

CS 4000 Series

Monochrome Standard-Video CCD Camera Series with Remote Camera Heads



- **1/3" or 1/2" Interlaced CCD Sensor**
- **CCIR: 768(H) x 494(V) pixel**
EIA: 752(H) x 582(V) pixel
- **Remote camera heads with 12mm and 17mm diameter**
- **Restart/Reset, Internal/External Sync**
- **Random Trigger Shutter (RTS)**
- **Application**
 - Machine vision
 - Robotics
 - Factory automation
 - Quality control



Technical Data

Type

CS 4000 series

TV system

EIA /CCIR (suffix "C")

Image sensor

Interline CCD

CS4200B

ICX038DLA

CS4200BC

ICX039DLA

CS4300B

ICX058CL

CS4300BC

ICX059CL

Active pixel

EIA: 768 (H) x 494 (V) / CCIR: 752 (H) x 582 (V)

Pixel size

CS4200B

8.4(H) x 9.8(V) μ m

CS4200BC

8.6(H) x 8.3(V) μ m

CS4300B

6.35(H) x 7.4(V) μ m

CS4300BC

6.5(H) x 6.25(V) μ m

Image Area

CS4200B

6.5(H) x 4.85(V) mm

CS4200BC

CS4300B

6.35(H) x 7.4(V) μ m

CS4300BC

Scanning lines

525 (EIA) / 625 (CCIR)

Scanning format

2:1 Interlace

Sync system

Internal/External synchronization

Aspect ratio

4:3

Illumination

Minimum: GAIN MAX, Gamma=0.45

CS4200B, CS4200BC

1.5 Lux, F1.4

CS4300B, CS4300BC

2.0 Lux, F1.4

Gain Control

AGC (Automatic Gain Control), Manual Gain Control

Gamma correction

0.45 / 1.0 selectable

Video output

VS: 1.0V(p-p)/75 Ohm terminated

Resolution

EIA

570TV lines (H), 485 lines (TV lines)(V)

CCIR

560TV lines (H), 575 lines (410TV lines)(V)

S/N

50dB(p-p)/rms (GAIN: FIX, Gamma=0)

Input Signal

External Sync signal

HD, VD/SYNC (2 to 6V(p-p)) / VS: 1.0V(p-p) SYNC 0.3V(p-p)

Electronic Shutter Spec

Normal shutter

Shutter in 9 steps 1/60, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000s

Random Trigger Shutter (RTS)

Shutter timing defined by external trigger signal

Restart/Reset

Available via external VD signal

Shutter Trigger Spec

Input level

VL= 0.0 to 0.5V, VH= 2 to 5V

Input impedance

High impedance

Polarity

Positive

Pulse width

2 μ s to 1/4s

Output Signals

HD / VD, Clock

White-clip

Clip-level: 820mV(p-p) (Excluding SYNC)

CCD storage mode

Field/Frame storage (integration), Switch-able by inner SW selection (initial factory setting: frame storage)

Lens mount

12mm, 17mm lens mount

Power supply

DC12V +/-10% [Ripple level: Less than 10mV(p-p)]/ approx 400mA

Ambient condition

Temperature: 0°C to 40°C, Humidity: 30 to 85%

Dimension, Weight

CSU 4000/C (Camera control unit) 110(H) x 28(W) x 156(D)mm, 530g

CSH 4200/C (Camera head) dia. 17 x 36.2mm, 16g

CSH 4300/C (Camera head) dia. 12 x 39.4mm, 11g

Available cable lengths

2m / 3m / 5m

Options

Power supply 1.3A: PS-A15D3-12MP-K

Lenses for 12mm camera head

L-PML-040	f= 4mm, F 2 - C
L-PML-060	f= 6mm, F 1.6 - C
L-PML-120	f= 12mm, F 2 - C
L-PML-300	f= 30mm, F 3.4 - C

Set of extension rings

Lenses for 17mm camera head

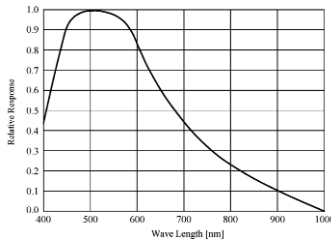
L-TL/F-040S	f= 4mm, F 2 - C
L-TL/F-075S	f= 6mm, F 1.6 - C
L-TL/F-150S	f= 12mm, F 2 - C
L-TL/F-240S	f= 30mm, F 3.4 - C

Set of rear converter:
Set of extension rings

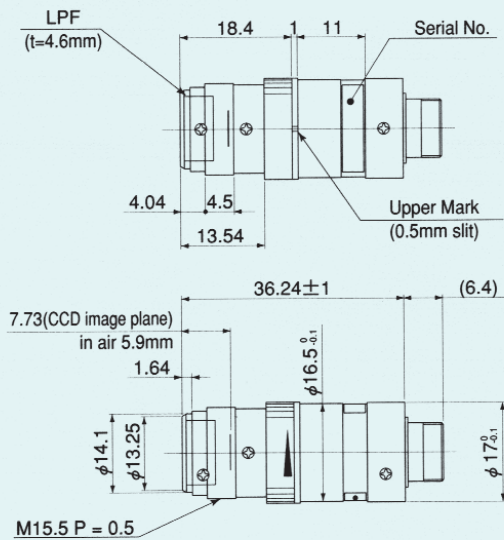
1.5x, 2x and 3x

Relative Spectrum Response

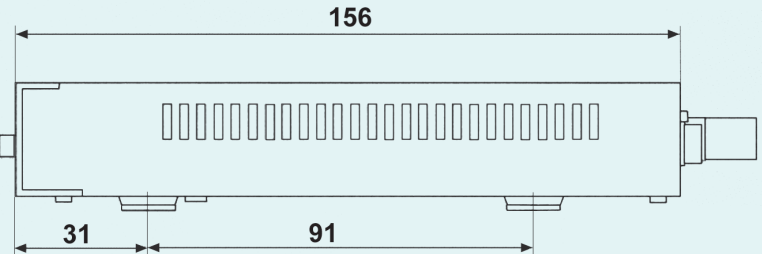
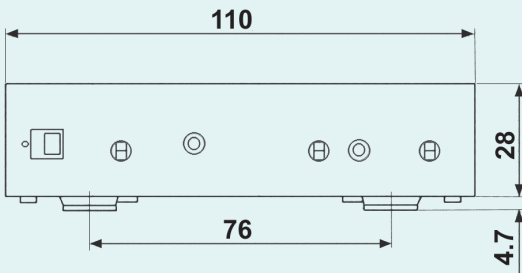
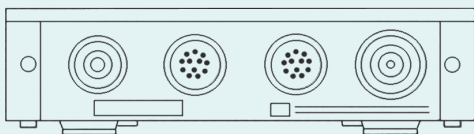
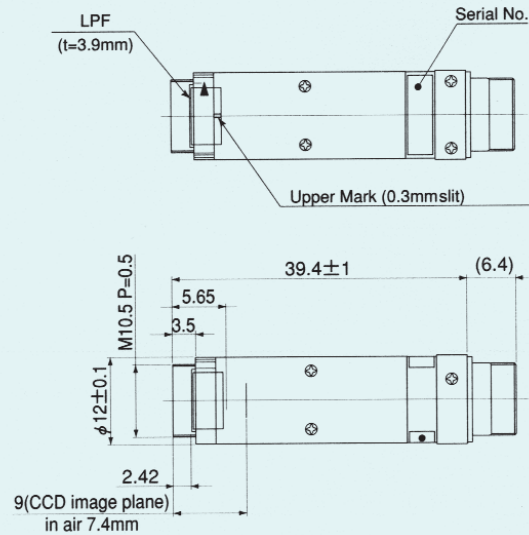
CS 4200B
CS 4200BC
CS 4300B
CS 4300BC



•CS4200/CS4200C



•CS4300/CS4300C



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