

Excellence in High Voltage

LT Series Data Sheet

LT001, LT2.5, LT005, LT010,
LT015, LT020, LT030, LT050,
**PRECISION HIGH VOLTAGE
MODULES**

Applications: (3 Watt max)

Mass spectrometers
Electron microscopes
Nuclear instruments
Photomultiplier tubes
Microchannel plates

- 1kV, 2.5kV, 5kV, 10kV, 15kV, 20kV, 30kV, 50kV
- Highest Stability, Lowest Ripple, Lowest Drift
- Externally programmable or Internal control (option)
- Short circuit and flashover proof
- 24 hour burn in
- Low radiated magnetic field
- Positive, negative & remote reversible versions



The LT Series builds on the new standard for high voltage precision and stability set by the LS 1W family. By optimising the Low Stress™ technologies pioneered in the LS family, the LT Series provides 3W o/p capability, but still has less than 2ppm ripple, 10ppm/°C temperature coefficient, and 75ppm drift/hr throughout the range, while retaining the same LS case dimensions.

Each of the units includes a differential control input.

To take full advantage of the performance available from the LT Range, they are initially only being made available to our OEM customers as application specific, custom optimised, modules.

All units are short circuit proof and use proven techniques to drive a high frequency oscillator and ferrite high voltage step-up transformer. These advanced power supplies build on Applied Kilovolts' legendary reputation for reliability, being constructed from conservatively rated components with their reliability further enhanced by information gained over many years of field operation.

Available as +ve or -ve up to 50kV, and electrically reversible at voltages up to 30kV.

Please see the HPZ range for zero crossing reversible (bi-polar) units.

We manufacture a large number of customized OEM versions and would be pleased to discuss your application with you.

ELECTRICAL SPECIFICATION

POSITIVE & NEGATIVE POLARITY UNITS

UNIT TYPE	POLARITY	OUTPUT	RIPPLE AT FULL LOAD	SIZE (mm)
LT001PIP010	POSITIVE	10 volts to 1kV at 3mA	2mV peak to peak	156 X 127 X 64
LT001NIP010	NEGATIVE			
LT2.5PIP010	POSITIVE	10 volts to 2.5kV at 1.2mA	5mV peak to peak	156 X 127 X 64
LT2.5NIP010	NEGATIVE			
LT005PIP010	POSITIVE	10volts to 5kV at 600uA	10mV peak to peak	156 X 127 X 64
LT005NIP010	NEGATIVE			
LT010PIP010	POSITIVE	20 volts to 10kV at 300uA	20mV peak to peak	156 X 127 X 64
LT010NIP010	NEGATIVE			
LT015PIP010	POSITIVE	30 volts to 15kV at 200uA	30mV peak to peak	207 X 148 X 74
LT015NIP010	NEGATIVE			
LT020PIP010	POSITIVE	50 volts to 20kV at 150uA	40mV peak to peak	207 X 148 X 74
LT020NIP010	NEGATIVE			
LT030PIP010	POSITIVE	100 volts to 30kV at 100 uA	60mV peak to peak	207 X 148 X 74
LT030NIP010	NEGATIVE			
LT050PIP010	POSITIVE	200 volts to 50kV at 60uA	100mV peak to peak	TBD
LT050NIP010	NEGATIVE			

REVERSIBLE POLARITY UNITS

UNIT TYPE	POLARITY	OUTPUT	RIPPLE AT FULL LOAD	SIZE (mm)
LT001RIP010	REVERSIBLE	±10V to ±1kV at 3mA	2mV peak to peak	163 X 152 X 71.5
LT2.5RIP010	REVERSIBLE	±10V to ±2.5kV at 1.2mA	5mV peak to peak	163 X 152 X 71.5
LT005RIP010	REVERSIBLE	±10V to ±5kV at 600uA	10mV peak to peak	163 X 152 X 71.5
LT010RIP010	REVERSIBLE	±20V to ±10kV at 300uA	20mV peak to peak	163 X 152 X 71.5
LT015RIP010	REVERSIBLE	±30V to ±15kV at 200uA	30mV peak to peak	233 X 204 X 114
LT020RIP010	REVERSIBLE	±50V to ±20kV at 150uA	40mV peak to peak	233 X 204 X 114
LT030RIP010	REVERSIBLE	±100V to ±30kV at 100uA	60mV peak to peak	333 X 204 X 114
See HPZ data sheet for continuously variable zero crossing power supplies				

INPUT VOLTAGE: - +24 volt d.c. ±10% at <500mA, for Unipolar, and at <600mA for Reversibles.
Negative input terminal common to HV earth return.

OUTPUT VOLTAGE: - See tables above.

LINE REGULATION: - Less than 4 ppm of maximum voltage for input changes of 1 volt.

LOAD REGULATION: - Less than 10ppm for load changes from 10% to 100%.
(Measured at maximum voltage).

OVERLOAD PROTECTION: - Flashover and short circuit proof. Re-entrant current limit.

TEMPERATURE COEFFICIENT: - <10ppm/ °C from 20°C to 50°C

DRIFT: - <75ppm per hour (<0.005%) Measured at constant input voltage, load current
<150ppm per 8 hours (<0.01%) & ambient temperature after 0.5 hour warm up.

CONTROL: - 10V analogue signal. (0 to +10V gives zero to maximum output, tolerance +2%, -½%).

Input impedance > 100Kohm. EXTERNAL potentiometer = Option Code PP INTERNAL potentiometer = Option Code FP

READOUT: - Voltage monitor:- 0 to +10V represents zero to maximum output, tolerance ±2% (Zout=10k).
Precision Current Monitor:- 0 to 10V represents zero to 100% o/p current, ±2%, Offset ±0.1% of FS (Zout= 10k)

OPERATING TEMP: - 0 °C to +50 °C

STORAGE TEMPERATURE: - -35 °C to +85 °C

R.F.I.: - Steel case for low radiated magnetic field.

MECHANICAL SPECIFICATION

Fixings: Blind Fasteners into the base.

Output: By 1 metre screened cable, or optional integrated high voltage connector
N.B. Reducing the cable length may increase the ripple voltage.

Input Connector: 15 way D-type

e.g. Order Code: LT010NIP010 = negative 10kV unit,
LT005PPP010 = positive 5kV unit for control by External Potentiometer.