

# PCI-Bus Frame Grabber for Greyscale and Color Image Processing

## INSPECTA-SERIES

### INSPECTA-4 C Camera Link™ Frame Grabber



### Machine Vision • Industrial Inspection • Image Analysis

- Economical frame grabber for digital area and line scan cameras with Camera Link™ interface produced by companies such as PULNIX, BASLER, DALSA or other camera manufacturers
- Simultaneous image capture from up to three monochrome cameras, or from one RGB-camera
- Video data rate of up to 50 MHz
- 26-pin connector with full support of the Camera Link™ - specification for video data, camera control and serial interface
- Additional connector with 12 VDC for camera supply
- Four optocoupled inputs and outputs, e.g. for external triggering
- Function library for Windows ® 9 x/ME, NT 4.0/2000 and Linux
- Driver for HALCON



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**Camera Link™** is a new industrial high-speed data transmission and cable standard.

So far, manufacturers of frame grabbers and cameras have developed products with dissimilar formats for data transmission and different types of plug connectors. This made the production of cables very difficult for the manufacturers, and it was very confusing for the customer. Camera Link™ was defined for standardized, simple connections between frame grabbers and high-resolution digital cameras. The connection consists of a 26-pin cable with 24-bit data and additional control signals.

## Simplifies the fast transfer of digital images

The INSPECTA-4C Frame Grabber is another member of the approved INSPECTA-family of high performance frame grabbers for economical image processing applications. It supports the simple standard connection to digital cameras that meet the Camera Link™ interface specification.

Images from up to three monochrome cameras, or from one RGB camera can be captured at the same time. The cameras may either be area- or scanning line cameras. The INSPECTA 4 C is therefore the connecting link to a new generation of modern industry cameras manufactured by companies such as BASLER, DALSA, JAI; PULNIX with support for other camera manufacturers coming soon.

## Camera Link™ interface specification

Camera Link™ is a high-speed digital interface developed especially for industrial/scientific image processing applications. The definition for this interface was established and set by a group of manufacturers of cameras and frame grabbers. Camera Link™ is based on Channel Link®, a LVDS based serial high-speed transmission technology created by National Semiconductor. The Channel Link® technology delivers transmission rates of up to 2.38 GB/s over distances of up to 10 meters. A standard-type industrial cable for the video data and control signals is sufficient for the transfer of data between the Camera Link™ units. The use of special digital data becomes unnecessary and obsolete.

## Technical Specification

	INSPECTA-4C
Video inputs	3 x 8 bit, or 2 x10 bit, or 2 x12 bit, or 1 x24 bit up to 24 bit simultaneously
Input format	1 "BASE" Camera Link™ compatible
Video geometry	2:1 interlaced, non-interlaced, progressive free selection of resolution
A/D converter	-
Data digitizing	up to 50 MHz per 8-bit-channel
Offset	-
Gain	-
Transfer to host	bus master burst DMA transfer with scatter-gather capability
Transfer rate	up to 132 MB/s
Synchronization (inputs)	4 programmable RS 644 signals for camera control, e.g. trigger, H/V, pixelclock
Synchronization (outputs)	
Outputs for camera control	4 programmable outputs for async., shutter or integration, etc.
Additional control-inputs/outputs	4 inputs, optocoupled 4 outputs, optocoupled (for ext. camera triggering)
Camera supply	12 VDC, 1.2 A (self-healing fuse)
Power supply	+5 VDC / 1A + 12 VDC/0.1 A (without camera)
Ambient temperature	0 -50 degrees C
Software	Function library for Windows® 9 x/ME, NT 4.0/2000 and Linux Driver for HALCON

