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Product:

MXE Series

Title:

Safety Installation and User Guide



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G

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Change History

ISSUE	DATE	NAME	SECTION	CHANGE
A	18/May/2023	JS	All	Created from 81747-1
B	12/03/2025	DJE	1 2.3 3.2 4 Appendix B	Add digital features to unit description Add grounding instruction Update connections to add digital Update unit operation to add digital, connection diagrams, descriptions and error codes. Added for GUI instructions
C	30/08/2025	LH / JS	2	Added latest safety information.
D	10/12/2025	DJE	1 - 11 Appendix B	Added latest safety information. Amended GUI instructions to show digital polarity
E	05/01/2026	DJE	10.2.1 12.1 12.2	Add footnote regarding pin termination Removed outdated accuracies (updated values are in the datasheet) Added digital performance information
F	14/01/2026	DJE	12.2	Update digital voltage control and monitor scaling
G	20/01/2026	DJE	12.3	Update Product Status in Footnote for Digital Polarity control

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1. Safety Information

Ensure you read this guide carefully and familiarise yourself with the unit before carrying out installation, maintenance or servicing activities.

This guide is subject to change without notice. Whilst every effort has been made to ensure the accuracy and completeness of information, Spellman High Voltage Electronics Limited shall not be held liable for errors and omissions herein.

DANGER

HAZARD OF ELECTRIC SHOCK

This power supply must always be connected to the Protective Earth Ground.

Do not touch or approach connections unless the equipment is turned off and the capacitance of both the load and power supply have been discharged by either:

- Allowing adequate time for the discharge of internal capacitance of the power supply.
- Using a properly rated discharge rod to ground the terminals.

Do not ground yourself or work under wet or damp conditions.

Always return to an authorised supplier for servicing.

Servicing and maintenance should only be performed by competent personnel with sufficient training, experience and knowledge working with high voltage equipment.

Extreme caution must be exercised when undertaking maintenance when the power supply cover is removed.

Any interlocks provided are solely for use as functional interlocks, and as such must not be used under any circumstances as a means of providing operator protection.

Failure to follow these instructions will result in death or serious injury.

DANGER

DANGER D'ELECTROCUTION

Cette alimentation doit toujours être connectée à la terre de protection.

Ne pas toucher ou s'approcher des connexions à moins que l'alimentation et l'équipement haute tension connecté soit éteint et que la charge résiduelle dans l'alimentation et l'équipement haute tension ont été déchargé par:

- Suffisamment de temps pour la permettre la décharge interne de l'alimentation.
- Une tige de décharge appropriée pour mettre les bornes à la terre.

Ne vous connectez pas à la terre et ne travaillez pas dans des conditions mouillées ou humides.

Retournez toujours à un fournisseur agréé pour l'entretien.

Tous les verrouillages fournis sont uniquement destinés à être utilisés comme verrouillages fonctionnels et, en tant que tels, ne doivent en aucun cas être utilisés comme moyen de protection de l'opérateur.

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L'entretien et la maintenance ne doivent être effectués que par du personnel compétent ayant une formation, expérience et des connaissances suffisantes pour travailler avec des équipements haute tension.

Une extrême prudence doit être exercée lors de la maintenance et lorsque le couvercle de l'alimentation est retiré.

Le non-respect de ces instructions entraînera la mort ou des blessures graves.

2. Reasonable Use and Responsibility

This power supply must only be used in compliance with applicable safety regulations and standards, its specified requirements, and all technical documentation provided.

This power supply is a component part intended to be incorporated into equipment, or machinery. It is the overall equipment manufacturer's responsibility to ensure compliance of their equipment to applicable regulations and standards.

Prior to the installation of this high voltage power supply, a risk assessment should be undertaken of how it is being incorporated into the overall equipment. Any risks identified must be addressed during the installation process.

Only operate the power supply with the specified connectors, cables and accessories. Always use genuine parts and accessories.

3. Electrostatic Sensitivity



Caution: This unit is not particularly susceptible to electrostatic discharge damage when the covers are in place, nevertheless it is good practice to avoid directly touching connector terminals, especially in a low humidity environment.

4. Hazardous Substances

This power supply complies to European /United Kingdom Restriction of Hazardous Substances (RoHS) (using exemptions) and the Restriction, Evaluation, Authorization and Restriction of Chemicals (REACH) legislation.

Californian Proposition 65



WARNING: This product can expose you to chemicals including lead and lead compounds which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to: <http://www.P65Warnings.ca.gov>

Spellman High Voltage Electronics power supplies are specialist industrial components and are not intended to be used by consumers. Within the state of California, occupational exposure may occur if employees handle the power supply at their place of employment. Because Spellman High Voltage Electronics does not control how our products are used in an occupational environment, it is the responsibility of the employer to make available any necessary Proposition 65 warnings to their employees.

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5. Electromagnetic Compatibility (EMC)

This power supply is a component designed to be incorporated as a part of an overall piece of equipment. The EMC characteristic of the end equipment in which it is installed, will be influenced by all the component parts and system design. When installing this unit, please ensure good EMC practice is followed. The protective earth ground point used for safety will also act as a functional ground for EMC purposes.

6. Cleaning



WARNING: Do not clean.

This module is designed to be built into finished equipment and as such, its case does not provide any protection from fluids. Never use any form of cleaning fluid or spray, either directly or close to the module. Always ensure that it is protected from fluids once incorporated into the finished equipment.

7. Unit Description

Spellman's MXE series is a family of high voltage, high performance, ultra-compact, hot-switchable polarity reversing modules with output voltages ranging from 2.5kV to 10kV.

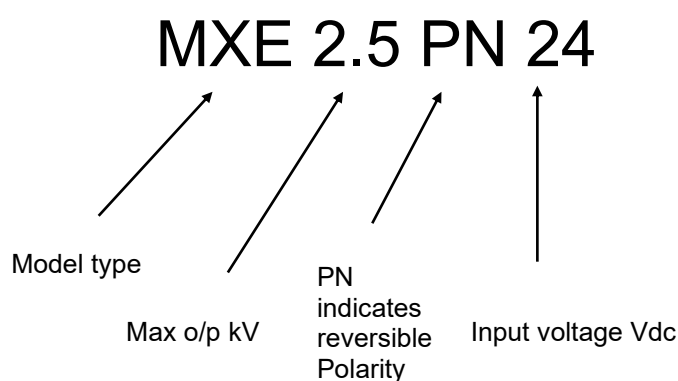
The units are designed for operation from a 24V dc input and will supply up to 200µA of output current.

The MXE series is controlled via analogue & digital interface, provided via a standard 15-pin D-type connector.

The units feature a differential program input for low noise control and TTL compatible Enable and Polarity control signal inputs.

The HV output is via a 1m long un-terminated HRG58 screened cable.

The part number for a given unit describes its characteristics:



8. Unit Ratings

8.1 Power Input

The input rating for all units is 24Vdc $\pm 5\%$, 0.5A

8.2 High Voltage Output

The units provide the following rated HV outputs:

Unit	Max Voltage	Max Current
MXE2.5PN24	± 2.5 kV	200 μ A
MXE5PN24	± 5 kV	200 μ A
MXE10PN24	± 10 kV	200 μ A

8.3 Arc and Short Protection

Arc and short circuit protected. Not designed to withstand continuous arcing.

The power supply will fully recover once the short is removed with no subsequent damage to load, supply, input control, or input supply.

8.4 Environmental Conditions

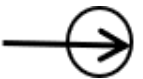
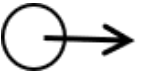
The operating temperature range is 10°C to +45°C.

Storage: -20°C to 85°C

Relative Humidity: 5% to 90% RH, non-condensing

Altitude 0 to 2000m above mean sea level

8.5 Meaning of Symbols

SYMBOL	MEANING
	Refer to manual before operating
	Danger, risk of electric shock
	Protective conductor terminal (PE)
	Unit input rating
	Unit output rating

9. Unit Protective Earth Grounding

The unit is contained in an earthed case. The case of the unit shall be properly bonded to the main protective earth termination in the end product. The chassis is grounded via the 4x M4 blind clinch nuts in the lid.

10. Installing the Unit

10.1 Electrical Installation

- The power supply must only be used in a Pollution Degree 2 Installation, Category II environment at an altitude of no more than 2000 m.
- It must not be used in wet or damp locations.
- The power supply must be securely fixed in place using appropriate mounting.
- The power supply is solely intended for use as a component part for incorporation into piece of end equipment. No parts of the power supply should be accessible once installed in the end equipment. The end equipment must also provide a suitable fire enclosure.
- The input and output connectors are not intended for field connections and should only be connected to internal wiring inside the piece of equipment in which it is installed.
- The unit has an enclosed case and can be mounted in any orientation. A cooling airflow is recommended.
- All output connections from the device are considered as Hazardous Outputs and must not be accessible in end equipment.
- Ensure the maximum operating temperature of the power supply cannot be exceeded when operating in the end equipment at its maximum operating temperature.
- Suitable separation of accessible parts from the high voltage output of the device must be provided in the end equipment.
- The power supply chassis does not provide protection against spilled liquids.
- The unit is designed for indoor use and must be supplied from a double insulated or SELV, UL Recognized, appropriately rated 24V dc supply.
- Ensure ground bond continuity is maintained between the power supply and the equipment in which it is installed (Class I construction). Always use the power supply dedicated protective earth termination where available, such as a binding post (threaded stud). Ensure you check the protective earth connection by conducting a resistance continuity (earth bond) test.

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10.2 Connections

10.2.1 Power input and unit control

The power input and the analogue/digital communication are via a 15-way male 'D' connector. See the table below for pin-out details.

Pin	Signal	I/O	Description
1	24Vdc Return	I	Input voltage return
2	+24Vdc Input	I	Input voltage +24dc @ 0.5A max
3	Voltage Monitor Output	O	0 to 10Vdc = 0 to 100% rated output, Zout=330Ω
4	Polarity Set Input	I	TTL level or open/short contact signal. Low or short = Positive, high or open = Negative Zin= 10 kΩ
5	Comms Select	I	TTL: Low = RS485, High = RS232, Open Collector compatible. Internal 10 kΩ pull-up to 5V
6	Voltage Program Return	I	Differential Rtn
7	Voltage Program Input	I	Differential input: 0 to 10VDC = 0 to 100% of rated output, Zin=100kΩ
8	Current Monitor Output	O	0 to 10Vdc = 0 to 200μA, Zout=330Ω
9	Comms	I/O	RS232 RX/ RS485 NON-INV comms line
10	Comms	I/O	RS232 TX / RS485 INV comms line
11	Signal Ground	-	Ground
12	Enable Input	I	TTL: Low = Enabled, Open Collector compatible. Internal 10 kΩ pull-up to 5V
13	VProg A	O	Connect to pin 14 for analogue VProg control
14	Vprog INT	I	Connect to pin 13 for analogue Vprog or pin 15 for digital VProg ¹
15	VProg D	O	Connect to pin 14 for digital VProg control

10.3 Mechanical Installation

The unit shall be fixed in place in the end user system using screws on the hold down points provided.

Unit weight: 1.7Kg

Mechanical Dimensions - see drawing in Appendix A

¹ When connecting pin 14 to pin 13 or 15, make the connection as close to the MXE as possible, preferably within the female mating 15-way D-type connector.

11. Regulatory Compliance of the Unit

The unit is designed to meet the requirements of EN 61010-1, UL 61010-1 and CAN/CSA22.2 No. 61010-1. Please consult the factory for further approval information.

12. Operating the Unit

12.1 Analogue Control

The units are controlled and monitored using the following analogue/digital signals.

PARAMETER	Description
Voltage control	Differential 0 to 10V = 0 to Full scale output Note: a stable, low noise reference source is recommended to achieve full unit performance.
Enable	Low = Enabled. Designed to be operated by TTL or CMOS logic or open collector transistor.
Polarity Set	Low = Positive. Designed to be operated by TTL or CMOS logic or open collector transistor.
Voltage monitor	0 to 10V for 0 to full-scale output (wrt signal ground)
Current monitor	0 to 10V for 0 to full-scale output (wrt signal ground)

12.1.1 Ramping

In Analogue control the ramp rate is controlled by the end user via the remote DAC.

The following sections describe the various connections that can be used to control the MXE HV units.

12.1.2 Remote DAC Control

The differential input allows the voltage programming circuit to be remote from the power supply. It prevents voltage drops in the ground connection from affecting the programming signal. The DAC must be provided with its own reference.

24V Power input on Pin 2.

Power Common on Pin 1.

0 to 10V voltage control signal to Pin 7.

Signal ground reference for 0 to 10V control signal. Connected to signal ground for 0 to 10V voltage control, also connected to Pin 6 and Pin 11.

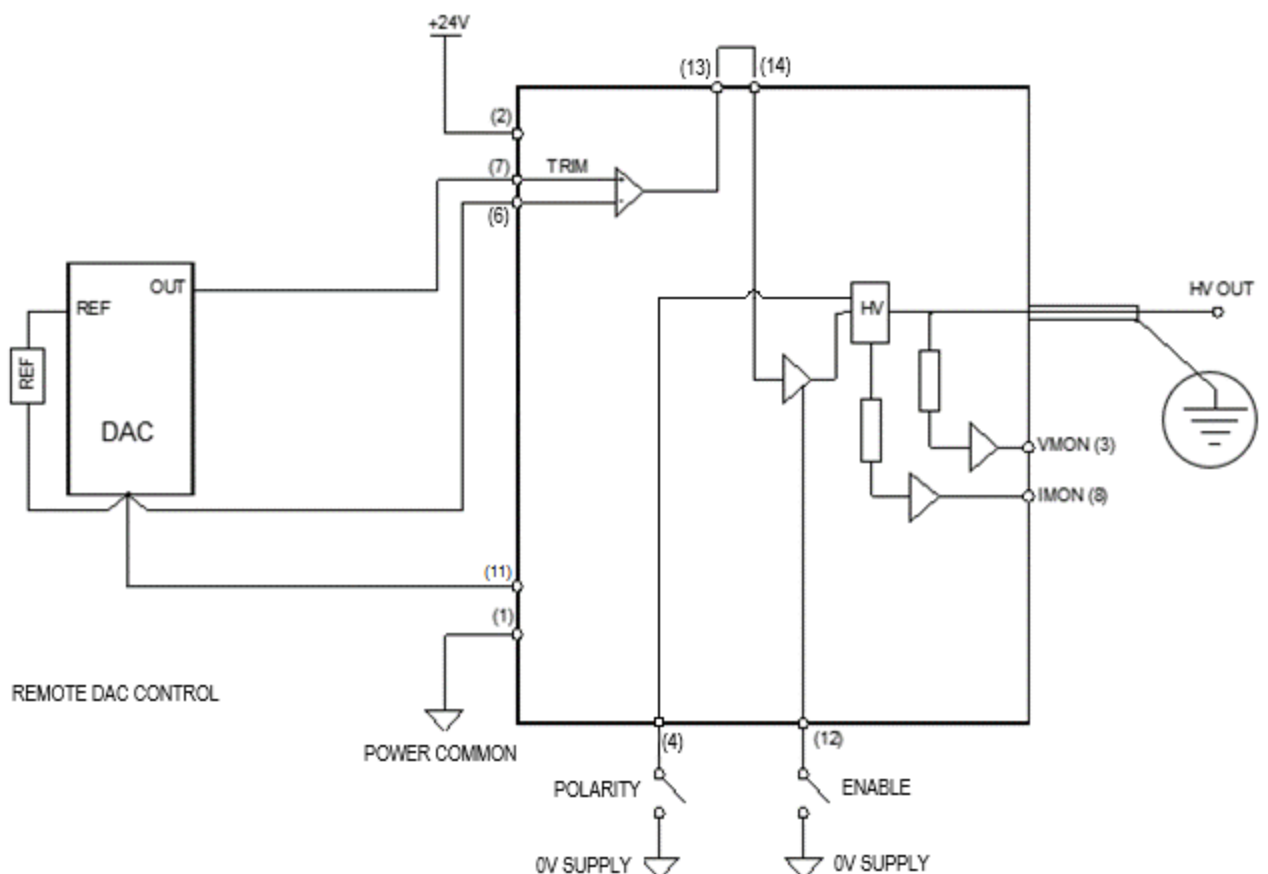
Link Pin 13 to Pin 14.

Connect Enable Pin 12 to ground to enable HV output.

Connect Polarity Pin 4 to ground for Positive HV, o/c for Negative HV

Voltage monitor output is on Pin 3.

Current monitor output is on Pin 8.



12.2 Digital HV Output Performance

Performance is the same as Analogue HV Output unless stated in table below.

(CCM) denotes unit operating in Constant Current Mode.

PARAMETER	MIN.	MAX.	UNITS
Voltage control resolution			
• MXE10	0.2	-	V
• MXE2.5 & MXE5	0.1	-	V
Current control resolution	0.1	-	uA
Current Accuracy (Iprog to Iout)	-2	+2	%
Current Accuracy Offset (Iprog to Iout)	-	2	uA
Voltage Monitor resolution			
• MXE10	0.2	-	V
• MXE2.5 & MXE5	0.1	-	V
Current Monitor resolution	0.3	-	uA
Stability (8hrs after 1hr warm-up) (CCM)	-	50	PPM
Temperature Coefficient (CCM)	-	50	PPM/C
Load Regulation (96% – 2% load) (CCM)	-	2	uA
Line Regulation ($\pm 5\%$ supply voltage) (CCM)	-	1	uA
Ripple (CCM)	-	5	nA
Polarity Reversal (CCM)			
• 2ppm	-	6	s
• 99%	-	1	s
Up to 100pF connected capacitance			

12.3 Digital Control

The units operate with a simple ASCII protocol see document number 81747-21 which covers systems with both single and multiple units. The following parameters apply.

PARAMETER
Digital control - RS232 or RS485, Internal pull-up to 5V= 10 k Ω Low = RS485 Open circuit = RS232
Hardware Enable - Active low enable, Internal pull-up to 5V= 10 k Ω Designed to be operated by TTL, CMOS logic or open collector transistor.
Software Enable
Polarity Set - Low = Positive, Internal pull-up to 5V= 10 k Ω Designed to be operated by TTL or CMOS logic or open collector transistor.
Digital Polarity control ²
Read/Write Unit Address, range: 01 to 99

² On MXE power up, the HW polarity input sets the unit polarity. Digital polarity control takes over on receipt of the first 'Set Polarity state' command, HW polarity input is then ignored until MXE input power is cycled. Only available as standard on the following product status units and later: MXE10PN24 PS E6 : MXE5PN24 PS E5 : MXE2.5PN24 PS E5. To update earlier models, contact Spellman.

12.3.1 Ramping

In Digital control it is possible to set the Voltage and Current ramp rates. The table below shows the settable range of ramp rates.

Ramping Mode	Minimum	Default	Maximum	Increments
Voltage	16 V/s	2000 V/s	5000 V/s	1 V/s
Current	1 uA/s	200 uA/s	500 uA/s	1 uA/s

The maximum current ramp rates can only be achieved by turning off the voltage ramp rate, set the voltage ramp rate to 0 V/s to turn it off. The table below shows at what current ramp rate the voltage ramp rate needs to be turned off.

Unit	Current Ramp Rate at which the Voltage Ramp Rate should be set to 0 V/s
MXE2.5PN24	400 uA/s and above
MXE5PN24	200 uA/s and above
MXE10PN24	100 uA/s and above

Note. To remove all ramp rates and allow the MXE to ramp at its maximum physical rate, set ramp rates to 0 V/s and 0 uA/s.

It is up to the user to decide which mode to ramp the output in. To reduce overshoot, ramp in Voltage mode when the target HV output will be in Voltage control and ramp in Current mode when the target HV output will be in Current control.

Choosing the ramping mode is done by setting the ramp rate, such that the desired ramping mode is ramping at a slower rate than the other mode. For example:

Output voltage = 1000 V

Load = 10 MΩ

Output current = 100 uA

Desired ramping time = 10 seconds

To ramp up to this output in voltage mode the voltage ramp rate should be set to 100 V/s and the current ramp rate can be left at the default 200 uA/s.

To ramp up to this output in current mode the current ramp rate should be set to 10 uA/s and the voltage ramp rate can be left at the default 2000 V/s.

In this example, if you were to set the ramp rates to 100 V/s and 10 uA/s, we cannot guarantee which ramping mode the MXE will ramp in, which may lead to overshoot.

12.3.2 Output Control Modes

In digital control the MXE output can be controlled in constant voltage mode or in constant current mode. The mode is selected automatically according to the selected voltage/current program levels and the load connected to the output. For example:

Output voltage = 1000 V

Load = 10 MΩ

Output current = 100 uA

For the MXE to control this output level in voltage control mode, the voltage program should be set to 1000 V and the current program should be left at the default 240uA.

For the MXE to control this output level in current control mode, the current program should be set to 100 uA and the voltage program should be set to the maximum.

In this example, if you were to set the program levels to 1000 V and 100 uA, we cannot guarantee which control mode the MXE will be controlling in, it may flip between control modes as the two control loops fight each other, this can lead to excessive oscillations on the HV output.

In voltage control mode the current program becomes the current limit setting, and in current control mode the voltage program becomes the voltage limit setting. These can be used to lower the current and voltage limits to protect the load if required. Be careful not to lower the limit settings so much so that the issue above comes into play where the two loops struggle for control of the HV output.

12.3.3 Error Codes

Table below shows the meaning of the Error Codes sent in response to a “Read Status” command.

No.	Error description	Action
0	No Errors	
1	Supply voltage out of range for 10 seconds	Turn output OFF. Error reset when supply re-enabled.
2	PSU over temperature for 10 seconds	Turn output OFF. Error reset when supply re-enabled.
3	PSU output over voltage for 1 second	Turn output OFF. Error reset when supply re-enabled.
4	PSU output over current for 1 second	Turn output OFF. Error reset when supply re-enabled.
5	PSU output voltage and current both low for 1 second	Turn output OFF. Error reset when supply re-enabled.
6	Interval between polarity commands too short	Warning only.
7	Not yet allocated	
8	Not yet allocated	
9	Not yet allocated	

The following sections describe the circuits used for RS232 and RS485 to make digital (serial) connection the MXE HV units; refer to 10.2.1 for pin out details.

A Graphical User Interface (GUI) can be provided for customer testing and development work.

12.3.4 RS232 Connection

The unit has RS232 communication facilities available via pins 9 and 10 of the 15 way 'D' connector. For the protocol used, refer to protocol document 81747-21, which can be provided on request.

The unit may be controlled digitally as follows: -

24V Power input on Pin 2.

Power Common on Pin 1.

Select Mode RS232 on Pin 5 by leaving open circuit

RS232 signal ground on pin 11

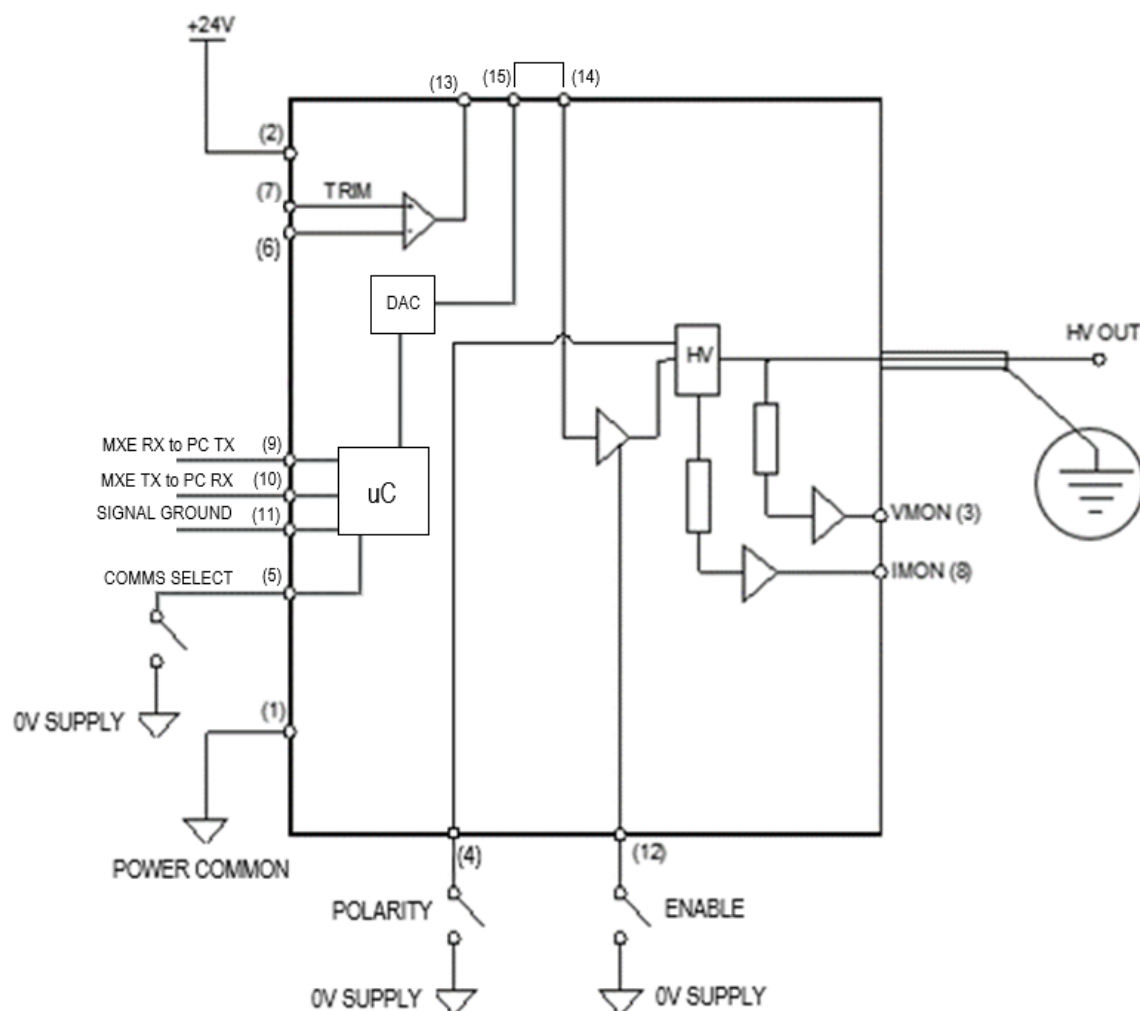
RS232 transmit on Pin 10 – connect to Rx pin on PC

RS232 receive on Pin 9 – connect to Tx pin on PC

Connect Enable Pin 12 to ground to enable HV output. This is independent of the firmware/communications interface and can be used to shut down the HV output.

Connect Polarity Pin 4 to ground for Positive HV, o/c for Negative HV

Connect Pin 14 to Pin 15.



12.3.5 RS485 Connection

The unit has RS485 communication facilities available via pins 14 and 15 of the 15 way 'D' connector. For the protocol used, refer to protocol document 81747-21, which can be provided on request.

The unit may be controlled digitally as follows: -

24V Power input on Pin 2.

Ground on Pin 1.

Power common to Pin 1.

Select Mode RS485 – connect Pin 5 to ground.

RS485 signal ground on Pin 11.

RS485 Z (inverting) on Pin 10 – connect to RS485 inverting pin, Z or B on PC

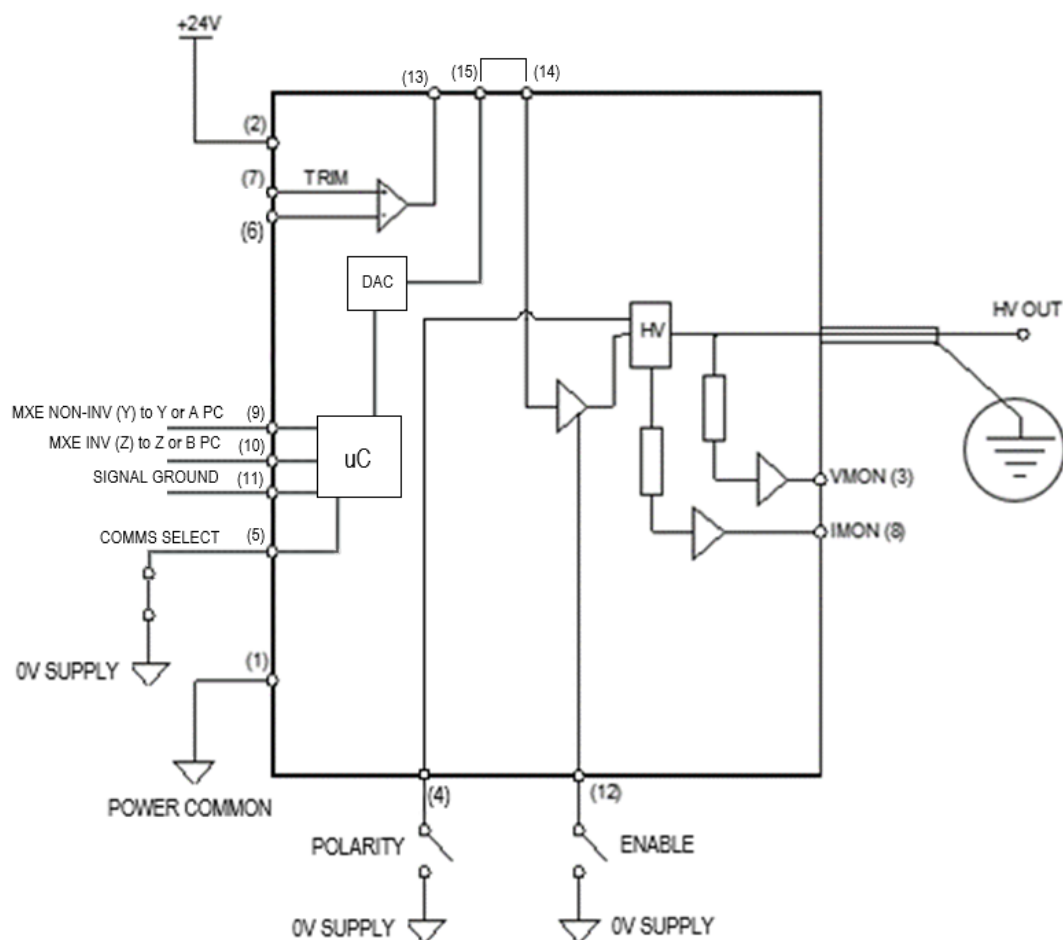
RS485 Y (non-inverting) on Pin 9 – connect to RS485 non-inverting pin, Y or A on PC.

Termination resistors may be required when multiple units are on the same Bus, no termination resistors are present within the MXE.

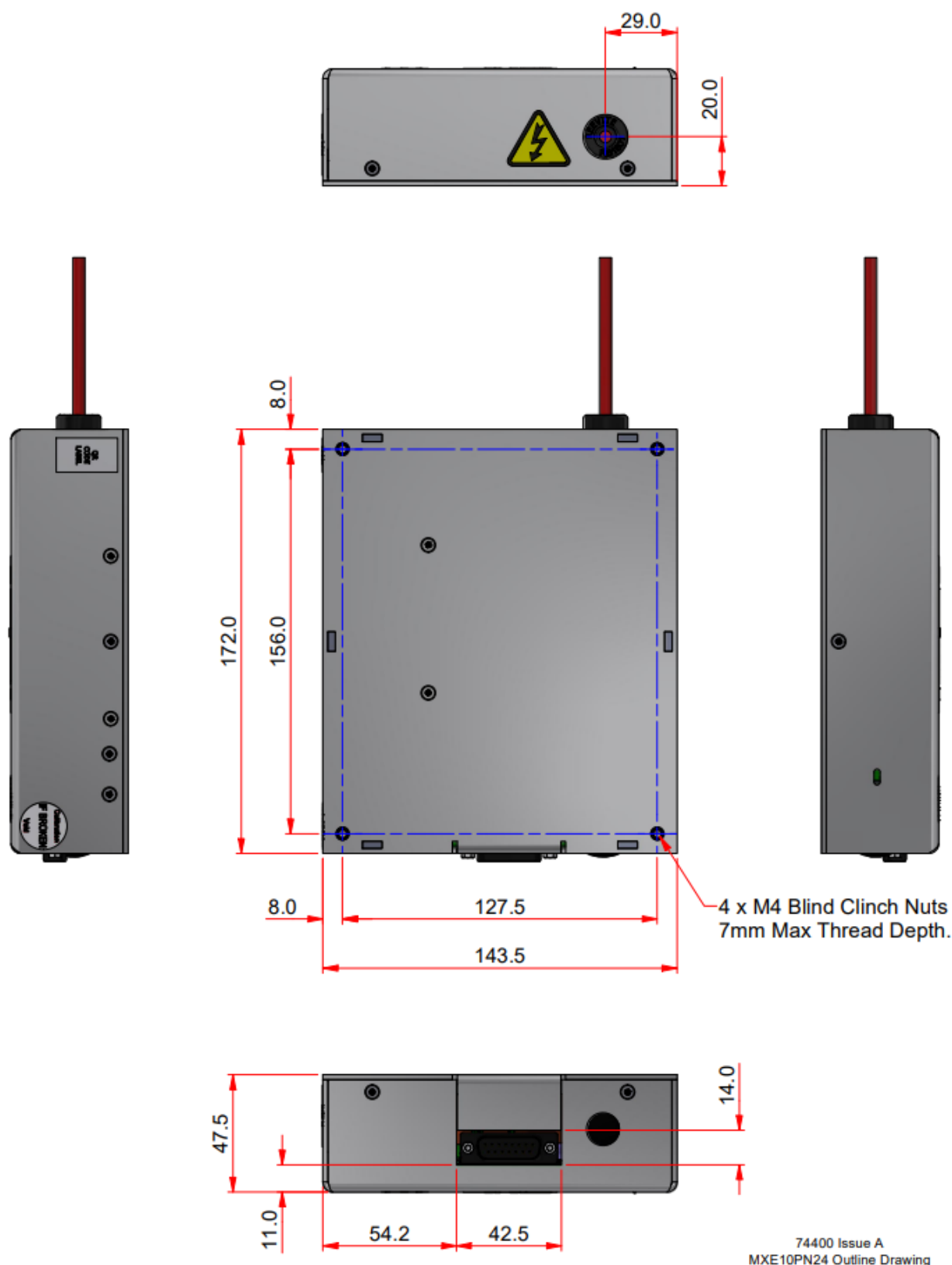
Connect Enable Pin 12 to ground to enable HV output. This is independent of the firmware/communications interface and can be used to shut-down the HV output.

Connect Polarity Pin 4 to ground for Positive HV, o/c for Negative HV

Connect Pin 14 to 15



Appendix A - Mechanical layout



Appendix B – Graphical User Interface (GUI)

During development and testing Spellman HV Ltd. use an in-house developed Graphical User Interface (GUI) to control and manage the MXE units. This GUI is not intended for customer use and so is an unsupported product. It is provided to customers to help them with initial product evaluation. Longer term it is normal for customers to use their own software to control the product.

The communications protocol for the MXE unit is specified in the Spellman document: 81747-21 Serial Communications Protocol.

GUI Requirements and limitations

The GUI is written to run on Microsoft Windows 10 & 11 and uses Microsoft .Net Framework Version 4.

The GUI does not support internationalisation. All GUI text is in English.

GUI Files

To install the GUI, the user will need the GUI installer application. This is comprised of two files.

‘Customer 48378-GUIvxryy.exe’

‘Customer 48378-GUIxryy.msi’

Where:

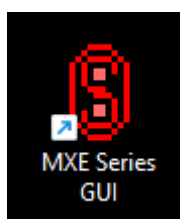
x Major Version Number

yy Minor Version Number

If you do not have the files, please contact your local Spellman Sales Office quoting ‘48378-GUI’. They will arrange for the installer files to be sent to you.

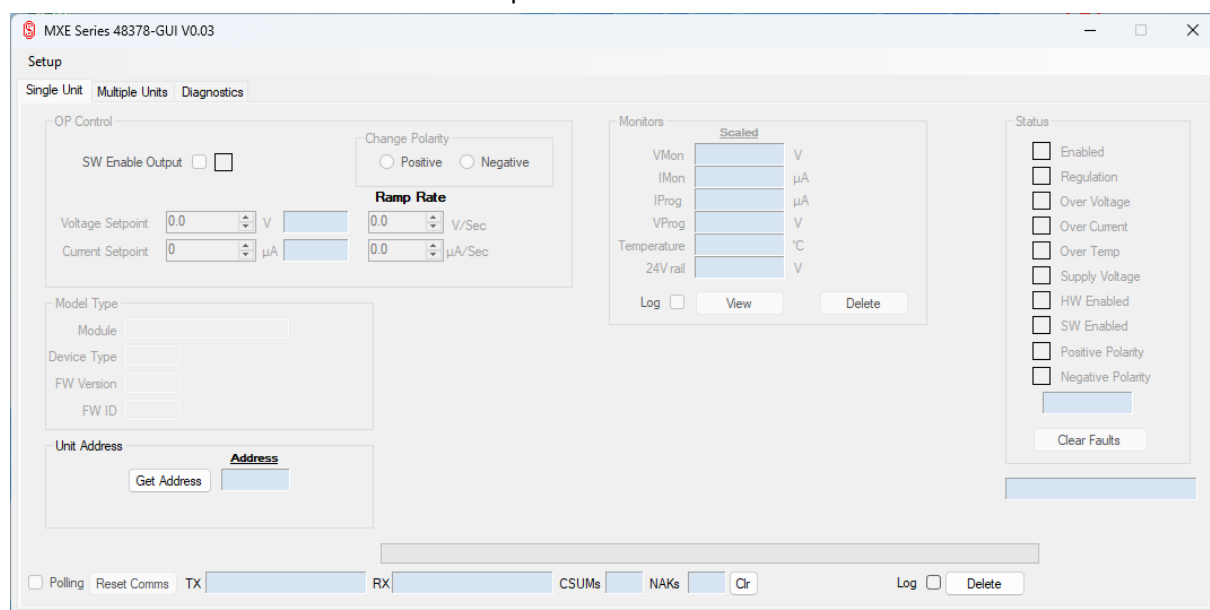
Installing the MXE GUI

Run the 48378-GUI installer file on the PC or Laptop being used to control the MXE power supply. The installer will create the following shortcut on your desktop:

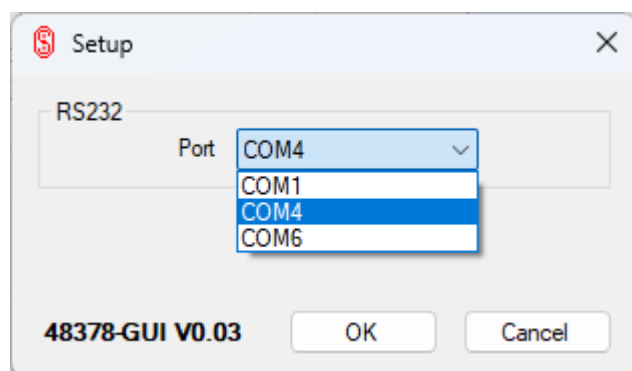


Connecting to the MXE GUI

Double-click on the MXE GUI shortcut to open

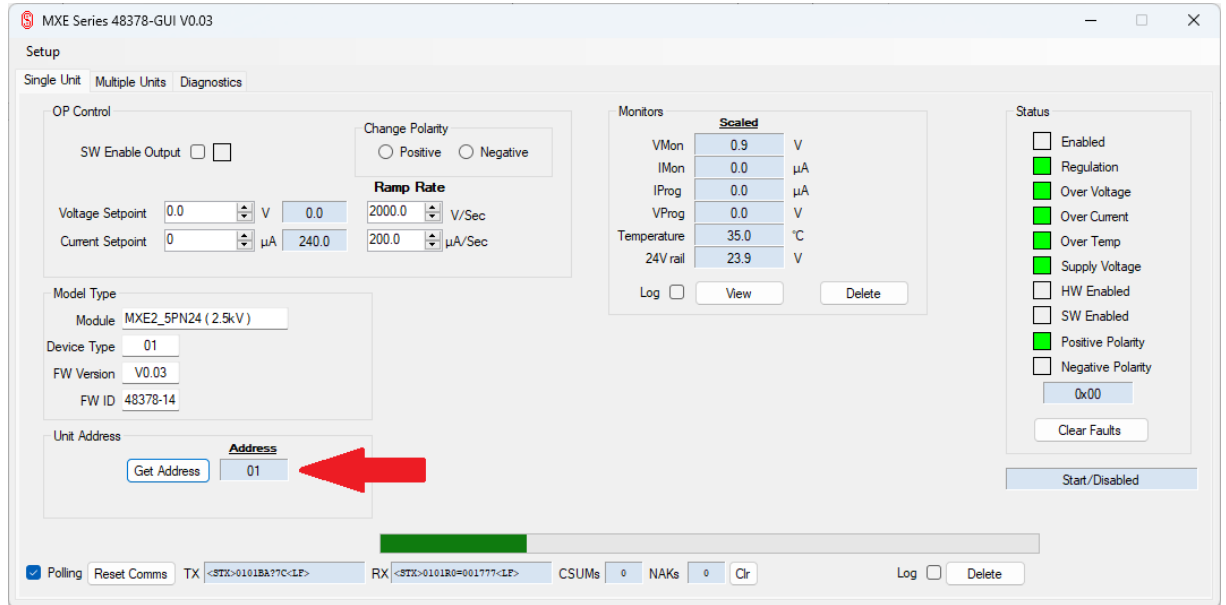


Click on 'Setup' in the top left corner and in the pop-up, select the correct comms port for your RS232/RS485 connection, then click 'OK'.



Ensure the MXE is connected via the 15Way D-Type connection and is powered on.

Click the 'Get Address' button, the comms should come to life, and the fields will populate, the green progress bar at the bottom will continually update.



The screenshot shows the 'MXE Series 48378-GUI V0.03' window. The 'Unit Address' section has a 'Get Address' button and a text field with '01'. A red arrow points to the '01'. The 'Monitors' section shows a table of scaled values:

Monitors	Scaled	Unit
VMon	0.9	V
IMon	0.0	μA
IProg	0.0	μA
VProg	0.0	V
Temperature	35.0	°C
24V rail	23.9	V

The 'Status' section on the right lists various status indicators with checkboxes and colored squares (green for active/over, red for error):

- ☐ Enabled
- ☒ Regulation
- ☒ Over Voltage
- ☒ Over Current
- ☒ Over Temp
- ☒ Supply Voltage
- ☐ HW Enabled
- ☐ SW Enabled
- ☒ Positive Polarity
- ☐ Negative Polarity

At the bottom, there is a green progress bar and a status line showing TX and RX data, CSUMs, NAKs, and a 'Log' button.

Single MXE Control

Every time the MXE is switched on, default values are loaded, which can then be adjusted:

Voltage Setpoint = 0V

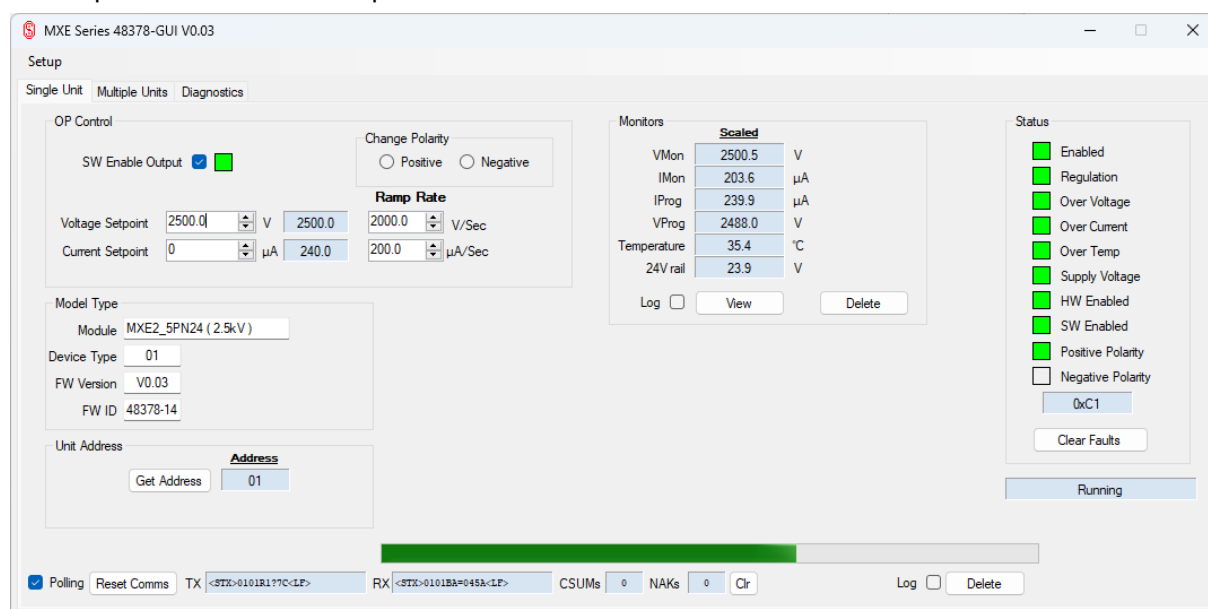
Current Setpoint = 240uA

Voltage Ramp Rate = 2000 V/Sec**

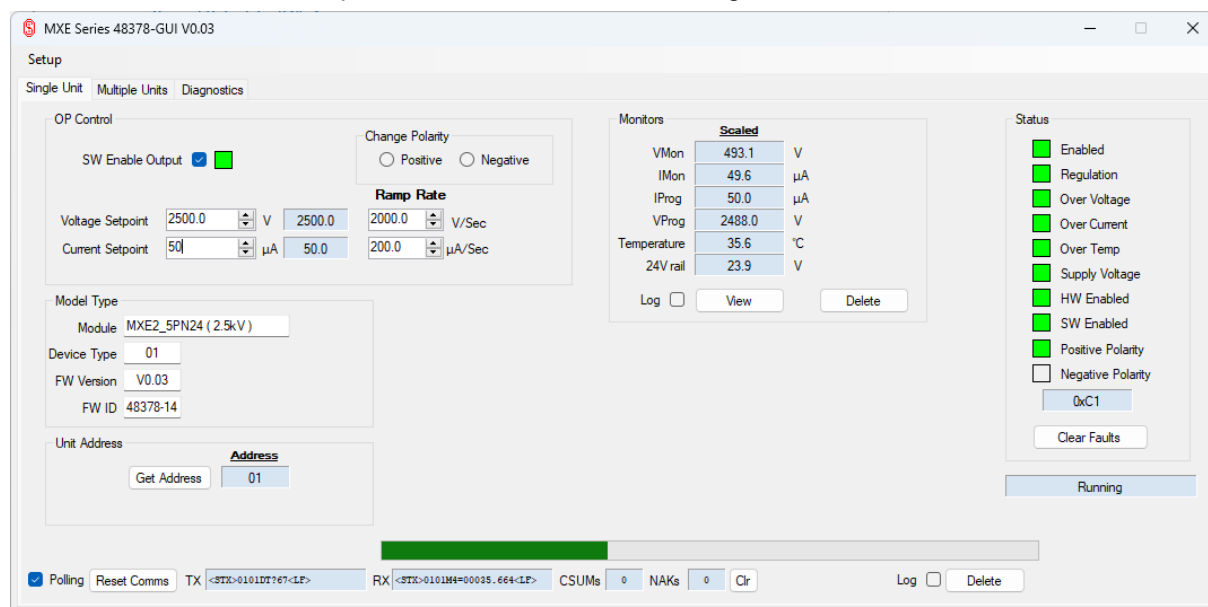
Current Ramp Rate = 100 uA/Sec**

****To remove ramp rates, for maximum ramp speed, set to 0V and 0uA****

To generate HV, the HW enable (via the 15W input connector) and SW enable must be set. The example below shows an output of 2.5kV into a 12.5M load:



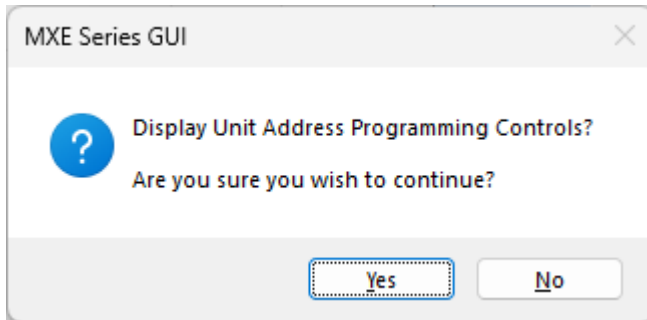
The 'Current Setpoint' can be changed to alter the current limit level, or to run the unit in constant current control. The example below shows the MXE running at 50uA in constant current control.



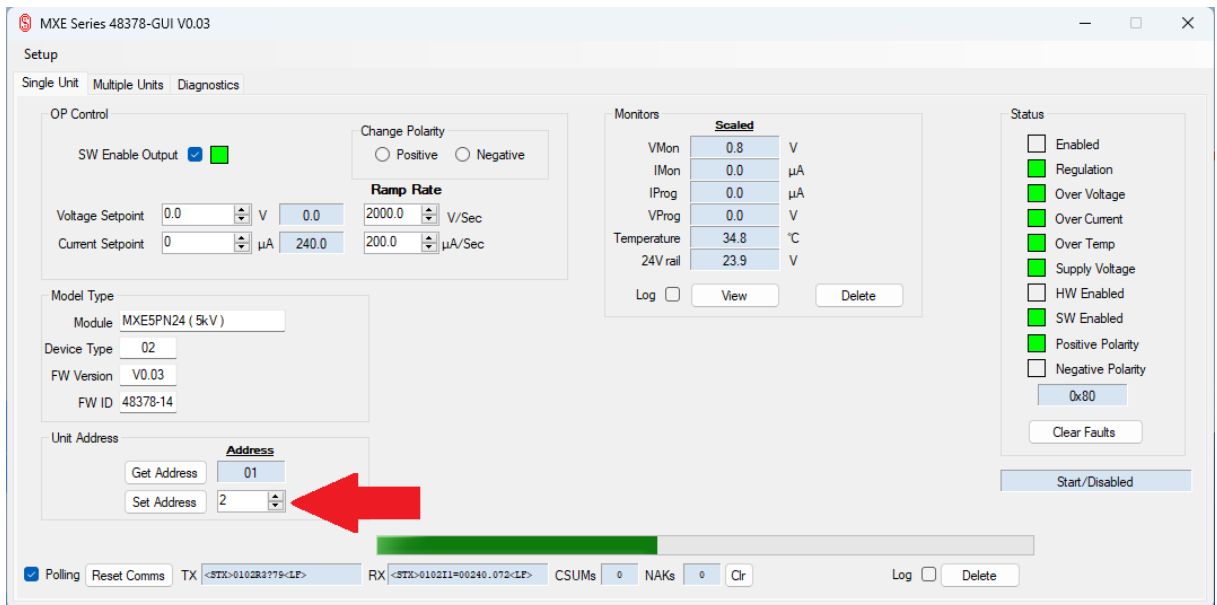
Multiple MXE Control

Before you can control multiple units, you must ensure they each have unique addresses.

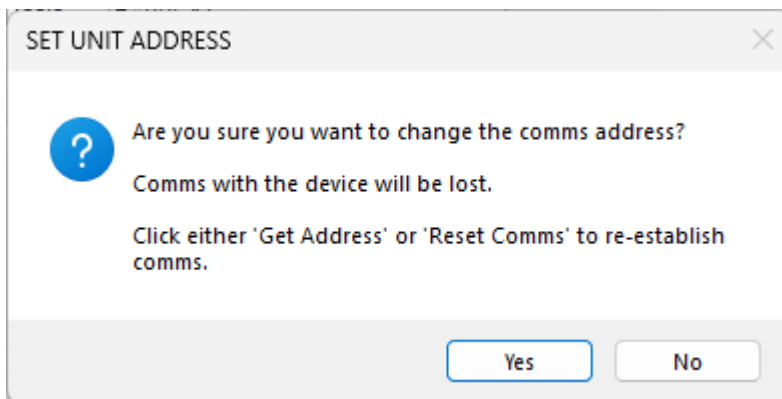
1. Plugin and power one MXE only, open the GUI and connect as described in Section 4.
2. With the GUI selected, press 'CTRL+A', click 'Yes' on the following pop-up:



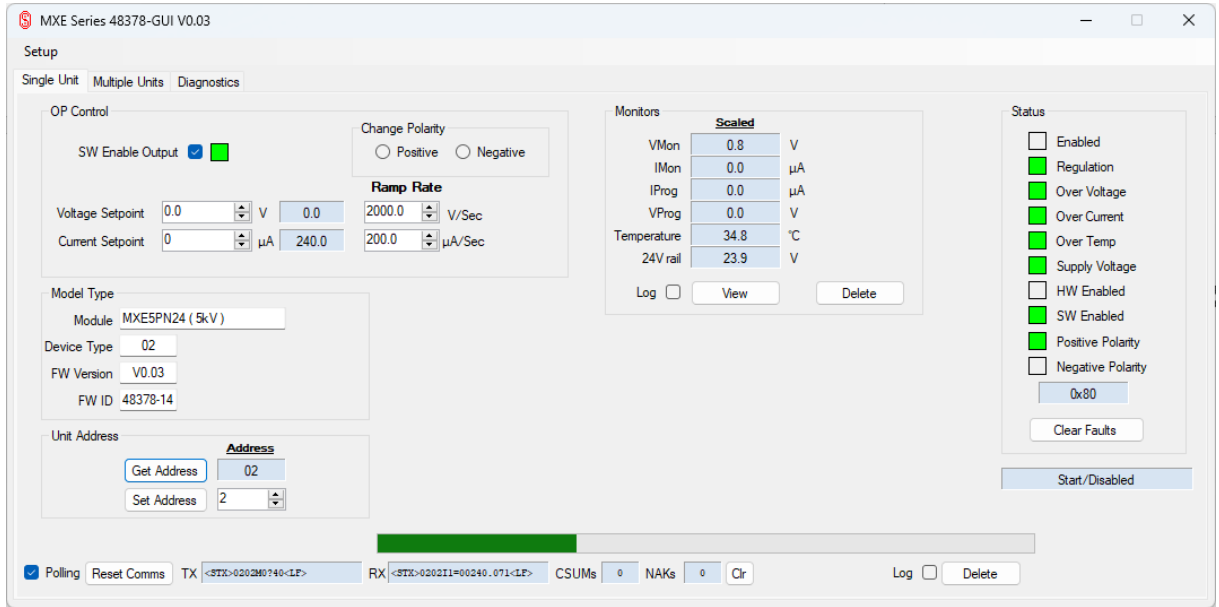
3. This will bring up an added feature under 'Unit Address', use the up and down arrows to select the desired address. In this example the MXE started with address 01 and it is being changed to address 02.



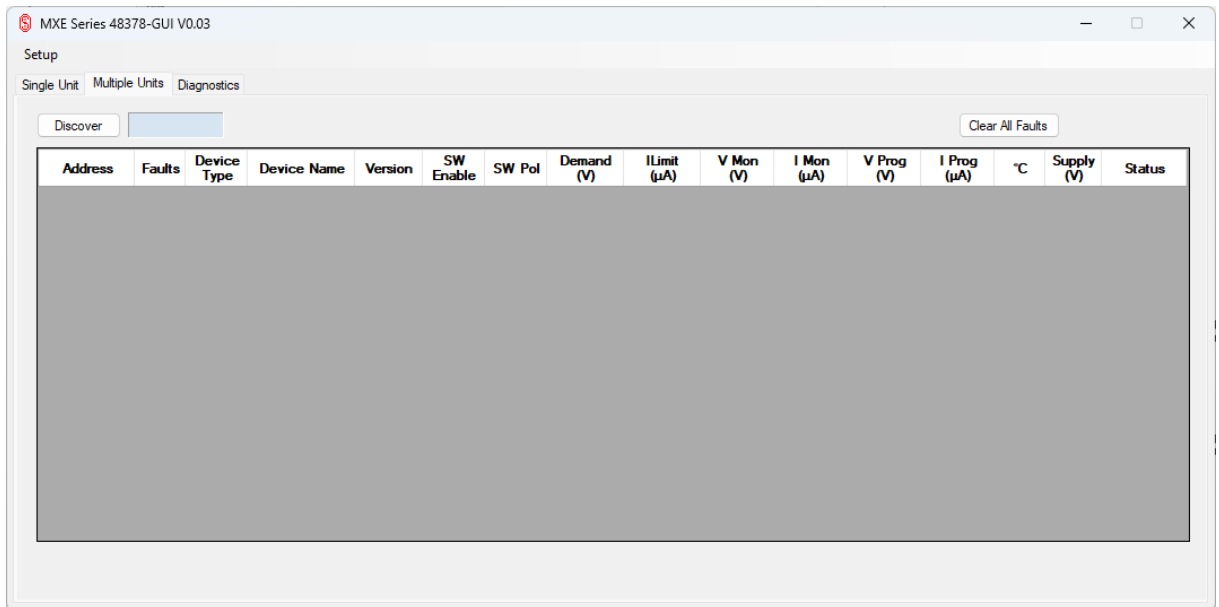
4. Click on 'Set Address', and then click 'Yes' on the following pop-up:



5. Click on 'Get Address' to check that the address change has occurred, the 'Get Address' number should now change to your chosen address.



6. Repeat steps 1 to 5 until all MXE's have unique addresses.
7. Connect and power up all MXE's. *We will have three MXE's connected for this example.*
8. Click on the 'Multiple Units' tab in the GUI



Address	Faults	Device Type	Device Name	Version	SW Enable	SW Pol	Demand (V)	ILimit (μA)	V Mon (V)	I Mon (μA)	V Prog (V)	I Prog (μA)	°C	Supply (V)	Status

9. Click on 'Discover' and let the GUI automatically detect each of the connected MXE's. In this case our MXE's have the addresses of 01, 02 and 03.

MXE Series 48378-GUI V0.03

Setup

Single Unit Multiple Units Diagnostics

Stop Polling Unit 02 Clear All Faults

Address	Faults	Device Type	Device Name	Version	SW Enable	SW Pol	Demand (V)	ILimit (uA)	V Mon (V)	I Mon (uA)	V Prog (V)	I Prog (uA)	°C	Supply (V)	Status
01	Clear	01	MXE2_5PN24	V0.03	☐	☐	0.0	240.0	0.9	0.0	0.0	0.0	35.2	23.8	0x00
02	Clear	02	MXE5PN24	V0.03	☐	☐	0.0	240.0	0.8	0.0	0.0	0.0	34.8	23.8	0x00
03	Clear	03	MXE10PN24	V0.03	☐	☐	0.0	240.0	3.3	0.0	0.0	0.0	34.5	23.9	0x00
04 (Not Present)		-	-	-	☐	☐	-	-	-	-	-	-	-	-	
05 (Not Present)		-	-	-	☐	☐	-	-	-	-	-	-	-	-	
06 (Not Present)		-	-	-	☐	☐	-	-	-	-	-	-	-	-	
07 (Not Present)		-	-	-	☐	☐	-	-	-	-	-	-	-	-	
08 (Not Present)		-	-	-	☐	☐	-	-	-	-	-	-	-	-	
09 (Not Present)		-	-	-	☐	☐	-	-	-	-	-	-	-	-	
10 (Not Present)		-	-	-	☐	☐	-	-	-	-	-	-	-	-	
11 (Not Present)		-	-	-	☐	☐	-	-	-	-	-	-	-	-	
12 (Not Present)		-	-	-	☐	☐	-	-	-	-	-	-	-	-	
13 (Not Present)		-	-	-	☐	☐	-	-	-	-	-	-	-	-	
14 (Not Present)		-	-	-	☐	☐	-	-	-	-	-	-	-	-	

There are 4 user settable fields for each detected MXE, indicated by the magenta background:

SW Enable

Polarity (Unticked = Pos, Ticked = Neg)

Demand (V) (Equivalent to Voltage Setpoint in Single MXE tab)

ILimit (uA) (Equivalent to Current Setpoint in Single MXE tab)

ILimit defaults to 240uA.

Click in the Demand (V) and ILimit (uA) cells to change as required. Ensure HW enable and SW enables are set to generate HV. Below MXE 01 is set to 1000V, MXE 02 is set to -2000V and MXE03 is set to 3000V.

MXE Series 48378-GUI V0.03

Setup

Single Unit Multiple Units Diagnostics

Stop Polling Unit 03 Enter the Voltage demand you wish to program (0.01V - 10000.01V) Clear All Faults

Address	Faults	Device Type	Device Name	Version	SW Enable	SW Pol	Demand (V)	ILimit (uA)	V Mon (V)	I Mon (uA)	V Prog (V)	I Prog (uA)	°C	Supply (V)	Status
01	Clear	01	MXE2_5PN24	V0.03	☒	☐	1000.0	240.0	1000.9	87.3	991.5	239.9	35.2	23.8	0xC1
02	Clear	02	MXE5PN24	V0.03	☒	☒	2000.0	240.0	1999.5	79.7	1993.6	239.6	34.8	23.8	0x4C1
03	Clear	03	MXE10PN24	V0.03	☒	☐	3000.0	240.0	3006.1	120.2	2977.2	239.9	34.8	23.8	0xC1
04 (Not Present)		-	-	-	☐	☐	-	-	-	-	-	-	-	-	
05 (Not Present)		-	-	-	☐	☐	-	-	-	-	-	-	-	-	
06 (Not Present)		-	-	-	☐	☐	-	-	-	-	-	-	-	-	
07 (Not Present)		-	-	-	☐	☐	-	-	-	-	-	-	-	-	
08 (Not Present)		-	-	-	☐	☐	-	-	-	-	-	-	-	-	
09 (Not Present)		-	-	-	☐	☐	-	-	-	-	-	-	-	-	
10 (Not Present)		-	-	-	☐	☐	-	-	-	-	-	-	-	-	
11 (Not Present)		-	-	-	☐	☐	-	-	-	-	-	-	-	-	
12 (Not Present)		-	-	-	☐	☐	-	-	-	-	-	-	-	-	
13 (Not Present)		-	-	-	☐	☐	-	-	-	-	-	-	-	-	
14 (Not Present)		-	-	-	☐	☐	-	-	-	-	-	-	-	-	