

APPENDIX A: SPECIFICATIONS

The following lists the performance specifications for the American Reliance Inc., Linear Programmable DC Power Supply Series. All specifications are at rear terminals with a resistive load, and local sensing unless otherwise stated. All specifications apply over the full operating temperature range of 0 to 50°C, unless otherwise specified.

MODEL	PPS-1322	PPS-1302A	PPS-2322	PPS-1326	PPS-10710	PPS-1603
AC INPUT	One rear panel mounted switch permits operation of 115 or 230 Vac line voltage.					
Input Current						
115 VAC	1.32A	1.50A	2.6A	1.92A	2.24A	2.98A
230 VAC	0.66A	0.75A	1.3A	0.96A	1.12A	1.49A
Fuse Rating	AC input is protected by a rear panel mounted fuse.					
115 VAC	2A	2A	4A	4A	4A	4A
230 VAC	1A	1A	2A	2A	2A	2A
Amplitude	115 Vac -10% to +6% or 230 Vac -10% to +6%					
Frequency	50 to 60 Hz					
Maximum VA	152VA	173VA	299VA	221VA	258VA	343VA
Maximum Power	120W	141W	232W	182W	208W	268W
Peak Inrush Current	18A	18A	30A	30A	60A	60A
DC OUTPUT MAXIMUM RATINGS						
Voltage	0-32V	0-30V	dual 0-32V	0-16V; 0-32V	0-7V	0-60V
Current	0-2A	0-2.5A	0-2A	0-6A; 0-3A	0-10A	0-3A
DC OUTPUT PROGRAMMING RANGE						
Voltage	0-32V	0-30V	dual 0-32V	0-16V; 0-32V	0-7V	0-60V
Current	0-2A	0-2.5A	0-2A	0-6A; 0-3A	0-10A	0-3A
PROGRAMMING RESOLUTION						
Voltage and current programming are monotonic over full temperature range.						
Voltage	10mV	10mV	10mV	10mV	2mV	20mV
Current	1mA	1mA	1mA	2mA	3mA	2mA
OVP	200mV	200mV	200mV	200mV	50mV	250mV
PROGRAMMING ACCURACY						
If the unit is recalibrated at a temperature other than 25°C, these specifications apply over a temperature band of ±5°C around calibration temperature.						
Voltage	0.05% +20mV	0.05% +16mV	0.05% +20mV	0.05% +20mV	0.05% +4mV	0.05% +40mV
Current	0.15% +3mA	0.15% +5mA	0.15% +3mA	0.15% +5mA LO 0.15% +10mA HI	0.15% +20mA	0.15% +5mA
OVP	2.4% + 1.3V	2.4% + 1.3V	2.4% + 1.3V	2.4% + 1.3V	2.4% + 0.3V	2.4% + 1.5V
EXTERNAL ANALOG PROGRAMMING ACCURACY						
	-----	-----	-----	-----	-----	6V/V ±5mV 0.3A/V ±6mA
LOAD EFFECT						
Load effect is defined as the maximum change in output due to a load change up to the maximum voltage or current rating.						
Voltage	0.001% +1mV	0.001% +1mV	0.001% +1mV	0.001% +1mV	0.001% +1mV	0.01% +1mV
Current	1mA	1mA	1mA	1mA	1mA	1.2mA
Remote sense operation is possible with up to 0.5V drop for positive and negative output load leads. When remote sensing, add 0.2mV (PPS-1322, PPS-1302A, and PPS-2322), 0.7mV (PPS-1326), and 1.5mV (PPS-10710), and 0.5mV (PPS-1630) to voltage load effect specification for each 1V drop in the negative output load lead.						

Specifications are subject to change without notice.

SPECIFICATIONS CONTINUED

MODEL	PPS-1322	PPS-1302A	PPS-2322	PPS-1326	PPS-10710	PPS-1603
SOURCE EFFECT		Maximum output change for a line voltage change within rating.				
Voltage	1mV	1mV	1mV	1mV	1mV	1mV
Current	1mA	1mA	1mA	1mA	1mA	1mA
PARD (PERIODIC AND RANDOM DEVIATION AND NOISE) RMS/PK-PK (20Hz - 20MHz) with output ungrounded.						
Voltage	1mVrms/10mVp-p	1mVrms/10mVp-p	1mVrms/10mVp-p	1mVrms/10mVp-p	1mVrms/10mVp-p	1mVrms/10mVp-p
Current	1mA rms	1mA rms	1mA rms	1mA rms	1mA rms	1mA rms
TEMPERATURE COEFFICIENT		The temperature coefficient is defined as the change in output per degree Celsius; after a 30 minute warm-up period.				
Voltage	100ppm/°C	100ppm/°C	100ppm/°C	100ppm/°C	100ppm/°C	100ppm/°C
Current	200ppm/°C	200ppm/°C	200ppm/°C	200ppm/°C	200ppm/°C	200ppm/°C
DRIFT (STABILITY)		The drift is defined as the change in output over an eight hour interval under constant line, load, and ambient temperature after a 30 minute warm-up period.				
Voltage	0.01% + 3mV	0.01% + 3mV	0.01% + 3mV	0.01% + 3mV	0.01% + 3mV	0.01% + 6mV
Current	0.1% + 2mA	0.1% + 2mA	0.1% + 2mA	0.1% + 3mA LO 0.1% + 6mA HI	0.1% + 10mA	0.1% + 3mA
LOAD TRANSIENT RESPONSE		The time required for the output voltage to recover within a band of 0.1% of rated voltage around the nominal voltage, within a 50% variation in load current.				
Recovery Time	30us	30us	30us	50us	50us	60us
PROGRAMMING UP/DOWN SPEED		The total programming UP/DOWN time is the sum of output voltage response time and the programming command processing time. LSB is the maximum time for the output voltage to vary within ±0.025% of a final value. UP and DOWN times are the maximum times for the output from 10% to 90% or to 10% of its total excursion value.				
Tup/Tdn	20ms/100ms	20ms/100ms	20ms/100ms	20ms/100ms	5ms/30ms	40ms/400ms
LSB	45ms/120ms	45ms/120ms	45ms/120ms	45ms/120ms	12ms/50ms	40ms/500ms
READBACK RESOLUTION						
Voltage	10mV	10mV	10mV	10mV	2mV	20mV
Current	1mA	1mA	1mA	1mA 2mA High Range	3mA	2mA
READBACK ACCURACY		If the unit is recalibrated at a temperature other than 25°C, these specifications apply over a temperature band of ±5°C around calibration temperature.				
Voltage	0.1% + 20mV	0.1% + 16mV	0.1% + 20mV	0.1% + 20mV	0.1% + 4mV	0.1% + 40mV
Current	0.2% + 3mA	0.2% + 5mA	0.2% + 3mA	0.2% + 5mA LO 0.2% + 10mA HI	0.2% + 20mA	0.2% + 5mA
READBACK TEMPERATURE COEFFICIENT		The readback temperature coefficient is defined as the variation in reading per degree Celsius after a 30 minute warm-up.				
Voltage	100ppm + 8mV	100ppm + 8mV	100ppm + 8mV	100ppm + 8mV	100ppm + 2mV	100ppm + 20mV
Current	200ppm + 2mA	200ppm + 2mA	200ppm + 2mA	200ppm + 2mA 200ppm + 4mA (High Range)	200ppm + 12mA	200ppm + 2mA
OUTPUT ISOLATION		Neither output terminal may be more than ±240Vdc from chassis ground.				
	± 240Vdc	± 240Vdc	± 240Vdc	± 240Vdc	± 240Vdc	± 240Vdc
TEMPERATURE RATINGS		Operating Storage				
			0°C to 50°C -40°C to 70°C			
GPIB INTERFACE CAPABILITY		SH1, AH1, T6, TE0, L4, LE0, RL1, SR0, PP0, DC1, DT0, C0, E1				
WEIGHT	16 lbs	16 lbs	17 lbs	18 lbs	18 lbs	19 lbs
DIMENSIONS	8.4" x 5.2" x 15.7" for all models					

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