CS Series Data Sheet

PN: 202209054, Model: C6-S7-2040-CS-23-38-106-SX-1G-405-3R

The CS sensor series sets new standards in 3D laser triangulation technology with resolutions of up to 4096 pixels, profile frequencies of up to 162 kHz and fields of view of 7 to 1300 mm. These robust sensors with protection class IP67 and M12 connections for a reliable power supply and data transmission are available in various housing sizes. Integration is straightforward and takes place via standard interfaces such as Gigabit Ethernet or GenICam. The CS series thus offers a powerful, maintenance-free solution for OEM customers and end users in demanding industrial environments.

- **Highly standardized, factory-calibrated 3D sensors**
- **Large selection of models with X-FOV 7 - 1290 mm**
- **Four different sensor resolutions available (1280, 2040, 3070, 4090)**
- **High industrial protection class IP67 Available with different laser classes and wavelengths**

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Model Information

Model Name	C6-S7-2040-CS-23-38-106-SX-1G-405-3R
Part Number	202209054
Sensor configuration	Single

Detector/Performance specifications

Detector	CMOS | Global Shutter
Resolution	2048 x 1088 pixels
Physical size	11.264 x 5.984 mm
Pixel size	5.5 x 5.5 µm
Points per profile	2048
Profile speed at 200 rows	1818.0 Hz
Maximum profile speed	43478.0 Hz
Linearity Z-Axis	0.033 % of calibrated Z-Range

X Field of View

	Nominal	Near Field	Far Field
Scan Width	37.5 mm	33.4 mm	42.0 mm
X-Resolution	18.3 µm	16.3 µm	20.5 µm
Z-Resolution	0.7 µm	-	-

Z Field of View

	Full	Near Field	Far Field
Z-Range	30.0 mm	15.0 mm	15.0 mm

Laser/Geometry specifications

Working Distance	106.0 mm
Triangulation Angle	23.0 °
Laser Safety Class	3R
Laser Wavelength	405.0 nm
Laser Output Power	51.0 mW
Laser Line Width	48.0 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)	137.1 x 43.0 x 90.1 mm
Weight	800.0 g

Environmental conditions

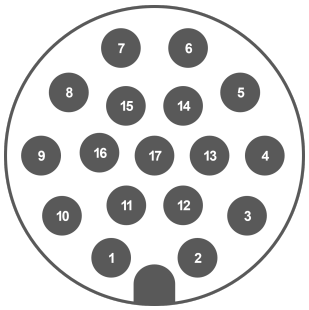
Temperatures	Operating: 0 °C - +40 °C Storage: -20 °C - +80 °C
Humidity	20 % - 80 % (non-condensing)
Vibration resistance	Sinusoidal: DIN EN 60068-2-6:2008-10: 2 g | 10 Hz - 150 Hz Random: DIN EN 60068-2-64:2020-09: 7 g | 10 Hz - 500 Hz
Shock resistance	DIN EN 60068-2-27: 2010-02: 15 g | 3 ms
Protection class	IP67 | According to IEC 60529

Software/Features

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

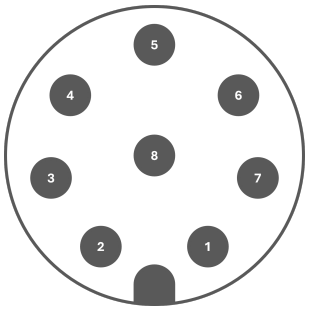
Connectors

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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