

# EXO USB3

## exo540MU3



### Allgemein

|              |           |
|--------------|-----------|
| Modell       | exo540MU3 |
| Produktcode  | F002077   |
| Produktserie | EXO USB3  |
| Status       | Available |

### Sensor

|                              |                                      |
|------------------------------|--------------------------------------|
| Sensortyp                    | Area scan                            |
| Chroma                       | Mono                                 |
| Spektrum                     | Visible                              |
| Spektralbereich              | 400 nm to 1000 nm                    |
| Auflösung                    | 5,320 × 4,600 (24.50 MP)             |
| Sensormodell                 | Sony IMX540                          |
| Sensorarchitektur (Material) | cmos                                 |
| Verschlussstyp(en)           | Global shutter (GS)                  |
| Sensorgröße                  | 14.58 × 12.6 mm (19.27 mm, Type 1.2) |
| Pixelgröße                   | 2.74 µm × 2.74 µm                    |

### Pixelformate

|                         |                     |
|-------------------------|---------------------|
| Sensor-Bittiefe         | 8-bit, 12-bit       |
| Monochrome Pixelformate | mono8, mono12packed |

### Bildgebungsleistung

|                |          |
|----------------|----------|
| Dynamikbereich | 72 dB    |
| SNR            | 39.17 dB |

## Timing und Verstärkung

|                 |                    |
|-----------------|--------------------|
| Max. Bildrate   | 15 fps             |
| Belichtungszeit | 28 $\mu$ s to 60 s |
| Verstärkung     | 0.0 dB to 48.0 dB  |

## I/Os und Stromversorgung

|                                       |                                                                                                       |
|---------------------------------------|-------------------------------------------------------------------------------------------------------|
| Nicht-isolierte Leitungen             | 0 x LVDS input, 0 x LVDS output, 0 x TTL input, 0 x TTL output, 2 x 24V input, 4 x Open drain output, |
| Spezifische nicht-isolierte Leitungen | 1 x RS232 input, 1 x RS232 output, 0 x RS422 input, 0 x RS422 output,                                 |
| Optisch isolierte Leitungen           | 1 x Optical isolated input, 0 x Optical isolated input,                                               |
| I/O-Anschluss                         | 12-pin Hirose HR10A-10P-12S                                                                           |
| Stromversorgung                       | 10 to 25VDC                                                                                           |
| Stromverbrauch                        | External: 4 W (typical)                                                                               |

## Betriebsbedingungen

|                              |                 |
|------------------------------|-----------------|
| Betriebstemperatur (Gehäuse) | -10 °C to 65 °C |
|------------------------------|-----------------|

## Mechanische Eigenschaften

|                                      |                             |
|--------------------------------------|-----------------------------|
| Gehäuseabmessungen (L x B x H in mm) | 43 x 50 x 50                |
| Filter-/Schutzglas                   | K9 - AR coating - 400-850nm |
| IP-Klasse                            | IP40                        |
| Objektivanschluss/-anschlüsse        | C-Mount                     |
| Gewicht                              | 140 g                       |

## Onboard-Speicher und FPGA

|                                  |           |
|----------------------------------|-----------|
| Bildpuffer (RAM)                 | 192 MByte |
| Nichtflüchtiger Speicher (Flash) | 32 MByte  |

## Schnittstellen

|                         |             |
|-------------------------|-------------|
| Digitale Schnittstelle  | usb3.0      |
| Schnittstellenanschluss | (Micro-B)   |
| Vision-Standard         | USB3 Vision |

## FW-Funktionen – Bildsteuerung

|                 |                        |
|-----------------|------------------------|
| Belichtungsmodi | manual, auto, external |
|-----------------|------------------------|

## FW-Funktionen – Bildsteuerung

|                  |              |
|------------------|--------------|
| Verstärkungsmodi | auto, manual |
|------------------|--------------|

|                          |                                                 |
|--------------------------|-------------------------------------------------|
| Bildsteuerungsfunktionen | roi, lut, mirror-image, dpc, shading-correction |
|--------------------------|-------------------------------------------------|

## FW-Funktionen – Kamerasteuerung

|                             |                              |
|-----------------------------|------------------------------|
| Triggermodi/Synchronisation | internal, software, external |
|-----------------------------|------------------------------|

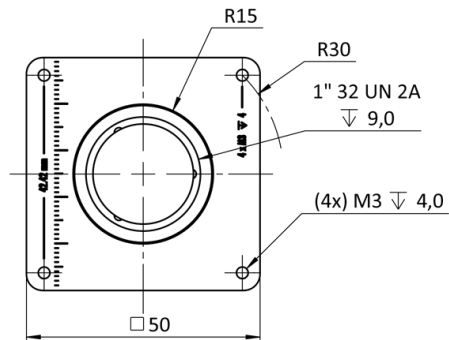
|                            |                               |
|----------------------------|-------------------------------|
| Kamerasteuerungsfunktionen | User Sets, PWM(4), Sequencer, |
|----------------------------|-------------------------------|

## Quanteneffizienz

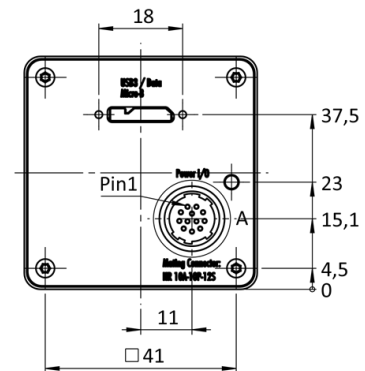


## Technische Zeichnung

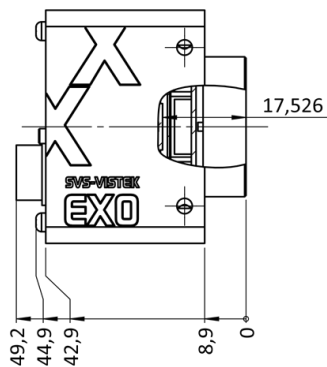
front



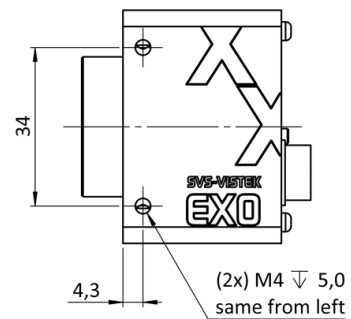
back



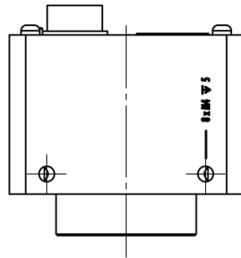
cross section



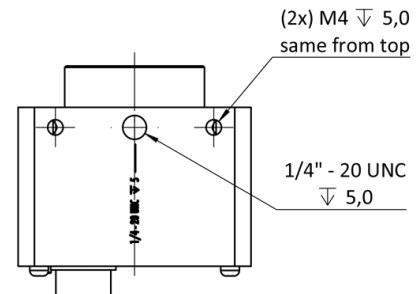
right side



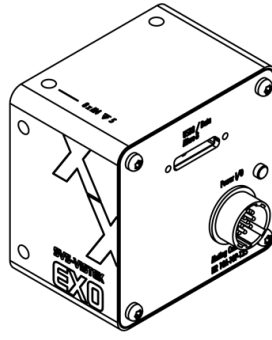
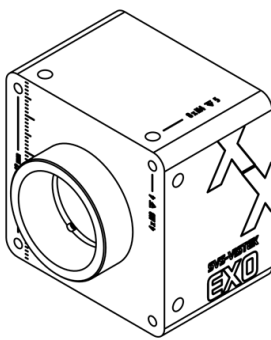
top



bottom

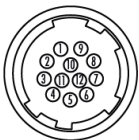


3D



## I/O-Pin-Belegung

Hirose 12 Pin



|   |       |                   |    |        |              |
|---|-------|-------------------|----|--------|--------------|
| 1 | VIN - | (GND)             | 7  | OUT 1  | (open drain) |
| 2 | VIN + | (10 V to 25 V DC) | 8  | OUT 2  | (open drain) |
| 3 | IN 4  | (RXD RS232)       | 9  | IN 3 + | (opto In +)  |
| 4 | OUT 4 | (TXD RS232)       | 10 | IN 3 - | (opto In -)  |
| 5 | IN 1  | (0-24V)           | 11 | OUT 3  | (open drain) |
| 6 | IN 2  | (0-24V)           | 12 | OUT 0  | (open drain) |