

Rugged Industrial Handheld Code Reader

NEW HR-X Series

ESD model now available

Ultra-Durable High Performance

EYENCE

Al-Enhanced Accuracy & Reliability

DPM model

High Speed Reading & Large Depth of Field

High Performance model



Combining two strengths of KEYENCE expertise into one reader: Fixed Mount Performance + Handheld Durability



Same-day shipping

Orders are processed immediately to ensure products are delivered as quickly as possible.





Reading performance of

REVENCE

fixed mount code readers

→ P. 6

Durability of handheld computers

→ P. 10

Varied lineup to suit any application

Rugged Industrial Handheld Code Reader

 NEW
 HR-X Series



High Performance model HR-X300 HR-X300WB



Varied lineup to suit any application

Code reading difficulty

Difficulty Level 4

- Laser-engraved or pin stamped codes with no base processing
- Codes engraved directly on curved material surfaces
- Dirty, faded, discoloured, etc. codes



Difficulty Level 3

- Codes covered in oil, water droplets, flux, etc.
- Codes covered with film
- Laser-engraved codes with base processing





Difficulty Level 2

Codes marked on resin



Difficulty Level 1

- Worn or blurry codes
- Codes read at an angle





Difficulty Level 0

Codes marked on paper



DPM model HR-X500 / HR-X500WB

Instantaneous reading of challenging DPM and miniscule codes

Standard model HR-X100 / HR-X100WB

Lightweight and durable with impressive performance even for challenging codes



Reading distance

Instantaneous reading of challenging codes









Built-in AI chip for

improved code reading

Learned based on a database of over 100,000 images

Al filter

The built-in AI chip dramatically improves code reading performance and significantly reduces the need for readjusting the code reader.







Uneven module colour





Automatic light adjustment

The HR-X Series includes the advanced direct, polarised, and diffused lighting found in the SR-X Series adapted for handheld reader use.



Non-contact reading of miniscule codes WORLD'S FIRST

High Performance Stand

DPM

DPM

Introducing the world's first non-contact reading of miniscule codes with module sizes of just 0.04 mm thanks to an easy-to-align aimer.





HR-X Drive reliably identifies damaged codes

DPM High Performance Standa

Pattern searching for damaged codes











Code on cylinder Hidden code

Typical examples of alignment/finder pattern damage

Wear on marking

7

HR-X Decoder with DPM and label support



Dedicated DPM mode for improved readability of challenging codes

High Performance models include a dedicated mode that improves readability with difficult-to-read codes. This mode allows for reading of simple DPM and codes covered with film.

6-core processor* for high-speed performance and stable reading of challenging codes WORLD'S FIRST

DPM High Performance Standard

The HR-X Series is the first handheld code reader with a 6-core processor. Take advantage of two different core applications for high-speed reading and advanced reading of challenging codes.

* DPM model. High Performance and Standard models include a 5-core processor.

Conventional systems		
High-speed reading core	Fast reading of simple codes	Simple codes can be read quickly, but challenging codes cannot be read at all.
	or	
Advanced reading core	Reliable reading of challenging codes	Challenging codes can be read, but reading simple codes takes too long.
HR-X		
High-speed reading core	Fast reading of simple codes	High-speed reading
	PLUS!	PLUS!
Advanced reading core	Reliable reading of challenging codes	Reading challenging codes

Impressive reading speed



High-speed reading makes it possible to scan codes with hands-free installation.

Dual-lens camera structure for flexible reading distances

DPM High Performance Standard

The built-in camera includes a dual-perspective design that automatically switches between modes for high-speed reading over a large depth of field. Eliminating the need to adjust the reading distance significantly improves reading efficiency.



more



Barcode/NB width: 0.25 mm

Standard



Camera 1 0 10 Camera 2 60 300

DPM

Barcode/NB width: 0.25 mm [Miniscule codes] 2D code/Module size: 0.04 mm



* When using the High Performance model.

Stand

2.3-megapixel high-resolution CMOS

HR-X Series handheld code readers are also equipped with 2.3-megapixel CMOS sensors offering high resolution over a wide field of view.

HR-X500	HR-X300	HR-X100
2.3 megapixels × 2 cameras	2.3 megapixels × 2 cameras	2.3 megapixels

DPM

Durable design that eliminates the most common causes of failure

Watch the video to learn more



Durable design Ultra durable, elastomer

shock-absorbing design



Central frame construction

Rugged structure that protects critical components from impacts

High oil resistance

IP65/67G

ISO 16750-1

Two-colour moulding is used to combine two different oil-resistant materials to prevent swelling and peeling.



Drop/repeated drop resistance

Drop resistance: 2.5 m

Repeated drop resistance: 20,000 drops (30 cm)* * These are test values and are not guaranteed.



Ultra durable trigger (10-million-trigger lifespan*)

The HR-X Series' new design combines ease of use with ultra durability.

* These are test values and are not guaranteed.



Wireless charging that eliminates terminal wear

Wireless charging support means there's no need to worry about terminals deteriorating over time due to use and wear, helping to ensure a longer service life.



Advanced electrostatic resistance

The HR-X Series has been confirmed as incredibly resistant to damage from external static electricity (airborne static: 25 kV, contact-based static: 10 kV). This prevents the device from being damaged even when used by workers with a static charge.

* Excluding the HR-X100ESD



^{*} These are test values and are not guaranteed.

Easy setup with no software installation required

Setup via Web Navigator

Simple setup over USB



Configure all of the necessary settings in three simple steps!

Usage method and connection target

Data format

Reading settings

wireless models.

HR Web Monitor improves operations

The HR Web Monitor tool makes it easy to check reading history and error images from a web browser.

■ Web Monitor	⊕ ?	¢ آ
Filter Y All results Q Read data output		$\uparrow \downarrow \times$
←	- Read data output -	Î
ок 029 [ID:64] 11/17/20XX 1	Read Data - Read data length	
ОК 028 [ID:63] 11/17/20XX 1	- Decoding time -	
ОК 027 [ID:62] 11/17/20XX 1	Parameter bank	-

Website-based setup

Easy setup from a smartphone or PC

KEYENCE offers a dedicated setup page on its website for easy configuration simply by entering the setting details and reading the created QR code.

Simply enter the setting details on the KEYENCE webpage







Industrial protocol compatibility

The HR-X Series is compatible with various industrial protocols such as EtherNet/IP™, PROFINET, EtherCAT®, and PLC Link for improved compatibility with PLCs.

General-purpose TCP/IP and high-security https and SFTP communication are also supported.





 * EtherCAT® is a registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.

Customisable data output

Data output details can be customised as needed, including controlling the output of specific code types and the number of digits.



Extraction of specific data



HR-X Analyser for automatic analysis of communication settings WORLD'S FIRST

Connecting a currently used code reader to the dedicated communication unit (HR-NU2) makes it possible to analyse the baud rate and other communication settings — the first feature of its kind in the world. This allows for immediate replacement of an HR-X Series device even if the current setting configuration is not known.



OLED (organic LED) display

Review device status even without a PC.

* DPM and High Performance models only.





Read data display



Character string transmission

Reliable continuous usage time (17 hours*)

A full charge provides reliable usability for an extended period.

* Standard model.



PoE compatibility for simplified wiring

Power can be supplied via PoE when using the HR-L2/HR-L2F LAN conversion adapter. Supplying power through the Ethernet cable simplifies wiring and reduces both costs and setup time.



Wireless LAN (5 GHz) connectivity

Achieve stable wireless network communication with the built-in 5 GHz capability, even in environments where Bluetooth and 2.4 GHz connections are unstable.



ESD model available

The HR-X100ESD prevents damage to delicate components from static electricity during manufacturing.





HR-X Recovery for easy duplication of settings

Easily copy settings from a current HR-X Series device to another device using the OLED display. This makes replacing and configuring multiple devices incredibly easy.

* DPM and High Performance models only.



Multi-drop function

Adding an HR-X Series to a system that includes SR Series fixed code readers is possible with multi-drop. By consolidating data from HR-X Series devices, the SR Series eliminates the need for additional interfaces or communication programming at the host.





Hands-Free/Presentation Style Reading



Automatic trigger using the time-of-flight (TOF) sensor





Convenient optional accessories for secure hands-free reading (all models)

Finger holder (HR-FH2/FH25)



Secured with a camera screw

Hands-free stand (HR-ST2)



HR-FH2 installation example



HR-HL2 installation example

* With a 1D code/NB width of 0.25 mm

Dimensions







DPM model HR-X500/X500WB



Charging cradle **HR-UC2**





System configuration



Power supply USB: HR-X300/X100/X100ESD AC adapter: HR-X500/UC2 D-sub 9th pin connector: HR-X300/X100/X100ESD Ethernet (PoE): HR-X500/X300/X100/UC2

*1 Wireless models only. Direct communication possible without HR-UC2.



4-slot charging cradle HR-CG4*

Finger holder (HR-X300/X100) HR-FH2

Finger holder (HR-X500) HR-FH25

Stand HR-ST2

Holder (HR-X300/X100) HR-HL2

Holder

(HR-X500)

HR-HL25

USB cable Type-C OP-88569

* The HR-CG4 requires a separate AC adapter (OP-88731) and AC cable.

AC cables

OP-99012 (Japan), OP-99042 (China), OP-99022 (USA, Canada), OP-99032 (Germany, France, Italy, Belgium), OP-99072 (UK), OP-99082 (Korea), OP-99052 (Taiwan), OP-99102 (Mexico), OP-99122 (India), OP-99112 (Thailand)

Specifications

Code readers

									. <u> </u>
Model			HR-X500WB	HR-X500	HR-X300WB	HR-X300	HR-X100WB	HR-X100	HR-X100ESD
Туре		DPM mode	el	High Performance	ce model	Sta	ndard model		
Wireless/wired		Wireless	Wired	Wireless	Wired	Wireless	Wi	red	
	Number of nivels		1920×1200 × 2 cameras 1920×1200 × 2 cameras		1920×1200				
Receiver			2.3 megapixels × 2 cameras		2.3 megapixels × 2	2 cameras	2.3	e megapixels	
	Sensor		CMOS image s	ensor	CMOS image s	ensor	CMO	S image sensor	
	Light source		White LED)	White LE)	White L	ED/Infrared LED	
Light emitter	LED risk group		Risk group 2 (IEC	62471)	Risk group1 (IEC	62471)	Risk gro	up 1 (IEC 62471)	
Light enniter	Aimer light source		Laser (red), Wavelength: 65	0 nm; LED (green)	Laser (red), Waveleng	gth: 650 nm	LED (green)		
	Laser class		Class 1 (IEC 60825-1)		Class 1 (IEC 60	825-1)	Class	1 (IEC 60825-1)	
Distance sensor			Time-of-flight (TO	F) sensor	Time-of-flight (TO	F) sensor	Time-of-	flight (TOF) sensor	
	Cupported	2D codes	QR, Micro QR, Data	Matrix (ECC200), DM	RE, GS1 DataMatrix, PDF417, M	icro PDF417, GS1 Corr	posite (CC-A, CC-B, CC-C), Dot	Code, Maxi Code, Az	tec Code
	symbols	Barcodes	CODE39, ITF, 2of5 (Industrial 2of5), COOP 2of5, NW-7 (Codabar), CODE128, GS1-128, GS1 DataBar, CODE93, JAN/EAN/UPC, Trio CODE39 Full ASCII, Pharmacode, Postal (Japan Postal. IMB)						39,
		2D codes	0.040 mm	ı	0.127 mr	n	().127 mm	
Reading	Minimum resolution	Barcodes	0.040 mm	1	0.070 mr	n	().070 mm	
specifications		DataMatrix (Module size: 0.25 mm)	10 to 150 m	ım	40 to 500 r	nm	40	to 250 mm	
	Reading distance	DataMatrix (Module size: 0.50 mm)	10 to 250 m	m	10 to 600 r	nm	10	to 400 mm	
	(reference value)	CODE39 (NB: 0.25 mm)	10 to 300 m	ım	10 to 600 r	nm	10	to 400 mm	
	1 · · · ·	CODE39 (NB: 0.50 mm)	10 to 500 m	ım	10 to 800 r	nm	10	to 550 mm	-
Status display ou	itout/buttons		OLED + Buzzer + Vibration -	+ Function button	OLED + Buzzer + Vibration	+ Function button	Buzz	er + Vibration	
otatao alopia ji oa		Standard	OLLO BULLON HORAGON	- Tanodon Batton	LISB	2.0 Full Sneed	002	- Horación	
	USB	Interface	USB-COM USB keybeed						
	000	Supported OS		Windows 11 Pro. Windows 10 Pro. 32/6/bit					
Communication	Bluetooth®	Standard	Bluetooth® 5.3	_	Bluetooth® 5.3	-	Bluetooth® 5.3		
Communication		Profile							
		Supported OS	311/110		Windows 11 Pro	Windows 10 Pro 32/6	/hit		
	Wireless LAN		IEEE000 11-/-			, WINDOWS TO FID 32/0			
			5.2 GHz, 5.3 GHz	-	5.2 GHz, 5.3 GHz	_	5.2 GHz, 5.3 GHz	-	-
	Power supply voltage	USB power supply	4.75 to 5.25 VDC		4.75 to 5.25 VDC	4.75 to 5.25 VDC	4.75 to 5.25 VDC	4.75 to 5	5.25 VDC
Rating	r onor ouppry ronago	AC adapter	-	12 V ±10%	-	-	-	-	-
nating	Current consumption	Max.	500 mA (USB powered)	1500 mA	500 mA (USB powered)	500 mA	500 mA (USB powered)	500) mA
	ourrent consumption	During standby	180 mA	110 mA	160 mA	220 mA	160 mA	220) mA
	Enclosure rating		IP65/IP67 (IEC 6	60529)	IP65/IP67 (IEC)	60529)	IP65/I	P67 (IEC 60529)	
	Operating ambient terr	perature	0 to +45°C -20 to +45°C		-2	20 to +45°C			
	Storage ambient tempe	erature	-20 to +60°C -20 to +60°C		-20 to +60°C				
	Charging temperature		0 to +40°0	2	0 to +40°	0	() to +40°C	
	Operating ambient hur	nidity	Max. 95% RH (no condensation)						
Environmental	Storage relative humid	ity	Max. 95% RH (no condensation)						
resistance	Oil resistance		IP67G/IS0 16750-1 —						-
	Chemical resistance		Supports sterilisation with alcohol						
	Static electricity resista	ance	Airborne: ±25 kV; Contact: ±10 kV; Indirect: ±10 kV*1						-
	Electrostatic charge pr	evention							IEC61340-5-1
	Drop resistance	Drop resistance		Concrete, 2.5 m*2					
Repeated drops			30 cm. 20.000 times*2						
Continuous usage time (reference value)		Approx. 14 hours*3	-	Approx. 15 hours*3	-	Approx. 17 hours*3	-	_	
Charging time			Approx. 10 hours	-	Approx. 10 hours	_	Approx. 10 hours	-	_
Charging metho	d		Wireless charging	-	Wireless charging	_	Wireless charging	-	_
Matoriale		DC + TDI		PC + TDI		PC + TDI1		PC/ARS	
Dimonsions		221 A × 102 A × 74 0 mm 217 × 001 × 74 mm 217 × 001 × 74 mm		00.1 x 7/ mm	10/100				
Differiatoria			Annroy A10 a (main unit only)		Annroy 340 a (main unit only)	Approx 370 g	Annrov 330 a (main unit ophy)	Approx 360 g	Approx 330 a
Weight		Assess 470 s (ask diss better)	(augludian and lan)	Agazzy 400 s (ask diss better)	(available a set las)	Agazar 200 s (astudias batter)	(avaluation asklas)	(avaluding oak)	

*1 Verify that no damage is caused. *2 These are test values and are not guaranteed. *3 One reading every 20 seconds

Cradle

Rechargeable battery pack Model HR-UC2 Model AC adapter: 12 VDC ±10% Power supply voltage Rating Current consumption Max. 1500 mA During standby 120 mA Enclosure rating IP65/IP67 Operating ambient temperature 0 to +40°C Storage ambient temperature -20 to +60°C Environmental resistance Max. 95% RH (no condensation) Operating ambient humidity Max. 95% RH (no condensation) Storage relative humidity Charging temperature 0 to +40°C Materials PC Weight Approx. 330 g

Туре		Lithium-ion rechargeable battery		
Nominal capaci	ty	3350 mAh		
Dimensions		20.5 × 22.4 × 70.7 mm		
Weight		Approx. 55 g		
Model		OP-88731		
Model		OP-88731		
Rated input		100 to 240 VAC, 50/60 Hz		
Rated output		12 VDC, Max. 1.5 A		
Environmental	Operating ambient temperature	-20 to +50°C		
resistance	Storage ambient temperature	-20 to +70°C		
Weight		Approx. 120 g		

HR-B2

4-slot charging cradle

		0 0		
	Model		HR-CG4	
	Charging part Charging time		Approx. 6.5 hours	
	Charging confirmation LED		2-colour LED (red: charging, green: charging complete)	
	Environmental resistance	Operating ambient temperature	0 to +40°C	
		Storage ambient temperature	-20 to +60°C	
		Operating ambient humidity	20 to 85% RH (no condensation)	
		Storage relative humidity	20 to 85% RH (no condensation)	
	Materials		PC	
	Weight		Approx. 390 g (excluding AC adapter)	

Network unit

Model			HR-NU2			
Communication	RS-232C	Supported protocols	No-protocol, KV STUDIO, MC protocol, SYSWAY			
specifications	Ethernet	Supported protocols	TCP/IP, SNTP, FTP, SFTP, HTTP, HTTPS EtherNet/IP™, PROFINET CC-A/CC-B, KV STUDIO, MC protocol, Omron PLC link			
Control output Number of outputs		uts	3			
Rating Power supply voltage		ltage	24 VDC power supply: 24 VDC +25%/-20%			
Materials			PC			
Weight			Approx 140 g			

Conversion adapter

Model	HR-L2	HR-L2F	HR-R2	HR-S2 SR-EC1/PN1 conversion adapter	
Туре	LAN conversion adapter	LAN conversion adapter (M12X 8pin/M12A 4pin)	RS-232C conversion adapter		
Cable length	0.4 m	—	0.4 m	0.4 m	
Interface	Ethernet	Ethernet	RS-232C	For SR-EC1/PN1	
Supported protocols	TCP/IP, SNTP, FTP, SFTP, HTTP, HTTPS, EtherNet/IP™, PROFINET CC-A, KV STUDIO, MC protocol, Omron PLC link	TCP/IP, SNTP, FTP, SFTP, HTTP, HTTPS, EtherNet/IP™, PROFINET CC-A/CC-B, KV STUDIO, MC protocol, Omron PLC link	No-protocol, KV STUDIO, MC protocol, SYSWAY	EtherCAT® (SR-EC1) PROFINET CC-A/CC-B/CC-C (SR-PN1)	
Materiale	PC	DRT	PC	PBT	

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