

SW-2001T-CL

Technical Datasheet

N/A



See the possibilities



Apex Series



The Sweep+ Series comprises 3-sensor R-G-B and 4-sensor R-G-B-NIR or R-G-B-SWIR line scan cameras for industrial machine vision applications.

They feature state-of-the-art prism technology providing the best possible performance, precision, and versatility for line scan imaging in continuous production flows.

Specification Highlights

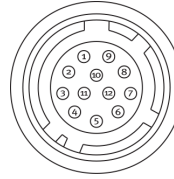
SENSOR: N/A
FORMAT: 28.67 mm
PIXEL SIZE: 14.0 x 14.0 μm
LENS MOUNT: F-Mount
SPECTRUM: Color (Visible)

SHUTTER: Global Shutter
FRAME RATE: 19 kHz
INTERFACE: Camera Link
RESOLUTION MP: N/A MP
RESOLUTION WxH: 2048 x 1 px

Specifications	SW-2001T-CL
Scanning system	CCD line sensors with internal clock
Pixel clock	40.00 MHz
Line rate	No shutter mode: 19 kHz - 18.6 Hz Shutter select mode: 18.6 kHz - 18.6 Hz PWC mode: 18.6 kHz - 2 sec
Sensor scanning width	28.672 m m
Cell size	14 μ m x 14 μ m
Active pixels	3 sensors: 3 x 2048 (h) mounted on RGB/NIR beam splitter prism
Object illuminance (std.)	162 lx @ 4000 K (Gain 0 dB, 525 μ s exp., 100% video on G)
Responsivity	56 V/ μ J/cm ² (@ 600 nm)
S/N ratio	58 dB on green with gain = -3 dB
Video output	24-bit RGB in Camera Link base configuration 30-bit RGB Camera Link medium configuration
Gain	Master G: -3 dB to +12 dB R, B: -6 dB to +6 dB
White balance	Manual, preset, or one-push Adjustable range: 2800 K to 9000 K Standard temperature: 4000 K
Image correction	Flat-field (PRNU/DSNU), flat shading, color shading, noise reduction
Synchronization	Internal clock
Input signal	Trigger (Camera Link, TTL/75 Ω)
Output signal(s)	LVAL, FVAL, DVAL, EEN, XEEN (TTL)
Trigger modes	No-shutter, shutter select, and pulse width control
Programmable exposure	2.0 μ s to 53.76 ms in 25 ns increments (depends on line rate setting)
Pulse width control	1.2 μ s - 2 sec (via Camera Link) 50 μ s - 2 sec (via I2-pin connector)
Control interface	Camera Link RS-232C
Lens mount	Nikon F mount (standard) or M52-mount (option)
Operating temperature	-5°C to +45°C/20 - 80% non-condensing
Storage temp./humidity	-25°C to +60°C/20 - 80% non-condensing
Vibration	3G (20Hz to 200Hz, XYZ direction)
Shock	50G
Regulations	CE (EN61000-6-2, EN61000-6-3) IEC61000-4-2 Conforming level 4 FCC Part 15 Class B, RoHS/WEEE
Power	12V DC \pm 10%. 1000 mA at +12V
Power consumption	12 W typical at +12V
Dimensions (H x W x L)	90 mm x 90 mm x 90 mm (without connector and lens mount protrusion)
Weight	830 g
Ordering Information	
SW-2001T-CL-F	3 CCD RGB/NIR Line Scan Camera. F-mount.
SW-2001T-CL-M52	3 CCD RGB/NIR Line Scan Camera. M52 mount.

Connection Pin-out

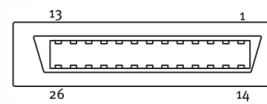
DC In / Trigger



HIROSE HR10A-10R-12PB-71

Pin	-
1	Ground
2	+12V DC
3	Ground
4	Reserved
5	Ground
6	RXD RS 232C*
7	TXD RS 232C*
8	Ground
9	XEEN out
10	Trigger IN (TTL)*
11	DC in +12V to +24V
12	Ground

Camera Link Interface



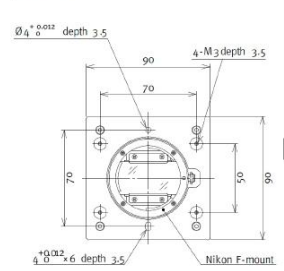
Pin	-	Signal	Function
1	14	GND	-
2	15	Xo-/Xo+	CL Data
3	16	X1-/X1+	CL Data
4	17	X2-/X2+	CL Data
5	18	Xclk-/Xclk+	CL Clk
6	19	X3-/X3+	CL Data
7	20	SerTC+/SerTC-	Serial in*
8	21	SerTFG-/SerTFG+	Serial out*
9	22	CC1-/CC1+	Trigger*
10	23	CC2-/CC2+	Reserved
11	24	CC3-/CC3+	Not used
12	25	CC4+/CC4-	Not used
13	26	GND	-

*) In Camera Link or 12 pin Hirose

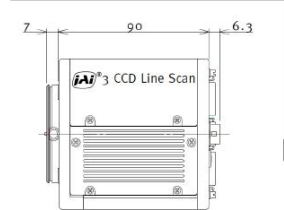
Note:
Camera Link base configuration shown. For medium configuration refer to Camera Link specifications or operation manual.

Dimensions

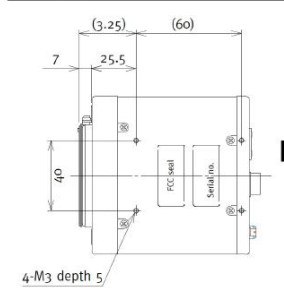
Front view



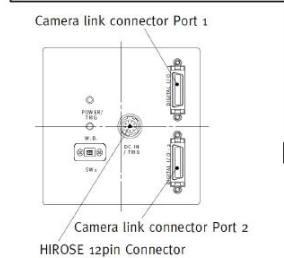
Side view



Bottom view

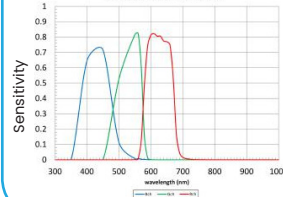


Rear view



Spectral Response

SW-2001T-CL Camera Sensitivity



Product Highlights

- 3 CCD line scan camera with Camera Link output
- Dichroic RGB/NIR beam splitter prism with 3 sensors
- 3 sensors with 2048 pixels, 14 μm x 14 μm pixel size
- 28.7 mm sensor scanning width
- Scan rate up to 19048 lines per second at 40 MHz pixel clock
- Video output via Camera Link: 3 x 8-bit in Base Configuration or 3 x 10-bit in Medium
- No-shutter, shutter select, and pulse width (PWC) trigger modes
- One-push auto white balance
- Flat field correction (pixel gain) and two-point shading correction
- Horizontal binning, plus slope and knee point functions
- Available with Nikon F-mount or M52-mount (option)

Additional Product Images



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