

AVT Marlin F-046B / F-046C



Your entrance into the world of digital cameras.

The AVT MARLIN F-046B (b/w) and AVT MARLIN F-046C (color) are very compact, space saving IEEE 1394 SVGA 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-046B/C offers up to 53 fps and is thus particularly suited for use in industrial image processing and product automation.

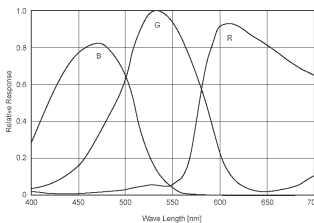
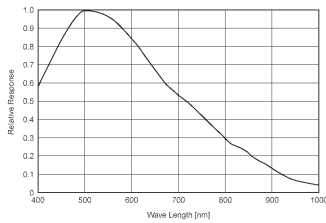
The extensive built-in image processing possibilities (image pre-processing) result in outstanding image quality, reduced retouching, less load on the system and higher performance overall. The integrated smart functions take over essential functions of the frame grabber, which is compensated by use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

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

Highlights

- SVGA 780 x 582 progressive CCD
- Up to 53 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 (13 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

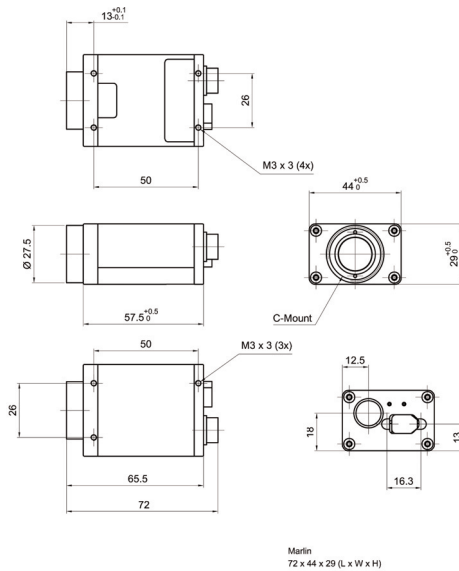
AVT Marlin F-046B / F-046C



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 |
|--------------------|------------------|---------|
| 582 | 53.02 | 18.86 |
| 480 | 62.51 | 16.00 |
| 400 | 72.70 | 13.75 |
| 320 | 86.88 | 11.51 |
| 300 | 91.33 | 10.95 |
| 240 | 107.92 | 9.27 |
| 120 | 169.48 | 5.90 |
| 20 | 323.07 | 3.10 |

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



Marlin 72 x 44 x 29 (L x W x H)

Connections

Dimensions

Camera Specifications

| | MARLIN F-046B (b/w) | MARLIN F-046C (color) |
|----------------------------|---|--|
| Image device | Type 1/2 (diag. 8 mm) progressive scan, SONY CCD | |
| Effective picture elements | 780 (H) x 582 (V): mono | 780 (H) x 582 (V) @ Raw8; 780 (H) x 580 (V) @ YUV, RGB |
| Picture size | 640 x 480 pixels (Format_0); 780 x 582 pixels (Format_7 Mode_0) | 640 x 480 pixels (Format_0); 780 x 582 pixels (Format_7 Mode_0) |
| Cell size | 8.3 μm x 8.3 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 Mitb/s, 200 Mitb/s, 400 Mitb/s | |
| Frame rates | Up to 53 Hz in Format_7 | up to 53 Hz in Format_7 Raw8; 36 Hz (YUV 4:2:2); 49 Hz (YUV 4:1:1); 21 Hz (RGB8) |
| Gain 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 13 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 | |