

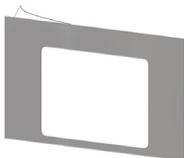
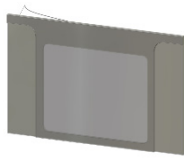
MicroHAWK V330-F Multicode Reader

Compact Ethernet barcode reader.




- Simple programming with WebLink.
- Ideal for low-cost embedded applications.
- Highly configurable.
- 0.3, 1.2, and 5 megapixel sensor available.
- Multiple Fixed Focus lens options.
- Smallest in class.
- IP40.
- Single snap-in RJ45 connector and cable.
- Ethernet TCP/IP, EtherNet/IP, and PROFINET.



Optics Options

Appearance	Type	Part Number
	Diffuser Kit	V330-AF1
	Polarizer Kit	V330-AF2

Direct Wiring Options

Appearance	Type	Length	Part Number
	Standard Ethernet Cables, In-Cabinet Use; Standard RJ45 Connectors on Both Ends; Green	1 Meter	XS6W-5PUR8SS100CM-G
		3 Meters	XS6W-5PUR8SS300CM-G
		5 Meters	XS6W-5PUR8SS500CM-G
		10 Meters	XS6W-5PUR8SS1000CM-G
		15 Meters	XS6W-5PUR8SS1500CM-G
	Standard Ethernet Cables, Out-of-Cabinet Use; Rugged RJ45 Connectors on Both Ends; Light Blue	1 Meter	XS5W-T421-CMD-K
		3 Meters	XS5W-T421-EMD-K
		5 Meters	XS5W-T421-GMD-K
		10 Meters	XS5W-T421-JMD-K
		15 Meters	XS5W-T421-KMD-K
	High Flex Ethernet Cables for Robot and Cable Tray Use; Rugged RJ45 Connectors on Both Ends; Light Blue	1 Meter	XS5W-T421-CMD-KR
		3 Meters	XS5W-T421-EMD-KR
		5 Meters	XS5W-T421-GMD-KR
		10 Meters	XS5W-T421-JMD-KR
		15 Meters	XS5W-T421-KMD-KR

V330-F

V330-F Part Number Structure

Use this legend when defining product part numbers. Please note that not all combinations of parameters are valid. For instance, fixed focus distance of 50 mm is not available with Narrow Lens. When ordering, use valid part numbers from the tables in the Ordering Information section only.

V330-F[XXX][Y][ZZZ]-NN[P]

Key	Classification	Code	Meaning
XXX	Focus Distance (mm)	050	Fixed Focus at 50 mm
		064	Fixed Focus at 64 mm
		081	Fixed Focus at 81 mm
		102	Fixed Focus at 102 mm
		133	Fixed Focus at 133 mm
		190	Fixed Focus at 190 mm
		300	Fixed Focus at 300 mm
Y	Lens	W	Wide Field of View - 5.2 mm Focal Length Lens
		M	Medium Field of View – 7.7 mm Focal Length Lens
		N	Narrow Field of View – 16 mm Focal Length Lens
ZZZ	Sensor	03M	752 x 480 (0.3 MP) Pixel, Mono Sensor, Global Shutter
		12M	1280 x 960 (1.2 MP) Pixel, Mono Sensor, Global Shutter
		50C	2592 x 1944 (5 MP) Pixel, Color Sensor, Rolling Shutter
L	Light Type	N	No Options Available (Engine Lighting Only)
C	Light Color	N	No Options Available (Engine Lighting Only)
P	Software License	P	High Speed, Plus Mode
		X	High Speed, X-Mode

Example Part Number:

- V330-F064N50C-NNX: Fixed Focus at 64 mm, Narrow Lens, 5 MP Color – No Light, High Speed, X-Mode

V330-F Valid Product Matrix

Model	Category	Focus Type	Sensor	Lens	Focus Distance (mm)	Light	License
V330-F	Monochrome	Fixed Focus	03M, 12M	W, M	50, 64, 81, 102, 133, 190, 300	NN	P, X
	Color	Fixed Focus	50C	W, M	50, 64, 81, 102, 133, 190, 300	NN	P, X
	Monochrome	Fixed Focus	03M, 12M	N	64, 81, 102, 133, 190, 300	NN	P, X
	Color	Fixed Focus	50C	N	64, 81, 102, 133, 190, 300	NN	P, X

V330-F Ordering Information

Categories:

1. Fixed Focus Cameras

- a) V330-F Monochrome and Color Fixed Focus Camera with Standard Lens
- b) V330-F Monochrome and Color Fixed Focus Camera with Narrow Lens

1a) V330-F Mono and Color Camera with Standard Lens: Valid Combinations

V330-F[XXX][Y][ZZZ]-NN[P]

Key	Classification	Code	Meaning
XXX	Focus Distance (mm)	050	Fixed Focus at 50 mm
		064	Fixed Focus at 64 mm
		081	Fixed Focus at 81 mm
		102	Fixed Focus at 102 mm
		133	Fixed Focus at 133 mm
		190	Fixed Focus at 190 mm
		300	Fixed Focus at 300 mm
Y	Lens	W	Wide Field of View - 5.2 mm Focal Length Lens
		M	Medium Field of View – 7.7 mm Focal Length Lens
ZZZ	Sensor	03M	752 x 480 (0.3 MP) Pixel, Mono Sensor, Global Shutter
		12M	1280 x 960 (1.2 MP) Pixel, Mono Sensor, Global Shutter
		50C	2592 x 1944 (5 MP) Pixel, Color Sensor, Rolling Shutter
P	Software License	P	High Speed, Plus Mode
		X	High Speed, X-Mode

1b) V330-F Mono and Color Camera with Narrow Lens: Valid Combinations

Note: 50 mm Fixed Focus option not available with Narrow Lens.

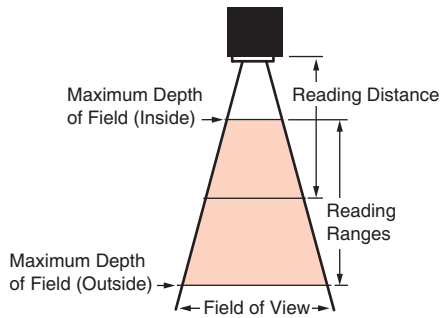
V330-F[XXX]N[ZZZ]-NN[P]

Key	Classification	Code	Meaning
XXX	Focus Distance (mm)	064	Fixed Focus at 64 mm
		081	Fixed Focus at 81 mm
		102	Fixed Focus at 102 mm
		133	Fixed Focus at 133 mm
		190	Fixed Focus at 190 mm
		300	Fixed Focus at 300 mm
ZZZ	Sensor	03M	752 x 480 (0.3 MP) Pixel, Mono Sensor, Global Shutter
		12M	1280 x 960 (1.2 MP) Pixel, Mono Sensor, Global Shutter
		50C	2592 x 1944 (5 MP) Pixel, Color Sensor, Rolling Shutter
P	Software License	P	High Speed, Plus Mode
		X	High Speed, X-Mode

V330-F

Field of View Charts

Specifications are subject to change.



Fixed Focus Field of View (mm) - Wide Lens

Distance (mm)	0.3 MP		1.2 MP		5 MP	
	Width	Height	Width	Height	Width	Height
50	49	32	53	39	50	38
64	62	39	66	49	63	47
81	76	49	81	61	78	58
102	95	60	101	75	96	72
133	121	78	129	97	124	92
190	171	109	182	136	174	130
300	266	170	283	213	271	202

Fixed Focus Field of View (mm) - Medium Lens

Distance (mm)	0.3 MP		1.2 MP		5 MP	
	Width	Height	Width	Height	Width	Height
50	34	22	36	27	35	26
64	43	27	45	34	43	32
81	53	34	56	42	54	40
102	66	42	70	52	67	50
133	84	54	90	67	86	64
190	119	76	126	95	121	90
300	185	118	196	147	188	140

Fixed Focus Field of View (mm) - Narrow Lens

Distance (mm)	0.3 MP		1.2 MP		5 MP	
	Width	Height	Width	Height	Width	Height
64	19	12	20	15	19	14
81	24	15	25	19	24	18
102	29	19	31	23	30	22
133	38	24	40	30	38	29
190	53	34	57	43	54	40
300	83	53	88	66	85	63

Readability Tables

The readability tables on the following pages are designed to help users choose the best read-distance, sensor, and lens combination to read their particular code size and code type successfully.

The readability tables show the calculated PPE (pixels per element) for a range of typical code sizes at all the MicroHAWK Fixed Focus distances with the Wide, Medium, and Narrow lens as well as with the 0.3MP, 1.2MP, and 5MP sensors.

PPE is defined as the following for 1D and 2D codes:

- PPE for 1D codes is the number of pixels across the thinnest bar in the barcode.
- PPE for 2D codes is the number of pixels across a single code cell.

The tables show a color code for readability based on Direct Part Marks (DPM) where red means not likely to read, and green means that it should read. The tables also show a range of colors between red and green, while showing the zone where read rates may be acceptable for high-contrast, well-printed labels and can be considered. See the 1D and 2D Code Readability Guidelines below for Minimum and Preferred PPE for both DPM marks and high-contrast labels.



1D Code Readability Guidelines

High-Contrast Labels

- 1.5 pixels per thin bar is suggested minimum;
- 2 pixels or more per thin bar is preferred.

Direct Part Marks

- 2 pixels per thin bar is suggested minimum;
- 2.5 pixels or more per thin bar is preferred.

2D Code Readability Guidelines

High-Contrast Labels

- 2.5 – 2.75 pixels per 2D cell is suggested minimum;
- 3.5 – 5 pixels per 2D cell is preferred.

Direct Part Marks

- 3.25 pixels per 2D Cell is suggested minimum;
- 4 – 6 pixels per 2D Cell is preferred.

Readability Table – 0.3 Megapixel

 = Maximum Readability
 = Minimum Readability

0.3 Megapixel – Pixels Per Element / Readability Chart																	
Minimum Element Size	Readability of 1D Code at Distance (mm)								Lens	Readability of 2D Code at Distance (mm)							
	50	64	81	102	133	190	300	400		50	64	81	102	133	190	300	400
2 mil	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.1	Wide Lens	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.1
2.5 mil	0.9	0.7	0.6	0.5	0.4	0.3	0.2	0.1		0.9	0.7	0.6	0.5	0.4	0.3	0.2	0.1
3.3 mil	1.2	1.0	0.8	0.6	0.5	0.4	0.2	0.2		1.2	1.0	0.8	0.6	0.5	0.4	0.2	0.2
5 mil	1.9	1.5	1.2	1.0	0.8	0.5	0.3	0.3		1.9	1.5	1.2	1.0	0.8	0.5	0.3	0.3
7.5 mil	2.8	2.2	1.8	1.5	1.1	0.8	0.5	0.4		2.8	2.2	1.8	1.5	1.1	0.8	0.5	0.4
10 mil	3.7	3.0	2.4	1.9	1.5	1.1	0.7	0.5		3.7	3.0	2.4	1.9	1.5	1.1	0.7	0.5
15 mil	5.6	4.5	3.6	2.9	2.3	1.6	1.0	0.8		5.6	4.5	3.6	2.9	2.3	1.6	1.0	0.8
20 mil	7.4	6.0	4.8	3.9	3.0	2.1	1.4	1.0		7.4	6.0	4.8	3.9	3.0	2.1	1.4	1.0
30 mil	11.1	8.9	7.2	5.8	4.5	3.2	2.1	1.6		11.1	8.9	7.2	5.8	4.5	3.2	2.1	1.6
40 mil	14.9	11.9	9.6	7.8	6.0	4.3	2.8	2.1		14.9	11.9	9.6	7.8	6.0	4.3	2.8	2.1
2 mil	1.2	1.0	0.8	0.6	0.5	0.3	0.2	0.2	Medium Lens	1.2	1.0	0.8	0.6	0.5	0.3	0.2	0.2
2.5 mil	1.5	1.2	1.0	0.8	0.6	0.4	0.3	0.2		1.5	1.2	1.0	0.8	0.6	0.4	0.3	0.2
3.3 mil	2.0	1.6	1.3	1.0	0.8	0.6	0.4	0.3		2.0	1.6	1.3	1.0	0.8	0.6	0.4	0.3
5 mil	3.0	2.4	1.9	1.6	1.2	0.9	0.6	0.4		3.0	2.4	1.9	1.6	1.2	0.9	0.6	0.4
7.5 mil	4.5	3.6	2.9	2.3	1.8	1.3	0.8	0.6		4.5	3.6	2.9	2.3	1.8	1.3	0.8	0.6
10 mil	5.9	4.8	3.8	3.1	2.4	1.7	1.1	0.8		5.9	4.8	3.8	3.1	2.4	1.7	1.1	0.8
15 mil	8.9	7.2	5.8	4.7	3.6	2.6	1.7	1.2		8.9	7.2	5.8	4.7	3.6	2.6	1.7	1.2
20 mil	11.9	9.5	7.7	6.2	4.8	3.4	2.2	1.7		11.9	9.5	7.7	6.2	4.8	3.4	2.2	1.7
30 mil	17.8	14.3	11.5	9.3	7.3	5.2	3.3	2.5		17.8	14.3	11.5	9.3	7.3	5.2	3.3	2.5
40 mil	23.8	19.1	15.4	12.4	9.7	6.9	4.4	3.3		23.8	19.1	15.4	12.4	9.7	6.9	4.4	3.3
2 mil	2.5	2.0	1.6	1.3	1.0	0.7	0.5	0.3	Narrow Lens	2.5	2.0	1.6	1.3	1.0	0.7	0.5	0.3
2.5 mil	3.1	2.5	2.0	1.6	1.3	0.9	0.6	0.4		3.1	2.5	2.0	1.6	1.3	0.9	0.6	0.4
3.3 mil	4.1	3.3	2.6	2.1	1.7	1.2	0.8	0.6		4.1	3.3	2.6	2.1	1.7	1.2	0.8	0.6
5 mil	6.2	4.9	4.0	3.2	2.5	1.8	1.1	0.9		6.2	4.9	4.0	3.2	2.5	1.8	1.1	0.9
7.5 mil	9.2	7.4	6.0	4.8	3.8	2.7	1.7	1.3		9.2	7.4	6.0	4.8	3.8	2.7	1.7	1.3
10 mil	12.3	9.9	8.0	6.4	5.0	3.6	2.3	1.7		12.3	9.9	8.0	6.4	5.0	3.6	2.3	1.7
15 mil	18.5	14.8	12.0	9.7	7.5	5.4	3.4	2.6		18.5	14.8	12.0	9.7	7.5	5.4	3.4	2.6
20 mil	24.7	19.8	16.0	12.9	10.0	7.1	4.6	3.5		24.7	19.8	16.0	12.9	10.0	7.1	4.6	3.5
30 mil	37.0	29.7	24.0	19.3	15.1	10.7	6.9	5.2		37.0	29.7	24.0	19.3	15.1	10.7	6.9	5.2
40 mil	49.3	39.6	31.9	25.8	20.1	14.3	9.2	6.9		49.3	39.6	31.9	25.8	20.1	14.3	9.2	6.9

Readability Table – 1.2 Megapixel

1.2 Megapixel – Pixels Per Element / Readability Chart																	
Minimum Element Size	Readability of 1D Code at Distance (mm)								Lens	Readability of 2D Code at Distance (mm)							
	50	64	81	102	133	190	300	400		50	64	81	102	133	190	300	400
2 mil	1.2	1.0	0.8	0.6	0.5	0.4	0.2	0.2	Wide Lens	1.2	1.0	0.8	0.6	0.5	0.4	0.2	0.2
2.5 mil	1.5	1.2	1.0	0.8	0.6	0.4	0.3	0.2		1.5	1.2	1.0	0.8	0.6	0.4	0.3	0.2
3.3 mil	2.0	1.6	1.3	1.1	0.8	0.6	0.4	0.3		2.0	1.6	1.3	1.1	0.8	0.6	0.4	0.3
5 mil	3.1	2.5	2.0	1.6	1.3	0.9	0.6	0.4		3.1	2.5	2.0	1.6	1.3	0.9	0.6	0.4
7.5 mil	4.6	3.7	3.0	2.4	1.9	1.3	0.9	0.6		4.6	3.7	3.0	2.4	1.9	1.3	0.9	0.6
10 mil	6.2	5.0	4.0	3.2	2.5	1.8	1.1	0.9		6.2	5.0	4.0	3.2	2.5	1.8	1.1	0.9
15 mil	9.3	7.4	6.0	4.8	3.8	2.7	1.7	1.3		9.3	7.4	6.0	4.8	3.8	2.7	1.7	1.3
20 mil	12.4	9.9	8.0	6.5	5.0	3.6	2.3	1.7		12.4	9.9	8.0	6.5	5.0	3.6	2.3	1.7
30 mil	18.5	14.9	12.0	9.7	7.5	5.4	3.4	2.6		18.5	14.9	12.0	9.7	7.5	5.4	3.4	2.6
40 mil	24.7	19.8	16.0	12.9	10.1	7.2	4.6	3.5		24.7	19.8	16.0	12.9	10.1	7.2	4.6	3.5
2 mil	1.8	1.4	1.2	0.9	0.7	0.5	0.3	0.2	Medium Lens	1.8	1.4	1.2	0.9	0.7	0.5	0.3	0.2
2.5 mil	2.2	1.8	1.4	1.2	0.9	0.6	0.4	0.3		2.2	1.8	1.4	1.2	0.9	0.6	0.4	0.3
3.3 mil	2.9	2.4	1.9	1.5	1.2	0.9	0.5	0.4		2.9	2.4	1.9	1.5	1.2	0.9	0.5	0.4
5 mil	4.5	3.6	2.9	2.3	1.8	1.3	0.8	0.6		4.5	3.6	2.9	2.3	1.8	1.3	0.8	0.6
7.5 mil	6.7	5.4	4.3	3.5	2.7	1.9	1.2	0.9		6.7	5.4	4.3	3.5	2.7	1.9	1.2	0.9
10 mil	8.9	7.2	5.8	4.7	3.6	2.6	1.7	1.2		8.9	7.2	5.8	4.7	3.6	2.6	1.7	1.2
15 mil	13.4	10.7	8.7	7.0	5.4	3.9	2.5	1.9		13.4	10.7	8.7	7.0	5.4	3.9	2.5	1.9
20 mil	17.8	14.3	11.5	9.3	7.3	5.2	3.3	2.5		17.8	14.3	11.5	9.3	7.3	5.2	3.3	2.5
30 mil	26.7	21.5	17.3	14.0	10.9	7.7	5.0	3.7		26.7	21.5	17.3	14.0	10.9	7.7	5.0	3.7
40 mil	35.6	28.6	23.1	18.6	14.5	10.3	6.6	5.0		35.6	28.6	23.1	18.6	14.5	10.3	6.6	5.0
2 mil	3.9	3.2	2.6	2.1	1.6	1.1	0.7	0.6	Narrow Lens	3.9	3.2	2.6	2.1	1.6	1.1	0.7	0.6
2.5 mil	4.9	4.0	3.2	2.6	2.0	1.4	0.9	0.7		4.9	4.0	3.2	2.6	2.0	1.4	0.9	0.7
3.3 mil	6.5	5.2	4.2	3.4	2.7	1.9	1.2	0.9		6.5	5.2	4.2	3.4	2.7	1.9	1.2	0.9
5 mil	9.9	7.9	6.4	5.2	4.0	2.9	1.8	1.4		9.9	7.9	6.4	5.2	4.0	2.9	1.8	1.4
7.5 mil	14.8	11.9	9.6	7.7	6.0	4.3	2.7	2.1		14.8	11.9	9.6	7.7	6.0	4.3	2.7	2.1
10 mil	19.7	15.8	12.8	10.3	8.0	5.7	3.7	2.8		19.7	15.8	12.8	10.3	8.0	5.7	3.7	2.8
15 mil	29.6	23.8	19.2	15.5	12.0	8.6	5.5	4.1		29.6	23.8	19.2	15.5	12.0	8.6	5.5	4.1
20 mil	39.5	31.7	25.6	20.6	16.1	11.4	7.3	5.5		39.5	31.7	25.6	20.6	16.1	11.4	7.3	5.5
30 mil	59.2	47.5	38.3	30.9	24.1	17.1	11.0	8.3		59.2	47.5	38.3	30.9	24.1	17.1	11.0	8.3
40 mil	78.9	63.3	51.1	41.3	32.1	22.8	14.6	11.1		78.9	63.3	51.1	41.3	32.1	22.8	14.6	11.1

Readability Table – 5 Megapixel

5 Megapixel – Pixels Per Element / Readability Chart																	
Minimum Element Size	Readability of 1D Code at Distance (mm)								Lens	Readability of 2D Code at Distance (mm)							
	50	64	81	102	133	190	300	400		50	64	81	102	133	190	300	400
2 mil	1.7	1.4	1.1	0.9	0.7	0.5	0.3	0.2	Wide Lens	1.7	1.4	1.1	0.9	0.7	0.5	0.3	0.2
2.5 mil	2.2	1.7	1.4	1.1	0.9	0.6	0.4	0.3		2.2	1.7	1.4	1.1	0.9	0.6	0.4	0.3
3.3 mil	2.8	2.3	1.8	1.5	1.2	0.8	0.5	0.4		2.8	2.3	1.8	1.5	1.2	0.8	0.5	0.4
5 mil	4.3	3.5	2.8	2.3	1.8	1.2	0.8	0.6		4.3	3.5	2.8	2.3	1.8	1.2	0.8	0.6
7.5 mil	6.5	5.2	4.2	3.4	2.6	1.9	1.2	0.9		6.5	5.2	4.2	3.4	2.6	1.9	1.2	0.9
10 mil	8.6	6.9	5.6	4.5	3.5	2.5	1.6	1.2		8.6	6.9	5.6	4.5	3.5	2.5	1.6	1.2
15 mil	12.9	10.4	8.4	6.8	5.3	3.7	2.4	1.8		12.9	10.4	8.4	6.8	5.3	3.7	2.4	1.8
20 mil	17.3	13.9	11.2	9.0	7.0	5.0	3.2	2.4		17.3	13.9	11.2	9.0	7.0	5.0	3.2	2.4
30 mil	25.9	20.8	16.8	13.5	10.5	7.5	4.8	3.6		25.9	20.8	16.8	13.5	10.5	7.5	4.8	3.6
40 mil	34.5	27.7	22.4	18.1	14.1	10.0	6.4	4.8		34.5	27.7	22.4	18.1	14.1	10.0	6.4	4.8
2 mil	2.5	2.0	1.6	1.3	1.0	0.7	0.5	0.3	Medium Lens	2.5	2.0	1.6	1.3	1.0	0.7	0.5	0.3
2.5 mil	3.1	2.5	2.0	1.6	1.3	0.9	0.6	0.4		3.1	2.5	2.0	1.6	1.3	0.9	0.6	0.4
3.3 mil	4.1	3.3	2.7	2.1	1.7	1.2	0.8	0.6		4.1	3.3	2.7	2.1	1.7	1.2	0.8	0.6
5 mil	6.2	5.0	4.0	3.3	2.5	1.8	1.2	0.9		6.2	5.0	4.0	3.3	2.5	1.8	1.2	0.9
7.5 mil	9.3	7.5	6.0	4.9	3.8	2.7	1.7	1.3		9.3	7.5	6.0	4.9	3.8	2.7	1.7	1.3
10 mil	12.5	10.0	8.1	6.5	5.1	3.6	2.3	1.7		12.5	10.0	8.1	6.5	5.1	3.6	2.3	1.7
15 mil	18.7	15.0	12.1	9.8	7.6	5.4	3.5	2.6		18.7	15.0	12.1	9.8	7.6	5.4	3.5	2.6
20 mil	24.9	20.0	16.1	13.0	10.1	7.2	4.6	3.5		24.9	20.0	16.1	13.0	10.1	7.2	4.6	3.5
30 mil	37.4	30.0	24.2	19.5	15.2	10.8	6.9	5.2		37.4	30.0	24.2	19.5	15.2	10.8	6.9	5.2
40 mil	49.8	40.0	32.3	26.0	20.3	14.4	9.2	7.0		49.8	40.0	32.3	26.0	20.3	14.4	9.2	7.0
2 mil	5.5	4.4	3.6	2.9	2.2	1.6	1.0	0.8	Narrow Lens	5.5	4.4	3.6	2.9	2.2	1.6	1.0	0.8
2.5 mil	6.9	5.5	4.5	3.6	2.8	2.0	1.3	1.0		6.9	5.5	4.5	3.6	2.8	2.0	1.3	1.0
3.3 mil	9.1	7.3	5.9	4.8	3.7	2.6	1.7	1.3		9.1	7.3	5.9	4.8	3.7	2.6	1.7	1.3
5 mil	13.8	11.1	8.9	7.2	5.6	4.0	2.6	1.9		13.8	11.1	8.9	7.2	5.6	4.0	2.6	1.9
7.5 mil	20.7	16.6	13.4	10.8	8.4	6.0	3.8	2.9		20.7	16.6	13.4	10.8	8.4	6.0	3.8	2.9
10 mil	27.6	22.1	17.8	14.4	11.2	8.0	5.1	3.9		27.6	22.1	17.8	14.4	11.2	8.0	5.1	3.9
15 mil	41.3	33.2	26.8	21.6	16.8	12.0	7.7	5.8		41.3	33.2	26.8	21.6	16.8	12.0	7.7	5.8
20 mil	55.1	44.2	35.7	28.8	22.4	15.9	10.2	7.7		55.1	44.2	35.7	28.8	22.4	15.9	10.2	7.7
30 mil	82.7	66.4	53.5	43.2	33.7	23.9	15.3	11.6		82.7	66.4	53.5	43.2	33.7	23.9	15.3	11.6
40 mil	110.2	88.5	71.4	57.6	44.9	31.9	20.5	15.4		110.2	88.5	71.4	57.6	44.9	31.9	20.5	15.4

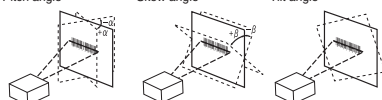
Ratings and Specifications

V330-F		V330-F□□□□03M-□□□□	V330-F□□□□12M-□□□□	V330-F□□□□50C-□□□□
Symbologies *1	1D Symbologies	Code 39, Code 128, BC412, Interleaved 2 of 5, UPC/EAN, Codabar, Code 93, Pharmacode, PLANET, Postnet, Japanese Post, Australian Post, Royal Mail, Intelligent Mail, KIX		
	2D Symbologies	Data Matrix (ECC 0-200), QR Code, Micro QR Code, Aztec Code, DotCode		
	Stacked Symbologies	PDF417, MicroPDF417, GS1 Databar (Composite and Stacked)		
Reading Performance *2	Number of Reading Digits	No Upper Limit (depending on bar width and reading distance)		
	Aiming Light	Two Blue LEDs		
	Illumination	Inner LEDs: Four White and Four Red (Wavelength: 625 nm)		
	Reading Distance / Field of View	Refer to <i>Field of View Charts</i> for details.		
	Pitch Angle (α) *3	$\pm 30^\circ$		
	Skew Angle (β) *3	$\pm 30^\circ$		
	Tilt Angle (γ) *3	$\pm 180^\circ$		
Image Capture	Focus	Fixed Focus (Wide = 5.2 mm, Medium = 7.7 mm, Narrow = 16 mm)		
	Resolution	752 (H) x 480 (V)	1280 (H) x 960 (V)	2592 (H) x 1944 (V)
	Color / Monochrome	Monochrome CMOS	Monochrome CMOS	Color CMOS
	Shutter	Global Shutter	Global Shutter	Rolling Shutter
	Frames per Second	60 fps	42 fps	5 fps
	Exposure	50 to 100,000 μ s		
Image Logging	FTP			
Trigger	Communication Trigger (Ethernet)			
I/O Specifications	Input Signals	Ethernet		
	Output Signals	Ethernet		
Communication	Connectivity	Ethernet TCP/IP, EtherNet/IP, PROFINET		
	Ethernet Specifications	100BASE-TX / 10BASE-T		
Indicator LEDs	PASS (Green), PWR (Green)			
Power Supply Voltage	Source: 44-57 VDC IEEE802.3af POE			
Current Consumption	Max Current: 0.10A			
Environmental Immunity*4	Operating Temperature	0 to 40° C		
	Ambient Atmosphere	No Corrosive Gases		
	Storage Temperature	-40 to 75° C		
	Humidity (Operating and Storage)	5% to 95% (Non-Condensing)		
	Destructive Vibration Resistance	Oscillation Frequency: 10 to 150Hz, Half Amplitude: 0.35 mm, Vibration Direction: X/Y/Z, Sweep Time: 8 minute/count, Sweep Count: 10 times		
	Shock Resistance	Impact Force: 150 m/s ² , Test Direction: 6 directions, three times each (up/down, front/back, left/right)		
	Water Resistance	IP 40 per IEC 60529		
Weight	Main Body Only	72 g		
	Packaging Weight	Approx. 180 g (including packing)		
Dimensions	Main Body Dimensions	40 (W) x 63 (D) x 24 (H) mm		
	Packaging Dimensions	170 (W) x 117 (D) x 86 (H) mm		
Accessories	ReadMeFirst, CE Compliance Sheet			
LED Safety Standard	IEC 62471-1: 2006 Risk-Exempt Group			
EMC Standards - ITE (CODE READER)	FCC 47 CFR PART 15 Subpart B, ICES-003, EN 55024, EN 55032, EN 55035, KN32, KN35, CNS13438			
Safety Standards - ITE (CODE READER)	UL 62368-1, UL 60950-1, IEC 62471-1, CAN/CSA C22.2, IS 13252			
Regulatory Marks - ITE (CODE READER)	FCC, UL, cUL (Canada), CE (EU), BIS (India), BSMI (Taiwan), KC (S. Korea), RCM (Australia/NZ)			
Materials	Case	Aluminum		
	Reading Window	Acrylic		
Software	WebLink			

*1. These symbologies are supported based on Omron's read capability validation standard. Omron recommends that validation be performed for each application.

*2. Unless otherwise specified, reading performance is defined with center of field of view, angle $R = \infty$.

*3. Pitch angle Skew angle Tilt angle



*4. In an electrically noisy environment, use only the V430-F in combination with a noise filter cable (V430-W□F-□M) to ensure proper operation.

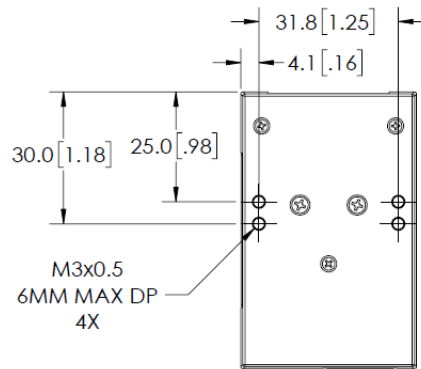
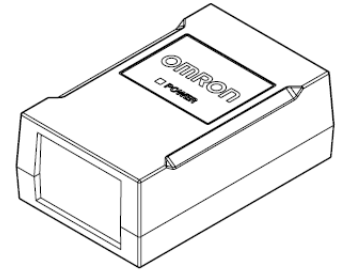
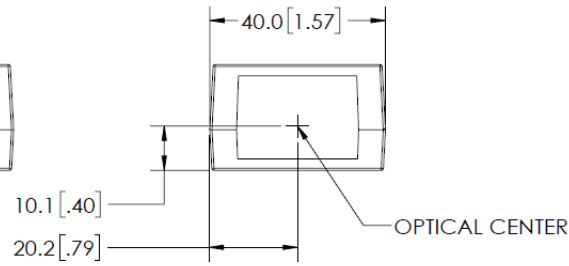
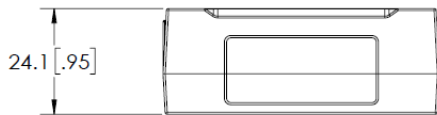
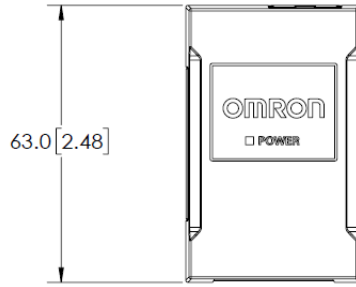
V330-F

Dimensions

(Unit: mm)



Recommended torque:
0.5 - 1.0NM for M3 mounting points



Optics Options

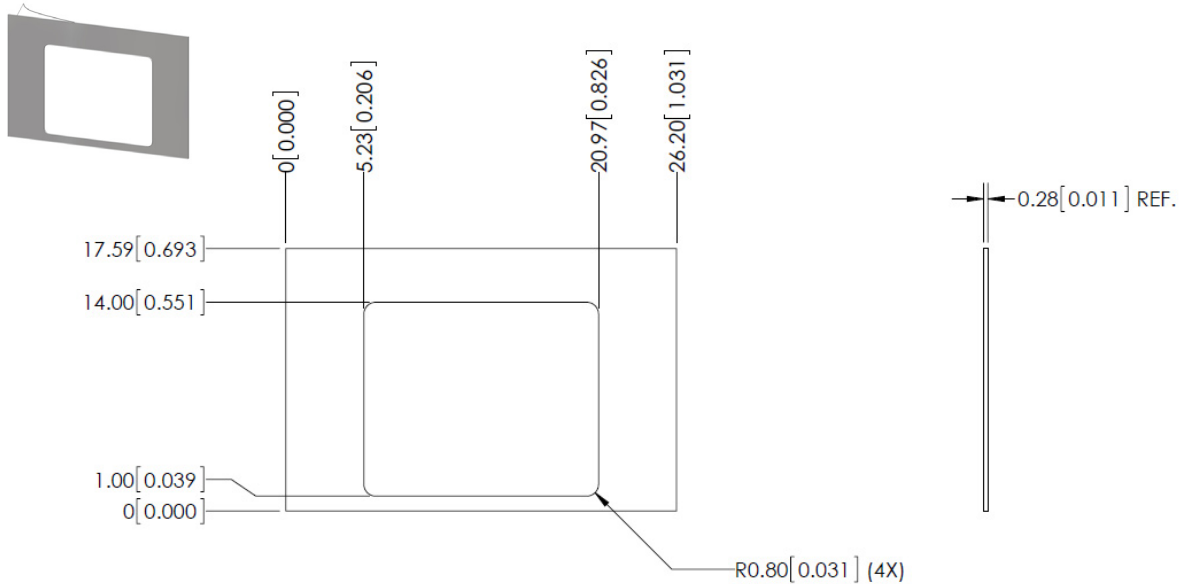
Installation Note: Both the diffuser and polarizer kits are peel and stick accessories. The accessories are applied to the exterior of the camera and do not require disassembly of the unit. See Optics and Lighting Guide for detailed installation instructions.

Optics maintenance: Wipe options with a lens cleaning cloth or an air brush. A cloth dampened with water can be used to remove more stubborn contaminants. Never use paint thinners or other organic solvents to clean the surfaces of the products.

Diffuser Kit V330-AF1

Purpose: To create contrast between specular and non-specular surfaces. Diffusion can be useful when imaging textured codes on mirror like surfaces or reflective DPM marks on textured surfaces.

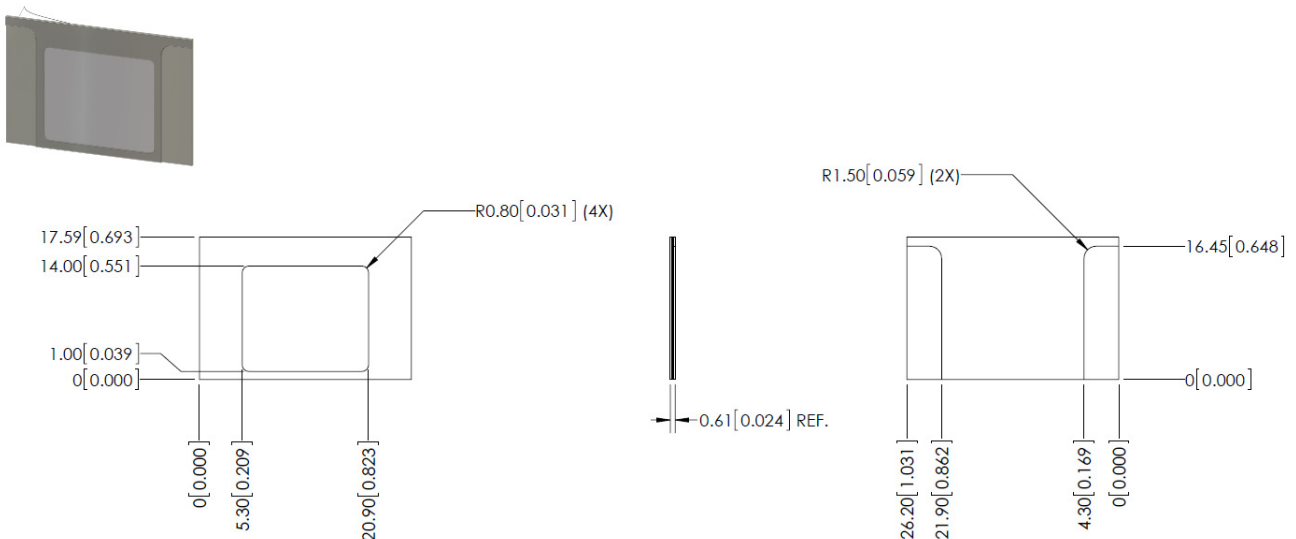
Kit Contents: Peel and stick diffuser (1).



Polarizer Kit V330-AF2

Purpose: To reduce glare when imaging specular surfaces. Cross Polarization can be useful when imaging codes on glossy surfaces or DPM marks on polished metal substrates.

Kit Contents: Peel and stick polarizer (1)



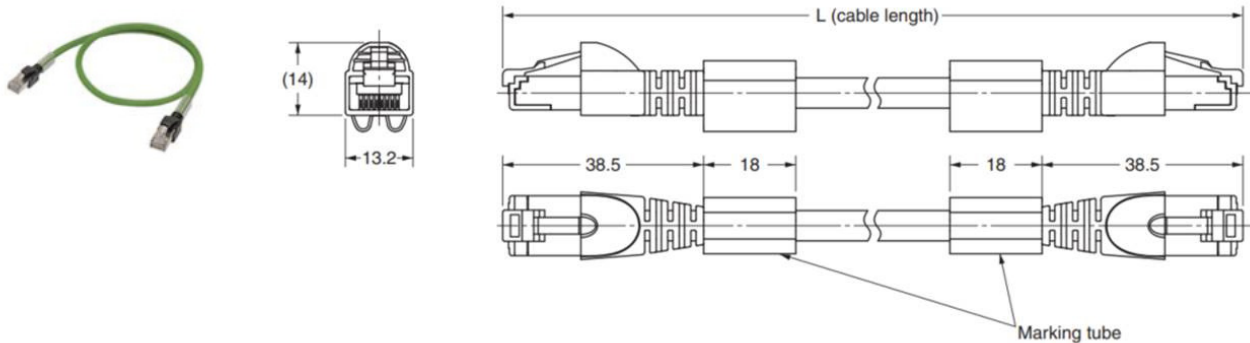
V330-F

Wiring Options and Other Accessories

(Unit: mm)

Standard Ethernet Cables, In-Cabinet Use; Standard RJ45 Connectors on Both Ends; Green

- XS6W-5PUR8SS100CM-G
- XS6W-5PUR8SS300CM-G
- XS6W-5PUR8SS500CM-G
- XS6W-5PUR8SS1000CM-G
- XS6W-5PUR8SS1500CM-G

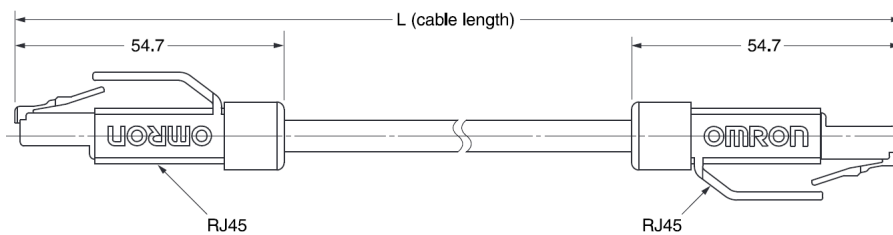


Standard Ethernet Cables, Out-of-Cabinet Use; Rugged RJ45 Connectors on Both Ends; Light Blue

- XS5W-T421-CMD-K
- XS5W-T421-EMD-K
- XS5W-T421-GMD-K
- XS5W-T421-JMD-K
- XS5W-T421-KMD-K

High Flex Ethernet Cables for Robot and Cable Tray Use; Rugged RJ45 Connectors on Both Ends; Light Blue

- XS5W-T421-CMD-KR
- XS5W-T421-EMD-KR
- XS5W-T421-GMD-KR
- XS5W-T421-JMD-KR
- XS5W-T421-KMD-KR



Related Manuals

Man.No.	Model	Manual
Z432 (84-9000400-02)	V320-F, V330-F, V420-F, V430-F	MicroHAWK V320-F / V330-F / V420-F / V430-F User Manual

Terms and Conditions Agreement

Read and understand this catalog.

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

Warranties.

- (a) Exclusive Warranty. Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied.
- (b) Limitations. OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE.

Omron further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right. (c) Buyer Remedy. Omron's sole obligation hereunder shall be, at Omron's election, to (i) replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product, (ii) repair the non-complying Product, or (iii) repay or credit Buyer an amount equal to the purchase price of the non-complying Product; provided that in no event shall Omron be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Products unless Omron's analysis confirms that the Products were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Omron before shipment. Omron Companies shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty.

See <http://www.omron.com/global/> or contact your Omron representative for published information.

Limitation on Liability: Etc.

OMRON COMPANIES SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY.

Further, in no event shall liability of Omron Companies exceed the individual price of the Product on which liability is asserted.

Suitability of Use.

Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

Programmable Products.

Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.

Performance Data.

Data presented in Omron Company websites, catalogs and other materials is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Omron's test conditions, and the user must correlate it to actual application requirements. Actual performance is subject to the Omron's Warranty and Limitations of Liability.

Change in Specifications.

Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our practice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Product may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Omron's representative at any time to confirm actual specifications of purchased Product.

Errors and Omissions.

Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.

Note: Do not use this document to operate the Unit.

OMRON Corporation Industrial Automation Company

Kyoto, JAPAN

Contact : www.ia.omron.com

Regional Headquarters

OMRON EUROPE B.V.

Wegalaan 67-69, 2132 JD Hoofddorp
The Netherlands
Tel: (31) 2356-81-300 Fax: (31) 2356-81-388

OMRON ELECTRONICS LLC

2895 Greenspoint Parkway, Suite 200
Hoffman Estates, IL 60169 U.S.A.
Tel: (1) 847-843-7900 Fax: (1) 847-843-7787

OMRON ASIA PACIFIC PTE. LTD.

438B Alexandra Road, #08-01/02 Alexandra
Technopark, Singapore 119968
Tel: (65) 6835-3011 Fax: (65) 6835-3011

OMRON (CHINA) CO., LTD.

Room 2211, Bank of China Tower,
200 Yin Cheng Zhong Road,
PuDong New Area, Shanghai, 200120, China
Tel: (86) 21-6023-0333 Fax: (86) 21-5037-2388

Authorized Distributor:

©OMRON Corporation 2024 All Rights Reserved.
In the interest of product improvement, specifications
are subject to change without notice.

Cat. No. Q276-E-02 (SP114B-EN-0424)

Printed in Japan
0424 (0919)