



# AMC-ADIO24

## AMC Analog/Digital I/O Module

- 8 analog inputs  $\pm 10$  V, 16 bit
- 2 analog outputs  $\pm 10$  V, 16 bit
- 24 digital I/Os, TTL level
- 4 trigger I/Os (RS-485)

### I/O Data Management

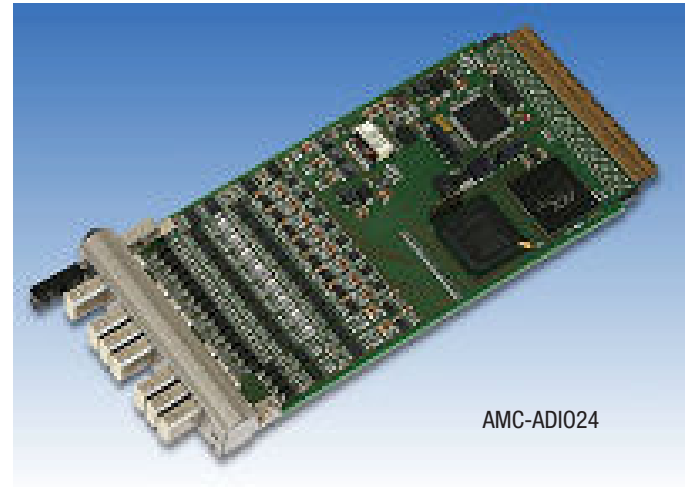
The AMC-ADIO24 is equipped with a Spartan FPGA® that manages the I/O data exchange in cooperation with the PCIe bridge. FIFOs for input and output direction and DMA to the PCIe host CPU's memory minimizes undesired latency during PCIe read cycles at higher data rates. This module reduces the read cycles of the PCIe CPU to setup and diagnosis tasks.

### 8 Analog Inputs with 16 Bit Resolution

The eight over voltage protected analog inputs connect to eight 16-bit A/D converters with a sampling rate of up to 200 kHz each.

### 2 Analog Outputs with 16 Bit Resolution

Both 16 bit analog outputs have a differential and a single ended output circuit, accessible at separate pins at a Harting® har-link® connector. The outputs are transient and short circuit protected.



For further information please visit  
<http://www.esd-electronics-usa.com/AMC-CAN-Interfaces.html>

### 24 Digital I/Os with Programmable Output Configuration

esd electronics designed each of the 24 TTL-level I/Os for configuration as input or output, high side driver, low side driver or both (sink/source), and the I/O port's state reads back in any configuration via a comparator with hysteresis.

### Trigger I/Os for Synchronization

The firmware offers a 'Timing-Routing-Pool' with various trigger conditions (RS-485 trigger input, timer, software, free flo with the ability to evaluate each I/O.

### PCIe Device Access

esd electronics makes a comprehensive register description available for setup and I/O data exchange.

growing with the  
challenge

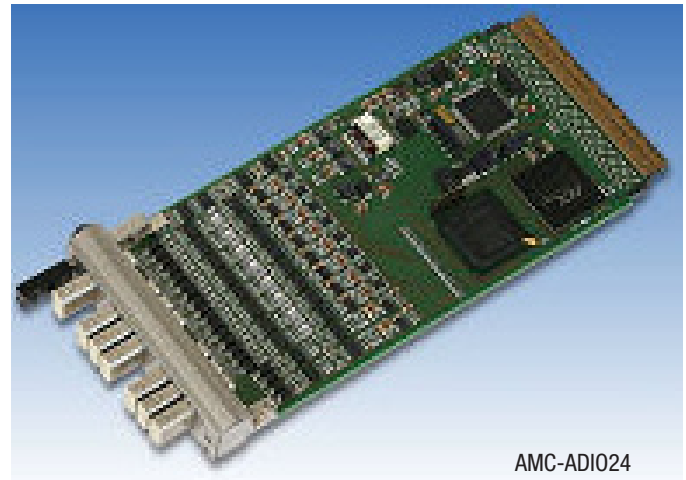
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### Technical Specifications:

MicroTCATM standards:	
∅TCA:	PICMG® MTCA.0 R1.0, PICMG® AMC.0 R2.0
IPMI:	IPMI V1.5, controller Atmel® AVR
Updates:	PICMG® HPM.1 R1.0
PCIe bridge:	PCISIG® PCIe spec. R.1.0a
Process interfaces:	
I/O control:	FPGA Spartan® II
Analog inputs:	8 inputs, $\pm 10$ V, 16-bit resolution, up to 200 kHz sampling rate
Analog outputs:	2 outputs, $\pm 10$ V, 16-bit resolution, up to 600 kHz update rate
Digital I/Os:	24 I/Os, TTL level, programmable as input only, output sink, output source, output sink/source, max. current/channel: 64 mA sink, 32 mA source, up to 1 MHz input sampling rate, up to 1 MHz output update rate
Trigger ports:	4 RS-485 ports, trigger/sync, max. 1 MHz
General:	
Dimensions:	mid-height, single-width (73.5 x 180 mm) AMC
Ambient temp.:	0 ...+70 °C (free convection)
Humidity:	max. 90%, non-condensing
Power supply:	3.3 V (I3.3VMPMAX= 60 mA), 12 V (I12VTYPICAL = 0.6 A, I12VMAX= 1.0 A)
Connectors:	J1: AMC B/B+ compatible (MicroTCATM) P1 ... P7: 10-pin har-link (I/Os)
LEDs:	blue (hot plug), red (IPMI), green (OK)



### Order Information:

Designation	order no.
AMC-ADIO24 8x AIN, 2x AOUT, 24x DIO, 4x trigger	U.1001.01



**AdvancedMC™**  
**μTCA®**

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