

D1 Series



Product Features

- Utilizes high-performance image sensor .
- With an electric lens supporting autofocus, which significantly improves debugging efficiency.
- 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.

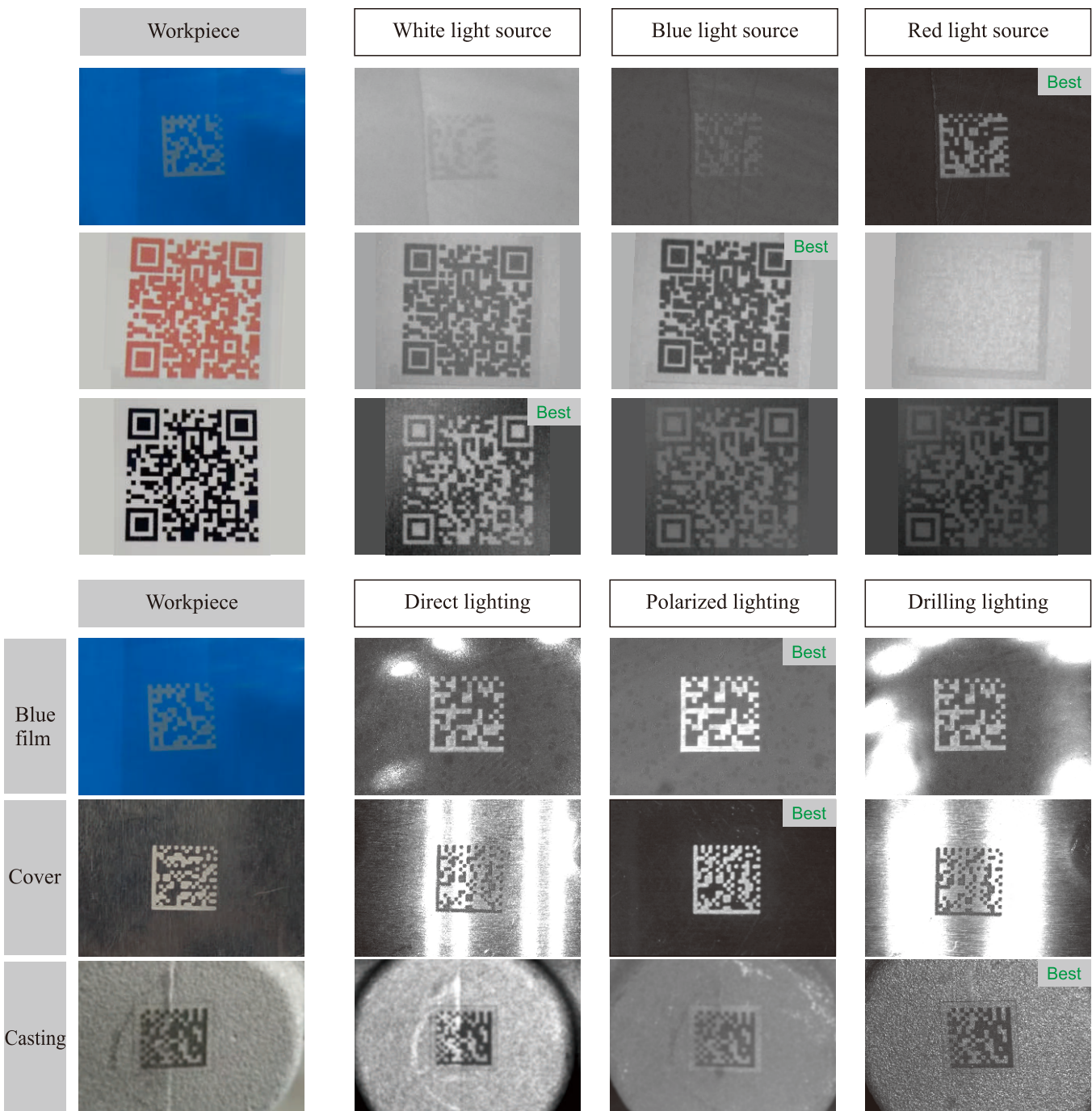
Product Model and Parameters

Optical interface		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		<30W@24 VDC	<10W@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	
Relative humidity		< 85%RH (non-condensing)	
Dimensions		83.5 mm×55 mm×46.5 mm	
Weight		264 g	
Protection level		IP62	
Certified product		CE/ROHS	

Product Models and Parameters

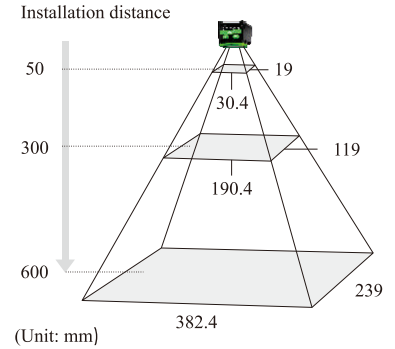
Model	Sensor Type	Resolution	Pixel Size	Sensor Size	Exposure Time	Gain	Maximum Processing Frame Rate	Maximum Decoding Speed	Lens Focal Length
OPT-IDD1-10	CMOS, Global Shutter	1280×800	3.0μm×3.0μm	1/4 "	20 μs~1 sec	1 dB ~ 16 dB	50 fps	65 reads/second	6 mm/8mm/12 mm/ 16 mm/25 mm
OPT-IDD1-23	CMOS, Global Shutter	1920×1200	3.0μm×3.0μm	1/2.6 "	6 μs~1 sec	1 dB ~ 16 dB	40 fps	80 reads/second	8 mm/12 mm/ 16 mm/25 mm
OPT-IDD1-50	CMOS, Global Shutter	2448×2048	2.74μm×2.74μm	1/1.8 "	11 μs~1 sec	1 dB ~ 24 dB	30 fps	80 reads/second	
OPT-IDD1-R50	CMOS, Rolling shutter	2592×1944	2.2μm×2.2μm	1/2.5 "	8 μs~1 sec	1 dB ~ 16 dB	30 fps	80 reads/second	
OPT-IDD1-R80	CMOS, Rolling shutter	3840×2144	2 μm×2 μm	1/2 "	13 μs~1 sec	1 dB ~ 16 dB	15 fps	90 reads/second	

Light source/Polarizer selection

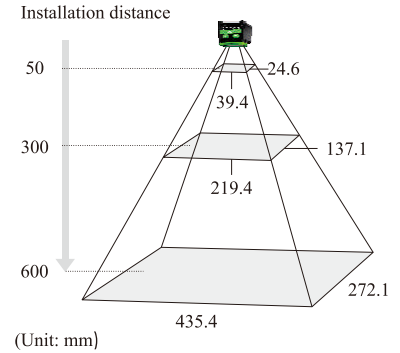


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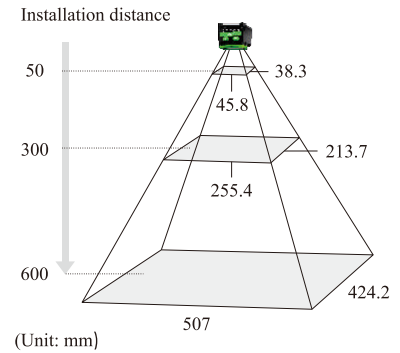
OPT-IDD1-10L06					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
6mm	50	30.4	19.0	0.095	0.048
	100	62.4	39.0	0.195	0.098
	200	126.4	79.0	0.395	0.198
	300	190.4	119.0	0.595	0.298
	400	254.4	159.0	0.795	0.398
	500	318.4	199.0	0.995	0.498
	600	382.4	239.0	1.195	0.598



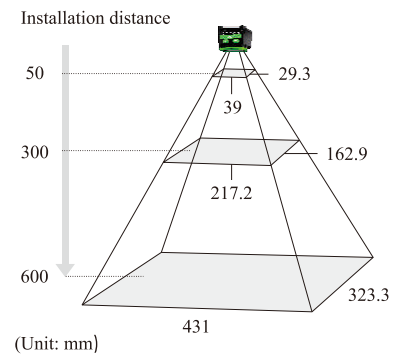
OPT-IDD1-23L08					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
8mm	50	39.4	24.6	0.082	0.062
	100	75.4	47.1	0.157	0.118
	200	147.4	92.1	0.307	0.230
	300	219.4	137.1	0.457	0.343
	400	291.4	182.1	0.607	0.455
	500	363.4	227.1	0.757	0.568
	600	435.4	272.1	0.907	0.680



OPT-IDD1-50L08					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
8mm	50	45.8	38.3	0.075	0.037
	100	87.8	73.5	0.143	0.072
	200	171.6	143.6	0.280	0.140
	300	255.4	213.7	0.417	0.209
	400	393.3	283.9	0.643	0.321
	500	423.1	354.0	0.691	0.346
	600	507.0	424.2	0.828	0.414

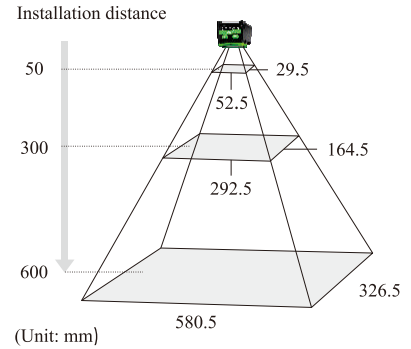


OPT-IDD1-R50L08					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
8mm	50	39.0	29.3	0.060	0.030
	100	74.6	56.0	0.115	0.058
	200	145.9	109.4	0.225	0.113
	300	217.2	162.9	0.335	0.168
	400	288.4	216.3	0.445	0.223
	500	359.7	269.8	0.555	0.278
	600	431.0	323.3	0.665	0.333

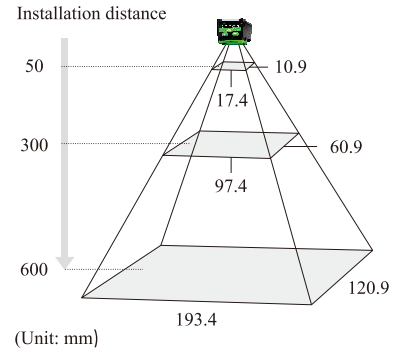


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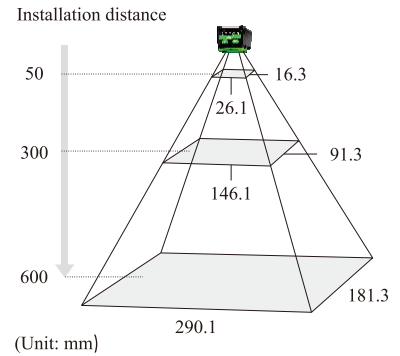
OPT-IDD1-R80L08					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
8mm	50	52.5	29.5	0.055	0.027
	100	100.5	56.5	0.105	0.052
	200	196.5	110.5	0.205	0.102
	300	292.5	164.5	0.305	0.152
	400	388.5	218.5	0.405	0.202
	500	484.5	272.5	0.505	0.252
	600	580.5	326.5	0.605	0.302



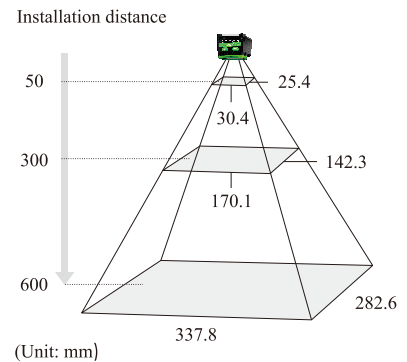
OPT-IDD1-10L12					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
12mm	50	17.4	10.9	0.054	0.027
	100	33.4	20.9	0.104	0.052
	200	65.4	40.9	0.204	0.102
	300	97.4	60.9	0.304	0.152
	400	129.4	80.9	0.404	0.202
	500	161.4	100.9	0.504	0.252
	600	193.4	120.9	0.604	0.302



OPT-IDD1-23L12					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
12mm	50	26.1	16.3	0.054	0.041
	100	50.1	31.3	0.104	0.078
	200	98.1	61.3	0.204	0.153
	300	146.1	91.3	0.304	0.228
	400	194.1	121.3	0.404	0.303
	500	242.1	151.3	0.504	0.378
	600	290.1	181.3	0.604	0.453

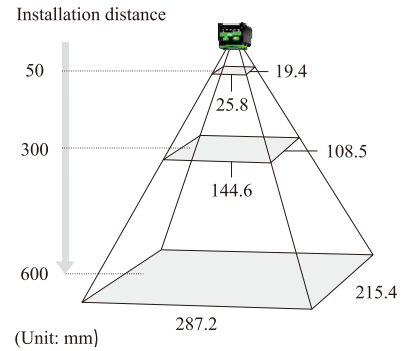


OPT-IDD1-50L12					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
12mm	50	30.4	25.4	0.050	0.025
	100	58.3	48.8	0.095	0.048
	200	114.2	95.5	0.187	0.093
	300	170.1	142.3	0.278	0.139
	400	226.0	189.1	0.369	0.185
	500	281.9	235.8	0.461	0.230
	600	337.8	282.6	0.552	0.276

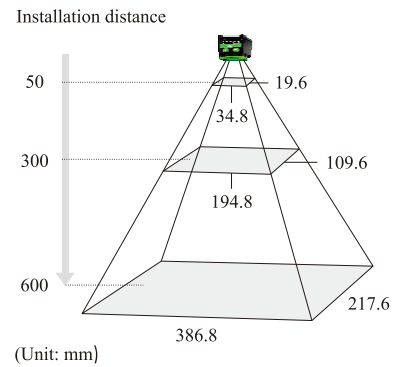


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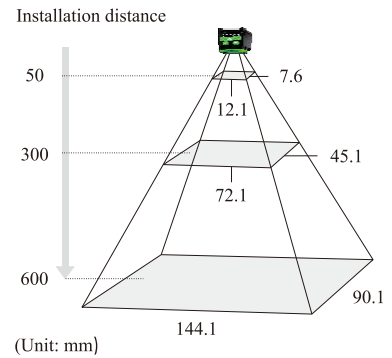
OPT-IDD1-R50L12					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
12mm	50	25.8	19.4	0.040	0.020
	100	49.6	37.2	0.077	0.038
	200	97.1	72.8	0.150	0.075
	300	144.6	108.5	0.223	0.112
	400	192.1	144.1	0.296	0.148
	500	239.7	179.8	0.370	0.185
	600	287.2	215.4	0.443	0.222



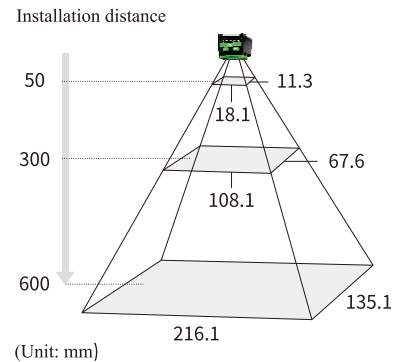
OPT-IDD1-R80L12					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
12mm	50	34.8	19.6	0.036	0.018
	100	66.8	37.6	0.070	0.035
	200	130.8	73.6	0.136	0.068
	300	194.8	109.6	0.203	0.101
	400	258.8	145.6	0.270	0.135
	500	322.8	181.6	0.336	0.168
	600	386.8	217.6	0.403	0.201



OPT-IDD1-10L16					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
16mm	50	12.1	7.6	0.038	0.019
	100	24.1	15.1	0.075	0.038
	200	48.1	30.1	0.150	0.075
	300	72.1	45.1	0.225	0.113
	400	96.1	60.1	0.300	0.150
	500	120.1	75.1	0.375	0.188
	600	144.1	90.1	0.450	0.225

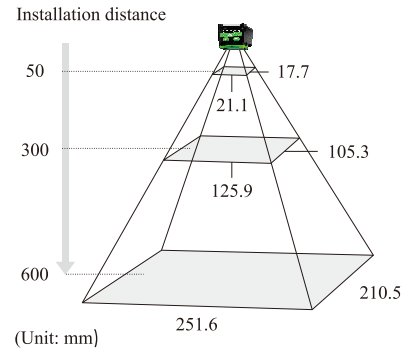


OPT-IDD1-23L16					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
16mm	50	18.1	11.3	0.038	0.028
	100	36.1	22.6	0.075	0.056
	200	72.1	45.1	0.150	0.113
	300	108.1	67.6	0.225	0.169
	400	144.1	90.1	0.300	0.225
	500	180.1	112.6	0.375	0.281
	600	216.1	135.1	0.450	0.338

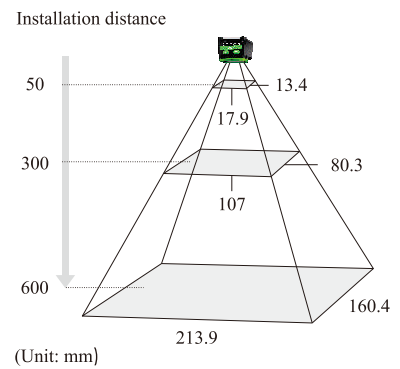


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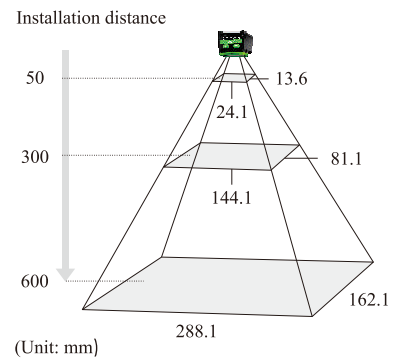
OPT-IDD1-50L16					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
16mm	50	21.1	17.7	0.034	0.017
	100	42.0	35.1	0.069	0.034
	200	83.9	70.2	0.137	0.069
	300	125.9	105.3	0.206	0.103
	400	167.8	140.4	0.274	0.137
	500	209.7	175.4	0.343	0.171
	600	251.6	210.5	0.411	0.206



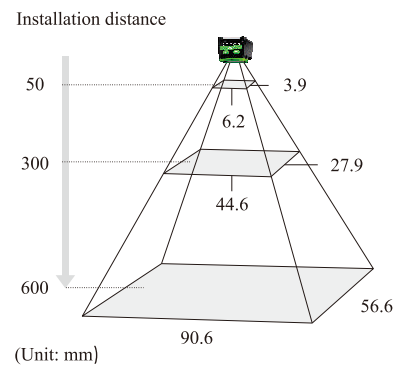
OPT-IDD1-R50L16					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
16mm	50	17.9	13.4	0.028	0.014
	100	35.7	26.8	0.055	0.028
	200	71.4	53.6	0.110	0.055
	300	107.0	80.3	0.165	0.083
	400	142.6	107.0	0.220	0.110
	500	178.3	133.7	0.275	0.138
	600	213.9	160.4	0.330	0.165



OPT-IDD1-R80L16					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
16mm	50	24.1	13.6	0.025	0.013
	100	48.1	27.1	0.050	0.025
	200	96.1	54.1	0.100	0.050
	300	144.1	81.1	0.150	0.075
	400	192.1	108.1	0.200	0.100
	500	240.1	135.1	0.250	0.125
	600	288.1	162.1	0.300	0.150

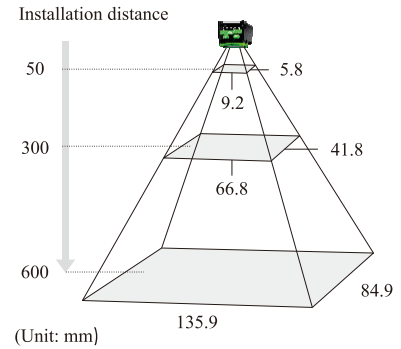


OPT-IDD1-10L25					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
25mm	50	6.2	3.9	0.019	0.010
	100	13.8	8.6	0.043	0.022
	200	29.2	18.2	0.091	0.046
	300	44.6	27.9	0.139	0.070
	400	59.9	37.4	0.187	0.094
	500	75.3	47.1	0.235	0.118
	600	90.6	56.6	0.283	0.142

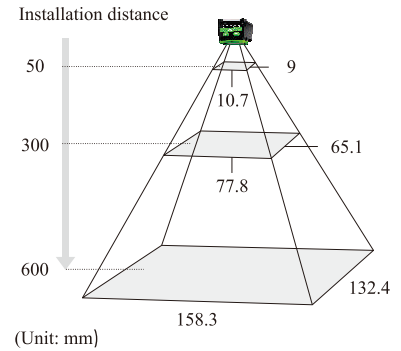


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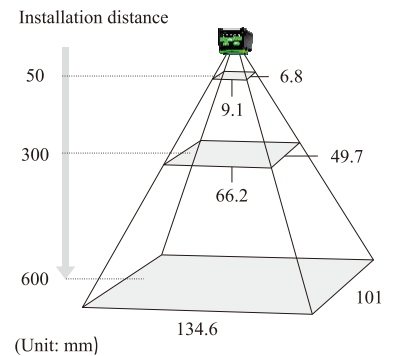
OPT-IDD1-23L25					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
25mm	50	9.2	5.8	0.019	0.014
	100	20.7	12.9	0.043	0.032
	200	43.8	27.4	0.091	0.068
	300	66.8	41.8	0.139	0.104
	400	89.9	56.2	0.187	0.140
	500	112.9	70.6	0.235	0.176
	600	135.9	84.9	0.283	0.212



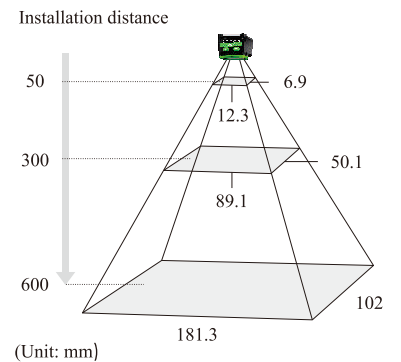
OPT-IDD1-50L25					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
25mm	50	10.7	9.0	0.017	0.009
	100	24.2	20.2	0.040	0.020
	200	51.0	42.7	0.083	0.042
	300	77.8	65.1	0.127	0.064
	400	399.8	87.5	0.653	0.327
	500	131.5	110.0	0.215	0.107
	600	158.3	132.4	0.259	0.129



OPT-IDD1-R50L25					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
25mm	50	9.1	6.8	0.014	0.007
	100	20.5	15.4	0.032	0.016
	200	43.3	32.5	0.067	0.033
	300	66.2	49.7	0.102	0.051
	400	89.0	66.8	0.137	0.069
	500	111.8	83.9	0.173	0.086
	600	134.6	101.0	0.208	0.104



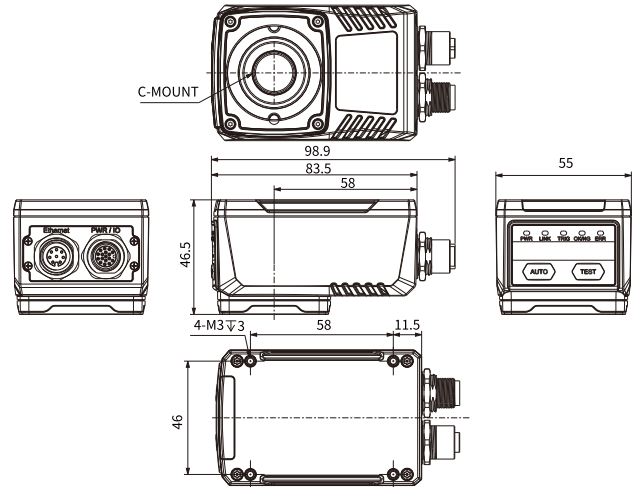
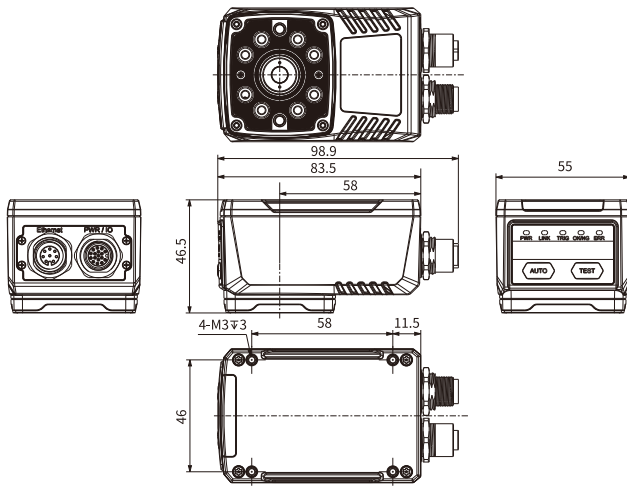
OPT-IDD1-R80L25					
Lens focal length	Working distance (mm)	View(mm)		Minimum recognition accuracy(mm)	
		Horizontal	Vertical	QR code	One-dimensional code
25mm	50	12.3	6.9	0.013	0.006
	100	27.7	15.6	0.029	0.014
	200	58.4	32.9	0.061	0.030
	300	89.1	50.1	0.093	0.046
	400	119.8	67.4	0.125	0.062
	500	150.5	84.7	0.157	0.078
	600	181.3	102.0	0.189	0.094



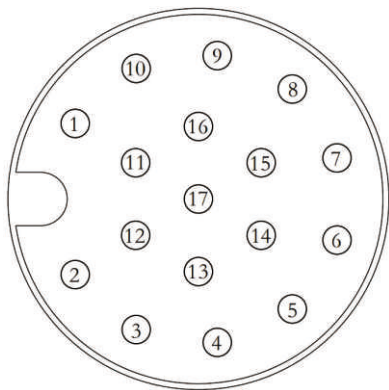
Dimensions (mm)

OPT-IDD1(M12-Mount)

OPT-IDD1(C-Mount)



IO Interface Description



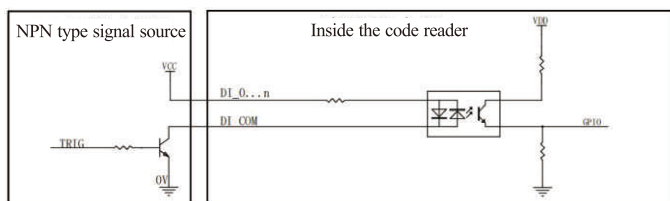
Pin	Signal definition	Illustrate
1	DC-PWR	Positive terminal of power supply
2	/	/
3	GND	Positive terminal of power supply
4	GND	Power ground terminal
5	DO_0	DO optocoupler isolated output 0
6	DO_1	DO optocoupler isolated output 1
7	DO_2	DO optocoupler isolated output 2
8	DO_COM	DO optocoupler isolated 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

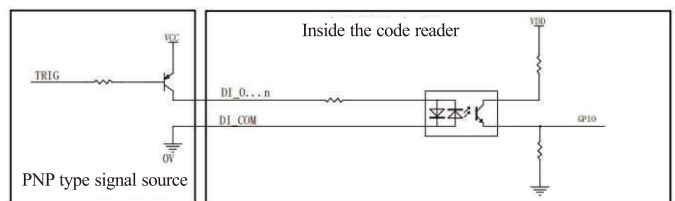
Enter external wiring diagram

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

NPN type input wiring:



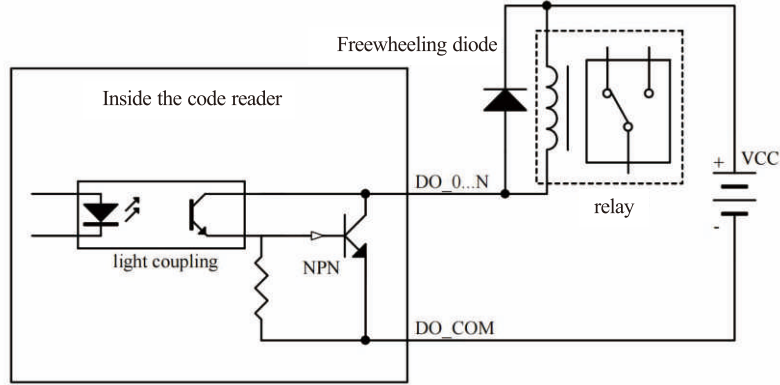
PNP type input wiring:



IO Interface Circuit Diagram

Output external wiring diagram

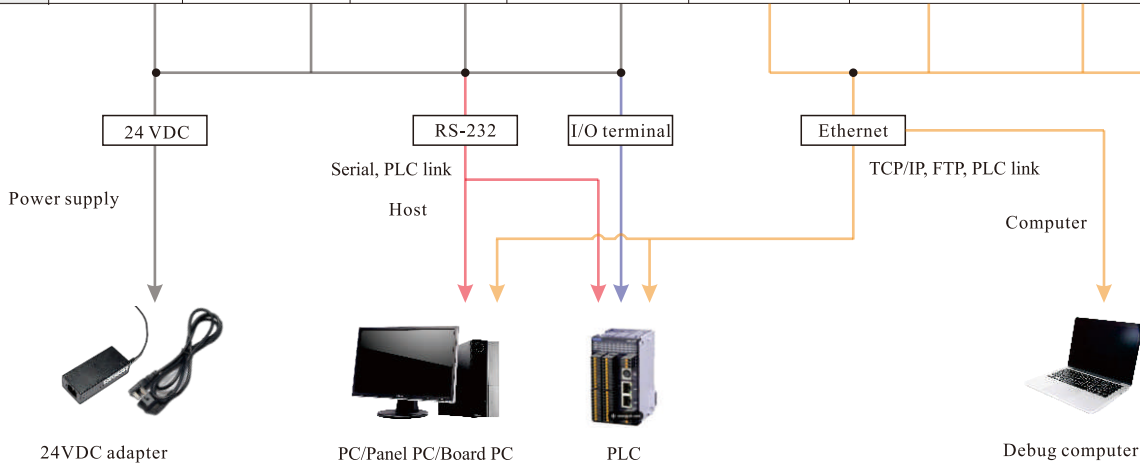
- (1) Output mode: open collector output (2) Maximum voltage: 30V DC (3) Maximum current: 50mA
(4) See the following figure for the internal circuit block diagram



Matching Cables

Accessory Cable

Cable length	D1 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)

