

## Safety and Instruction leaflet for the MX10 series, 10kV reversible power supplies



**Title:** Safety and instruction leaflet for the MX10 series, 10kV reversible power supplies

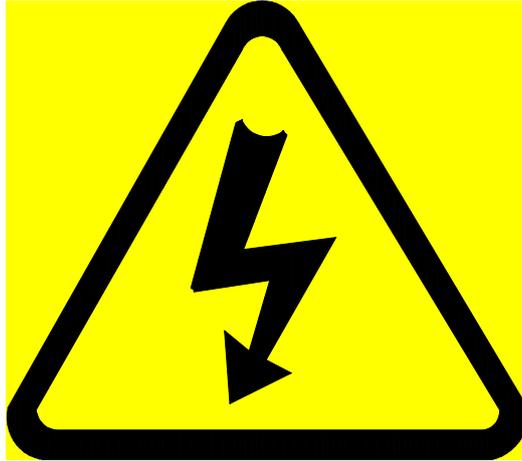
**Document Number:** 80144-4

**APPROVAL**

Issue	A	1	2
Date	04/11/04	06/06/06	4 Dec 2007
Issuing Authority		I-0683	5300M
Engineering Approval			
Sales/Marketing Approval			

Spellman High Voltage Electronics Limited  
 Company Confidential

This document must not be copied or distributed without express permission from Spellman High Voltage Electronics Limited



**DANGER  
HIGH VOLTAGE  
RISK OF ELECTROCUTION**

- Observe extreme caution when working with this equipment.
- High voltage power supplies must always be grounded.
- Do not touch connections unless equipment is turned off and the capacitance of both the load and power supply are grounded.
- Allow adequate time for discharge of internal capacitance of the power supply.
- Do not ground yourself or work under wet or damp conditions.

Servicing Safety

- This unit is not user serviceable. Return to supplier for repair/service.

## 1. Introduction

The MX10 series are a range of dc input, 10kV output reversible high voltage supplies, designed to provide a high quality dc output for a wide range of instrumentation and analytical applications. They are particularly suited to mass spectrometry application. A number of versions are available to cater for different levels of performance in terms of reversing speed, output ripple and output current. All versions feature a logic signal input to control output polarity reversal, a HV inhibit feature, along with voltage and current monitors. Models are available with fixed output voltage or variable output voltage and current mode control. The units are designed for bulkhead mounting and are partially encapsulated to provide excellent protection against shock, vibration, and the possible ingress of moisture.

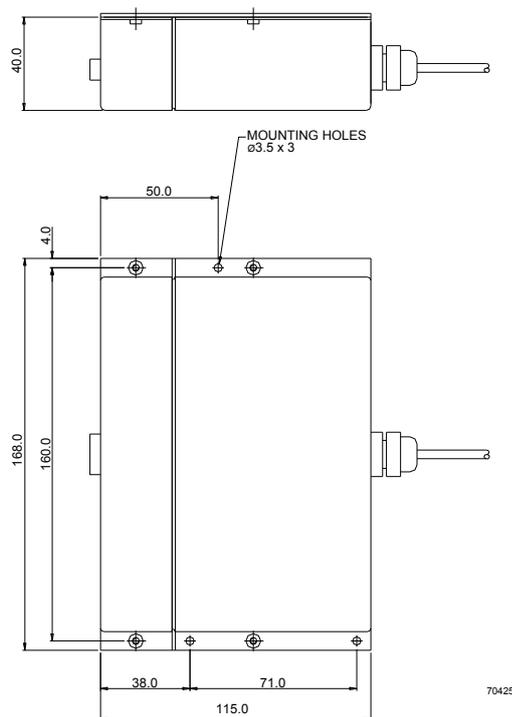
## 2. Installation

### 2.1. Installation Considerations

- a) The unit must be properly bonded to the main protective earthing termination in the end product.
- b) Adding a capacitive load will increase the stored charge and energy, possibly making the output voltage hazardous.
- c) The front top of the case acts as a heatsink for the power electronic components and can exceed 60 degrees C.
- d) Consideration should be given to the conduct of the following tests with the power supply installed in the end product :
  - i) Dielectric voltage withstand test, between live parts of the power supply and the end product chassis.
  - ii) Permissible limit tests with the power supply installed in the end product.
  - iii) Temperatures on power electronic devices and accessible surfaces.
- e) The input and output connections are not suitable as field connections and are only intended for connection to internal wiring inside the end product.

## 2.2. Mechanical Details

The mechanical outlines are shown in the figures below :-



## 2.3. Input/output Connections

The module pin numbers are shown in the table below along with a brief description of each signal:-

Pin	Signal Name	Parameters
1	Voltage Monitor	0-10Vdc = 0-100% of rated output
2	External Inhibit Input	Open or >10v = "OFF"; <4v = "ON"
3	Current Programming Input	0-10Vdc = 0-100% of rated output
4	Signal Ground	Signal Ground
5	Current Monitor	0-10Vdc = 0-100% of rated output
6	Polarity Control Input	Open or >10v = "Negative"; <4v = "Positive"
7	Voltage Programming Input	0-10v = 0-100% of rated output
8	+24v Input	+24v Input
9	Power Ground	Power Ground

## CHANGE HISTORY

Section	Reason for Change	Issue
All	First Draft	A
All	Up-issue to Numeric Issue	1
2.1 b) and c)	Sections 2.1 b) and c) added Minor clerical corrections	2