

■ 3 x 8192 pixels

■ 49 kHz

Sweep+ Series



## ❖ SW-8000T-10GE

3-CMOS prism line scan camera

**GIG**<sup>®</sup>  
VISION



- **3 x 8192 pixel prism-based 10GBASE-T line scan camera**
- **Max. line rate of 49.5 kHz for RGB8 output**
- **Prism technology for superior color quality and better color differentiation**
- **Backwards compatible to NBASE-T (5GBASE-T/2.5GBASE-T) and standard GigE (1000BASE-T)**
- **New “State of the art” CMOS sensors with 3.75 x 5.78  $\mu\text{m}$  pixels**
- **Supports vertical dual-line binning, 2x horizontal binning, or both**
- **ROI capability can increase line rate by reducing number of pixels per line**
- **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 output**
- **Excellent shock and vibration resistance**

# Specifications for SW-8000T-10GE

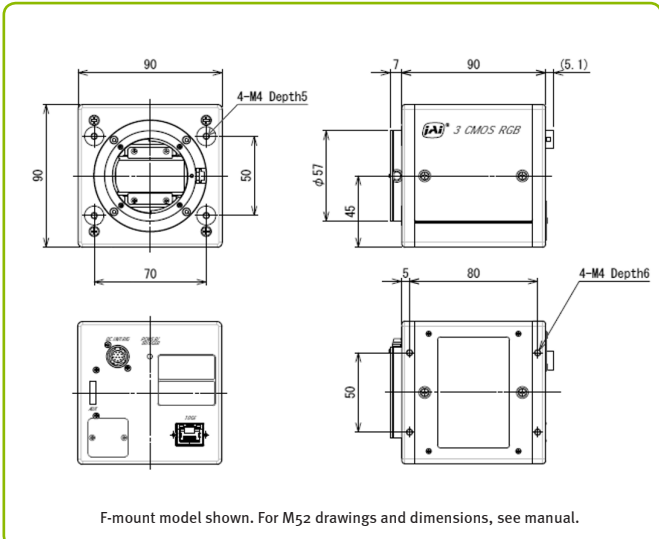
# Sweep+ Series

Specifications	SW-8000T-10GE
Scanning system	3 high-speed CMOS line sensors, prism-mounted
Active pixels	3 x 8192 pixels (R, G, B)
Line rate (full width)	Up to 49.5 kHz (variable) for 8-bit RGB 73.5 kHz possible with YUV compression
Sensor width	30.72 mm
Pixel size	3.75 $\mu\text{m}$ x 5.78 $\mu\text{m}$
Ethernet speeds	10GBASE-T, 5GBASE-T, 2.5GBASE-T, 1000BASE-T Full backwards compatibility
Video output	RGB8, RGB10V1Packed, RGB10p32, YUV422_8_UVYV, YUV422_8
Object illuminance (min.)	157.3 lx @ 7800 K (Gain 30 dB, 525 $\mu\text{s}$ exp., 50% video, f/2.8)
Responsivity	43 DN/nJ/cm <sup>2</sup> (G channel, 10-bit @ 550 nm, 0 dB gain)
S/N ratio	>54 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), User Out (4)
Outputs	2 TTL via 12-pin, 2 TTL via 10-pin
Gain	Digital Master: 0 to +30 dB, R/B: -4 to +12 dB Digital Individual: 0 to +36 dB
White balance	Manual/one-push auto by gain or exposure (4000K - 9000K) 3 Presets (5000K, 6500K, 7500K)
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, noise filtering
Color space conversion	RGB to HSI, XYZ (CIE), sRGB, Adobe RGB, or User Custom RGB
Exposure modes	No shutter, timed, and trigger width control
Electronic shutter	3 $\mu\text{s}$ to 22222 $\mu\text{s}$ in 1 $\mu\text{s}$ increments at 45 kHz. Exposure time can be longer at slower line rates.
Pulse width control	1.8 $\mu\text{s}$ to ~1 sec
Time synchronization	Support for Precision Time Protocol (IEEE 1588)
Lens mount	Nikon F-mount or M52 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 and EN61000-6-3) FCC Part 15 Class B, RoHS/WEEE, KC
Power	12-pin PoE +10V to +25V DC. 13.7 W typical @ 12V 42V to 57V DC. 15.3 W typical @ 48V
Dimensions (H x W x L)	(without connector and lens mount protrusions) 90 mm x 90 mm x 90 mm
Weight	840 g

## Ordering Information

SW-8000T-10GE-F	3-CMOS prism line scan camera with F-mount
SW-8000T-10GE-M52	3-CMOS prism line scan camera with M52 mount

## Dimensions (F-mount)



## Connector pin-out

### DC In / Trigger

HIROSE HR10A-10R-12PB(71)

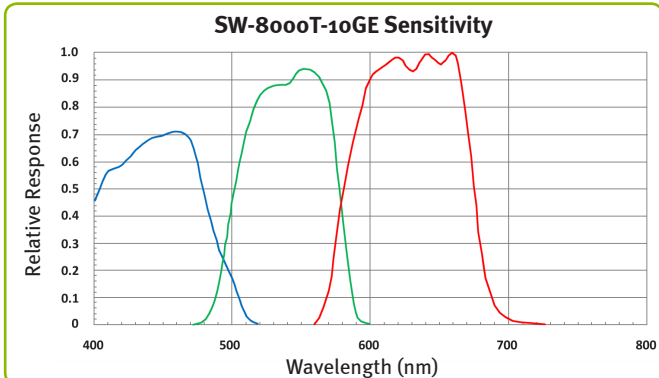
Pin	Signal
1	Ground
2	DC in +10V to +25V
3	Ground
4	Reserved
5	Opto in 1-
6	Opto in 1+
7	TTL out 4
8	NC
9	TTL out 1
10	TTL in 1
11	DC in +10V to +25V
12	Ground

### GigE Vision Interface

RJ-45 with locking screws

Pin	Signal
1	TRD+ (0)
2	TRD- (0)
3	TRD+ (1)
4	TRD+ (2)
5	TRD- (2)
6	TRD- (1)
7	TRD+ (3)
8	TRD- (3)

## Spectral response



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