

## Load cell LSMSB-\*

2023/12/06

## Features



- Compact load cell with  $\phi 7\text{mm} \times \text{height } 5\text{mm}$  (5kgf/10kgf/20kgf/50kgf),  $\Phi 10\text{mm} \times \text{height } 5.5\text{mm}$  (100kgf),  $\phi 10\text{mm} \times \text{height } 6\text{mm}$  (200kgf),  $\phi 12\text{mm} \times \text{height } 8\text{mm}$  (500kgf),  $\phi 15\text{mm} \times \text{height } 9.5\text{mm}$  (1tonf),  $\phi 20\text{mm} \times \text{height } 16\text{mm}$  (3tonf)
- Achieve the small size, high accuracy and the low price by in-house strain gage technology.
- Excellent in noise-proof by 4-gage method, and do not receive the temperature effect easily even if the sensor is built into the metal mold with high temperature.
- A free metal mold design that doesn't receive the restriction of the ejector pin diameter can be designed because of the method set up in the ejector pin bottom used.

## Specification

Specification name	Specification contents
Rated capacity	49.04 N {5 kgf}~ 29.42 kN {3 tf}
Safe overload	150 %R.C.
Ultimate overload	200 %R.C.
Rated output	0.6 mV/V $\pm$ 0.1 mV/V
Non-linearity	1 %R.O.
Hysteresis	1 %R.O.
Repeatability	1 %R.O.
Recommended excitation	5 VDC
Maximum excitation	8 V
Zero balance	$\pm 0.1$ mV/V
Input terminal resistance	355 $\Omega \pm 20$ $\Omega$ (5K,10K,20K,50K,100K,200K,500K)、358 $\Omega \pm 20$ $\Omega$ (1T,3T)
Output terminal resistance	355 $\Omega \pm 20$ $\Omega$ (5K,10K,20K,50K,100K,200K,500K)、358 $\Omega \pm 20$ $\Omega$ (1T,3T)
Insulation resistance	1 000 M $\Omega$ or more (at DC50 V) (between bridge and main body)
Compensated temperature range	-10 $^{\circ}$ C ~ 150 $^{\circ}$ C
Safe temperature range	-20 $^{\circ}$ C ~ 150 $^{\circ}$ C

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Temp. effect on zero balance	1.0 %R.O./10°C
Temp. effect on output	1.0 %LOAD/10°C
Cable	φ1.5, 4-cores shielded yellow cable
Minimum bending radius of cable	10 mm
Class of protection	IP64
Material	Stainless steel
Fatigue life	1 000 000 times at rated load

## Table of P/N

Parts No.	Rated capacity [N]	Rated capacity [kN]	Rated capacity [kgf]	Rated capacity [tf]	Natural frequency (for reference) [Hz]	Rated displacement (for reference) [mm]
LSMSB-5K	49.04		5		84000	0.003
LSMSB-10K	98.07		10		110000	0.003
LSMSB-20K	196.1		20		67000	0.003
LSMSB-50K	490.3		50		62000	0.005
LSMSB-100K	980.7		100		85000	0.005
LSMSB-200K		1.961	200		195000	0.009
LSMSB-500K		4.903	500		184000	0.015
LSMSB-1T		9.807		1	127000	0.013
LSMSB-3T		29.42		3	110000	0.036

Parts No.	External size (Diameter) [mm]	External size (Height) [mm]	Weight(Approx.) [g]	2D CAD
LSMSB-5K	7	5.0	2	
LSMSB-10K	7	5.0	2	
LSMSB-20K	7	5.0	2	<a href="#">LSMSB-20K.dxf</a>
LSMSB-50K	7	5.0	2	<a href="#">LSMSB-20K.dxf</a>
LSMSB-100K	10	5.0	3	<a href="#">LSMSB-50K.dxf</a>
LSMSB-200K	10	6.0	3	
LSMSB-500K	12	8.0	3	

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Model	Capacity (kg)	Capacity (N)	Capacity (lbf)	
LSMSB-1T	15	9.5	10	
LSMSB-3T	20	16.0	30	