

PID-P3000G Series Code Reader

- ◆ Adoption of high-performance image sensors.
- ◆ Built-in deep learning code reading algorithm, efficiently read barcodes and QR codes, impervious to dirt and damage interference.
- ◆ Light sources are controlled separately by zones, adapting to a variety of different lighting environments.
- ◆ Equipped with a motorized lens for automatic focusing, significantly improving the efficiency of setup and adjustment.
- ◆ Supports transmission protocols such as TCP/IP, Serial, FTP and HTTP.
- ◆ Rich IO interfaces allow for the connection of multiple input and output signals.



Part number	Light source	Sensor type	Shutter type	Resolution	Maximum processing frame rate (fps)	Maximum read speed(code/s)
PID-P3013G-XXM-RH	Red light source, Half-polarized lens cover	CMOS	Global	1280x1024	60	90
PID-P3013G-XXM-RF	Red light source, Full-polarized lens cover	CMOS	Global	1280x1024	60	90
PID-P3013G-XXM-WN	White light source, Normal lens cover	CMOS	Global	1280x1024	60	90
PID-P3013G-XXM-BH	Blue light source, Half-polarized lens cover	CMOS	Global	1280x1024	60	90
PID-P3013G-XXM-BF	Blue light source, Full-polarized lens cover	CMOS	Global	1280x1024	60	90
PID-P3016G-XXM-RH	Red light source, Half-polarized lens cover	CMOS	Global	1440x1080	60	90
PID-P3016G-XXM-RF	Red light source, Full-polarized lens cover	CMOS	Global	1440x1080	60	90
PID-P3016G-XXM-WN	White light source, Normal lens cover	CMOS	Global	1440x1080	60	90
PID-P3016G-XXM-BH	Blue light source, Half-polarized lens cover	CMOS	Global	1440x1080	60	90
PID-P3016G-XXM-BF	Blue light source, Full-polarized lens cover	CMOS	Global	1440x1080	60	90
PID-P3050G-XXM-RH	Red light source, Half-polarized lens cover	CMOS	Global	2368x1792	45	90
PID-P3050G-XXM-RF	Red light source, Full-polarized lens cover	CMOS	Global	2368x1792	45	90
PID-P3050G-XXM-WN	White light source, Normal lens cover	CMOS	Global	2368x1792	45	90
PID-P3050G-XXM-BH	Blue light source, Half-polarized lens cover	CMOS	Global	2368x1792	45	90
PID-P3050G-XXM-BF	Blue light source, Full-polarized lens cover	CMOS	Global	2368x1792	45	90
PID-P3060G-XXM-RH	Red light source, Half-polarized lens cover	CMOS	Global	3072x2048	40	90
PID-P3060G-XXM-RF	Red light source, Full-polarized lens cover	CMOS	Global	3072x2048	40	90
PID-P3060G-XXM-WN	White light source, Normal lens cover	CMOS	Global	3072x2048	40	90
PID-P3060G-XXM-BH	Blue light source, Half-polarized lens cover	CMOS	Global	3072x2048	40	90
PID-P3060G-XXM-BF	Blue light source, Full-polarized lens cover	CMOS	Global	3072x2048	40	90

Lens focal	6/8/12/16/25mm(Auto focus)
Lens connection	M8-Mount
Connection type	The M12 connector provides power and I/O: RS232, 2 isolated inputs and 3 isolated outputs
Network interface	GbE (gigabit Ethernet)
Code type	One-dimensional code: Code39, Code128, EAN8, EAN13, UPC_A, UPC_E, Code93, GS1-128, GS1-DataBar expand, ITF, PHARMACODE, CODABAR etc. Two-dimensional code: QR Code, Data Matrix, PDF417 etc.
Communication mode	SDK, TCP Client, FTP, TCP Server, RS232, Profinet, Modbus, Ether Net/IP, MCUpd, MCTcp, Fins UDP etc.
Sighting device	Red light indicator
Dimensions	82mm × 55mm × 53mm(Without cable)
Reading distance	50-500mm
Weight	<350g
Power consumption	<18W
Power supply mode	Support 9V~26V, 2A input
Ambient humidity	20%~95%, Non-condensing
Temperature	Operating temperature: -20~50°C; Storage temperature: -30~70°C
Protection degree	IP65

Range reading characteristics chart-P3013G series

PID-P3013G-06M series

Minimum resolution

Unit: mm

Recognition resolution

Working distance	One-dimensional code	Two-dimensional code
80	0.07	0.15
150	0.12	0.26
230	0.17	0.39
300	0.22	0.50
400	0.29	0.67
600	0.44	0.99
1000	0.72	1.64
1500	1.08	2.45

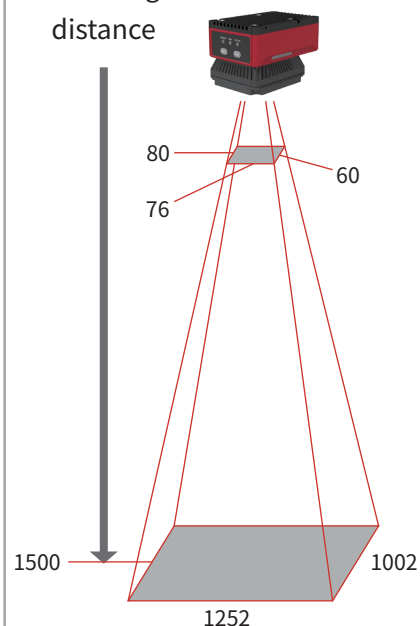
Vision

Unit: mm

Range reading characteristics chart

Working distance	Horizontal vision	Vertical vision
80	76	60
150	134	107
230	200	160
300	258	206
400	341	273
600	507	405
1000	838	670
1500	1252	1002

Mounting distance



PID-P3013G-08M series

Minimum resolution

Unit: mm

Recognition resolution

Working distance	One-dimensional code	Two-dimensional code
80	0.05	0.11
150	0.09	0.20
230	0.13	0.29
300	0.17	0.38
400	0.22	0.50
600	0.33	0.75
1000	0.54	1.23
1500	0.81	1.84

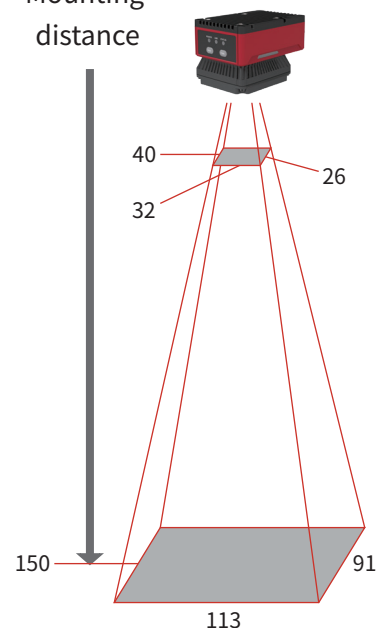
Vision

Unit: mm

Range reading characteristics chart

Working distance	Horizontal vision	Vertical vision
80	57	46
150	101	81
230	151	121
300	195	156
400	257	205
600	382	305
1000	631	505
1500	943	754

Mounting distance



Range reading characteristics chart
PID-P3013G-12M series
Minimum resolution

Unit: mm

Recognition resolution

Working distance	One-dimensional code	Two-dimensional code
80	0.04	0.07
150	0.06	0.13
230	0.09	0.20
300	0.11	0.26
400	0.15	0.34
600	0.22	0.51
1000	0.37	0.84
1500	0.55	1.25

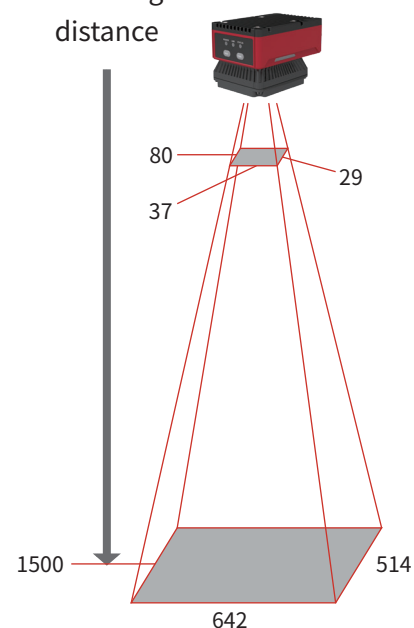
Vision

Unit: mm

Range reading characteristics chart

Working distance	Horizontal vision	Vertical vision
80	37	29
150	67	53
230	101	81
300	131	104
400	173	139
600	259	207
1000	429	343
1500	642	514

Mounting distance


PID-P3013G-16M series
Minimum resolution

Unit: mm

Recognition resolution

Working distance	One-dimensional code	Two-dimensional code
80	0.04	0.05
150	0.04	0.09
230	0.06	0.14
300	0.08	0.19
400	0.11	0.25
600	0.16	0.37
1000	0.27	0.62
1500	0.41	0.93

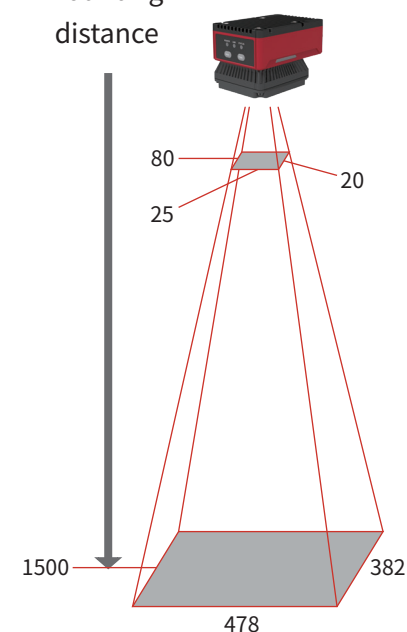
Vision

Unit: mm

Range reading characteristics chart

Working distance	Horizontal vision	Vertical vision
80	25	20
150	47	38
230	73	58
300	95	76
400	127	101
600	191	152
1000	318	254
1500	478	382

Mounting distance



Range reading characteristics chart

PID-P3013G-25M series

Minimum resolution

Unit: mm

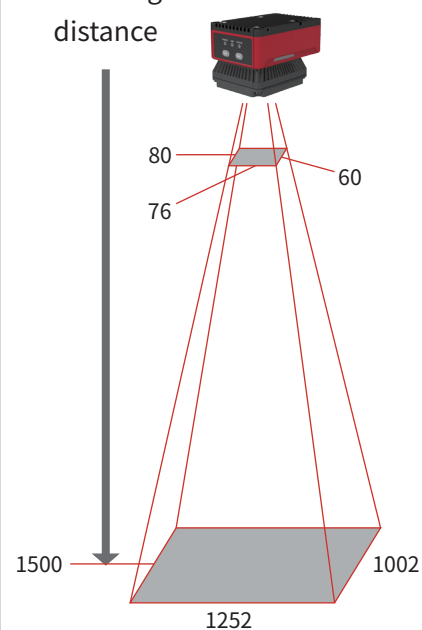
Recognition resolution	Working distance	One-dimensional code	Two-dimensional code
	150	0.04	0.05
	200	0.04	0.07
	250	0.04	0.09

Vision

Unit: mm

Range reading characteristics chart	Working distanc	Horizontal vision	Vertical vision
	150	27	21
	200	37	30
	250	47	38

Mounting distance



Range reading characteristics chart-P3016G series
PID-P3016G-06M series
Minimum resolution

Unit: mm

Recognition resolution

Working distance	One-dimensional code	Two-dimensional code
80	0.06	0.13
150	0.10	0.23
230	0.15	0.34
300	0.19	0.43
400	0.25	0.57
600	0.38	0.85
1000	0.62	1.41
1500	0.93	2.11

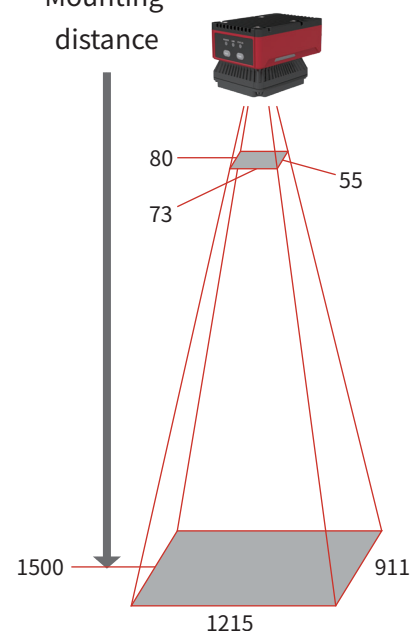
Vision

Unit: mm

Range reading characteristics chart

Working distance	Horizontal vision	Vertical vision
80	73	55
150	130	97
230	194	145
300	250	188
400	331	248
600	491	368
1000	813	610
1500	1215	911

Mounting distance


PID-P3016G-08M series
Minimum resolution

Unit: mm

Recognition resolution

Working distance	One-dimensional code	Two-dimensional code
80	0.04	0.10
150	0.07	0.17
230	0.11	0.25
300	0.14	0.33
400	0.19	0.43
600	0.28	0.64
1000	0.47	1.06
1500	0.70	1.59

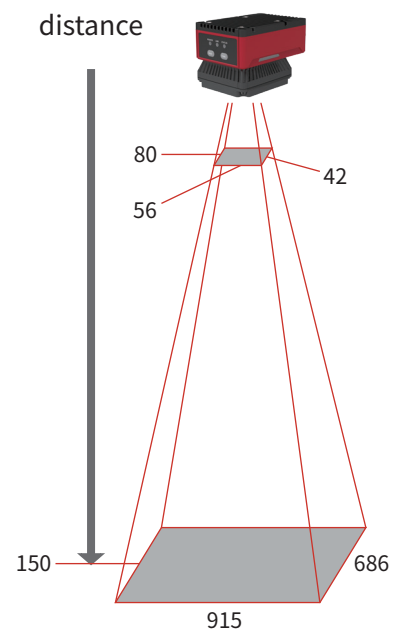
Vision

Unit: mm

Range reading characteristics chart

Working distance	Horizontal vision	Vertical vision
80	56	42
150	98	73
230	146	110
300	189	141
400	249	187
600	370	278
1000	612	459
1500	915	686

Mounting distance



Range reading characteristics chart

PID-P3016G-12M series

Minimum resolution

Unit: mm

Recognition resolution

Working distance	One-dimensional code	Two-dimensional code
80	0.04	0.06
150	0.05	0.11
230	0.07	0.17
300	0.10	0.22
400	0.13	0.29
600	0.19	0.44
1000	0.32	0.72
1500	0.48	1.08

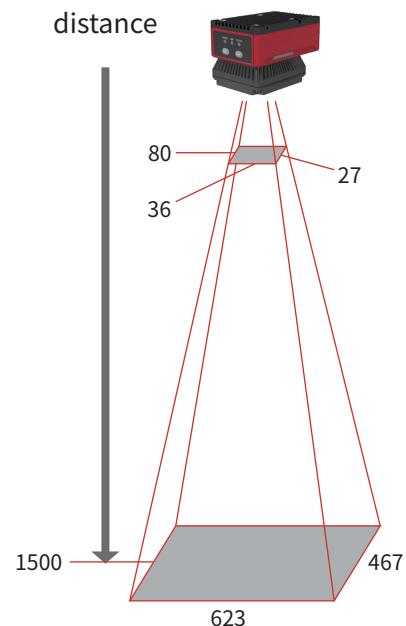
Vision

Unit: mm

Range reading characteristics chart

Working distance	Horizontal vision	Vertical vision
80	36	27
150	65	48
230	98	73
300	127	95
400	168	126
600	251	188
1000	416	312
1500	623	467

Mounting distance



PID-P3016G-16M series

Minimum resolution

Unit: mm

Recognition resolution

Working distance	One-dimensional code	Two-dimensional code
80	0.04	0.04
150	0.04	0.08
230	0.05	0.12
300	0.07	0.16
400	0.09	0.21
600	0.14	0.32
1000	0.24	0.54
1500	0.35	0.80

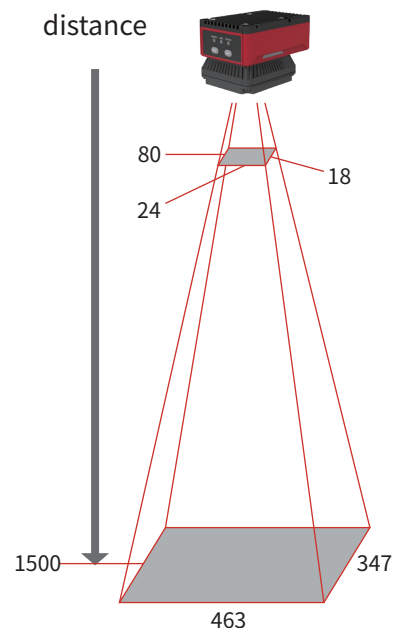
Vision

Unit: mm

Range reading characteristics chart

Working distance	Horizontal vision	Vertical vision
80	24	18
150	46	34
230	70	53
300	92	69
400	123	92
600	185	139
1000	309	231
1500	463	347

Mounting distance



Range reading characteristics chart

PID-P3016G-25M series

Minimum resolution

Unit: mm

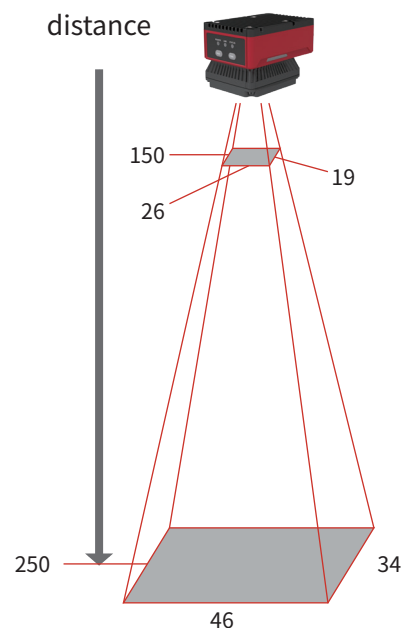
Recognition resolution	Working distance	One-dimensional code	Two-dimensional code
	150	0.04	0.05
	200	0.04	0.06
	250	0.04	0.08

Vision

Unit: mm

Range reading characteristics chart	Working distance	Horizontal vision	Vertical vision
	150	26	19
	200	36	27
	250	46	34

Mounting distance



Range reading characteristics chart-P3050G series

PID-P3050G-08M series

Minimum resolution

Unit: mm

Recognition resolution

Working distance	One-dimensional code	Two-dimensional code
80	0.04	0.09
150	0.07	0.16
230	0.10	0.24
300	0.13	0.30
400	0.18	0.40
600	0.26	0.60
1000	0.43	0.99
1500	0.65	1.47

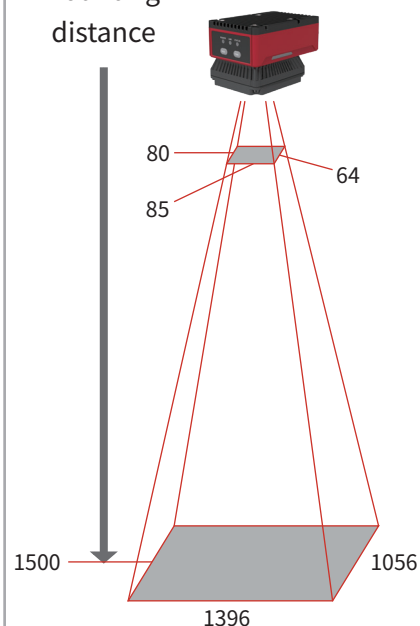
Vision

Unit: mm

Range reading characteristics chart

Working distance	Horizontal vision	Vertical vision
80	85	64
150	150	113
230	224	169
300	288	218
400	381	288
600	565	428
1000	934	707
1500	1396	1056

Mounting distance



PID-P3050G-12M series

Minimum resolution

Unit: mm

Recognition resolution

Working distance	One-dimensional code	Two-dimensional code
80	0.04	0.06
150	0.05	0.10
230	0.07	0.16
300	0.09	0.20
400	0.12	0.27
600	0.18	0.40
1000	0.29	0.67
1500	0.44	1.00

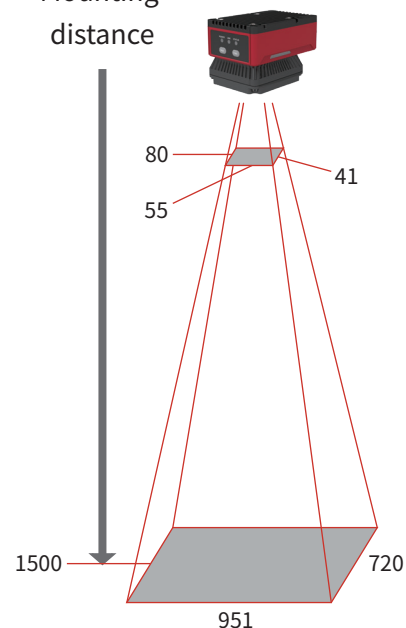
Vision

Unit: mm

Range reading characteristics chart

Working distance	Horizontal vision	Vertical vision
80	55	41
150	99	75
230	149	113
300	194	146
400	257	194
600	383	290
1000	635	481
1500	951	720

Mounting distance



Range reading characteristics chart

PID-P3050G-16M series

Minimum resolution

Unit: mm

Recognition resolution

Working distance	One-dimensional code	Two-dimensional code
80	0.04	0.04
150	0.04	0.07
230	0.05	0.11
300	0.07	0.15
400	0.09	0.20
600	0.13	0.30
1000	0.22	0.50
1500	0.33	0.75

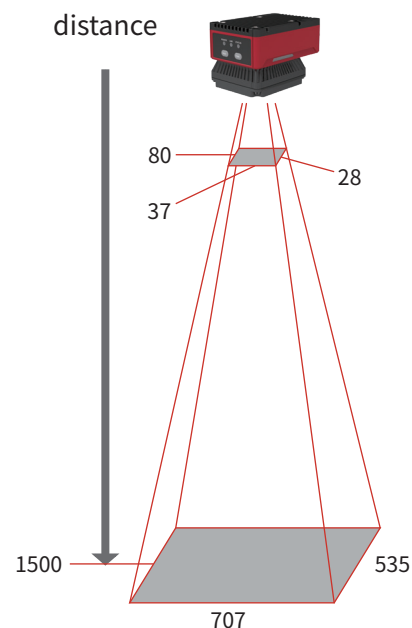
Vision

Unit: mm

Range reading characteristics chart

Working distance	Horizontal vision	Vertical vision
80	37	28
150	70	53
230	108	81
300	141	106
400	188	142
600	282	214
1000	471	356
1500	707	535

Mounting distance



PID-P3050G-25M series

Minimum resolution

Unit: mm

Recognition resolution

Working distance	One-dimensional code	Two-dimensional code
150	0.04	0.04
200	0.04	0.06
250	0.04	0.07

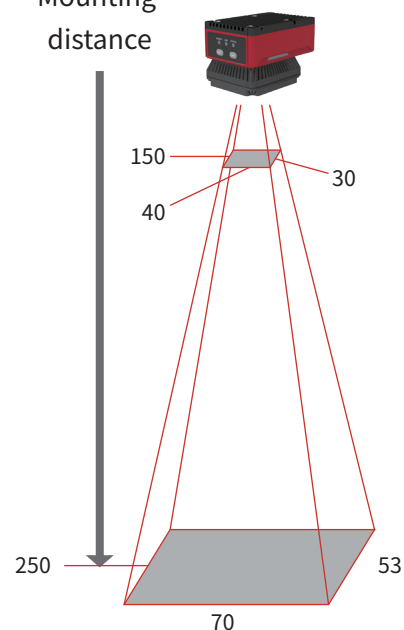
Vision

Unit: mm

Range reading characteristics chart

Working distance	Horizontal vision	Vertical vision
150	40	30
200	55	42
250	70	53

Mounting distance



Range reading characteristics chart

PID-P3060G-08M series

Minimum resolution

Unit: mm

Recognition resolution

Working distance	One-dimensional code	Two-dimensional code
80	0.04	0.07
150	0.05	0.12
230	0.08	0.18
300	0.10	0.23
400	0.13	0.30
600	0.20	0.45
1000	0.33	0.74
1500	0.49	1.11

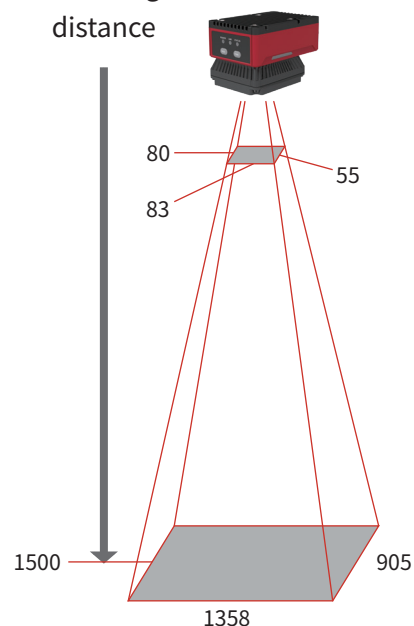
Vision

Unit: mm

Range reading characteristics chart

Working distance	Horizontal vision	Vertical vision
80	83	55
150	146	97
230	218	145
300	280	187
400	370	247
600	550	366
1000	909	606
1500	1358	905

Mounting distance



PID-P3060G-12M series

Minimum resolution

Unit: mm

Recognition resolution

Working distance	One-dimensional code	Two-dimensional code
80	0.04	0.04
150	0.04	0.08
230	0.05	0.12
300	0.07	0.15
400	0.09	0.20
600	0.13	0.30
1000	0.22	0.50
1500	0.33	0.75

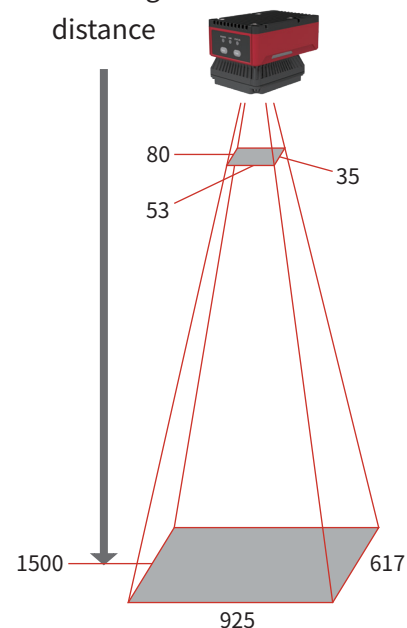
Vision

Unit: mm

Range reading characteristics chart

Working distance	Horizontal vision	Vertical vision
80	53	35
150	96	64
230	145	97
300	188	125
400	250	166
600	373	248
1000	618	412
1500	925	617

Mounting distance



Range reading characteristics chart

PID-P3060G-16M series

Minimum resolution

Unit: mm

Recognition resolution

Working distance	One-dimensional code	Two-dimensional code
80	0.04	0.04
150	0.04	0.06
230	0.04	0.09
300	0.05	0.11
400	0.07	0.15
600	0.10	0.22
1000	0.16	0.37
1500	0.25	0.56

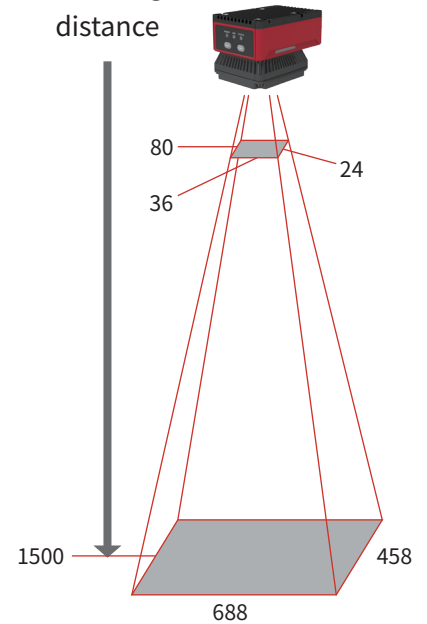
Vision

Unit: mm

Range reading characteristics chart

Working distance	Horizontal vision	Vertical vision
80	36	24
150	68	45
230	105	70
300	137	91
400	183	122
600	275	183
1000	458	305
1500	688	458

Mounting distance



PID-P3060G-25M series

Minimum resolution

Unit: mm

Recognition resolution

Working distance	One-dimensional code	Two-dimensional code
150	0.04	0.04
200	0.04	0.04
250	0.04	0.06

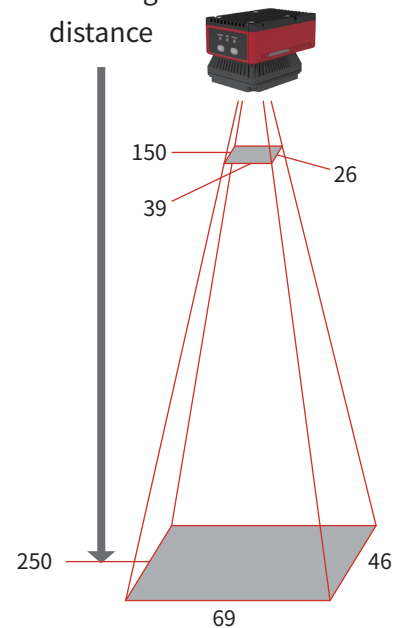
Vision

Unit: mm

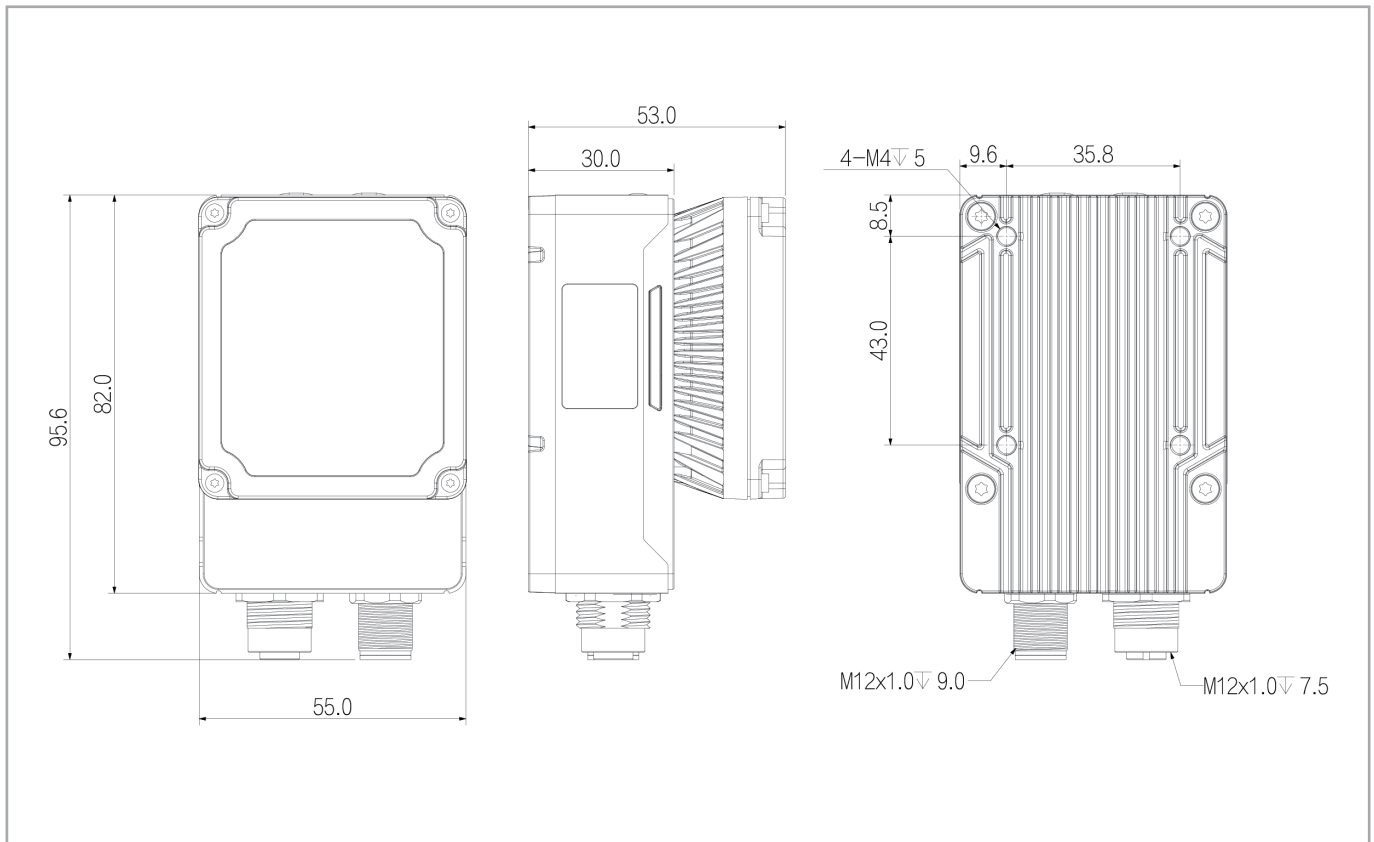
Range reading characteristics chart

Working distance	Horizontal vision	Vertical vision
150	39	26
200	54	36
250	69	46

Mounting distance



Dimensions

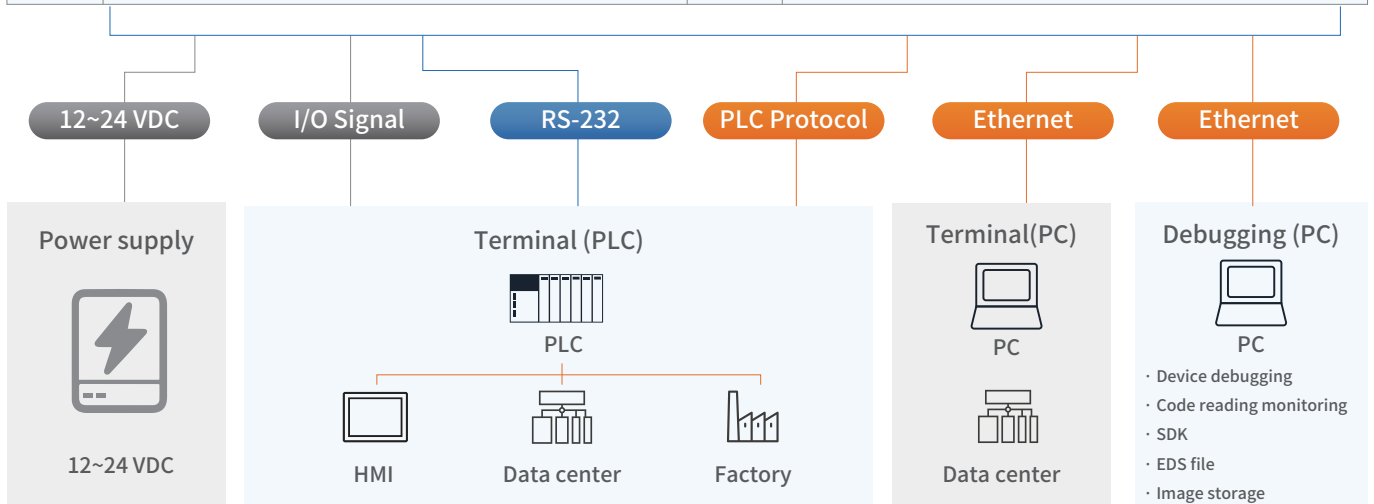


Interface definition

Pin	Signal	Description	Matching cable color
1	OPT_OUT2	Optocoupled isolation output 2	 Brown+ white
2	RS232_TXD	RS232 Serial port transmitter	 Gray
3	RS232_RXD	RS232 Serial port receiver	 Purple
4	SIGNAL_GND	RS232 Serial port ground	 Black+ white
5	OPT_IN1	Optocoupled isolation input 1	 Yellow
6	OPT_IN_GND	Optocoupled isolation input ground	 Purple+ white
7	POWER	Power supply	 Red
8	POWER_GND	Power supply ground	 Black
9	OPT_OUT_GND	Optocoupled isolation input ground	 Green
10	OPT_IN0	Optocoupled isolation input 0	 Orange
11	OPT_OUT0	Optocoupled isolation output 0	 Blue
12	OPT_OUT1	Optocoupled isolation output 1	 Brown
13		Shielded ground	 White

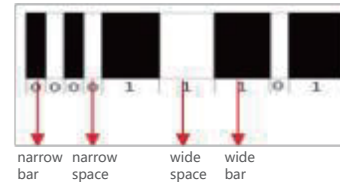
Cable

Power supply & GPIO cable			Ethernet cable		
	Standard cable	High flexibility cable		Standard cable	High flexibility cable
5m	PID-PIO-M12F12-D9-S-5	PID-PIO-M12F12-D9-T-5	5m	PID-PLA-M12M8-RJ45-S-5	PID-PLA-M12M8-RJ45-T-5
10m	PID-PIO-M12F12-D9-S-10	PID-PIO-M12F12-D9-T-10	10m	PID-PLA-M12M8-RJ45-S-10	PID-PLA-M12M8-RJ45-T-10
15m	PID-PIO-M12F12-D9-S-15	PID-PIO-M12F12-D9-T-15	15m	PID-PLA-M12M8-RJ45-S-15	PID-PLA-M12M8-RJ45-T-15
20m	PID-PIO-M12F12-D9-S-20		20m	PID-PLA-M12M8-RJ45-S-20	
30m	PID-PIO-M12F12-D9-S-30		25m	PID-PLA-M12M8-RJ45-S-25	
			35m	PID-PLA-M12M8-RJ45-S-35	PID-PLA-M12M8-RJ45-T-35
					



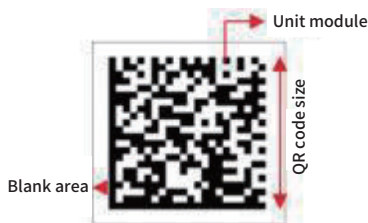
One-dimensional code introduction

One-dimensional code is a graphic identifier used to express information by arranging multiple black and white bars of different widths according to certain coding rules. One-dimensional code can represent numbers, letters, and characters, and the blank space should be reserved 10 times the width of the narrow band.



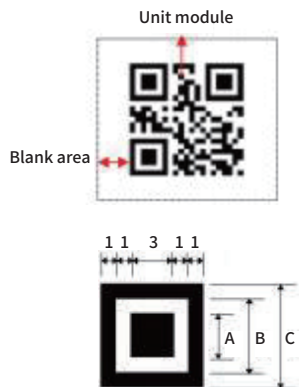
The width of the wide bars is typically 2 to 3 times the width of the narrow bars; For example, the ratio between the narrow bar width (NB), wide bar width (WB), narrow space width (NS), and wide space width (WS) is: NB:WB = NS:WS = 1:2 to 1:3.

Two-dimensional code introduction



Data Matrix /DM

Unit module accuracy: the size of a single module
The quiet zone of a DM code: the blank area surrounding the code, should have a width of at least one module size for Data Matrix (DM).
Correction graphics: L shapepart



QR code

Unit module accuracy: the size of a single module
The quiet zone of a QR code: the blank area surrounding the code, should be at least four module widths for standard QR codes, and at least two module widths for MicroQR codes.
The positioning pattern: the "horseshoe" shaped part, consists of three such patterns for standard QR codes and one for MicroQR codes

Type of two-dimensional code printing inspection standard

The representative printing inspection standards are as follows:

Types of one-dimensional barcode printing inspection standards: ISO/IEC 15416

Standards for the assessment of one-dimensional barcode print quality established by the International Organization for Standardization and the International Electrotechnical Commission.

[ISO/IEC 15415]

Standards for the assessment of two-dimensional barcode print quality established by the International Organization for Standardization. It is mainly used to evaluate QR codes printed on labels.

[ISO/IEC TR 29158(AIM DPM-1-2006)]

The quality assessment standard for direct part marking technology of two-dimensional barcodes established by the Automatic Identification Manufacturers is based on ISO/IEC 15415. This standard was also standardized by the International Organization for Standardization in 2011.

How to select a suitable code reader

01

Step 1

Confirm code conditions:

The most important thing is to confirm the "resolution" of the code, also known as: code accuracy, code module accuracy, etc.

If it is a QR code: the size of the smallest unit module should be confirmed.



02

Step 1

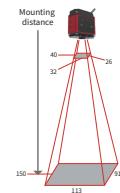
Confirm working distance and field of view:

The readable distance depends on the minimum cell size mentioned in Step 1 (code accuracy). When the reading distance is limited, the reading range of the reader and the code itself need to be taken into account.

Note: under normal circumstances, the larger the working distance, the larger the field of view, the larger the size of the unit module that can be supported.

Minimum resolution				Unit: mm		
Recognition resolution	Working distance	One-dimensional code	Two-dimensional code			
	90	0.04	0.04			
	150	0.04	0.06			
	230	0.04	0.09			
	300	0.05	0.11			
	400	0.07	0.15			
	600	0.10	0.22			
	1000	0.16	0.37			
	1500	0.25	0.56			

Vision				Unit: mm		
Range reading characteristics chart	Working distance	Horizontal vision	Vertical vision			
	90	36	24			
	150	68	45			
	230	105	70			
	300	137	91			
	400	183	122			
	600	275	183			
	1000	458	305			
	1500	688	458			



Examples of common codes

Type	Code128		Code39	
Code				
Code value	code128		test123	
Type	EAN		UPC-A	
Code				
Code value	(01)01234567890128(15)051128		123456789012	
Type	DM	QR	GS1DM	pdf417
Code				
Code value	test123	test123	t(01)00012345678905	Test123\92800000\000\922

SERVICE AND SUPPORT





Excellent service

- One-to-one service, first time response.
- Personalized selection service, ultimate VIP experience.

We are looking
forward to your call!

0086-21-57486188-8806

Remarkable quality

Comprehensive quality control from raw materials supply to service.

- Product quality verification of 8 major laboratories.
- Safe production, precise management, and high-quality performance.
- Dynamic system, excellent service, and comprehensive quality control.

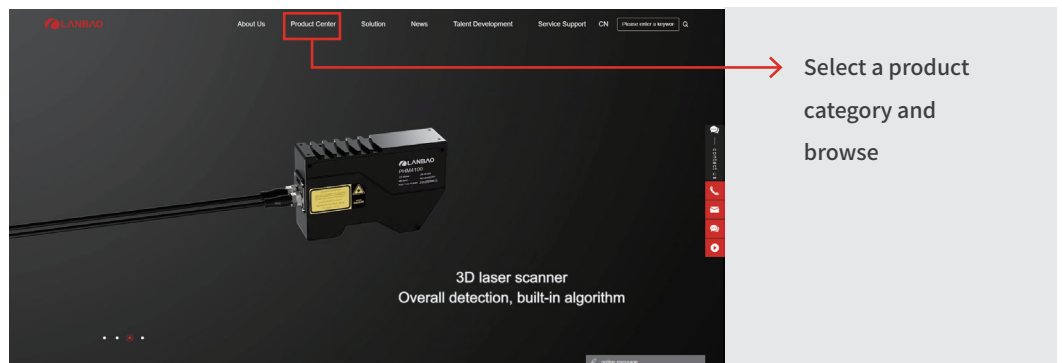


Personalized selection service

- Website+Catalog for selection, Lanbao professional team offers more efficient online selection services, providing professional customized solutions for different situations.

Lanbao websites:

www.lanbaosensor.com/www.cnlanbaosensor.com



Full life cycle service

- Lanbao's technical team provides customers with complete services from product selection/personalized customization, sales, system integration, training, operation, customized solutions. Lanbao provides customers with efficient customized services and quality assurance. Standard orders and regular stock products can be shipped immediately, maintenance, after-sales and upgrade.

Customized solutions

- Lanbao provides customers with efficient customized services and quality assurance.
- Standard orders and regular stock products can be shipped immediately.



Quality system with efficiency management

- The reliable and stable manufacturing management system makes Lanbao intelligent production come true. Each product of Lanbao not only strictly implements feasibility and reliability review in the design stage but also has strict control by quality statistical management in the production process. In this way, product's great performance and ability to withstand harsh environment can be ensured. With the ultimate spirit of ingenuity, Lanbao guarantees the best quality of products to satisfy customer's needs.