

EXO USB3

exo428MU3



General

| | |
|----------------|-----------|
| Model | exo428MU3 |
| Product code | F001994 |
| Product series | EXO USB3 |
| Status | Available |

Sensor

| | |
|--------------------------------|---|
| Sensor type | Area scan |
| Chroma | Mono |
| Spectrum | Visible |
| Spectral range | 400 nm to 1000 nm |
| Resolution | 3,208 × 2,200 (7.10 MP) |
| Sensor model | Sony IMX428 |
| Sensor architecture (material) | cmos |
| Shutter type(s) | global-shutter |
| Sensor size | 14.44 × 9.9 mm (17.5 mm, 17.6mm (Type 1.1)) |
| Pixel size | 4.50 μm × 4.50 μm |

Pixel formats

| | |
|--------------------------|---------------------|
| Sensor bit depth | 8-Bit,12-Bit,12-Bit |
| Monochrome pixel formats | mono8, mono12packed |

Imaging performance

| | |
|---------------|---------|
| Dynamic range | 60.3 dB |
| SNR | 39.6 dB |

Timing and gain

| | |
|-----------------|--------------------|
| Max. frame rate | 51.3 fps |
| Exposure time | 14 μ s to 60 s |
| Gain | 0.0 dB to 48.0 dB |

I/Os and power

| | |
|-----------------------------|---|
| Non-isolated lines | 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, |
| Specific non-isolated lines | 1 x RS232 input, 1 x RS232 output, 0 x RS422 input, 0 x RS422 output, |
| Opto-isolated lines | 1 x Optical isolated input, 0 x Optical isolated input, |
| Power supply | 10 to 25VDC |
| Power consumption | External: 4.5 W (typical) |

Operating conditions

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|---------------------------------|-----------------|
| Operating temperature (housing) | -10 °C to 60 °C |
|---------------------------------|-----------------|

Mechanical properties

| | |
|-----------------------------------|-----------------------------|
| Body dimensions (L x W x H in mm) | 43 x 50 x 50 |
| Filter/protection glass | K9 - AR coating - 400-850nm |
| IP class | IP40 |
| Lens mount(s) | C-Mount |
| Weight | 140 g |

On-board memory and FPGA

| | |
|-----------------------------|-----------|
| Image buffer (RAM) | 192 MByte |
| Non-volatile memory (Flash) | 32 MByte |

Interfaces

| | |
|---------------------|-----------|
| Digital interface | usb3.0 |
| Interface connector | (Micro-B) |

FW features - image control

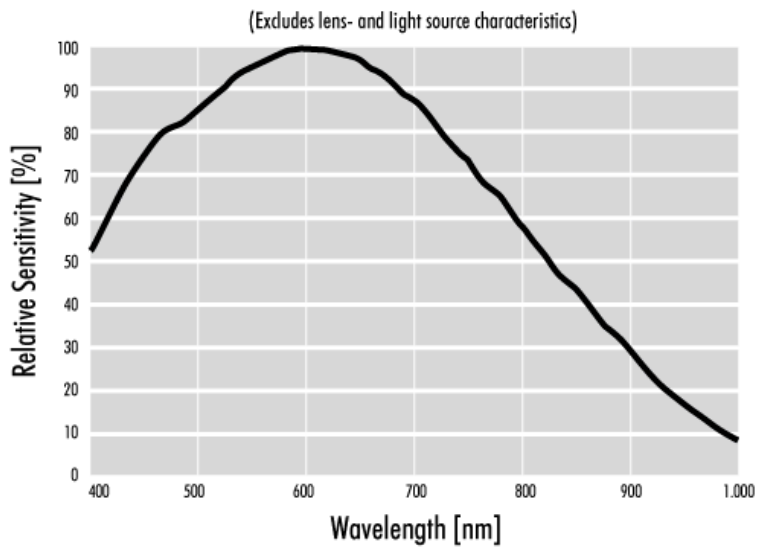
| | |
|------------------------|-----------------------------|
| Exposure modes | Manual, Auto, External |
| Gain modes | Auto, Manual |
| Image control features | FW Features - Image Control |

FW features - camera control

Trigger modes/sync INTERNAL,SOFTWARE,EXTERNAL

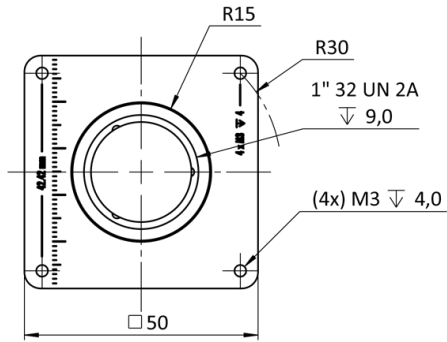
Camera control features User Sets, PWM(4), Sequencer,

Quantum Efficiency

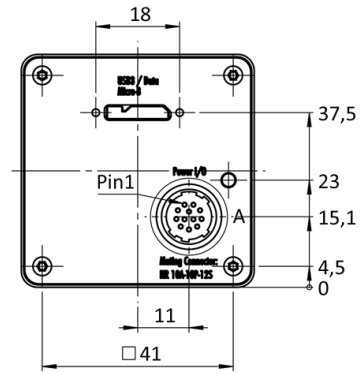


Technical Drawing

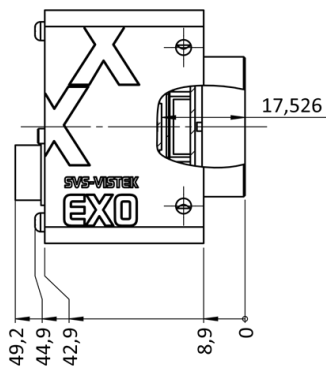
front



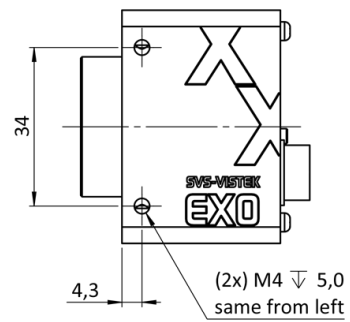
back



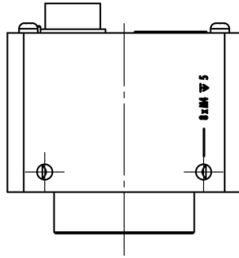
cross section



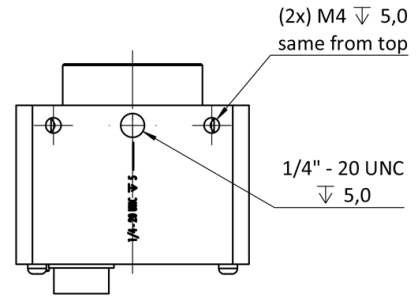
right side



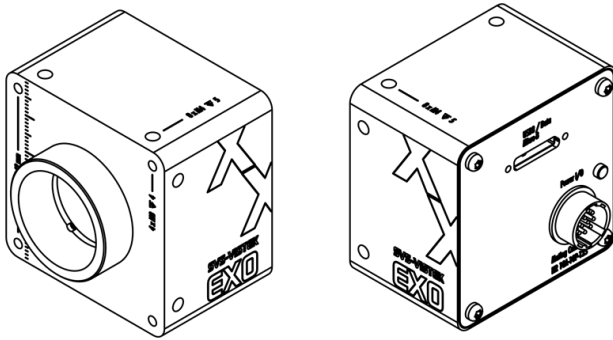
top



bottom



3D



I/O pin assignment



| | | | | | |
|---|-------|-----------------|----|--------|--------------|
| 1 | VIN - | (GND) | 7 | OUT 1 | (open drain) |
| 2 | VIN + | (10V to 25V 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) |