

❖ **SW-2000T-CL**

❖ **SW-2000Q-CL**

3CMOS / 4CMOS color line scan cameras

▪ 3X 2048 pixels (RGB)

▪ 4X 2048 pixels (RGB/NIR) ▪ 80 kHz Sweep+ Series



- *Industrial color line scan cameras based on beam splitter prism technology*
- *Selectable resolution with Region of Interest (ROI)*
- *Large, sensitive 20  $\mu\text{m}$  x 20  $\mu\text{m}$  pixels*
- *Large 400  $\mu\text{m}^2$  photon collection area and large quantum wells for high image quality*
- *Scan rate up to 80,000 lines/s*
- *Binning function for increased sensitivity*
- *Normal and reversed readout*
- *Excellent sensor alignment accuracy*
- *Color switch to link sensors to output channels*
- *Real time optical calibrations: Flat Field Correction (FFC), White Balance and Chromatic Aberration*
- *Telnet communication via Camera Link and Ethernet port*
- *Ethernet port for Control, monitoring and updates*
- *Test pattern generation for interfacing*
- *Camera Link Interface (Base, Medium and Full), selectable pixel clock rate*
- *Nikon F-mount or JAI Direct Mount with JAI designed lenses*
- *Supported by Windows user interface*
- *JAI SDK and GenICam compliant*



# Specifications for Sweep+ SW-2000T-CL and SW-2000Q-CL

## Specifications

Scanning system	CMOS line scan sensors with a beam splitter prism
Sensors	<b>SW-2000T-CL:</b> 3 x CMOS (R-G-B) <b>SW-2000Q-CL:</b> 4 x CMOS (R-G-B / NIR)
Sensor resolution	2048 pixels on each sensor
Pixel clock	20 to 85 MHz, adjustable
Cell size	20.0 µm (h) x 20.0 µm (v)
Imager length	40.96 mm
Line scan period	12.5 µs to 0.1 s
Line rate	10 Hz to 80 kHz
Data interface and read-out modes	Camera Link Base, Medium or Full Configuration  <b>SW-2000T-CL:</b> 24-bit RGB: Base 30-bit RGB: Medium 36-bit RGB: Medium 24-bit RGB, two sets in parallel: Medium  <b>SW-2000Q-CL:</b> 32-bit RGB/NIR: Medium 40-bit RGB/NIR: Medium 48-bit RGB/NIR: Medium 32-bit RGB/NIR: two sets in parallel: Full
Quantum Well Size	60 or 360 ke <sup>-</sup>
Responsivity	480 DN/nl/cm <sup>2</sup> (DN as 12-bits, small well, gains = 1x, λ = 625 nm) @ 60 kHz
Maximum SNR	55 dB (large well, EMVA 1288) @ 60 kHz
Temporal dark noise	1.9 DN (DN as 12-bits, large well, gains=1x)
Dynamic range	66dB
Analog gain	1x, 2x, 6x or 12x
Digital gain	0.1x to 32x
Operating modes	External trigger/shutters, internal trigger/shutters, external trigger/internal shutters or Pulse Width Control
Programmable exposure	2 µs to 0.1 s (internal shutters)
Camera control	Camera Link or 10/100 Mbps Ethernet Camera Link baud rates: 9600, 19200, 38400, 57600, or 115200 bps
Lens mount	Nikon F-mount or JAI Direct Mount
Lens protrusion	15mm, max
Flange back distance	46.5 mm
Operating temperature	+5°C to +40°C
Storage temperature	-10°C to +60°C
Humidity	5 - 80% relative, non-condensing
Vibration	3G (IEC 60068-2-6)
Shock	25G (IEC 60068-2-27)
Regulations	EMC emissions: EN 61000-6-4. EMC immunity: EN 61000-6-2. FFC part 15, subpart B
Power	18V to 26V DC (Warning: Overvoltage may damage the camera)
Power consumption	18 W, max.
Dimensions (H x W x L)	116.0 mm x 110.0 mm x 91.3 mm
Weight	1200 g

## Ordering Information

**SW-2000T-CL.** (3-CMOS color line scan camera)  
**SW-2000Q-CL.** (4-CMOS color line scan camera)



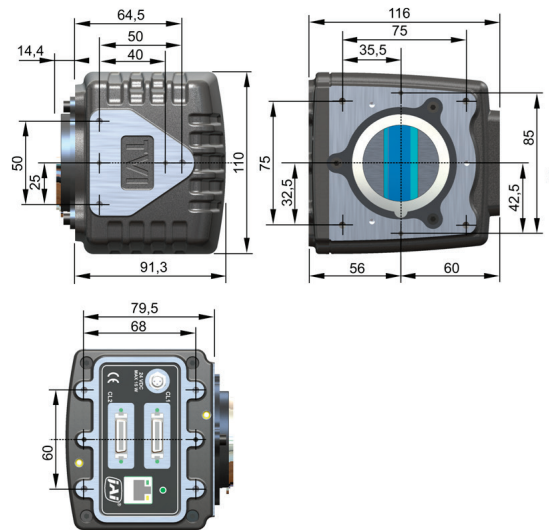
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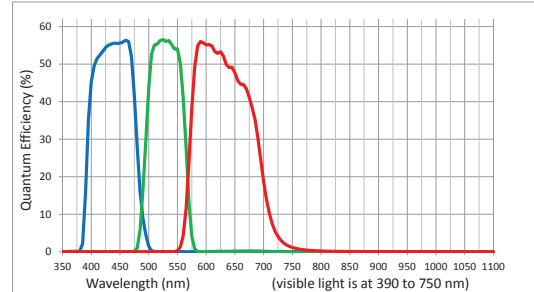
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## Dimensions

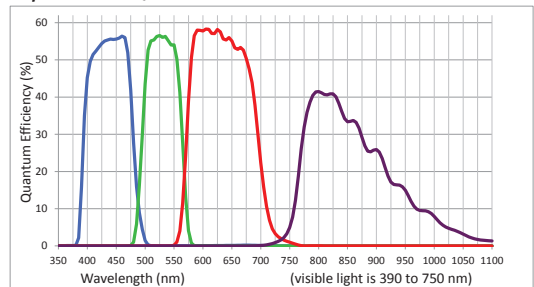


## Spectral Response

### Sweep+ SW-2000T-CL



### Sweep+ SW-2000Q-CL



Spectral response without lens



See the possibilities