

LFX-A

Compact 6-Component Force Transducers with Built-in Amplifier

● With Built-in Amplifier



Enables simultaneous measurement of 3 forces (Fx, Fy, Fz) in 3 axial directions orthogonal to the transducer and 3 moments (Mx, My, Mz) around the axes. It outputs 6 voltage signals proportionated to 6 detected components.

Features

- Compact
- Amplifier built in
- Wiring hole, 4 mm diameter, provided at the center

Specifications

Performance

Rated Capacity: See table below.

Nonlinearity: Within $\pm 0.5\%$ RO

Hysteresis: Within $\pm 0.5\%$ RO

Interference: $\pm 1.5\%$ RO (after correction by interference correction coefficient stated in Calibration Sheet)

Note: Output voltage signals of 6-component force should be corrected by interference correction coefficient. Output of each component concerns output of other components.

Rated Output: Approx. ± 1500 mV (from 2500 mV output with no load at the center)

Environmental Characteristics

Safe Temperature Range: -10 to 70°C (noncondensing)

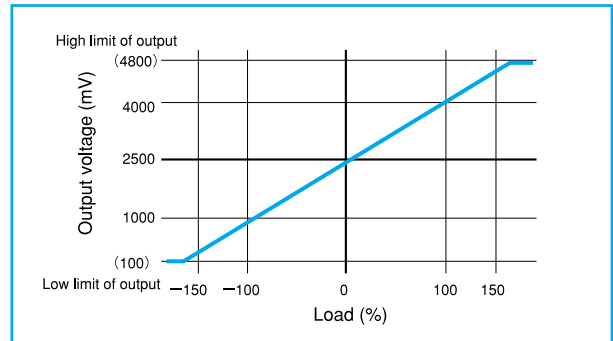
Compensated Temperature Range: 0 to 60°C (noncondensing)

Temperature Effect on Zero Balance: Within $\pm 0.05\%$ RO/ $^\circ\text{C}$

Temperature Effect on Output: Within $\pm 0.05\%$ / $^\circ\text{C}$

Electrical Characteristics

No-Load Output: 2500 mV at the center (See figure below.)



Frequency Response: DC to 500 Hz (+1 dB/-3 dB)

Power Supply: 5 VDC $\pm 10\%$, 160 mA or less

Cable: 16-conductor (0.11 mm²) twisted pair vinyl shielded cable, 6.6 mm diameter by 55 cm long, bared at the tip (9 conductors) (Shield wire is not connected to mainframe)

Mechanical Properties

Safe Overload Rating: 150%

Material

Main unit

LFX-A-1KN: Aluminum (metallic finish)

LFX-A-3KN: SUS (metallic finish)

Cover: Black anodic oxide coating aluminum

Cable holder: Anodic oxide coating aluminum

Weight: See table below.

Protection Rating: IP40

- To obtain the rated output of ± 1500 mV for each of 6-component force, zero drift due to installation conditions including tightening and loading should be made within ± 200 mV.
- Interference compensator LIC-100A is optionally available for LFX-A.

Model	Rated Capacity	Weight (Approx.)
LFX-A-1KN	Fx: ± 1000 N Fy: ± 1000 N Fz: ± 1000 N Mx: ± 40 N·m My: ± 40 N·m Mz: ± 25 N·m	210 g
LFX-A-3KN	Fx: ± 3000 N Fy: ± 3000 N Fz: ± 3000 N Mx: ± 100 N·m My: ± 100 N·m Mz: ± 50 N·m	420 g

Dimensions

