

Visions Systems

Industrial Cameras

Industrial cameras for complete Robot Vision integration.

- High performance industrial cameras that seamlessly communicate with robots and the control environment.
- Cameras include the latest CMOS sensor technology for use in automated processes.
- Well-suited to a wide range of robotics applications with high image quality, high frame rates, and compact design.
- Compatible with all 35+ powerful tools in the Automation Control Environment (ACE) Software for vision guidance and inspection.



Basler



Sentech

Ordering Information

Manufacturer	Part Number	Pixels (HxV)	Shutter
Sentech	STC-MBS43POE	720 x 540	Global
	STC-MCS43POE		
	STC-MBE132POE	1280 x 1024	
	STC-MCE132POE		
	STC-MBS163POE	1440 x 1088	
	STC-MCS163POE		
	STC-MBS202POE	1626 x 1240	
	STC-MCS202POE		
	STC-MBS312POE	2048 x 1536	
	STC-MCS312POE		
	STC-MBS500POE	2448 x 2048	
	STC-MCS500POE		
	STC-MBA503POE-HS	2592 x 1944	Rolling
	STC-MCA503POE-HS		
	STC-MBS1242POE	4000 x 3000	
	STC-MCS1242POE		
Basler*	24114-250*	1602 x 1202	Rolling/Global
	24114-251*	1600 x 1200	
	24114-300*	2048 x 2048	Global
	24114-301*	2046 x 2046	

*The Omron, Basler part numbers include the following bundled accessories: tripod mount, 10m Ethernet cable, and 10m power I/O cable.

Accessories

Item	Camera Compatibility	Description	Part Number
Power I/O cable	Basler models	10 m Power-I/O Cable with HRS 6p connector and open end.	09454-610
Cat6 Camera Cable	Basler models	10 m GigE Cat6 cable with RJ45 plug and Mod RJ45 with Horizontal Screw Lock connector.	18472-000
Camera Tripod Mount	Basler models	Adapter plate for attaching camera to user-supplied tripod.	14308-000
Power I/O cable	Sentech models	10 m Power-I/O Cable with HR10A-7P connector and open end.	21942-000
Cat5e Camera Cable	Sentech models	10 m GigE CAT5e cable with RJ45 plug and Mod RJ45 with Horizontal Screw Lock connector.	21943-000
Camera Tripod Mount	Sentech Models	Adapter plate for attaching camera to user-supplied tripod.	21941-000

Industrial Cameras

Specifications

Sentech Camera Specifications

Part Number	STC-MBS43-POE / STC-MCS43POE	STC-MBE132-POE/STC-MCE132POE	STC-MBS163-POE/STC-MCS163POE	STC-MBS202-POE/STC-MCS202POE	STC-MBS312-POE/STC-MCS312POE	STC-MBS500-POE/STC-MBCS500POE	STC-MBA503-POE-HS/STC-MCA503-POE-HS	STC-MBS1242-POE/STC-MCS1242POE
Image Sensor	IMX287	EV76C560	IMX273	IMX430	IMX265	MX264	AR0521	IMX226
Sensor Size (in)	1/2.9	1/1.8	1/2.9	1/1.7	1/1.8	2/3	1/2.5	1/1.7
Cell Size (μm)	6.9 x 6.9	5.3 x 5.3	3.45 x 3.45	4.5 x 4.5	3.45 x 3.45	3.45 x 3.45	2.2 x 2.2	1.85 x 1.85
Exposure Time	1 μs to 16.777 seconds (Default: 3,425 μs)	10 μs to 1.0300 seconds (Default: 16,379 μs)	1 μs to 16.777 seconds (Default: 13,936 μs)	1 μs to 16.777 seconds (Default: 18,166 μs)	1 μs to 16.777 seconds (Default: 28,404 μs)	1 μs to 16.777 seconds (Default: 45,345 μs)	20.2 μs to 1.323 seconds (Default: 45,696.9 μs)	213 μs to 16.777 seconds (Default: 107,488 μs)
Interface	PoE: IEEE802.3af CLASS2 (1000BASE-T)							
Protocol	GigE Vision 2.1 and GenICam SFNC 2.4, IEEE1588 (PTP)							
I/O	One opto-isolated input, one opto-isolated output, and one open collector GPIO (input or output)							
Power Input Voltage*1	+10.8 to +26.4 VDC external power (via power/IO connector) / Power Over Ethernet (IEEE802.3af)							
Power Consumption	+12 V / +24 V: 3.7 W / PoE: 4.7 W	+12 V / +24 V: 3.1 W / PoE: 3.7 W	+12 V / +24 V: 3.7 W / PoE: 4.7 W	+12 V / +24 V: 4.0 W / PoE: 4.9 W	+12 V / +24 V: 3.5 W / PoE: 4.4 W	+12 V / +24 V: 3.6 W / PoE: 4.4 W	+12 V / +24 V: 3.0 W / PoE: 3.6 W	+12 V / +24 V: 3.4 W / PoE: 4.1 W
Dimensions*2	29 (W) x 29 (H) x 53 (D) mm							
Lens Mount	C Mount							
Interface Connectors	Ethernet connector: RJ45 connector; Power/IO connector: HR10A-7R-6PB (Hirose) or equivalent							
Weight	65 g	63 g	65 g	65 g	65 g	65 g	62 g	65 g
Minimum Operational Temperature/Humidity	0° C / 20% RH non-condensing							
Maximum Operational Temperature/Humidity*3	+39° C / 85% RH non-condensing	+35° C / 85% RH non-condensing	+39° C / 85% RH non-condensing	+36° C / 85% RH non-condensing	+39° C / 85% RH non-condensing	+40° C / 85% RH non-condensing	+36° C / 85% RH non-condensing	+40° C / 85% RH non-condensing
Storage Temperature/Humidity	-20° – 70° C, 20 – 85% RH non-condensing	-20° – 75° C, 20 – 85% RH non-condensing	-20° – 70° C, 20 – 85% RH non-condensing	-20° – 70° C, 20 – 85% RH non-condensing	-20° – 70° C, 20 – 85% RH non-condensing	-20° – 70° C, 20 – 85% RH non-condensing	-20° – 70° C, 20 – 85% RH non-condensing	-20° – 70° C, 20 – 85% RH non-condensing
Vibration	20 Hz to 200 Hz to 20 Hz (5 min. / cycle), acceleration 10 G, XYZ 3 directions, 30 min. each							
Shock	Acceleration 38 G, half amplitude 6 ms, XYZ 3 directions, 3 times each							
Standard Compliance	EMS: EN61000-6-2, EMI: EN55011							
RoHS	RoHS Compliant							

*1 When an external power supply and Power over Ethernet (PoE) are both supplied to the camera at the same time, the camera defaults to the external power supply.

*2 Dimensions exclude the connectors at the rear of the camera.

*3 Ensure the camera is installed with the appropriate heat dissipation. A mounted lens and a tripod with an aluminum plate can decrease the camera housing temperature for heat dissipation. When the internal temperature sensor on the camera shows less than 65° C, the camera housing temperature (top plate) will be less than 57° C.

Specifications

Basler Camera Specifications

Part Number	24114-250	24114-251	24114-300	24114-301
Image Sensor	EV76C570		CMV4000	
Sensor Size	1/1.8		1	
Cell Size (μm)	4.5 x 4.5		5.5 x 5.5	
Exposure Time	10/35μs (global/rolling) - 840000μs		24μs - 10000000μs	
Interface	Fast Ethernet (100 Mbit/s) Gigabit Ethernet (1000 Mbit/s)			
Protocol	GigEVision 1.x, SFNC 1.x			
I/O	1 Opto-coupled input line and 1 Opto-coupled output line			
Power Input Voltage	12 VDC (10.8 VDC minimum, 13.2 VDC maximum), includes <1% ripple.			
Power Consumption	PoE: 2.7 W / 12 VDC: 2.1 W		PoE: 3.1 W / 12 VDC: 2.6 W	
Dimensions**1	42.0 x 29 x 29 CS Mount / 54.0 x 29 x 29 C Mount			
Lens Mount	C Mount	C mount / CS mount	C Mount	C Mount
Interface Connectors	Ethernet connector: RJ45 connector; Power/IO connector: HR10A-7R-6PB (Hirose) or equivalent			
Weight	<90 g			
Minimum Operational Temperature/Humidity	0° C / 20%, RH non-condensing			
Maximum Operational Temperature/Humidity	50° C / 80%, RH non-condensing			
Storage Temperature/Humidity	-20–80° C / 20–80 %, RH non-condensing			
Vibration	Sine (each axis): 10–58 Hz / 1.5 mm; 58–500 Hz / 20 g; 1 Octave/Minute, 10 repetitions / Random (each axis): 15-500 Hz / 0.05 PSD (ESS standard profile) / 00:30 h			
Shock	20 g / 11 ms / 100 shocks positive; 20 g / 11 ms / 100 shocks negative			
Standard Compliance	CE, EAC, UL Listed, FCC, GenICam, GigE Vision, IP30, IEEE 802.3af (PoE), REACH, KC			
RoHS	RoHS Compliant			

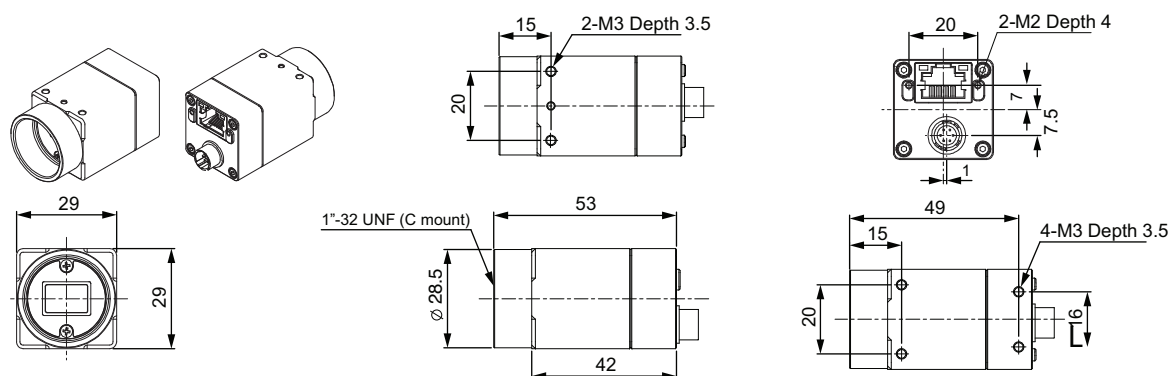
*1 Dimensions exclude the connectors at the rear of the camera.

Industrial Cameras

Camera Dimensions

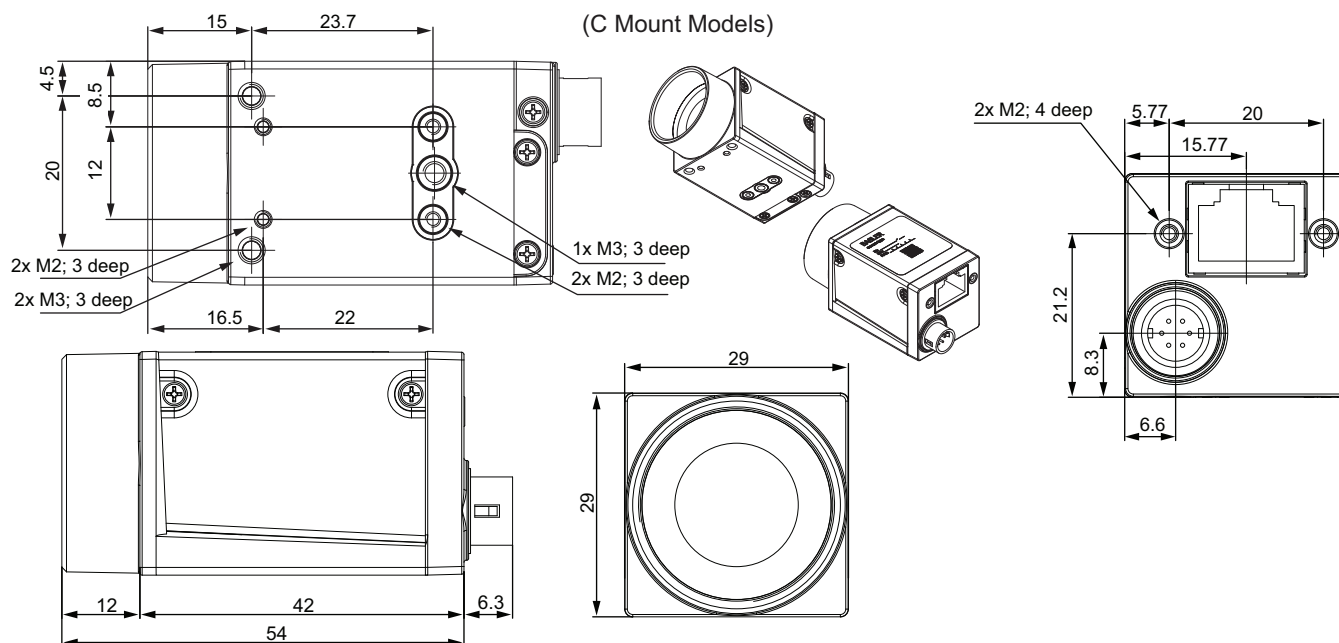
(Unit: mm unless otherwise noted)

Sentech Models

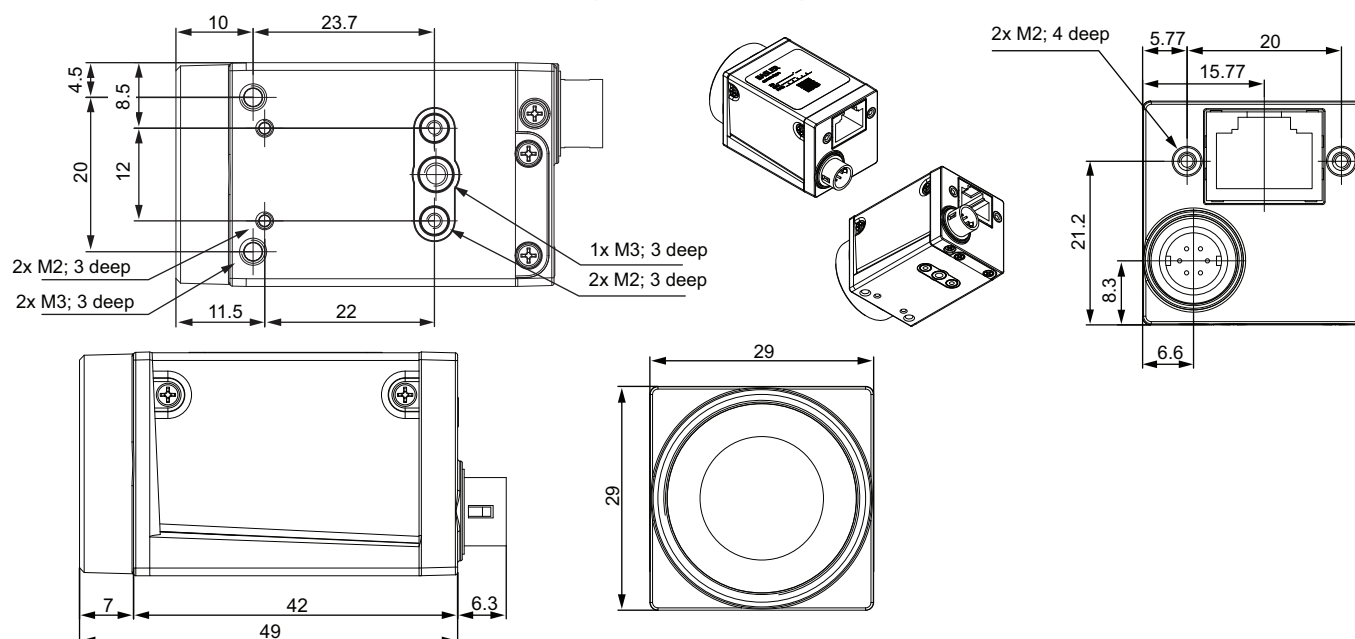


Basler Models

(C Mount Models)



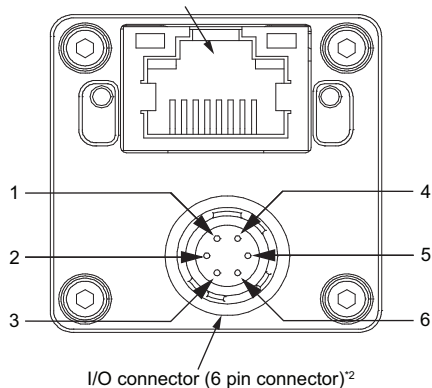
(CS Mount Models)



Camera Connections

Sentech Connections

Ethernet connector (RJ-45 connector)^{*1}

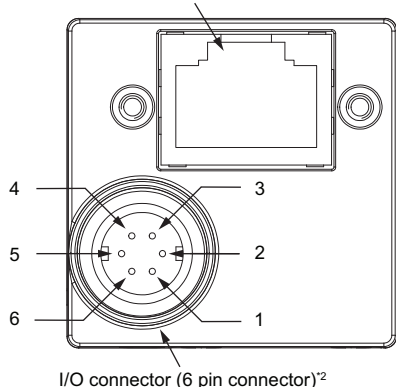


I/O connector (6 pin connector)^{*2}

Pin	Description
1	Power IN (+10.8 to +26.4 VDC)
2	Opto isolated IN (Line 0)
3	Open Collector GPIO (Line 2)
4	Opto isolated OUT (Line 1) Open Collector
5	Opto isolated Common
6	Ground

Basler Connections

Ethernet connector (RJ-45 connector)^{*1}



I/O connector (6 pin connector)^{*2}

Pin	Description
1	Camera Power (+12 VDC)
2	Opto IN 1
3	No Connection
4	Opto OUT 1
5	Opto I/O Ground
6	Camera Power (0 VDC)

*1 Supply power to the camera via Power over Ethernet (PoE) or with a power supply and I/O cable. A PoE NIC or Ethernet switch is needed to supply power via PoE.

*2 Connect all cables according to the specifications prescribed in the camera's documentation.

Related Manuals

Document Number	Manual Title	Description
I667	Robot Vision Manager User's Manual	Provides information necessary for understanding the integration of cameras and V+ programs.
I633	Automation Control Environment (ACE) Version 4 User's Manual	Instruction for the use of the ACE Version 4 software.
I679	Automation Control Environment (ACE) Version 4 Camera Configuration User's Manual	Provides information on configuring cameras for use with the ACE software.
ST101	Sentech Product Specifications and User's Guide	Provides product information and specifications and part numbers for Sentech cameras.

NOTE: Refer to the Basler website for Basler camera documentation.

NOTE: Refer to the OMRON website for Sentech camera documentation.

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