

pco.dimax family
high-speed cameras

**product
overview**



pco.



» **pco.dimax cs1**
resolution 1296 x 1024 pixels

pco.dimax cs3
resolution 1920 x 1440 pixels

pco.dimax cs4 «
resolution 2016 x 2016 pixels



technical specifications

image sensor

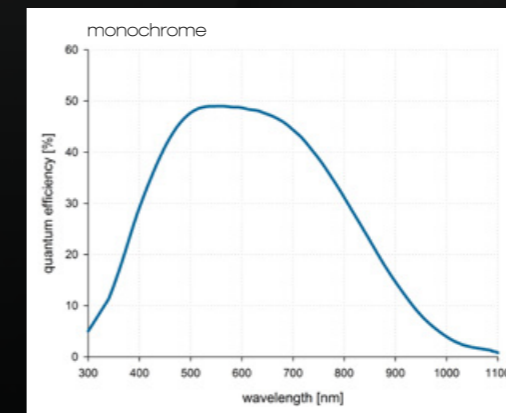
pixel size	11 μm x 11 μm
quantum efficiency	up to 50 %
readout noise (typ.)	22 e ⁻ 18 e ⁻ (CDI mode)
dynamic range	1600 : 1 (64 dB) 2000 : 1 (66 dB, CDI mode)
dynamic range A/D	12 bit

camera values

exposure time	1.5 μs ... 40 ms
camera memory	9 GB
signal types	RS-485, TTL, Contact closure
multi-camera sync	Ext. Sync, PLL Sync
time code input	IRIG-B unmodulated
interframing time (PIV) ¹	3.58 μs
data interface	Gigabit Ethernet, HD-SDI
shock	150g > 11ms (in all axes)
operating temperature	0° ... +40°C
power delivery	15 ... 48 V DC
camera connector	LEMO (18-pin)
lens mounts	C- mount, F-mount, EF-mount (optional)
weight	0.985 kg
dimensions	85 x 85 x 102.5 mm ³

¹ available for monochrome versions only.

quantum efficiency



frame rate table²

	resolution [pixel]	frame rate	recording time (9 GB)
cs4	2016 x 2016	1102 fps	1.40 s
	2016 x 1536	1443 fps	1.40 s
cs3	1920 x 1440	1603 fps	1.41 s
	1920 x 1080	2128 fps	1.42 s
	1440 x 1440	2032 fps	1.49 s
cs1	1296 x 1024	3086 fps	1.53 s
	1296 x 720	4346 fps	1.54 s
	1008 x 952	4009 fps	1.63 s
	864 x 848	5010 fps	1.71 s
	528 x 528	10782 fps	2.08 s

» pco.dimax S
resolution 2016 x 2016 pixels

pco.dimax HS
resolution 2000 x 2000 pixels

pco.dimax HD «
resolution 1920 x 1440 pixels



technical specifications

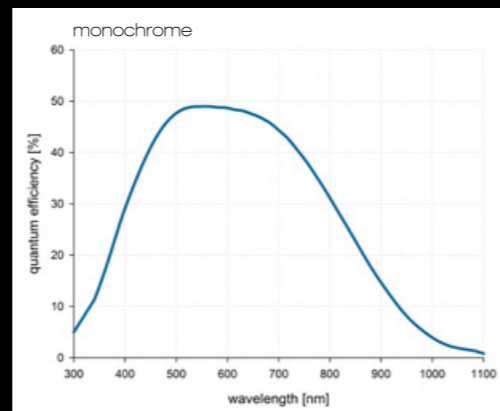
image sensor

pixel size	11 µm x 11 µm
quantum efficiency	up to 50 %
readout noise (typ.)	22 ... 23 e ⁻ 18 e ⁻ (CDI mode)
dynamic range	1600 : 1 (64 dB) 2000 : 1 (66 dB, CDI mode)
dynamic range A/D	12 bit

camera values

exposure time	1.5 µs ... 40 ms
camera memory	18 / 36 GB
signal types	RS-485, TTL, Contact closure
multi-camera sync	Master/Slave, Ext. Sync, PLL Sync
time code input	IRIG-B (optional)
interframing time (PIV)	3.15 µs / 3.58 µs (optional)
data interface	USB 3.0, GigE/USB 2.0, Camera Link
shock	30g > 11 ms (in all axes)
operating temperature	+5° ... +40°C
power delivery	90 ... 260 VAC (12 VDC opt.)
lens mounts	C-mount, F-mount, EF-/PL-mount (optional)
weight	7.9 kg
dimensions	311 x 200 x 160 mm ³

quantum efficiency



pco.dimax S

frame rate table²

resolution [pixel]	frame rate monochrome / color	images in memory (36GB)
pco.dimax S1		
1008 x 1008	4 467 fps	25 037
528 x 528	12 932 fps	91 208
480 x 240	27 642 fps	222 518
240 x 16	152 811 fps	6675 542

pco.dimax S4

2016 x 2016	1 279 / 1102 fps	6 307
1920 x 1080	2 470 / 2 128 fps	12 362
1296 x 720	5 085 / 4 346 fps	27 471
1008 x 1008	4 467 / 3 792 fps	25 037
480 x 240	27 642 / 23 061 fps	222 518
240 x 16	152 811 / 130 650 fps	6675 542

pco.dimax HS

frame rate table²

resolution [pixel]	frame rate monochrome	images in memory (36GB)
pco.dimax HS1/HS2/HS4		
1000 x 1000	7 039 fps	48 497
800 x 600	12 841 fps	98 491
640 x 480	17 985 fps	157 958
320 x 200	46 746 fps	653 411

pco.dimax HS2/HS4

1400 x 1050	5 469 fps	33 943
1280 x 720	8 226 fps	52 839

pco.dimax HS4

2000 x 2000	2 277 fps	12 729
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pco.dimax HD

frame rate table²

resolution [pixel]	frame rate monochrome / color	images in memory (36GB)
pco.dimax HD/HD+		
1920 x 1080	2 128 fps	12 298
1296 x 720	4 346 fps	27 327
1008 x 1000	3 822 fps	25 297
480 x 240	23 061 fps	221 036
240 x 16	130 641 fps	6 325 870

pco.dimax HD+

1920 x 1440	1 603 fps	9 223
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² the given resolutions are selected for the frame rate calculations only, they are not mandatory.



« pco.dimax S1 «
resolution 1008 x 1008 pixels

« pco.dimax S4 «
resolution 2016 x 2016 pixels

« pco.dimax HS1 «
resolution 1000 x 1000 pixels

« pco.dimax HS2 «
resolution 1400 x 1050 pixels

« pco.dimax HS4 «
resolution 2000 x 2000 pixels

« pco.dimax HD «
resolution 1920 x 1080 pixels

« pco.dimax HD+ «
resolution 1920 x 1440 pixels

applications

crash test



Full scale crash test of a car hitting the rear end of a truck for deformation analysis in order to develop safer vehicles.

material testing

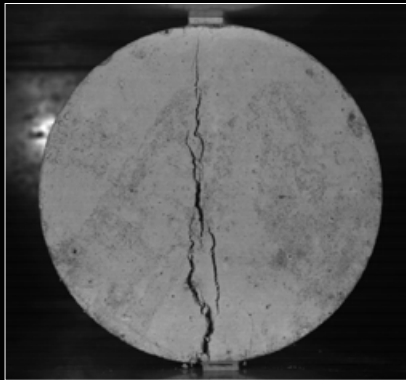
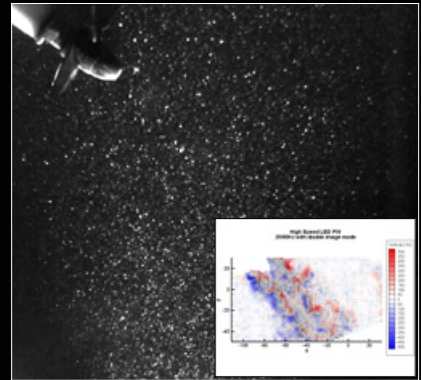


Image of a tensile splitting strength test to characterize the tensile strength of ultra-high performance concrete. Courtesy of TU Braunschweig, iBMB, Division of Concrete Construction.

fluid dynamics



Original and processed data of a PIV measurement showing the flow induced by a ship propeller. Courtesy of ILA_5150 GmbH.

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subject to changes without prior notice | lens is sold separately
pco_high-speed overview | v1.06 | ©PCO AG, Kelheim
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