DATASHEET
MO 415.H4X

MAKERSAN

Inclination & Acceleration & Gyro Sensor

Product Characteristics

Technology	6D IMU (3D Accelerometer + 3D Gyroscope)
Measuring Range	Inclination: Two axis: ±15°, ±30°, ±45°, ±60°, ±80° per axis; One axis: ±180° Acceleration: ±2g, ±4g, ±8g, ±16g Gyroscope: ±245dps, ±500dps, ±1000dps, ±2000dps
Casting Material	GF 30 % Polyamid
Connector	4 Pin Deutsch DT
Features	Less sensitive to vibration due to integrated gyroscope sensor (Sensor Fusion - only dual axis versions) Inclination, Acceleration and Gyroscope Data Outputs (Only for CAN Data) Dual (Redundant) Sensor - Optional

Electrical Data

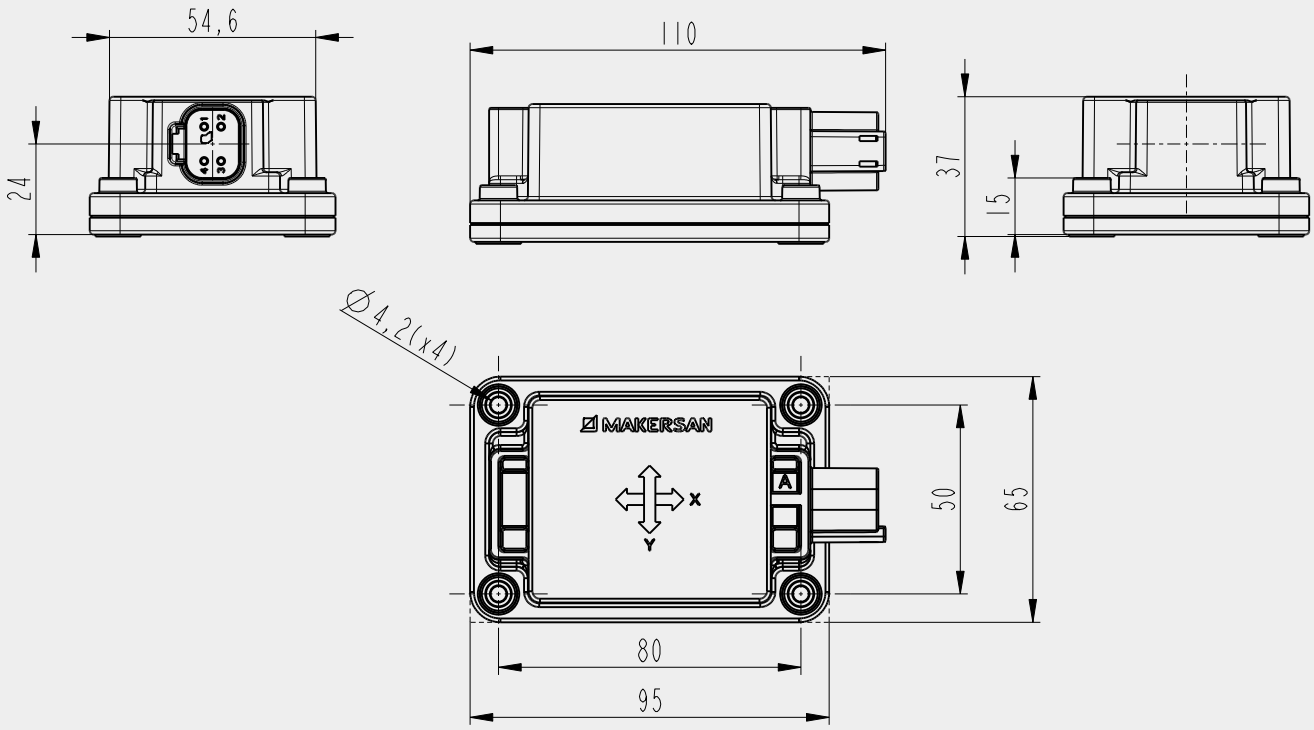
Readiness Delay	< 2s
Repeat Accuracy	Inclination: < ± 0.1°
Resolution	Inclination: < 0.01°, Acceleration: < 1mg, Gyro: < 0.1dps
Refresh Rate	< 10ms
Supply Voltage	8-32VDC
Outputs	- SAE J1939 - CANopen

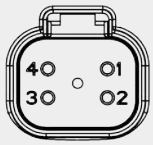
Environment

Operating Temperature	-40°C ... +85°C
Protection	IP67

All the tests specified above were performed in Makersan's in-house testing facility for the purpose of design verification except EMC. The in-house testing facility does not hold an accreditation.

Technical Drawing



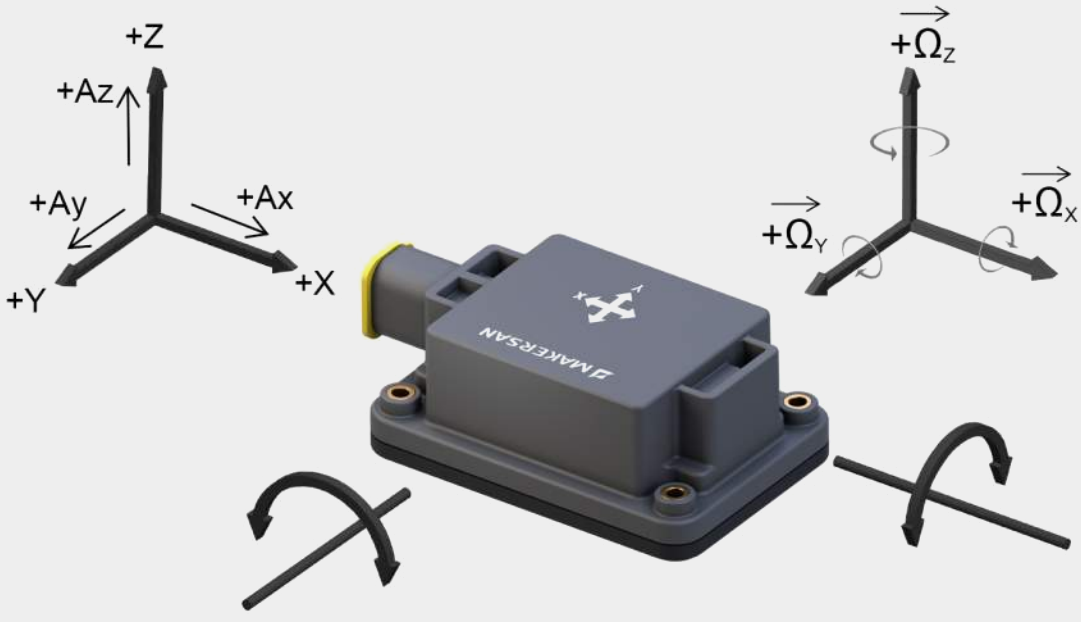


Pin 4 : Power
Pin 3 : GND

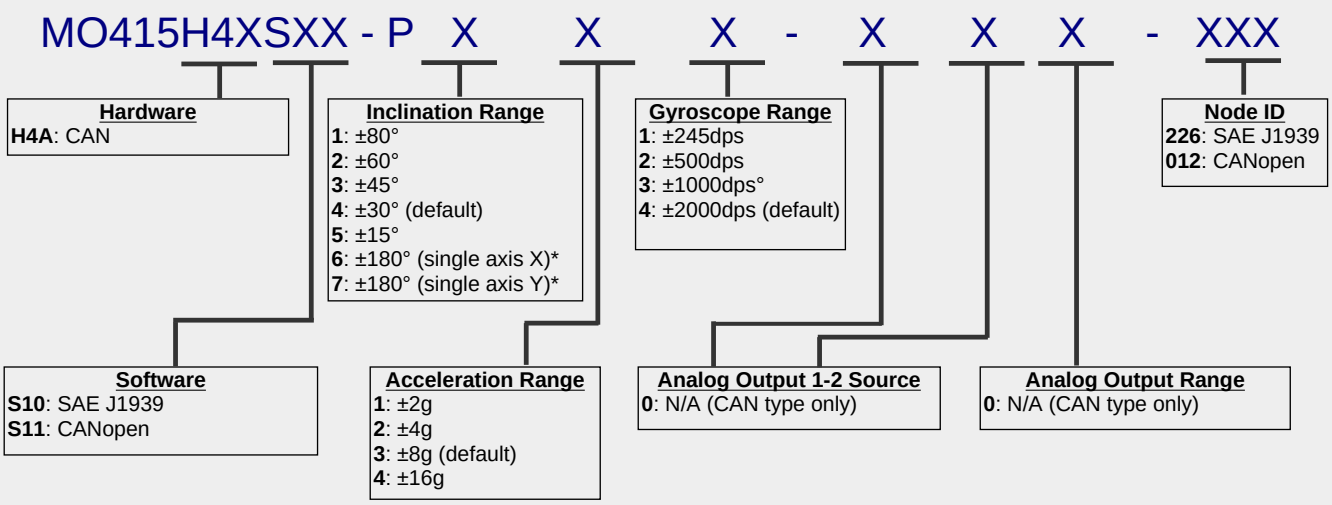
Pin 1 : CAN_L
Pin 2 : CAN_H

Mating Connector
DT06-4S

Axis Definition and Output Signal



Ordering Code



* For single axis version Sensor Fusion technology not available; only low pass filter used (static type) for inclination output.

Example 1: MO415H4AS10-P434-000-226 is Inclination ±30° XY, Acceleration ±8g XYZ, Gyroscope ±2000dps XYZ SAE J1939 output type of sensor with node ID of 226.

Safety Instructions

*Do not use sensor in hazardous and explosive environment.

*Keep the sensor away from radio equipment .

*Do not place the sensor to the direct air flow of vehicles heating cooling air duct due to the high temperature stress.

*Screen with the vehicle's ground the electric cables connected to sensor.Far away the sensor cable from power-conducting lines.

*Provide a clean power supply to the sensor. Otherwise voltage transients may damage the sensor.

*Do not direct the pressure washing jet to sensor.

*Unplug connectors from the sensor during electrical welding operations.

*Damages which result from improper use, all warranty and liability claims with respect to the manufacturer void.

*To perform a risk analysis of the system is customer’s responsibility at use in safety-related functions of the sensor.

*These products are ESD (Electrostatic Discharge) sensitive devices. ESD may cause permanent damage. When handling these devices please observe standard ESD precautions.

Makersan Makina Otomotiv San.Tic.A.Ş.
Balçık Mahallesi 3258 Sokak No:23 Gebze 41490
Kocaeli / Türkiye
Phone : +90 262 751 25 05 Fax : +90 262 751 35 80
Web : www.makersan.com
E-mail : contact@makersan.com