

# EXO USB3

exo249MU3



## General

|                  |           |
|------------------|-----------|
| Model:           | exo249MU3 |
| Product code(s): | F001680   |
| Product series:  | EXO USB3  |
| Status:          | Available |

## Sensor

|                                 |                                                 |
|---------------------------------|-------------------------------------------------|
| Sensor type:                    | Area scan                                       |
| Chroma:                         | Mono                                            |
| Spectrum:                       | Visible                                         |
| Spectral range:                 | 400 nm to 1000 nm                               |
| Resolution:                     | 1,920 × 1,200 (2.30 MP)                         |
| Sensor model:                   | Sony IMX249LLJ                                  |
| Sensor architecture (material): | cmos                                            |
| Shutter type(s):                | global-shutter                                  |
| Sensor size:                    | 11.25 × 7.03 mm (13.27 mm, 13.4mm (Type 1/1.2)) |
| Pixel size:                     | 5.86 μm × 5.86 μm                               |

## Pixel formats

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

## Imaging performance

|                |       |
|----------------|-------|
| Dynamic range: | 72 dB |
| SNR:           | 44 dB |

## Timing and gain

|                  |                   |
|------------------|-------------------|
| Max. frame rate: | 41 fps            |
| Exposure time:   | 60 $\mu$ s (max)  |
| 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

|                                  |                 |
|----------------------------------|-----------------|
| 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           |

## FW features - image control

Image control features:

FW Features - Image Control

## FW features - camera control

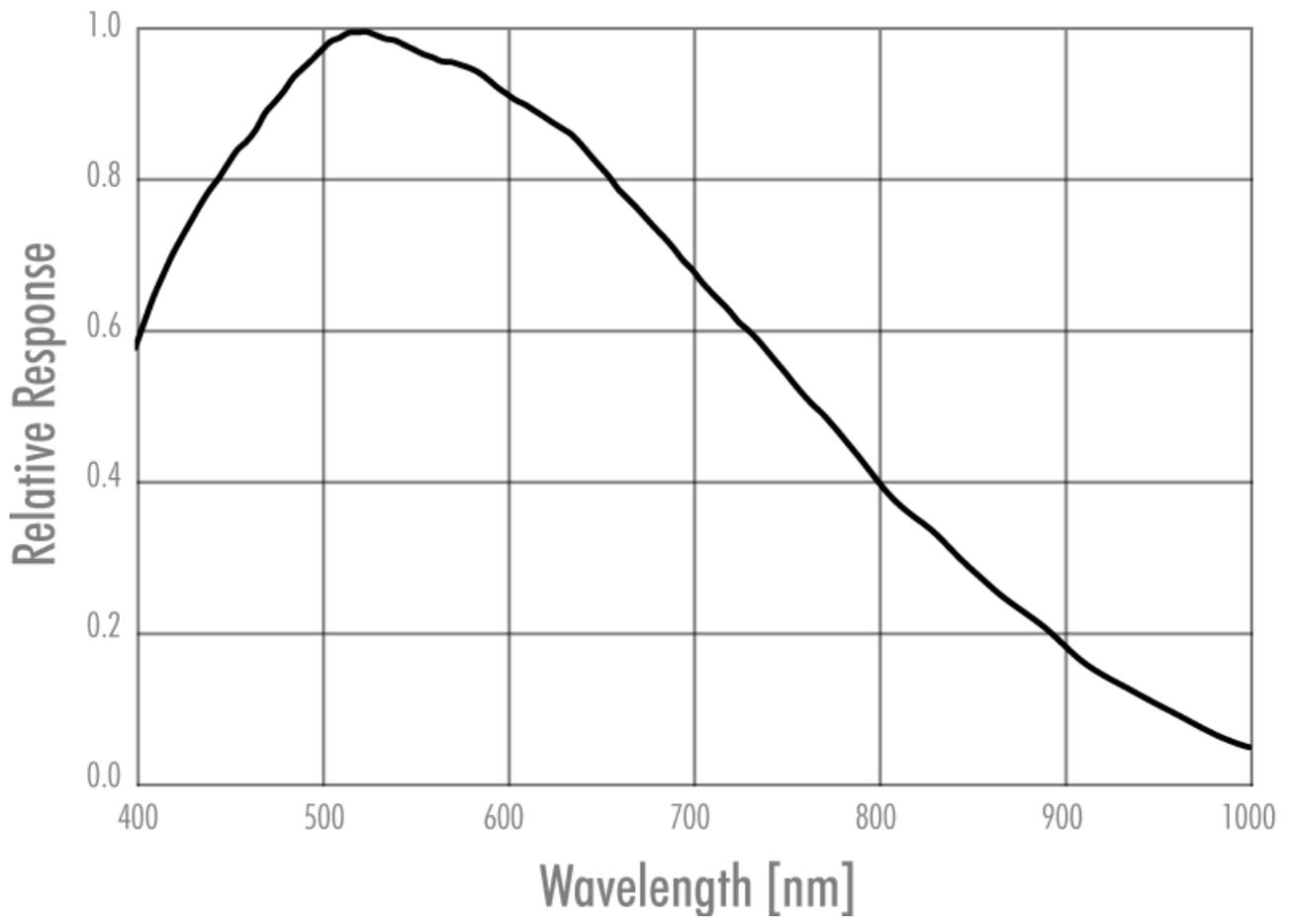
Trigger modes/sync:

INTERNAL,SOFTWARE,EXTERNAL

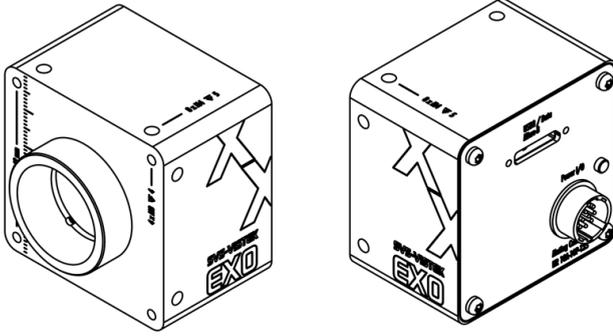
Camera control features:

User Sets, PWM(4), Sequencer,

# Quantum Efficiency







## I/O pin assignment



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) |