

High Precision Accelerometer & Vibration Sensors with the Epson Q-MEMS Technology

Epson accelerometers and vibration sensors leverage proprietary quartz resonator (QMEMS) technology to deliver ultra-low noise, exceptional long-term stability and highly accurate measurement performance. Designed for demanding industrial, infrastructure, robotics and predictive maintenance applications, they enable reliable tilt sensing, vibration analysis and advanced condition monitoring – even in harsh environments.

DUST- / WATER-PROOF

IP67

M-A552 · 65 × 60 × 30 mm

NOISE DENSITY · DOWN TO

0.02 $\mu\text{G}/\sqrt{\text{Hz}}$

M-A370AD10 · 1–10 Hz

INTERFACES

CANopen · RS-422

35–40 mA @ 12 V

INTERFACES

SPI · UART

36.3 mA @ 3.3 V

M-A552 · 65 × 60 × 30 MM

M-A370 · 48 × 24 × 16 MM

01 FEATURES

- Wide dynamic range:
No need to adjust the measurement range to the intensity of vibration on site
- Small size & light weight:
48 × 24 × 16 mm, 25 g | 65 × 60 × 30 mm, 128 g
- Ultra-low noise down to 0.02 $\mu\text{G}/\sqrt{\text{Hz}}$ (M-A370AD10, 1–10 Hz)
- Quartz crystal is a **diamagnetic** material – no need to care about magnetic fields
- Peripherals like charge amplifier and AD converter are not needed
- Three-axis digital output
- High reliability MTBF: 87,600 hours
- Different interfaces:
CAN, RS-422, UART, SPI

02 TARGET APPLICATIONS

- Structural Health Monitoring
- Machine Health Monitoring
- Weigh-in-Motion
- Seismic Observation
- Position Detection

DEVELOPMENT KITS / ENVIRONMENTS

INCLUDES

- ✓ Evaluation Boards
- ✓ Sensing System Software
- ✓ User Manuals

CONTACT

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YOUR PATH WITH AMCORIS

From idea to series production

01

Consulting

Sensor selection for your application

02

Evaluation

Kits, samples & software

03

Design-in

Integration & technical support

04

Series

Reliable long-term supply

WE ENABLE **ORIENTATION** WHEREVER MACHINES MAKE **AUTONOMOUS** DECISIONS

EPSON ACCELEROMETER PRODUCT LINE-UP

LINE-UP 01

PART	ACC. RANGE [g]	NOISE DENSITY [μG/√Hz]	BANDWIDTH [Hz]	POWER CONS. [mA]	INTERFACE	SIZE [mm]	OPERATING TEMP. [°C]	TYPE
M-A370AD10	±10	0.02 (1–10 Hz)	210	36.3 @ 3.3 V	SPI/UART	48×24×16	-30/+85	Built-in
M-A352AD10	±15	0.2 (0.5–6 Hz)	460	13.2 @ 3.3 V	SPI/UART	48×24×16	-30/+85	Built-in
M-A552AC10	±15	0.5 (0.5–6 Hz)	460	35 @ 12 V	CANopen	65×60×30	-30/+70	IP67 Dust-/Water-Proof
M-A552AR10	±15	0.5 (0.5–6 Hz)	460	40 @ 12 V	RS-422	65×60×30	-30/+70	IP67 Dust-/Water-Proof

EPSON VIBRATION SENSOR PRODUCT LINE-UP

LINE-UP 02

PART	OUTPUT RANGE	NOISE DENSITY [μG/√Hz]	FREQUENCY RANGE [Hz]	POWER CONS. [mA]	INTERFACE	SIZE [mm]	OPERATING TEMP. [°C]	TYPE
M-A342VD10	±100 mm/s velocity	200–1000	10–1000	29 @ 3.3 V	SPI/UART	48×24×16	-30/+85	Built-in
M-A542VR10	±100 mm/s velocity	200–1000	10–1000	50.7 @ 12 V	RS-422	65×60×30	-30/+70	IP67 Dust-/Water-Proof