

## MCS Series Data Sheet

**PN: 602345822, Model: C6-S7-3070-MCS-15-240-360-SX-1G-405-3B**



The Modular 3D Compact Sensor (MCS) from AT - Automation Technology is revolutionizing 3D image processing with its unique modularity, flexibility and high performance. This innovative system allows individual configuration in terms of scan width, measurement accuracy, speed, triangulation angle and working distance to perfectly match the needs of specific applications. With an unprecedented profile speed of 200 kHz and a resolution of 4096 points per profile, the MCS sets technological standards. It overcomes traditional hurdles such as high NRE costs and long development times by combining the reliability of a series product with the flexibility of a customized solution, without additional costs or minimum order quantities.

- **Freely configurable, factory-calibrated modular 3D sensors for individual solutions**
- **Five triangulation angles available (15, 20, 25, 30, 40)**
- **Four different sensor resolutions available (1280, 2040, 3070, 4090)**
- **No extra costs, long delivery times or minimum order quantities**
- **Available with different laser classes and wavelengths**



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AT - Automation Technology GmbH  
Hermann-Bössow-Straße 6-8  
23843 Bad Oldesloe

AT - Automation Technology, Inc.  
380 Main Street, Suite 203  
Stoneham, MA 02180

www.at-sensors.com  
support@automationtechnology.de  
+49 (0)4531 / 88011-42

Model Information

|                      |                                        |
|----------------------|----------------------------------------|
| Model Name           | C6-S7-3070-MCS-15-240-360-SX-1G-405-3B |
| Part Number          | 602345822                              |
| Sensor configuration | Single                                 |

Detector/Performance specifications

|                           |                               |
|---------------------------|-------------------------------|
| Detector                  | CMOS   Global Shutter         |
| Resolution                | 3072 x 1020 pixels            |
| Physical size             | 20.275 x 6.732 mm             |
| Pixel size                | 6.6 x 6.6 µm                  |
| Points per profile        | 3072                          |
| Profile speed at 200 rows | 4798.0 Hz                     |
| Maximum profile speed     | 66489.0 Hz                    |
| Linearity Z-Axis          | 0.011 % of calibrated Z-Range |

X Field of View

|              |          |            |           |
|--------------|----------|------------|-----------|
|              | Nominal  | Near Field | Far Field |
| Scan Width   | 245.2 mm | 192.3 mm   | 298.2 mm  |
| X-Resolution | 79.8 µm  | 62.6 µm    | 97.1 µm   |
| Z-Resolution | 7.4 µm   | -          | -         |

Z Field of View

|         |          |            |           |
|---------|----------|------------|-----------|
|         | Full     | Near Field | Far Field |
| Z-Range | 160.0 mm | 80.0 mm    | 80.0 mm   |

Laser/Geometry specifications

|                     |          |
|---------------------|----------|
| Working Distance    | 361.0 mm |
| Triangulation Angle | 15.0 °   |
| Laser Safety Class  | 3B       |
| Laser Wavelength    | 405.0 nm |
| Laser Output Power  | -        |
| Laser Line Width    | -        |

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<br>Ethernet: M12-Connector   8-pin   A-coded |
| Housing material       | Anodized aluminium                                                             |
| Dimensions (L x W x H) | 0.0 x 60.0 x 0.0 mm                                                            |
| Weight                 | -                                                                              |

Environmental conditions

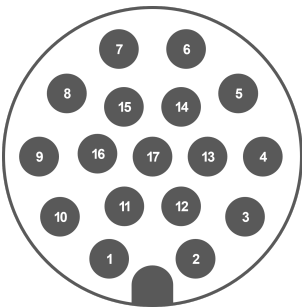
|                      |                                                                                                                       |
|----------------------|-----------------------------------------------------------------------------------------------------------------------|
| Temperatures         | Operating: 0 °C - +40 °C<br>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<br>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 | GenlCam   GigEVision                                                                                         |
| Firmware features   | RegionTracking   RegionSearch   MultiRegion   MultiPart   AutoStart   HistoryBuffer   MultiSlope   MultiPeak |
| Software            | SolutionPackage   MetrologyPackage   cxSDK with wrappers for C, C++, Python and Matlab                       |

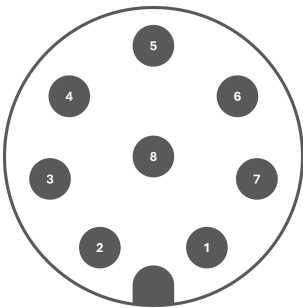
Connectors

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 |