

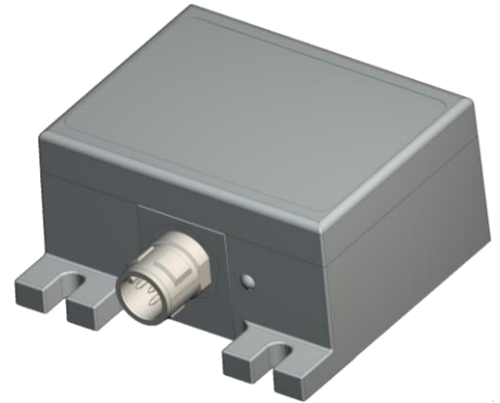
M-A552AR1x

Accelerometer Sensor Unit RS422 Interface

■ GENERAL DESCRIPTION

The M-A552 is a three axis digital output accelerometer featuring ultra-low noise, high stability, and low power consumption using fine processing technology of Quartz. Incorporating both high accuracy and durability, the versatile M-A552 is well suited to a wide-range of challenging applications such as SHM, seismic observation, condition monitoring for industrial equipment, and pose detection for industrial machinery (i.e. construction machinery/attachments, agricultural machinery/ implements, robots).

The M-A552 is packaged in a water-proof and dust-proof metallic case supporting RS422 interface. This ruggedized unit is suitable for industrial use that requires remote mounting, or long-distance wiring.

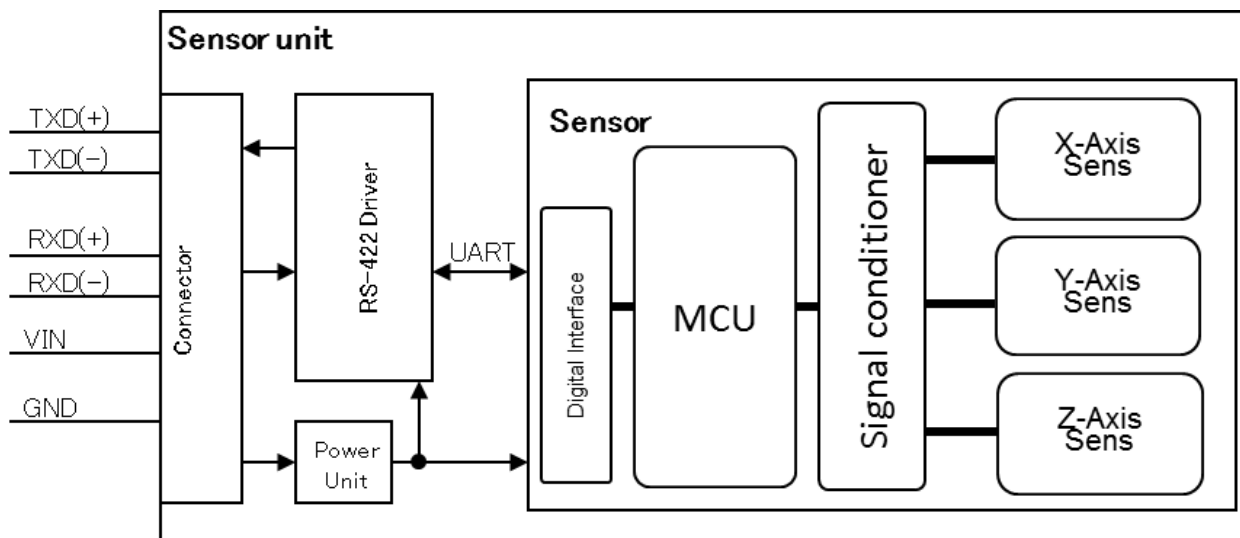


■ 特長 FEATURES

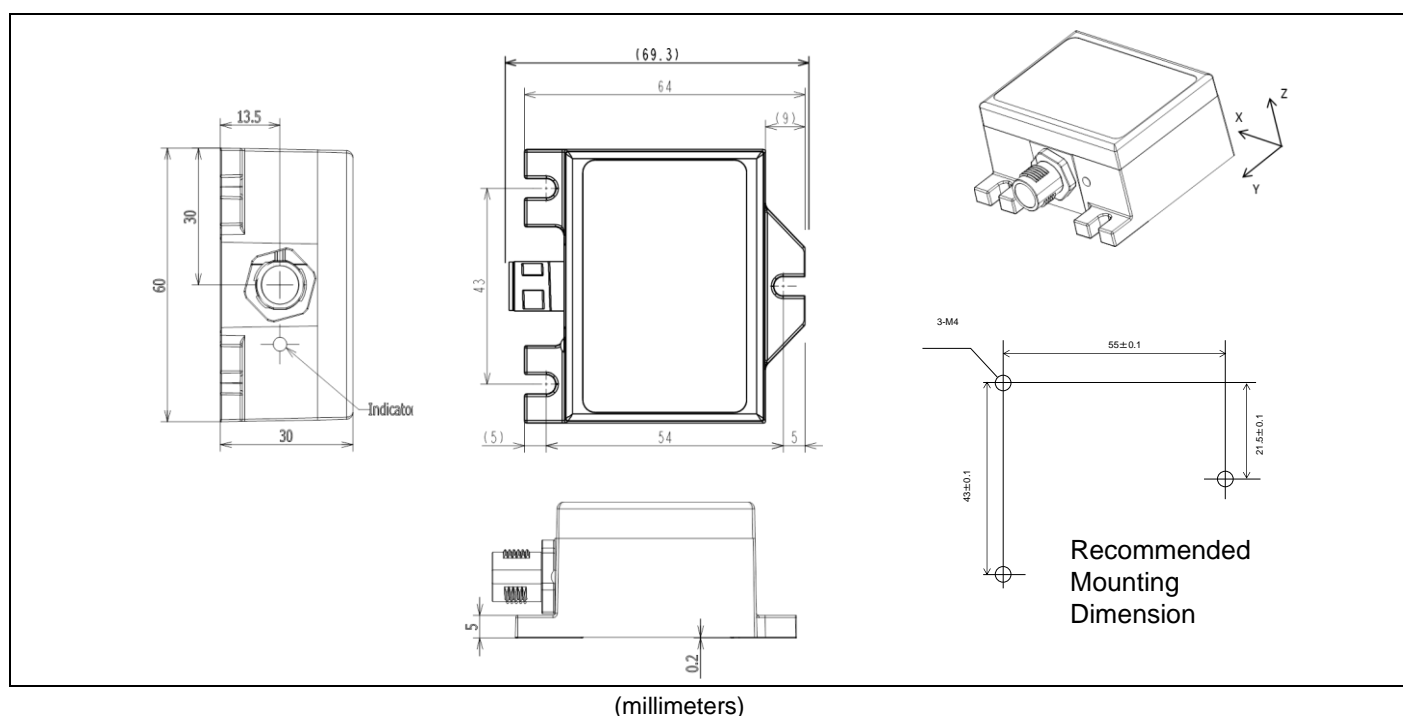
Item	Specification	Note
Sensor		
Integrated sensor	Model: M-A552AR1x Internal sensor M-A352 Output range $\pm 15G$ Initial Bias error $\pm 4mG (@ 25^{\circ}C)$ Resolution 0.06 μG Low noise 0.5 $\mu g/\sqrt{Hz}$ typ Selectable output format: Acceleration / Tilt Angle Programmable low-pass digital filters	
Interface		
Protocol (DL layer)	RS-422 (TX/RX Pair, Full-Duplex transmission)	
Bit rate	Maximum 460.8kbps (programmable)	230.4kbps(default)
Cable Length	250m (max)	
Others		
Trigger function	Internal timer event trigger function	External trigger not available
Terminator	Included (120 Ω typ)	
General specification		
Voltage supply	9 ~ 32V	
Power consumption	40mA typ. ($V_{in}=12V$)	
Operating temperature range	-30 ~ +70 $^{\circ}C$	
External dimension		
Outer packaging	Overall metallic shield case	
Size	65x60x30 mm (Including projection)	
Weight	128g	
Interface connector	M12, 8pin-male, water-proof	
Water-proof, Dust-proof	IP67	
Regulation		
EU	CE marking (EN61326, RoHS Directive)	Class A
FCC	FCCpart15B	Class A

M-A552AR1x

■ ブロックダイアグラム BLOCK DIAGRAM



■ 外形図、及びセンサー軸 OUTLINE DIMENSION



Notice of the Document

NOTICE: PLEASE READ CAREFULLY BELOW BEFORE THE USE OF THIS DOCUMENT ©Seiko Epson Corporation 2022
The content of this document is subject to change without notice.

1. This document may not be copied, reproduced, or used for any other purposes, in whole or in part, without the consent of Seiko Epson Corporation ("Epson").
2. Before purchasing or using Epson products, please contact with our sales representative for the latest information and be always sure to check the latest information published on Epson's official web sites and sources.
3. Information provided in this document such as application circuits, programs, usage, etc., are for reference purpose only. Please use the application circuits, programs, usage, etc. in the design of your equipment or systems at your own responsibility. Epson makes no guarantees against any infringements or damages to any third parties' intellectual property rights or any other rights resulting from the information. This document does not grant you any licenses, intellectual property rights or any other rights with respect to Epson products owned by Epson or any third parties.
4. Epson is committed to constantly improving quality and reliability, but semiconductor products in general are subject to malfunction and failure. In using Epson products, you shall be responsible for safe design in your products; your hardware, software and systems are designed enough to prevent any harm or damages to life, health or property even if any malfunction or failure might be caused by Epson products. In designing of your products with using Epson products, please be sure to check and comply with the latest information regarding Epson products (this document, specifications, data sheets, manuals, Epson's web site, etc.). When using the information included in the above materials such as product data, chart, technical contents, programs, algorithms and application circuit examples, you shall evaluate your products both in stand-alone basis and within your overall systems. You shall be solely responsible for deciding whether or not to adopt and use Epson products.
5. Epson has prepared this document and programs provided in this document carefully to be accurate and dependable, but Epson does not guarantee that the information and the programs are always accurate and complete. Epson assumes no responsibility for any damages which you incurred by due to misinformation in this document and the programs.
6. No dismantling, analysis, reverse engineering, modification, alteration, adaptation, reproduction, etc., of Epson products is allowed.
7. Epson products have been designed, developed and manufactured to be used in general electronic applications (office equipment, communications equipment, measuring instruments, home electronics, etc.) and applications individually listed in this document ("General Purpose"). Epson products are NOT intended for any use beyond the General Purpose that requires particular/higher quality or reliability in order to refrain from causing any malfunction or failure leading to harm to life, health or serious property damage or severe impact on society, including, but not limited to listed below. Therefore, you are advised to use Epson products only for the General Purpose. Should you desire to buy and use Epson products for the particular purpose other than the General Purpose, Epson makes no warranty and disclaims with respect to Epson products, whether express or implied, including without limitation any implied warranty of merchantability or fitness for any particular purpose.
[Particular purpose]
Space equipment (artificial satellites, rockets, etc.)
Transportation vehicles and their control equipment (automobiles, aircraft, trains, ships, etc.)
Medical equipment (other than applications individually listed in this document) / Relay equipment to be placed on sea floor
Power station control equipment / Disaster or crime prevention equipment / Traffic control equipment / Financial equipment
Other applications requiring similar levels of reliability as the above
8. Epson products listed in this document and our associated technologies shall not be used in any equipment or systems that laws and regulations in Japan or any other countries prohibit to manufacture, use or sell. Furthermore, Epson products and our associated technologies shall not be used for developing military weapons of mass destruction, military purpose use, or any other military applications. If exporting Epson products or our associated technologies, you shall comply with the Foreign Exchange and Foreign Trade Control Act in Japan, Export Administration Regulations in the U.S.A (EAR) and other export-related laws and regulations in Japan and any other countries and follow the required procedures as provided by the relevant laws and regulations.
9. Epson assumes no responsibility for any damages (whether direct or indirect) caused by or in relation with your non-compliance with the terms and conditions in this document.
10. Epson assumes no responsibility for any damages (whether direct or indirect) incurred by any third party that you assign, transfer, loan, etc., Epson products.
11. For more details or other concerns about this document, please contact our sales representative.
12. Company names and product names listed in this document are trademarks or registered trademarks of their respective companies.

2022.08

© Seiko Epson Corporation 2022. All rights reserved.

SEIKO EPSON CORPORATION

MD SALES & MARKETING DEPT.

JR Shinjuku Miraina Tower, 4-1-6 Shinjuku, Shinjuku-ku, Tokyo, 160-8801,

Japan

Phone: +81-3-6682-4322 FAX: +81-3-6682-5016

Document code: 3Z60-0066-52E

Revised date: APR. 2022