

▪ 3 x 4096 pixels

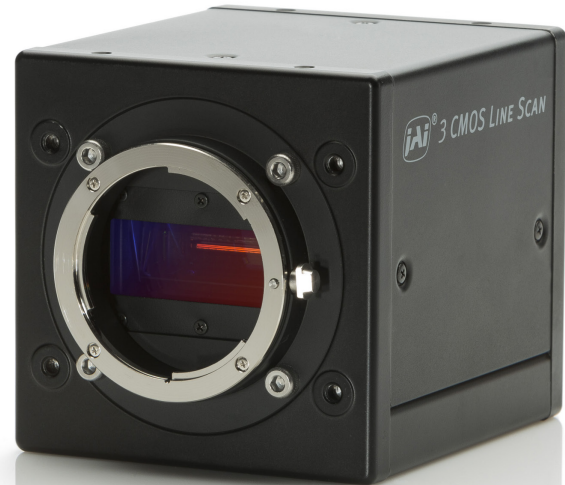
▪ 97 kHz

Sweep+ Series 

➤ SW-4000T-SFP

3-CMOS prism line scan camera

GigE[®]
VISION



- 3 x 4096 pixel prism-based line scan camera
- Provides 10GBASE-R (fiber optic) output over SFP+ interface
- Max. line rate of 97 kHz for RGB8 output, 147 kHz for YUV422 (8-bit) output
- Prism technology for superior color quality and better color differentiation
- Optimized for applications with fixed and varying object speeds
- Newly developed “state of the art” CMOS sensors
- Selectable pixel size - 7.5 x 7.5 μm or 7.5 x 10.5 μm
- Supports vertical dual-line binning, 2x horizontal binning, or both
- Flat field correction and color shading correction
- HSI and XYZ color space conversion
- Supports direct connection to rotary encoders plus large variety of trigger options
- GigE Vision 2.0 interface with selectable YUV, 3 x 8-bit RGB, or 3 x 10-bit RGB
- Excellent shock and vibration resistance



Specifications for SW-4000T-SFP

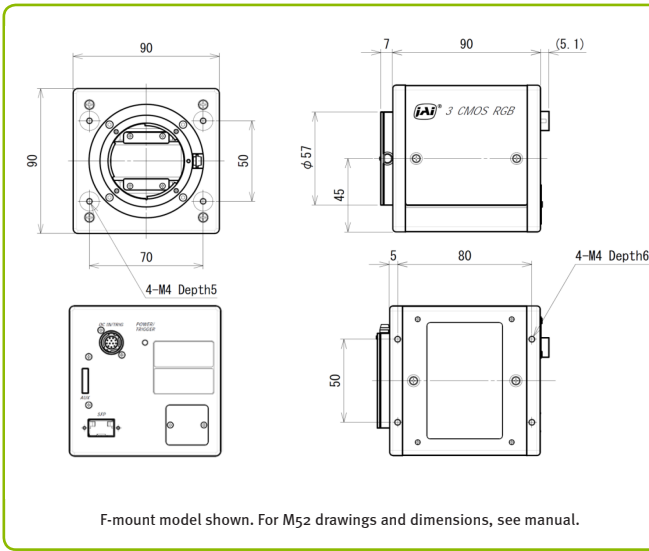
Sweep+ Series

Specifications	SW-4000T-SFP
Scanning system	3 high-speed CMOS line sensors, prism-mounted
Active pixels	3 x 4096 pixels (R, G, B)
Line rate	Up to 97 kHz (variable) Faster line rates possible with YUV compression
Sensor width	30.72 mm
Pixel size	Mode A: 7.5 μm x 7.5 μm Mode B: 7.5 μm x 10.5 μm
Ethernet speed	10GBASE-SR / 10GBASE-LR / 10GBASE-ER
Video output	RGB8, RGB10V1Packed, RGB10p32, YUV422_8_UVYV, YUV422_8
Object illuminance (min.)	220 lx @ 7800 K, Mode A (Gain 18 dB, 525 μs exp., 50% video, RGB8)
Responsivity	123 DN/nJ/cm ² (G channel, Mode A, 10-bit @ 550 nm, 0 dB gain)
S/N ratio	>55 dB on green, 10-bit with 0 dB gain
Inputs	Trigger (1 Opto In + 1 TTL via 12-pin, 2 TTL via 10-pin), Pulse Generator (4), NAND Out (2), Action (4)
Outputs	2 TTL via 12-pin, 2 TTL via 10-pin
Gain	Analog Base Gain: 0 dB / 6 dB / 12 dB Digital Master: 0 to +18 dB, R/B: -7.96 to +12 dB Digital Individual: 0 to +24 dB
White balance	Manual/one-push auto by gain or exposure
Gamma	0.45 to 1.0 (9 steps) or 257-point LUT
Image processing	PRNU/DSNU, black level, flat shading and color shading correction, chromatic aberration adjustment, horizontal mirroring
Color space conversion	RGB to HSI, RGB to XYZ (CIE), sRGB, Adobe RGB, or User Custom RGB
Exposure modes	No shutter, timed, and trigger width control
Electronic shutter	3 μs to 10.3 μs in 10 ns increments at fastest line rate. Exposure time can be longer at slower line rates.
Pulse width control	1.8 μs to ~1 sec
Time synchronization	Support for Precision Time Protocol (IEEE 1588)
Lens mount	M52 mount or Nikon F-mount (46.5 mm flange back for both mounts)
Operating temp. (ambient)	-5°C to +45°C (20 to 80% non-condensing)
Storage temp. (ambient)	-25°C to +60°C (20 to 80% non condensing)
Vibration	3G (20 Hz to 200 Hz, XYZ directions)
Shock	50G
Regulations	CE (EN61000-6-2, EN61000-6-3) FCC Part 15 Class B, RoHS/WEEE
Power	12-pin PoE +10V DC to +25V DC. 11.5 W typical @ 12V Not supported
Dimensions (H x W x L)	(without connector and lens mount protrusions) 90 mm x 90 mm x 90 mm
Weight	830 g

Ordering Information

SW-4000T-SFP-F	3-CMOS prism line scan camera with F-mount
SW-4000T-SFP-M52	3-CMOS prism line scan camera with M52 mount

Dimensions (F-mount)



Connector pin-out

DC In / Trigger

HIROSE HR10A-10R-12PB(71)

Pin	Description
1	Ground
2	DC in +12V to +24V
3	Ground
4	Reserved
5	Opto in 1-
6	Opto in 1+
7	TTL out 4
8	NC
9	TTL out 1
10	TTL in 1
11	DC in +12V to +24V
12	Ground

SFP+ Interface

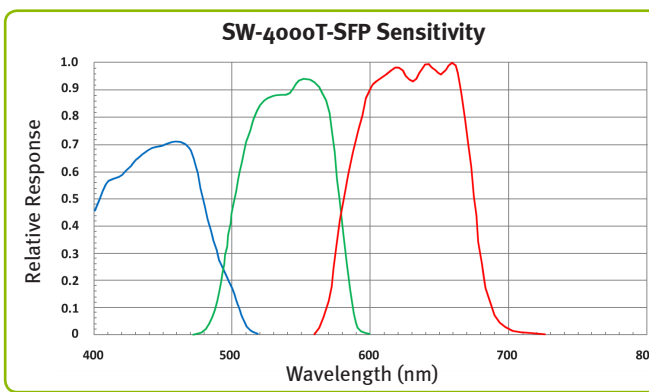
SFP+ transceiver module must support:

- 10GBASE-R
- Power level 1

Maximum fiber optic cable lengths

- » 10GBASE-SR: 300m (cable type OM3)
- » 10GBASE-SR: 400m (cable type OM4)
- » 10GBASE-LR: 10km (cable type OS2)
- » 10GBASE-ER: 40km (cable type OS2)

Spectral response



Europe, Middle East & Africa
Phone +45 4457 8888
Fax +45 4491 8880

Asia Pacific
Phone +81 45 440 0154
Fax +81 45 440 0166

Americas
Phone (Toll-Free) 1 800 445 5444
Phone +1 408 383 0300

Visit our website on www.jai.com


See the possibilities

Company and product names mentioned in this datasheet are trademarks or registered trademarks of their respective owners. JAI-A-S cannot be held responsible for any technical or typographical errors and reserves the right to make changes to products and documentation without prior notice. November 2019