# Fast Polarity Reversing ESI/APCI High Voltage Module ± 8kV 100µA 20 ms

- Mass spectrometer source and dynode supplies, electrostatic applications
- Programmable voltage and current control
- Fast on-line polarity switching
- High stability, low ripple
- Short circuit and flashover proof
- Factory burn in
- Low radiated magnetic field
- UL recognised

## Highlights

The MS008RCD020 high - voltage power supply is designed for demanding mass spectrometry applications, with particular suitability for electrospray ionisation (ESI) and atmospheric pressure chemical ionisation (APCI) ion sources, where fast, repeatable polarity changes and precisice control are essential to analytical performance. The unit provides a ±8 kV fast polarity - switching output with a maximum switching time of 20ms, ensuring rapid mode changes while maintaining excellent voltage and current stability. Independent voltage and current control, combined with an output current capability of up to 100µA makes the MS008RCD020 well suited to modern ion - source architectures.

IMI are experts in mass spectrometry and have a deep understanding of how power supply design direcly influences overall instrument performance. This application - driven expertise is embedded in the MS008RCD020 and across IMI's wider high - voltage portfolio . IMI manufactures a comprehensive range of high - voltage power supplies suitable for all types of mass spectrometer, covering ion source, dynode, quadrupole driver, flight tube and detector power supply applications. Other products in the range offer polarity- switching speeds down to 5 ms, enabling OEMs to select the optimal high - voltage solution for each subsystem within the instrument.

### Specifications: MS008RCD020

| Unit | Output Voltage | Output Current | Ripple at Full Load | Temp - Co (/°C) | Size (mm) L x W x H | Weight (kg) |
|---|---|---|---|---|---|---|
| MS008RCD020 | 0 to ±8kV | 0 to 100uA max | <0.1%pp | <100 ppm | 240 x 82 x 37.6 | 1.1 |


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## Electrical Specification

| | |
|---|---|
| Input | +24Vdc ±10% <500mA (<1.2A during polarity switching) |
| Voltage control | 0 to +8V for 0 to ±8kV ±1%, (Zin = 10kΩ)<br>0 to +10V for 0 to ±100µA ±1% (Zin = 10kΩ) |
| Polarity control | TTL input, low=negative, high=positive output |
| Voltage monitor | 0 to +8V ±1% for 0 to ±8kV (Zout = 10kΩ) |
| Current monitor | 0 to +10V ±2% for 0 to ±100µA (Zout = 10kΩ) |
| Line regulation | <±0.1% for ±10% change in supply voltage |
| Load regulation | <0.1% zero to full load |
| Drift (after 1 hour warm-up) | <500ppm/hour after 1 hour stabilisation |
| Protection | Protected against intermittent arcing and continued short circuit to ground |

## Mechanical Specification

| | |
|---|---|
| Mounting | 8-32 UNC inserts on 205.8 x 57.2mm centres |
| Input and control connector | 14 Way Molex Mini-Fit Jr Receptacle 39012140 on 508mm flying lead |
| Output | Amphenol Alden F303RX receptacle<br>Mating connector: Amphenol Alden F602RX or F701RX (not supplied with unit) |

## Environmental Specification

| | | | |
|---|---|---|---|
| Temperature, operating | +5°C to +45°C | Humidity (RH) | 10-85% non-condensing |
| Temperature, storage | -35°C to +85°C | | |
| Altitude, operating | Up to 2,000m | | |

The unit is to be supplied from a current limited supply providing 24V dc, impulse limited to overvoltage Category I (of IEC60364-4-443). For use in an environment of pollution degree 2.

## Regulatory

UL/CUL listed part E254121. Compliant with UL 61010-1 and related international standards
Compliant to RoHS directive 2011/65/EU as amended by 2015/863

## Pin Assignments

| | | | |
|---|---|---|---|
| 1 | 24Vdc input | 8 | Polarity control input TTL |
| 2 | Supply 0V (+24V return) | 9 | Signal ground |
| 3 | Enable input TTL | 10 | Current/voltage mode indicator TTL |
| 4 | Voltage monitor output 0-8V | 11 | Not connected |
| 5 | Voltage control input 0-8V | 12 | Not connected |
| 6 | Current monitor output 0-10V | 13 | Not connected |
| 7 | Current control input 0-10V | 14 | Not connected |

Notes:
1

## Part Number Selection
## Series Code: MS

| O/P kV | Polarity | Options | Switching Speed |
|---|---|---|---|
| 008=8kV | R = reversible | CD = Voltage and current control | 020 = 20ms |

Standard part number: MS008RCD020


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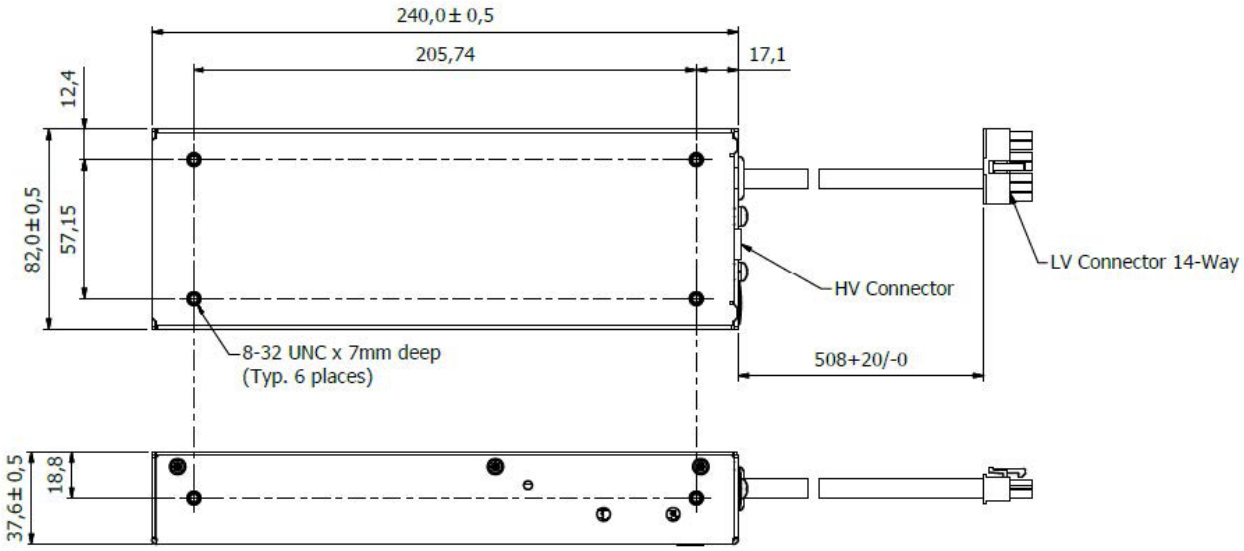
## Dimensions
## MS008RCD020





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