

B1 Series



Product Features

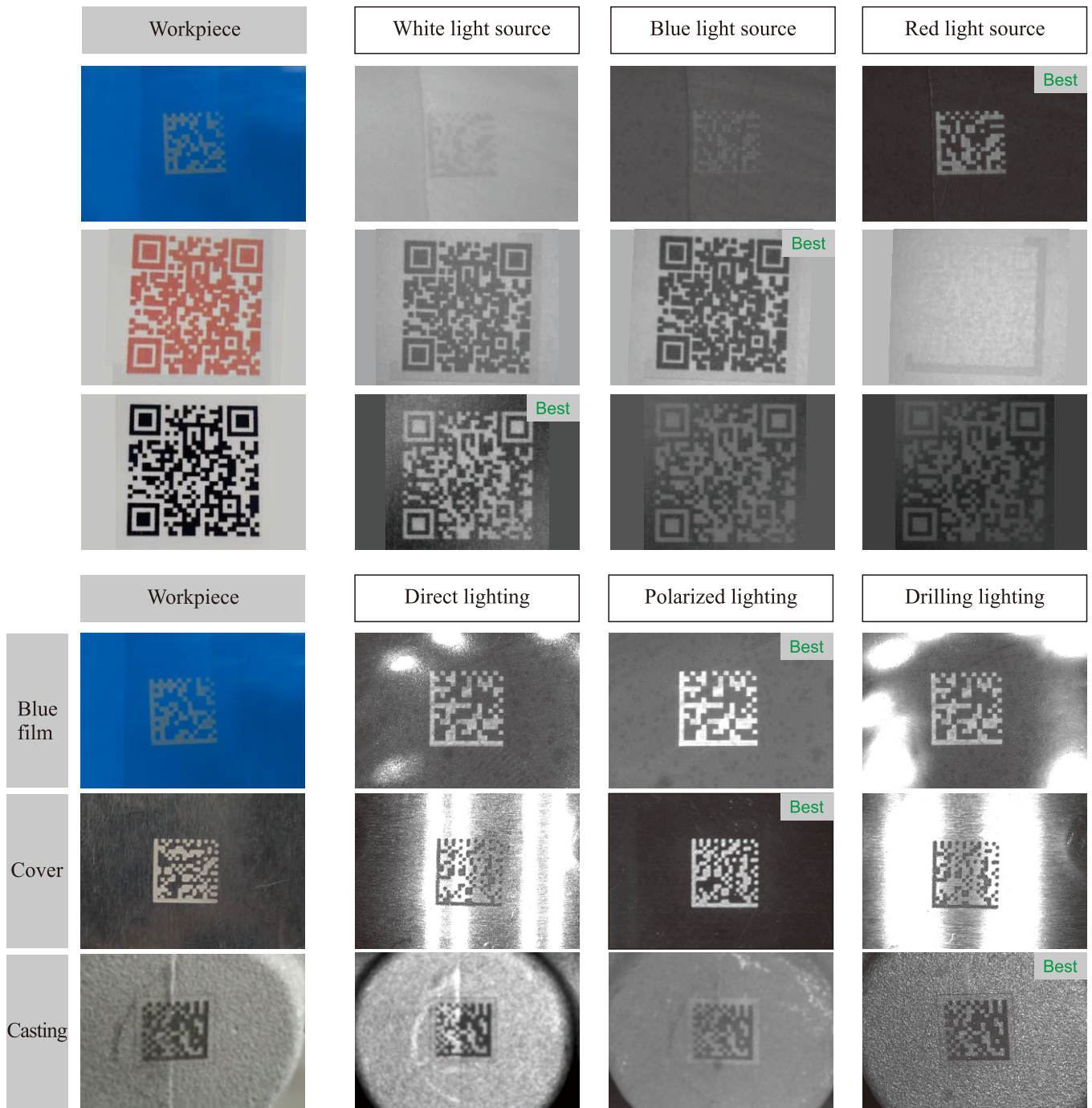
- Opt for high-performance image sensors.
- Compact and streamlined in design, suitable for a wider range of industrial application scenarios.
- Manual focus available.
- Supports transmission protocols such as TCP/IP, Serial, FTP, HTTP, and more.
- Built-in deep learning code reading algorithm can efficiently 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	Manual focus	
Reading distance	50 mm to 2000 mm	
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	UDP, TCP, Serial, Http, Modbus, FTP, Profnet, Ethernet/IP communication etc.	
Light source	Optional: Red Light, White Light, Blue Light	
Aiming device	Green High-Brightness LED	
Interface type	17-PIN M12 Interface provides power, DI, DO, serial port, and Ethernet port	
I/O interface	2 isolated opto-coupled inputs, 2 isolated opto-coupled outputs	
Communication interface	1 RS232, 1 Fast Ethernet (100 Mbit/s)	
Power supply	24 VDC ±20%	
Power consumption	< 20 W@24 VDC	
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	54.75 mm×53 mm×26.45 mm	
Weight	234 g	
Protection level	IP62	
Certified product	CE, ROHS	

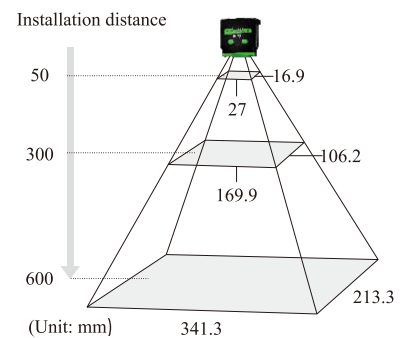
Model	Sensor type	Resolution	Pixel size	Sensor size	Exposure time	Gain	Maximum processing frame rate	Maximum decoding speed	Lens focal length
OPT-IDB1-10	CMOS, Global Shutter	1280 x 800	3.0 μm x 3.0 μm	1/4 "	20 μs~1 sec	1 dB ~ 16 dB	50 fps	60 reads/second	6.7 mm/25 mm
OPT-IDB1-23	CMOS, Global Shutter	1920 x 1200	3.0 μm x 3.0 μm	1/2.6 "	6 μs~1 sec	1 dB ~ 16 dB	40 fps	50 reads/second	

Light source/Polarizer selection



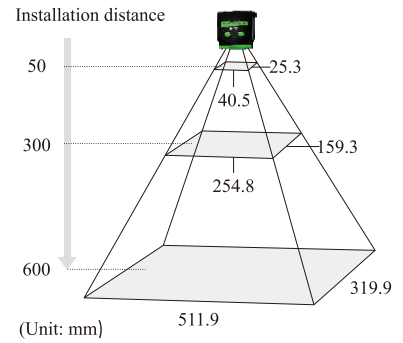
Viewable Range

OPT-IDB1-10L06					
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

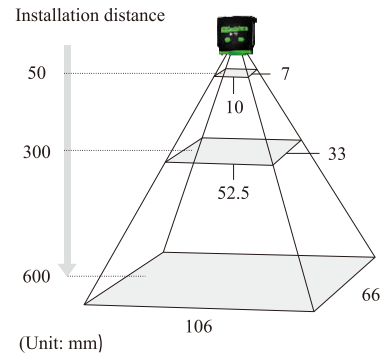


FOV

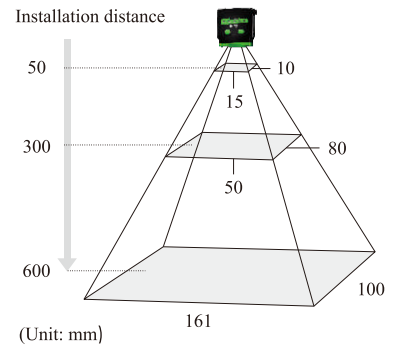
OPT-IDB1-23L06					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
6mm	50	40.5	25.3	0.084	0.042
	100	83.4	52.1	0.174	0.087
	200	169.1	105.7	0.352	0.176
	300	254.8	159.3	0.531	0.265
	400	340.5	212.8	0.709	0.355
	500	426.3	266.4	0.888	0.444
	600	511.9	319.9	1.066	0.533



OPT-IDB1-10L25					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
25mm	50	10.0	7.0	0.03	0.02
	100	16.0	11.0	0.05	0.03
	200	34.0	21.5	0.11	0.05
	300	52.5	33.0	0.16	0.08
	400	71.0	44.0	0.22	0.11
	500	89.0	55.0	0.28	0.14
	600	106.0	66.0	0.33	0.17

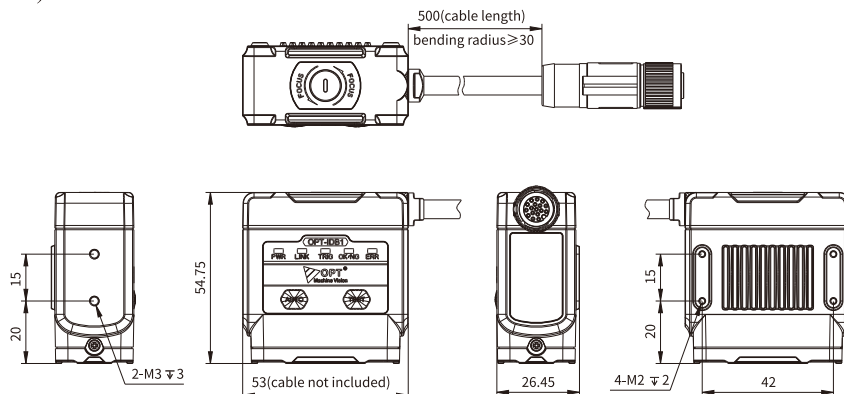


OPT-IDB1-23L25					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
25mm	50	15.0	10.0	0.03	0.02
	100	28.0	18.0	0.06	0.03
	200	52.5	32.5	0.11	0.05
	300	50.0	80.0	0.10	0.05
	400	106.0	66.0	0.22	0.11
	500	134.0	82.5	0.28	0.14
	600	161.0	100.0	0.34	0.17



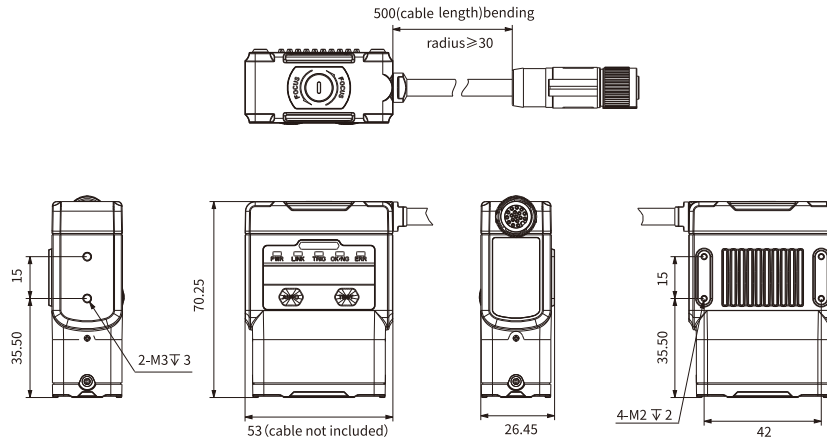
Dimensions (mm)

OPT-IDB1(6mm lens)

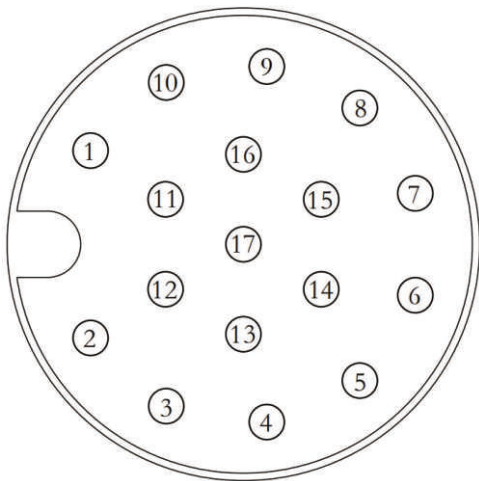


Dimensions (mm)

OPT-IDB1(25mm lens)



IO Interface Description



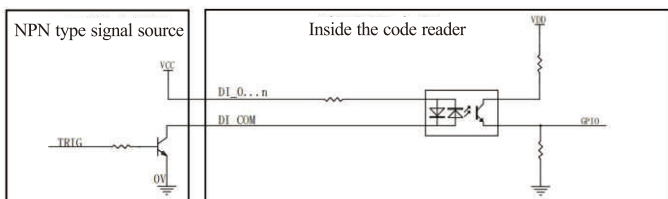
Pin	Signal	Illustrate
1	DC-PWR	24V power supply positive terminal
2	PHY_MDIO+	Network port PHY_MDIO differential line
3	PHY_MDIO-	Network port PHY_MDIO differential line
4	GND	Power ground terminal
5	DO_0	DO optocoupler isolation output 0
6	DO_1	DO optocoupler isolation output 1
7	DI_1	DI optocoupler 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

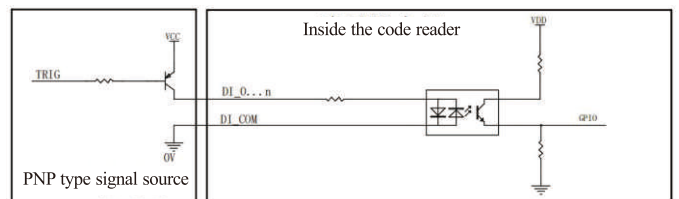
Enter external wiring diagram

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

NPN type input wiring:



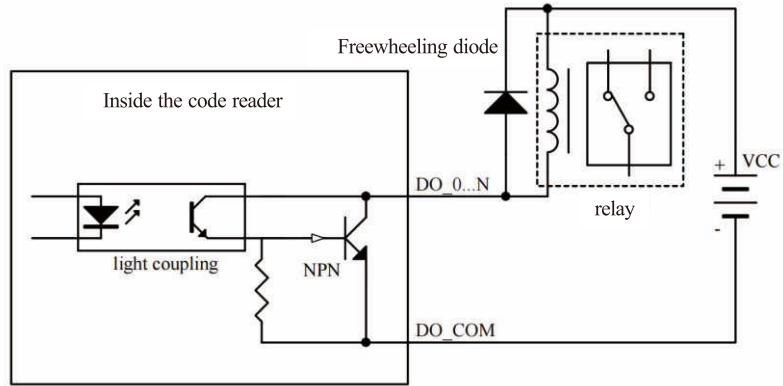
PNP type input wiring:



IO Interface Circuit Diagram

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	B1 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		

