

## Line Scan Camera SK2048U3HA

CCD

monochrome

USB 3.0

Line scan camera, high speed with 52.63 kHz maximum line rate, spectral range of 200 to 1000 nm.



### ■ Sensor Characteristics

Sensor type:	CCD, Monochrome
Pixel number:	2048
Pixel size:	8 x 8 $\mu\text{m}^2$
Active sensor length:	16.38 mm
Pixel frequency:	120 / 60 MHz
Max. line frequency:	52.63 kHz
Min. integration time:	0.01 ms
Max. integration time:	20 ms
Spectral range:	200 - 1000 nm
Dynamic range:	1:2500 (rms)

### ■ Mechanical data

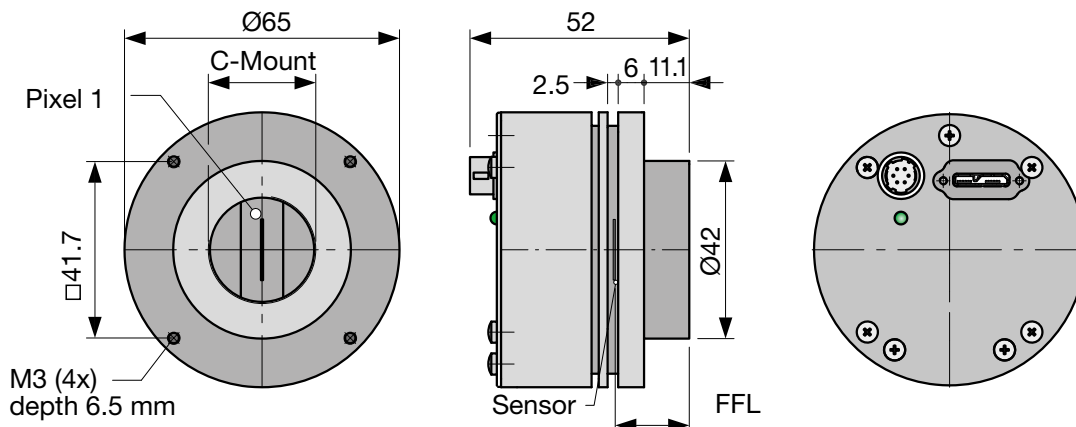
Case type:	AT1
Size:	$\varnothing 65$ mm x 52.4 mm
Mass:	0.2 kg
Lens mount:	C-Mount
Flange focal length (FFL):	17.53 mm
Seat for bracket:	$\varnothing 42$ mm

### ■ Functioning Features

Anti blooming:	x
Integration control:	x
Shading correction:	x
Look-up table:	x
Region of interest (ROI):	x
Thresholding:	x
Temperature sensor:	x
External synchronization:	x
Operating Temperature:	+5 ... +45°C

### ■ Connections

Interface:	USB 3.0
	Type $\mu\text{B}$ , threaded
Video signals:	monochrome 8/12 Bit digital
Power supply:	via USB3 interface 3.3W
External synchronization:	TTL
	Hirose 10A, 6-pin, male



## Software

**Software**



**SK91USB3-WIN** Order Code

SDK from Schäfter + Kirchhoff including the **SKLineScan** operating program, as well as API, C++ class library and examples.

Operating systems:  
Windows 7 / 8.1 / 10 - x64 and x86

**SK91USB3-LV VI** Order Code

VI-Library for LabVIEW®, requires **SK91USB3-WIN**






**Software**

**SK91USB3-LX** Order Code

SDK from Schäfter + Kirchhoff including the **SKLineScan** operating program, as well as libraries and examples.

Operating systems:  
Linux kernel 3.13 or higher

## Accessories


**USB 3.0 cable SK9020.x**

Camera connector: USB 3.0 plug, type micro-B, with safety lock screws

PC connector: USB 3.0 plug, type A (also fits into a USB 2.0 type A socket)

**SK9020.x** Order Code

└── 1 = 1 m cable length  
    3 = 3 m cable length (standard)




**External synchronization cable SK9026...**

for line scan cameras with USB3.0 interface.

Shielded cable with Hirose plug HR10A, female 6-pin (camera side), and Phoenix 4-pin connector incl. terminal block.

**SK9026.x** Order Code

└── cable length 3 / 5 m  
    Other lengths on request





**USB 3.0 active extension cable USB3.EXT.AA10**

External power supply +5VDC, length 10m

Connectors:  
1x socket USB3.0 socket, type A,  
1x plug Power in, 5VDC,  
1x plug USB3.0, type A (also fits a USB2.0 type A socket)

**USB3.EXT.AA10** Order Code


**Adapter cable for sync signals CAB-ADSync-BNC-1**

BNC/SMA (3x) to line scan camera synchronization cable SK9016/SK9024/SK9026.

Shielded cable, length 0.25m

Connectors:  
1x Phoenix 4-pin connector  
3x SMA plug (Line Sync A, Line Sync B, Frame Sync)  
3x adapter SMA socket (outside threading) to BNC-plug

**CAB-ADSync-BNC-1** Order Code




**USB 3.0 active extension cable USB3.EXT.A2A...**

Hybrid cable (copper/fiber), power supply by another USB-connection, cable length up to 100m on request.

Connectors:  
USB3.0 plug and socket, with locking screws

**USB3.EXT.A2Ax** Order Code

└── 20 = 20 m cable length  
    30 = 30 m  
    50 = 50 m  
    other lengths up to 100m on request



**M1 Mounting Bracket SK5105**

Mounting diameter 42.0mm, for cameras with round housing Ax1 or Ax2

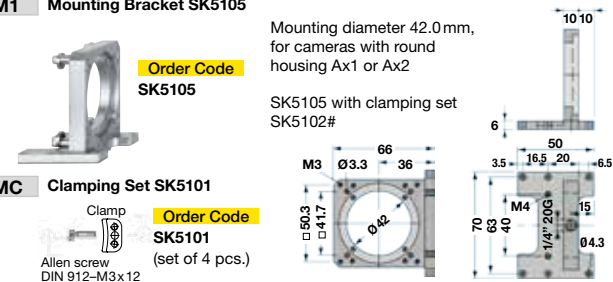
**SK5105** Order Code

SK5105 with clamping set SK5102#

**MC Clamping Set SK5101**

Clamp **SK5101** (set of 4 pcs.) Order Code

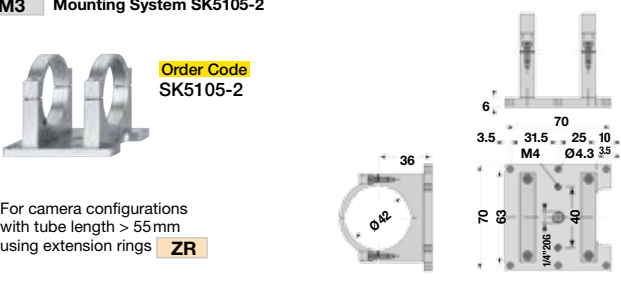
Allen screw DIN 912-M3x12



**M3 Mounting System SK5105-2**

**SK5105-2** Order Code

For camera configurations with tube length > 55mm using extension rings **ZR**


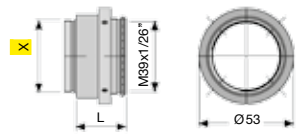


**FA1 Focus adapter FA22...**

**FA22-x** Order Code

42 = M42 x 1  
40 = M40 x 0.75  
39 = M39x1/26"  
32 = M32 x 0.75  
C = C-Mount

length L: 22 ... 32mm





**A3 Lens Adapter F-Mount**

for line scan cameras with case type **Axx** or **BGx**.

**AOC-F-...** Order Code

Attachment thread:  
45 = M45x0.75  
40 = M40x0.75  
32 = M32x0.75  
C = C-Mount 1"-32-TP



**ZR Extension rings L-Mount (M39x1/26" Leica)**

attachment threads M39x1/26" male/female

**ZR 10** Order Code

10 = Length 10 mm  
15 = Length 15 mm  
20 = Length 20 mm  
50 = Length 50 mm

