GigE Line Scan Cameras

GigE interface

FEATURES

Line Scan Camera with Gigabit Ethernet interface starting at 512 pixels up to 8160 pixels

Line frequency up to 52.6 kHz
Shading correction with permanently stored profiles
Programmeable Lookup Table
Window Function (ROI)
Line Trigger, Frame Trigger, Threshold Trigger
Advanced Synchronization Control
Thresholding (all monochrome models)
Integration Control for R, G, B (all color models)
Decoupling of line frequency
Extra signals for diagnosis
Data cable length up to 100m

DESCRIPTION

Line scan cameras are semiconductor cameras used in many industrial environments. The single photosensitive line sensor contains – depending on type – up to 22800 picture elements (pixels). Light energy incident on the sensor is transformed into an electric signal for digitization within the camera. At 8-bit resolution, the A/D converter transmits the output voltage of each pixel into one of 256 brightness levels, at 12-bit resolution into 4096 brightness levels. Color line scan cameras provide three separate line signals for Red, Green and Blue with

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require high data transfer rates or long cables. The high data transfer rates of up to 1000 Mbps make them suitable for many demanding image processing applications.
GigE cameras can also be used in many locations remote from the dedicated computer because the Gigabit Ethernet technology allows cable lengths of up to 100 m.
Schäfter + Kirchhoff offers two types of line scan camera with a Gigabit Ethernet interface. The hardware is technically identical and they differ only in their respective firmware. Cameras of the V-series are 100% GigE Vision compatible and programming is performed using the

GEN<i>CAM^{TM} interface. G-series cameras are not GigE Vision compliant and their major strengths are in high performance, flexibility and additional functionality beyond the GigE Vision norm.

Additional features include:

Customer-specific I/O signals in addition to video signal
Special preprocessing algorithms can be implemented in the camera
SDK from Schäfter+Kirchhoff with libraries and examples.

Gigabit Ethernet or GigE Vision?

If the application is developed using GigE Vision compliant software, for example LabVIEW, Common Vision Blox or Halcon then a line scan camera of the V series is recommended, as these cameras are supported by the software directly.A line scan camera of the G series is recommended for customers planning to develop their own image processing routines, leaving them free to use alternative vision libraries like OpenCV. The G series is also the best choice when the application requires additional specific output control signals and more flexibility.

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