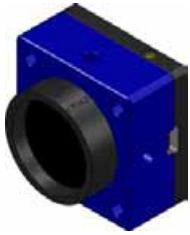


## CinCam CMOS - Technical Data -

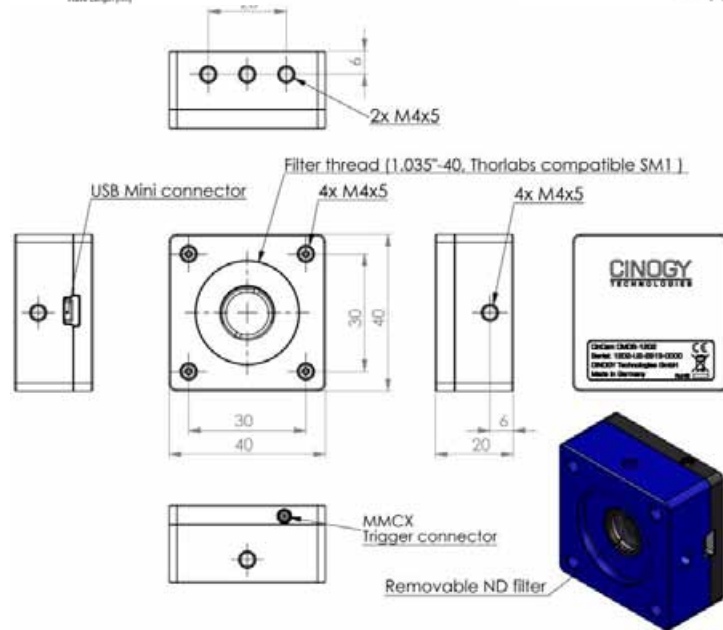
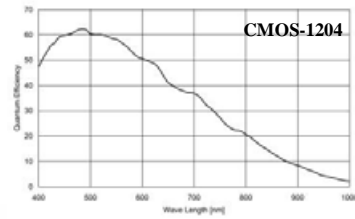
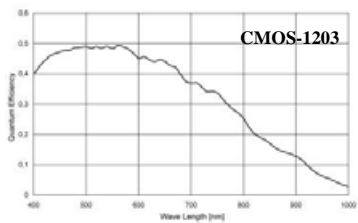
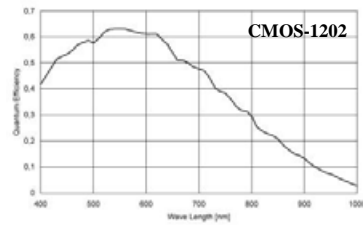
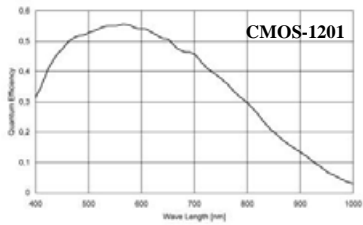
	<b>CMOS-1201</b>	<b>CMOS-1202</b>	<b>CMOS-1203</b>	<b>CMOS-1204</b>
	<i>Standard Series</i>	<i>Standard Series</i>	<i>Standard Series</i>	<i>Standard Series</i>
<b>SENSOR DATA</b>				
Format:	1/2"	1/1.8"	1/1.8"	1/2.5"
Active area (without cover glass):	6.7mm x 5.3mm	6.8mm x 5.4mm	7.2mm x 5.4mm	5.7mm x 4.3mm
Number of pixel:	1280 x 1024 (1.3MPixel)	1280 x 1024 (1.3MPixel)	1600 x 1200 (2MPixel)	2560 x 1920 (5MPixel)
Pixel size:	5.2µm x 5.2µm	5.3µm x 5.3µm	4.5µm x 4.5µm	2.2µm x 2.2µm
Spectral response:				
Standard: absorptive built-in ND filter	400nm - 1150nm	400nm - 1320nm	400nm - 1320nm	400nm - 1150nm
RT: reflective built-in ND filter	320nm - 1150nm	320nm - 1320nm	320nm - 1320nm	320nm - 1150nm
UV: phosphor sensor coating	<150nm - 1150nm	<150nm - 1150nm	<150nm - 1150nm	<150nm - 1150nm
OM: sensor without microlenses	-	240nm - 1150nm	240nm - 1150nm	240nm - 1150nm
IR: phosphor sensor coating	1470nm - 1605nm	1470nm - 1605nm	1470nm - 1605nm	on request
Beam diameter min / max (recommended):	52µm / 4mm	53µm / 4.1mm	45µm / 4mm	22µm / 3.2mm
<b>CAMERA FEATURES</b>				
Mount:	Filter-Mount	Filter-Mount	Filter-Mount	Filter-Mount
Bit depth (output):	8Bit	8Bit	8Bit	8Bit
Dynamic:	68dB (1:2500)	62dB (1:1250)	62dB (1:1250)	70dB (1:3150)
Frame rate:	up to 20Hz	up to 20Hz	up to 14Hz	up to 5Hz
Exposure time:	100µs-140ms	100µs-300ms	100µs-300ms	200µs-200ms
Interface:	USB 2.0	USB 2.0	USB 2.0	USB 2.0
Shutter:	Rolling	Global	Global	Rolling
Mode:	cw	cw or pulsed	cw or pulsed	cw
Trigger:	-	TTL-Signal	TTL-Signal	-
<b>SPECIFICATIONS</b>				
Mechanical dimensions (W x H x L):	40mmx40mmx20mm	40mmx40mmx20mm	40mmx40mmx20mm	40mmx40mmx20mm
Weight:	46g	50g	50g	50g
Electrical requirements:	Power supply via USB	Power supply via USB	Power supply via USB	Power supply via USB
Storage temperature*:	-10°C...+60°C	-10°C...+60°C	-10°C...+60°C	-10°C...+60°C
Operating temperature*:	+0°C...+40°C	+0°C...+40°C	+0°C...+40°C	+0°C...+40°C
Regulations:	CE, RoHS	CE, RoHS	CE, RoHS	CE, RoHS

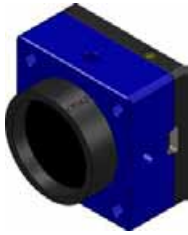
\* Without condensation

Design and specification of the described product(s) are subject to change without notice.



**CinCam CMOS**  
**- Sensor Response -**  
**- Dimensions -**



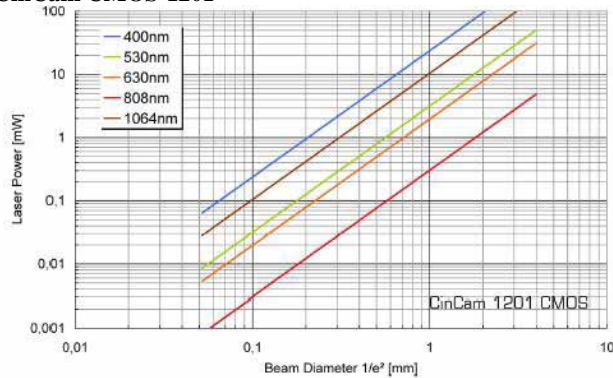


## CinCam CMOS - Operational Range -

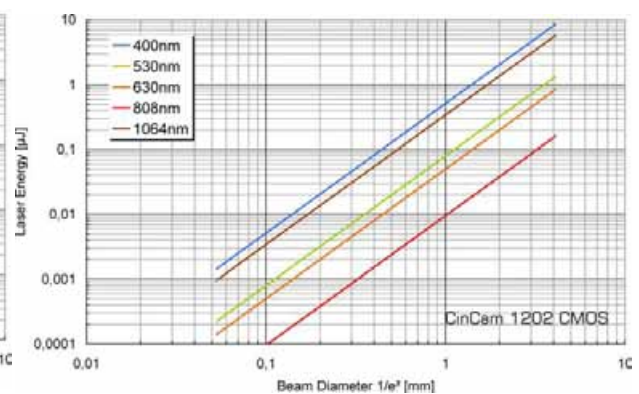
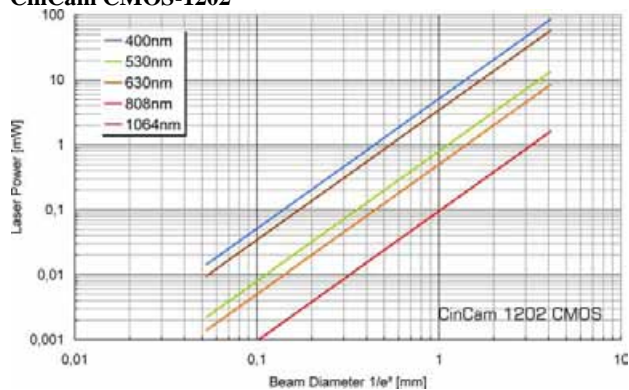
Maximum CW power for saturation limit

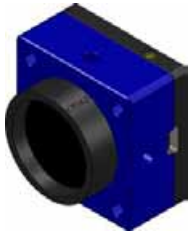
Maximum PULSE energy for saturation limit  
(single pulse during the exposure time)

**CinCam CMOS-1201**



**CinCam CMOS-1202**



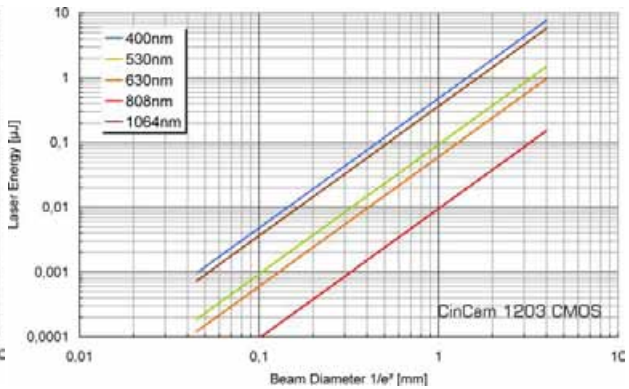
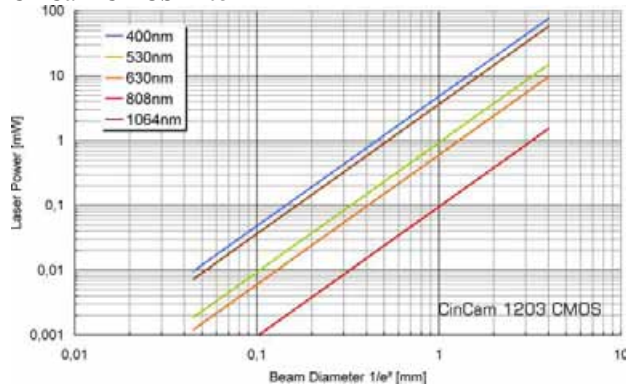


## CinCam CMOS - Operational Range -

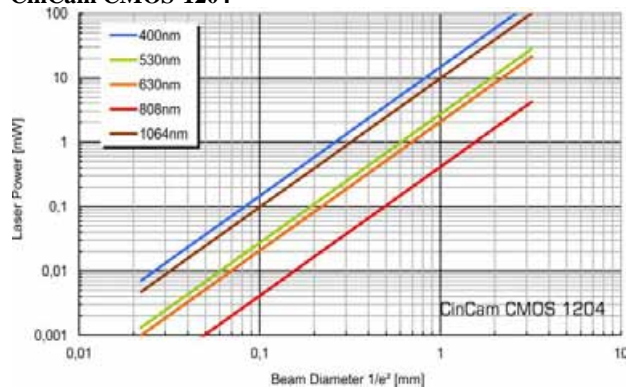
Maximum CW power for saturation limit

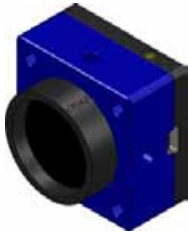
Maximum PULSE energy for saturation limit  
(single pulse during the exposure time)

CinCam CMOS-1203



CinCam CMOS-1204





## CinCam CMOS - Operational Range -

### Saturation limit assumes:

<b>Saturation level:</b>	90%
Built-in ND-Filter:	OD3.0
Exposure time:	100µs (lowest value)
Gain:	1 (lowest value)
Maximum beam power:	<1W

### A higher power level is possible with additional ND filter:

Optical density	Higher limit
OD 1.0	10 x Saturation limit
OD 2.0	100 x Saturation limit
OD 3.0	1000 x Saturation limit
OD 4.0	10000 x Saturation limit

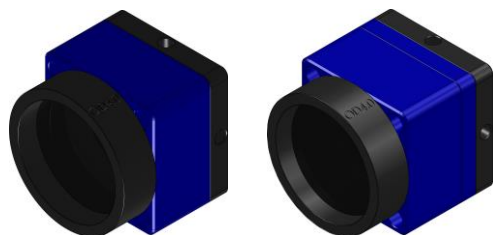
### By longer exposure times a lower power level is apply:

Exposure time	Lower limit	
100µs	See chart for cw saturation limit	
1ms	0.1 x Saturation limit	
10ms	0.01 x Saturation limit	Only for cw laser!
100ms	0.001 x Saturation limit	
1000ms	0.0001 x Saturation limit	

### Max. pulse repetition rate / pulse length for single pulse measurement:

See chart for pulse saturation limit

Exposure time	Pulse repetition rate / pulse length	
100µs	10kHz / <100µs	
1ms	1kHz / <1ms	
10ms	100Hz / <10ms	Only for pulsed laser!
100ms	10Hz / <100ms	
1000ms	1Hz / <1000ms	



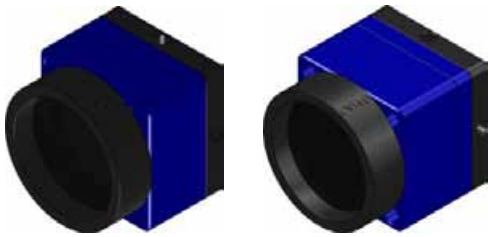
**CinCam CMOS Nano  
- Technical Data -**

	<b>CMOS-1201-Nano</b>	<b>CMOS-1.001-Nano</b>
	<i>Nano Series</i>	<i>Nano Series</i>
<b>SENSOR DATA</b>		
Format:	1/1.8"	1"
Active area (without cover glass):	6.8mm x 5.4mm	11.3mm x 11.3mm
Number of pixel:	1280 x 1024 (1.3MPixel)	2048 x 2048 (4.2MPixel)
Pixel size:	5.3µm x 5.3µm	5.5µm x 5.5µm
Spectral response:		
Standard: absorptive built-in ND filter	400nm - 1320nm	400nm - 1320nm
RT: reflective built-in ND filter	320nm - 1320nm	320nm - 1320nm
UV: phosphor sensor coating	<150nm - 1150nm	<150nm - 1150nm
OM: sensor without microlenses	240nm - 1150nm	240nm - 1150nm
IR: phosphor sensor coating	1470nm - 1605nm	1470nm - 1605nm
Beam diameter min / max (recommended):	53µm / 4.1mm	55µm / 7.5mm
<b>CAMERA FEATURES</b>		
Mount:	Filter-Mount	Filter-Mount
Bit depth (output):	10Bit	10Bit
Dynamic:	62dB (1:1250)	60dB (1:1000)
Frame rate:	up to 40Hz (higher on request)	up to 20Hz (higher on request)
Exposure time:	100µs-100ms	100µs-100ms
Interface:	USB 3.0	USB 3.0
Shutter:	Global	Global
Mode:	cw or pulsed	cw or pulsed
Trigger:	TTL-Signal	TTL-Signal
<b>SPECIFICATIONS</b>		
Mechanical dimensions (W x H x L):	29mmx29mmx20mm	29mmx29mmx24mm
Weight:	26g	28g
Electrical requirements:	Power supply via USB	Power supply via USB
Storage temperature*:	-10°C...+60°C	-10°C...+60°C
Operating temperature*:	+0°C...+40°C	+0°C...+40°C
Regulations:	CE, RoHS	CE, RoHS

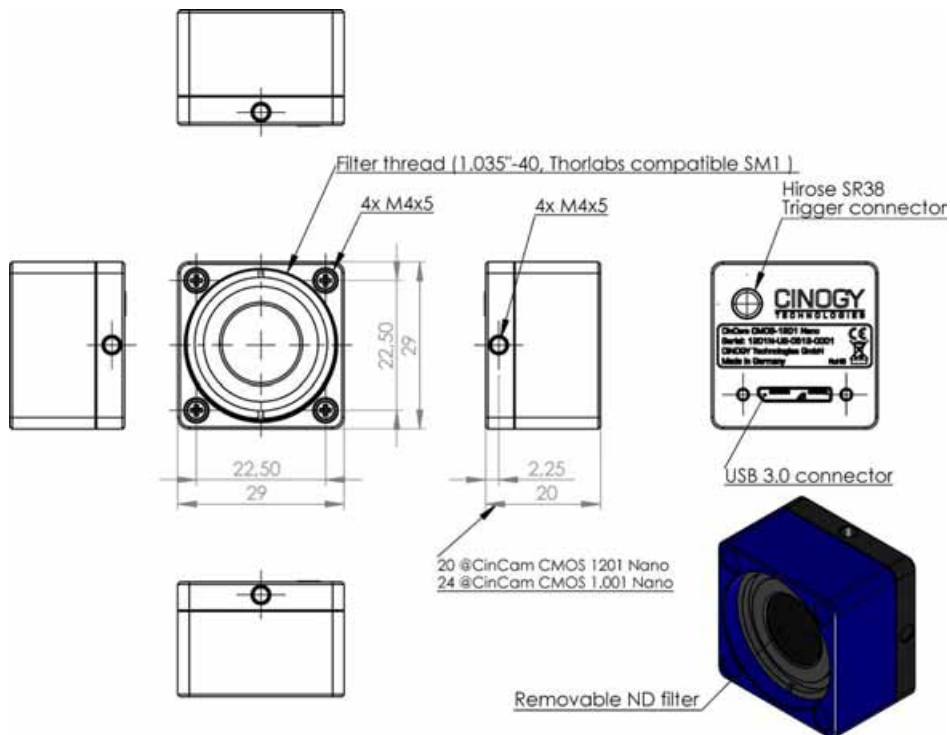
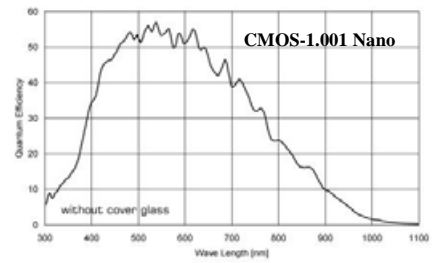
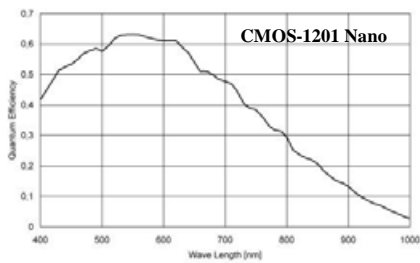
\* Without condensation

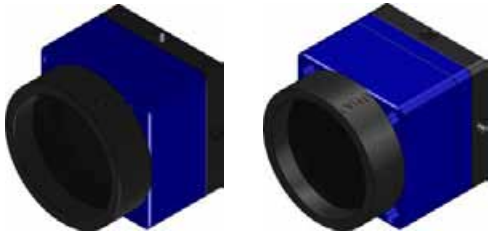
Design and specification of the described product(s) are subject to change without notice.





**CinCam CMOS Nano**  
**- Sensor Response -**  
**- Dimensions -**



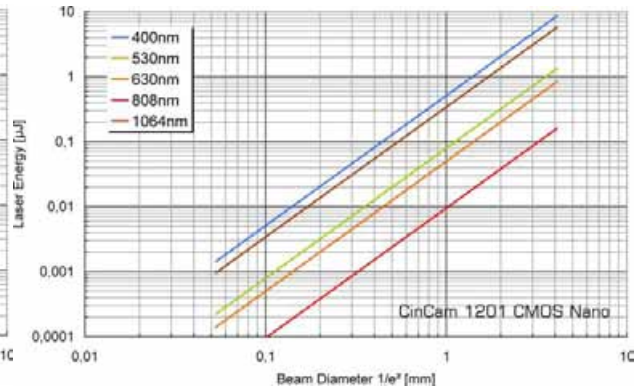
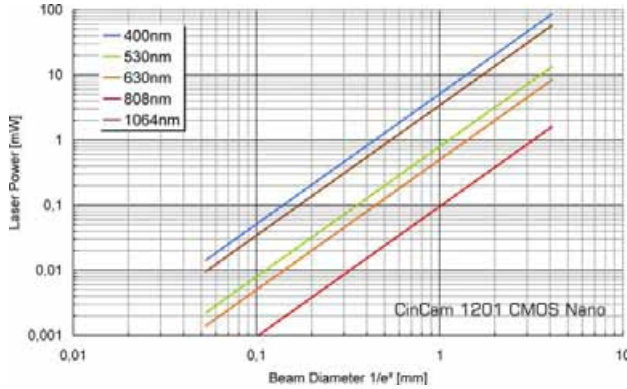


**CinCam CMOS Nano  
- Operational Range -**

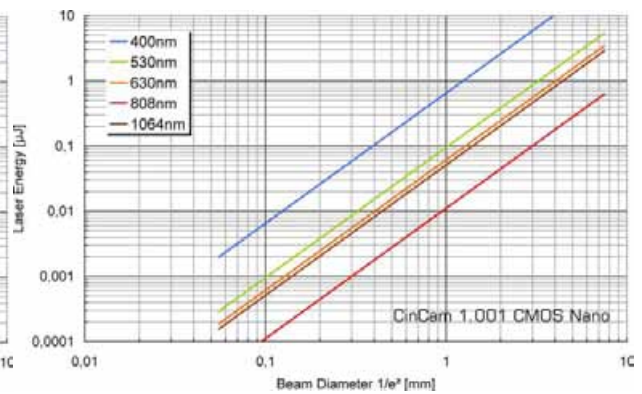
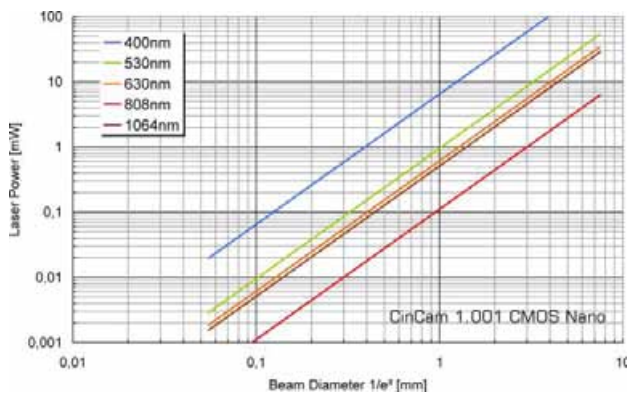
Maximum CW power for saturation limit

Maximum PULSE energy for saturation limit  
(single pulse during the exposure time)

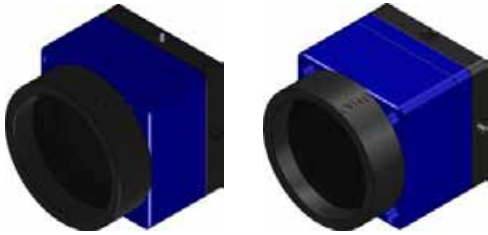
**CinCam CMOS-1201 Nano**



**CinCam CMOS-1.001 Nano**







**CinCam CMOS Nano  
- Operational Range -**

**Saturation limit assumes:**

<b>Saturation level:</b>	90%
Built-in ND-Filter:	OD3.0
Exposure time:	100µs (lowest value)
Gain:	1 (lowest value)
Maximum beam power:	<1W

**A higher power level is possible with additional ND filter:**

<b>Optical density</b>	<b>Higher limit</b>
OD 1.0	10 x Saturation limit
OD 2.0	100 x Saturation limit
OD 3.0	1000 x Saturation limit
OD 4.0	10000 x Saturation limit

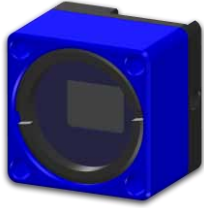
**By longer exposure times a lower power level is apply:**

<b>Exposure time</b>	<b>Lower limit</b>	
100µs	See chart for cw saturation limit	
1ms	0.1 x Saturation limit	
10ms	0.01 x Saturation limit	Only for cw laser!
100ms	0.001 x Saturation limit	
1000ms	0.0001 x Saturation limit	

**Max. pulse repetition rate / pulse length for single pulse measurement:**

See chart for pulse saturation limit

<b>Exposure time</b>	<b>Pulse repetition rate / pulse length</b>	
100µs	10kHz / <100µs	
1ms	1kHz / <1ms	
10ms	100Hz / <10ms	Only for pulsed laser!
100ms	10Hz / <100ms	
1000ms	1Hz / <1000ms	



**CinCam CMOS Pico  
- Technical Data -**

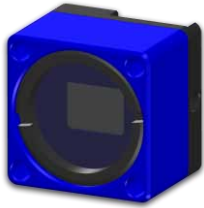
**CMOS-1201-Pico**

*Standard Series*

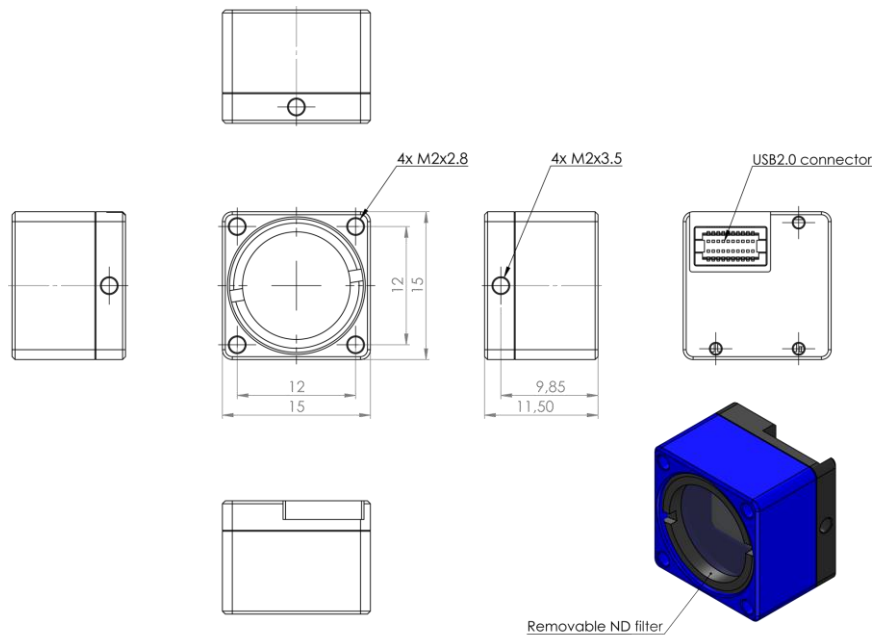
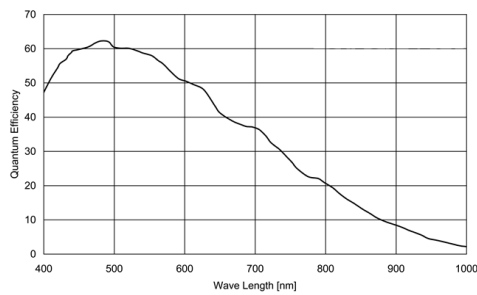
<b>SENSOR DATA</b>	
Format:	1/2.5"
Active area (without cover glass):	5.7mm x 4.3mm
Number of pixel:	2560 x 1920 (5MPixel)
Pixel size:	2.2µm x 2.2µm
Spectral response:	
Standard: absorptive built-in ND filter	400nm - 1150nm
RT: reflective built-in ND filter	320nm - 1150nm
UV: phosphor sensor coating	<150nm - 1150nm
OM: sensor without microlenses	240nm - 1150nm
IR: phosphor sensor coating	1470nm - 1605nm
Beam diameter min / max (recommended):	22µm / 3.2mm
<b>CAMERA FEATURES</b>	
Mount:	Filter-Mount
Bit depth (output):	12Bit
Dynamic:	70dB (1:3150)
Frame rate:	up to 4.6Hz
Exposure time:	200µs-200ms
Interface:	USB 2.0
Shutter:	Rolling
Mode:	cw
Trigger:	-
<b>SPECIFICATIONS</b>	
Mechanical dimensions (W x H x L):	15mmx15mmx11.5mm
Weight:	20g
Electrical requirements:	Power supply via USB
Storage temperature*:	-10°C...+60°C
Operating temperature*:	+0°C...+40°C
Regulations:	CE, RoHS

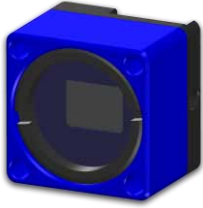
\* Without condensation

Design and specification of the described product(s) are subject to change without notice.



**CinCam CMOS Pico**  
**- Sensor Response -**  
**- Dimensions -**



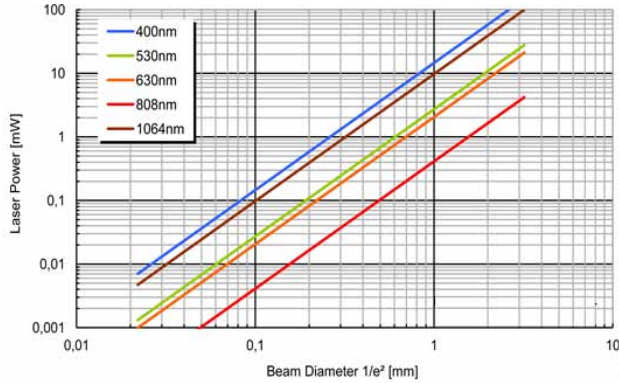


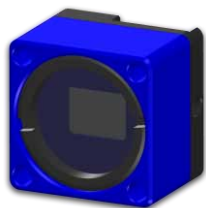
## CinCam CMOS Pico - Operational Range -

Maximum CW power for saturation limit

Maximum PULSE energy for saturation limit  
(single pulse during the exposure time)

CinCam CMOS-1201-Pico





## CinCam CMOS Pico - Operational Range -

### Saturation limit assumes:

<b>Saturation level:</b>	90%
Built-in ND-Filter:	OD3.0
Exposure time:	100µs (lowest value)
Gain:	1 (lowest value)
Maximum beam power:	<1W

### A higher power level is possible with additional ND filter:

Optical density	Higher limit
OD 1.0	10 x Saturation limit
OD 2.0	100 x Saturation limit
OD 3.0	1000 x Saturation limit
OD 4.0	10000 x Saturation limit

### By longer exposure times a lower power level is apply:

Exposure time	Lower limit	
100µs	See chart for cw saturation limit	
1ms	0.1 x Saturation limit	
10ms	0.01 x Saturation limit	Only for cw laser!
100ms	0.001 x Saturation limit	
1000ms	0.0001 x Saturation limit	