

EXO USB3

exo541MU3



General

Model:	exo541MU3
Product code:	F002076
Product series:	EXO USB3
Status:	Available

Sensor

Sensor type:	Area scan
Chroma:	Mono
Spectrum:	Visible
Spectral range:	400 nm to 1000 nm
Resolution:	4,504 × 4,504 (20.30 MP)
Sensor model:	Sony IMX541LLA
Sensor architecture (material):	cmos
Shutter type(s):	global-shutter
Sensor size:	12.34 × 12.34 mm (17.45 mm, 17.5mm (Type 1.1))
Pixel size:	2.74 µm × 2.74 µm

Pixel formats

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

Imaging performance

Dynamic range:	72 dB
SNR:	39.19 dB

Timing and gain

Max. frame rate:	18.4 fps
Exposure time:	60 μ 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 W (typical)

Operating conditions

Operating temperature (housing):	-10 °C to 65 °C
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Mechanical properties

Body dimensions (L x W x H in mm):	43 × 50 × 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
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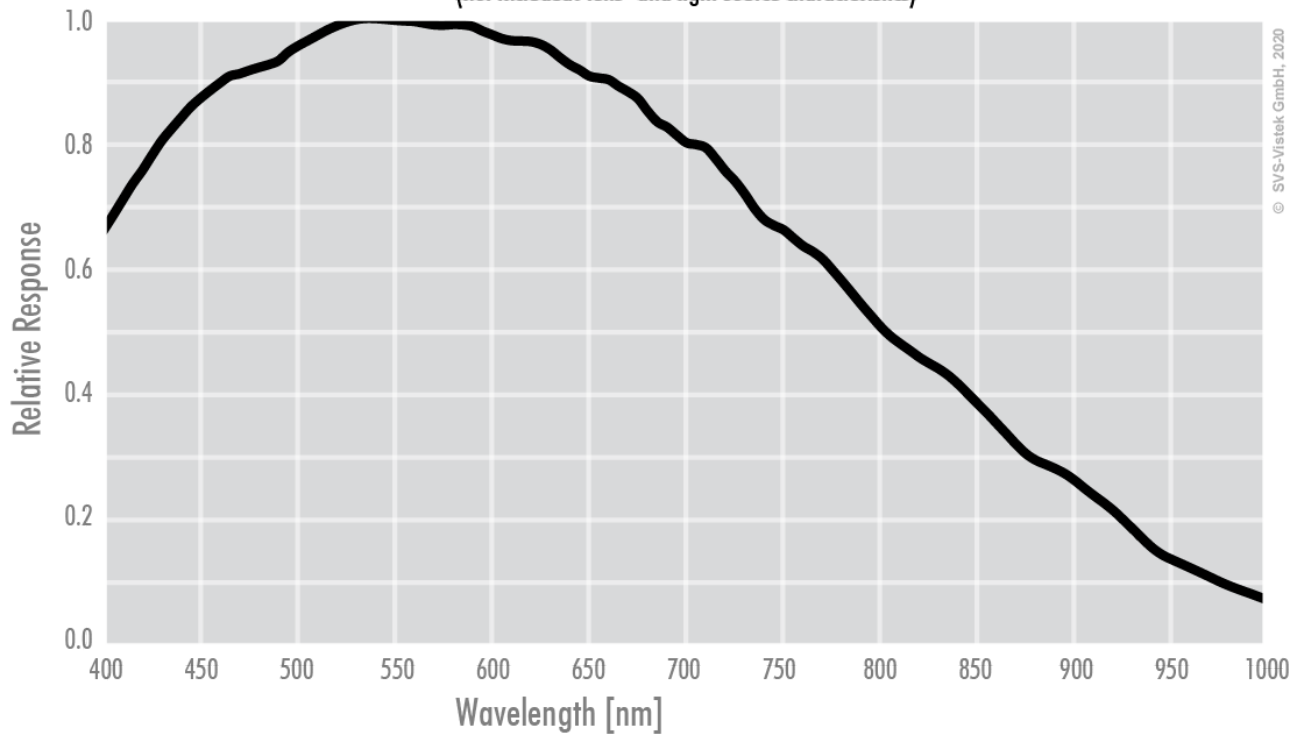
FW features - camera control

Trigger modes/sync:	INTERNAL,SOFTWARE,EXTERNAL
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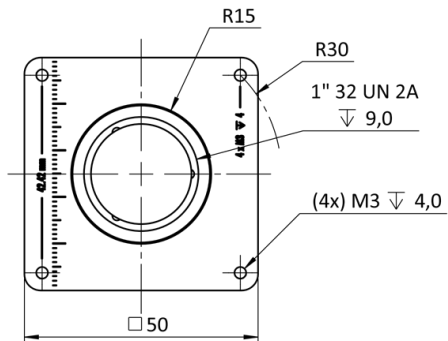
Camera control features:	User Sets, PWM(4), Sequencer,
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Monochrome

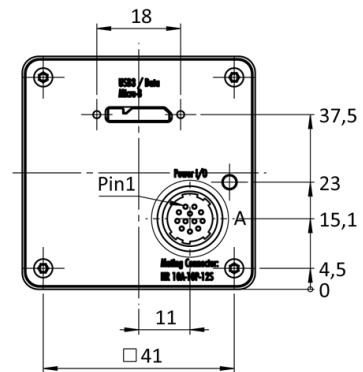
(not included: lens- and light source characteristics)



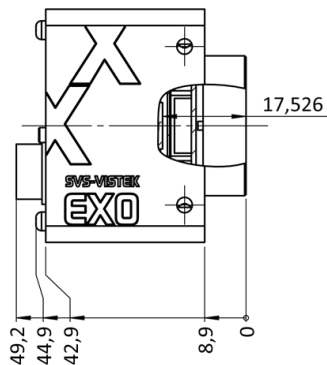
front



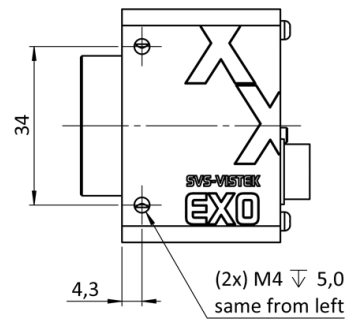
back



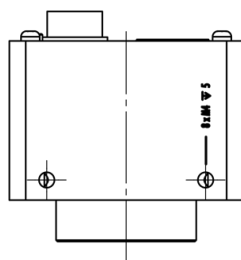
cross section



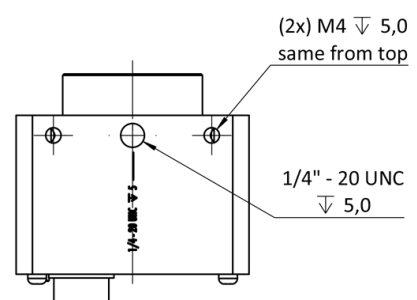
right side

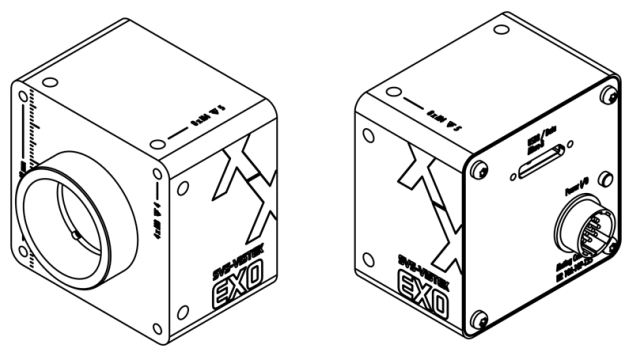


top

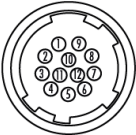


bottom





I/O pin assignment

	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)