

# HRX Series

## Fixed-Mount Barcode Reader

HRX series is a highest rate barcode reader with latest algorithms, multi-group lighting technology and multi core processor. Combines with advanced One-Click Auto Tuning and Auto-Focus features, help to ease to use, installation and configuration with no experience and PC needed. Simply to solve most challenging 1D 2D codes and DPM codes reading for tough industry applications.



### Ease-to-Use with advanced One-Click Auto Tuning and Auto-Focus technologies

One-Click Auto Tuning and Auto-Focus features simplify installation and operation of HRX series reader. Intelligent auto-tuning and auto-focusing help the user to quickly set the optimal parameters with no experience and PC needed, saving a lot of time on variable applications.

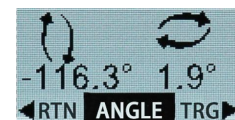
#### Simple 3-Step Setup



Installation

#### Angle transducer makes device installation easier

Stable angle conditions can be checked and output with the intuitive built-in display. Proper installation angle can be easily reproduced and restored.

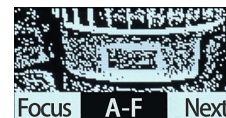


Angle check

Auto Focus

#### Code position and Auto focusing without a PC

There is no need for a personal computer or monitoring the facility. The code position and focusing can be checked and operation simply with the intuitive built-in display.



Auto focusing

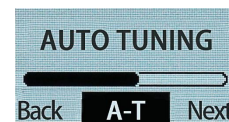


Live view

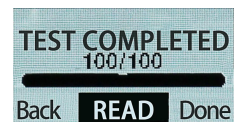
Auto Tune

#### Auto tuning without a PC

There is no need for a personal computer or monitoring the facility. The code position and focusing can be checked and operation simply with the intuitive built-in display.



Auto tuning



Reading test completed

## Multi-group lighting delivers optimal image formation

HRX series reader combines innovative multi-group lighting technology (direct, diffuse and polarized light), delivers optimal image formation for codes in difficult to read applications, highly reflective, casting, grain, dark, glass and cylindrical.



Sample (typical case)	Direct Lighting	Polarized Lighting	Diffuse Lighting
Casting Surface (dot peen)	<b>BEST</b>	<b>ERROR</b>	<b>ERROR</b>
Shiny Metal	<b>ERROR</b>	<b>BEST</b>	<b>ERROR</b>
Grain	<b>ERROR</b>	<b>ERROR</b>	<b>BEST</b>

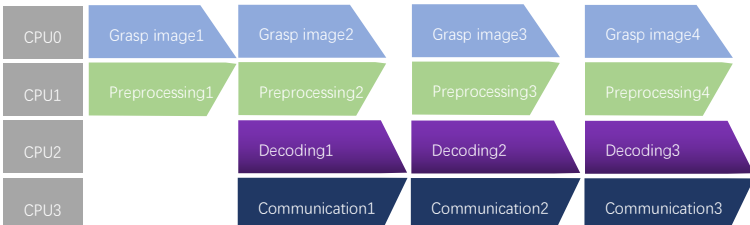
## 4-core high-speed computing power

HRX series barcode reader has a built-in 4-core high-speed processor enables to run algorithms and processes in parallel, delivers 4 times the decoding performance of conventional readers\*. And ensures high read rate of 1D, 2D codes.

**Conventional barcode readers\*** (single core, long decoding time)



**HRX series** (4-core, dramatically reduce decoding time)

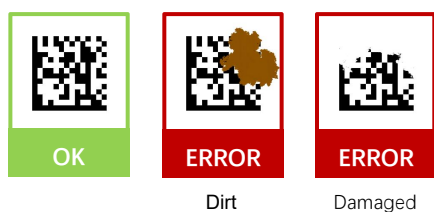


\*Compared with HM5 series products of our company

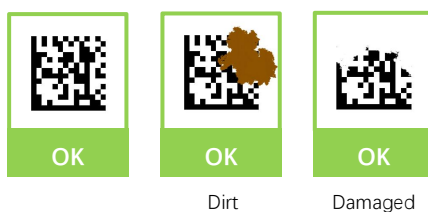
## ModeC™ algorithms improve reading ability

HRX series barcode reader features the innovative ModeC™ algorithm which is designed for reading 2D codes (QR and Datamatrix codes) which are significantly damaged, dirty or incomplete. Supplement cell information and read, can be improved the reading rate while ensuring data integrity.

**Conventional readers\***



**HRX series readers**



\*Compared with HM5 series products of our company

# Application Cases

## Electronics



Cylindrical Battery

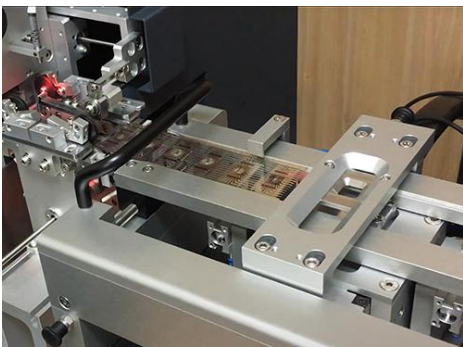
Conventional\*



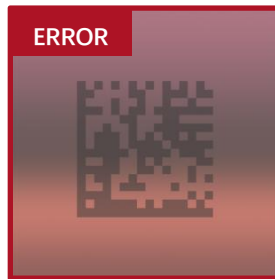
HRX Series



In the production of batteries, in the process of code traceability, the battery will rotate rapidly, making it difficult to read the barcode. At this time, the HRX series can also read stably.



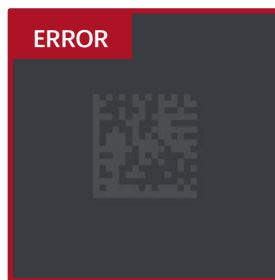
Lead Frame



After the lead frame is subjected to the heat treatment process, the phenomenon of uneven color occurs. the bar code appears color gradient and becomes difficult to read. HRX series can read stable by reducing the effect of color gradients.



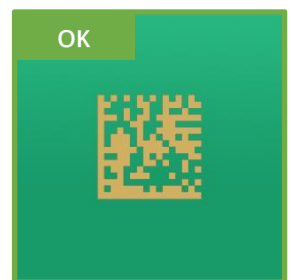
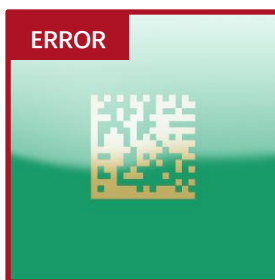
IC Chip



When engraving on the resin sealant of the IC chip, many resins are not easily colored, resulting in a very shallow engraving. HRX series can also be read by increasing the contrast at this time.



Printed Circuit Board



If the printed circuit board is coated with flux, it will be difficult to read due to the effect of reflection. At this time, HRX series also possible to read by reducing the influence of reflections.

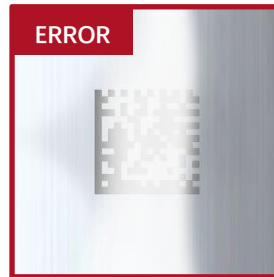
\*Compared with HM5 series products of our company

## Automotive

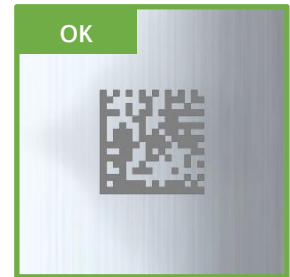


Car Battery

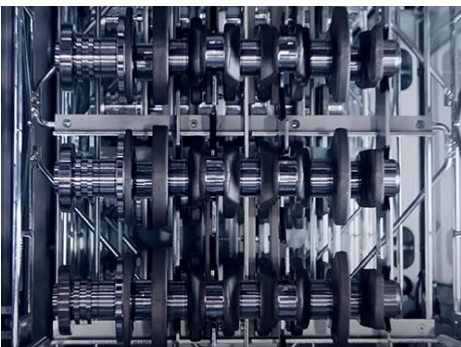
Conventional\*



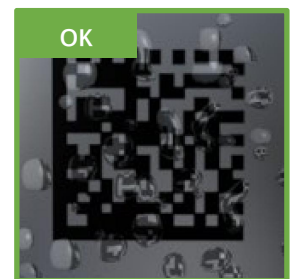
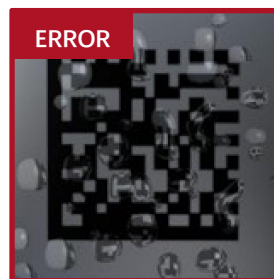
HRX Series



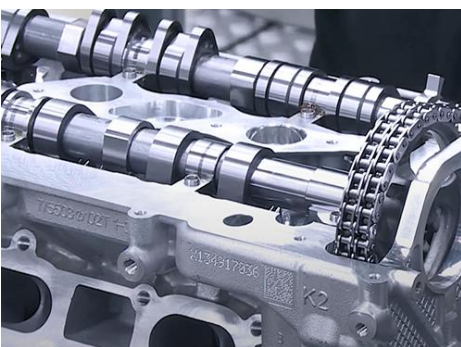
There are maybe textured or reflections on the surface of car battery case, make difficult to read. In this case, HRX series can read stable by reducing influence of texture or reflection.



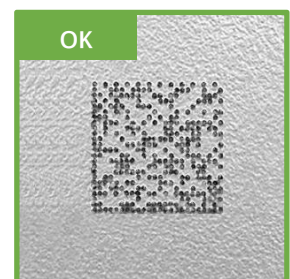
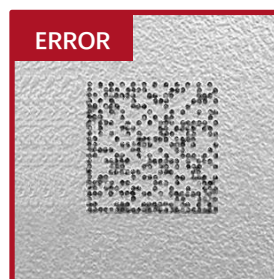
Crankshaft



The crankshaft has a cleaning process and code must be read with water droplets after cleaning. HRX series can read stable by reducing the effect of water droplets.



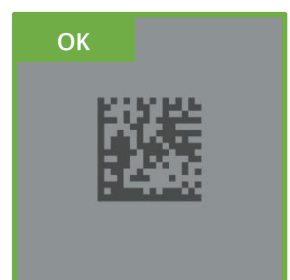
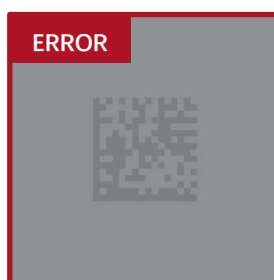
Engine Cylinder Module



Engine cylinder modules are sometimes marked the code by dot peen. In addition, the dot peen marking may be affected by factors such as needle tip wear, so that the marking point expands. In this case, HRX series can read stably.



Gear



Gear-related products may undergo a quenching process. After that, the contrast of the code may become too low to read. HRX series can read by increasing the contrast.

\*Compared with HM5 series products of our company

## FMCG, Pharmaceutical

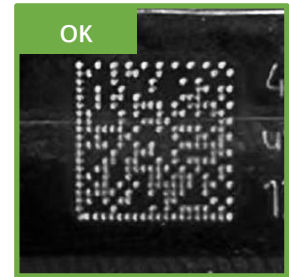


Tobacco

Conventional\*



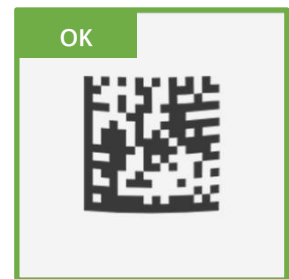
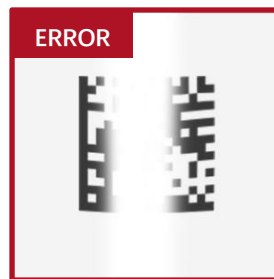
HRX Series



During the tobacco producing process, the outside is wrapped with a film that reflection and make s difficult to read. HRX series can read stable by reducing the effect of film reflections.



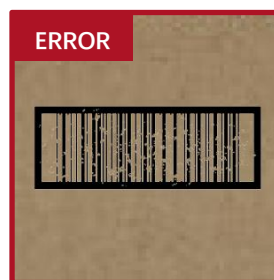
Test Tube, Bottle



Most of the test tubes and bottles are marked on the curved surface. After illuminating by reader, the apex of the curved surface will reflect light, making it impossible to read. Reflection can be removed by a polarized light for stable reading.



Carton



Cartons are sometimes affected by ink and appear whitish. HRX series can read stable by reducing the effect of whitish.



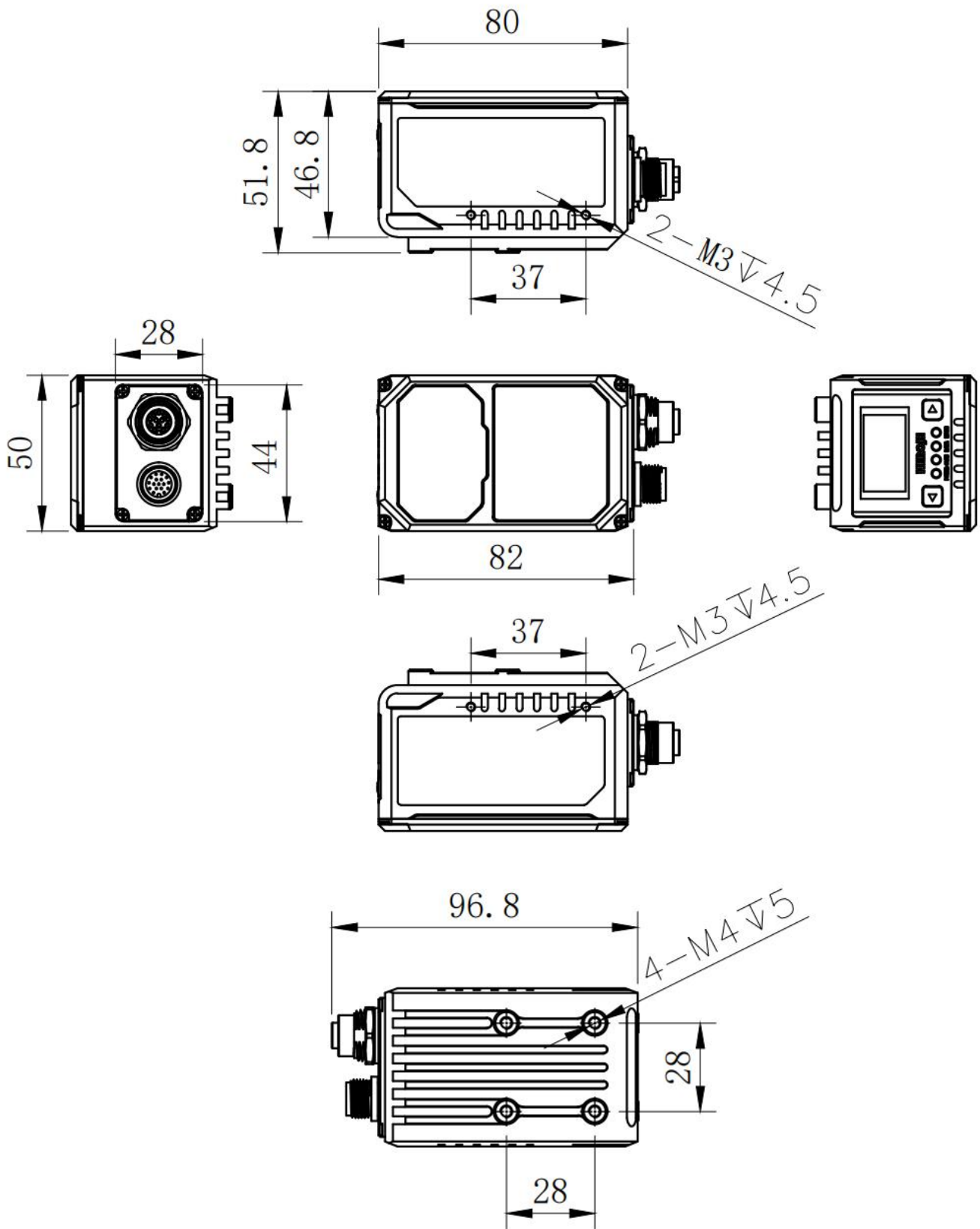
Vacuum Packages



Vacuum-packed products are often difficult to read due to the effects of vacuum compression deformation and film reflection, In this case, the HRX series can read stable by advanced algorithms and reducing the effect of reflection.

\*Compared with HM5 series products of our company

# Dimension



# FOV/DOF

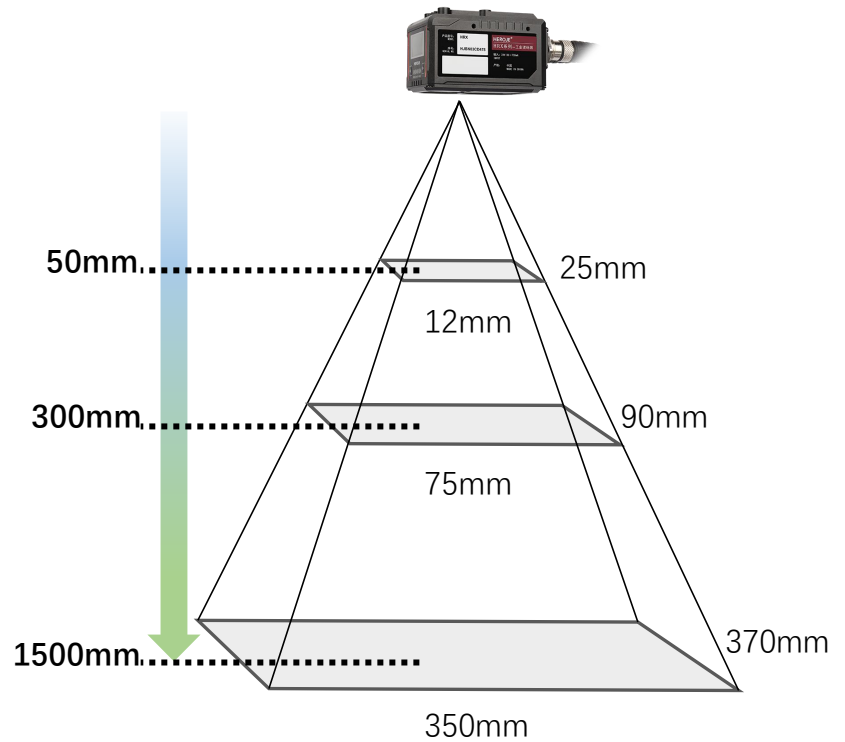
## HRX-S-130

Minimum resolution Unit(mm)

Distance	1D	2D
50	0.082	0.082
110	0.082	0.14
140	0.082	0.14
150	0.082	0.14
230	0.082	0.14
300	0.11	0.18
400	0.15	0.24
1500	0.5	2

Field of View Unit(mm)

Distance	Height	Width
50	25	12
110	31	26
140	40	35
150	43	38
230	65	55
300	90	75
400	118	95
1500	370	350



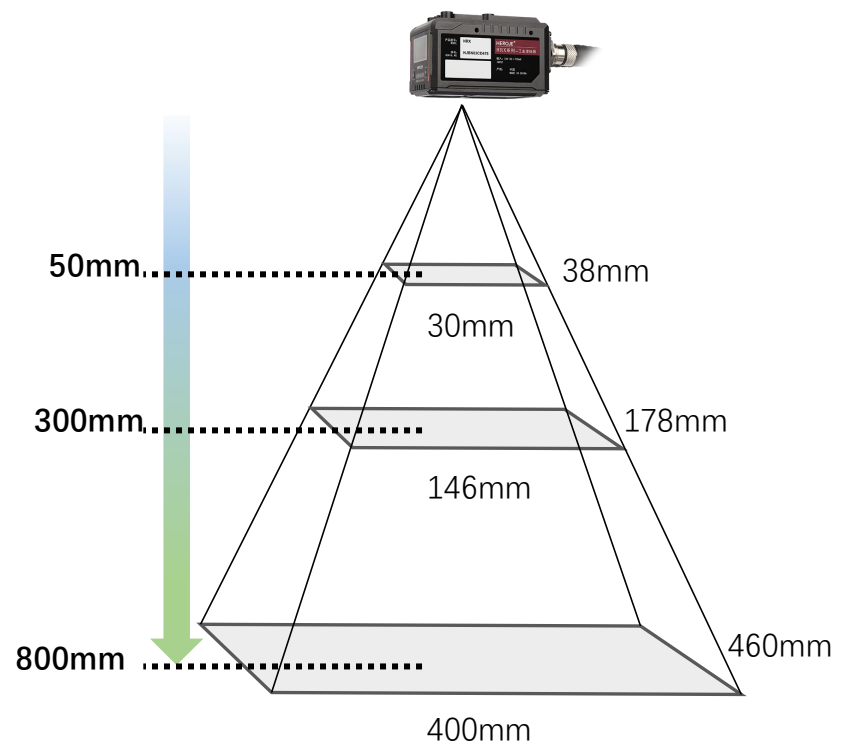
## HRX-S-130W

Minimum resolution Unit(mm)

Distance	1D	2D
50	0.082	0.14
110	0.082	0.18
140	0.082	0.37
150	0.082	0.37
230	0.082	0.61
300	0.15	0.61
800	0.37	0.78

Field of View Unit(mm)

Distance	Height	Width
50	38	30
110	72	60
140	87	72
150	93	79
230	140	116
300	178	146
800	460	400







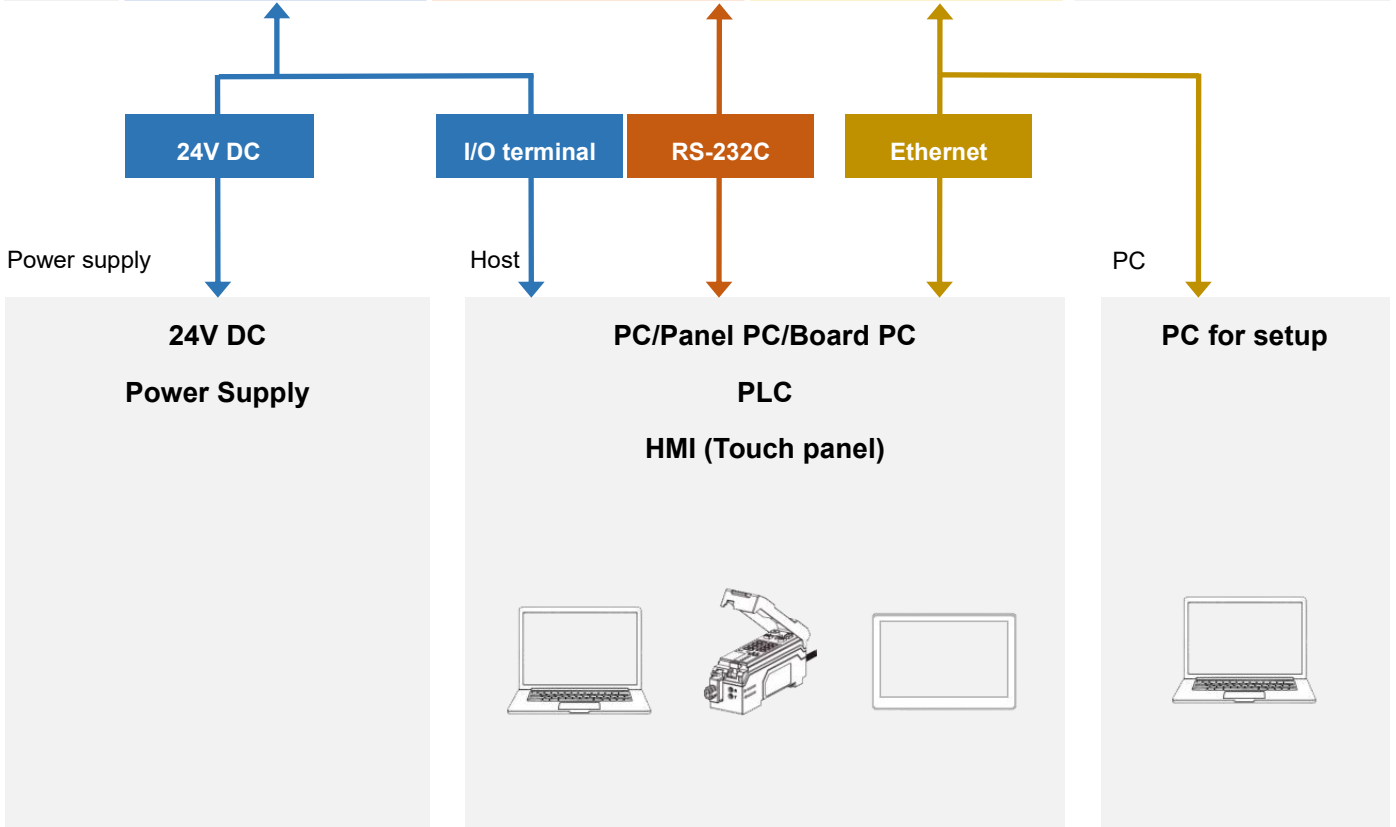
# Configuration Diagram

HRX Series



Cable & Power

	Control cable	Serial cable	Ethernet cable	Power
	IO, Power	Communication 9-PIN	Communication Gigabit	Power supply 24V DC
1 m	CAB-HJ-A17D-5PWR1CN7	/	CAB-HJ-A12S-M1NET08G	WTA36- 2401500-C
5 m	CAB-HJ-A17D-5PWR5CN7	CAB-HJ-A17T2B90PW2C7	CAB-HJ-A12S-M5NET08X	
				





# TECHNICAL PARAMETERS

Model		HRX-S-130	HRX-S-130W	
Type		Long-range type	Wide-field type	
Light Receiver	Number of pixels	1280 x 1080		
	Sensor	CMOS Image Sensor		
Light emitter	Light Source	Multi-group Controllable High intensity LED (Red Light, Diffuse Light, Polarized Light)		
	Pointer light source	Laser 650um		
Focus adjustment		Auto Focus		
Reading specifications	Supported symbols	1D codes	EAN13,EAN8,UPC-A,UPC-E, Code128,Code39,Code93,Code32,I25,D25,Code11,MIS,DataBar,CodaBar, Pharmacode etc	
		2D codes	QR, MicroQR, PDF417, MicroPDF417, DataMatrix, GS1 DataMatrix etc	
	Minimum resolution	1D codes	0.0762 mm	0.0762 mm
		2D codes	0.127 mm	0.127 mm
	Reading depth of field		30 mm to 1500 mm	30 mm to 800 mm
	Reading field of view		90 x 75 mm (Typical example at 300 mm)	178 x 146 mm (Typical example at 300mm)
I/O specifications	Control input	Number of inputs	2 (Default cable accessories is 1 input)	
		Input type	2 IN (Optocoupler isolation)	
		Maximum rating	26.4 V	
		Minimum ON voltage	5 V	
		Maximum OFF current	5 uA or lower	
	Control output	Number of outputs	2 (Default cable accessories is 1 output)	
		Output type	2 OUT (Optocoupler isolation)	
		Maximum rating	40 V	
		Maximum load current	500 mA	
		Leakage current when OFF	100 mA or lower	
	Ethernet	Residual voltage when ON	0.13 V or lower	
		Communication standard	IEEE802.3 1000BASE-TX (Gigabit)	
	Serial communication	Supported protocols	Raw, Modbus-TCP, TCP, UDP	
		Communication standard	RS-232C	
		Supported speed	2400, 4800, 9600, 14400, 19200, 38400, 57600, 115200 bps	
	USB	Supported protocols	Raw, Modbus-RTU	
Communication standard		USB2.0High Speed, USB 1.1 Full Speed		
Environmental resistance	Supported protocols	USB HID, USB CDC		
	Enclosure rating	IP64		
	Operating ambient temperature	-5°C to +65 °C		
	Ambient storage temperature	-20°C to +70°C		
	Operating ambient humidity	35%RH to 85% RH (No condensation)		
	Ambient storage humidity	35%RH to 85% RH (No condensation)		
	Ambient light	Sunlight: 10000 lux, Incandescent lamp: 6000 lux, Fluorescent lamp: 2000 lux		
	Operating environment	No dust or corrosive gas present		
	Vibration resistance	10 to 55 Hz Double amplitude 0.75 mm, 3 hours each in X, Y and Z directions		
	Ratings	Power voltage	12 V to 24 V DC	
Electric current consumption		Approx. 800 mA		
Weight		242 g		

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