

KEYENCE

A 11

Logistics Code Reader

NEW SR-5000 Series

Ultra-Wide Field of View Ultra-Long Reading Depth Ultra-High Speed

New Code Reader for Logistics

SR-5000 Series

High-Speed Reading on Any Size Conveyor



Industry-leading range 16.8 megapixel camera

Ultra-wide field of view and ultra-long reading depth

Industry-leading speed Multicore Parallel Processing

Stable reading on high-speed lines

Industry-leading quickness SR Design & Management Tool

Anyone can easily install, operate, and monitor

Logistics Code Reader

Resolving Distribution Site Issues with a Single Unit

Problems with conventional code readers



Laser type



Area camera type



Line camera type

Insufficient Field of View or Reading Depth

Objects of different sizes cannot be read

Installing and adjusting multiple code readers is cumbersome

Reading Not Possible at High Speed

Reading errors occur on high-speed lines

Settings to achieve high-speed reading are difficult

Challenging Installation & Operation

Settings that take field of view, depth, and speed into consideration are difficult to achieve

Unsure what causes a read error

Resolved with the SR-5000 Series



Ultra-Wide Field of View & Ultra-Long Reading Depth

Read with certainty regardless of size or shape of objects

A single code reader covers everything on a side

Ultra-High Speed

Stable reading even on high-speed lines

No difficult settings needed to handle high speeds

Easy Installation & Operation

Designs complete in as little as 1 minute with the easy design tool

The cause of a read error is seen with the management tool

Read Codes with Certainty over a Wide Area and Ultra-Long Depth



Objects of different shapes and sizes can still be read

The ultra-wide field of view and ultra-long range reading capabilities offer stable reading, even with objects of different sizes and misaligned barcode label locations. Since objects do not need to be moved for them to be read, this also cuts down on equipment costs.



Codes can be stably read even if their positions are misaligned.



Even objects of different shapes and sizes can be read.

Easy installation of one unit for each side

Just one unit needs to be installed for each side being read. This reduces the time and labour conventionally needed to design and install multiple units.

Conventional



Using multiple code readers will require additional space to ensure proper fields of view and reading depths. The design and installation may take a long time to complete. SR-5000



One side is read with a single unit, shortening the time needed for design and installation.

Three models depending on specifications

Three models are available, depending on the field of view, reading depth, and speed required. There is a design tool that will select the best model for you just by entering the required specifications such as the conveyor size, object size, and barcode specifications.



Representative fields of view and reading depths. 0.339 mm barcode narrow bar width shown



Technology that Achieves Ultra-Wide Field of View and Ultra-Long Depth of Field



Larger, sharper images High-sensitivity CMOS sensor & high-intensity LED illumination

The best-in-class 16.8 megapixel CMOS sensor results in a high-accuracy wide field of view at least 5× greater than conventional code readers. High intensity lighting, with a maximum of 192 LEDs, and a specially designed illuminating lens uniformly illuminate the field of view.

X				
	SR-5000 field of view	Conventional field of view	AB-01-23-65 Term Befan Isan Befan Isan	
		Con	veyor Width 1000 mm	

Enlarged image of code

Conventional



The codes are dark and indistinct, with noise



The codes are bright and sharp, without noise or blurring

Even codes at different heights are stably read

High-performance image processing CPU & large DOF lens

The newly designed, dedicated lens ensures a sufficient depth of field at a single focal point focal point. HDR (high dynamic range) processing with the high-performance image processing CPU prevents over- and under-exposure and can read low-resolution codes with a super-resolution algorithm.



High-Speed Reading, No Codes are Missed



Improves distribution centre throughput and reduces costs

Stable reading is possible, even on high-speed lines that move 150 m/min or faster. Since objects can be conveyed at higher speeds, improved throughput can be expected. The cost of processing errors is lower since the rate of read errors is decreased.

	-	-
Reading rate	99%	99.9%
Error items in 1 day (12 hours)	1,200	120
Reinsertion cost per item	\$0.5	\$0.5
Reinsertion cost per day	\$600	\$60
Reduced cost per day		\$540
Reduced cost per year (240 days)		\$129,600
Reduced cost per year (240 days)		\$129,600

Example of cost reduction with improved reading rate

A distribution centre that processes 10,000 units/hour



Improved read stability with multiple decodings

Conventionally, objects moving at high speed could only be decoded once, resulting in unstable reading. The SR-5000 decodes codes at least 3 times, vastly improving read stability. Since multiple decodings are possible, it is also easy to adjust the timing when reading starts.

Conventional

- One chance to decode
- Difficult to adjust the timing when reading starts







▲ The barcode must be decoded in this image to be read successfully.

SR-5000

- At least three chances to decode
- Easy to adjust the timing











▲ The barcode can be decoded in any of these images to be read successfully.

No Codes are Missed High-Speed Parallel Decoding Function

Conventional: Single Core

Capturing and decoding are alternately processed. This lengthens the read time, and codes are missed in the following images.



Capture + image transfer

Decoding

Conventional: Dual core

Images are continuously captured and decoding is processed one image at a time in a separate core. Often times decoding is not complete by the time the next read starts.



SR-5000: Multi-core [High-Speed Parallel Decoding]

With multiple cores, consecutive captured images are decoded in parallel in real time. Having multiple decodes possible makes it so that no codes are missed.



High-speed image transfer

Image transfer time is 3× faster than the conventional speed. Even with 16.8 megapixel high-resolution images, high-speed image capture increases the number of readings, ensuring better stability.

Transfer time per megapixel



High-speed code searching Heatmap algorithm

With our newly developed code searching algorithm, code positions are identified instantly for high speed reading even with high resolution images. Search & decoding time (typical example)



Conventional



Searching the entire field of view before decoding is time-consuming

SR-5000 Heatmap algorithm



High speed reading is achieved by instantly decoding only the area where the code was found.

High-speed parallel decoding The most versatile multi-core CPU in the industry

Conventional readers would decode images one at a time causing reading to take longer. The SR-5000 Series uses up to 13 cores, enabling high speed parallel decoding.

	Number of cores	Number of parallel processes
Conventional	2	1
Conventional		
	13	8
SH-0000X		

*SR-5000W: 7 cores, 4 parallel processes / SR-5000: 6 cores, 3 parallel processes

Everything is Easy with Three Tools

The necessary steps for installing a code reader

Conventional



Complete design in as little as 1 minute

Setup work and costs are greatly reduced



The operating conditions of the code reader are visualised, and error analysis is easy

Complete Design in as Little as 1 Minute

Design support tool SR Design Tool

Code reader design flow

Conventional: Calculations, design work, and report creation based on specifications were difficult. **SR-5000:** Design information and reports are created just by entering the specifications into the tool.



1 Just enter the required specifications

Enter the conveyor size, object size, and barcode information in 3 steps.



2 Instantly create design information

Not just the model of code reader, its installation position, and angle, but everything down to the aluminium frame required for installation is calculated and drawn in real time. Even complex conditions such as multi-surface reading can be handled, resulting in quick redesign even if the required conditions change.



Installation drawing



Reading depth



3D simulation

No.	Name	Model	Quantity
1	Code reader (8.9 MP)	SR-5000W	1
2	Terminal box (for one unit)	SR-BX1	1
3	Mounting bracket (for SR-5000W)	OP-88495	1
4	Mounting bracket (for SR-BX1)	OP-88497	1
5	Power cable for terminal box, 2 m	OP-88440	o 🍦
6	Power cable for terminal box, 5 m	OP-88441	1
7	Power cable for terminal box, 10 m	OP-88442	0 🔷
8	Control cable (NFPA79 compliant) for terminal box, 2 m	OP-88434	0 🔷
9	Control cable (NFPA79 compliant) for terminal box, 5 m	OP-88435	1
10	Control cable (NFPA79 compliant) for terminal box, 10 m	OP-88436	0 🔷
11	Ethernet cable (NFPA79 compliant), 2 m	OP-87359	0 🚖



3 Output report with design information

Design information can be output as a report in Excel format. Information can be shared easily with all people involved in the project.

Report contents

- Required specifications
- Required equipment
- Reading depth
- Installation diagram
- Connection explanation
- Tuning results
- Test results



Required specifications

List of connection explanations

Setup Work and Costs are Greatly Reduced

Setup support tool AutoID Network Navigator

Code reader setup flow

Conventional: A dedicated engineer would repeatedly perform on-site tests and adjustments to find the optimal settings. **SR-5000:** Setup can be easily performed by anyone using auto-tuning and test functions.



1 Can be easily set up by anyone

Just import the report created with the SR Design Tool. Even if the designer and setup manager are different people, setup with accurate conditions is still possible. Focus adjustment and reading-related parameter adjustments are automatically optimised with a single click. Setup can be easily performed by anyone.



Import report information to the code reader





Tuning with a single click

2 Reading test function

Reading stability can be easily confirmed beforehand with numerical values. This prevents reading problems from occurring after deployment.

Reading rate test

The reading rate* is displayed.

Reading	Tact	Depth	Speed	
]		Reading To 100	est %
Bar spe	nk cificatio	n		

*The proportion of successful reads in 10 scans

Depth of field test

The reading distance, reading depth, and field of view size are displayed.



Tact time test

The read time* (tact time) is displayed.

Reading	Tact	Depth	Speed		
	1		Read	time	
	J			23	ms
Ban spec	k cificatio	n			

*The length of time from the timing trigger to the read finishing.

Speed test

The estimated current line speed and the reading margin are displayed.

	Speed
	236 m/mi
specification Speed	
Scan count of 2	
Scan count of 3 or higher	236
0	236

3 Confirm connection to host system

Connection test function

The code reader comes equipped with a function to confirm the connection between the code reader and host system. Various communication statuses such as ping, TCP, and FTP can be easily checked, allowing communication problems to be resolved before operation.

Timing chart monitor

Check the connection of the code reader's I/O terminal after wiring. This can prevent connection errors with the PLC, timing sensor, etc. before operation.



Operating Conditions are Visualised and Error Analysis is Easy

Operations support tool SR Management Tool

Response flow when reading errors occur

Conventional: The cause of the errors may be unclear, so it may take a lot of time to reach a solution. **SR-5000:** The root cause can be determined with images and data, allowing for quick resolution.



Monitor from a remote location (maximum 100 units)

Monitoring and error analysis can be performed either on or off site, as long as there is a network connection. This allows for problems to be responded to in a short amount of time, without the need to actually go on site.







On-site

2 Reading error analysis function

Solutions can be quickly put in place, since the causes of errors can be identified

Images are also recorded before and after a reading error occurs. This is useful for casual analysis, and also minimises the time and expenses needed for a solution.

SR Management Tool		202					- 0
Anal	lysis		Back	Stop display update	Specify analysis period		Report output
Analysis target: Latest d	data(Maximum	number: 1000000)) [*			8-2 62	
12001111	2100 - 1000	200 0 Beel Bootow	19 69 64	2 12 12 12 12			
Date and time	Timing ID	Read time	Reading result	Read data output	READER	R(192.168.100.100)	
2000/01/17 15:29:32	96	349	OK	00245485662019090777405372/KE	ENCE-06		
20xx/01/17 15:29:34	87	254	OK	0810605890714800,a180462531546	•		
20××/01/17 15:29:35	88	503	OK	a196184906051a,KEVENCE-01	=	- DOM	
20xx/01/17 15:29:36	89	261	OK	4571222104914,1891MCN #CF4104	127		
20xx/01/17 15:29:37	90	146	OK	0000005615587,9696941 G409302	ə _	and and	
2000/01/17 15:29:39	91	349	OK	00245485682019090777405372,KE	ENCE-06-	12357	
20xx/01/17 15:29:41	92	255	OK	0810605890714800,a180462531546	• <u> </u>		
20XX/01/17 15:29:43	93	825	ERR	ERROR	_	1	
1					NW-7(Co	dabar) a186184996051a	
Symbology	Parameter b	ank Scan co	unt Area numbe	er Read Data Read dat	a size		Display imag
1 NW-7(Codsbar)	1	12	0	s186184906051s 14			
					4 [4]		8 / 16 🔁 题
		Rea	ding re	sults history		Display	y when a reading error

Quickly identify when and on which code reader an error occurred.

Display when a reading error occurs

Images, including those before and after a reading error, are saved. The cause of the error can be quickly identified since the information is readily available.

3 Report output function

Output reports with detailed information. Anyone can accurately review the information and make the appropriate decisions.

Report



Examples of error images



Object was overturned and code wasn't visible



Code is blocked by side rail

Other Useful Functions

Advanced multi-head function

Multiple units can be linked when multiple sides need to be read or an even broader field of view is required. Since the master unit collects the data from the slave units, only one code reader needs to be controlled when multiple units are used. The host does not need to individually control multiple units, which reduces programming time.



Gate-style scan tunnel



Polarised light filter attachment

Packaging stretch film generates glare, which can cause unstable reading. The use of a polarised filter allows for codes under film to be read stably, greatly reducing the time needed for reinsertion due to errors.



No polarised filter

With polarised filter

Hands-free reading function

If a handheld code reader is used, three operations are needed: hold the product, hold the handheld code reader, and read the code. By securing the code reader for hands-free reading, barcodes are read just by passing the product under the code reader, which can reduce work time.



Statistical information monitoring

The reader's operating conditions can be confirmed in a web browser. If the SR-5000's IP address is entered into a web browser on a tablet or smartphone on the same network, the statistical information can be retrieved. This means that no dedicated program needs to be developed for confirmation in a web browser.

Compatible browsers Google Chrome 57 or later / Internet Explorer 11 or later Microsoft Edge 14 or later / Safari 10 or later



Data edit function

The data output format from the code reader can be customised. This cuts down the programming hours on the host system end (PC, PLC, etc.). Control the output order of multiple codes





The output order can be changed Extraction of specific data



Control of output signals



OK or Not OK is output based on the code's top coordinates

Functions that are useful for logistics

Multi-code tuning

The codes to be read can easily be set by enclosing the desired region using a mouse and tuning the code reader.

Compatible with encoders

Read start and end times and data output can be separately controlled based on an encoder pulse signal used on the conveyor. Each number of pulses can be easily set to certain conditions.

Password lock function

With a password lock, unintentional changes to settings can be prevented.

Peripheral Equipment

Terminal boxes

A dedicated terminal box eliminates the complexity of wiring loose cables. The terminal box for connecting two units has four Gigabit Ethernet ports. Multiple boxes can be connected with a LAN cable. They have an IP54 waterproof and dust-proof rating, and protect the interior from the external environment.





SR-BX2 for connecting two units

SR-BX1 for connecting one unit

Mirrors

Using a mirror can shorten the space between the conveyor and code reader, resulting in space savings.









Mounting hardware

This is angle-adjustable mounting hardware for easily installing code readers onto an aluminium frame.





Attach hardware to aluminium frame

Aluminium frames

A dedicated aluminium frame can be prepared for quick testing and operation. The necessary information is directly marked on the frame during assembly and the nuts are also pre-inserted, which greatly reduces assembly time.



Support Systems

Products, test units, and replacement units can be shipped the same day

Orders placed in the morning will be shipped the same day. Even emergencies and sudden specification changes can be handled with peace of mind.

Free trial units are available. Install them on your line before deployment to see how effectively they work.

In the unlikely event that equipment failure occurs or issues arise, we will lend a replacement unit.



Read testing service

We have an in-house test conveyor. Send us an actual target, and we will run a reading test under the desired conditions. This will allow us to confirm reading stability beforehand.



Comparison of Code Readers by Type



Laser type

- Weak against misalignments
- Causes of errors unknown
- Moving parts



Area camera type

- Multiple units are required
- Reading at high speeds not possible



Line camera type

- Large-scale and complex
- Weak against variable speeds

Resolved with the SR-5000

- Strong against misalignments
- Causes of errors known
- No moving parts
- 1 unit does it all
- Reading at high speeds possible
- Extremely easy deployment
- Strong against variable speeds



Outstanding reading performance

Even reading that was conventionally difficult is stable with the SR-5000 Series. Line stops due to reading errors are prevented, which increases operating rates.

Angle (tilt)



Angle (pitch)



Inkjet bleeding



Wrinkles



Low contrast



Angle (skew)



Multiple code types



Wear



Torn labels



Stretch film



Applications



Mail order



Cross belt sorting and high-speed reading



Automated packing machine and reading through film



Reading labels at different heights applied by an auto-labeller



Robot picking and wide field of view reading while moving



Weight and volume measurements (DWS)



Batch inspection of multiple objects

Home delivery



High-speed sorting by destination



Storage of all images

Wholesale



Simultaneous reading of product code and destination labels



Pallet and case reading in automatic warehousing

Apparel



Reading during hanger conveyance

Airports



Reading luggage of different sizes while moving





Reading books in different directions through vinyl





Batch reading of multiple objects during shipping inspection

Factories



Reading tires of different sizes



Batch reading of chip reel labels



Batch reading of stacked returnable containers while moving





Simultaneous reading of cardboard box serial number barcode and 2D lot number code



Batch reading of products, accessories, and other parts that are packaged together while moving



Reading labels at different heights on pallets while moving



Batch reading of individual serial numbers from objects that are packaged together

Streamline distribution centres that don't use conveyors

The SR-5000 can also be used for shelving that is difficult to automate as well as shipping inspection work. Since deployment is easy, streamlining can be achieved right away.



Batch reading of objects during shipping inspection



Batch reading during dolly transportation



Batch reading during forklift transportation

Batch reading greatly reduces labour

With the SR-5000, 20 objects in a case can be read at once. This greatly reduces costs compared to reading codes one at a time with a handheld code reader.



Easy data entry into PC

Read data can be entered into the host device with a USB keyboard interface. Even if high-performance code readers are deployed, they can link to existing systems without the need to develop complicated settings or communication programs.



System Configuration Diagram







Control cable

Power supply cable

3 or more multi-head units (odd number)



4 or more multi-head units (even number)

Ethernet cable



Aluminium Frames

OP-88524	Aluminium frame 850 mm
OP-88525	Aluminium frame 1000 mm
OP-88526	Aluminium frame 1500 mm
OP-88527	Aluminium frame 1900 mm
OP-88528	Braced frame
OP-88529	Aluminium frame 500 mm × 2
OP-88530	Triangular bracket + cap (for stand type)
OP-88531	Triangular bracket + cap (for gate type)

OP-88532	Triangular bracket + cap (for box type)
OP-88533	Bracket for braced frame
OP-88534	Triangular bracket set
OP-88535	Triangular bracket set + cap (for 500 mm)
OP-88536	Anchor bracket set
OP-88538	Spare parts set*
OP-88539	Screw & nut set
OP-88541	Last-in nut × 8

* Screws \times 4, last-in nut (M3-M6) \times 4, bracket \times 2, cap \times 2 sets

		Reading range characteristics (typical)
STEP 1 Sele	ect the target symbol	
Cumbel A	2D codes	QR, MicroQR, DataMatrix (ECC200), GS1 DataMatrix
Symbol A	Barcodes	CODE39, NW-7 (Codabar), CODE128, GS1-128, JAN/EAN/UPC, CODE39 (Full ASCII)
0	2D codes	PDF417, Micro PDF417, GS1 Composite (CC-A, CC-B, CC-C)
Symbol B	Barcodes	ITF
0 1 10	2D codes	DotCode, MaxiCode
Symbol C	Barcodes	GS1 DataBar, CODE93, 2of5 (Industrial 2of5), COOP 2of5, Trioptic CODE39, Pharmacode

STEP 2

Confirm the distance based on the resolution with the graph on the left, and confirm the field of view size based on the distance with the graph on the right

SR-5000

Minimum resolu	ition				Unit (mm)	Field of view	v	Unit (mm)	
	Sym	bol A	Sym	bol B	Sym	bol C		2448 × 20	048 pixels
Distance	Barcodes	2D codes	Barcodes	2D codes	Barcodes	2D codes	Distance	Horizontal	Vertical
100	0.10	0.06	0.10	0.06	0.10	0.13	100	75	62
100 to 500	0.15	0.27	0.18	0.24	0.22	0.59	500	357	298
100 to 1000	0.29	0.53	0.35	0.47	0.44	1.16	1000	709	593
100 to 1500	0.44	0.79	0.53	0.70	0.66	1.74	1500	1061	887
100 to 2000	0.58	1.04	0.70	0.93	0.87	2.31	2000	1413	1182



SR-5000W

N	/linimum resolu	tion					Unit (mm)	Field of view	/	Unit (m
Ī		Sym	bol A	Sym	bol B	Sym	bol C	Distance	4096 × 2	160 pixels
Ī	Distance	Barcodes	2D codes	Barcodes	2D codes	Barcodes	2D codes	Distance	Horizontal	Vertica
	200	0.10	0.08	0.10	0.08	0.10	0.16	200	161	85
	200 to 500	0.10	0.17	0.12	0.15	0.14	0.38	500	379	200
	200 to 1000	0.19	0.33	0.22	0.29	0.28	0.73	1000	741	391
	200 to 2000	0.36	0.65	0.43	0.58	0.54	1.44	2000	1466	773
	200 to 3000	0.54	0.97	0.65	0.86	0.81	2.15	3000	2191	1155

		Installation distance
	Unit (mm)	200
4096×2^{-1}	160 pixels	200
Horizontal	Vertical	
161	85	
379	200	
741	391	↓/
1466	773	3000
2191	1155	

SR-5000X

Minimum resolution Unit (mm)							Field of view	v	Unit (mm)
	Symbol A		Symbol B		Symbol C		Distance	5456 × 3076 pixels	
Distance	Barcodes	2D codes	Barcodes	2D codes	Barcodes	2D codes	Distance	Horizontal	Vertical
300	0.10	0.08	0.10	0.08	0.10	0.17	300	226	127
300 to 500	0.10	0.13	0.10	0.11	0.10	0.28	500	369	208
300 to 1000	0.14	0.24	0.16	0.22	0.20	0.54	1000	724	408
300 to 2000	0.27	0.48	0.32	0.43	0.40	1.06	2000	1435	809
300 to 3000	0.40	0.71	0.48	0.63	0.59	1.58	3000	2145	1209
300 to 4000	0.53	0.95	0.63	0.84	0.79	2.10	4000	2856	1610



2191 (Unit: mm)

1155

Model Selection Quick Reference



From the table, select the model based on the code type and narrow bar width (cell size) STEP 2 Code type: Symbol A (see P. 34)

SR-5000 SR-5000W
SR-5000X





SR-5000 : 815 mm SR-5000W: 1315 mm SR-5000X: 1800 mm



Installation distance of code reader (Guide) SR-5000 : 1090 mm SR-5000W : 1760 mm SR-5000X : 2405 mm





SR-5000X : 3620 mm

2D codes Cell size: 0.254 mm



SR-5000W : 720 mm SR-5000X : 990 mm





2D codes Cell size: 0.508 mm



Unit: mm

SR-5000



SR-5000W



SR-5000X



*Please install with cable bend R at the following values or higher. Not moving: R=15 mm Moving: R=20 mm

SR-5000 With mounting bracket (OP-88443)

SR-5000 With polarising filter (SR-50AP)





SR-5000W With mounting bracket (OP-88495)



SR-5000W With polarising filter (SR-50APW)



SR-5000X With mounting bracket (OP-88496)



SR-5000X With polarising filter (SR-50APX)



3.1

Unit: mm







SR-BX2





SR-BX2 With mounting bracket (OP-88498)



SR-MR1



SR-MR2



Specifications

EtherNet/IP	PROFI	C	E	
	INIEITI	· ·	_	

Code reade	rs								
Model			SR-5000	SR-5000W	SR-5000X				
	Number of pixe	els	2448 × 2048 pixels (5.0 megapixels)	4096 × 2160 pixels (8.9 megapixels)	5456 × 3076 pixels (16.8 megapixels)				
Light receiver	Sensor		CMOS image sensor						
	Focus		Auto*						
	Light source		48 high-intensity white LEDs	96 high-intensity white LEDs	192 high-intensity white LEDs				
Light emitter	Pointer light so	urce		2 high-intensity green LEDs	•				
	LED class		Risk Group 1 (IEC 62471)						
	Supported 2D codes		QR, MicroQR, DataMatrix (ECC200), GS1 DataMatrix, PDF417, MicroPDF417, GS1 Composite (CC-A/CC-B/CC-C), DotCode, MaxiCode						
Reading	symbols	Barcodes	CODE39, ITF, 2of5 (Industrial 2of5), COOP 2of5, NW-7 (Codabar), CODE128, GS1-128, GS1 DataBar, CODE93, JAN/EAN/UPC, Trioptic CODE39, CODE39 (Full ASCII), Pharmacode, Postal (Japan Postal, IMB)						
specifications	Minimum	2D codes	0.060 mm	0.080 mm	0.080 mm				
	resolution	Barcodes	0.10 mm	0.10 mm	0.10 mm				
	Reading distan	се	100 to 4000 mm	200 to 4000 mm	300 to 4000 mm				
		Number of inputs		3					
		Input type		Bidirectional voltage input					
	Control input	Maximum rating	26.4 VDC						
		Minimum ON voltage	8 V DC						
		Maximum OFF current	0.2 mA						
	Control	Number of outputs	4						
		Output type	PhotoMOS relay output						
		Maximum rating	30 VDC						
I/O specifications	output	Maximum load current	Single output: 50 mA or less, 4-output total: 100 mA or less						
opoonioationo		Leakage current when OFF	0.1 mA or less						
		Residual voltage when ON	1 V or less						
	Ethernet	Communication standard	1000BASE-T/100BASE-TX						
	Ethernet	Supported protocols	TCP/IP, SNTP, FTP, BOOTP, EtherNet/IP™, PROFINET, KV STUDIO, MC protocol, OMRON PLC link						
	Carial	Communication standard		RS-232C compliant					
	communication	Communication speed	600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 bps						
		Supported protocols	No	WAY					
	USB Communication standard		USB 2.0 High Speed compliant						
	Enclosure rating		IP65						
	Operating amb	ient temperature	0 to +45°C						
	Ambient storag	e temperature	-10 to +50°C						
Environmental	Operating amb	ient humidity	35 to 85% RH (no condensation)						
resistance	Ambient storag	e humidity	35 to 85% RH (no condensation)						
	Ambient light		Sunlight: 10000 lux, Incandescent light: 6000 lux, Fluorescent light: 2000 lux						
	Operating envi	ronment	No dust, no corrosive gas						
	Vibration resist	ance	10 to 55 Hz: Double amplitude 0.3 mm/ 2 hours each in X, Y, and Z directions						
Datinga	Power voltage			24 VDC ±10%					
natings	Electric current	consumption	Approx. 1800 mA	Approx. 2000 mA	Approx. 3000 mA				
Weight			Approx. 3.0 kg	Approx. 5.7 kg	Approx. 8.5 kg				

* The focus position can be automatically adjusted during installation or tuning. ROM rewrites: 100,000

Terminal boxes

Model		SR-BX1	SR-BX2			
Number conne	ected	1 unit	2 units			
	Enclosure rating	IP54				
	Operating ambient temperature	0 to +45°C				
Environmental	Ambient storage temperature	-10 to +50°C				
resistance	Operating ambient humidity	35 to 85% RH (no condensation)				
	Ambient storage humidity	35 to 85% RH (no condensation)				
	Vibration resistance	10 to 55 Hz: Double amplitude 0.3 mm/ 2 hours each in X, Y, and Z directions				
	Power voltage	24 VDC ±10%				
Ratings	Current consumption	Approx. 150 mA	Approx. 400 mA			
	Overcurrent protection specifications	10 A fuse (for each power supply input system)				
Weight		Approx. 0.7 kg	Approx. 2.1 kg			

Setup software (AutoID Network Navigator)

Model	SR-H7W
Supported OS	Windows 10 Professional or higher 32-bit/64-bit Windows 8 Professional or higher 32-bit/64-bit (excluding Windows RT) Windows 7 Professional or higher 32-bit/64-bit
Running environment	Processor 2.0 GHz or higher, Memory 8 GB or more, Required free space on hard disk 1 GB or more (space is also required for saving SR Management Tool data) DVD-ROM drive required for installation, Screen resolution 1440 × 1080 or higher

NET Framework 4.6.1 or higher is installed.
Microsoft Visual C++ redistributable packages (x86) for Visual Studio 2015, 2017, and 2019 are installed.
Windows, Visual Studio, Microsoft Edge, Internet Explorer, and Excel are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

Related Products



Autofocus 1D/2D Code Reader

SR-2000 Series



Handheld **Mobile Computer**

BT-A700 Series



Please visit: WWW.keyence.com



SAFETY INFORMATION

ease read the instruction manual carefully in der to safely operate any KEYENCE product.

AUSTRIA Phone: +43 (0)2236 378266 0 BELGIUM Phone: +32 (0)15 281 222 BRAZIL Phone: +55-11-3045-4011 CANADA Phone: +1-905-366-7655 CHINA Phone: +86-21-5058-6228

GLOBAL NETWORK

CZECH REPUBLIC Phone: +420 220 184 700 FRANCE Phone: +33 1 56 37 78 00 GERMANY Phone: +49-6102-3689-0 HONG KONG Phone: +852-3104-1010 HUNGARY Phone: +36 1 802 7360

INDIA Phone: +91-44-4963-0900 INDONESIA Phone: +62-21-2966-0120 ITALY Phone: +39-02-6688220 JAPAN Phone: +81-6-6379-2211 KOREA Phone: +82-31-789-4300

MALAYSIA Phone: +60-3-7883-2211 MEXICO Phone: +52-55-8850-0100 NETHERLANDS Phone: +31 (0)40 206 6100

PHILIPPINES Phone: +63-(0)2-8981-5000 POLAND

Phone: +48 71 368 61 60

ROMANIA Phone: +40 (0)269 232 808 TAIWAN Phone: +886-2-2721-8080

THAILAND Phone: +66-2-369-2777

UK & IRELAND Phone: +44 (0)1908-696-900

USA Phone: +1-201-930-0100 VIETNAM

Phone: +84-24-3772-5555

The information in this publication is based on KEYENCE's internal research/evaluation at the time of release and is subject to change without notice Copyright © 2021 KEYENCE CORPORATION. All rights reserved.

CONTACT YOUR NEAREST OFFICE FOR RELEASE STATUS

SLOVENIA Phone: +386 (0)1 4701 666

Phone: +41 (0)43 455 77 30

SWITZERLAND

SINGAPORE Phone: +65-6392-1011 SLOVAKIA Phone: +421 (0)2 5939 6461

SR5000-WW-C-GB 2071-1 601267

WW1-2090