

ECS Series Data Sheet

PN: 602345542, Model: C6-S7-4090-ECS-18-1020-744-SX-1G-660-2M



The ECS series (Eco Compact Sensor) represents the latest innovation in 3D sensor technology, characterized by its economy and performance. These sensors are particularly cost-effective, thanks to the use of lower cost optics and sensors and the support of class 2M lasers with a wavelength of 660nm, while offering reliable performance at an affordable price. Designed for standard applications in the food, logistics and robot vision industries where high-end technology is not required, ECS sensors deliver fast and accurate data acquisition with an output of 2048 points per profile and speeds up to 43 kHz. They offer various field of views and a compact design for easy integration as well as fast software connectivity through GigE-Vision / GenICam, making them ideal for cost and efficiency conscious projects.

- **Best price-performance ratio: Cost-effective 3D sensor for demanding applications**
- **Software standards for easy integrations: GigE Vision, GenICam and third-party software support**
- **Cross-industry application area: Ideal for the food industry, logistics and robot vision**

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Model Information

Model Name	C6-S7-4090-ECS-18-1020-744-SX-1G-660-2M
Part Number	602345542
Sensor configuration	Single

Detector/Performance specifications

Detector	CMOS Global Shutter
Resolution	4096 x 3072 pixels
Physical size	22.528 x 16.896 mm
Pixel size	5.5 x 5.5 μm
Points per profile	4096
Profile speed at 200 rows	2092.0 Hz
Maximum profile speed	24875.0 Hz
Linearity Z-Axis	0.033 % of calibrated Z-Range

X Field of View

	Nominal	Near Field	Far Field
Scan Width	1020.8 mm	701.2 mm	1592.8 mm
X-Resolution	249.2 μm	171.2 μm	388.9 μm
Z-Resolution	31.6 μm	-	-

Z Field of View

	Full	Near Field	Far Field
Z-Range	700.0 mm	250.0 mm	450.0 mm

Laser/Geometry specifications

Working Distance	744.2 mm
Triangulation Angle	18.0 °
Laser Safety Class	2M
Laser Wavelength	660.0 nm
Laser Output Power	-
Laser Line Width	456.0 μm

Interface specifications

Ethernet	Gigabit-Ethernet 1.000 Mbit/s
Encoder	A+, A-, B+, B-, Z+, Z- RS-422 TTL
Digital inputs	2x isolated digital inputs 5V - 24V DC
Digital outputs	2x isolated digital outputs 5V - 24V DC

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Electrical/Mechanical specifications

Sensor power supply	12V - 24V DC 27V DC Max.
Power consumption	- W
Laser power supply	12V - 24V DC
Connectors	Power&I/O: M12-Connector 17-pin Ethernet: M12-Connector 8-pin A-coded
Housing material	Anodized aluminum
Dimensions (L x W x H)	310.0 x 60.0 x 145.0 mm
Weight	1630.0 g

Environmental conditions

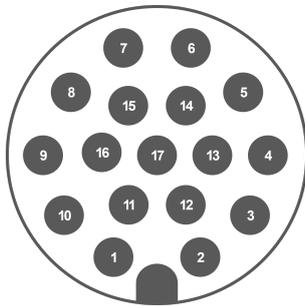
Temperatures	Operating: 0 °C - +40 °C Storage: -20 °C - +80 °C
Humidity	20 % - 80 % (non-condensing)
Vibration resistance	Sinusoidal: DIN EN 60068-2-6:2008-10: 2 g 10 Hz - 150 Hz Random: DIN EN 60068-2-64:2020-09: 7 g 10 Hz - 500 Hz
Shock resistance	DIN EN 60068-2-27: 2010-02: 15 g 3 ms
Protection class	IP54 According to IEC 60529

Software/Features

Supported standards	GenlCam GigEvision
Firmware features	RegionTracking RegionSearch MultiRegion MultiPart AutoStart HistoryBuffer MultiSlope MultiPeak
Software	SolutionPackage MetrologyPackage cxSDK with wrappers for C, C++, Python and Matlab

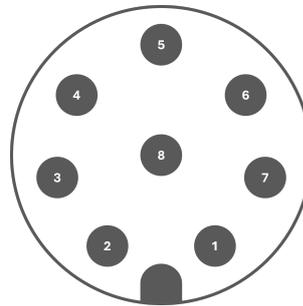
Connectors

M12 17-Pin: A-Coded Male Connector



- 1 ENC_Z-
- 2 LASER_Supply
- 3 ENC_Z+
- 4 ENC_B+
- 5 GND
- 6 ENC_B-
- 7 ENC_A-
- 8 VCC_EXT
- 9 GND_EXT
- 10 ENC_A+
- 11 ENC_GND
- 12 OUT2
- 13 IN1
- 14 IN2
- 15 OUT_Supply
- 16 OUT1
- 17 IO_GND
- Shield SHIELD

M12 8-Pin: A-Coded Female Connector



- 1 BI_DC-
- 2 BI_DD+
- 3 BI_DD-
- 4 BI_DA-
- 5 BI_DB+
- 6 BI_DA+
- 7 BI_DC+
- 8 BI_DB-
- Shield SHIELD

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