

# ASPA-A/ASPB-A

## Piezoelectric Acceleration Transducer (Built-in Amplifier)

● 2200 m/s<sup>2</sup>

### Specifications

Rated Capacity	±2200 m/s <sup>2</sup>
Voltage Sensitivity	1.0 mV/m/s <sup>2</sup> ±10%
Resonant Frequency	Approx. 45 kHz
Frequency Response (±1 dB)	3 to 12000 Hz
Frequency Response (±3 dB)	1.5 to 16000 Hz
Impact Resistant	10000 m/s <sup>2</sup>
Operating Temperature	-30 to 110°C
Transverse Sensitivity	5% RO or less
Output Impedance	100 Ω or less
Weight	ASPA-A-200: Approx. 2 g ASPB-A-200: Approx. 3 g
Case Material	Titanium
Mounting Screw	Female screw (M3×0.5, depth 2)
Power Supply	15 to 25 VDC, 0.5 to 5.0 mA
Cable	Dedicated cable, length approx. 2 m Sensor side: C29-104P Measuring instrument side: Miniature connector (Shield wire is connected to the case.)

**Standard Accessories** Miniature BNC conversion connector

**Optional Accessories** Insulated stad

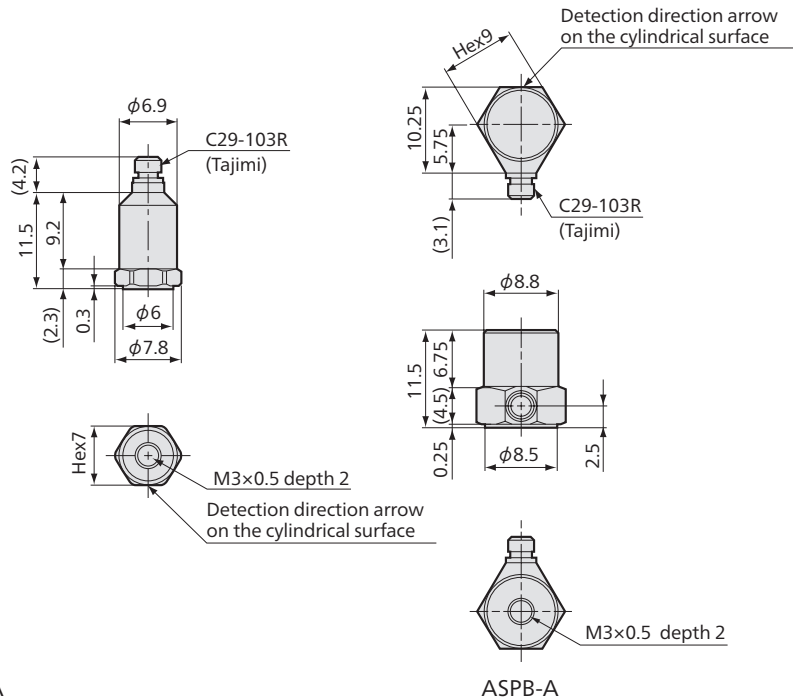
\*Acceleration (m/s<sup>2</sup>)

= Output voltage from sensor (mV) ÷ Voltage sensitivity (mV/m/s<sup>2</sup>)

**Wide measurement range, capable of measuring slight through to high accelerations.**

- High sensitivity, small size
- Capable of measurement of wide band, low to high frequencies
- High mechanical strength
- Environmentally-resistant

### Dimensions



ASPA-A

ASPB-A

### To Ensure Safe Usage

Before measuring data by using the CCA-40A or CCA-40A-F, insulate the mounting surface between the transducer and target object.



Acceleration Transducers

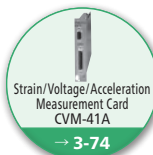
Outline

General

Piezoelectric

Gyro

### ● Dynamic measurement

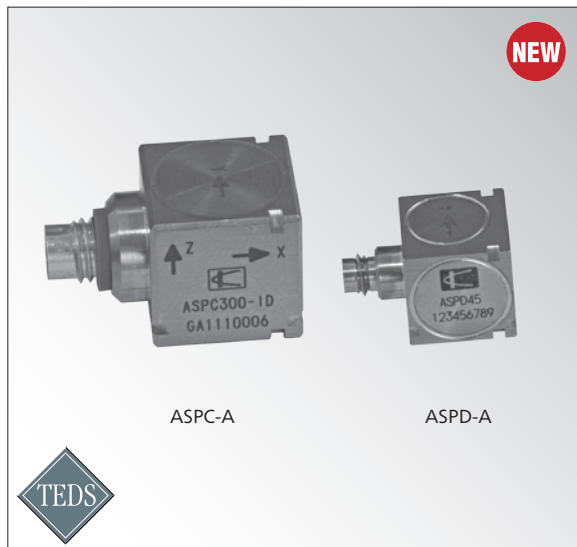


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# ASPC-A/ASPD-A

## Piezoelectric Acceleration Transducer (Built-in Amplifier)



Wide measurement range, capable of measuring slight through to high accelerations.

- High sensitivity, small size
- Capable of measurement of wide band, low to high frequencies
- High mechanical strength
- Environmentally-resistant

Models	Rated Capacity	Voltage Sensitivity (±10%)	TEDS
ASPC-A-30-ID	±360 m/s <sup>2</sup>	10 mV/m/s <sup>2</sup>	✓
ASPC-A-30	±400 m/s <sup>2</sup>	10 mV/m/s <sup>2</sup>	–
ASPD-A-45-ID	±450 m/s <sup>2</sup>	10 mV/m/s <sup>2</sup>	✓
ASPD-A-45	±450 m/s <sup>2</sup>	10 mV/m/s <sup>2</sup>	–
ASPC-A-300-ID	±3600 m/s <sup>2</sup>	1.0 mV/m/s <sup>2</sup>	✓
ASPC-A-300	±4000 m/s <sup>2</sup>	1.0 mV/m/s <sup>2</sup>	–
ASPD-A-450-ID	±4500 m/s <sup>2</sup>	1.0 mV/m/s <sup>2</sup>	✓
ASPD-A-450	±4500 m/s <sup>2</sup>	1.0 mV/m/s <sup>2</sup>	–

- Simultaneous measurement of acceleration in X, Y and Z directions
- 360 to 4500 m/s<sup>2</sup>

### ASPC-A Specifications

Rated Capacity	See table below.
Voltage Sensitivity	See table below.
Resonant Frequency	Approx. 35 kHz
Frequency Response (±1 dB)	1 to 5000 Hz
Frequency Response (±3 dB)	1 to 8000 Hz
Impact Resistant	30000 m/s <sup>2</sup>
Operating Temperature	ASPC-A-30/ASPC-A-300: -50 to 110°C (With operating power supply: 0.5 to 5 mA) -50 to 70°C (With operating power supply: 0.5 to 10 mA) Measuring instrument side's operating temperature: -20 to 60°C ASPC-A-30-ID/ASPC-A-300-ID: -40 to 85°C (With operating power supply: 0.5 to 5 mA) -40 to 70°C (With operating power supply: 0.5 to 10 mA) Measuring instrument side's operating temperature: -20 to 60°C
Transverse Sensitivity	5% RO or less
Output Impedance	1000 Ω or less
Weight	Approx. 11 g (Excluding cable)
Case Material	Titanium
Mounting Screw	Female screw (M5×0.8, depth 3.5)
Power Supply	21 to 24 VDC, 0.5 to 10 mA
Cable	Dedicated cable, length approx. 3.3 m Sensor side: DR-4S-1 Measuring instrument side: BNC connector (BNC163) (Shield wire is connected to the case.)
Sensor ID	TEDS (IEEE1451.4) (ASPC-A-30-ID/ ASPC-A-300-ID only)

### Optional Accessories

Mount base

\*Acceleration (m/s<sup>2</sup>)

= Output voltage from sensor (mV) ÷ Voltage sensitivity (mV/m/s<sup>2</sup>)

### To Ensure Safe Usage

Before measuring data by using the CCA-40A or CCA-40A-F, insulate the mounting surface between the transducer and target object.



Acceleration Transducers

Outline

General

Piezoelectric

Gyro

ASPD-A Specifications

Performance

<b>Rated Capacity</b>	See table on the previous page.
<b>Voltage Sensitivity</b>	See table on the previous page.

Environmental Characteristics

<b>Operating Temperature</b>	ASPD-A-45 (-ID): -50 to 110°C (With operating power supply: 2 to 5 mA) -50 to 80°C (With operating power supply: 2 to 10 mA)
	ASPD-A-45-ID: -40 to 85°C (Operating temperature of TEDS)
	ASPD-A-450 (-ID): -50 to 120°C (With operating power supply: 2 to 5 mA) -50 to 80°C (With operating power supply: 2 to 10 mA)
	ASPD-A-450-ID: -40 to 85°C (Operating temperature of TEDS)

Electrical Characteristics

<b>Output Impedance</b>	ASPD-A-45 (-ID): 500 Ω or less ASPD-A-450 (-ID): 100 Ω or less
<b>Power Supply</b>	21 to 30 VDC, 2 to 10 mA
<b>Cable</b>	Dedicated cable (SA11ZSCA-01B), length approx. 3.3 m (Measuring instrument side's operating temperature: -20 to 60°C) Sensor side: CZ663 Measuring instrument side: BNC connector (Shield wire is connected to the case.)

Mechanical Properties

<b>Frequency Response (±5 dB)</b>	ASPD-A-45 (-ID): (±5%) (X, Y): 2 to 7000 Hz (Z): 2 to 10000 Hz (±3 dB) (X, Y): 0.5 to 10000 Hz (Z): 0.5 to 18000 Hz
	ASPD-A-450 (-ID): (±5%) (X, Y): 2 to 10000 Hz (Z): 2 to 15000 Hz (±3 dB) (X, Y): 0.5 to 15000 Hz (Z): 0.5 to 20000 Hz
<b>Resonant Frequency</b>	55 kHz or more (Z axis)
<b>Impact Resistant</b>	±30000 m/s <sup>2</sup>
<b>Transverse Sensitivity</b>	5% RO or less
<b>Case Material</b>	Titanium
<b>Dimensions</b>	10 W × 10 H × 10 D mm (Excluding protrusions)
<b>Weight</b>	Approx. 4.4 g (Excluding cable)

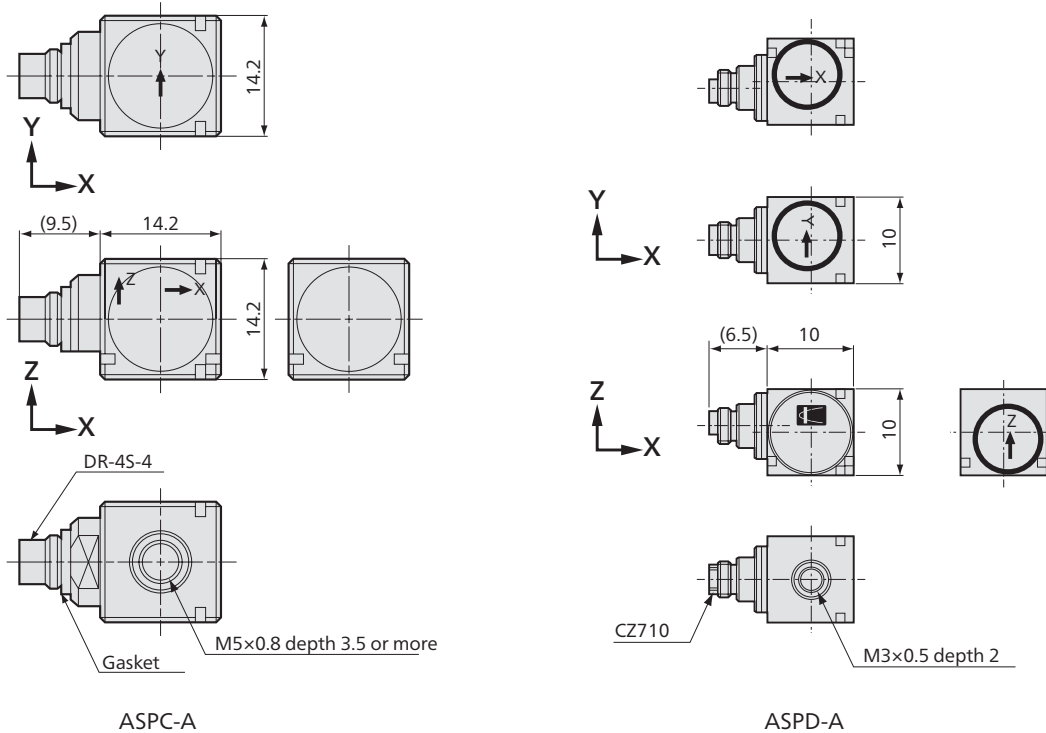
Other

<b>Mounting Screw</b>	Female screw (M3 × 0.5, depth 2)
<b>Attached Screw</b>	Male screw (M3 × 0.5 × 4)

Standard Accessories

Dedicated cable SA11ZSCA-01B  
Attached screw (M3 × 0.5 × 4)  
Dedicated mount base

Dimensions



Dynamic measurement

ASPC-A/ASPD-A Recommended products for combination

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→ 3-74		→ 3-55	→ 3-63	→ 3-68