



**CinCam CCD**  
**- Technical Data -**

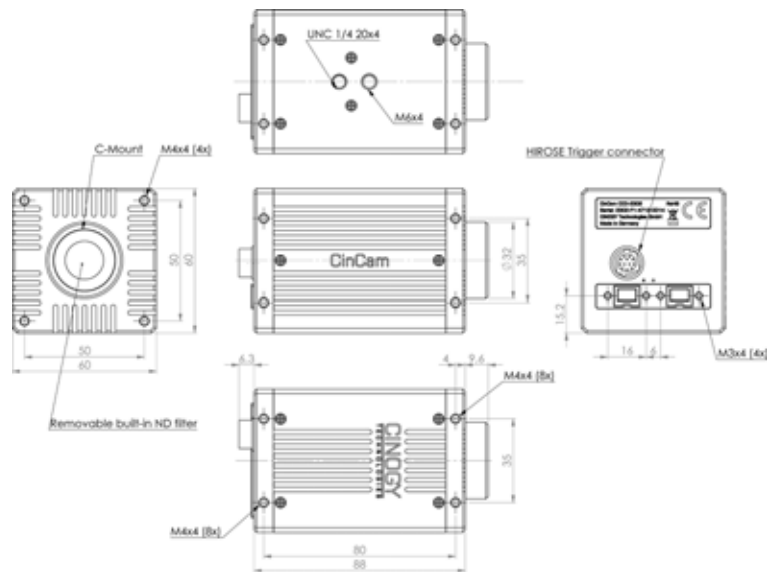
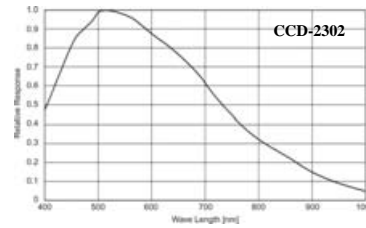
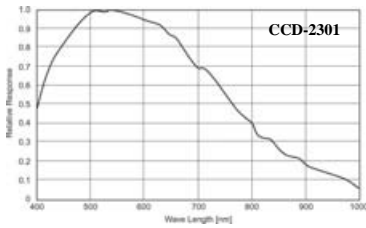
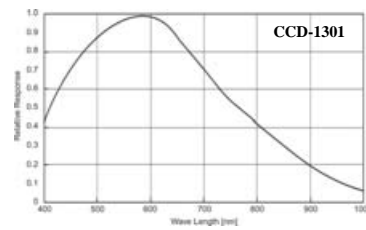
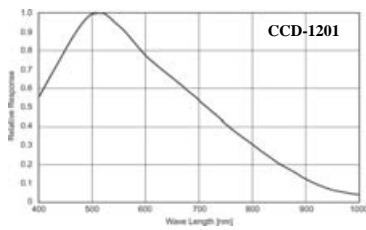
	<b>CCD-1201</b>	<b>CCD-1301</b>	<b>CCD-2301</b>	<b>CCD-2302</b>
	<i>Standard Series</i>	<i>Standard Series</i>	<i>Standard Series</i>	<i>Standard Series</i>
<b>SENSOR DATA</b>				
Format:	1/2"	1/3"	2/3"	2/3"
Active area (without cover glass):	6.5mm x 4.8mm	4.8mm x 3.6mm	9.0mm x 6.7mm	8.5mm x 7.1mm
Number of pixel:	1388 x 1038 (1.4MP)	1292 x 964 (1.2MP)	1388 x 1038 (1.4MP)	2452 x 2056 (5MP)
Pixel size:	4.65µm x 4.65µm	3.75µm x 3.75µm	6.45µm x 6.45µm	3.45µm x 3.45µm
Spectral response:				
Standard: absorptive built-in ND filter	400nm - 1150nm	400nm - 1150nm	400nm - 1150nm	400nm - 1150nm
RT: reflective built-in ND filter	320nm - 1150nm	320nm - 1150nm	320nm - 1150nm	320nm - 1150nm
UV: phosphor sensor coating	<150nm - 1150nm	<150nm - 1150nm	<150nm - 1150nm	<150nm - 1150nm
OM: sensor without microlenses	-	-	-	-
IR: phosphor sensor coating	1470nm - 1605nm	1470nm - 1605nm	1470nm - 1605nm	1470nm - 1605nm
Beam diameter min / max (recommended):	46.5µm / 4mm	37.5µm / 3mm	64.5µm / 5mm	34.5µm / 5.5mm
Sensor cooling:	passive	passive	passive	passive
<b>CAMERA FEATURES</b>				
Mount:	C-Mount	C-Mount	C-Mount	C-Mount
Bit depth (output):	14Bit (12Bit GigE)	14Bit (12Bit GigE)	14Bit (12Bit GigE)	14Bit (12Bit GigE)
Dynamic:	60dB (1:1000)	59dB (1:900)	67dB (1:2200)	54dB (1:500)
Frame rate:	up to 15Hz	up to 26Hz	up to 16Hz	up to 6Hz
Exposure time:	500µs-300ms	500µs-300ms	500µs-300ms	500µs-300ms
Interface:	FireWire 1394b / GigE	FireWire 1394b / GigE	FireWire 1394b / GigE	FireWire 1394b / GigE
I/O connector:	12-Pin Hirose	12-Pin Hirose	12-Pin Hirose	12-Pin Hirose
Mode:	cw or pulsed	cw or pulsed	cw or pulsed	cw or pulsed
Trigger:	TTL-Signal	TTL-Signal	TTL-Signal	TTL-Signal
<b>SPECIFICATIONS</b>				
Mechanical dimensions (W x H x L):	60mmx60mmx103.9mm	60mmx60mmx103.9mm	60mmx60mmx103.9mm	60mmx60mmx103.9mm
Weight:	300g	300g	300g	300g
Electrical requirements:	DC 8V-36V	DC 8V-36V	DC 8V-36V	DC 8V-36V
Storage temperature*:	-10°C...+60°C	-10°C...+60°C	-10°C...+60°C	-10°C...+60°C
Operating temperature*:	+5°C...+45°C	+5°C...+45°C	+5°C...+45°C	+5°C...+45°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 CCD**  
**- Sensor Response -**  
**- Dimensions -**



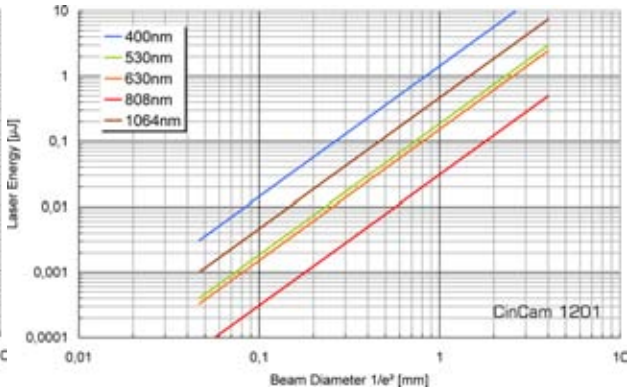
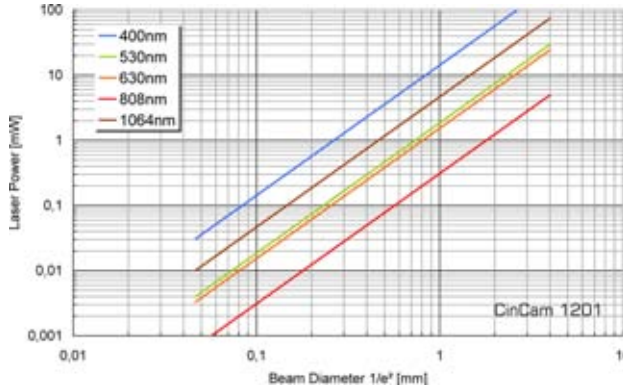


**CinCam CCD  
- Operational Range -**

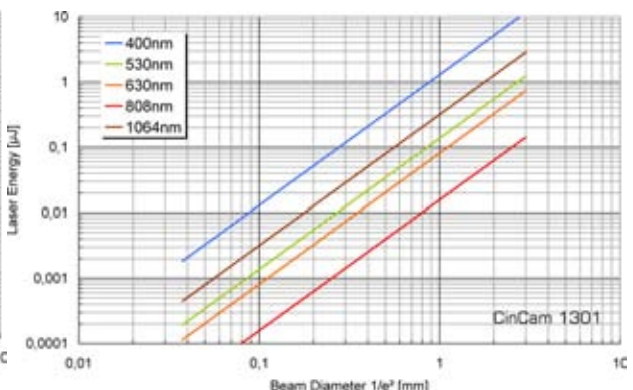
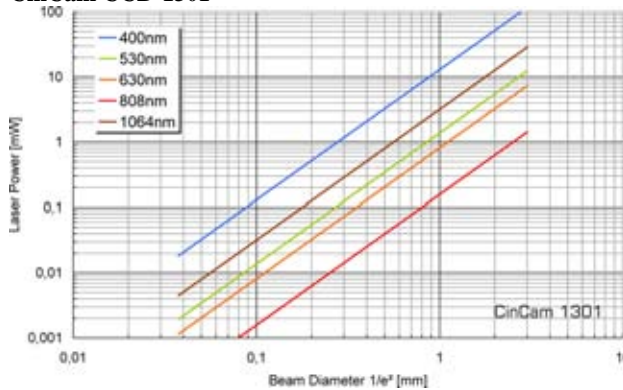
**Maximum CW power for saturation limit**

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

**CinCam CCD-1201**



**CinCam CCD-1301**



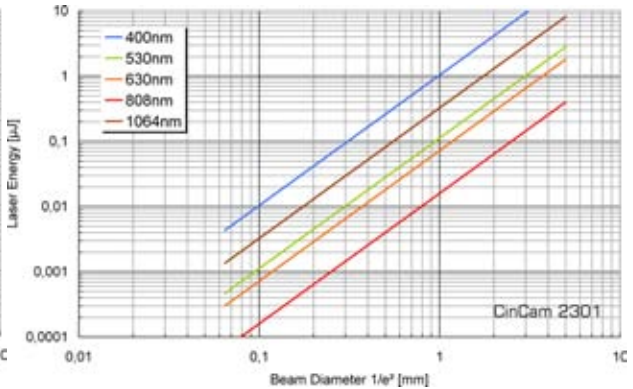
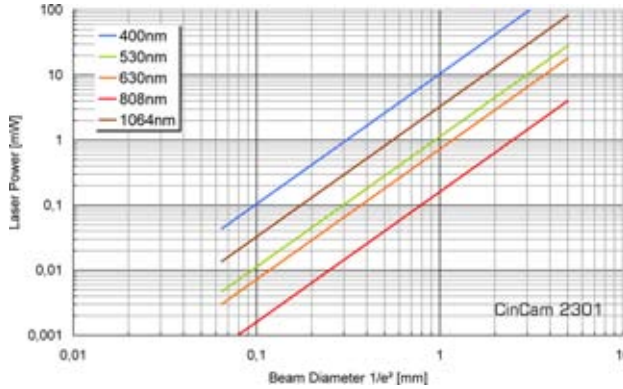


## CinCam CCD - Operational Range -

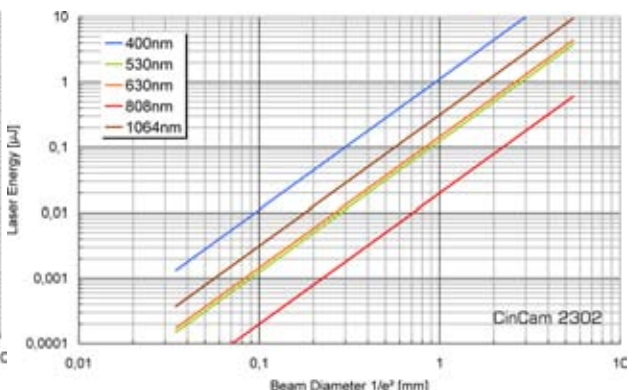
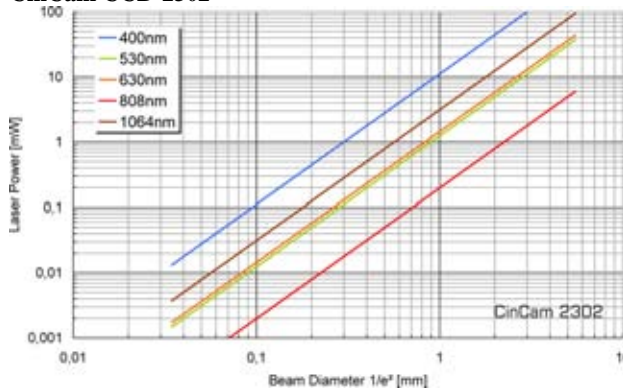
Maximum CW power for saturation limit

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

CinCam CCD-2301



CinCam CCD-2302





## CinCam CCD - Operational Range -

### Saturation limit assumes:

Saturation level:	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	