

Line Scan Camera Series

Rev 3.0



Line scan cameras are a type of camera that captures images one line at a time, unlike regular cameras that capture entire frames at once. They work by using a linear sensor of 1 or 2 pixels high that scans across the field of view. The motion of the sensor or the object being captured creates the second dimension of the image, building up the image one line at a time.

Line scan cameras are often used in industrial applications where objects are moving. Some examples include:

- Sorting and grading products on a conveyor belt for defects
- Capturing 3D profiles of objects
- Document scanning
- Postal sorting
- Steel beam inspection

Our line scan camera comes equipped with GigE vision interface. The cameras follow the GenICam standard widely used in machine vision software applications. With the free configuration software available on the download page, customers can adjust the camera parameters to fit the application. The settings can then be exported for future use or directly stored on the camera for deployment in your project.

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substituted for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation, and testing of the products with respect to the relevant specific application or use thereof. Neither VA Imaging nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein or incorrect information in this document.

Technical specifications

Monochrome

	VALINE-2K1-CM-140GM-P	VALINE-4K1-CM-80GM	VALINE-8K1-M72-150GTM	VALINE-16K1-M72-75GTM
Resolution	2048 x 1	4096 x 1	8192 x 1	16384 x 1
Pixel Size (um)	7	3.5	7	3.5
Sensor Type	Global Shutter CMOS	Global Shutter CMOS	Global Shutter CMOS	Global Shutter CMOS
Image Type	Monochrome	Monochrome	Monochrome	Monochrome
Sensor Length (mm)	14.33	14.33	57.34	57.34
Dynamic Range (dB)	>64.5	>54	>54.1	>53.7
SNR (dB)	43.9	43.9	-	-
Data Rate (MB/s)	287	123	1227	1227
Max Analog Gain	8x	8x	8x	4x
Analog Offset	0 ~ 1023	0 ~ 1023	0 ~ 1023	0 ~ 1023
Digital Gain	0.1 ~ 8	0.001 ~ 15.99	0.1 ~ 8	0.1 ~ 8
Digital Offset	-1023 ~ 1023	-1023 ~ 1023	-1023 ~ 1023	-1023 ~ 1023
Lens Mount	C-Mount	C-Mount	M72	M72
Max Line Rate (kHz)	140	80	150	75
Trigger Mode	Free Run, Line Trigger, Frame Mode Trigger			
External Trigger	RS422 input			
Exposure Control	Pulse Width Control, Timed			
Exposure Time	2us ~ 1s	2us ~ 1s	1.7us ~ 6s	3.5us ~ 6s
Data Format	8 / 10 bit	8 bit	8 bit	8 bit
Operating Temperature (°C)	0 ~ 55	0 ~ 65	0 ~ 55	0 ~ 55
Data Interface	GigE Vision	GigE Vision	10Gige Vision SFP+	10Gige Vision SFP+
Power Interface	HD15 (Female)	HD15 (Female)	HD15 (Female)	HD15 (Female)
Power Supply	12 ~ 24Vdc / PoE	12 ~ 24Vdc	12 ~ 24Vdc	12 ~ 24Vdc
Power Consumption (W)	3.8	4.1	9.8	12.1
Dimensions (mm)	62 x 62 x 42.6	63 x 63 x 56.8	76 x 76 x 65.1	76 x 76 x 65.1

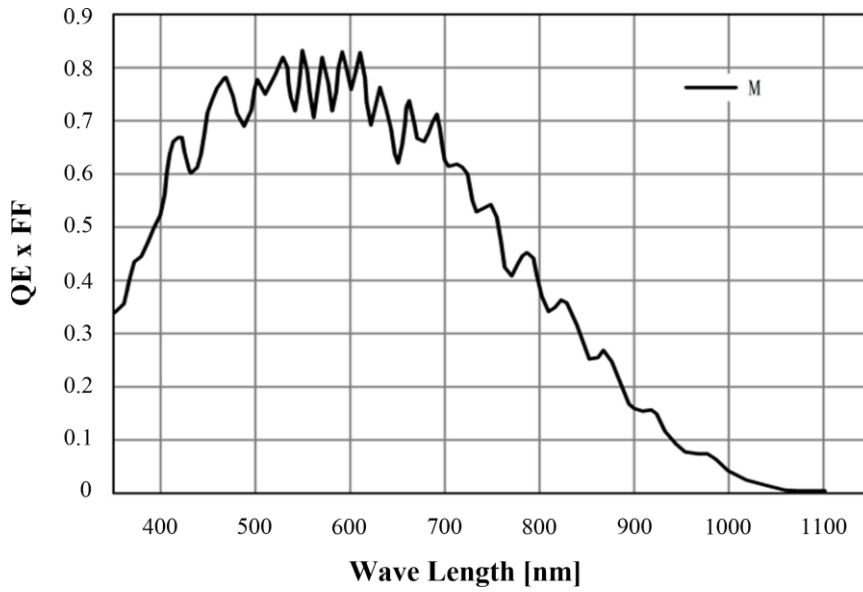
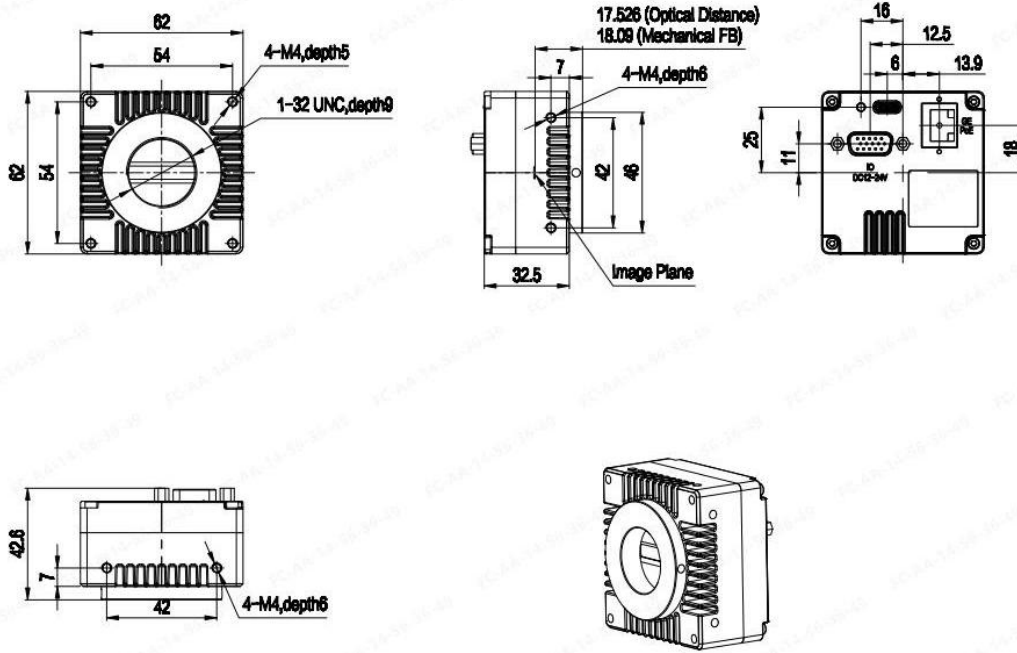
The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substituted for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation, and testing of the products with respect to the relevant specific application or use thereof. Neither VA Imaging nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein or incorrect information in this document.

Color

	VALINE-2K3-CM-48GC-P	VALINE-4K2-M42-30GC	VALINE-8K3-M72-50GTC
Resolution	2048 x 3	4096 x 2	8192 x 3
Pixel Size (um)	7	7	7
Sensor Type	Global Shutter CMOS	Global Shutter CMOS	Global Shutter CMOS
Image Type	Color	Color	Color
Sensor Length (mm)	14.33	28.67	57.34
Dynamic Range (dB)	>53.8	>63.5	>53.7
SNR (dB)	-	43.9	-
Data Rate (MB/s)	294	124	1226
Max Analog Gain	8x	8x	8x
Analog Offset	0 ~ 1023	0 ~ 1023	0 ~ 1023
Digital Gain	0.01 ~ 8	0.004 ~ 8	0.1 ~ 8
Digital Offset	-1023 ~ 1023	-1023 ~ 1023	-1023 ~ 1023
Lens Mount	C	M42	M72
Max Line Rate (kHz)	48	30	50
Trigger Mode	Free Run, Line Trigger, Frame Mode Trigger		
External Trigger	RS422 input		
Exposure Control	Pulse Width Control, Timed		
Exposure Time	6us ~ 1s	6us ~ 1s	3.5us ~ 6s
Data Format	8 / 10 / 12 bit	8 / 10 / 12 bit	8 bit
Operating Temperature (°C)	0 ~ 65	0 ~ 65	0 ~ 55
Data Interface	GigE Vision	GigE Vision	10GigE Vision SPF+
Power Interface	HD15 (Female)	HD15 (Female)	HD15 (Female)
Power Supply	12 ~24Vdc / POE	12 ~24Vdc	12 ~24Vdc
Power Consumption (W)	3.8	4.9	12.7
Dimensions (mm)	62 x 62 x 42.6	62 x 62 x 37.4	76 x 76 x 65.1

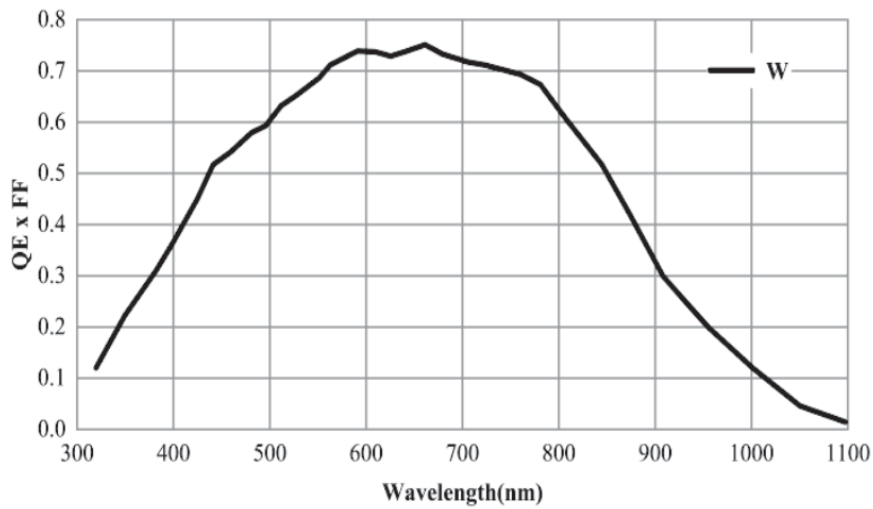
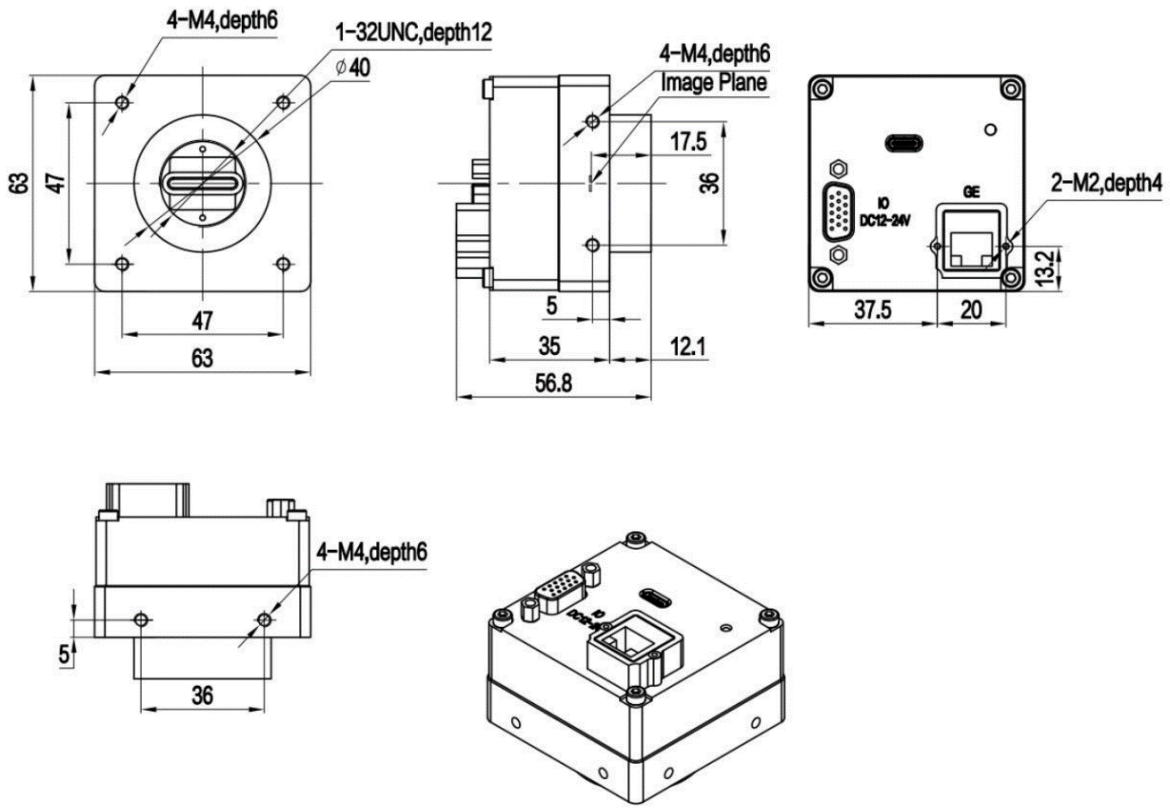
Technical drawings

VALINE-2K1-CM-140GM-P



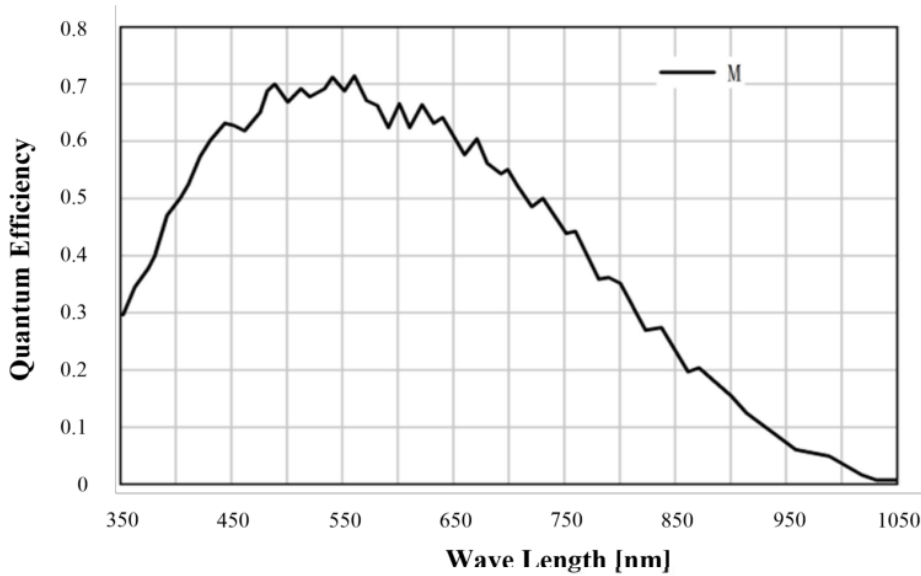
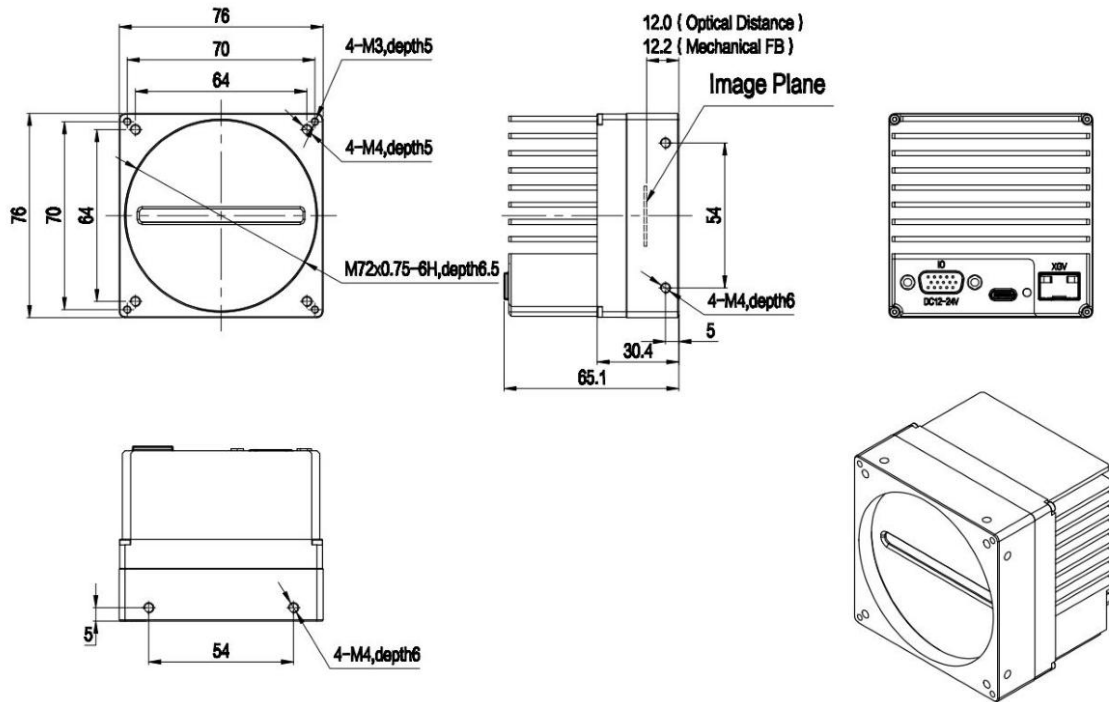
The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substituted for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation, and testing of the products with respect to the relevant specific application or use thereof. Neither VA Imaging nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein or incorrect information in this document.

VALINE-4K1-CM-80GM



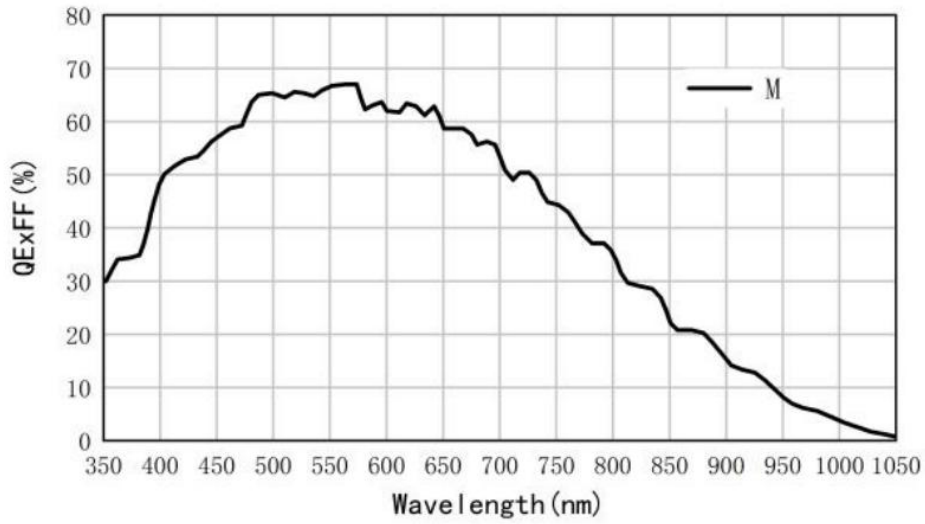
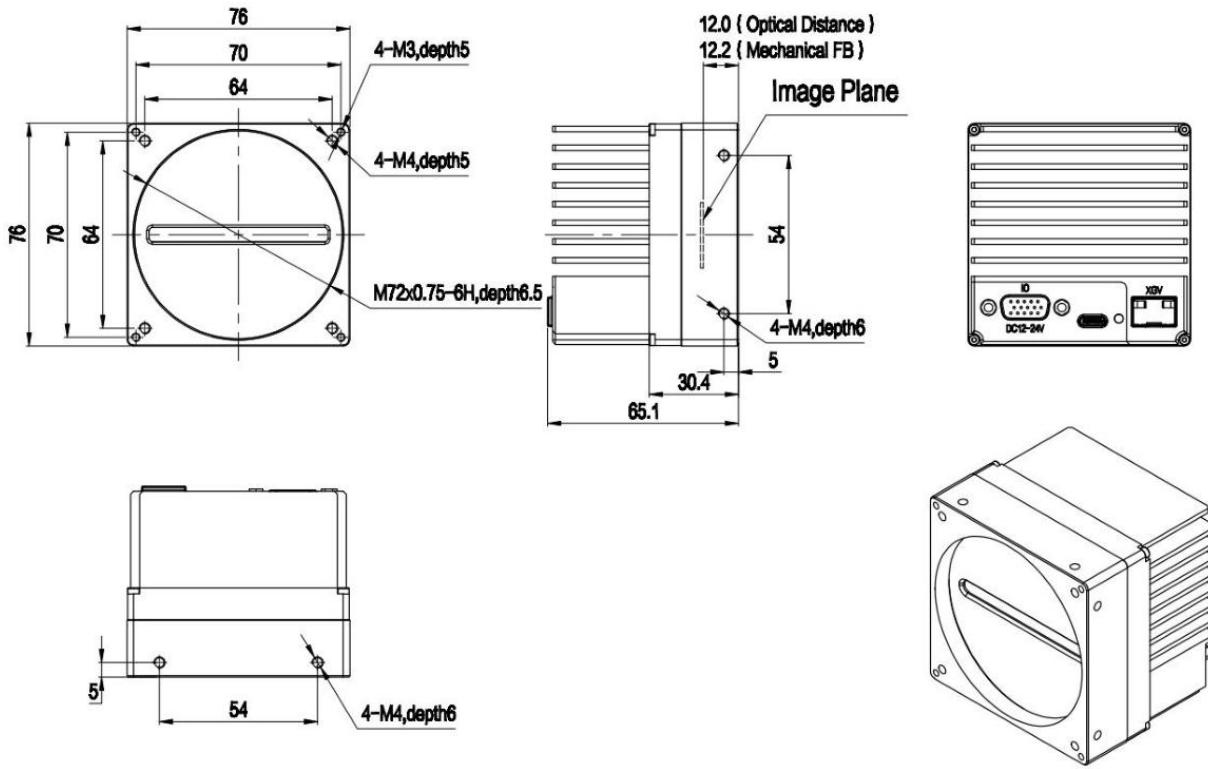
The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substituted for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation, and testing of the products with respect to the relevant specific application or use thereof. Neither VA Imaging nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein or incorrect information in this document.

VALINE-8K1-M72-150GTM



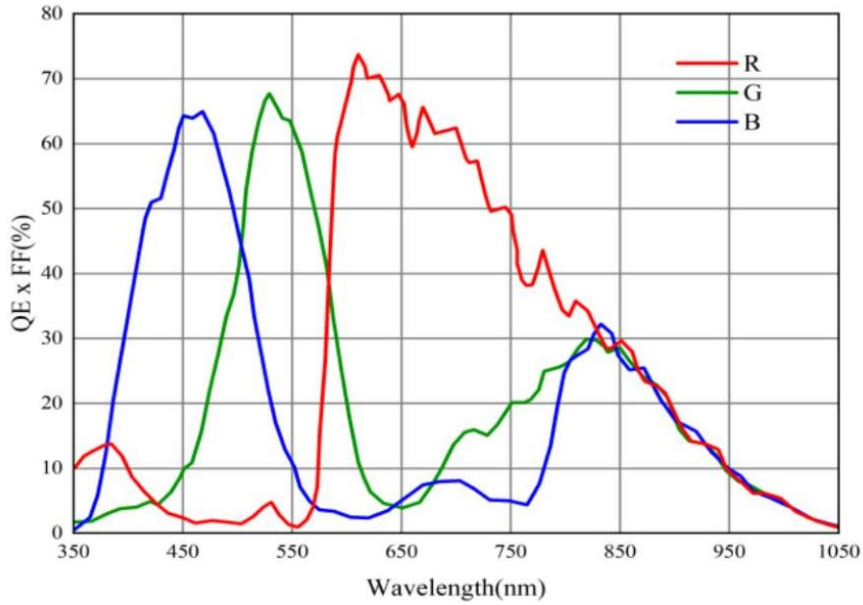
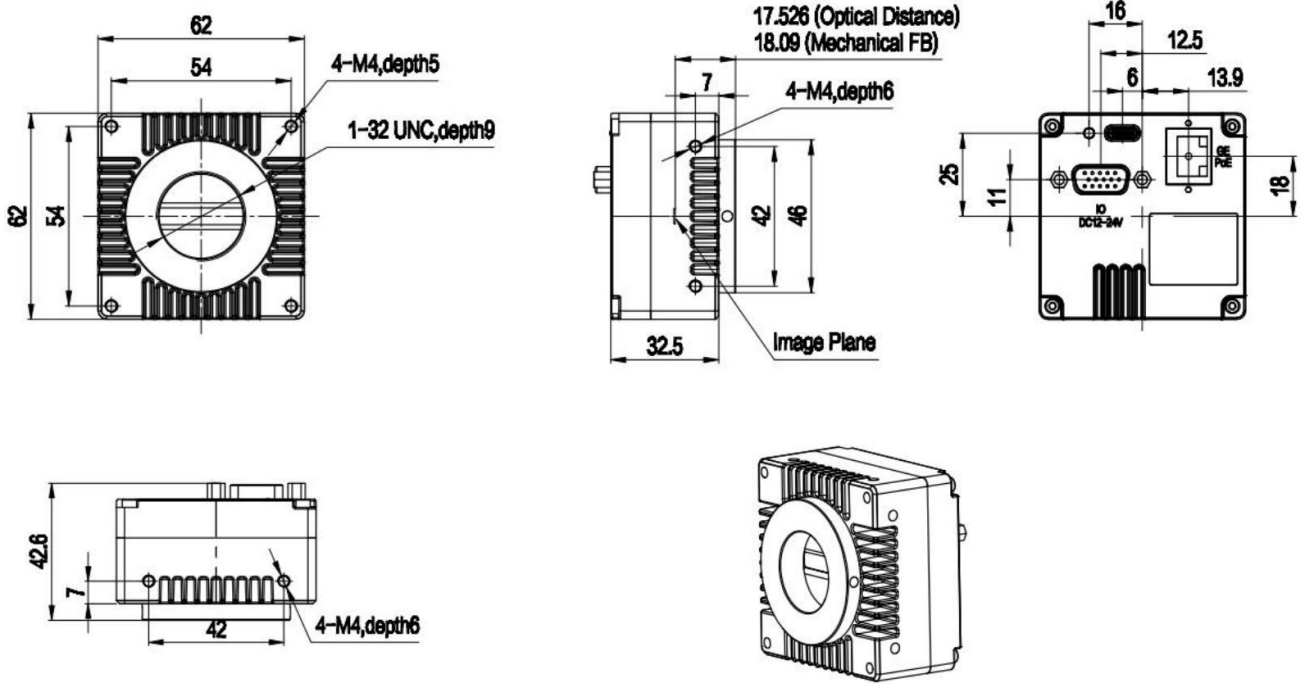
The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substituted for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation, and testing of the products with respect to the relevant specific application or use thereof. Neither VA Imaging nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein or incorrect information in this document.

VALINE-16K1-M72-75GTM



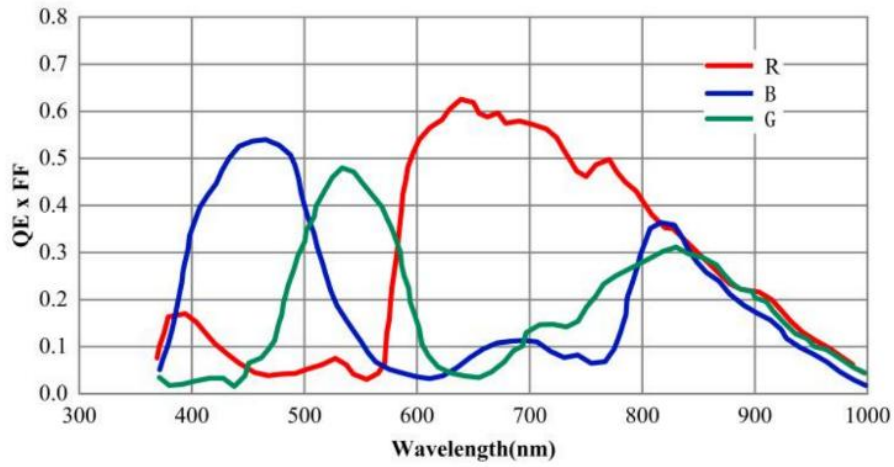
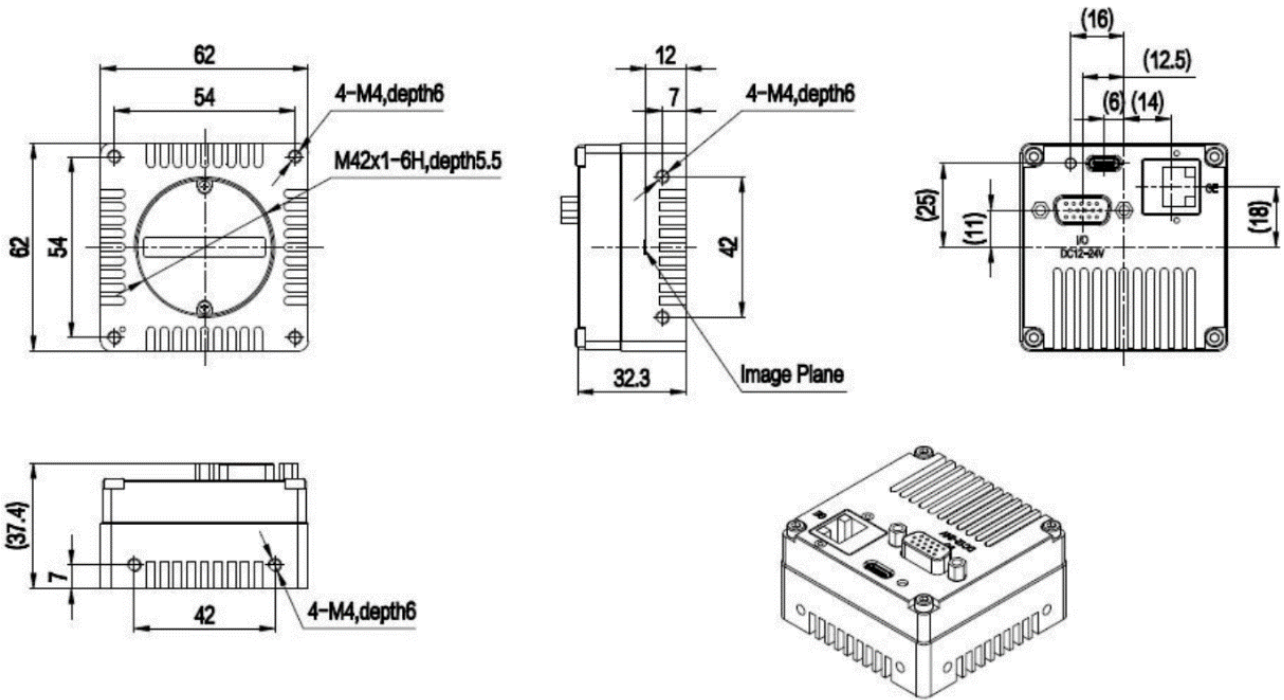
The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substituted for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation, and testing of the products with respect to the relevant specific application or use thereof. Neither VA Imaging nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein or incorrect information in this document.

VALINE-2K3-CM-48GC-P



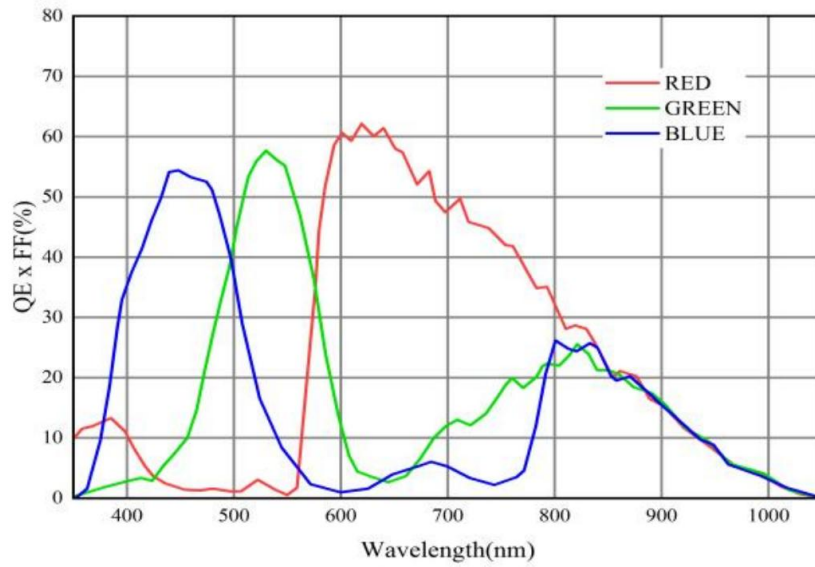
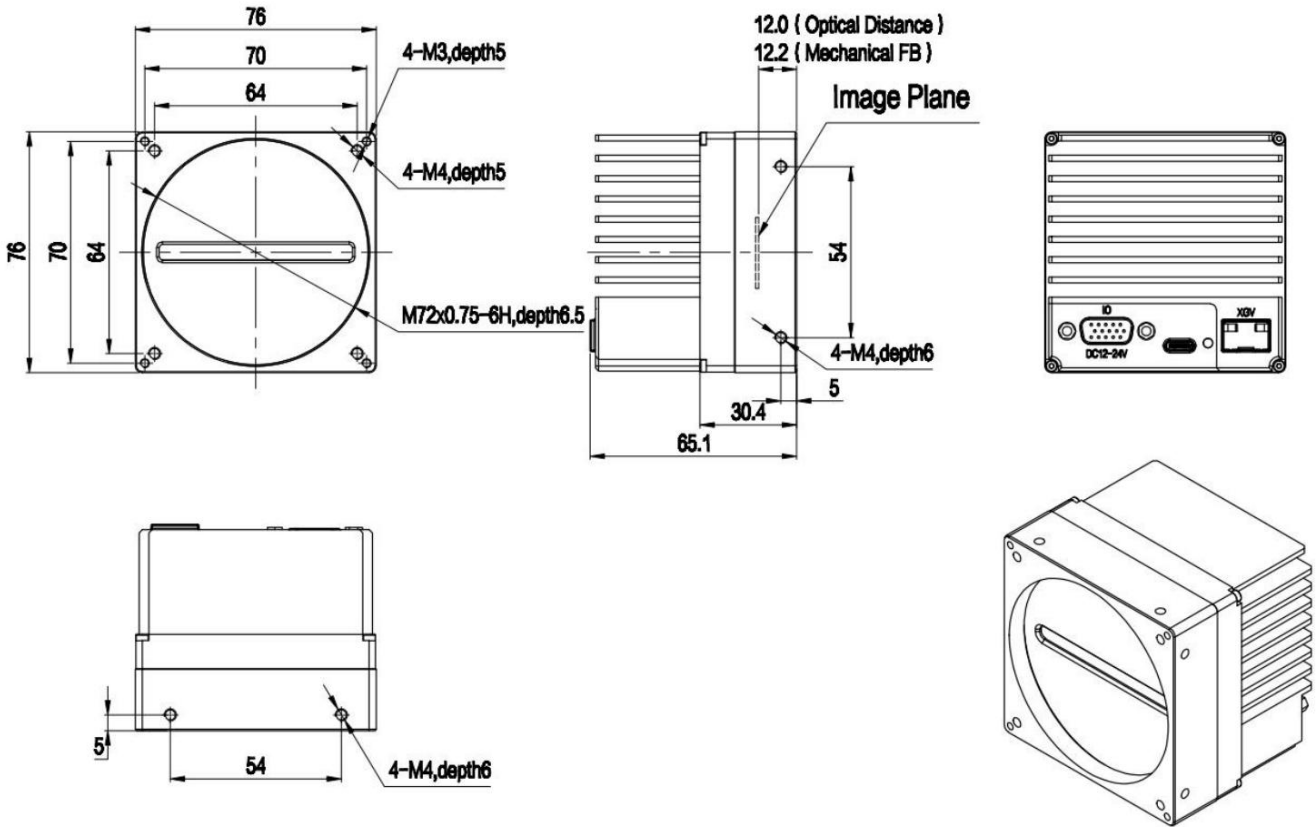
The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substituted for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation, and testing of the products with respect to the relevant specific application or use thereof. Neither VA Imaging nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein or incorrect information in this document.

VALINE-4K2-M42-30GC



The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substituted for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation, and testing of the products with respect to the relevant specific application or use thereof. Neither VA Imaging nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein or incorrect information in this document.

VALINE-8K3-M72-50GTC



The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substituted for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation, and testing of the products with respect to the relevant specific application or use thereof. Neither VA Imaging nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein or incorrect information in this document.

Accessories

VA8-CABLE-GIGE-3M	3 meter Gigabit ethernet cable
VA8-CABLE-GIGE-5M	5 meter Gigabit ethernet cable
VA8-CABLE-GIGE-7M	7 meter Gigabit ethernet cable
VA8-CABLE-GIGE-10M	10 meter Gigabit ethernet cable
VA8-CABLE-GIGE-15M	15 meter Gigabit ethernet cable
VA16-CABLE-IO-HD15-OE-5m	5 meter IO / power cable
VA16-PCIe4-10GF-2	2 port 10 Gigabit frame grabber

Product number

VALINE	-	Pixels	-	Mount	-	Line rate	Interface	Color/Mono	-	POE
		2K1		CM		30	G	C		P
		2K3		M42		48	GT	M		
		4K1		M72		50				
		4K2				75				
		8K1				80				
		8K3				140				
		16K1				150				