pco.dimax® series

product overview

high speed cameras

pco.

pco.dimax® cs

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[2]
quantum efficiency	up to 50 %
readout noise	22 e⁻ (typ.) 30 e⁻ (enhanced compression mode) 18 e⁻ (CDI)[1]
dynamic range	1600 : 1 / 64 dB (typ.) 1200 : 1 / 62 dB (enhanced compression mode) 2000 : 1 / 66 dB (CDI)[1]

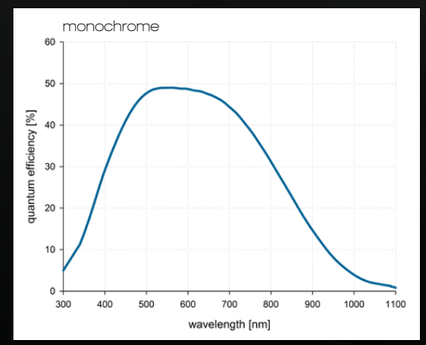
camera

exposure time	1.5 µs up to 40 ms (1 µs selectable)
dynamic range A/D	12 bit
camera memory	9 GB
signal types	RS-485, TTL, Contact closure[2]
multi-camera sync	Ext. Sync, PLL Sync
time code input	IRIG-B unmodulated
interframing time (PIV)[3]	3.58 µs
data interface	Gigabit Ethernet, HD-SDI
shock	150 g > 11 ms (in all axes)
operating temperature	0 °C up to +40 °C
power supply	15 up to 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] In correlated double image mode (CDI) the readout noise is reduced and therefore the intrascene dynamic is improved.
[2] Contact signal type in combination with **pco.**extension box.
[3] Available for monochrome versions only.

new **new** **enhanced compression mode**
up to 33 % more recording time

quantum efficiency



frame rate table

	resolution [pixel]	frame rate [fps]	recording time normal mode (9 GB)	recording time enhanced compression mode (9 GB)
cs4	2016 x 2016	1102	1.40 s	1.87 s
	2016 x 1536	1443	1.40 s	1.88 s
cs3	1920 x 1440	1603	1.41 s	1.90 s
	1920 x 1080	2128	1.42 s	1.91 s
	1440 x 1440	2032	1.49 s	2.00 s
cs1	1296 x 1024	3086	1.53 s	2.05 s
	1296 x 720	4346	1.54 s	2.07 s
	1008 x 952	4009	1.63 s	2.19 s
	864 x 848	5010	1.71 s	2.29 s
	528 x 528	10,782	2.08 s	2.80 s

Performance examples. Regions of interest can be individually set by users.

» **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

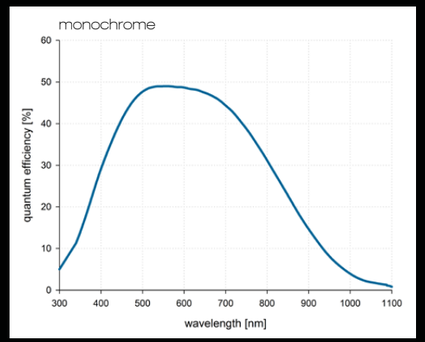
image sensor

pixel size	11 µm x 11 µm²
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 up to 40 ms
camera memory	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 (HD / HD+ optional)
data interface	USB 3.0, GigE/USB 2.0, Camera Link
shock	30 g > 11 ms (in all axes)
operating temperature	+5 °C up to +40 °C
power delivery	90 up to 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 mm³

quantum efficiency



pco.dimax® S / HS / HD

pco.dimax S

frame rate table[2]

resolution [pixel] **pco.**dimax S1	frame rate [fps] monochrome / color	images in memory (36 GB)
1008 x 1008	4467	25,037
528 x 528	12,932	91,208
480 x 240	27,642	222,518
240 x 16	152,811	6,675,542
pco.dimax S4		
2016 x 2016	1279 / 1102	6307
1920 x 1080	2470 / 2128	12,362
1296 x 720	5085 / 4346	27,471
1008 x 1008	4467 / 3792	25,037
480 x 240	27,642 / 23,061	222,518
240 x 16	152,811 / 130,650	6,675,542

pco.dimax HS

frame rate table[2]

resolution [pixel] **pco.**dimax HS1/HS2/HS4	frame rate [fps] monochrome	images in memory (36 GB)
1000 x 1000	7039	48,497
800 x 600	12,841	98,491
640 x 480	17,985	157,958
320 x 200	46,746	653,411
pco.dimax HS2/HS4		
1400 x 1050	5469	33,943
1280 x 720	8226	52,839
pco.dimax HS4		
2000 x 2000	2277	12,729

pco.dimax HD

frame rate table[2]

resolution [pixel] **pco.**dimax HD/HD+	frame rate [fps] monochrome / color	images in memory (36 GB)
1920 x 1080	2128	12,298
1296 x 720	4346	27,327
1008 x 1000	3822	25,297
480 x 240	23,061	221,036
240 x 16	130,641	6,325,870
pco.dimax HD+		
1920 x 1440	**1603**	**9223**

[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

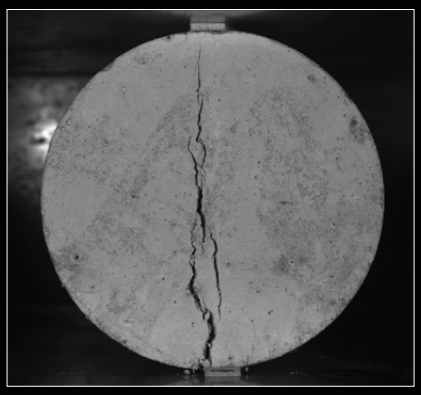
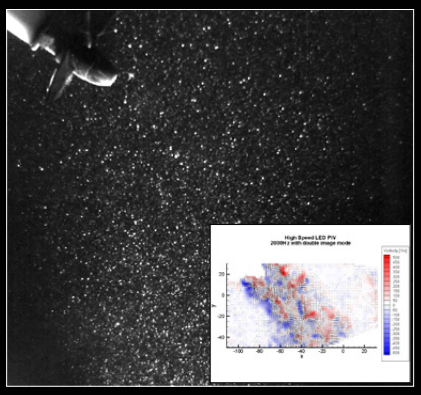


Image of a tensile splitting strength test to characterize the tensile strength of ultra-high performance concrete. Courtesy of TU Braunschweig, iBMB, Division of Concrete Construction.

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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