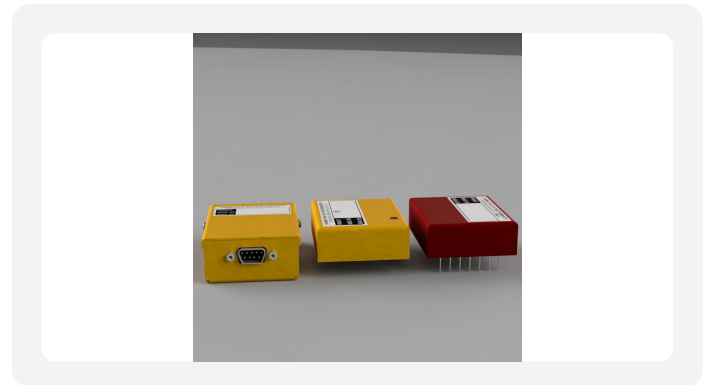


MCR SERIES

MINIATURE REGULATED HIGH VOLTAGE CONVERTERS

Miniature regulated 24 VDC-input high voltage converters for low-current instrumentation. A 0-10 V program input provides proportional output control, while a floating output supports fixed positive or negative polarity. PCB-mount and connectorized configurations accommodate multiple integration environments.


300 V-5 kV

OUTPUT RANGE

UP TO 2 W

RATED POWER

24 VDC

NOMINAL INPUT

0-10 V

PROGRAMMING

KEY CAPABILITIES

- Compact aluminum construction
- PCB-mount and connectorized configurations
- 0.001% maximum ripple
- Positive or negative fixed-polarity output
- Internal +10 V reference
- Arc-over and short-circuit protection

TYPICAL APPLICATIONS

- Photomultiplier tubes
- Solid-state detectors
- Analytical instrumentation
- Spectral source lamps
- Inkjet printing and gas chromatography

STANDARD MODEL GUIDE

Model	Output voltage	Output current
MCR-0.3	0-300 V	0-5 mA
MCR-0.6	0-600 V	0-2.5 mA
MCR-1.0	0-1,000 V	0-2 mA
MCR-1.5	0-1,500 V	0-1.25 mA
MCR-2.0	0-2,000 V	0-1 mA
MCR-2.5	0-2,500 V	0-0.75 mA
MCR-3.0	0-3,000 V	0-0.5 mA
MCR-5.0	0-5,000 V	0-0.25 mA

Choose the model for the required output voltage and append P or N to identify fixed output polarity. Contact Gamma to select the appropriate mounting and connection arrangement.



MCR SERIES

MINIATURE REGULATED HIGH VOLTAGE CONVERTERS

300 V-5 kV | UP TO 2 W

HIGH VOLTAGE SOLUTIONS

MCR SERIES | 02

ELECTRICAL CHARACTERISTICS

Input	+24 VDC +/-2%
Input current	200 mA typical at full load
Program input	0 to +10 V, >100 kohm
Program response	Proportional from approximately 10% to rated output
Voltage monitor	0 to +10 V equals zero to maximum output
Ripple	0.001% maximum
Line regulation	0.005%
Load regulation	0.005%
Stability	0.005% per hour after 30-minute warm-up
Temp. coefficient	0.01% per deg C

INTEGRATION AND CONTROL

- Pin 1: no connection
- Pin 2: +10 V reference
- Pin 3: control-voltage input
- Pin 4: output-voltage monitor
- Pin 5: +24 VDC power input
- Pin 6: signal common; pin 7: ground
- Pin 8: high voltage output through 3 kV; ground above 3 kV

PHYSICAL AND ENVIRONMENTAL

Nominal dimensions	PCB-mount configuration: 2.75 x 2.25 x 0.80 in; see page 4 for other configurations
Case	Aluminum
Weight	Approximately 5 oz, depending on configuration
PCB pins	Eight, 0.04 in diameter
HV connection	Through 3 kV: pin 8; above 3 kV: 8 in silicone lead, 0.125 in OD, with pin 8 grounded
Configurations	PCB-mount and connectorized arrangements shown on page 4
Polarity	Fixed positive or negative

PROGRAMMING AND OPTIONS

- Program with a 10 kohm potentiometer using the internal reference
- Program with an external 0-10 V source
- Monitor output with a ground-referenced 0-10 V signal
- Connectorized and custom mechanical configurations available
- Custom electrical variants available
- RoHS-compliant version available

MODEL NUMBER FORMAT

MCR-[Voltage][Polarity]

EXAMPLE

MCR-1.5P 1.5 kV | Positive | 1.25 mA

P = positive N = negative

HIGH VOLTAGE SOLUTIONS

©2026 Gamma High Voltage Research | MCR Series Data Sheet | Rev A

Get in touch

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gammahv.com

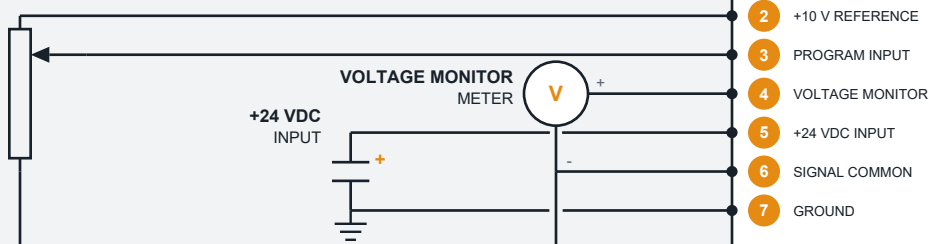
1096 N US Highway 1, Suite 109 | Ormond Beach, FL 32174

PROGRAMMING INTERFACE

Two ground-referenced programming methods are shown below. Pin numbers correspond to the standard PCB interface; connectorized versions provide equivalent functions.

INTERNAL 10 V REFERENCE / 10 kohm POTENTIOMETER

PROGRAMMING
POTENTIOMETER - 10 kohm



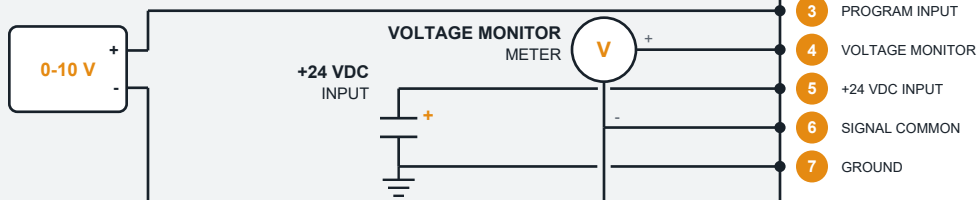
MCR MODULE - TOP VIEW

- 1 NO CONNECTION
- 2 +10 V REFERENCE
- 3 PROGRAM INPUT
- 4 VOLTAGE MONITOR
- 5 +24 VDC INPUT
- 6 SIGNAL COMMON
- 7 GROUND

8
HV OUTPUT*

EXTERNAL 0-10 V PROGRAM SOURCE

EXTERNAL 0-10 V
PROGRAM SOURCE



MCR MODULE - TOP VIEW

- 1 NO CONNECTION
- 2 +10 V REFERENCE
- 3 PROGRAM INPUT
- 4 VOLTAGE MONITOR
- 5 +24 VDC INPUT
- 6 SIGNAL COMMON
- 7 GROUND

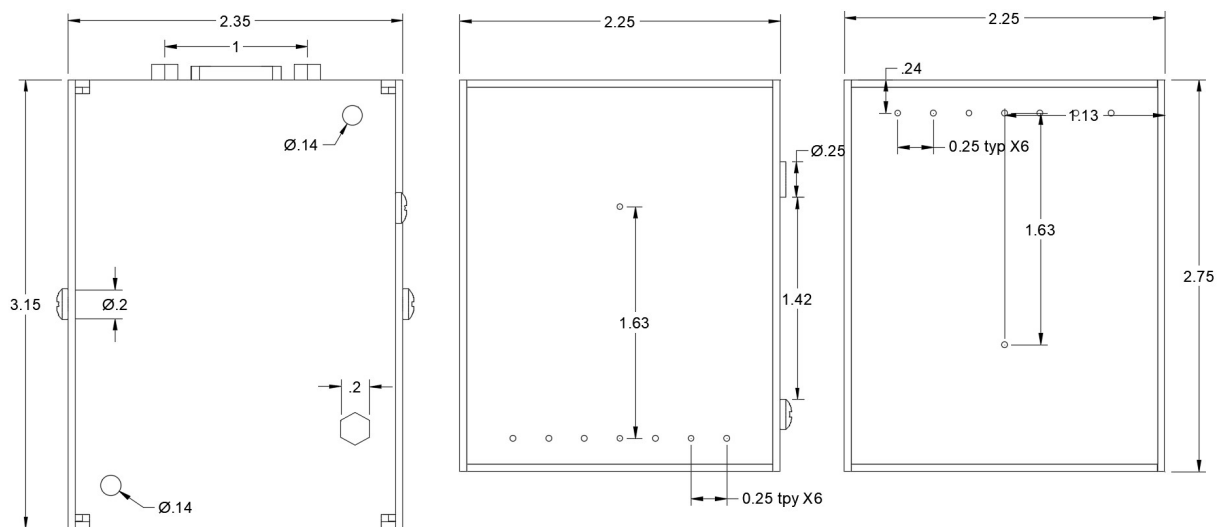
8
HV OUTPUT*

* Through 3 kV, pin 8 is the high voltage output. Above 3 kV, use the 8 in silicone lead; pin 8 is ground.

MECHANICAL DRAWINGS

Mechanical dimensions for the available MCR configurations are shown below. Dimensions are in inches unless otherwise noted. Contact Gamma for assistance selecting the mounting and connection arrangement for your application.

BOTTOM AND MOUNTING-FOOTPRINT VIEWS



CONNECTOR AND SIDE VIEWS

