

# AI8/AI16



## 1 FEATURES

- 8 or 16 differential analog inputs
- 4  $\pm 10$  V inputs and 4  $\pm 20$  mA (4–20 mA) inputs for the AI8 module
- 8  $\pm 10$  V inputs and 8  $\pm 20$  mA (4–20 mA) inputs for the AI16 module
- Optical isolation
- PC/104 Bus
- Built-in antialias filter

## 2 TECHNICAL SPECIFICATIONS

Bus interface	PC/104
Form factor	AR4C <sup>1</sup>
Power supply voltage	5 V $\pm 5\%$
Power consumption	up to 2.4 W (AI8) up to 4.5 W (AI16)
Operating temperature	5°C do 70°C
Storage temperature	-40°C do 85°C
Dimensions [mm]	151 $\times$ 125 $\times$ 19
Number of inputs	8 or 16
Input range	$\pm 10$ V $\pm 20$ mA (4–20 mA)
Inputs isolation	$\geq 1000$ V

<sup>1</sup>form factor for the PC/104 bus

## 3 MODULE'S PARAMETERS

Analog inputs parameters:

Parameter	Value
ADC resolution	12 bit
Output resolution	15 bit <sup>2</sup>
Sampling frequency	up to 1600 Hz

Maximum acceptable input signals:

Parameter	Max	Unit
Differential current for current inputs	$\pm 45$	mA
Differential voltage for voltage inputs	$\pm 150$	V
Voltage between input and AGND	$\pm 100$	V

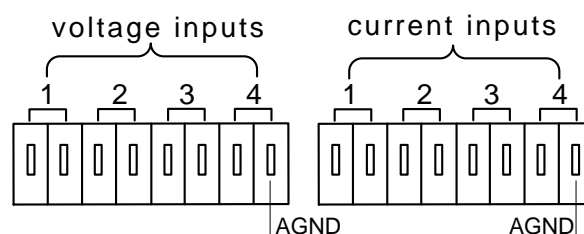


Figure 1: AI8/AI16 card analog input connector

<sup>2</sup>effective 14 bits after 16  $\times$  over sampling

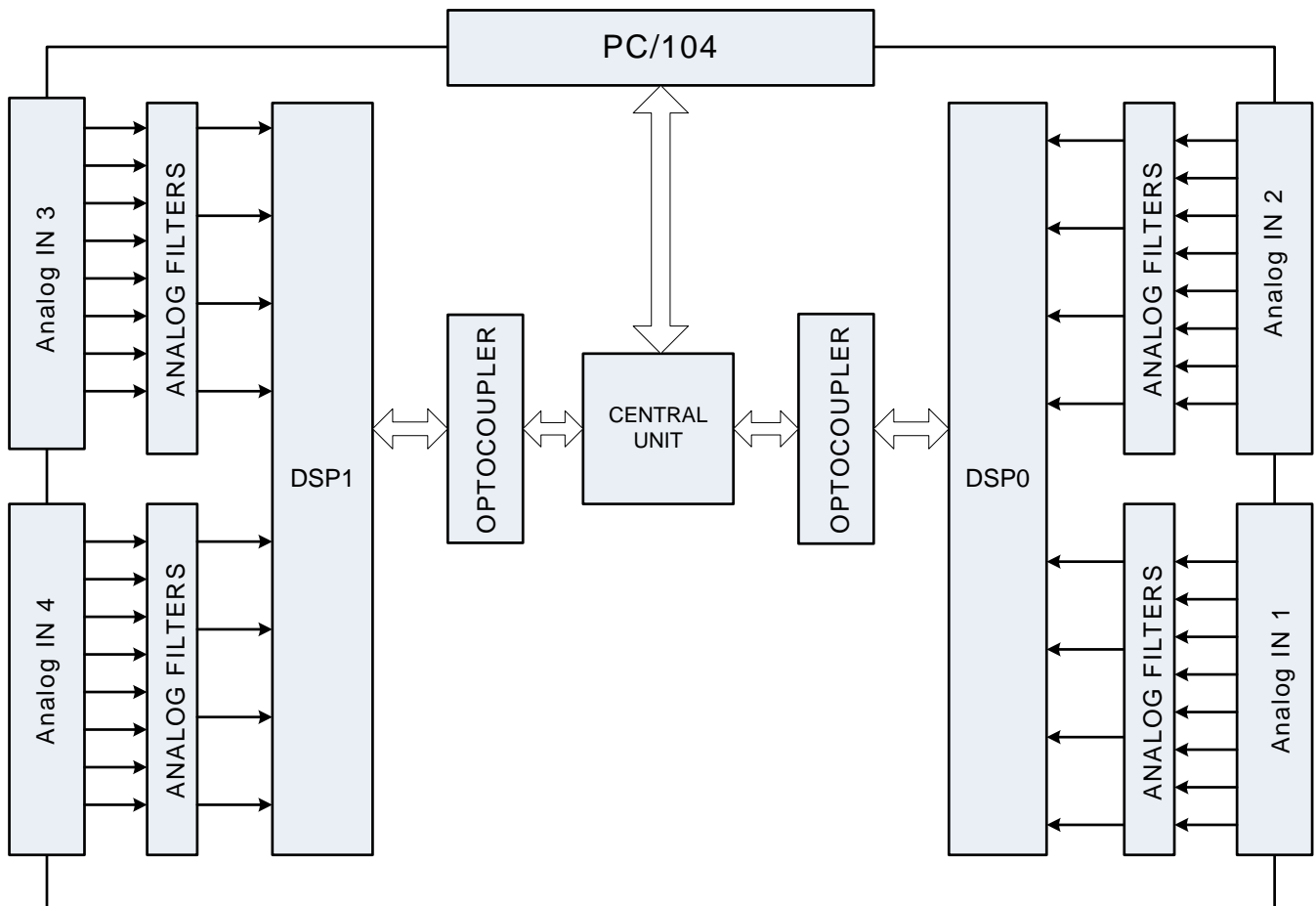


Figure 2: AI8/AI16 card block diagram

Antialias filter characteristics for sampling frequency 100 Hz<sup>3</sup>

Parameter	card	+filter <sup>4</sup>	Unit
Stopband attenuation	38	54	dB Min
3 dB bandwidth	8.6	8.2	Hz Min
Group delay	34	46	ms Typ.

<sup>3</sup>card sampling frequency 1600 Hz — 16× oversampling

<sup>4</sup>with additional 2nd Butterworth filter with 15 Hz cut-off frequency

## 4 ORDERING GUIDE

AI8/AI16 card is available in the following versions:

Model	Bus	Number and versions of inputs
AI8	PC/104	4 × ± 10 V 4 × ± 20 mA
AI16	PC/104	8 × ± 10 V 8 × ± 20 mA

There is a possibility to customize AI8/AI16 card variants to Client's wishes. There are possible changes in inputs standards and antialiasing filter's parameters.