pco.1300 oem
cooled digital 12bit CCD camera system

- excellent resolution (1392 x 1040 pixel)
- superior quantum efficiency up to 65 %
- cooled 12 bit dynamic range
- superior low noise of 8 e^- rms @ 10 MHz
- no glow functionality at long exposure times
- excellent DSNU at long exposure times
- hot pixel correction integrated
- optimal offset stability and control (≤ 1 count)
- exposure time range 5 µs - 1 h
- cooling of -Δ 30 °C vs. ambient
- standard IEEE1394a ("firewire") interface

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pco.1300 oem

This versatile high performance 12 bit CCD camera system is specifically designed for OEM applications. The pco.1300 oem has an extraordinary quantum efficiency of up to 65 %. At the heart of the camera is an FPGA processor allowing for sophisticated control and accurate timing of the CCD and associated electronics. In addition, a proprietary offset control algorithm has been developed which provides very high offset stability, regardless of ambient temperature or signal changes ensuring accurate and repeatable quantitative data over long periods of time. The pco.1300 oem's most unique feature is its flexibility for customization to fit any OEM user application. ROI, binning, cooling, as well as other features of the camera can be selected and optimized to accommodate the user's application. Camera features excellent resolution (1392 x 1040 pixel), 12 bit dynamic range, exposure time 5 µs to 1 hour, internal frame buffer for continuous image capture (64 MB min), excellent low noise of 8 e^- rms @ 10 MHz, selectable regulated cooling to -30 °C vs. ambient, standard interface IEEE1394a, optimal offset stability and control (≤ 1 count).

technical data

	unit	setpoint	pco.1300 oem
resolution (hor x ver)[1]	pixel	@ extended mode @ normal mode	1424 x 1060 1392 x 1040
pixel size (hor x ver)	µm[2]		6.45 x 6.45
sensor format/ diagonal	inch/ mm		2/3" / 11.14
peak quantum efficiency	%	@ 500 nm typical	62
full well capacity,	e^-		18 000
dark current	e^-/pixel·s	@ 10 °C typical	0.05
image sensor			ICX285AL
maximum dynamic range	dB	CCD + camera @ 10 MHz	66
dynamic range A/D[2]	bit		12
readout noise	e^- rms	@ 10 / 20 MHz	8 / 14
imaging frequency, frame rate	fps	@ full frame @ 10 / 20 MHz	5.9 / 11.7
pixel scan rate	MHz	dual clock	10 / 20
A/D conversion factor	e^-/count		3.9
spectral range	nm		290 .. 1100
exposure time	s		5 µs .. 1 h
anti-blooming factor		@ stand. light mode / @ low light mode @ 100ms expos. time	> 400 / > 4
smear	%		< 0.002
optical input			c-mount
trigger, auxiliary signals		internal / external	software, TTL level
binning (hor x ver)			1x1, 1x2, 2x1 2x2

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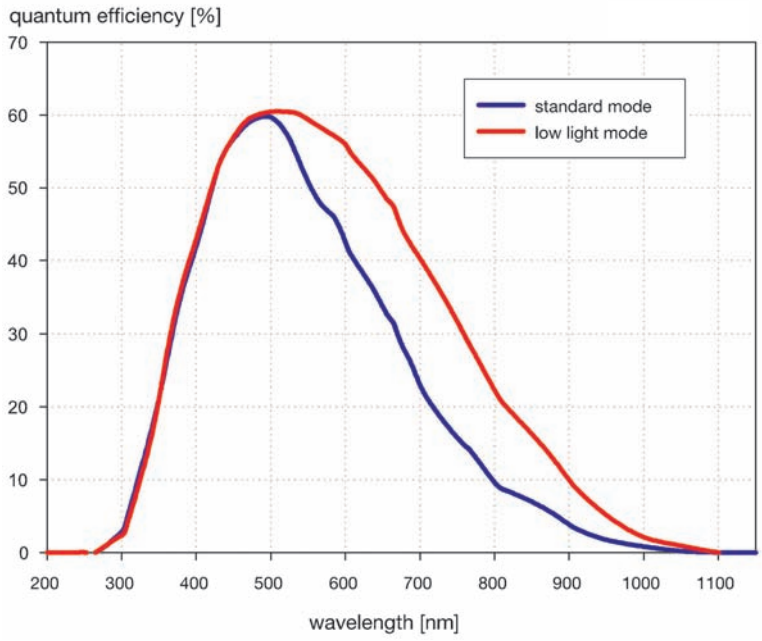
technical data

	unit	setpoint	pco.1300 oem
power supply	VDC	typical	18 .. 28 V 24 V
power consumption	W	max.	20
mechanical dimensions (w x h x l)	mm^3		113 x 104 x 110
weight	kg		1.1
ambient temperature	°C	range	+10 .. +40
operating humidity	%	range	10 .. 80
storage temperature	°C	range	-20 .. +70
data interface			IEEE1394a
CE certified			yes

[1] horizontal versus vertical
[2] Analog-to-Digital-converter

quantum efficiency



(measured by pco)

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subject to changes without prior notice

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