

CCD-1300QF

Fast Progressive Very-High-Resolution CCD Camera
with 12-bit Digital-Output



Features

- 1280 (H) x 1024 (V) square pixels
- 25 images/sec. at full resolution (40 MHz)
- Progressive scan
- Interline-transfer sensor (IT)
- Asynchronous shutter up to 1/10000 sec. (image on demand)
- Effective camera dynamics: $\geq 1:1000$ (≥ 60 dB)
- Digital RS-644 output with 12-bit
- Single Output (40 Mpixel/sec)
- C-mount compatible sensor size (2/3")
- Very compact design

With a resolution of 1280 x 1024 effective pixels, the **CCD-1300QF** is a further member of the VDS high resolution CCD camera family.

The **CCD-1300QF** is the fast version of our CCD-1300 standard camera. Due to the pixel clock of 40 MHz up to 25 images/s can be read out at a full resolution.

By means of the progressive interline transfer sensor very short exposure times up to 1/10000 seconds can be achieved at a full resolution. The exposure time can be regulated in steps of approx. 40 µs. Due to the asynchronous operation (image on demand), the exposure starts 7 µs after an external trigger-impulse.

Therefore the camera is especially useful for recording moved objects. Moreover, the **CCD-1300QF** can work in a continuous operation with 25 frames/s and 40 ms exposure time.

The effective dynamic of the complete camera

$$D = \frac{Sat_{(count)} - Dark_{(count)}}{RMS\ Noise_{(count)}}$$

is more than 1000 and therefore offers reserves even for difficult lighting conditions or very short exposure times.

The RS-644 (LVDS) digital output supplies image data with 12-bit precision.

The 2/3" sensor offers the possibility of using all C-mount lenses and optics customary in commerce.

Technical Data

- Resolution: 1280 (H) x 1024 (V) pixels
or 1280 (H) x 512 (V) pixels with binning
- Progressive scan
- Pixel size: 6.45 µm x 6.45 µm
- Active sensor size: 8.26 (H) mm x 6.60 (V) mm
- Interline transfer sensor (no mech. shutter required)
- Electronic shutter up to 1/10000 sec.;
adjustable in approx. 40 µs steps
- Image on demand
- Image rate: up to 25 images/sec.
- Effective dynamics: ≥ 1:1000 (≥ 60 dB)
- Sensor saturation: ≥ 25000 e
- Anti-Blooming
- Exposure time up to approx. 10 sec.
- Digital output: 12-bit, RS-644 (LVDS)
- Frame system: 1035 lines
- Pixel clock: 40 MHz
- Video gain: 1 or 2 (+ 6 dB)
- Power supply: + 12 V, max. 0.55 A
- Ambient air temperature: 0° to 40° C
- Lens mount: C-mount
- CE standard
- Made in Germany

Technical details are subject to change.

RS-644 Digital Output (37-pin D-SUB Jack)

Pin	Function	Pin	Function
1	PCLK	20	/PCLK
2	LEN	21	/LEN
3	FEN	22	/FEN
4	D0 (LSB)	23	/D0
5	D1	24	/D1
6	D2	25	/D2
7	D3	26	/D3
8	D4	27	/D4
9	D5	28	/D5
10	D6	29	/D6
11	D7	30	/D7
12	D8	31	/D8
13	D9	32	/D9
14	D10	33	/D10
15	D11 (MSB)	34	/D11
16	GND	35	GND
17	/TRES	36	TRES
18	/SV2	37	Mode
19	(reserved)		

Power and Control Input (15-pin D-SUB Jack)

Pin	Function
1] + 12 V DC
2	
3] GND
4	
5	(reserved)
6	-
7	-
8	-
9	Mode: (Open) ⇒ Continuous Mode (GND) ⇒ Image on Demand
10	-
11	+] Trigger Input (Opto-Coupler)
12	-
13	+] Exposure Output (Opto-Coupler)
14	Line Sync Output (active low)
15	Frame Sync Output (active low)

