

For Crash Tests

Oil Damped Miniature Acceleration Transducer

ASE-A



For Crash Tests

Features

- The oil damping design eliminates bad effects of resonant output during acceleration measurement in pedestrian head protection and other automotive crash safety tests.
- Compact design enables the instrument to be installed in a narrow space for automotive crash safety tests.
- High output is achieved with 10V supply voltage.

Using a sputtering strain gage as the sensing element, the oil damped miniature acceleration transducer is suitable for measuring acceleration in pedestrian head protection tests, as well as for measuring acceleration of dummy heads and vehicle body in automotive crash safety tests.



Specifications

Model	Rated capacity (reference value)	Rated output	Frequency response range (at 23°C)	Safe overload
ASE-A-100	$\pm 980.7 \text{ m/s}^2$ ($\pm 100 \text{ G}$)	0.5mV/V (1000 $\mu\text{m/m}$)	DC to 1kHz, $\pm 3\%$ 1kHz to 2kHz, $\pm 10\%$	500%
ASE-A-500	$\pm 4903 \text{ m/s}^2$ ($\pm 500 \text{ G}$)	1mV/V (2000 $\mu\text{m/m}$)	DC to 1kHz, $\pm 3\%$ 1kHz to 4kHz, $\pm 10\%$	400%
ASE-A-1K	$\pm 9807 \text{ m/s}^2$ ($\pm 1000 \text{ G}$)	2mV/V (4000 $\mu\text{m/m}$)	DC to 1kHz, $\pm 3\%$ 1kHz to 4kHz, $\pm 10\%$	200%

● Performance

Nonlinearity:	Within $\pm 1\%$ RO
Hysteresis:	Within $\pm 1\%$ RO
Peak-to-peak sensitivity deviation	1% RO or less

● Environmental Capability

Safe temperature range:	-15 to 65°C
Compensated temperature range:	5 to 40°C
Temperature effect on zero balance:	Within $\pm 1\%$ RO/°C
Temperature effect on output:	Within $\pm 0.5\%$ /°C

● Electrical Characteristics

Safe excitation voltage:	10 VAC or DC
Recommended excitation voltage:	2 to 10 VAC or DC
Input resistance:	300 to 1000 Ω
Output resistance:	300 to 1000 Ω
Cable:	4-conductor (0.05mm ²) vinyl shielded cable, 7m long, 2.6mm diameter, terminated with connector plug (R05-PB5M)

● Mechanical Properties

Transverse sensitivity:	2% or less
Weight:	Approx. 3g (mainframe)

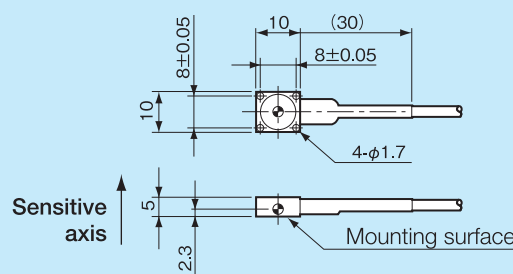
Standard accessories

M1.6 \times 8 hexagon socket head bolt (2) (Fastening torque: 0.1N·m)
(Recommended torque screwdriver: 3LT-DK,
Nakamura MFG + Hexagon bit CB H1.5)

Option

Conversion cable TT-18 (R05-PB5M, NDIS Standard)

■ Dimensions



Notes:

1. Tolerance in accordance with JIS B 0405-c unless otherwise indicated.
2. Shield is not connected to the chassis.
3. ● Indicates the center of gravity.

To Ensure Safe Usage

Please visit our website and read the recommended usage.
http://www.kyowa-ei.co.jp/products/pdf/suggestions_e.pdf

- When conducting the Pedestrian Head Protection Performance Test, ground the aluminum skull (metal) portion of the head impactor and measuring instrument. The grounding is an effective measure against noise caused by electric charge generated between the head skin material and aluminum skull of the head impactor resulting to adversely affect the ASE-A output at the time of impact. Also in other tests, it is preferable to ground the housing case and the instrument.
- Due to mounting holes, corners of the chassis is thin-walled structure. Avoid dropping or hitting against a hard matter. Or the case will be deformed or damaged.
- Secure the instrument at two opposite corners of the case using the bolts (M1.6, 8mm long) supplied with this product. Applying a small amount of silicon grease on the mounting surface will increase adhesive force for better securing the instrument.
- If the transducer is installed using adhesive, excessive force applied to remove it may deform the chassis. Also at the moment when the cabinet comes off the measuring object, impact may occur to cause the internal sensor to resonate, thus further causing failure of the transducer. If the transducer is to be used repeatedly, be therefore sure to install it using screws.



JQA-0821
JQA-EM4824

Specifications are subject to change without notice for improvement.



Safety precautions

Be sure to observe the safety precautions given in the instruction manual, in order to ensure correct and safe operation.

Reliability through integration



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