

LSM-B-SA1

3-Component Force Transducers

● For Special Purposes, Especially Suitable for Model Experiments ● 10 to 500 N

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TRANSDUCERS



Enables force measurement in X, Y and Z directions. The compact, lightweight strain gage-based design is suitable for model experiments. (Patented)

Features

- Compact and lightweight
- Easy to handle
- Simultaneous measurement of F_x , F_y , F_z

Specifications

Performance

Rated Capacity: See table below.
Nonlinearity: Within $\pm 0.5\%$ RO
Hysteresis: Within $\pm 0.5\%$ RO
Rated Output: Approx. 0.5 mV/V (1000 $\mu\text{m/m}$)

Environmental Characteristics

Safe Temperature Range: 0 to 80°C
Compensated Temperature Range: 0 to 70°C
Temperature Effect on Zero Balance: Within $\pm 0.05\%$ RO/°C
Temperature Effect on Output: Within $\pm 0.05\%$ /°C

Electrical Characteristics

Safe Excitation Voltage: 10 VAC or DC
Recommended Excitation Voltage: 1 to 5 VAC or DC
Input Resistance: 240 $\Omega \pm 5\%$
Output Resistance: 240 $\Omega \pm 5\%$

Cable: 4-conductor (0.08 mm²) chloroprene shielded cable, 4 mm diameter by 5 m long, with connector plug to the transducer side and bared to the amplifier side (Shield wire is not connected to mainframe.)

Mechanical Properties

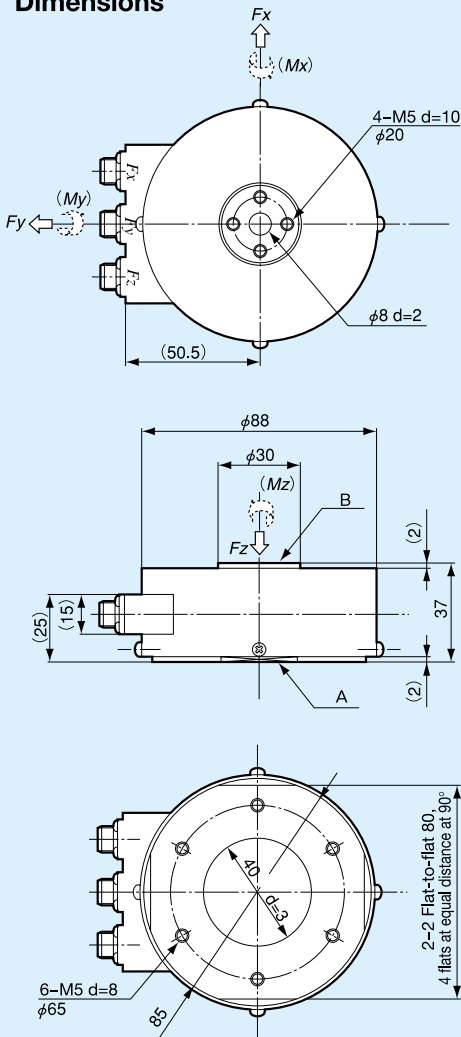
Safe Overload Rating: 150%
Natural Frequency: See table below.
Weight: See table below.
Interference: $\pm 3\%$ RO
Safe Moment: See table below.

Note: For the cable terminated with NDIS connector, suffix "-P" to the model number.

To Ensure Safe Usage

LSM-B-SA1 series does not feature waterproof structure.

Dimensions



Notes:

1. M_x , M_y and M_z cannot be measured.
2. Arrows indicate directions of component force in plus polarity acting to the B plane with the A plane fixed.

Model	Rated Capacity			Natural Frequency (kHz, Approx.)			Safe Moment (Approx.)			Weight (Approx.)
	F_x	F_y	F_z	X	Y	Z	M_x	M_y	M_z	
LSM-B-10NSA1	10 N			0.3			1.2 N·m			600 g
LSM-B-20NSA1	20 N			0.4			2.4 N·m			
LSM-B-50NSA1	50 N			0.8			5.9 N·m			
LSM-B-100NSA1	100 N			1.3			9.8 N·m			
LSM-B-200NSA1	200 N			2.5			24 N·m			
LSM-B-500NSA1	500 N			2.2			59 N·m			1.6 kg

Safe moment is stated for reference to strength.