VSPM-6B2113

Inspector

2D VISION

SICK
Sensor Intelligence.

VSPM-6B2113 | Inspector

2D VISION

Illustration may differ

Ordering information

Type	Part no.
VSPM-6B2113	1064565

Other models and accessories ➜ www.sick.com/Inspector

Detailed technical data

Features

Task	Inspection, Positioning, Measuring
Technology	2D, snapshot, image analysis
Toolkit	Object locator, pixel count, edge pixel count, Pattern, blob locator, Polygon, edge, circle, distance, angle, edge counter, find maximum
Sensor	CMOS matrix sensor, grayscale values
Focus	Adjustable focus (manually)
Calibration	Perspective and lens distortion correction, mm results
Robot coordinate alignment	✓
Working distance	≥ 50 mm
Operating distance with internal illumination	50 mm ... 200 mm
Field of view of internal illumination	Free of choice by lens selection
Internal lighting	White
LED class	Risk group 1 (low risk, IEC62471 : 2006)
Spectral range	Approx. 400 nm ... 750 nm
Offline support	Emulator

Performance

Sensor resolution	640 px x 480 px
Optical format	1/3"
Scan/frame rate	40 fps [1]
Number of inspections	64
Reference images	32 objects

[1] Max. 200 fps.

Interfaces

Operator interfaces	Web server

Configuration software	SOPAS ET
Data storage and retrieval	Log for 30 images, record images on PC, store images to FTP
Ethernet	✓
Data transmission rate	100 Mbit/s
Protocol	TCP/IP, EtherNet/IP
Ethernet communication	Web API
Digital inputs	4 inputs (24 V)
Configurable inputs	External trigger, encoder input, External teach, reference object selection
Digital outputs	3 outputs, 24 V (B-type)
Configurable outputs	Output by logical expressions, Additional image storage possibility via FTP
Output current	≤ 100 mA
Standard outputs	No object detected, Everything OK, Detail error
Maximum encoder frequency	40 kHz
External illumination control	5 V TTL
I/O box extension	5 x inputs for object selection, 16 outputs

Mechanics/electronics

Connections	M12, 12-pin male connector M12, 4-pin female connector
Supply voltage	24 V DC, ± 20 %
Ripple	< 5 V_{pp}
Current consumption	< 450 mA, without output load
Enclosure rating	IP 67
Housing material	Aluminum
Window material	No front window included
Weight	350 g
Dimensions (L x W x H)	100 mm x 53 mm x 38 mm
Optics	Not included (M12-mount)

Ambient data

Shock load	EN 60068-2-27
Vibration load	IEC 60068-2-6
Ambient operating temperature	0 °C ... +45 °C [1]
Ambient storage temperature	−20 °C ... +70 °C [1]

[1] Relative humidity: 35% ... 85%, 95% in storage.

Classifications

ECl@ss 5.0	27310205
ECl@ss 5.1.4	27310205
ECl@ss 6.0	27310205
ECl@ss 6.2	27310205
ECl@ss 7.0	27310205
ECl@ss 8.0	27310205
ECl@ss 8.1	27310205

| ECl@ss 9.0	27310205
ETIM 5.0	EC001820
ETIM 6.0	EC001820
UNSPSC 16.0901	43211731

Dimensional drawing (Dimensions in mm (inch))

Standard
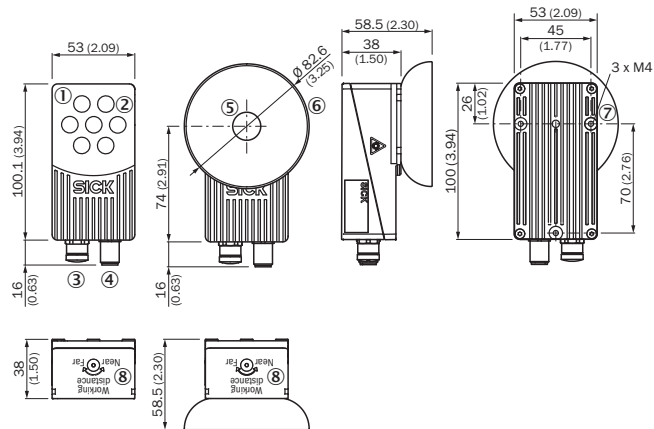
① Front screen: standard, flex
② Ring lighting
③ Ethernet connection M12, 4-pin, female
④ Power connection M12, 12-pin, male
⑤ Front screen: dome
⑥ Dome light
⑦ Mounting hole M4
⑧ Focus

Field of view

Theoretical FOV size (640 x 480 pixels)

f = 6.0 mm
f = 8.0 mm
f = 10.0 mm
f = 16.0 mm
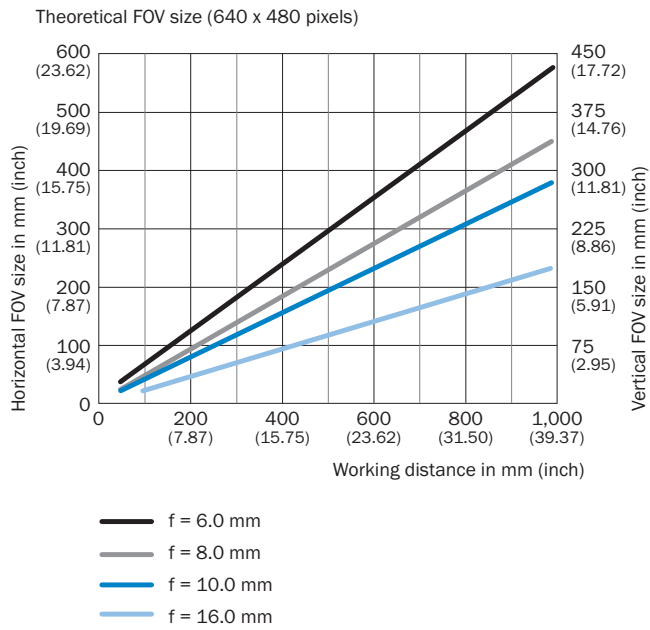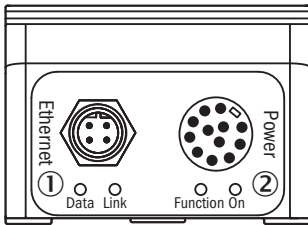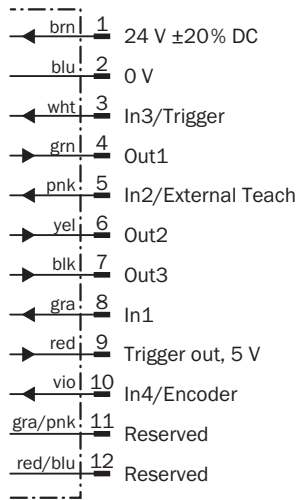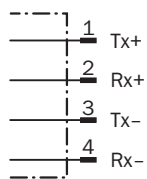
Connection type

① Ethernet connection M12, 4-pin, female
② Power connection M12, 12-pin, male

Connection diagram

M12 connection diagram, 12-pin

Pin	Wire	Signal
1	brn	24 V ±20 % DC
2	blu	0 V
3	wht	In3/Trigger
4	grn	Out1
5	pnk	In2/External Teach
6	yel	Out2
7	blk	Out3
8	gra	In1
9	red	Trigger out, 5 V
10	vio	In4/Encoder
11	gra/pnk	Reserved
12	red/blu	Reserved

Ethernet connection diagram

Pin	Signal
1	Tx+
2	Rx+
3	Tx–
4	Rx–

Recommended accessories

Other models and accessories ➜ www.sick.com/Inspector

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: female connector, M12, 12-pin, straight Head B: cable Cable: PUR, shielded, 5 m	DOL-1212-G05MAS01	6036556
	Head A: male connector, M12, 4-pin, straight, D-coded Head B: male connector, RJ45, 8-pin, straight Cable: Ethernet, drag chain use, PUR, shielded, 2 m	SSL-2J04-G02ME	6034414
Lenses and accessories			
	Exchangeable lens, focal length 6 mm, Round connector M12 x 0.5	OBJ-B06025BA	2049668
	Exchangeable lens, focal length 16 mm, including spacer ring, Round connector M12 x 0.5	OBJ-B16018BA	2049418

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is "Sensor Intelligence."

WORLDWIDE PRESENCE:

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