

E1 Series



Product Features

- Utilize high-resolution, high-performance image sensors to achieve excellent image quality.
- Equipped with a high-performance processor to enhance decoding efficiency.
- Features an electric lens with automatic focusing, significantly improving debugging efficiency.
- Supports transmission protocols such as TCP/IP, Serial, FTP, HTTP, etc.
- 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.

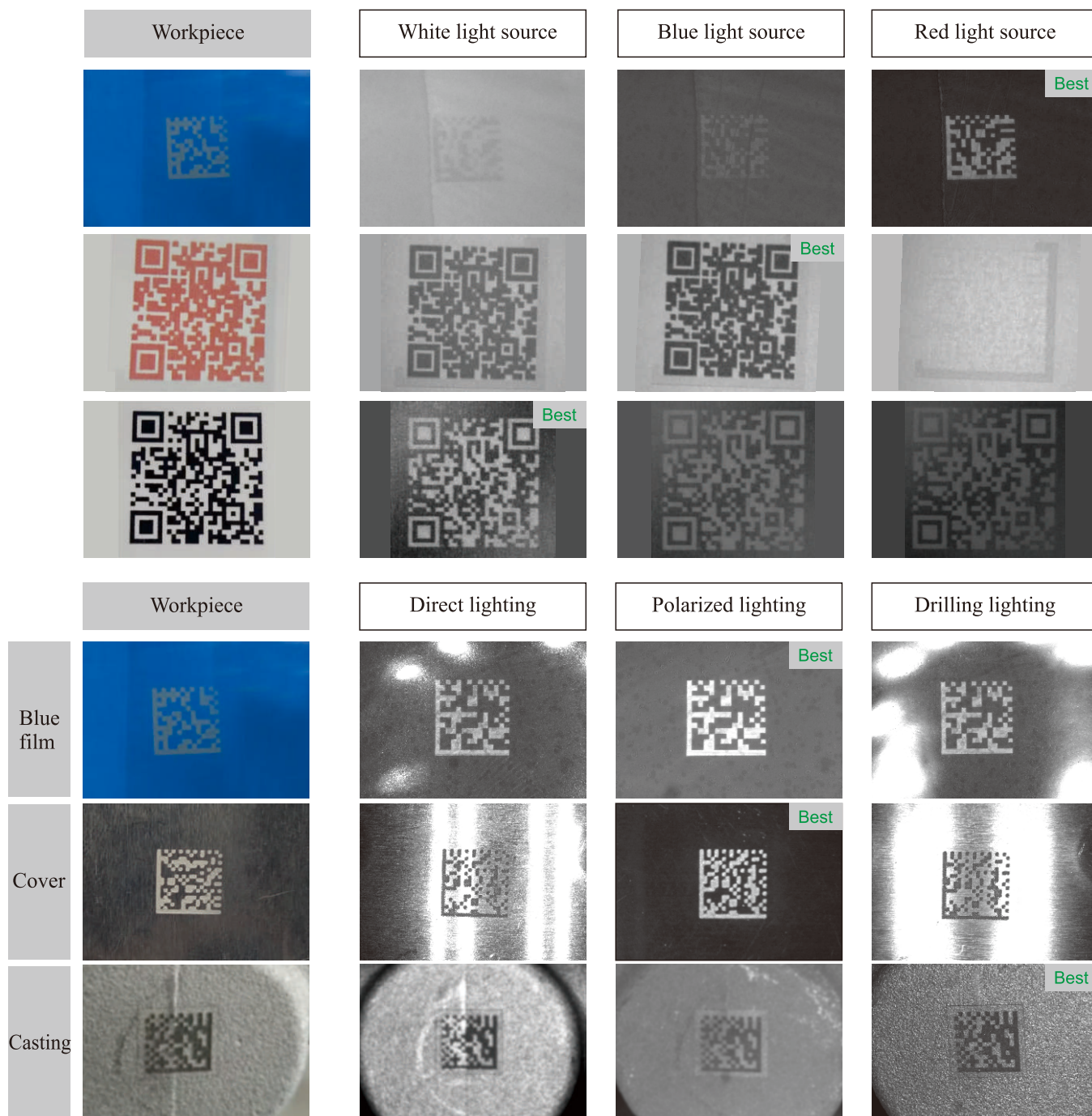
Product Model and Parameters

Optical interface		M12-Mount	C-Mount
Focusing method		Electric focus/liquid focus	Manual focus
Reading distance		50 mm to 2000 mm (200 mm to 2000 mm for 25 mm lens)	-
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, Profinet, Ethernet/IP communication etc.	
Light source		Available red, white and blue light	Does not include built-in light source
Aiming device		Green highlight LED	-
Interface type		17-PIN M12 port Provides power supply, DI, DO, and serial port	8-PIN M12 Provides Ethernet functions
I/O interface		Three optocoupler isolated inputs and three optocoupler isolated outputs	
Communication interface		1 RS232 , 1 Gigabit Ethernet (1000 Mbit/s)	
Power supply		24 VDC ±20%	
Power consumption		<48W@24 VDC	<17W@24 VDC
Lens cover		Transparent lens hood, you can buy full polarized/semi -polarized lens hood	-
Temperature		Operating temperature: 0 °C ~ 50 °C; Storage temperature :-20 °C ~ 70 °C	
Humidity		< 85%RH (non-condensing)	
Dimensions		110 mm×65.3 mm×59.3 mm	110 mm×65.3 mm×47.9 mm
Weight		441g	351g
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-IDE1-R120	CMOS, Rolling shutter	4000×3000	1.85 μm×1.85 μm	1/1.7"	10 μs~1 sec	1 dB ~ 27 dB	20 fps	110 reads/second	8 mm/12 mm/16 mm/25 mm
OPT-IDE1-R200	CMOS, Rolling shutter	5440×3648	2.4 μm×2.4 μm	1"	13 μs~1 sec	1 dB ~ 27 dB	10 fps	120 reads/second	-

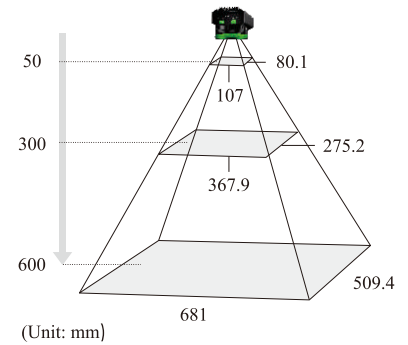
Light source/Polarizer selection



FOV

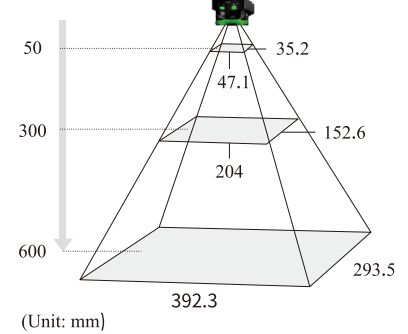
OPT-IDE1-R120L08					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
8mm	50	107.0	80.1	0.106	0.053
	100	159.2	119.1	0.158	0.079
	200	263.6	197.2	0.262	0.131
	300	367.9	275.2	0.366	0.183
	400	472.2	353.2	0.469	0.235
	500	576.6	431.3	0.573	0.287
	600	681.0	509.4	0.677	0.338

Installation distance



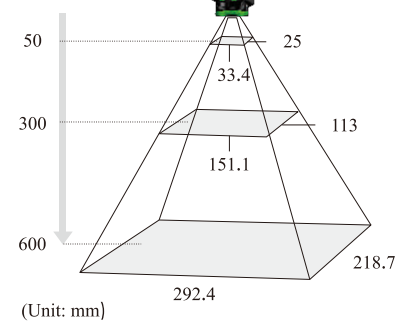
OPT-IDE1-R120L12					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
12mm	50	47.1	35.2	0.047	0.023
	100	78.5	58.7	0.078	0.039
	200	141.2	105.6	0.140	0.070
	300	204.0	152.6	0.203	0.101
	400	266.8	199.6	0.265	0.133
	500	329.6	246.5	0.328	0.164
	600	392.3	293.5	0.390	0.195

Installation distance



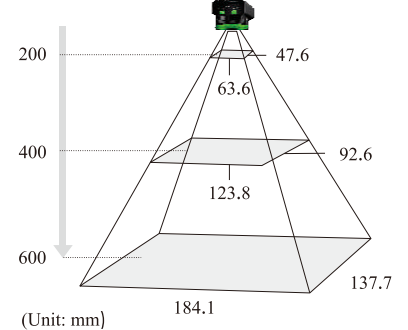
OPT-IDE1-R120L16					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
16mm	50	33.4	25.0	0.033	0.017
	100	57.0	42.6	0.057	0.028
	200	104.0	77.8	0.103	0.052
	300	151.1	113.0	0.150	0.075
	400	198.2	148.3	0.197	0.099
	500	245.3	183.5	0.244	0.122
	600	292.4	218.7	0.291	0.145

Installation distance



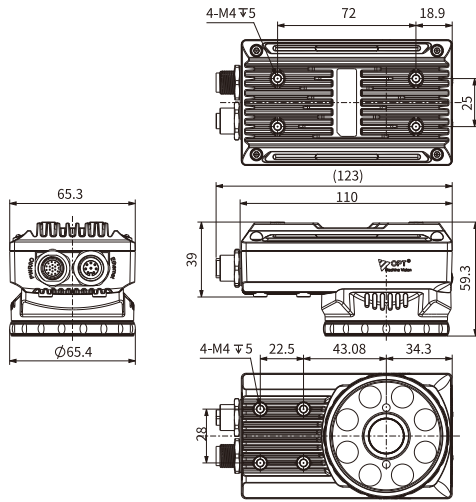
OPT-IDE1-R120L25					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
25mm	50	-	-	-	-
	100	-	-	-	-
	200	63.6	47.6	0.063	0.032
	300	93.7	70.1	0.093	0.047
	400	123.8	92.6	0.123	0.062
	500	154.0	115.2	0.153	0.077
	600	184.1	137.7	0.183	0.092

Installation distance

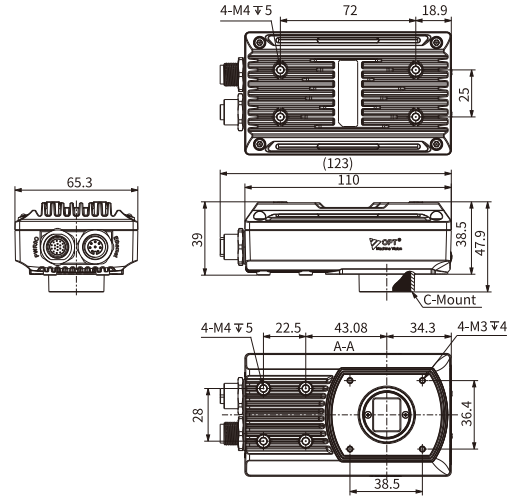


Dimensions (mm)

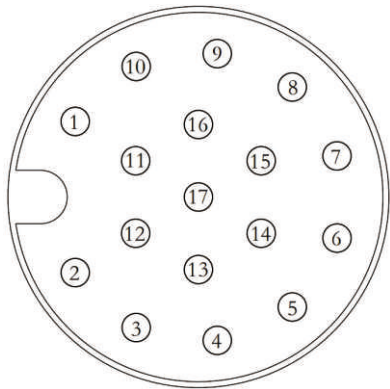
OPT-IDE1(M12-Mount)



OPT-IDE1(C-Mount)



IO Interface Description



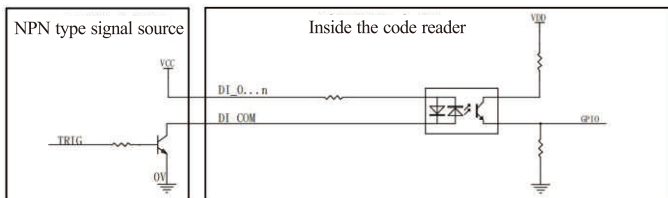
Pin	Signal definition	Explanation
1	DC-PWR	Positive terminal of power supply
2	/	/
3	GND	Positive terminal of power supply
4	GND	Power ground terminal
5	DO_0	DO optocoupler isolated output 0
6	DO_1	DO optocoupler isolated output 1
7	DO_2	DO optocoupler isolated output 2
8	DO_COM	DO optocoupler isolated output common terminal
9	DI_0	DI Optocoupler Isolated Input 0
10	DI_1	DI optocoupler isolated input 1
11	DI_2	DI optocoupler isolated input 2
12	DI_COM	DI optocoupler isolated input common terminal
13	RS232_RX	RS232 serial port input
14	RS232_TX	RS232 serial port output
15	/	/
16	/	/
17	/	/

IO Interface Circuit Diagram

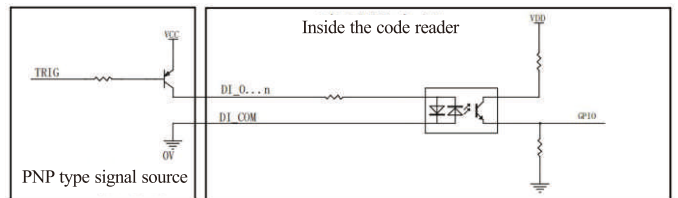
Enter external wiring diagram

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

NPN type input wiring:



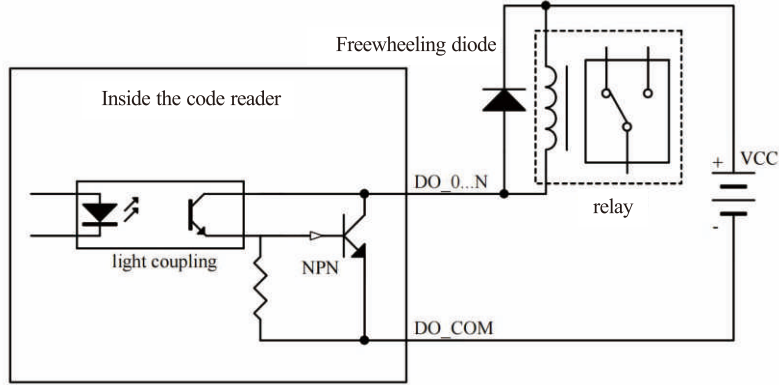
PNP type input wiring:



IO Interface Circuit Diagram

Output external wiring diagram

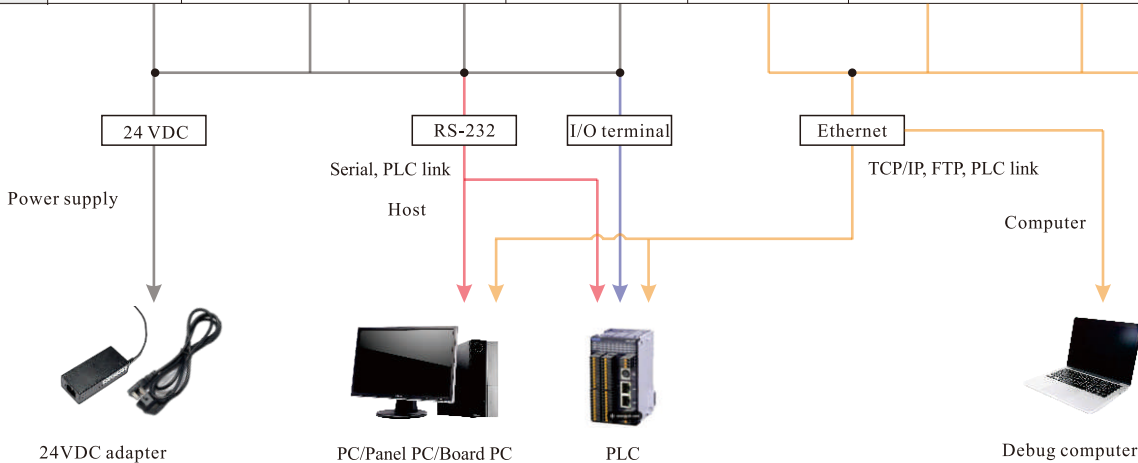
- (1) Output mode: open collector output (2) Maximum voltage: 30V DC (3) Maximum current: 50mA
(4) See the following figure for the internal circuit block diagram



Matching Cables

Accessory Cable

Cable length	E1 Series universal cable							
	Control cable				Gigabit ethernet cable			
	Straight-head static IO cable	Dynamic/Drag chain straight-head IO cable	Static elbow IO cable	Dynamic/Drag chain elbow IO cable	Static straight-head gigabit ethernet cable	Dynamic/Drag chain straight-head gigabit ethernet cable	Static elbow gigabit ethernet cable	Dynamic/Drag chain elbow gigabit ethernet cable
3M	CB-M12-A17F009-S3M	CB-M12-A17F009-T3M	CB-M12-A17FLA009-S3M	CB-M12-A17FLA009-T3M	CB-GE-M12A8MRJ45-S3M	CB-GE-M12A8MRJ45-T3M	CB-GE-M12A8MUARJ45-S3M	CB-GE-M12A8MUARJ45-T3M
5M	CB-M12-A17F009-S5M	CB-M12-A17F009-T5M	CB-M12-A17FLA009-S5M	CB-M12-A17FLA009-T5M	CB-GE-M12A8MRJ45-S5M	CB-GE-M12A8MRJ45-T5M	CB-GE-M12A8MUARJ45-S5M	CB-GE-M12A8MUARJ45-T5M
7M	CB-M12-A17F009-S7M	CB-M12-A17F009-T7M	CB-M12-A17FLA009-S7M	CB-M12-A17FLA009-T7M	CB-GE-M12A8MRJ45-S7M	CB-GE-M12A8MRJ45-T7M	CB-GE-M12A8MUARJ45-S7M	CB-GE-M12A8MUARJ45-T7M
10M	CB-M12-A17F009-S10M	CB-M12-A17F009-T10M	CB-M12-A17FLA009-S10M	CB-M12-A17FLA009-T10M	CB-GE-M12A8MRJ45-S10M	CB-GE-M12A8MRJ45-T10M	CB-GE-M12A8MUARJ45-S10M	CB-GE-M12A8MUARJ45-T10M
15M	/	CB-M12-A17F009-T15M	/	CB-M12-A17FLA009-T15M	CB-GE-M12A8MRJ45-S15M	CB-GE-M12A8MRJ45-T15M	/	CB-GE-M12A8MUARJ45-T15M
20M	/	/	/	CB-M12-A17FLA009-T20M	CB-GE-M12A8MRJ45-S20M	CB-GE-M12A8MRJ45-T20M	/	CB-GE-M12A8MUARJ45-T20M
Interface								



Read code logistics light source

Product Features

- The smart barcode reader seamlessly integrates with the light source, achieving integrated control and enhancing reading efficiency.
- High-intensity illumination with uniform light distribution provides ideal conditions for barcode reading.
- Professional structural design for easy installation.
- Using acrylic light-transmitting panels to ensure brightness while reducing discomfort to the human eye.
- Long lifespan, made from environmentally friendly materials, durable and stable.



Product Model and Parameters

Model	OPT-IDD1-HLW
Light source type	LED Lamp
Light source color	White
Trigger mode	Directly Controlled by Code Reader
Number of lamp beads	56 High-Brightness LEDs
Power supply mode	24VDC±20%
Power consumption	<240W@24VDC
Temperature	Operating temperature: 0 °C ~ 50 °C; Storage temperature :-20 °C ~ 70 °C
Environmental humidity	< 85%RH (non-condensing)
Dimensions	200.45mm x 160.45mm x 35mm (excluding mounting bracket)
Weight	1.45kg

Dimensions (mm)

