

PEX-H531221 PCI Express Interface Modules CameraLink

Base Specifications

Model type	PEX-H531221
Bus requirements	PCI Express™ Base Specification Rev. 1.0a x4
Number of slots	1 slot
Memory Size	4KB + 1MB + 64KB + 1MB + 4MB
Data transfer method	I/O transfer (memory mapped I/O), DMA transfer
Dimensions	165.00 (D) x 106.65 (H) [mm]
Weight	200g
Power Consumption	+3.3 Vdc (+/-9%): 2.3 A (typ.) +12 Vdc (+/-8%): 0.2A (typ.)
Environmental conditions	Operating temperature: 0 deg C to 50 deg C Relative humidity: 20% to 90% (non-condensing)
Connectors	CN1, CN2: 26-pin Mini CameraLink female connector (LVDS) CN3*: 10-pin Digital Input/Output male connector CN4*: 15-pin D-sub female connector
On-board connector	CN1, CN2: HDR-EA26LFYPG1-SLG+ (Honda Tsusin Kogyo Co., Ltd) or equivalent CN3*: DF11-10DP-2DS (Hirose Electric Co., Ltd) or equivalent (screw size: M3) CN4*: 17DE-13150-C (DDK Ltd.) or equivalent Jack socket: 17L-003B5-CF (DDK Ltd.) or equivalent (screw size: M3)
Isolation	No isolation
Interrupt sources	3 sources (Digital counter interrupt, binary image processing trigger interrupt, digital input interrupt)
MTBF	161856 hrs.

Image Signal Input Specifications (CN1, CN2)

Model type	PEX-H531221
Number of channels	2 channels
Input signal	CameraLink standard digital signal
Resolutions	Depend on camera
Camera Input configurations	Base Configuration Medium Configuration Full Configuration
Formats	Base Configuration RGB 24 bits, Monochrome 16 bits, 14 bits, 12 bits, 10 bits, 8 bits, Monochrome 12 bits, 10 bits, 8 bits x 2 (double speed), Monochrome 8 bits x 3 (triple speed) Medium Configuration RGB 36 bits, RGB 30 bits, Monochrome 12 bits, 10 bits x 3 (triple speed) Monochrome 12 bits, 10 bits, 8 bits x 4 (quadruple speed) Full Configuration Monochrome 8 bits x 8 (octuple speed)
Pixel clock	85 MHz (max.)

PEX-H531221 PCI Express Interface Modules CameraLink

Digital Input/Output Specifications (CN3) *

Model type	PEX-H531221
Input signals	IN1 to IN8 (bi-direction)
Input configurations	Photo-isolated high-voltage input (source type)
Maximum voltage rating	+30 Vdc
Recommended input voltage range	+5 Vdc to +24 Vdc
Input impedance (protection function)	680 Ω (overvoltage protection diode and leakage current reduction shunt resistor: 1.5 k Ω)
Low-level input current	I _{IL} = -4.7mA (max.)
Threshold current (shut-off guaranteed)	-0.5 mA (max.)
Threshold current	-0.6 mA to -1.4 mA(+1.8 V to +3.3 V)
Input response time	T _{RON} : 8 μ s (typ.), T _{ROFF} : 60 μ s (typ.)
Output signals	OUT1 to OUT8 (bi-direction)
Output configuration	High-current drive open-collector output (sink type)
Maximum voltage rating	+30 Vdc
Recommended output voltage range	+5 Vdc to +24 Vdc
Maximum output current	I _{OL} = +40mA (per channel)
Low-level output voltage	V _{OL} = +1.3 V (max.), V _{OL} = +0.9 V (typ.) (I _{OL} = +40 mA) V _{OL} = +0.25 V (max.), V _{OL} = +0.15 V (typ.) (I _{OL} = +10 mA)
Leakage current	I _{CE} = +10 μ A (max.)
Output response time	T _{RON} : 5 μ s (typ.) (with the maximum load) T _{ROFF} : 65 μ s (typ.) (with the maximum load)

Digital Input/Output Specifications (CN4) *

Model type	PEX-H531221
Input signals	IN1 to IN8 (bi-direction)
Input configurations	Photo-isolated high-voltage input (source type)
Maximum voltage rating	+30 Vdc
Recommended input voltage range	+5 Vdc to +24 Vdc
Input impedance (protection function)	220 Ω (overvoltage protection diode and leakage current reduction shunt resistor: 1.5 k Ω)
Low-level input current	I _{IL} = -4.7mA (max.)
Threshold current (shut-off guaranteed)	-0.5 mA (max.)
Threshold current	-0.6 mA to -1.4 mA(+1.8 V to +3.3 V)
Input response time	T _{RON} : 10 μ s (typ.), T _{ROFF} : 15 μ s (typ.)
Output signals	OUT1 to OUT8 (bi-direction)
Output configuration	High-current drive open-collector output (sink type)
Maximum voltage rating	+30 Vdc
Recommended output voltage range	+5 Vdc to +24 Vdc
Maximum output current	I _{OL} = +40mA (per channel)
Low-level output voltage	V _{OL} = +1.3 V (max.), V _{OL} = +0.9 V (typ.) (I _{OL} = +40 mA) V _{OL} = +0.25 V (max.), V _{OL} = +0.15 V (typ.) (I _{OL} = +10 mA)
Leakage current	I _{CE} = +10 μ A (max.)
Output response time	T _{RON} : 5 μ s (typ.) (with the maximum load) T _{ROFF} : 65 μ s (typ.) (with the maximum load)

PEX-H531221 PCI Express Interface Modules CameraLink

Encoder Counter Input Specifications (CN4) *

Model type	PEX-H531221
Number of channels	2 channels
Encoder interface	Incremental rotary encoder
Input configuration	Differential input, single-ended input
Pulse count mode	Phase-shifted pulse count mode (phase A, phase B, phase Z): Single-edge evaluation, double-edge evaluation, quad-edge evaluation Gated single-phase pulse count mode: Single-edge evaluation, double-edge evaluation
Counter length	24 bits
Maximum input frequency	1 MHz
Comparator output detection	1 comparison register
LSI	DS26C32ATMX (National Semiconductor Corporation)

Note: *cables for CN3 and CN4 NOT included.



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