

Optronis

Make time visible

CamPerform

Machine Vision Cameras



new

CamPerform - developed for high performance machine vision applications

- > **Framerate rates up to 160,000 fps**
- > **25, 12, 4 and 3 MPixel CMOS sensors**
- > **Very compact housing**
- > **CoaXPress Interface with 25 Gbit/s**
- > **Power and Trigger via CoaXPress**
- > **Monochrome or color sensor**
- > **Real-time image data transfer**
- > **EMVA1288 standard**

www.optronis.com

CamPerform – developed for high performance machine vision applications

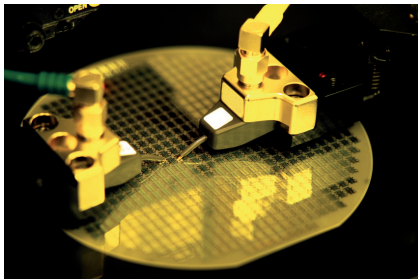
Introduction

Measuring accuracy tasks that extend to the nano range and production speeds that are barely visible to the eye also place new demands on the image-processing solutions used in industry. In many industrial applications, the Optronis inline camera series is used for image based inspection and analyses in applications like AOI, 3D metrology, semiconductor inspection, robot vision and many more. Optronis' CamPerform series is tried and tested and well designed for use in production. The ultra-high performance CamPerform system is available with CoaXPress interface. Standard C-mount, F-mount and M42 lenses can be used (custom mounts on request). What's more, the series meets the GenICam standard, which provides for especially easy and standardized integration.

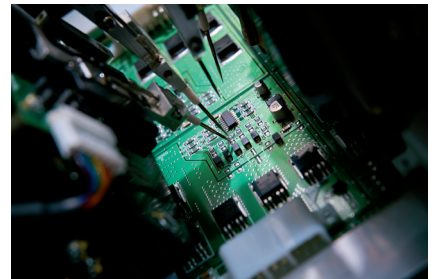
CoaXPress interface description

Cable	75 Ohm coaxial, (e.g. RG59, RG6, RG11) Long Cable Lengths: In excess of 100 m (without any hubs, repeaters etc.) Low cost assembly and easy integration in moving arm applications
Trigger	Real time data transfer, control and trigger Low jitter and low latency
Bandwith	6,25 GBit/s; Scalable up to 4 channels with 25 GBit/s in total
Power	Power over CoaXPress up to 13 Watt (PoCXP)
Protocol	Automatic link detection with frame grabber GenICam standard (XML file support and Plug&Play for machine vision)
Connectors	Standard BNC or DIN 1.0/2.3

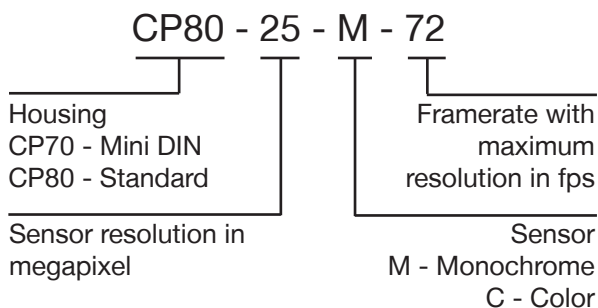
Applications



- 2D & 3D AOI
- FPD/PCB/SPI inspection
- Surface profilometry and Metrology
- 3D Laser triangulation
- Robot vision
- Chip Manufacturing (Front-End, Back-End)
- Research and Science



Model number description



Accessories

Product number	Description
CP70-CM CP80-CM	C-mount lens adapter
CP70-FM CP80-FM	F-mount lens adapter
CP70-FMG CP80-FMG	F-Mount lens adapter with adjustable aperture ring for Nikon G-lenses
CP70-M42 CP80-M42	M42x1 lens adapter
CP70-PSA CP80-PSA	Power Supply (not necessary with power over CXP grabber)

CamPerform machine vision cameras

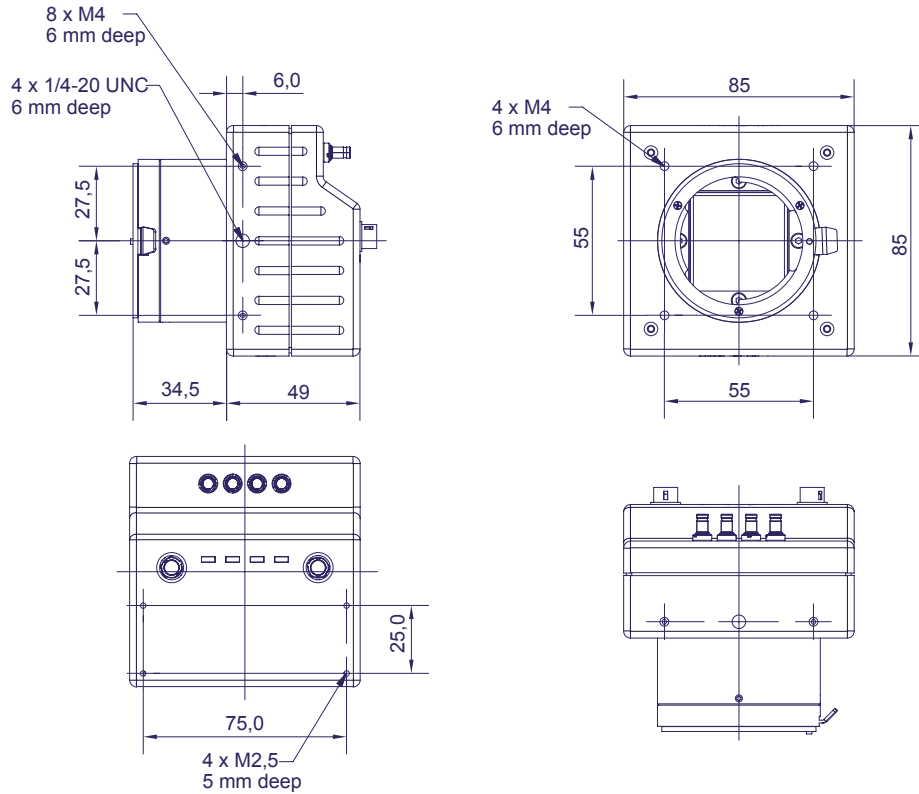
Camera specification

Model monochrome	CP70-12-M-167	CP80-3-M-540	CP80-4-M-500	CP80-25-M-72
Model color	CP70-12-C-167	CP80-3-C-540	CP80-4-C-500	CP80-25-C-72
CXP channel speed	6,25 Gbit/s CXP-6	5,00 Gbit/s CXP-5	6,25 Gbit/s CXP-6	6,25 Gbit/s CXP-6
CXP connector	DIN 1.0/2.3	BNC	BNC	BNC
Resolution max.	4080 (H) x 3072 (V)	1696 (H) x 1710 (V)	2304 (H) x 1720 (V)	5120 (H) x 5120 (V)
Framerate with full res.	167 fps (8 bit)	540 fps	500 fps	72 fps (10 bit)
Framerate with reduced resolutions	300 fps @4080 x 1690	1000 fps @1200 x 1200	10000 fps @2304 x 80	284 fps @3000 x 2000
	500 fps @4080 x 990	5000 fps @480 x 480	23000 fps @ 2304 x 32	500 fps @1920 x 1080
Image sensor	Global shutter CMOS	Global shutter CMOS	Global shutter CMOS	Global and rolling shutter CMOS
Sensor model	CMOSIS CMV12000	On Semi Lupa 3000	Alexima AM41	On Semi Vita 25k
Exposure time (min.)	28 µs	2 µs	2 µs	100 µs
Active area	22.44 x 16.90 mm ²	13.57 x 13.68 mm ²	16.13 x 12.04 mm ²	23.04 x 23.04 mm ²
Pixel size	5.5 µm square	8 µm square	7 µm square	4.5 µm square
A/D converter	8/10 bit	8 bit	8 bit	8/10 bit
SNR (EMVA1288)	41 dB	42 dB	42 dB	42 dB
Dynamic range	60 dB sensor	49 dB EMVA1288	48 dB EMVA1288	56 dB global shutter 60 dB rolling shutter sensor
Sensitivity	4.64 V/lux.s (with microlenses)	3.8 V/lux.s (with microlenses)	9 V/lux.s	3.3 V/lux.s (with microlenses)
Trigger modes	internal free-run, external, CXP			
External trigger	TTL signal, 3.3 - 5 V, 10 mA, optically isolated			
Software trigger	programmable exposure (timed or width)			
Lens mount	F-mount, C-mount, M42-mount, custom - all exchangeable			
Power	Power over CoaXPress, 24 VDC / 12 W			
Environmental	0°C ... +40°C ambient			0°C ... +45°C housing
Humidity	<80 % relative, non-condensed			
Weight (without mount)	470 g	500 g	500 g	500 g
Dimensions (without mount)	85 x 85 x 49 mm ³	85 x 85 x 65 mm ³	85 x 85 x 65 mm ³	85 x 85 x 65 mm ³
Conformity	CE, RoHS, GenICam			
Scope of delivery	Camera, manual, synchronisation cable			
Special features	-	FFC	Skipping mode, Dual high speed ROI	FFC, defect pixel correction

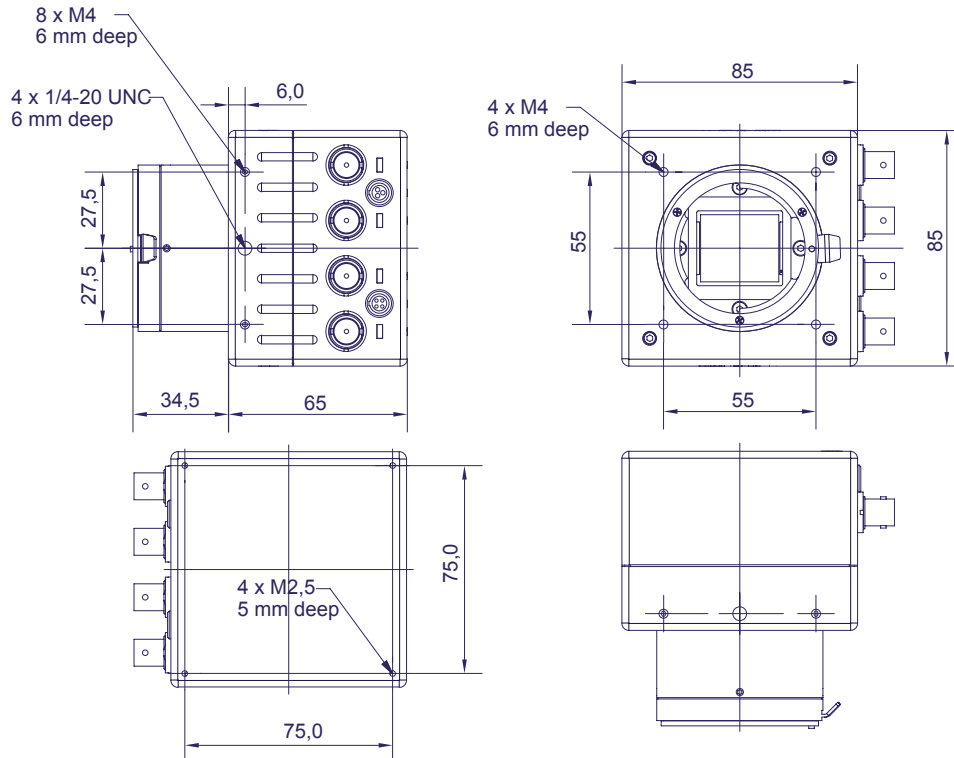
CamPerform cameras

CamPerform – developed for high performance machine vision applications

Mechanical dimension CP70 housing with F-Mount



Mechanical dimension CP80 housing with F-Mount



The information given herein is believed to be reliable, however Optronis makes no warranties as to its accuracy or completeness. Data sheet is subject to modifications at any time. 10/2013

Optronis

Make time visible

Optronis GmbH
Ludwigstr. 2
77694 Kehl, Germany

Telefon +49 (0) 78 51 / 91 26 - 0
Telefax +49 (0) 78 51 / 91 26 - 10

E-Mail: info@optronis.com
www.optronis.com