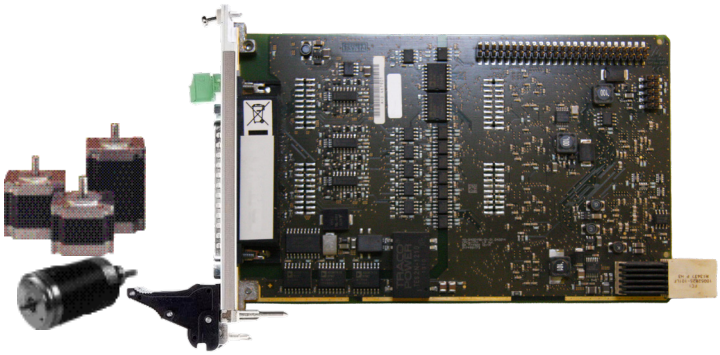
Multifunction counter board, optically isolated,

fast counter inputs – programmable functions, for CompactPCI Serial



CPCIs-1712

Available functions: incremental counter, SSI Synchronous Serial Interface, counter/timer, pulse acquisition, frequency, pulse width, period duration, velocity measurement, PWM, BiSS-Master, digital I/O, EnDat 2.2 ...

Function selection through software

Optical isolation

Inputs and outputs: RS422, TTL, 24 V

Customised functions

Extended temperature range –40 °C to +85 °C

RoHS 2011/65/EU

Also for PCI EXPRESS
See APCIe-1712

Also for PCI
see APCI-1712

Also for CompactPCI™
see CPCI-1712

Windows 11
64-bit drivers

The board CPCIs-1712 is a fast multifunction and multi-channel counter board for CompactPCI Serial.
The strengths of this board are its wide range of applications and high precision and reliability in harsh industrial environment.
With this board you can realise many different applications on the same hardware base. The board is supplied with a pool of functions which provides the user with maximum efficiency yet minimum space and parts requirement. The functions are individually configured for each channel through the supplied software. The flexible programming facilities on this board allow many different user applications to be quickly and easily developed and reconfigured as further requirements arise. Thanks to the FPGA board structure, further counting applications can be realised through software adaptation.

Contact us!

Features

- 32-bit data access
- RS422 driver with 20 MHz max.
- With RS422/TTL input/output signals (CPCIs-1712) or 24 V input signals (CPCIs-1712-24V)
- Four onboard function modules

Functions

- Incremental counter for the acquisition of incremental encoders (90° phase-shifted signals)
- BiSS-Master (B and C mode)
- SSI Synchronous Serial Interface. The SSI function is an interface for systems which allow an absolute position information via serial data transfer.
- Counter/timer (82C54)
- Pulse acquisition
- Frequency measurement
- Pulse width modulation (PWM)
- Period duration measurement
- Velocity measurement
- Digital inputs and outputs
- Edge time measurement (ETM)
- Parallel interface
- EnDat 2.2
- Customised functions

Available channels on one function module

- 4 channels, programmable either as digital inputs or outputs, optically isolated, RS422
- 3 channels, digital inputs, optically isolated, 24 V
- 1 digital power output, optically isolated, 24 V

Additional channels

- 26 TTL I/O, without optical isolation

Versions

	RS422/ TTL-I/O	24 V inputs	5 V inputs	24 V outputs	TTL I/O
CPCIs-1712	16	12	–	4	26
CPCIs-1712-24V	–	28	–	4	26
CPCIs-1712-5V-I	16	–	12	4	26

Safety features

- Creeping distance IEC 61010-1
- Optical isolation 1000 V
- Noise neutralisation of the PC supply

Applications

- Event counting
- Position acquisition
- Motion control
- Batch counting
- ...

Software drivers

Standard drivers for:

- Linux
- Signed 64-bit drivers for Windows
- Real-time use with Linux and Windows on request

Drivers and samples for the following compilers and software packages:

- Microsoft VC++

On request:

Further operating systems, compilers and samples.

Driver download: www.addi-data.com/drivers

Phone: +49 7229 1847-0 info@addi-data.com
Fax: +49 7229 1847-222 www.addi-data.com

ADDI-DATA
SPIRIT OF EXCELLENCE

Specifications

Free programming of the functions

- Acquisition of incremental encoders (1 x 32-bit or 2 x 16-bit)
- SSI (max. 3 encoders per module)
- Counter/Timer (3 counters similar to 82C54)
- Pulse counter (4 x 32-bit counters per module)
- Chronos (chronometer)
- TOR (pulse counter with time slices, ...)
- Digital I/O (8 I/O, 24 V, TTL, RS422)
- PWM (pulse width modulation, 2 x per module)
- BiSS-Master (B and C mode)
- ETM (Timer interface for period duration measurement, edge time, ...)
- TTL (TTL I/O without isolation)
- Parallel Interface
- EnDat 2.2
- Customised functions

Signals

Digital I/O signals, TTL or RS422, 24 V

Inputs

Differential inputs or outputs (A, B, C, D)		
Differential inputs, RS422:	16 (can be used as inputs or outputs)	
Nominal voltage:	3.3 VDC	
Common mode range:	+12 / –7 V	
Input sensitivity:	200 mV	
Input hysteresis:	50 mV	
Input impedance:	12 kΩ	
Terminal resistor:	120 Ω (not supplied)	
Max. input frequency:	5 MHz (at nominal voltage) up to 20 MHz on request!	
Mass-related inputs, 24 V (E, F, G):		
Number of inputs:	12	
Nominal voltage:	24 VDC	
Logic input levels:	Unominal:	24 V
	UH max.:	30 V
	UH min.:	19 V
	UL max.:	14 V
	UL min.:	0 V
Maximal input frequency:	1 MHz (at nominal voltage) depending on the function	

Outputs

Nominal voltage:	3.3 VDC
Maximum output frequency:	20 MHz (diff. outputs)
Max. number of outputs:	16 (if they are not used as diff. inputs)
Digital outputs, 24 V (H)	
Output type:	High-side (load to ground)
Number of outputs:	4
Nominal voltage:	24 VDC
Supply voltage range:	4.75 V to 30 VDC (via 24 V ext. pin)
Maximum current:	90 mA per output / 270 mA total current limit (PTC)
Overtemperature:	165 °C (all outputs switch off)

Technical data CPCIs-1712-24 V version

	24 V inputs (channels A to G). This board version is intended for the connection of 24 V encoders. Only 24 V signals can be connected to the inputs.	
Nominal voltage:	24 VDC	
Max. input frequency:	1 MHz (at nominal voltage) depending on the function	
Logic input levels :	Unominal:	24 V
(Standard)	UH max.:	30 V
	UH min.:	18 V
	UL max.:	16 V
	UL min.:	0 V

On the board CPCIs-1712-24V Ax, Bx, Cx and Dx are only available as 24 V inputs and not as outputs.
Therefore not every function can be used on every version of the board. Please find more detailed information in the respective function manual.

Safety

Optical isolation: 1000 V

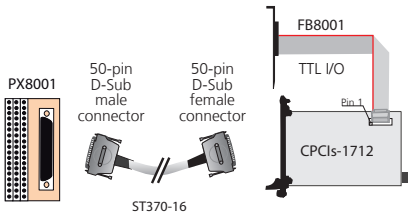
EMC – Electromagnetic compatibility

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.

PC system requirements and environmental conditions

Dimensions:	160 x 100 mm
System bus:	PCI Express according to the CompactPCI Serial specification PICMG CPCI-S.0 R1.0
Space required:	1 x CompactPCI Serial slot for digital I/O 1 x slot opening for TTL I/O with FB1711
Operating voltage:	+12 V, ± 5 %
Front connector:	50-pin D-Sub male connector
Additional connector:	Male connector for the TTL I/O function
Temperature range:	From –40 °C to +85 °C
MTBF	In preparation

ADDI-DATA connection



Ordering information

CPCIs-1712

Multifunction counter board, optically isolated, fast counter inputs – programmable functionality, for CompactPCI Serial.
Incl. technical description and software drivers.

CPCIs-1712:	Multifunction counter board, optically isolated
CPCIs-1712-24V:	24 V inputs instead of RS422/TTL inputs/outputs (A, B, C, D)
CPCIs-1712-5V-I:	5 V inputs instead of 24 V inputs (E, F, G)

Option

Opt. 5V: 3.3 V outputs instead of 24 V outputs (H0, H1, H2, H3)

Accessories

PX8001:	3-row screw terminal panel with housing for DIN rail
ST370-16:	Standard round cable, shielded, twisted pairs, 2 m
FB1711:	Ribbon cable (included in delivery)