

4. INPUT

General Condition: $T_A = 0 \dots 55 \text{ }^\circ\text{C}$, unless otherwise noted.

PARAMETER	DESCRIPTION / CONDITION	MIN	NOM	MAX	UNIT	
$V_{i\text{nom}}$	Nominal Input Voltage	Rated Voltage High Line ($V_{i\text{nom HL}}$)	200	230	240	VAC
		Rated Voltage Low Line ($V_{i\text{nom LL}}$)	100	115	127	VAC
V_i	Input Voltage Ranges	Normal operating ($V_{i\text{min HL}}$ to $V_{i\text{max HL}}$), High Line	180		264	VAC
		Normal operating ($V_{i\text{min LL}}$ to $V_{i\text{max LL}}$), Low Line	90		140	VAC
$I_{i\text{max}}$	Maximum Input Current	$V_i=100 \text{ VAC}$, $I_l=83 \text{ A}$, $I_{SB}=5 \text{ A}$			13	
		$V_i=200 \text{ VAC}$, $I_l=167 \text{ A}$, $I_{SB}=5 \text{ A}$			12	
		$V_i=200 \text{ VAC}$, $I_l=145 \text{ A}$, $I_{SB}=5 \text{ A}$			10	ARMS
		$V_i=220 \text{ VAC}$, $I_l=158 \text{ A}$, $I_{SB}=5 \text{ A}$			10	
		$V_i=230 \text{ VAC}$, $I_l=167 \text{ A}$, $I_{SB}=5 \text{ A}$			10	
$I_{i\text{inrush}}$	Inrush Current Limitation	$V_{i\text{min}}$ to $V_{i\text{max}}$, $T_{NTC}=25^\circ\text{C}$, 5 ms			10	A_p
f_i	Input Frequency	47	50/60	63	Hz	
PF	Power Factor	$V_i=230 \text{ VAC}$, 10% load	0.8	0.880		W/VA
		$V_i=230 \text{ VAC}$, 20% load	0.9	0.950		W/VA
		$V_i=230 \text{ VAC}$, 50% load	0.9	0.997		W/VA
		$V_i=230 \text{ VAC}$, 100% load	0.95	0.999		W/VA
THD	Total Harmonic Distortion	TBD			TBD	%
$V_{i\text{on}}$	Turn-on Input Voltage ²	Ramping up		87	90	VAC
$V_{i\text{off}}$	Turn-off Input Voltage ²	Ramping down		82	87	VAC
η	Efficiency ³	$V_i=230 \text{ VAC}$, 10% load	90	91.6		%
		$V_i=230 \text{ VAC}$, 20% load	91	93.8		%
		$V_i=230 \text{ VAC}$, 50% load	94	94.4		%
		$V_i=230 \text{ VAC}$, 100% load	91	92.8		%
$T_{V1\text{ holdup}}$	Hold-up Time V_i	$V_i=230 \text{ VAC}$, 50% load, 0°	18			ms
		$V_i=230 \text{ VAC}$, 100% load, 0°	9			ms
$T_{VSB\text{ holdup}}$	Hold-up Time V_{SB}	$V_i=90$ to 264 VAC , 0 to 100% load		70		ms

4.1 INPUT CONNECTOR

PET2000-12-074NA power supply is available in 3 different input connector configurations. The versions with IEC 60320-C14 and IEC 60320-C16 have a limited current of 10 A for areas outside North America, in addition the IEC 60320-C14 has a limited component temperature of 70°C . The Anderson Saf-D-Grid® has no limitation with respect to both current and temperature.

The PET2000-12-074NA power supply is available with IEC 60320-C14.

Below table shows the maximum rated operating conditions for the different input connector options. The applied operating condition must remain within these conditions to allow safety compliant operation.

See also [10.3 MAXIMUM OUTPUT POWER VERSUS INLET TEMPERATURE FOR SAFETY COMPLIANCY](#) for detailed derating curves.

² The Front-End is provided with a minimum hysteresis of 3 V during turn-on and turn-off within the ranges

³ Efficiency measured without fan power per EPA server guidelines

TYPE	INPUT CONNECTOR	REGION	APPLIED RATED MAINS AC VOLTAGE ⁴	MAX I ⁵	MAXIMUM DERATED I _r AT MAXIMUM T _A
PET2000-12-074RA	IEC 60320-C14	North America	100 to 127 VAC	83 A	50 A at T _A = 55°C
			200 to 240 VAC	167 A	100 A at T _A = 55°C
		Other than North America	100 to 127 VAC	83 A	50 A at T _A = 55°C
			200 to 220 VAC	145 A	100 A at T _A = 55°C
			220 to 230 VAC	158 A	100 A at T _A = 55°C
PET2000-12-074NA	IEC 60320-C14	North America	100 to 127 VAC	83 A	50 A at T _A = 70°C
			200 to 240 VAC	167 A	80 A at T _A = 70°C
		Other than North America	100 to 127 VAC	67 A	17.5 A at T _A = 65°C
			200 to 220 VAC	145 A	32.5 A at T _A = 65°C
			220 to 230 VAC	158 A	40 A at T _A = 65°C
PET2000-12-074NAC	IEC 60320-C16	North America	100 to 127 VAC	83 A	50 A at T _A = 70°C
			200 to 240 VAC	167 A	80 A at T _A = 70°C
		Other than North America	100 to 127 VAC	67 A	40 A at T _A = 70°C
			200 to 220 VAC	145 A	87 A at T _A = 70°C
			220 to 230 VAC	158 A	95 A at T _A = 70°C
PET2000-12-074NAA	Anderson Saf-D-Grid®	All	100 to 127 VAC	83 A	50 A at T _A = 70°C
			200 to 240 VAC	167 A	100 A at T _A = 70°C

4.2 INPUT FUSE

Time-lag 16 A input fuse (5 x 20 mm) in series with the L-line inside the power supply protects against severe defects. The fuse is not accessible from the outside and is therefore not a serviceable part.

4.3 INRUSH CURRENT

The AC-DC power supply exhibits an X-capacitance of only 5.9 µF, resulting in a low and short peak current, when the supply is connected to the mains. The internal bulk capacitor will be charged through an NTC which will limit the inrush current.

NOTE:

Do not repeat plug-in / out operations within a short time, or else the internal in-rush current limiting device (NTC) may not sufficiently cool down and excessive inrush current or component failure(s) may result.

4.4 INPUT UNDER-VOLTAGE

If the sinusoidal input voltage stays below the input undervoltage lockout threshold V_{i on}, the supply will be inhibited. Once the input voltage returns within the normal operating range, the supply will return to normal operation again.

⁴ Nominal grid voltage, does not include typical fluctuations of ±10%; e.g. listed range 230-240 VAC allows operation at 230 VAC -10% to 240 VAC +10%, so 207 ... 264 VAC actual voltage to account for grid fluctuations

⁵ Maximum Input current for PET2000-12-074RA at T_A = 40°C and for PET2000-12-074NAx at T_A = 55°C