.52A	±5%	±1%	
	- 12V	Fixed	2.2A	2.6A	0.22A	±10%	±1%	
	- 15V	Fixed	4.5A	5.4A	0.45A	±10%	±1%	
TPS180-44	+ 5V	±10% Typical	13A	15.6A	1.3A	±5%	±1%	210W Typical
	+12V	Fixed	3 A	3.6A	0.3A	±5%	±1%	
	- 12V	Fixed	2.2A	2.6A	0.22A	±10%	±1%	
	+48V	Fixed	2.2A	2.6A	0.22A	±10%	±1%	
TPS180-45	+ 5V	±10% Typical	18 A	21.6A	1.8A	±5%	±1%	210W Typical
	+12V	Fixed	6.3A	7.6A	0.63A	±5%	±1%	
	- 12V	Fixed	1.2A	1.4A	0.12A	±10%	±1%	
	+24V	Fixed	1.8A	2.2A	0.18A	±10%	±1%	
TPS180-46	+ 5V	±10% Typical	6 A	7.2A	0.6A	±5%	±1%	210W Typical
	-15V	Fixed	1.85A	2.2A	0.19A	±5%	±1%	
	+15V	Fixed	1.2A	1.4A	0.12A	±10%	±1%	
	+24V	Fixed	6 A	7.2A	0.6A	±10%	±1%	
TPS180-47	+ 5V	±10% Typical	19A	22.8A	1.9A	±5%	±1%	210W Typical
	+15V	Fixed	1.65A	2A	0.17A	±5%	±1%	
	- 15V	Fixed	1.65A	2A	0.17A	±10%	±1%	
	+ 48V	Fixed	1.65A	2A	0.17A	±10%	±1%	
TPS180-48Y	+ 5V	±10% Typical	20A	26A	2A	±5%	±1%	210W Typical
	+3.3V	Fixed	15A	22.5A	1.5A	±5%	±1.5%	
	+12V	Fixed	2 A	2.6A	0.2A	±10%	±1%	
	-12V	Fixed	2 A	2.6A	0.2A	±10%	±1%	
TPS180-49Y	+ 5V	±10% Typical	20A	26A	2A	±5%	±1%	210W Typical
	+3.3V	Fixed	15A	22.5A	1.5A	±5%	±1.5%	
	+12V	Fixed	2 A	2.6A	0.2A	±10%	±1%	
	+ 24V	Fixed	1 A	1.3A	0.1A	±10%	±1%	

- NOTES:** 1) Peak loads for lasting <30 seconds with a maximum 10% duty cycle are acceptable. Please contact us if need special peak load.
 2) Maximum peak to peak noise expressed as a percentage of output voltage, 20MHz bandwidth, input not less nominal line, 0.1 μF and 47 μF Cap. on outputs.
 3) Loading test conditions are set for all outputs at minimum, middle and maximum of loads. Special cross loading requirement is welcomed.
 4) Detailed engineering specification of each model is available for inquiry.
 5) Special output voltage/current inquiry is welcomed.
 6) Specifications subject to change without notice.
 7) 25% derated if 24 VDC input version; 50% derated if 12 VDC input version; 25% derated if additional cover.

TOTAL POWER INTERNATIONAL

TOLL FREE#877-646-0900

TPS180 SERIES



CON1 (CONNECTORS) CONFIGURATION

1	2	3
FG	NEUT(-)	LINE(+)

CON2 (TERMINAL BLOCK) CONFIGURATION FOR V_L ISOLATED

MULTIPLE OUTPUT	1	2	3	4	5	6	7	8
	VI	RET	V2	V3	V4	RET	V4	RET

CON2 (CONNECTORS) CONFIGURATION FOR V_L ISOLATED

MULTIPLE OUTPUT	1-4	5-10	11	12	13	14-15
	VI	RET	V2	V3	V4	RET

CON3 CONFIGURATION

1	2	3	4
S-	S+	RET	PG

CON1 (TERMINAL BLOCK) CONFIGURATION

1	2	3
FG	NEUT(-)	LINE(+)

CON2 (TERMINAL BLOCK) CONFIGURATION FOR V_L POSITIVE

MULTIPLE OUTPUT	1	2	3	4	5	6	7	8
	VI	RET	V2	V3	RET	V4	RET	V4(+)

CON2 (CONNECTORS) CONFIGURATION FOR V_L POSITIVE

MULTIPLE OUTPUT	1-4	5-10	11	12	13	14-15
	VI	RET	V2	V3	RET	V4(+)

TERMINAL BLOCKS
CON1:PITCH=9.5 MM
CON2:PITCH=8.25 MM

TOLERANCE : $\frac{\text{MM} \pm 0.5}{\text{(INCH) } \pm 0.02}$

UNIT: $\frac{\text{MM}}{\text{(INCH)}}$

CON2 (TERMINAL BLOCK) CONFIGURATION FOR V_L NEGATIVE

MULTIPLE OUTPUT	1	2	3	4	5	6	7	8
	VI	RET	V2	V3	V4(-)	RET	RET	RET

CON2 (TERMINAL BLOCK) CONFIGURATION FOR V_L NEGATIVE

MULTIPLE OUTPUT	1-4	5-10	11	12	13	14-15
	VI	RET	V2	V3	V4(-)	RET

CON1=CONNECTOR,MOLEX#22-27-204(OR EQUIVALENT)
(MATING CONNECT.=MOLEX#09-50-3051)
CON2=CONNECTOR,MOLEX#09-65-2158(OR EQUIVALENT)
(MATING CONNECT.=MOLEX#09-50-3151)
ALL MATING TERMINAL=MOLEX#08-50-0106(OR EQUIVALENT)

CON3=CONNECTOR,MOLEX#22-27-204(OR EQUIVALENT)
(MATING CONNECT.=MOLEX#22-01-3047)
MATING TERMINAL=MOLEX#08-50-013(OR EQUIVALENT)