

# Mako U

## U-130



- Latest CMOS sensor
- High frame rates
- Ultra-compact
- Extensively tested accessories

## Description

### Mako U-130B with CMOS ON Semi PYTHON 1300 sensor

Mako U-130B is a monochrome USB3 Vision camera with the ON Semiconductor PYTHON 1300 CMOS sensor. All Mako USB cameras have the same compact housing with a form factor of 49.5 x 29 x 29 mm. Screw locks ensure a safe electrical connection even in harsh industrial environments.

Every model is powered over the USB interface and has opto-isolated I/Os. The GPIOs give Mako U maximum flexibility to adapt to specific needs. The two non-isolated GPIO lines are TTL-based and programmable as input or output.

Options:

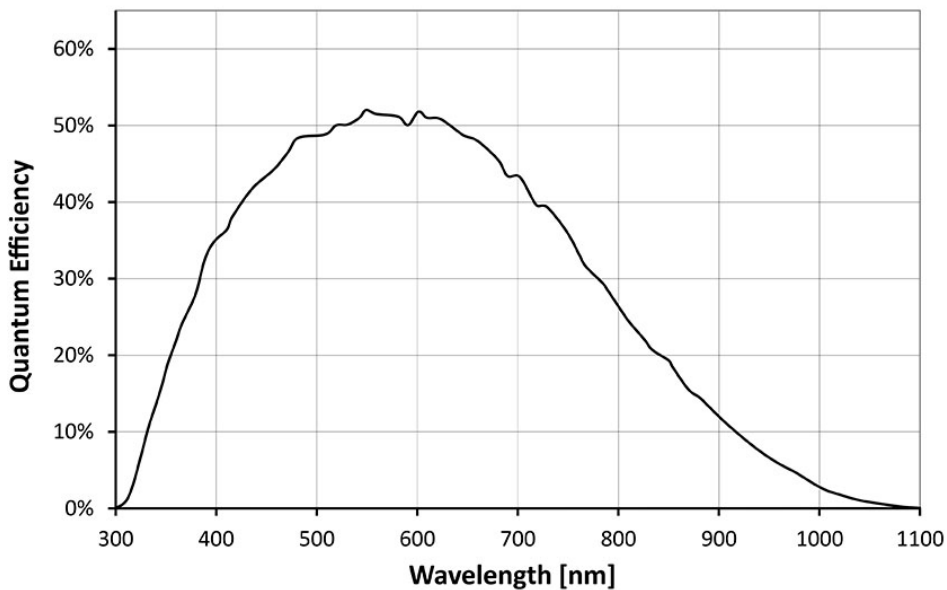
- Various IR cut/pass filters, protection glass, various lens mounts
- White medical housing

## Specifications

| Mako U                             | U-130               |
|------------------------------------|---------------------|
| Interface                          | USB3 Vision         |
| Resolution                         | 1280 (H) × 1024 (V) |
| Sensor                             | ON Semi PYTHON 1300 |
| Sensor type                        | CMOS                |
| Sensor size                        | Type 1/2            |
| Pixel size                         | 4.8 μm × 4.8 μm     |
| Lens mount (default)               | C-Mount, CS-Mount   |
| Max. frame rate at full resolution | 168 fps             |
| ADC                                | 10 bit              |
| Image buffer (RAM)                 | 128 MByte           |

### Output

| <b>Mako U</b>                                 | <b>U-130</b>                                                                      |
|-----------------------------------------------|-----------------------------------------------------------------------------------|
| Bit depth                                     | 8/10 bit                                                                          |
| Monochrome pixel formats                      | Mono8, Mono10p                                                                    |
| <b>General purpose inputs/outputs (GPIOs)</b> |                                                                                   |
| TTL I/Os                                      | 2 programmable GPIOs                                                              |
| Opto-isolated I/Os                            | 1 input, 1 output                                                                 |
| <b>Operating conditions/dimensions</b>        |                                                                                   |
| Operating temperature                         | +5 °C to +45 °C (housing temperature)                                             |
| Power requirements (DC)                       | Power over USB 3.0                                                                |
| Power consumption                             | 2.7 W @ 5 VDC                                                                     |
| Mass                                          | 60 g                                                                              |
| Body dimensions (L × W × H in mm)             | 49.5 × 29 × 29 (including connectors)                                             |
| Regulations                                   | CE: 2014/30/EU (EMC), 2011/65/EU, incl. amendment 2015/863/EU (RoHS); FCC Class B |

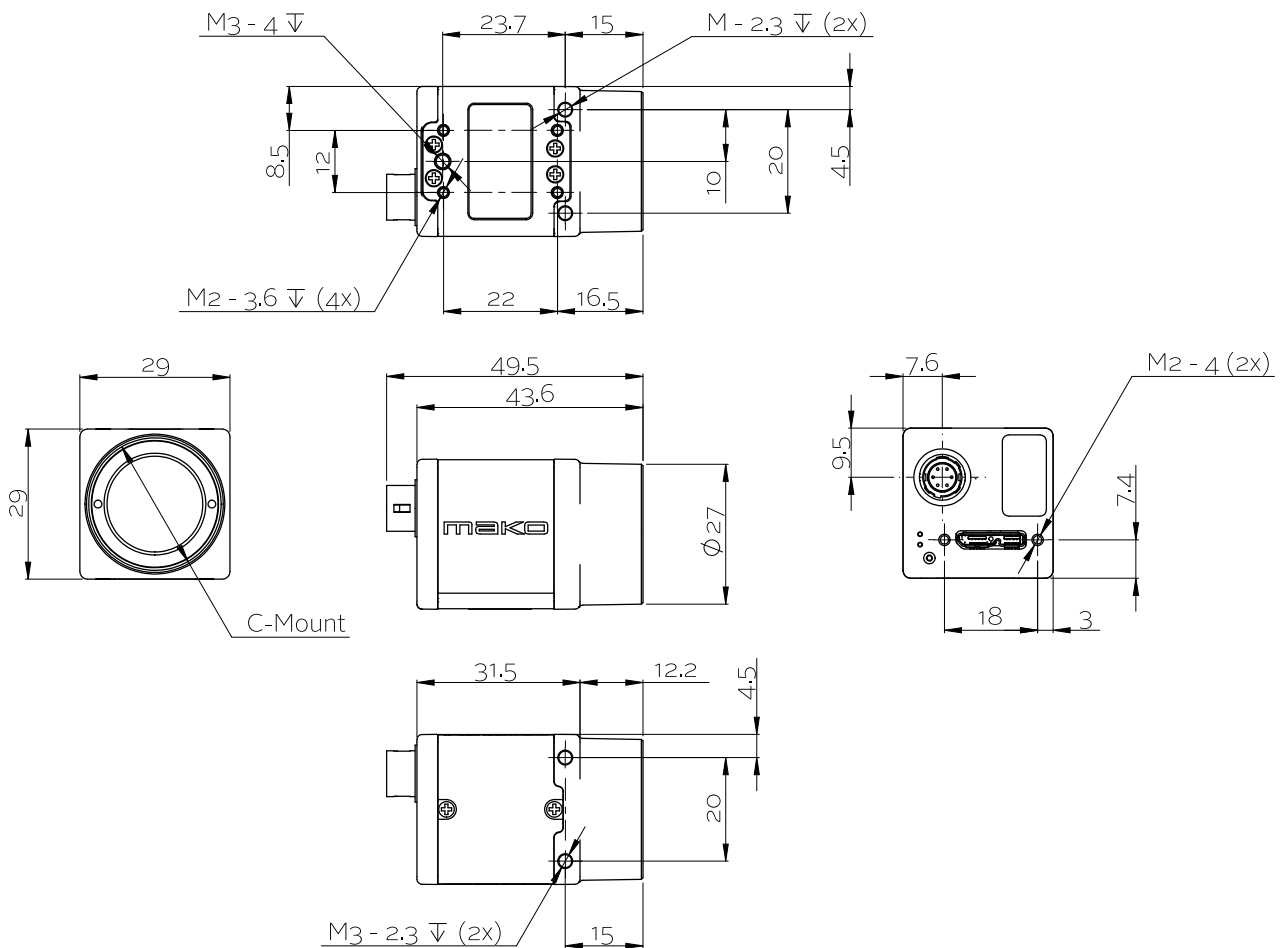


## Features

- Defect pixel correction (on/off)
- Fixed pattern noise correction (on/off)
- Region of interest (ROI)
- Gain (manual control, 0 to 20 dB)
- Exposure (manual control, 44.2 μs to 1.4 s)
- Gamma correction
- Reverse X

- DeviceLinkThroughputLimit (easy bandwidth control)
- Sync out modes: Waiting for a trigger, exposing, readout, imaging
- Storable user sets

## Technical drawing





## Applications

The Mako U is an inexpensive USB 3.0 camera with a compact housing. USB 3.0 technology has lower latency and jitter times with less CPU load than other camera interfaces.

Typical applications for Mako U cameras:

- Machine vision
- Quality control
- Inspection, surveillance
- Industrial imaging