Multifunction board, optically isolated, 16 SE or 8 diff. inputs, 8 analog outputs, 16-bit

CPCI-3120
16/8 single-ended or
8/4 differential inputs, 16-bit
8/4 analog outputs, 14-bit
Optical isolation of the inputs and outputs, 500 V
Automatic analog acquisition
Output voltage after reset 0 V
MTBF: 75 867 hours at 45 °C
Timer, watchdog

Features
- Can be inserted in PXI systems, with restricted functionality
- Analog inputs
  - 16 single-ended/8 differential inputs or 8 single-ended/4 differential inputs
  - 16-bit resolution
  - Optical isolation 500 V
  - Throughput: 100 kHz
  - Input voltage: 0-10 V, ±10 V, 0-5 V, ±5 V, 0-2 V, ±2 V, 0-1 V, ±1 V, 0-20 mA (option) freely programmable through software for each channel
  - Gain PGA x1, x2, x5, x10 freely programmable through software for each channel
- Optical isolation of the inputs and outputs, 500 V
- Digital filters: 159 kHz
- Analog acquisition
  - Single channel, several channels, several channels through scan list
  - Autom. analog acquisition through cyclic timer control
  - Acquisition through scan list: up to 16 entries with gain, channel, unipolar/bipolar
  - Acquisition triggered through software, timer, external event
  - Trigger functions:
    - Software trigger or
    - external trigger: the analog acquisition (single or sequence) is started through signal switching from 0 V to 24 V at the digital input 0.
    - Interrupt: End of single, End of multichannel, End of scan list
- Analog outputs
  - 4 or 8 analog outputs, optically isolated 500 V
  - Setup time 30 µs
  - 14-bit resolution (13-bit for 0-10 V)
  - Output voltage: ±10 V, 0-10 V (through software)
  - Output voltage after reset: 0 V
  - Each output has its own ground line (without optical isolation)
  - Driver capacity: 5 mA/500 pF
  - Short-circuit protection, EMI filters
- Digital
  - 4 dig. inputs, 4 dig. outputs, 24 V, optically isolated
- Safety features
- Optical isolation 500 V min.
- Creeping distance IEC 61010-1
- Overvoltage protection ± 40 V (analog inputs)
- Protection against high-frequency EMI
- Input filters: 159 kHz
- Noise neutralisation of the PC supply
- Applications
- Industrial process control
- Industrial measurement and monitoring
- Multichannel data acquisition
- Control of chemical processes
- Factory automation
- Acquisition of sensor data, current measurement, pressure data
- Laboratory equipment, instrumentation
- Software
- Calibration tool (Option CAL3120): Do the fine adjustment fast and reliably and save the generated calibration report file. All you need is a highly precise calibration source and a precise digital multimeter (not included in the delivery content).
- A CD-ROM with the following software and programming samples is supplied with the board.
- 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
- Drivers and samples for the following compilers and software packages:
  - Microsoft VC++ • Microsoft C
  - Borland C++ • Borland C
  - Visual Basic • Delphi
  - LabVIEW • LabWindows/CVI • DASYLab • DIAdem
- On request:
  - Further operating systems, compilers and samples.
  - Driver download: www.addi-data.com/downloads

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CompactPCI, analog – CPCI-3120

Specifications

Analog inputs
- Number of inputs: 16 single-ended / 8 differential inputs or 8 single-ended / 4 differential inputs
- Resolution: 14-bit resolution
- Operational range: ±2 V through opto-couplers from PC to peripheral
- Input ranges: software programmable for each channel
- Throughput: 10 kHz per channel
- Common mode rejection: ≥ 125 kHz
- Relative precision (max.): ± 1 LSB (ADC)
- Diff. Non-linearity (DNL): ± 2 LSB (ADC)
- Input impedance: ≥ 10 MΩ
- Overvoltage protection: ± 12 V
- Setup time at 2 kΩ: 100 μs
- Output range: 0-10 V, ± 10 V switchable through software
- Optical isolation: 500 V through opto-couplers
- Number of outputs: 4 or 8
- Time base of timer: 24-bit, 50 μs

Digital I/O
- Number of I/O channels: 4 dig. inputs, 4 dig. outputs, 24 V
- Input range: 0-30 V
- Output range: 0-30 V
- Max. switching current: ≥ 200 mA
- Input impedance (PDA): 10 kΩ

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 of the EN 61326 series (IEC 61326). The limits 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: 160 x 100 mm
- System bus: CompactPCI 32-bit (5 V signal voltage)
- Space required: 1 PXI slot for analog I/O, 1 slot opening for digital I/O with FB3001
- Operating voltage: +5 V ± 5 %, +3.3 V from CompactPCI system
- Current consumption: 800 mA
- MTBF: 75867 hours at 45 °C
- Additional connector: 16-pin male connector for connecting the dig. I/O
- Temperature range: 0 to 60 °C (with forced cooling)
- NITF: 73000 hours at 40 °C

CPCI-3120
Multifunction board, optically isolated, 16 SE or 8 diff. inputs, 8 analog outputs, 16-bit. Incl. technical description, monitoring program and software drivers.

Versions
CPCI-3120-16A: 16 SE / 8 diff. inputs, 8 analog outputs
CPCI-3120-16B: 16 SE / 8 diff. inputs, 8 analog outputs

Options
- Please specify the number of channels when ordering
- Operating frequency: 5 V signal voltage
- Pin assignment – 37-pin D-Sub male connector

Accessories
- PX901-A: Screw terminal panel with transorb diodes, for connecting the analog I/O
- PX901-AG: Same as PX901-A with housing for DIN rail
- PX901-20CA: Screw terminal panel for connecting the digital I/O, for DIN rail
- PX_BNC: BNC connection box for connecting the analog I/O
- ST010: Standard round cable, shielded, twisted pairs, 2 m
- ST011: Standard round cable, shielded, twisted pairs, 5 m
- FB3001: Ribbon cable for digital I/O, with 37-pin D-Sub male connector on 3U bracket

Ordering information
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