

Revision A – 05/15/15

**PAS 9403/AMP
ENGINEERING SPECIFICATION**

**16 CHANNEL,
ISOLATION AMPLIFIER PANEL
Rev A (05/15/15)**

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Precision Analog Systems Co.
1021 SW 75th Avenue
Plantation, Florida 33317
Phone: (954) 587-0668
E-mail: inquiry@precisionanalog.com

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16 Channel, Isolation Amplifier Panel

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16 Channel, Isolation Amplifier Panel

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I. INTRODUCTION

GENERAL DESCRIPTION

The PAS 9403/AMP provides sixteen channels of voltage attenuation and electrical isolation on a 1U x 19" rack mountable panel. Two PCBs with 8 channels each are mounted on the panel. Different types of amplifier boards can be mounted in the different locations on the panel to tailor the amplifier to your application.

The isolation amplifiers used in this design are the AD202JY or AD202JN by Analog Devices. One device is mounted in a SIP package and the other is mounted in a DIP package. The board will accept either package and will be built with the package that is most available. The isolation amplifiers provide 1000 Volts peak continuous voltage. Each isolation amplifier also provides an isolated power supply of +/- 7.5 Volts at 2 mA. In this application the isolated supply is used in the offset adjustment circuit. The board also provides individual gain adjustments per channel.

The board provides an attenuator in front of the isolator. In the first application of this board, the attenuation ratio was 8.5 to 1, and was used to attenuate a +/- 42.5 Volt signal down to +/- 5 Volts. The amplifier can also be built to provide gain in future applications. The output of the AD202J is followed by an AD8512 to provide a low impedance output.

This isolation amplifier panel requires +/- 15 Volt power supplies to power the isolation amplifiers and output buffers.

Panel Features: PAS 9403/AMP

- 16 Channels of voltage attenuation and electrical isolation
- Attenuation ratio of 8.5 to 1
- Electrical isolation of +/-1000 Volts peak
- Offset and gain adjustments per channel
- Mounts on standard 19" cabinet rails and requires 1 ¾ " of vertical rack space
- Each panel mounts 2 amplifier boards with 8 channels each
- Input and Output signals available on DB37 connectors
- Custom versions available

II. SPECIFICATIONS

Electrical Specifications

Each panel provides mounting locations for two boards. These electrical specifications are for one board.

PAS 9403/AMP-001 Specifications

Number of channels	8
Transfer characteristics CH 0-7	Attenuation of 8.5 to 1 +/- 45 Volts to +/- 5Volts
Isolation Amplifier Type	AD202J
Output Buffer	AD8512
Isolation Voltage, Continuous	+/- 1000 Volts peak
Power Supply Requirements	+/- 15 Volts @ 10 mAmps per channel

Environmental Specifications

Operating Temperature Range	0 to 55° C
Storage Temperature Range	-20 to 85° C
Relative Humidity Range	20 % to 80 %, non-condensing

Physical Specifications

Length	19.0"
Height	1.75"
Depth	4.00"
Weight	2 lbs
Connectors	
Input	2 Ea, DB37 Female
Output	2 Ea, DB37 Male

TABLE 1
P1 Connector Definitions

IGND	20	1	IN0HI
IGND	21	2	IN0LO
IGND	22	3	IN1HI
IGND	23	4	IN1LO
IGND	24	5	IN2HI
IGND	25	6	IN2LO
IGND	26	7	IN3HI
IGND	27	8	IN3LO
IGND	28	9	IN4HI
IGND	29	10	IN4LO
IGND	30	11	IN5HI
IGND	31	12	IN5LO
IGND	32	13	IN6HI
IGND	33	14	IN6LO
IGND	34	15	IN7HI
IGND	35	16	IN7LO
IGND	36	17	N/C
IGND	37	18	N/C
		19	N/C

TABLE 2
P2 Connector Definitions

GND	20	1	OUT0
GND	21	2	GND
GND	22	3	OUT1
GND	23	4	GND
GND	24	5	OUT2
GND	25	6	GND
GND	26	7	OUT3
GND	27	8	GND
GND	28	9	OUT4
GND	29	10	GND
GND	30	11	OUT5
GND	31	12	GND
GND	32	13	OUT6
GND	33	14	GND
GND	34	15	OUT7
GND	35	16	GND
GND	36	17	-15VPS
GND	37	18	+15VPS
		19	+5V