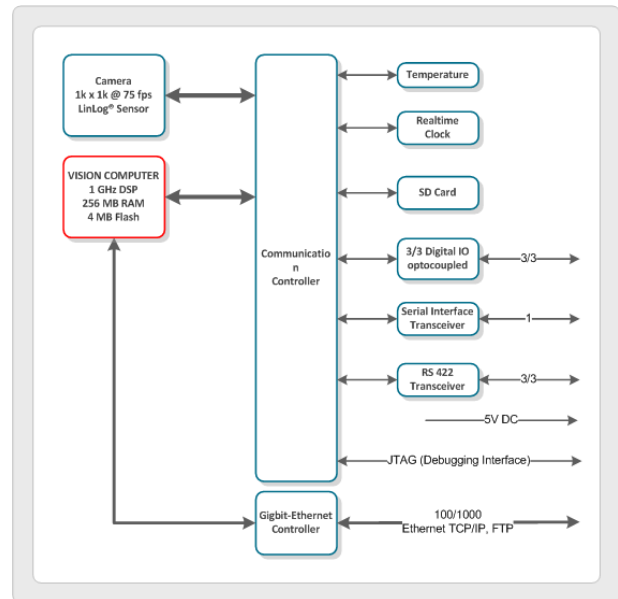


## Product Name: VisionCam PS Type 1 (SM2-D1024-80-GB-12\*)

1 GHz DSP Power / 1 MPixel LinLog® CMOS image sensor / 1 GBit/s Ethernet

### Product Photo and Block Diagram:



### Product Description:

The VisionCam PS is an Intelligent Camera based on the reputed camera technology of Photonfocus AG and the embedded image processing computer known from IMAGO Technologies. It's the combination of machine vision experience in cameras and embedded computer. The VisionCam PS addresses system builder who want to run their own algorithms and programs on the camera. In addition we will provide complete applications.

### Key Features:

- 1 GHz / 8.000 MIPS computing power / 256 MB SDRAM / 2 GB SD Card
- Programmable Texas Instruments DSP
- 1024 x 1024 pixel resolution @ 75 fps / global shutter
- 12 bit greyscale resolution
- Dynamic range up to 120 dB via LinLog®
- GigE- Interface
- Monochrome
- Multiple Area of Interest
- Running as a line camera as well
- HALCON Embedded compatible
- Digital IOs for control and for incremental encoder as well

\*Product name used by Photonfocus

## Technical Data:

| <b>Image sensor</b>          |  |
|------------------------------|--|
| Image sensor type            | Photonfocus A1024B (2. Generation)   |
| Technologie                  | Technology CMOS active pixel (APS)   |
| Resolution / Frames / Second | 1024 x 1024 Pixel  |
| Scanning System              | Progressive scan   |
| Optical format / diagonal    | 1" / 15.42 mm  |
| Pixel size                   | 10.6 µm x 10.6 µm  |
| Active optical area          | 10.9 mm x 10.9 mm (maximum)  |
| Dark current                 | 2 fA/pixel @ 30 °C   |
| Full well capacity           | ~200 ke <sup>-</sup>   |
| Spectral range               | < 400 to 900 nm  |
| Responsivity                 | 120 x 10 <sup>3</sup> DN / (J/m <sup>2</sup> ) @ 610 nm / 8 bit / gain = 1<br>(approximately 350 DN / (lux s) @ 610 nm / 8 Bit / gain = 1) |
| Quantum Efficiency           | 45 % @ 550 nm  |
| Optical fill factor          | 35 % (geometrical)   |
| Dynamic range                | 60 dB in linear mode; 120 dB with LinLog®  |
| Colour format                | Monochrome   |
| Characteristic curve         | Linear, LinLog®, Skimming  |
| Shutter mode                 | Global shutter   |
| Read out mode                | Sequential or simultaneous read out (read out during exposure)   |

| <b>Camera</b>             |   |
|---------------------------|---|
| Exposure time             | 10 µs...0.83 s / 50 ns steps  |
| Frame rate                | 75 fps  |
| Pixel clock               | 40 MHz  |
| Camera taps               | 2 (internal)  |
| Greyscale resolution      | 8 bit / 10 bit / 12 bit   |
| Fixed pattern noise (FPN) | Fixed pattern noise (FPN) < 1 DN RMS @ 8 bit / gain = 1 / offset correction ON  |
| Analogue gain             | 1   |
| Digital gain              | 1 / 2 / 4   |
| Configuration interface   | Built-in Webserver  |
| Trigger modes             | Free running (non triggered) • Interface trigger • External trigger input   |
| Features                  | Region of Interest (ROI) • 16 Multiple ROI (MROI) • Decimation Y • Image correction<br>• Look-up table (LUT) • Constant frame rate • Image information • Realtime clock<br>• FTP Server<br>• Extended trigger input and strobe output functionality |
| CPU / RAM / Storage       | Texas Instruments TMS320 C6415 @ 1GHz, 8000 MIPS / 256 MB SDRAM /<br>2 GB SD Card   |
| Interface                 | GigE  |
| Operating temperature     | 0 °C ... +50 °C   |
| Power Supply              | 12 V DC (± 10%)   |
| Power Consumption         | 8.0 Watt  |
| Lens mount                | C-Mount (CS-Mount optional)   |
| Dimensions                | 60mm x 60mm x 127mm   |
| Mass                      | 532 g   |
| Conformity                | CE / RoHS / WEEE  |
| Specials                  | Adjustable backfocus; Opto-isolated I/Os; JTAG, RS232 Interface, RS422 Interface  |

| <b>Software</b>       |   |
|-----------------------|---|
| Camera control        | Built-in webserver                                      |
| DSP Development tools | Texas Instruments Code Composer Studio, HALCON Embedded |