

BUMBLEBEE® X

Industrial Stereo Vision Cameras | BX-P5G-30C-XC3/5/7 & BX-P5G-30M-XC3/7

KEY FEATURES

Dual Path Stereo Processing

On-camera SGBM disparity with latency as low as 32 ms or flexibly stream 12-bit rectified stereo for AI and custom processing.

Onboard Processing

Onboard processing to output a depth map and color data for point cloud conversion and colorization.

Long-Range Depth Precision

0.5–20 m depth with up to 1.2 mm accuracy at 1 m; FOV options at 60°, 80°, or 105°.

Industrial Grade Ruggedness

IP67-rated housing resists vibration, shock, and weather while maintaining calibration stability.

Flexible FPGA Architecture

Firmware-upgradable FPGA with 5GigE PoE, multi-camera sync, pattern projector support, and cross-platform compatibility with Windows®, Linux®, Jetson™, and ROS2.

APPLICATIONS

Robotic Arm

- Bin picking
- Palletization
- Pick and place
- Outdoor field robotics

Robot navigation

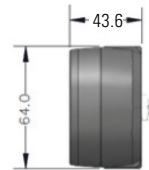
- Autonomous mobile robot (AMR)
- Automated guided vehicle (AGV)

SCAN FOR
MORE INFO

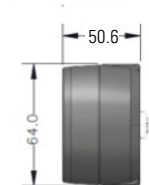
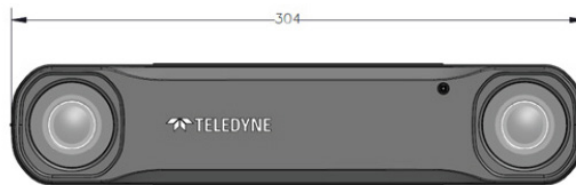


Long-Range, High-Precision Depth Sensing

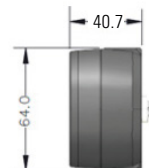
The Bumblebee® X 5GigE stereo vision camera delivers high-performance 3D depth with low-latency output, long-range precision, and IP67-rated reliability. Its dual-path design lets users choose on-camera disparity for real-time response or 12-bit rectified stereo for advanced AI and custom processing. Built on Teledyne's proven stereo vision platform with over 20 years of expertise, Bumblebee X combines industrial-grade durability with stable factory calibration and long lifecycle support, ensuring consistent accuracy and detailed imagery for robotics, automation, and autonomous systems in demanding environments.



60 FOV



80 FOV



105 FOV

SPECIFICATIONS

		BX-P5G-30C/M-XC3	BX-P5G-30C-XC5	BX-P5G-30C/M-XC7
Megapixels		3 MP Stereo Pair Resolution		
Sensor		Sony Pregius IMX265 CMOS, 1/1.8"		
Readout		Global shutter		
Pixel Size		3.45 µm		
Chroma		Color/Monochrome		
Interface		5 GigE PoE		
Working Distance		0.5 m to 20 m		
Field-of-View		60° (H) x 50° (V)	80° (H) x 60° (V)	105° (H) x 80° (V)
Expected Depth Accuracy	0.5 m	0.3 mm (0.06%)	0.4 mm (0.08%)	0.9 mm (0.18%)
	1 m	1.2 mm (0.12%)	1.7 mm (0.17%)	3.5 mm (0.35%)
	2 m	4.7 mm (0.24%)	6.9 mm (0.35%)	14 mm (0.70%)
	5 m	30 mm (0.60%)	43 mm (0.86%)	90 mm (1.8%)
	10 m	119 mm (1.19%)	174 mm (1.74%)	365 mm (3.65%)
	20 m	481 mm (2.40%)	707 mm (3.54%)	1520 mm (7.60%)
Power Requirements		Power over Ethernet (PoE), 10-24V via GPIO		
Power Consumption		13.5 W		
Connector Type		M12 X-coded 8-pin for Ethernet, 12-pin GPIO		
Mounting		¼"-20, M4		
Baseline		24 cm		
Pre-calibrated		Yes		
Max. Disparity Frame Rate (Full / Quarter Resolution)*		17.2 / 46.2 fps	17.2 / 46.2 fps	21.8 / 46.2 fps
Min. Disparity Latency (Full / Quarter Resolution)*		77 / 35 ms	77 / 35 ms	63 / 27 ms
Camera Output		Raw left & right images, rectified left & right images, disparity images		
OS Support		ROS 2, Linux, Windows, ARM		
I/O		GPIO (4x non-isolated GPIO, 1x isolated input, 1x isolated output)		
Synchronization		IEEE 1588 PTP		
Machine Vision Standard		GigE Vision v2.0		
Dimensions		304 x 64 x 43.6 mm	304 x 64 x 50.6 mm	304 x 64 x 40.7 mm
Mass		860 g	905 g	840 g
Protection		IP67		
Compliance		IEC 62368-1, CE, FCC, RoHS		
Temperature		Operating: -10° to 50°C		Storage: -30° to 60°C
Humidity		Operating: 20 to 80% (no condensation)		Storage: 20 to 95% (no condensation)
Warranty		3 years		

* Consult the Bumblebee X Camera Technical Reference for specific figures based on selected stream, resolution, and network link.

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