

RD005kV, RD7.5kV, RD010kV, RD012kV REVERSIBLE HIGH VOLTAGE MODULES + FLOATING 3kV DETECTOR SUPPLY



Applications

TOF Mass Spectrometers

Floating Detectors

Electrical Specification

UNIT TYPE	BIAS OUTPUT	RIPPLE AT FULL LOAD	FLOATING DETECTOR
RD005RIP025	-5 kV to +5 kV at 250uA	150mV peak to peak	3Kv @ 400uA <200mV Ripple
RD7.5RIP025	-7.5 kV to +7.5 kV at 150uA	165mV peak to peak	3Kv @ 400uA <200mV Ripple
RD010RIP025	-10 kV to +10 kV at 125uA	200mV peak to peak	3Kv @ 400uA <200mV Ripple
RD012RIP025	-12.5kV to +12.5kV at 150uA	200mV peak to peak	3Kv @ 400uA <200mV Ripple

Input voltages: +24 V $\pm 10\%$ at 1A

Bias Output voltage: See table above. Joined within the unit to Detector -ve

Bias Control voltage: 0V to +10 V gives 0V to max. kV $\pm 2\%$.

NB: Internal manual potentiometer control not fitted.

Load regulation: < 100 ppm for zero to max. load.

Line regulation: < 100 ppm for 1 V change in I/P volts.

V monitor: 0 to ± 10 V represents 0 to \pm max o/p voltage, $\pm 2\%$ output impedance 10 kohm.

I monitor: 0 to ± 10 V represents 0 to \pm max o/p current, $\pm 5\%$ output impedance 10 kohm.

Speed of reversing: < 500 mS

Temperature - <25 ppm per $^{\circ}\text{C}$. (<10ppm per $^{\circ}\text{C}$ available shortly)

co-efficient:

Detector Control Voltage 0V to +10 V gives 0V to 3 kV $\pm 5\%$.

Minimum Detector O/P V 500V

Detector Vmon 0 to 10 V represents 0 to 3kV o/p voltage, output impedance 10 kohm.

Detector Load regulation: < 0.1% for zero to max. load.

Detector Line regulation: < 0.1% for 1 V change in I/P volts.

Detector Temp-co < 300 ppm per $^{\circ}\text{C}$.

Operating temperature: 0 $^{\circ}\text{C}$ to +45 $^{\circ}\text{C}$.

Mechanical Specification

Size: 240 x 216 x 100mm. NB. Grounding of the case is via fixing bolts.

Output cables: URM43 length 0.5 metre. Labelled Detector Minus, & Detector Plus

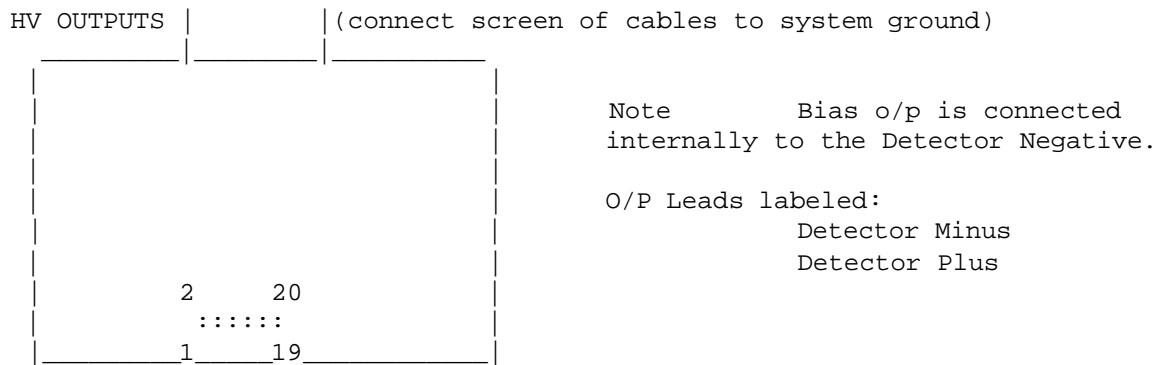
Input Connector: BERG 20 Way IDC header

Compliance: Designed to meet or exceed EN61010

OPERATING INSTRUCTIONS FOR RD SERIES

- 1/ Bias Voltage Ripple measured with 2000pf to Gnd.
- 2/ HIGH VOLTAGES ARE DANGEROUS. ENSURE THE OUTPUT IS FULLY DISCHARGED BY SHORTING TO GROUND BEFORE TOUCHING ANY HIGH VOLTAGE CIRCUIT.
- 3/ During arcing, currents exceeding 1000 Amps will flow. Make connections to suit. It is important that these currents return to the high voltage power supply by the shortest possible route. The high voltage load return should be via the screen of the output cable. Failure to observe this will result in the input to the unit seeing large voltage spikes during arcing.

The unit is short circuit proof but care should be taken that the high voltage is not shorted into one of the control pin connections.



PIN CONNECTIONS

BERG 20W IDC header Part No 65863-069 for use with ribbon cable.

- | | |
|----|--|
| 1 | +24V Power supply input |
| 2 | Sync option (If fitted) |
| 3 | +24V Power supply input |
| 4 | Bias V Monitor |
| 5 | +24V Power supply input |
| 6 | Bias I Monitor |
| 7 | +24V Power supply input |
| 8 | Bias Control signal +ve Differential input |
| 9 | +24V Power supply input |
| 10 | Bias Control signal -ve Differential input |
| 11 | Signal ground |
| 12 | Detector Control signal +ve Differential input |
| 13 | Power ground |
| 14 | Detector Control signal -ve Differential input |
| 15 | Power ground |
| 16 | Detector Voltage Monitor |
| 17 | Power ground |
| 18 | Bias Polarity select i/p |
| 19 | Power ground |
| 20 | Inhibit |

Polarity Select:	Low = Negative	
	High or o/c = Positive	+24V signal (1mA max current)
Inhibit:	Low or o/c = Off	
(Inhibits both supplies)	High = On	+24V signal (1mA max current)