APPLIED KILOVOLTS

brandenburg

Excellence in High Voltage

HT Series Data Sheet

HT010R, HT020R and HT030R

30W FAST POLARITY SWITCHING MODULES

Application:

MALDI Mass spectrometers, Nuclear instrumentation

- ±10kV, ±20kV and ±30kV types
- Fast solid state polarity switching (<250mS)
- Remote voltage programming
- High Stability, (temp-co <25ppm)
- Voltage monitor & current monitor
- Flashover & short circuit protected

This range of high performance 30W high voltage power supplies has been specifically designed for applications where a remotely switchable polarity is required. This compact converter module employs solid state switching techniques allowing for fast polarity reversal whilst maintaining excellent line and load regulation. These modules are designed to operate from a dc supply of 24V (nominal) and provide an accurately controlled high voltage output. The use of high stability components within the feedback system ensures a low temperature coefficient and good long & short term drift making the HT series ideal for use in MALDI time of flight mass spectrometry equipment. The output voltage may be controlled from 50V to maximum (10, 20 or 30kV) of either polarity by means of an external control voltage (0 to +10V). Monitoring of output voltage, current and polarity status are provided. Current sink & source versions are also available.

Electrical Specification

Unit Type	Output Voltage	Output Current	Ripple (pk-pk)	Temp-Co (/ degC)
HT010RAA050	±10kV	3mA	1V	50ppm
HT020RAA050	±20kV	1.5mA	1V	50ppm
HT030RAA050	±30kV	1mA	1V	50ppm
HT0**XX**RAA025	As above for 25ppm equivalents			25ppm

Input:	+24 volt dc ±10% <3A. 0V input common to HV return and chassis.
Output, voltage / current / ripple.	See table above.
Line regulation:	<10ppm for a 1V change in input voltage.
Load regulation:	<10ppm for zero to full load.
Drift (after 1 hour warm up)	100ppm per hour, 200ppm per 8 hours
Protection	Current limit to 110% (typ) auto recovery. Protected against intermittent flashover to ground
Control of output	True differential analogue input of zero to 10V dc varies output from zero to maximum +Ve input R=100k, input range: -1V to +10V, with respect to ground -Ve input R=100k, input range: +1V to -10V, with respect to ground

Electrical Specification

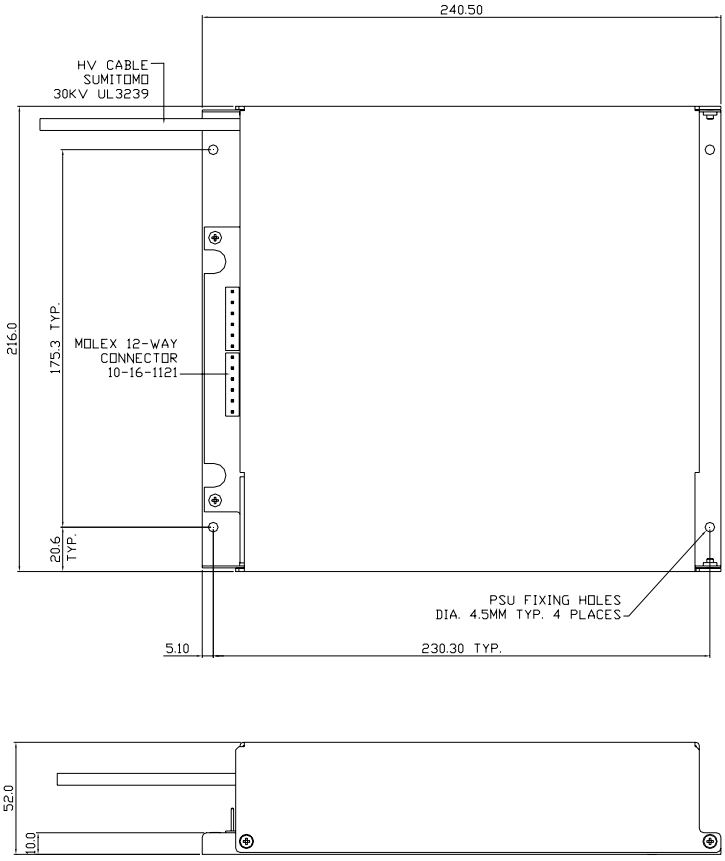
Polarity control	Negative = High (>2.5V) or open circuit. Positive = Low (<0.8V)
Polarity change time	<250mS. Between maximum rated output to maximum rated output of the opposite polarity into 200pF
Voltage monitor	Zero to +10V ±2% for zero to maximum (Z= 10k)
Current monitor	Zero to +10V ±2% for zero to maximum (Z= 10k)
Polarity monitor 1	High = positive output (24V via 2k2). Low = negative output (0V via 1k5)
Polarity monitor 2	High = negative output. Low = positive output

Mechanical Specification

Dimensions	240 x 216 x 52 mm (9.45” x 8.5” x 2”)
Weight	2.8kg (6 lb) approximately
Mountings centres	230.3 x 175.6 mm (9.067” x 6.9”) 4 off M4 bushes
Input & control	12 way 0.2” Molex connector
Output	Flying lead, red UL3239 screened 30kV cable, 1m long

Environmental Specification

Temperature, operating	+10 to +50°C.	Humidity (RH) <31°C	80% maximum
Temperature, storage	-35 to +85°C.	Humidity (RH) >30°C	Decrease linearly to 50°C
Altitude, operating	Up to 2,000m.	Altitude, storage	Up to 18,000m



Pin Assignment

1 Current monitor o/p
2 +24V dc i/p
3 Voltage monitor o/p
4 N/C / *Output enable
5 N/C
6 N/C
7 +Ve control i/p
8 Polarity select i/p
9 -Ve control i/p
10 0V Power return
11 Polarity monitor 1
12 Polarity monitor 2

Brandenburg Ltd

Unit 8, Waterfront Business Park, Merry Hill, Dudley, DY5 1LX
Tel: +44 (0) 1384 840 840 Fax: +44 (0) 1384 840 841
Web: brandenburg.co.uk E-mail: sales@brandenburg.co.uk

Applied Kilovolts

Woods Way, Goring by Sea, BN12 4QY. United Kingdom.
Tel: +44 (0) 1903 708 850 Fax: +44 (0) 1903 708 851
Web: appliedkilovolts.com E-mail: sales@ appliedkilovolts.com