S2 Series

Product Features

- Utilizes high-performance image sensor.
- Compact and streamlined design, adaptable to a wide range of industrial applications.
- Supports transmission protocols such as TCP/IP, Serial, FTP, HTTP.
- Built-in deep learning code reading algorithm can efficiently read various barcodes and QR codes without fear of interference such as dirt and damage. Easily identify curved surfaces, stains, low contrast and high-density DPM codes.
- Adaptable to a variety of different lighting environments, it can be used with polarizers, diffusers, and light sources of different colors to achieve the best imaging effect.
- Comes with a diverse range of IO interfaces, capable of accommodating multiple input and output signals.

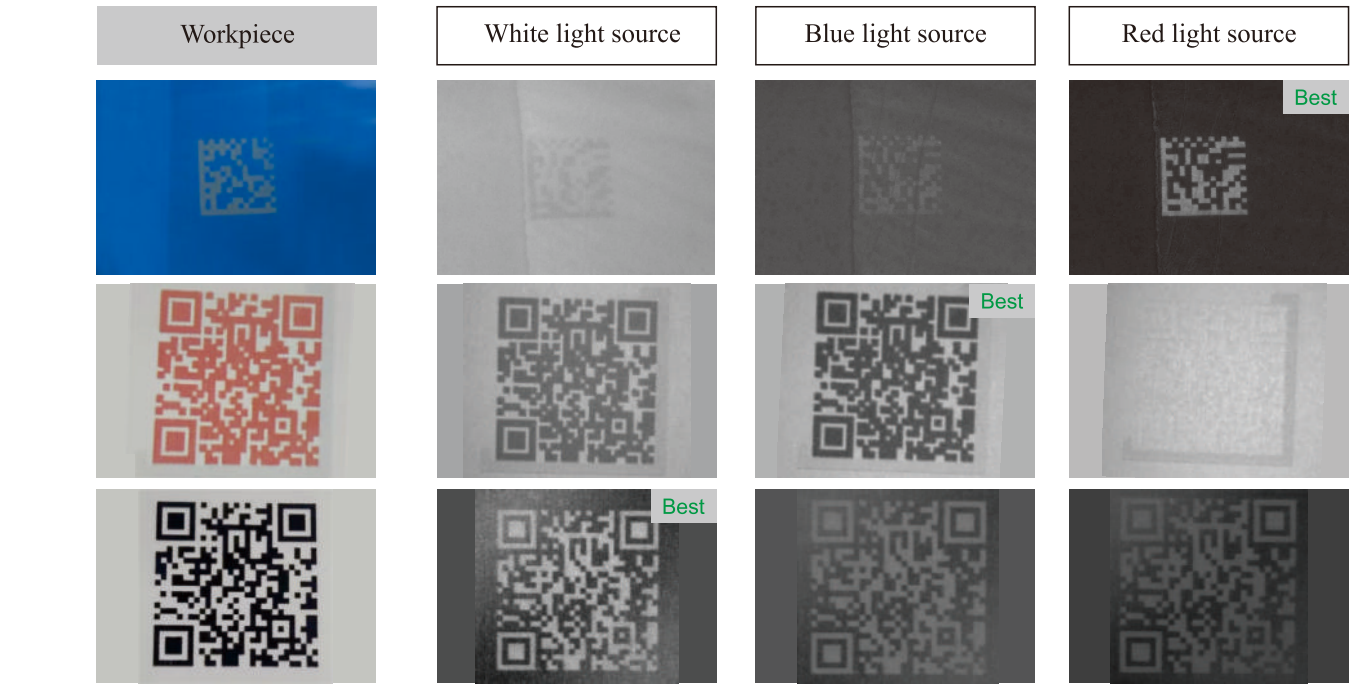
Product Model and Parameters

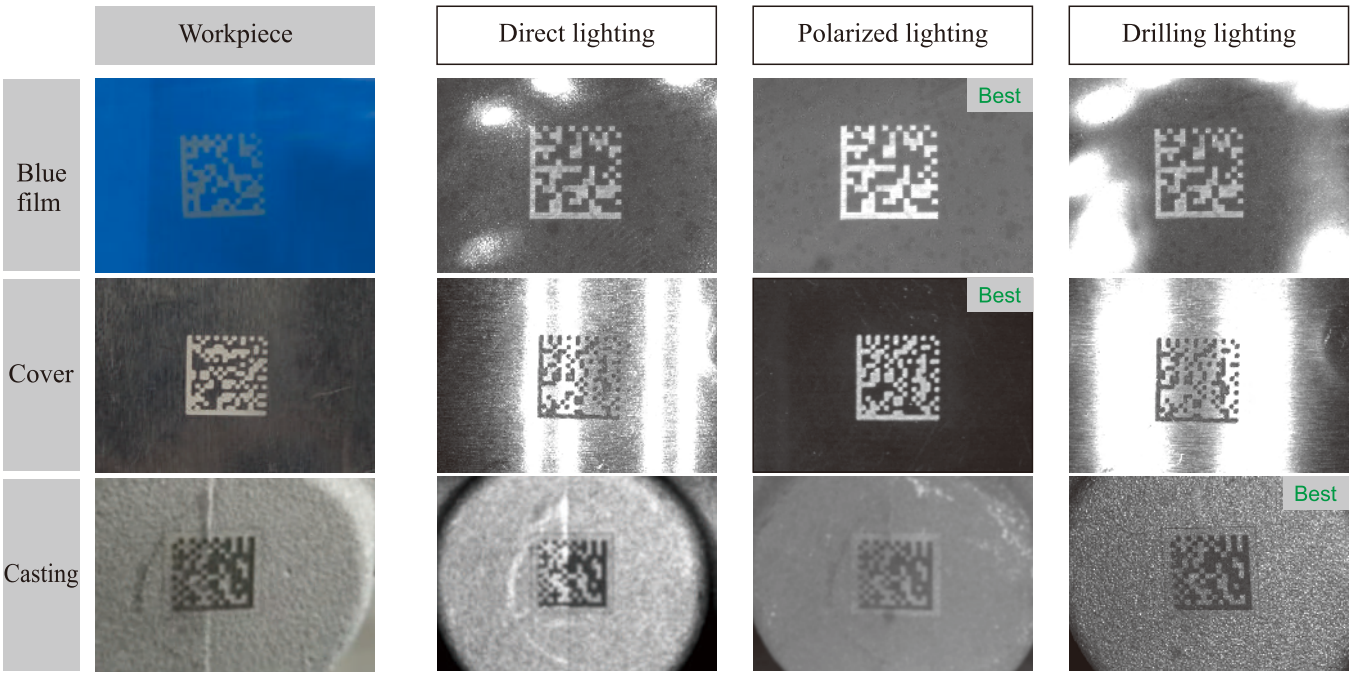
Optical interface		M8-Mount	
Focusing method		Focus	
Reading distance		Standard 100 mm (other distances can be customized)	
Barcode types	1D Barcodes	Code39,Code128,EAN8,EAN13,UPC_A,UPC_E,Code93,GS1-128,GS1-DataBar Expand,ITF,PHARMACODE,CODABAR etc.	
	2D Barcodes	QR Code, Data Matrix, PDF417 etc.	
Communication modes		Network port: UDP, TCP, Serial, Http, Modbus, FTP, Profinet, Ethernet/IP communication, etc. U port: Analog network port (supports UDP, TCP, Http, Modbus, FTP communication, etc.), simulated serial port (supports Modbus, Serial communication), virtual keyboard	
Light source		Optional: Red Light, White Light, Blue Light	
Aiming device		Green High-Brightness LED	
Interface type		Network port: 17-pin M12 interface provides power, DI, DO, serial port and network port	U port: USB2.0
I/O interface		Network port: 2 channels of optocoupler isolated input, 2 channels of optocoupler isolated output	U port: /
Communication interface		Network port: 1 RS232, 1 Fast Ethernet (100Mbit/S)	U port: USB2.0
Power supply		Network port: 124VDC±20%	U port: USB 5V
Power consumption		Network port: 1<20W@24 VDC	U port: <10W@24VDC
Lens cover		Transparent lens cover, optional polarized lens cover	
Temperature		Operating Temperature: 0°C to 50°C Storage Temperature: -20°C to 70°C	
Humidity		< 85% RH (non-condensing)	
Dimensions		48.6 mm×46 mm×26 mm	
Weight		161 g	
Protection level		IP62	
Certified product		CE,ROHS	

Product Models and Parameters

Model	Sensor type	Resolution	Pixel size	Sensor size	Exposure time	Gain	Maximum processing frame rate	Maximum decoding speed	Lens focal length
OPT-IDS2-M010G	CMOS, Global Shutter	1280×800	3.0 μm×3.0 μm	1/4 "	20 μs~1 sec	1 dB ~ 16 dB	60fps	60 reads/second	6.7 mm
OPT-IDS2-M023G	CMOS, Global Shutter	1920×1200	3.0 μm×3.0 μm	1/2.6 "	6 μs~1 sec	1 dB ~ 16 dB	50 fps	60 reads/second	

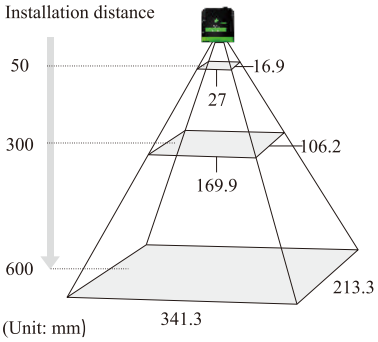
Light source/Polarizer selection



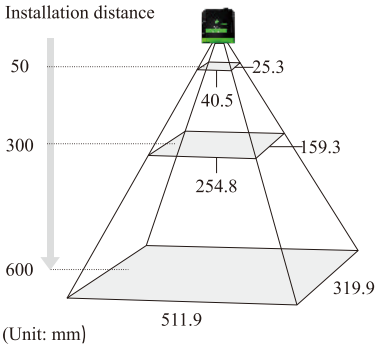


FOV

OPT-IDS2-M010G-L06					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
6mm	50	27.0	16.9	0.084	0.042
	100	55.6	34.8	0.174	0.087
	200	112.7	70.4	0.352	0.176
	300	169.9	106.2	0.531	0.265
	400	227.0	141.9	0.709	0.355
	500	284.2	177.6	0.888	0.444
	600	341.3	213.3	1.067	0.533

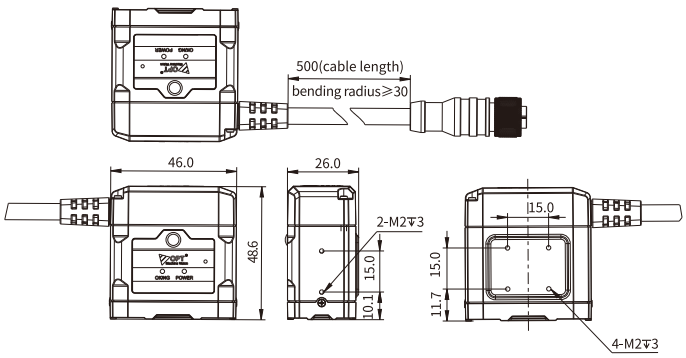


OPT-IDS2-M023G-L06					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
6mm	50	40.5	25.3	0.084	0.042
	100	83.4	52.1	0.174	0.087
	200	169.1	105.7	0.352	0.176
	300	254.8	159.3	0.531	0.265
	400	340.5	212.8	0.709	0.355
	500	426.3	266.4	0.888	0.444
	600	511.9	319.9	1.066	0.533

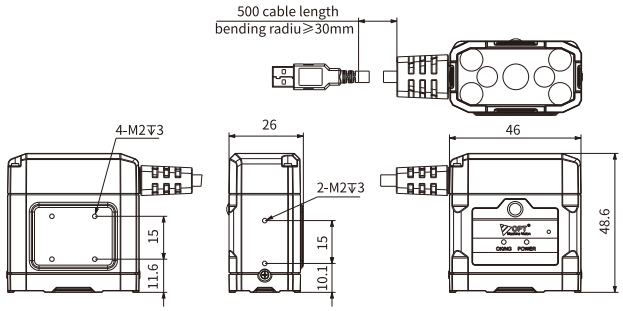


Dimensions (mm)

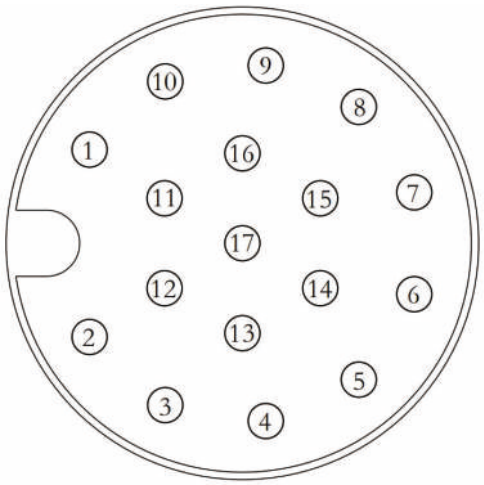
IDS2-17pin



IDS2-USB



IO Interface Description



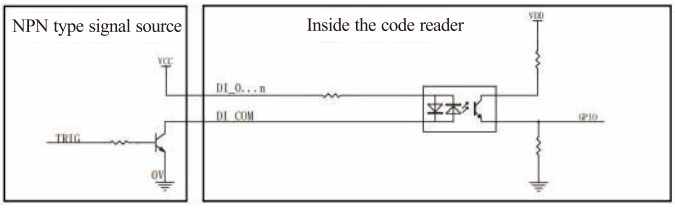
Pin	Signal	Explanation
1	DC-PWR	24V power supply positive terminal
2	PHY_MDIO+	Network port PHY_MDI0 differential line
3	PHY_MDIO-	Network port PHY_MDI0 differential line
4	GND	Power ground terminal
5	DO_0	DO optocoupler isolation output 0
6	DO_1	DO optocoupler isolation output 1
7	DI_1	DI optocoupler isolation input 1
8	DO_COM	DO optocoupler isolated output common terminal
9	DI_0	DI optocoupler isolation input 0
10	PHY_MDI1+	Network port PHY_MDI1 differential line
11	PHY_MDI1-	Network port PHY_MDI1 differential line
12	DI_COM	DI optocoupler isolation input common terminal
13	RS232_RX	Rs232 serial port input
14	RS232_TX	Rs232 serial port output
15	-	-
16	-	-
17	-	-

IO Interface Circuit Diagram

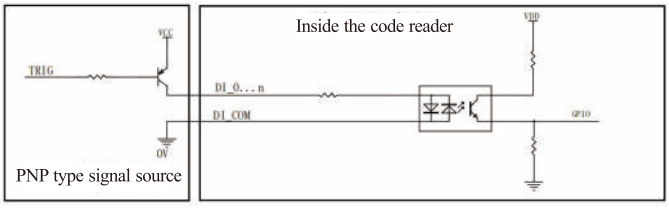
Enter external wiring diagram

(1) Input connection mode: NPN, PNP (2) Input voltage range: 5~30V DC (3) Minimum current: 10mA

NPN type input wiring:

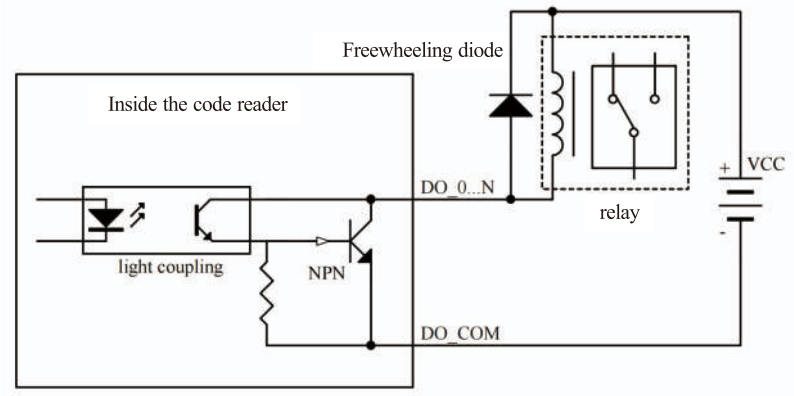


PNP type input wiring:



Output external wiring diagram

(1) Output mode: open collector output (2) Maximum voltage: 30V DC (3) Maximum current: 50mA
(4) See the following figure for the internal circuit block diagram



Matching Cables

Accessory Cable

Cable length	S2 Series universal cable	
	Static straight-head IO cable	Dynamic/Drag chain straight-head IO cable
3M	CB-M12-A17M008-S3M	CB-M12-A17M008-T3M
5M	CB-M12-A17M008-S5M	CB-M12-A17M008-T5M
10M	CB-M12-A17M008-S10M	CB-M12-A17M008-T10M
Interface