

SPECIFICATIONS (CAMERA)

■ Camera (CA-H048CX/H048MX)

LumiTrax™ / Multi-Spectrum / Pattern Projection

Model		CA-H048CX	CA-H048MX
Image receiving element		Colour CMOS, 11×16× high-speed reading using square-pixel	Monochrome CMOS, 11×16× high-speed reading using square-pixel
Unit cell size		4.8 μm × 4.8 μm	
Image size		Equivalent to 1/3"	
Valid pixel count		0.47 megapixel mode: 784 (H) × 596 (V), 0.31 megapixel mode: 640 (H) × 480 (V), 0.24 megapixel mode: 512 (H) × 480 (V)	
Scanning system		Progressive 0.47 megapixel mode: 2.9 ms, 0.31 megapixel mode: 2.0 ms, 0.24 megapixel mode: 1.7 ms	
Pixel transfer frequency		195 MHz	
Transfer system		Digital serial transfer	
Electronic shutter		Can be set to 0.022 to 1000 msec by specifying the following numerical inputs: 1/15, 1/30, 1/60, 1/120, 1/240, 1/500, 1/1000, 1/2000, 1/5000, 1/10000, 1/20000	
Lens mount		C-mount	
Environmental resistance	Operating ambient temperature	0 to +40°C	
	Operating ambient humidity	35 to 85%RH	
Weight		Approx. 190 g (not including lens)	

■ Camera (CA-H500C/CA-H500M)

Model		CA-H500C	CA-H500M
Image receiving element		Colour CMOS, 11×16× high-speed reading using square-pixel	Monochrome CMOS, 11×16× high-speed reading using square-pixel
Unit cell size		3.45 μm × 3.45 μm	
Image size		Equivalent to 2/3"	
Valid pixel count		4.99 megapixels, 2432 (H) × 2050 (V)	
Scanning system		Progressive 61.2 ms ^{*1} / 28.4 ms ^{*2}	
Pixel transfer frequency		At 11× transfer speed: 132 MHz (66 MHz ×2) ^{*1} , At 16× transfer speed: 198 MHz ^{*2}	
Transfer system		Digital serial transfer	
Electronic shutter		Can be set to 0.05 to 9000 msec by specifying the following numerical inputs: 1/15, 1/30, 1/60, 1/120, 1/240, 1/500, 1/1000, 1/2000, 1/5000, 1/10000, 1/20000	
Lens mount		C-mount	
Enclosure rating		IP64 ^{*3}	
Environmental resistance	Operating ambient temperature	0 to +50°C	
	Operating ambient humidity	35 to 85%RH	
Weight		Approx. 75 g (not including lens)	

^{*1} Transfer speed setting: Standard (11×) ^{*2} Transfer speed setting: Fast (16×) ^{*3} A KEYENCE-specified IP64-rated lens and environment-resistant cable must be used on the product.

■ Camera (CA-H200C/CA-H200M)

Model		CA-H200C	CA-H200M
Image receiving element		Colour CMOS, 7×16× high-speed reading using square-pixel	Monochrome CMOS, 7×16× high-speed reading using square-pixel
Unit cell size		4.5 μm × 4.5 μm	
Image size		Equivalent to 1/1.8"	
Valid pixel count		2 megapixel mode: 1600 (H) × 1200 (V), 1 megapixel mode: 1024 (H) × 960 (V)	
Scanning system		Progressive 2 megapixel mode: 28.9 ms ^{*1} / 11.8 ms ^{*2} , 1 megapixel mode: 23.5 ms ^{*1} / 9.6 ms ^{*2}	
Pixel transfer frequency		At 7× transfer speed: 86 MHz (43 MHz ×2) ^{*1} , At 16× transfer speed: 198 MHz ^{*2}	
Transfer system		Digital serial transfer	
Electronic shutter		Can be set to 0.05 to 9000 msec by specifying the following numerical inputs: 1/15, 1/30, 1/60, 1/120, 1/240, 1/500, 1/1000, 1/2000, 1/5000, 1/10000, 1/20000	
Lens mount		C-mount	
Enclosure rating		IP64 ^{*3}	
Environmental resistance	Operating ambient temperature	0 to +45°C	
	Operating ambient humidity	35 to 85%RH	
Weight		Approx. 75 g (not including lens)	

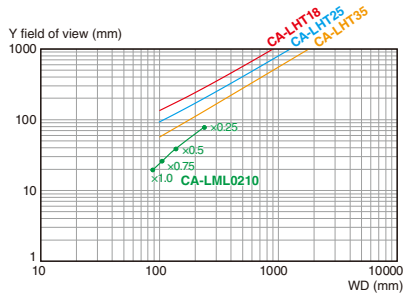
^{*1} Transfer speed setting: Standard (7×) ^{*2} Transfer speed setting: Fast (16×) ^{*3} A KEYENCE-specified IP64-rated lens and environment-resistant cable must be used on the product.

■ Camera (CA-200C/CA-200M)

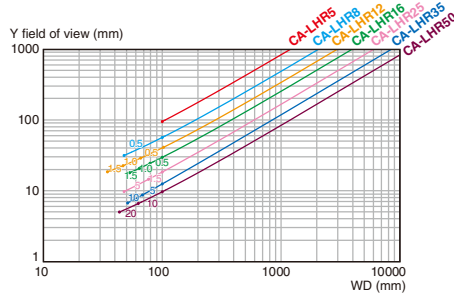
Model		CA-200C	CA-200M
Image receiving element		Colour CMOS, High-speed reading using square-pixel	Monochrome CMOS, High-speed reading using square-pixel
Unit cell size		4.5 μm × 4.5 μm	
Image size		Equivalent to 1/1.8"	
Valid pixel count		2 megapixel mode: 1600 (H) × 1200 (V), 1 megapixel mode: 1024 (H) × 960 (V)	
Scanning system		Progressive 2 megapixel mode: 56.5 ms, 1 megapixel mode: 45.8 ms	
Pixel transfer frequency		43 MHz	
Transfer system		Digital serial transfer	
Electronic shutter		Can be set to 0.05 to 9000 msec by specifying the following numerical inputs: 1/15, 1/30, 1/60, 1/120, 1/240, 1/500, 1/1000, 1/2000, 1/5000, 1/10000, 1/20000	
Lens mount		C-mount	
Enclosure rating		IP64 ^{*1}	
Environmental resistance	Operating ambient temperature	0 to +45°C	
	Operating ambient humidity	35 to 85%RH	
Weight		Approx. 75 g (not including lens)	

^{*1} A KEYENCE-specified IP64-rated lens and environment-resistant cable must be used on the product.

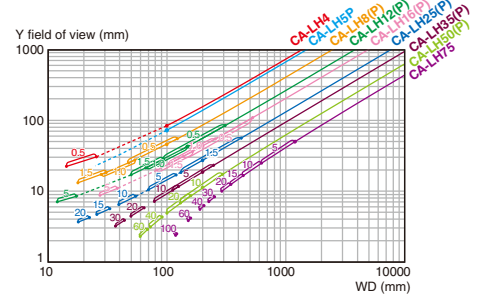
■ CA-HF6400C/CA-HF6400M
(When the CA-LHT Series is attached)



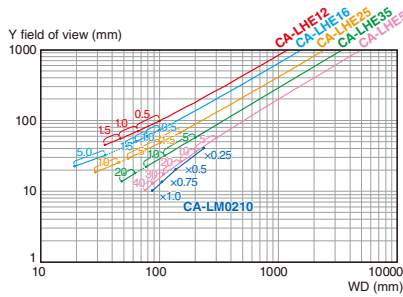
■ CA-H200CX/CA-H200MX
(When the CA-LHR Series is attached)



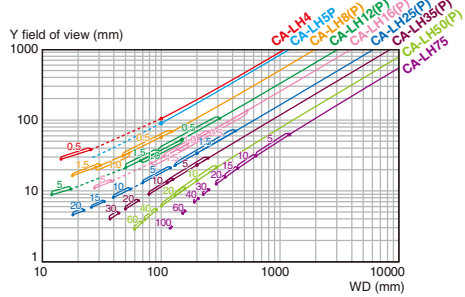
■ CA-035C/CA-035M/CA-H035C/CA-H035M
(When the CA-LH/LHxP Series is attached)



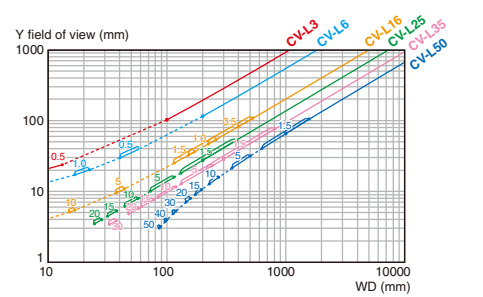
■ CA-HF2100C/CA-HF2100M
(When the CA-LHE Series is attached)



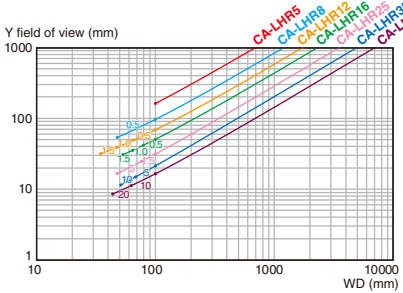
■ CA-H200CX/CA-H200MX
(When the CA-LH/LHxP Series is attached)



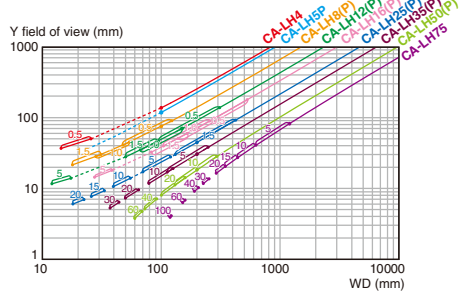
■ CA-035C/CA-035M/CA-H035C/CA-H035M
(When the CV-L Series is attached)



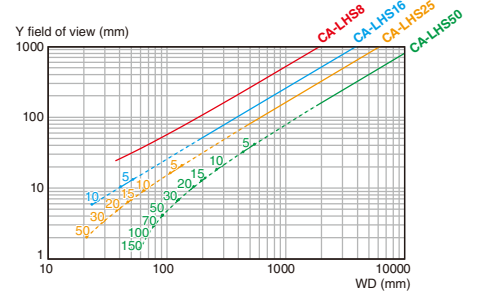
■ CA-H500CX/CA-H500MX
(When the CA-LHR Series is attached)



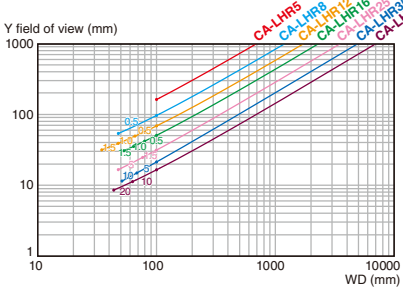
■ CA-200C/CA-200M/CA-H200C/CA-H200M
(When the CA-LH/LHxP Series is attached)



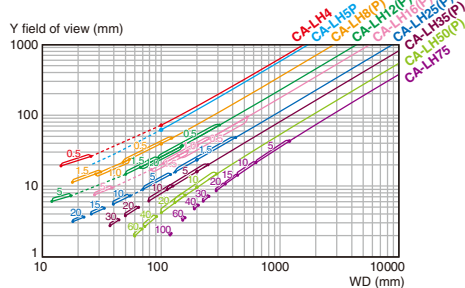
■ CA-HS200C/CA-HS200M
(When the CA-LHS Series is attached)



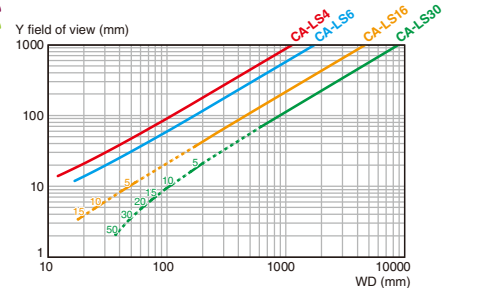
■ CA-H500C/CA-H500M
(When the CA-LHR Series is attached)



■ CA-H048CX/CA-H048MX (784 × 596)
(When the CA-LH/LHxP Series is attached)



■ CA-HS035C/CA-HS035M
(When the CA-LS Series is attached)



The numerical values in these graphs are just reference values. Therefore, adjustment may be necessary when installation is performed.
Using close up rings may result in distortion and lower resolution around the edges of the image area / image sensor.

Optional accessories

Camera cable



L-type connector

Models

Cable type	Connector shape	Camera cable length				Extension cable 5 m, 10 m	Repeater cable 3 m, 5 m, 10 m
		3 m	5 m	10 m	17 m		
Standard	Straight	CA-CH3	CA-CH5	CA-CH10	—	—	CA-CH3X (3 m) CA-CH10X (10 m)
	L-shaped	CA-CH3L	CA-CH5L	CA-CH10L	—	—	—
High-flex, environment-resistant	Straight	—	CA-CH5BP	CA-CH10BP	—	CA-CH5BPE (5 m)	—
High-flex	Straight	CA-CH3R	CA-CH5R	CA-CH10R	CA-CH17R* ¹	—	CA-CH3BX (3 m) CA-CH5BX (5 m) CA-CH10BX (10 m)
	L-shaped	CA-CH3L	CA-CH5L	CA-CH10L	—	—	—
For high-speed transmission cameras	Straight	CA-CF3	CA-CF5	CA-CF10	—	CA-CF5E (5 m) CA-CF10E (10 m)	—
	L-shaped	CA-CF3L	CA-CF5L	CA-CF10L	—	—	—

*1 The max. cable length varies depending on the use of extension cables/amplifiers. Contact KEYENCE for details.

Camera cable compatibility

Cable type	Area cameras				
	CA-HF6400x/HF2100x	CA-H500x/H200x/H035x	CA-H500xX/H200xX/H048xX	CA-200x/035x	CA-HS200x/HS035x
CA-CH3 (L/R)	—	✓	✓	✓	✓
CA-CH5 (L/R/BP)	—	✓	✓	✓	✓
CA-CH10 (L/R/BP)	—	✓	✓	✓	✓
CA-CH17R	—	—	—	*1	—
CA-CF3 (L)	✓	—	—	—	—
CA-CF5 (L)	✓	—	—	—	—
CA-CF10 (L)	✓	—	—	—	—

*1 The CA-CH17R cable can only be used for connecting the CA-035x camera.



Repeater for camera cable extension
CA-CHX10U

Camera cable extension is possible at a maximum length of 37 m*.

* The maximum length will differ according to the camera model. Contact KEYENCE for details.



A dedicated extension cable is required for repeater ⇔ camera or repeater ⇔ repeater. Contact KEYENCE for details.

Monitor/touch panel



12-inch multi-touch supporting touch panel
CA-MP120T

12-inch colour LCD monitor
CA-MP120

8.4-inch colour LCD monitor
CA-MP82



CA-MP120(T) monitor stand
OP-87262

RGB monitor cable
OP-66842 (3 m)
OP-87055 (10 m)

* To use the CA-MP120T, RGB monitor cable and touch panel RS-232C cable are required.

Optional accessories for CA-MP120T
OP-87264 (3 m touch panel modular RS-232C cable)
OP-87265 (10 m touch panel modular RS-232C cable)



CA-MP120(T) Pole-mounting bracket
OP-42279



CA-MP120(T) Protection seal
OP-87263

SD card



SD card
16 GB **CA-SD16G**
4 GB **CA-SD4G**
1 GB **CA-SD1G**
512 MB **OP-87133**

Communication cable



Extension I/O cable
OP-51657 (3 m)



Communication cable conversion connector
For 9-pin **OP-26486**
For 9-pin SYSMAC **OP-84384**
For 9-pin MELSEC* **OP-86930**

* When connecting the MELSEC-FX3, which requires a 9-pin connection, use the OP-26486.



RS-232C communication cable
OP-26487 (2.5 m)



Ethernet cable
OP-66843 (3 m)



USB cable
OP-66844 (2 m)

Other



Dedicated 24 VDC power source
CA-U4
CA-U5



Mouse stand
OP-87601

Fan unit for the CV-X400 Series **CA-F100**
CV-X Series Setup Manual (English) **OP-M1840**
CV-X Series User's Manual (English) **OP-M1845**

The CV-X Series Setup Manual and User's Manual are not included with the controller.
The PDF files of all manuals are provided on CV-H1X.