

## Line Scan Camera SK2048U3PD

CCD

monochrome

USB 3.0

Digital camera with 60 MHz digital output and very high line frequencies



### ■ Sensor Characteristics

Sensor type:	CCD, Monochrome
Pixel number:	2048
Pixel size:	10 x 10 $\mu\text{m}^2$
Active sensor length:	20.5 mm
Pixel frequency:	60 / 30 MHz
Max. line frequency:	27.78 kHz
Min. integration time:	0.01 ms
Max. integration time:	20 ms
Spectral range:	400 - 1000 nm
Dynamic range:	1:2500 (rms)

### ■ Mechanical data

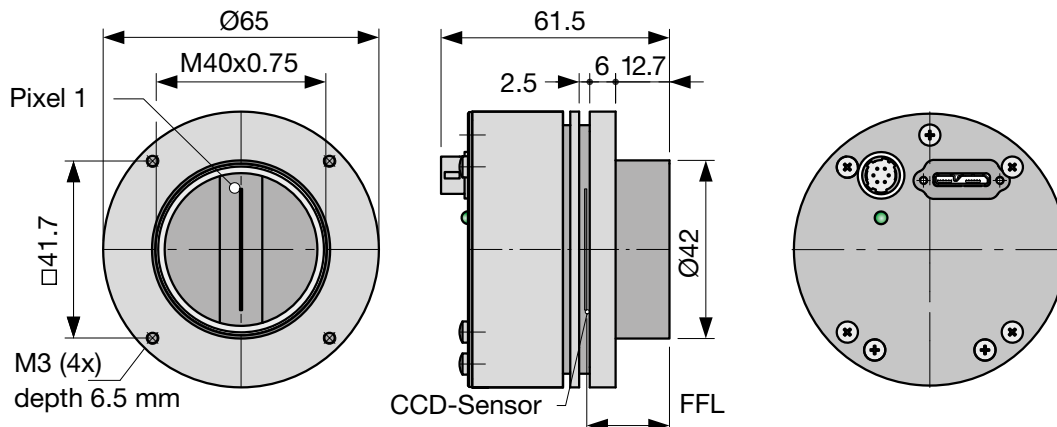
Case type:	AT2
Size:	$\varnothing 65 \text{ mm} \times 54 \text{ mm}$
Mass:	0.2 kg
Lens mount:	M40x0.75
Flange focal length (FFL):	19.5 mm
Seat for bracket:	$\varnothing 42 \text{ mm}$

### ■ Functioning Features

Blooming protection:	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 2.8W
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**

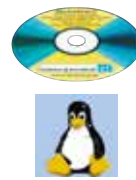


**Software**

**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 10 m

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-AD Sync-BNC-1**

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

Shielded cable, length 0.25 m

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-AD Sync-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 100 m 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 100 m on request



**M1 Mounting Bracket SK5105**

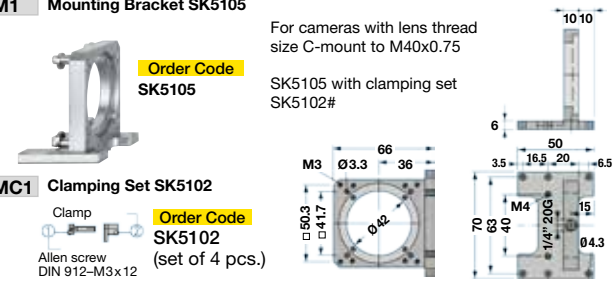
For cameras with lens thread size C-mount to M40x0.75

**Order Code SK5105**

SK5105 with clamping set SK5102#

**MC1 Clamping Set SK5102**

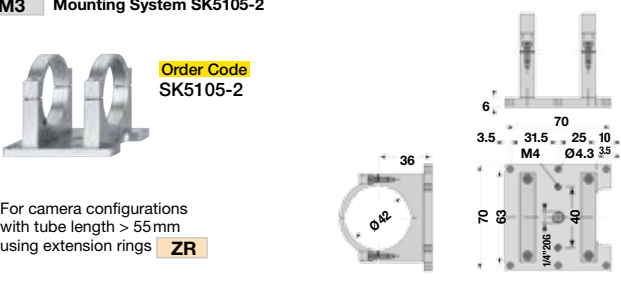
Clamp **Order Code SK5102** (set of 4 pcs.)  
Allen screw DIN 912-M3x12



**M3 Mounting System SK5105-2**

**Order Code SK5105-2**

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

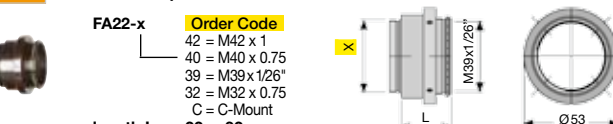


**FA1 Focus adapter FA22...**

**FA22-x** **Order Code**

42 = M42 x 1  
40 = M40 x 0.75  
39 = M39 x 1/26"  
32 = M32 x 0.75  
C = C-Mount

length L: **22 ... 32 mm**

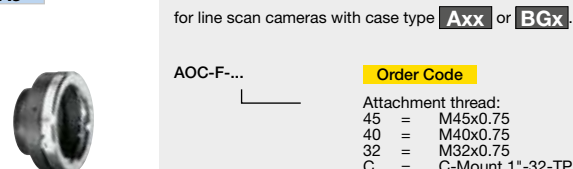


**A3 Lens Adapter F-Mount**

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

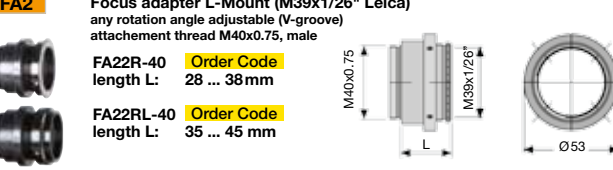


**FA2 Focus adapter L-Mount (M39x1/26" Leica)**

any rotation angle adjustable (V-groove)  
attachment thread M40x0.75, male

**FA22R-40** **Order Code**  
length L: **28 ... 38 mm**

**FA22RL-40** **Order Code**  
length L: **35 ... 45 mm**



**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

