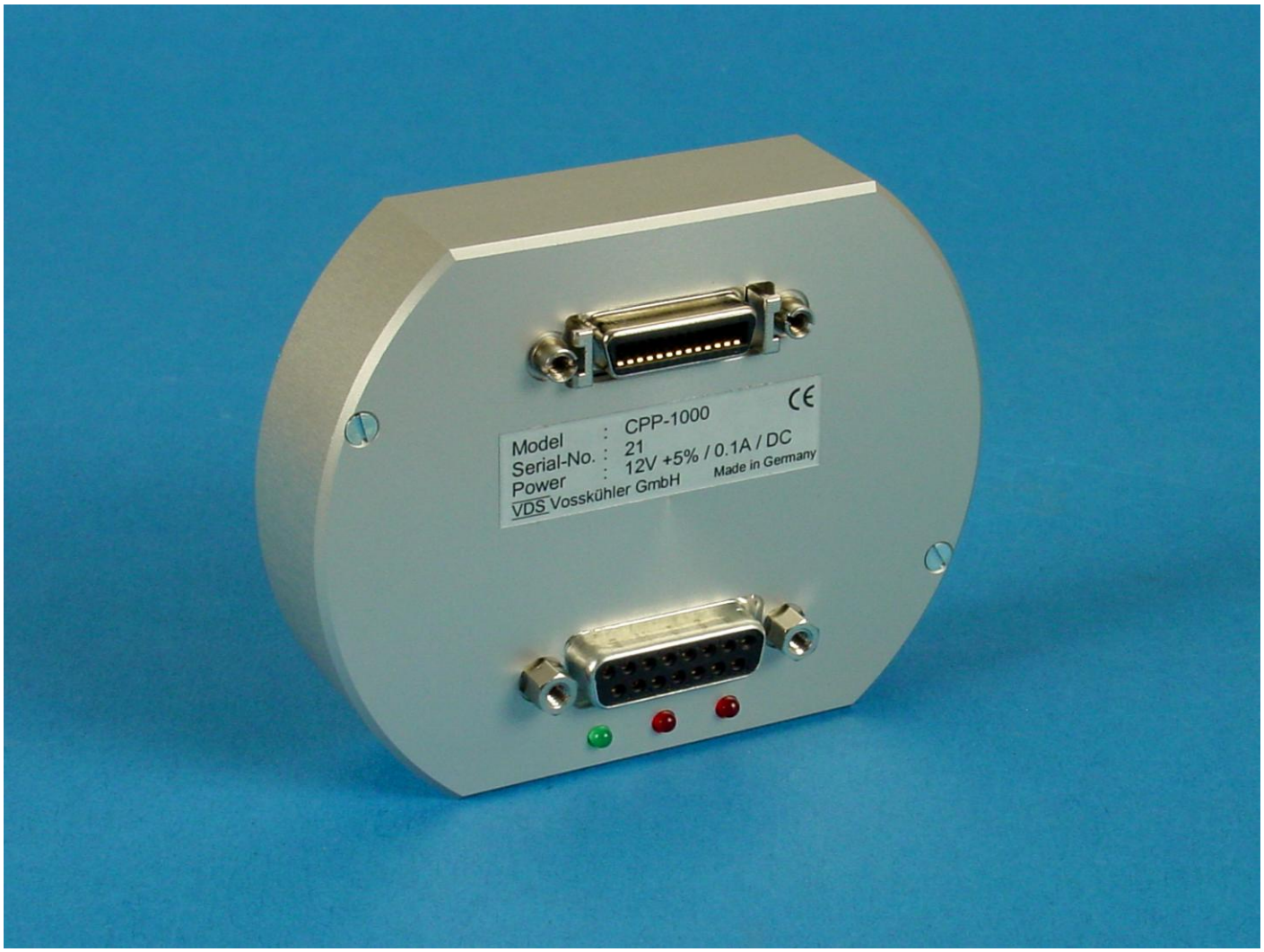
CPP-1000

Image preprocessing module



Features

- OEM-Module for universal use with nearly all VDS digital cameras
- Pixel clock up to 40 MHz (depending on each camera type)
- FPGA with 20K logic elements and 250 KBit RAM
- SDRAM with 64 MByte
- Flash-Memory with 64 MByte
- Serial interface via Camera Link or RS232 (COM)
- Optocoupler in- and outputs for external control signals
- Camera Link Output Base (3 x 8 bit)

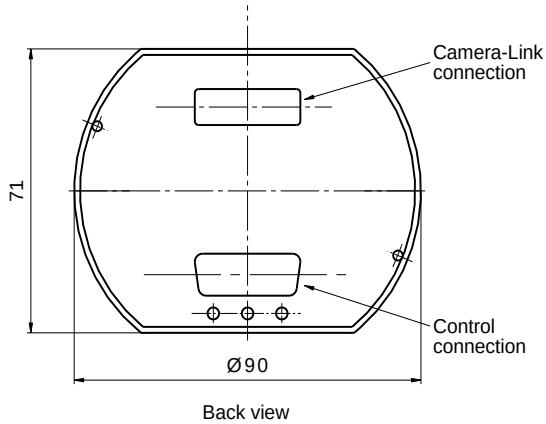
Due to the free programming the **CPP-1000 Module** can be used for different types of image processing functions.

The image processing is carried out by an efficient FPGA in conjunction with a 64 MByte RAM.
New Software can at any time be loaded via a RS232 connection as well as permanently be stored in a FLASH memory.

The module is directly fixed on the camera and has a Camera Link output (Base).
The control of the camera takes place by the Camera Link control signals CC1 – CC4 and via the 15pol Control Junction of the CPP-1000 Module being compatible to the Control Junction of the VDS cameras.

Technical Data

- Universal use for nearly all VDS cameras
- Pixelclock up to 40 MHz (depending on each camera type)
- FGPA (Altera EP1C20) with
  - approx. 20K Logic elements
  - approx. 250 Kbit memory
- SDRAM with 64 MByte
- Flash-Memory with 64 MByte
- Camera Link Output Base (3 x 8 bit)
- Serial interface via Camera Link or RS232 (COM)
- 2 Optocoupler in- and outputs for each external control signal
- Power supply: + 12V (SELV), max. 150 mA (not including camera)
- Dimensions (mm): 71 x 90 x 20
- Ambient air temperature 0° - 35°C
- CE standard
- Made in Germany



Back view

Application example:
Real-time color calculation:

The **CPP-1000RGB** Module for image pre-processing carries out all important pro-cessing steps in real-time until the optimal **RGB** output via Camera Link.

A PC with Camera Link Grabber (Base) only has to transmit the data to the main memory or rather to the display.

The processing steps in detail:

1. Conversion of the raw **Bayer** mosaic color data in **RGB** data
2. Change of contrast and brightness by means of a "**look-up-table**"
3. **White adjustment** by hand or auto-matic
4. **Color matrix** for optimal color adjust-ment

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