1.3.0 <u>Output Specifications</u>

1.3.1 Voltage Mode

Range (full scale)	<u>100 mVdc</u> ±111.111 0 mVdc	<u>10 Vdc</u> ±11.111 10 Vdc	<u>100 Vdc</u> ±111.111 0 Vdc
Resolution (1 ppm)	100 nV	10 µV	100 μV
Compliance Current	EMF into 1 meg Ohms	100 mA	100 mA
Output Impedance	20 Ohms	10 milliohms	10 milliohms

Accuracy (Basis for accuracy statement): The Accuracy Statement is based on the "Limit of Error" (or "worst case") method. All other specifications noted hereafter, which effect accuracy, e.g., line, load, temperature, and drift changes are included in the accuracy statement. Thus, all other specifications are listed as *non-Additive.

 \pm (0.002% of setting + 0.0005% of range + 3 μ V)

Note: The "+ 3 μ V" specified above applies primarily to the 100 mV range where measurements at these low levels should be stated conservatively. It becomes insignificant on the higher ranges.

Note: The accuracy statement above is based on the "Limit of Error" method and is VALID FOR ONE YEAR calibration cycles. The "Limit of Error" accuracy may be increased to tighten tolerances by:

- A) Shortening re-calibration cycle, i.e., more frequently than the suggested 1 year cycle. and/or
- B) Elimination of "worst case" conditions by implementing carefully monitored, standards laboratory procedures.

Stability: 8 hrs: ±0.00075%; 24 hrs: ±0.001% (*non-additive)90 days: ±0.0015%; 1 year: ±0.002%

Line & Load Regulation: ±0.0005% No load to full load (*non-additive) ±10.0% line fluctuation

Noise & Ripple: rms: $\pm 0.0005\%$ of range + 2 μ V In a band pass of 0.1 Hz to 100 kHz

1.3.2 Current Mode

Range	10 mAdc	100 mA
Full Scale	±11.111 1. mAdc	±111.111 0 mAdc
Resolution (1 ppm)	10 nA	100 nA
* Compliance Voltage	± 0 - 100 Vdc	± 0 - 100 Vdc
Output Conductance	0.1 µs	0.1 µs

* Note: Voltage Compliance Limit Control

The compliance voltage may be limited via a jumper. The limits are: > \pm 100 V, \pm 46 V, \pm 32 V, \pm 18 V, \pm 4 V and \pm 1 V.

Accuracy: (See definitions under Voltage mode) $\pm 0.005\%$ of setting + 1 μA

Stability: 8 hrs: ±0.001%; 24 hrs: ±0.002% (*non-additive)90 days: ±0.0025%; 1 year: ±0.005%

1.4.0 <u>General Specifications</u>

Isolation: Power Transformer to analog output: 2.5×10^4 Megohms, 300 pF Control logic to analog output; optically isolated. 10^9 Ohms, 130 pF, 500 Vdc

Temperature Coefficient: Ambient: ±0.0005%/°C Operating Limit: ± 0.001%°C

Switching and Settling Times: Step Changes: 5 ms Range Changes: 1 s

Protection: Voltage mode: Short-circuit and overload protection. Current mode: Open-circuit protection. Front panel enunciator will indicate malfunction condition.

Warm-up Time: 2 hours

1.5.0 <u>Mechanical Specifications</u>

Power Requirements: 50 W; 115 V or 220 Vac ±10%; 50/60 Hz See paragraph 3.6.0 for power line voltage changing instructions.

Temperature:	Calibration Temperature:	23°C ±1°C
	Ambient Temperature:	20°C to 30°C
	Operating Limit:	10°C to 50°C
	Storage Temperature:	-40°C to 85°C
Dimension:	Height: W 19 x H 3.5 x 1 W 480 x H 88 x D 530 mm	D 21 inches

Weight: 21.5 lbs., 9.75 kg. Shipping 23 lbs., 10.43 kg

Terminals: Output: Front panel mounted, 5 way binding posts which are: floating, opto-isolated from the 488 bus, remote sensed (4 wire) and case ground. Rear panel mounted 6 pin Amphenol spec. connector (mate supplied) with the same functions as those listed for the front panel connections. (No additional charge).

Program: Rear panel mounted connector conforming to IEEE-488(1978).

1.6.0 <u>General Information</u>

Mounting: Rack mounting facilities; standard 19 inches; 482.6 mm and for bench use with convenient, and removable, tilt bale, included.

Certification: A Certificate of Compliance is issued with each new instrument to certify the calibration traceable to the U. S. Bureau of Standards.

Warranty: Full ONE YEAR warranty on parts and labor and a full ONE YEAR warranty on specifications and performance.