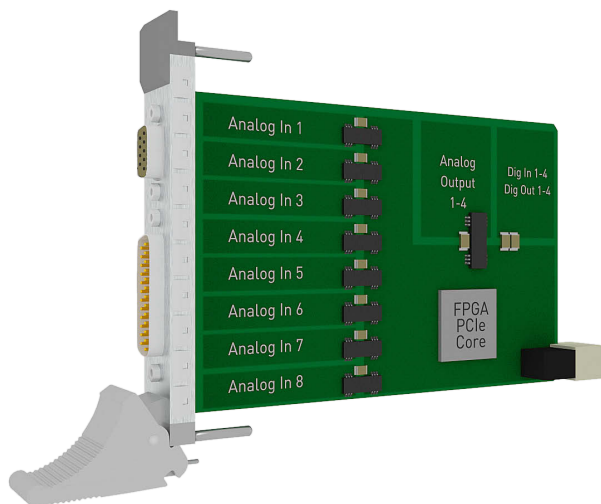


# Multifunction board, optically isolated, 8 SE or 8 diff. inputs, 4 analog outputs, 24-bit

**IN DEVELOPMENT\***



The CompactPCI Serial board CPCIs-3131 is a fast and highly-precise multifunction board. Each of the 8 inputs has an own A/D converter, the resolution is 24-bit. On the CPCIs-3131, not only the analog and digital part are optically isolated but also all analog channels are separated from each other.

Further protective circuits complete the interference resistance of the board and offer an excellent protection for your application in the harsh industrial environment. Please contact us for further information!



## Features

- CompactPCI Serial (PICMG CPCI-S.0 R1.0)

### Analog inputs

- 8 SE/diff. inputs, optically isolated 1000 V
- Optical isolation between channels 500 V
- 24-bit resolution
- Throughput: max. 100 kHz, programmable for each channel
- Input voltage:

PGA	unipolar	bipolar
1	0-10 V	±10 V
10	0-1 V	±1 V
100	0-0.1 V	±0.1 V
1000	0-0.01 V	±0.01 V

- Current inputs: 0–20 mA, software-programmable for each channel
- Gain PGA x1, x10, x100, x1000 software-programmable for each channel

### Analog acquisition

- Different acquisition modes are available:
  - 1) Simple Mode,
  - 2) Scan Mode
  - 3) Sequence Mode
  - 4) Auto Refresh Mode
- Onboard FIFO
- PCI-Express DMA for analog data acquisition
- MSI interrupt

### Analog outputs

- Simultaneous output through DMA
- 4 analog outputs, optically isolated
- 16-bit resolution, setup time 18 µs max. (voltage in 10 V steps)
- Output voltage after reset: 0 V
- Each output has its own ground line (without optical isolation)

## CPCIs-3131-8-4

### CompactPCI Serial interface

8 SE or 8 differential inputs

24-bit resolution, 250 kHz

4 analog outputs, 16-bit

8 digital I/O, optically isolated, 24 V

Extended temperature range

- Output voltage range:
  - 0-10 V, ± 10 V
  - 0-5 V, ± 5 V
  - 0-20 mA, 4-20 mA, 0-24 mA
- Output current: ± 20 mA
- Short-circuit current: in preparation

### 24 V digital I/O

- 4 digital inputs, 24 V, optically isolated
- 4 digital outputs, 24 V, optically isolated

### Timer / Counter / Watchdog

- 3 / 3 / 2, 16-bit

### Safety features

- Optical isolation 1000 V min.
- Optical isolation between analog inputs: 500 V
- Creeping distance IEC 61010-1
- Circuit part of the analog acquisition is separated from the circuit part of the digital function
- Overvoltage protection
- Protection against high-frequency EMI
- Input filters
- Noise neutralisation of the PC supply
- Connection of the I/O signals via robust industry-standard D-Sub connector

## Software

### Standard drivers for:

- Linux
- 32-bit drivers for Windows 8 / 7 / Vista / XP / 2000
- Signed 64-bit drivers for Windows 8 / 7 / XP
- Real-time use with Linux and Windows on request

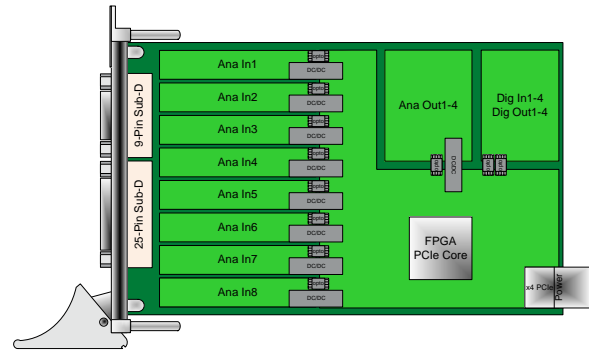
### On request:

Further operating systems, compilers and samples

Driver download: [www.addi-data.com/downloads](http://www.addi-data.com/downloads)

\* Preliminary product information

Simplified block diagram



Specifications\*

Analog inputs

Number of inputs:	8 differential inputs		
Resolution:	24-bit		
Optical isolation:	1000 V through opto-couplers from PC to peripheral 500 V between channels		
Voltage inputs:	Each channel is freely programmable through software		
	PGA	unipolar	bipolar
	1	0-10 V	±10 V
	10	0-1 V	±1 V
	100	0-0,1 V	±0.1 V
	1000	0-0.01 V	±0.01 V
Current inputs:	0–20 mA (option)		
Throughput:	max. 250 kHz, software-programmable for each channel		
Trigger:	through software, timer, ext. event (24 V input)		
Data transfer:	Data to the PC through FIFO memory, Interrupt at EOC (End Of Conversion) DMA transfer at EOC		
Interrupts:	End of conversion, end of timer, end of sequence		

Analog outputs

Number of outputs:	4
Resolution:	16-bit
Optical isolation:	1000 V through opto-couplers
<b>Voltage and current outputs</b>	
Output range:	0-10 V, ±10 V, 0-5 V, ±5 V, Option: 0-20 mA, 4-20 mA, 0-24 mA
LSB:	in preparation
Accuracy:	13,6-bit for voltage outputs 14-bit for current outputs
Read time:	in preparation
Setup time:	Output voltage, max.18 µs (in 10 V steps) Output current, typ. 15 µs (0 mA - 24 mA)
Max. output current:	in preparation
Short-circuit current:	in preparation
Output-voltage after reset:	0 V

Digital I/O

Number of inputs:	4 digital inputs, 24 V 1 input is programmable as counter input
Number of outputs:	4 digital outputs (50 mA), 24 V
Input range:	0-30 V – logic „0“: 0-14 V; logic „1“: 19-30 V
Optical isolation:	1000 V through opto-couplers from PC to peripheral

EMC - Electromagnetic compatibility

The product complies with the European EMC directive. The tests were carried out by a certified EMC laboratory in accordance with the norm from the EN 61326 series (IEC 61326). The limit values as set out by the European EMC directive for an industrial environment are complied with. The respective EMC test report is available on request.

Physical and environmental conditions

Dimensions:	3U/4TE
System bus:	PCI Express nach CompactPCI Serial Specification PICMG CPCI-S.0 R1.0
Space required:	1 CompactPCI Serial slot for analog inputs, 1 slot opening for digital I/O with FB300x
Operating voltage:	+12 V, ± 5 %
Current consumption:	in preparation
Front connector:	25-pin D-Sub male connector (analog input) 9-pin D-Sub male connector (analog output)
Additional connector:	50-pin D-Sub male connector for 8 digital I/O through ribbon cable FB300x
Temperature range:	from –40 °C to +85 °C
MTBF:	in preparation

Ordering information

CPCIs-3131-8-4

Multifunction board, optically isolated, 8 SE or 8 diff. inputs, 4 analog outputs, 24-bit. Technical description, software drivers and monitoring program included.

Accessories

**FB300x:** Ribbon cable for digital I/O

\*Preliminary product information