

FIELDBOXCAM – SMART-CAMERA SYSTEM

FOR REAL-TIME-MACHINE VISION WITH FIELDBUS CONNECTION

FEATURES

- Real-time image processing system
- High-performance, high-resolution camera
Basler acA1440-73gm with 8mm/5MP lens
- Very compact industrial real-time automation
PC Spectra Powerbox 100 /J19, fanless,
aluminium housing
- Image acquisition via GigE-Vision Core
- Flexible fieldbus connection for ProfiNET
(in preparation: EtherCAT and Ethernet/IP)
- GPIO onboard
- Freely programmable image processing
software
- Modular principle through software libraries
- GenICAM Configuration
- Real-time capable SIMD or OpenCV
image processing library with image
filtering, selection of image regions (ROI),
thresholding methods, blob analysis,
center of gravity determination
- Win10 IoT with real-time extension
- Real-time stack for ProfiNET



- ✓ **Freely programmable image processing**
- ✓ **Fast transmission in real time**
- ✓ **Flexible fieldbus connection**

FIELDBOXCAM – SMART-CAMERA SYSTEM

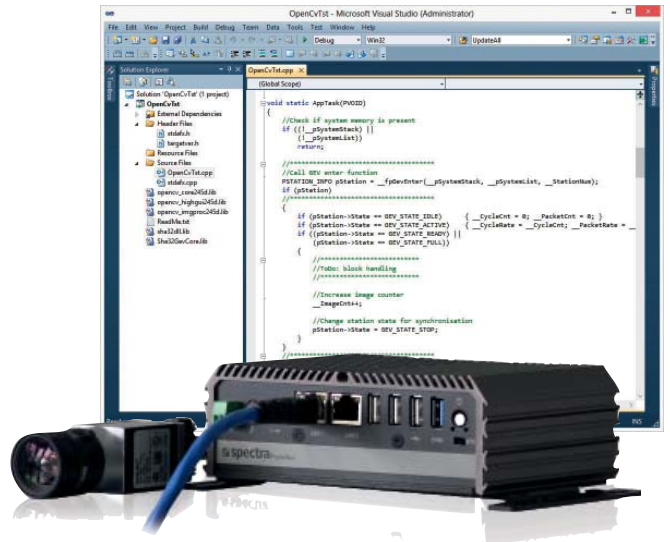
The FieldboxCAM system from Spectra and SYBERA offers a modular principle for image processing and field bus connection. For image processing, Basler's industrial camera with the real-time image processing SIMD or OpenCV library and Sybera's GigE-Vision Stack is used. The fieldbus connection is established using Sybera's real-time stacks for ProfiNET or GPIO (in preparation: EtherCAT, Ethernet/IP)

The FieldboxCAM system offers the following features:

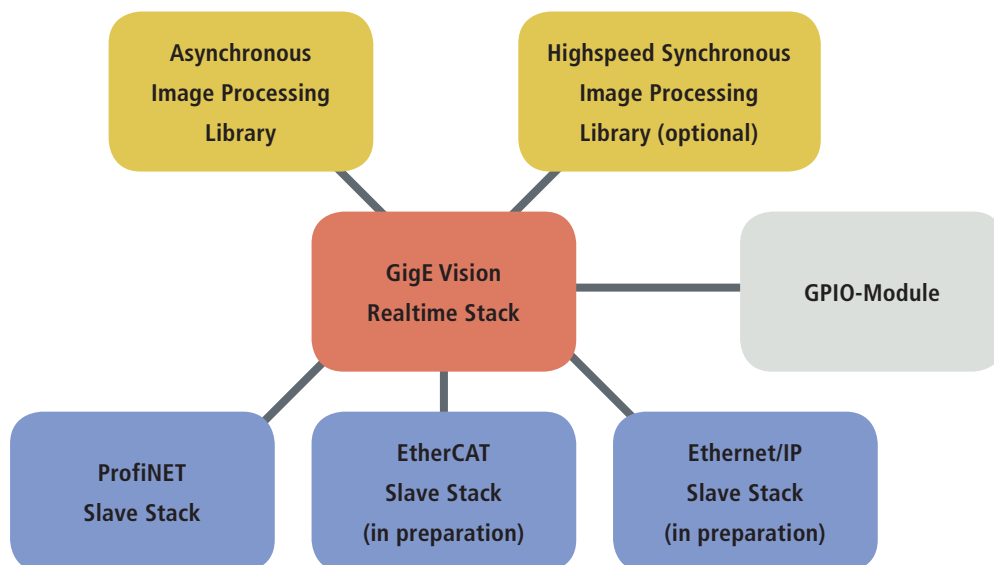
- Spectra Powerbox100 with 4-core CPU and Windows IoT
- Basler acA1440-73gm camera with standard lens
- GPIO triggering
- Fieldbus connection to ProfiNET (in preparation: EtherCAT and Ethernet/IP)
- Real-time image acquisition with GigE-Vision Core
- asynchronous image processing with practical functionality (synchronous image processing optional)

Standard scope of SIMD image processing:

- Image filtering
- Definition of image areas (ROI)
- Threshold value method
- Blob analysis
- Determination of image moments (focal points)



PRINCIPLE OF REAL-TIME-MACHINE VISION WITH FIELD BUS CONNECTION



FIELDBOXCAM: MINI PC

SYSTEM

Processor	Intel® Celeron® J1900 Quad Core 2,0 GHz
Chipset	SOC (System on Chip)
Memory	204-pin DDR3L SO-DIMM, max. 8 GB
installed	1 x 8 GB, DDR3L, PC1600
System monitoring & LEDs	Watchdog

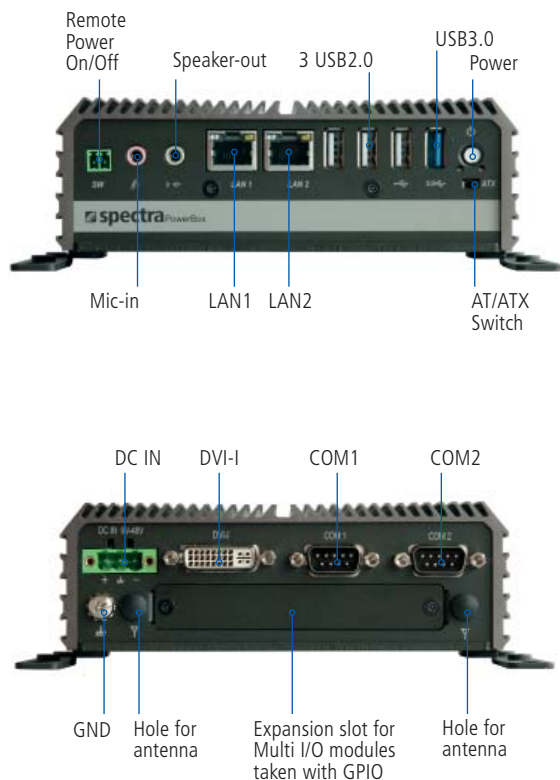
CONTROLLERS

Graphics	Intel® HD Graphics - 7th Generation Intel® HD Graphik - Max. 2048 MB VRAM - Max. 854 MHz GPU clock - Max. 21 GB/s memory bandwidth - DVI-I (DL): 2560 x 1600 (WQXGA-resolution) - Support up to 2 independant displays - Shader Model 5.0, OpenGL 4.0, DirectX 11.2, OpenCL 1.2
Network	- 2 x Intel® i210 Gigabit-LAN
Audio	Realtek ALC888S Codec

EXPANSION SLOTS

PCI-Express	1 x mPCIe (Full-size)
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INTERFACES



DRIVES

System SSD/HDD	120 GB Half-Slim DOM
Others	-

I/O INTERFACES

Front	- 1 x USB3.0 - 3 x USB2.0 - 2 x RJ45 - Audio - Power switch - Remote power on/off & reset
Rear	- 2 x RS-232/422/485 - 1 x DVI-I

GPIO

I/O channels	PB-100-DIO with 4DI/4DO
Voltage	external, 5-48VDC
Isolation	optical, 3750V
Connector	10-pin Terminal Block

MECHANICAL & ENVIRONMENT CONDITIONS

Chassis	- Box-PC chassis, Aluminium - Drive bays for 1 x 2.5" internal HDD - fanless - Front panel: 1 x Power, 1 x Reset - Color: black
Dimensions (WxHxD)	150 x 52,27 x 105 mm
Weight	approx. 1 kg
Mounting	Wall, optional: siede board, VESA, DIN rail
Temperatures	Operating temperature: 0 °C to +45°C Relative humidity: 10% to 95%, non condensing
Power supply	- 60 W Power adapter - Efficiency > 88% - Input: 80 - 264 V _{AC} Full Range - Output: 12V/5A
Operating system	- Microsoft® Windows® 10 IoT Enterprise - Sybera Real-time extension for Windows
Adiitional Software	PowerCAM-GPIO: Sybera Licence GigE Vision Master Application PowerCAM-ProfiNET: Sybera Licence GigE ProfiNET Slave Application
Warranty	24 months
Certificates	CE, FCC Class A

FIELDBOXCAM: CAMERA, SOFTWARE, ACCESSORIES

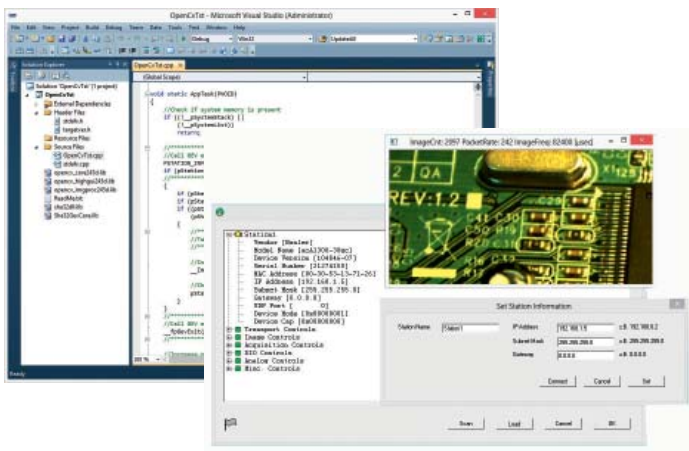
CAMERA



FEATURES

- Type: Basler acA1440
- Lens: Basler Lens C125-0818-5M, f8mm/5MP
- Power supply: Basler power supply 12V/18W, 6-pin Hirose
- Cable: Basler cable for power supply, 6-pin Hirose
- LAN cable, Cat.6, 3 m

SOFTWARE



FEATURES

- Open programming system with software libraries for Windows
- Camera parameterization: GenICAM standard
- Camera control: GigE Vision Realtime Master
- Image evaluation: real-time capable SIMD or OpenCV library
- Fieldbus connection: ProfiNET slave

ACCESSORIES: MOUNTING



DIN Rail



Sideboard



VESA

ORDERING INFORMATION

- N° 147895 DIN Rail-Kit
- N° 149025 VESA Mount-Kit
- N° 147894 Side Mount-Kit

ORDERING INFORMATION

N° 162160 FieldboxCAM-GPIO

IPC-based Smart Camera with GPIO

N° 162161 FieldboxCAM-PROFINET

IPC-based Smart Camera with GPIO and ProfiNET

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