Special and OEM Cameras

The ABS GmbH offers a large number of different camera types as repetition parts for various application fields. In addition to the product line ABS develops cameras for special purposes.

DVI Camera with Easy to Operate On-Screen Menu (OSD)

- high-quality 3 megapixel color camera to replay of HDTV live video
- controlled by a standard PC mouse

DVI Camera as Electronic Pattern Projector

- inserts calibrated dimension drawings or patterns, which can be read from DXF files

DVI Camera with OSD displaying of Measurement Values

- with serial interface (RS232 or RS485, ...) for measured value transmission

SWIR (NIR) Camera with InGaAs Sensor (900 .. 1700 nm)

- for quality control, scientific applications, and special observation tasks

Thermically Optimized Camera Housing

- for optimal passive or thermoelectric (TEC) image sensor cooling

Further Developed IP-65/67 Cylinder Camera UK13xx

- standard image processing lenses can be used inside the water and oil proof housing

Ethernet Camera Module (100 Mbit/s)

- with CAN and RS232 interface
- suitable for smart camera solutions (optional under Linux operating system)

Board Camera CAM.037

- with 8 bit microcontroller and byte-serial interface

Camera with Smart Features

- exposure control within a ROI (Region Of Interest)
- event triggering within a ROI („light barrier“ inclusive)
- Exposure balancing using 12 bit → 8 bit transformation, thus compensation of 50-Hz flickering
- synchronization to power frequency
- double-exposure for two image captures with µs time difference
- special trigger modes
- time stamp for each image
- image series with different parameters for each (e.g. exposure parameters)
- autofocus
- object localization, object tracking

Separated Camera Head

- APIX, SMIA, analog (CCU); possible distances up to 3 m or up to 30 m with APIX chip set (download channel: 1 Gbit/s back channel/control channel: 18 Mbit/s)

Miniaturized Camera Heads

- small size: $1 \times 1 \times 1{,}5\text{mm}^3$ incl. wafer-level optics (WLO)

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Further Special Cameras

see information sheet “Application Examples” et al.:

- video data logger camera (VDL camera)
- line scan camera
- cameras with borescope lens addition for endoscopic tasks
- USB measurement camera
- low-noise CCD camera

OEM Cameras

ABS GmbH sees itself also as a developer and manufacturer of customized cameras. In this connection we can use our modular standard camera product line.

Digital Cameras for Application Fields:

- industry
- video surveillance
- medical purposes
- broadcast
- microscopy/endoscopy
- measurement
- traffic surveillance
- military and security technology

Typical Custom Modifications

- mechanical adaptation for insertion into a bigger device, typically with separate image sensor
- power-saving systems for battery-powered devices with image data compression
- miniaturized systems with extremely high packing density, e.g. realized with rigid-flex PCBs or with bare die
- camera systems with direct DVI monitor output
- low cost measurement and sensor systems with hole electronics integrated in camera housing
- special control and correction tasks for intelligent camera systems
- camera systems with several synchronized image sensors - „multi-eyed systems“:
    - various viewing directions
    - multiple imaging lenses (e.g. wide angle and telephoto lenses)
    - multispectral systems
    - stereo camera systems with synchronous triggered image releaser
- generation of panorama images from a image sequence with exposure control, hue control, and correction of lens distortion
- color correction by using of object known color properties – e.g for applications in robotics
- realization of complete opto-mechanical systems

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