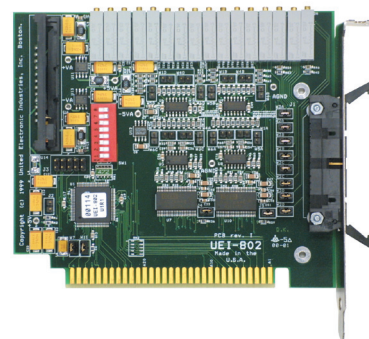# UEI-802-8

8-Channel ISA Card for Analog Output Data Acquisition

- 8 analog outputs
- 12-bit resolution
- Output ranges: 0-10V, ±10V
- Configurable for remote sensing
- Drop-in replacement for Analog Devices RTI-802-8 card

General Description:

A drop-in replacement for Analog Devices RTI-802-8, the UEI-802-8* is an 8-channel ISA analog-output board. It provides eight independent channels of analog output voltage. Each output channel contains its own 12-bit D/A converter.

Each channel can be individually set to output a voltage within the range of 0-10V or ±10V. If necessary, the analog output channels may be configured for remote sensing. This feature is useful for applications where the load is located a few hundred feet from the board, resulting in a voltage drop. Remote sensing compensates for line loss.

* Note: UEI provides no software for this board.

Technical Specifications:

|	
Number of channels	8
Resolution	12 bits
Output settling time	20µs (to ±1/2 LSB, +10V step)
Accuracy	±0.02%
Output ranges	0-10V, ±10V @ 20mA
D/A input codes	binary, two's complement
Nonlinearity	±1 LSB max
Gain	±15 ppm/°C of full scale range
Offset	±25µV/°C
Output protection	Short to ground, continuous
Power consumption	+5V DC @ 0.5A
Operating temp. range	-25 to 85°C
Relative humidity	up to 90% (non-condensing)

Block Diagram:
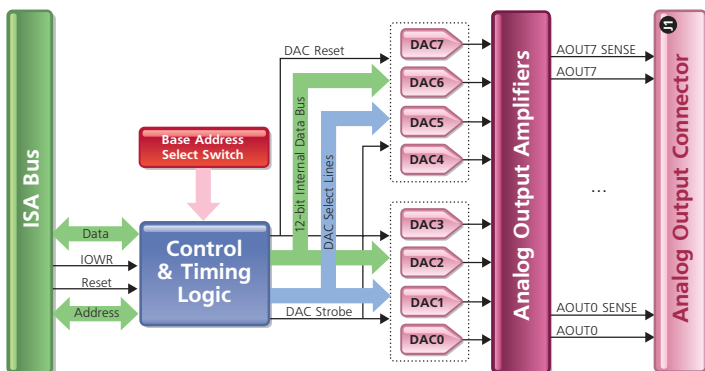
Pinout Diagram:

J1 — IDC-26 (male)
26-pin connector:

|			
AOUT0	1	2	AOUT0 SENSE
AGND	3	4	AOUT1
AOUT1 SENSE	5	6	AGND
AOUT2	7	8	AOUT2 SENSE
AGND	9	10	AOUT3
AOUT3 SENSE	11	12	AGND
AOUT4	13	14	AOUT4 SENSE
AGND	15	16	AOUT5
AOUT5 SENSE	17	18	AGND
AOUT6	19	20	AOUT6 SENSE
AGND	21	22	AOUT7
AOUT7 SENSE	23	24	AGND
NC	25	26	NC

Analog output signals
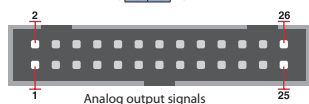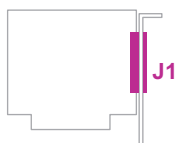
Base Address Configuration:

I/O address configuration is required to select a location for the UEI-802-8 4-locations I/O address map in the PC I/O space. The factory default setting is 300H. To select an alternative I/O address, use DIP switch SW1 as follows:

Hex I/O Address	Switch Position¹							
	1	2	3	4	5	6	7	8
2xx							ON	OFF
3xx							**OFF**	**OFF**
x0x			**ON**	**ON**	**ON**	**ON**		
x1x			OFF	ON	ON	ON		
x2x			ON	OFF	ON	ON		
x3x			OFF	OFF	ON	ON		
x4x			ON	ON	OFF	ON		
x5x			OFF	ON	OFF	ON		
x6x			ON	OFF	OFF	ON		
x7x			OFF	OFF	OFF	ON		
x8x			ON	ON	ON	OFF		
x9x			OFF	ON	ON	OFF		
xAx			ON	OFF	ON	OFF		
xBx			OFF	OFF	ON	OFF		
xCx			ON	ON	OFF	OFF		
xDx			OFF	ON	OFF	OFF		
xEx			ON	OFF	OFF	OFF		
xFx			OFF	OFF	OFF	OFF		
xx0..xx3	ON	ON						
xx4..xx7	OFF	ON						
xx8..xxB	ON	OFF						
xxC..xxF	OFF	OFF						
Address Bit	2	3	4	5	6	7	8	9

Factory defaults are in **bold**
¹ As labeled on DIP switch (SW1)

Channel Groups/Jumpers Diagram:
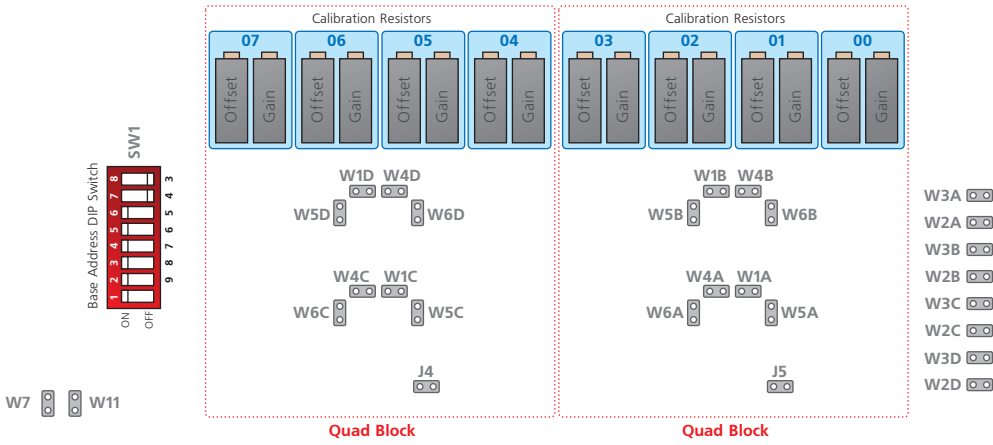
Unipolar/Bipolar Configuration:

Unipolar/bipolar configuration is performed on a per-channel basis using a pair of jumpers.

Channel Number	Jumpers Used	Unipolar	Bipolar
0	W6A		
	W4A		
1	W5A		
	W1A		
2	W6B		
	W4B	factory default	
3	W5B		
	W1B		
4	W6C		
	W4C		
5	W5C		
	W1C		
6	W6D		
	W4D		
7	W5D		
	W1D		

* Position indicated for both jumpers

Sensing Configuration:

Sensing configuration is performed on a per-channel basis using the following jumpers.

Channel Number	Jumper Used	Local	Remote
0	W3A		
1	W2A		
2	W3B		
3	W2B	factory default	
4	W3C		
5	W2C		
6	W3D		
7	W2D		

Reset Configuration:

Reset behavior configuration is performed on a per-quad (4-channel group) basis.

Channel Group	Jumper Used	0X000	0X800
0 - 3	J5	factory default	
4 - 7	J4		

Coding Configuration:

Two's compliment/ Straight Binary configuration is performed on a per-quad (4-channel group) basis.

Channel Group	Jumper Used	Binary	Two's
0 - 3	W7	factory default	
4 - 7	W11		