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AVT Marlin F-033B / F-033C

Your entrance into the world of digital cameras.

The AVT MARLIN F-033B (b/w) and AVT MARLIN F-033C (color) are very compact, space saving IEEE 1394 VGA C-Mount cameras, equipped with a highly sensitive SONY type 1/2 progressive CCD sensor. The camera offers an external asynchronous trigger shutter and operates in 8-bit or 10-bit mode. At full image resolution, the AVT MARLIN F-033B/C offers up to 74 fps and is thus particularly suited for use in industrial image processing and product automation.

The extensive built-in image processing possibilities (image pre-processing) result in outstanding image quality, reduced retouching, less load on the system and higher performance overall. The integrated smart functions take over essential functions of the frame grabber, which is compensated by use of the MARLIN.

The MARLIN can be easily integrated into existing applications thanks to its powerful and flexible API.

Highlights

- VGA 656 x 494 progressive CCD
- Up to 74 fps
- True partial scan (higher frame rates by smaller AOI)
- Format_7 support (flexible AOI, flexible speed)
- Optocoupled asynchronous image trigger
- Image preprocessing features:
  - Auto controlled gain, exposure, white balance
  - Color correction, hue, saturation
  - Real-time shading correction
  - Programmable LUT
  - And lots more ...
- Smart frame grabber features:
  - Image FIFO memory (17 full frames)
  - Image mirror
  - Single-shot, multi-shot, free-run
  - 2 programmable inputs
  - 2 programmable outputs
  - And lots more ...
- B/w and color
- Very good image quality, natural color response
- Very high frame rate
- Super compact size
- C-Mount, CS-Mount
- Angled head and customized housings

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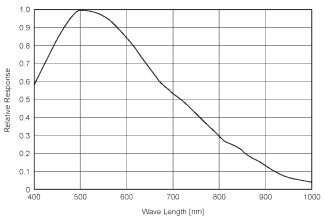
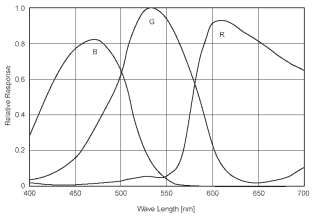
AVT Marlin F-033B / F-033C

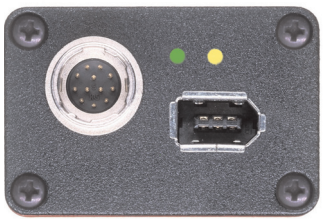




Sensor specifications b/w; color
(extracted from the data sheet of the sensor - excluding lens and filter)

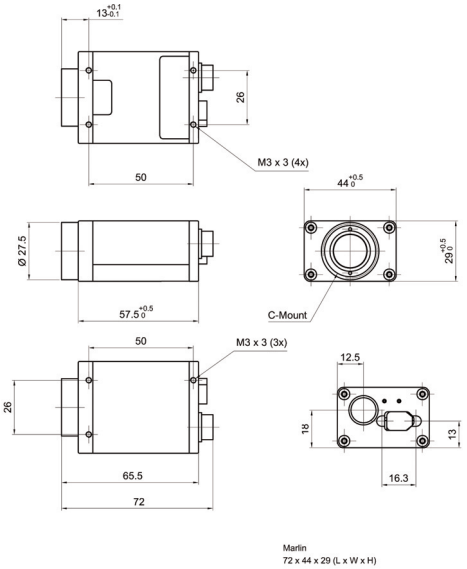
AOI height / pixel	Frame rate / fps	Tf/ms
494	74.15	13.49
480	76.02	13.15
400	88.79	11.26
320	106.71	9.37
240	133.71	7.48
120	215.48	4.64
20	439.41	2.28

Format_7 Raw8/Mono8



Pin	Descriptions	Use
1	Ground	GND for RS232 and ext. power
2	Power In (CCD only)	
3		
4	Input1/Trigger	TTL, Edge, progr.
5		
6	Output 1 /IntEna	Open emitter
7	Input Ground	Common ground for inputs
8	RS232 RxD	
9	RS232 TxD	
10	OutVCC	Common VCC for outputs
11	Input 2	TTL
12	Output 2	Open emitter

Connections



Dimensions

Camera Specifications

	MARLIN F-033B (b/w)	MARLIN F-033C (color)
Image device	Type 1/2 (diag. 8 mm) progressive scan, SONY CCD	
Effective picture elements	656 (H) x 494 (V): mono	656 (H) x 494 (V) @ Raw8 (492 @ YUV)
Picture size	640 x 480 pixels (Format_0); 656 x 492 pixels (Format_7 Mode_0);	640 x 480 pixels (Format_0); 656 x 492 pixels (Format_7 Mode_0); 656 x 494 pixels (Format_7 Mode_1)
Cell size	9.9 µm x 9.9 µm	
Resolution depth	8 bit / 10 bit (b/w only); 12 bit (ADC)	
Lens mount	C-Mount	
Digital interface	IEEE 1394 IIDC v. 1.3	
Transfer rate	100 Mbit/s, 200 Mbit/s, 400 Mbit/s	
Frame rates	Up to 74 Hz in Format_7	68 Hz (YUV 4:1:1); up to 51 Hz (YUV 4:2:2); 33 Hz (RGB8)
Frame control	Manual: 0-24 dB (0.035 dB/step); auto gain (select. AOI)	
Shutter speed	20...67.108.864 µs (67 s); auto shutter (select. AOI)	
External trigger shutter	Trigger_Mode_0, Trigger_Mode_1, advanced feature: Trigger_Mode_15 (bulk); image transfer by command; trigger delay	
Smart features	Real-time shading correction; image sequencing; built in FIFO memory up to 17 frames; one user programmable look-up table; 2 configurable inputs, 2 configurable outputs; image mirror (L-R<->R-L), binning, secure image signature (SIS), user profiles, serial port (IIDC V1.3)	
Power requirements	DC 8 V – 36 V via IEEE 1394 cable or 12-pin HIROSE	
Power consumption	Less than 3 watt (@ 12 V DC)	
Dimensions	72 mm x 44 mm x 29 mm (L x W x H); w/o tripod and lens	
Mass	<120 g (without lens)	
Operating temperature	+5 ... + 45 °Celsius	
Storage temperature	-10 ... + 60 °Celsius	
Regulations	EN 55022, EN 61000, EN 55024, FCC Class B; DIN ISO 9022, RoHS (2002/95/EC)	
Options	Removable IR cut filter; host adapter card, locking IEEE 1394 cable, AVT FirePackage / Direct FirePackage / Fire4Linux	

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