

**Proven  
Reliability**

# Octo-Channel

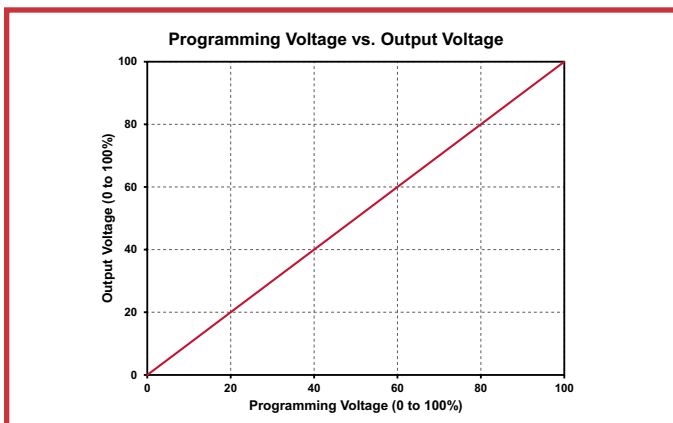
## MULTI-OUTPUT HIGH VOLTAGE SYSTEM

Up to Eight Outputs of 0 to 200V through 0 to 8000V



### PRODUCT DESCRIPTION

The Octo-Channel High Voltage System is a high performance, easy to use system providing eight independently programmable high voltage outputs in a rack mountable enclosure. Each channel features 0 to 100% programmability, high accuracy, high stability, very low ripple, output voltage monitoring and overload, arc and short circuit protection. Eight outputs of 0 to 200 Volts through 0 to 8000 Volts are available in any combination of voltage and polarity.



### APPLICATIONS

Detector Arrays  
Wire Chambers  
Multiple Output, High Voltage Applications

### OPTIONS

SHV Connectors Standard  
MHV type optional (up to 5kV)  
Flying Leads  
24V input standard, 12V or 15V optional

### OUTPUT CHANNEL SELECTION TABLE

OUTPUT VOLTAGE	OUTPUT CURRENT <sup>M1</sup>	RIPPLE P-P <sup>2</sup>	OUTPUT VOLTAGE CONNECTOR
0 to 200V	0 to 5.00 mA	<0.010%	BNC
0 to 500V	0 to 2.00 mA	<0.002%	SHV
0 to 600V	0 to 1.67 mA	<0.002%	SHV
0 to 1000V	0 to 1.00 mA	<0.001%	SHV
0 to 1250V	0 to 1.00 mA	<0.001%	SHV
0 to 1500V	0 to 0.67 mA	<0.001%	SHV
0 to 2000V	0 to 0.50 mA	<0.001%	SHV
0 to 3000V	0 to 0.33 mA	<0.050%	SHV
0 to 4000V	0 to 0.25 mA	<0.050%	SHV
0 to 5000V	0 to 0.20 mA	<0.050%	SHV
0 to 6000V	0 to 0.166 mA	<0.050%	LGH
0 to 8000V	0 to 0.125 mA	<0.200%	LGH

### FEATURES

- High Stability
- 8 Independently Programmable HV Channels
- 1 Watt Output Power Per Channel<sup>1</sup>
- Very Low Ripple
- 0 to 100% Programmable
- High Accuracy
- Voltage Monitor Outputs
- Overload, Arc & Short Circuit Protected

ISO 9001:2008  
CERTIFIED

ISO 14001:2004  
CERTIFIED

RoHS  
COMPLIANT

IPC  
Certified J-STD-001  
Application Specialist

ELECTRICAL SPECIFICATIONS<sup>\*2</sup>

PARAMETER	VALUE <sup>*2</sup>
INPUT VOLTAGE	+24 VDC (+/-20%)
INPUT CURRENT	<2A
OUTPUT POWER	1 watt per channel
PROGRAMMING VOLTAGES	0 to +5V, <100 $\mu$ A (per channel)
LINE REGULATION	<0.001%
LOAD REGULATION	<0.07% to 0.75%, depending on Vout
TEMPCO	<50ppm/ $^{\circ}$ C
STABILITY	0.01%/hr to 0.1%/hr depending on Vout
VOLTAGE MONITOR RATIO	100:1 (Outputs < 1kV), 1000:1 (Outputs 1kV and higher)
VOLTAGE MONITOR POLARITY	Polarity is the same as Vout
ACCURACY	<0.5% (15% TO 100% Vout)
OPERATING TEMP <sup>*3</sup>	-10 $^{\circ}$ to +50 $^{\circ}$ C (Ambient)
STORAGE TEMP	-25 $^{\circ}$ TO +95 $^{\circ}$ C

## DETAILED PRODUCT DESCRIPTION

The Octo-Channel High Voltage System is a high performance, easy to use system providing eight independently programmable high voltage outputs in a rack mountable enclosure. Each channel features 0 to 100% programmability, high accuracy, high stability, very low ripple, output voltage monitoring and overload, arc and short circuit protection. Eight outputs of 0 to 200 Volts through 0 to 8000 Volts are available in any combination of voltage and polarity. Suitable for detector arrays, wire chambers and other applications requiring multiple precision high voltage outputs, the system is designed for easy integration into a computer controlled environment using commercially available data acquisition boards. Input power is through an Amphenol circular connector (mate supplied). Controls and monitoring are via a 25 pin sub-miniature D connector (mate supplied) and the outputs are via eight SHV connectors (MHV optional). 6kV and 8kV outputs use Amp connector P/N 861611-2 (mate supplied, unassembled) and 200V outputs utilize a standard BNC female. Modular system components are pre-fabricated and inventoried to allow for rapid custom configuration and delivery.

MECHANICAL SPECIFICATIONS

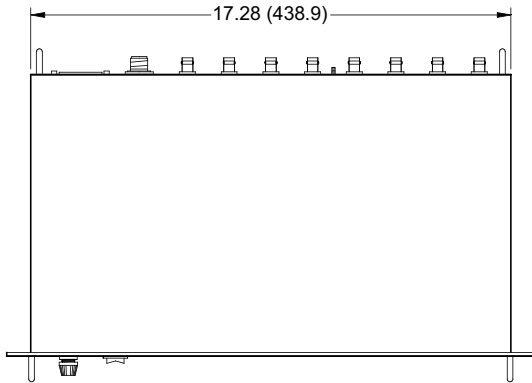
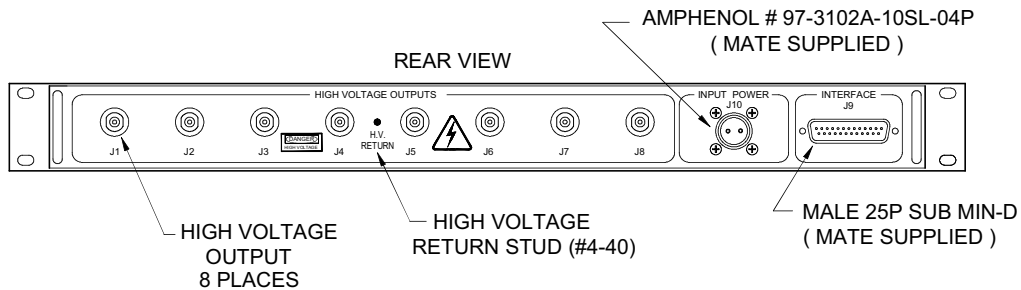
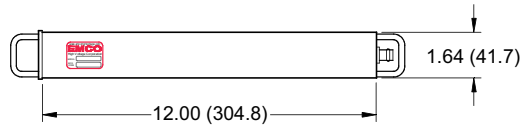
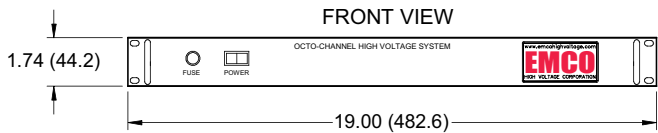


TABLE 2

PIN #	J9 (SUB-MIN "D" 25P)
1	SPARE
2	SPARE
3	ENABLE: TTL LOW = ON
4	PROGRAMMING RETURN
5	PROGRAMMING VOLTS # 1
6	PROGRAMMING VOLTS # 2
7	PROGRAMMING VOLTS # 3
8	PROGRAMMING VOLTS # 4
9	PROGRAMMING VOLTS # 5
10	PROGRAMMING VOLTS # 6
11	PROGRAMMING VOLTS # 7
12	PROGRAMMING VOLTS # 8
13	VOLTAGE MONITOR # 1
14	VOLTAGE MONITOR # 2
15	VOLTAGE MONITOR # 3
16	VOLTAGE MONITOR # 4
17	VOLTAGE MONITOR # 5
18	VOLTAGE MONITOR # 6
19	VOLTAGE MONITOR # 7
20	VOLTAGE MONITOR # 8
21-25	SPARES

TABLE 3

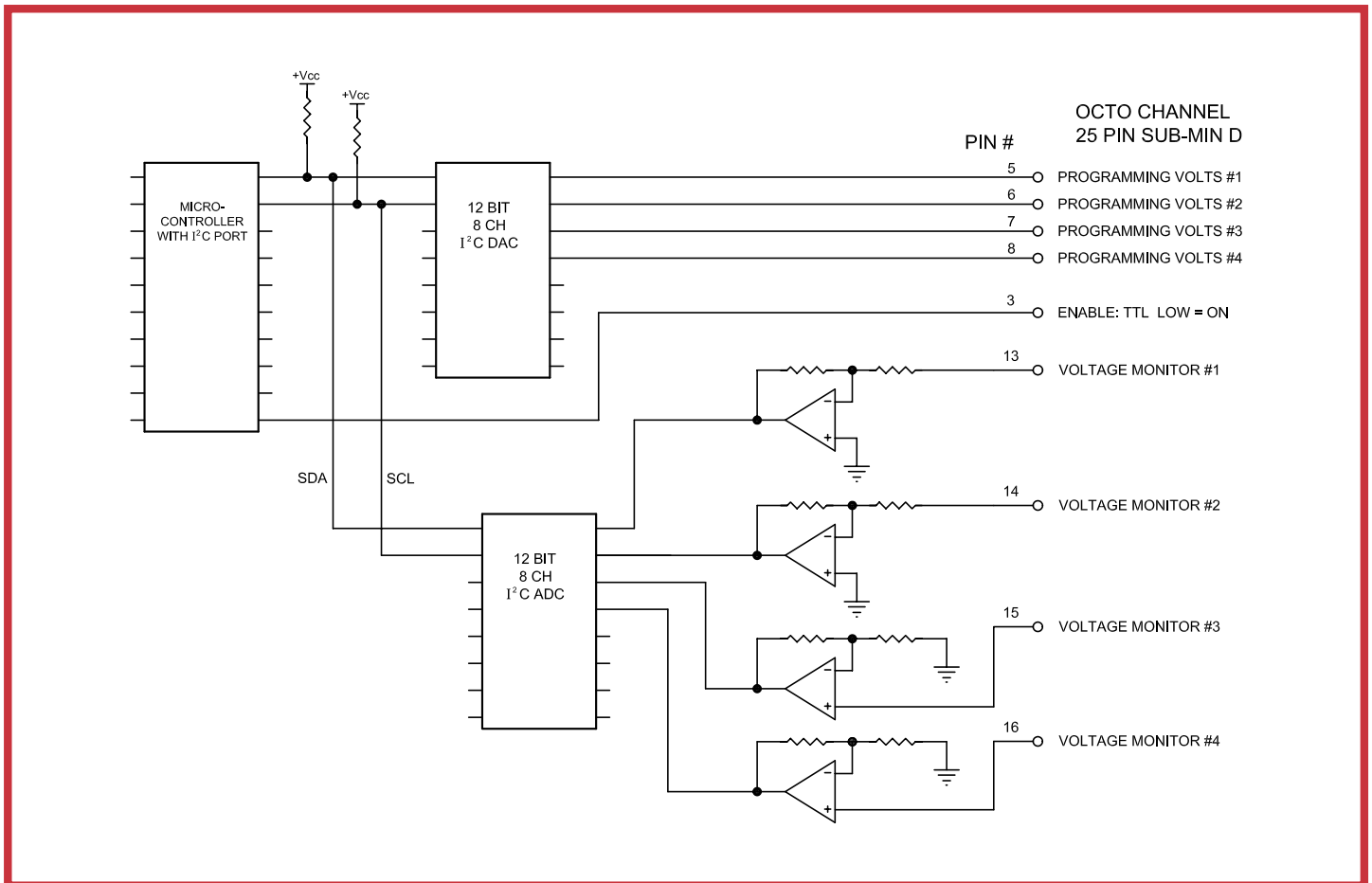
PIN #	J10 (INPUT POWER)
A	INPUT POWER (+)
B	POWER RETURN / CASE



DIMENSIONS ARE IN INCHES (METRIC EQUIVALENTS ARE IN PARENTHESIS)  
 DIMENSIONAL TOLERANCES: .XX = ±0.02 (0.51), .XXX = ±0.005 ( 0.127)

PARAMETER	VALUE
WEIGHT	<5LBS (2.3KG)
DIMENSIONS	19 X 12 X 1.74IN (482.6 X 304.8 X 44.196mm)
SHIP WEIGHT	<10LBS (4.6KG)
SHIP DIMENSIONS	28 X 16 X 12IN (711.2 X 406.4 X 304.8mm)

## TYPICAL APPLICATION

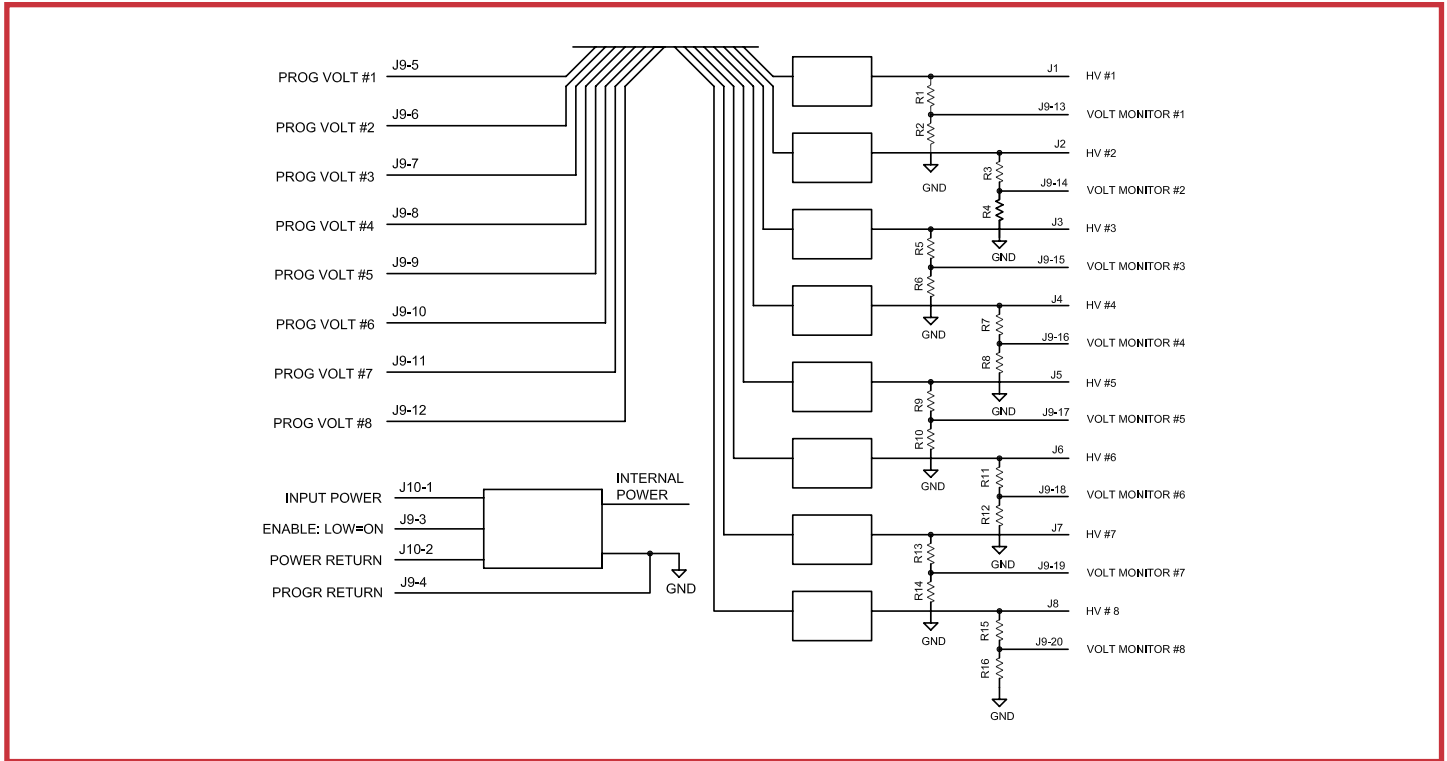


PIN #	J10 (INPUT POWER)
1	INPUT POWER (+)
2	POWER RETURN/CASE

PIN #	J9 (SUB-MIN D 25P)
1	SPARE
2	SPARE
3	ENABLE: TTL LOW = ON
4	PROGRAMMING RETURN
5	PROGRAMMING VOLTS #1
6	PROGRAMMING VOLTS #2
7	PROGRAMMING VOLTS #3
8	PROGRAMMING VOLTS #4
9	PROGRAMMING VOLTS #5
10	PROGRAMMING VOLTS #6
11	PROGRAMMING VOLTS #7

PIN #	J9 (SUB-MIN D 25P)
12	PROGRAMMING VOLTS #8
13	VOLTAGE MONITOR #1
14	VOLTAGE MONITOR #2
15	VOLTAGE MONITOR #3
16	VOLTAGE MONITOR #4
17	VOLTAGE MONITOR #5
18	VOLTAGE MONITOR #6
19	VOLTAGE MONITOR #7
20	VOLTAGE MONITOR #8
21-25	SPARES

**BLOCK DIAGRAM**



**HOW TO ORDER**

**To Specify and Order Your Octo-Channel Configuration:**

1. Select up to 8 individual outputs (by max output voltage and polarity).
2. EMCO Sales Rep will provide a quotation for this configuration.
3. Prior to order placement, your EMCO Sales Rep will provide a custom model number for ordering purposes.
4. After order placement, EMCO will provide a detailed outline drawing and specification specific to the Custom Model Number.
5. The order will be released to EMCO manufacturing upon customer approval and sign off of the outline drawing.

\* Notes:

1. At Maximum Rated Output Voltage.
2. Specifications after 1 hour warm-up, full load, + 25°C unless otherwise noted.
3. Proper thermal management techniques are required to maintain safe case temperature at maximum power output.

EMCO reserves the right to make changes on products and literature, including specifications, without notice. EMCO standard product models are not recommended for "copy-exact" applications or any other application restricting product changes. "Copy-exact" options are available. Please contact an EMCO sales representative for more details.