



Multi-Axis Load Cell Technologies

JR3, Inc.
22 Harter Avenue
Woodland, CA 95776

(530) 661-3677
Fax (530) 661-3701
email: jr3@jr3.com

30E15A-I50 100L300 sensor for use with external electronics

The 30E15A-I50 sensor has no electronic components within the sensor body. As a result it can withstand environmental conditions, such as high temperatures or radiation beyond those possible for sensors with internal electronic components.

The sensor is unusually stiff relative to the load rating; this enables improved accuracy of position over changing loads. The sensor can safely withstand 125% of the rated load applied to all axes simultaneously. If a single axis is loaded with no loads applied to other axes the safe load of the loaded axis is much greater.

The load ratings, maximum safe **single axis** loads and stiffness are specified in the chart below.

Axis	Load Rating	Maximum 1 axis Safe Load	Stiffness
Fx	100 lb.	585 lb.	.108e6 lb./in.
Fy	100 lb.	585 lb.	.108e6 lb./in.
Fz	200 lb.	2200 lb.	1.17e6 lb./in
Mx	300 in-lb.	420 in-lb.	.777e6 in-lb./rad
My	300 in-lb.	420 in-lb.	.777e6 in-lb./rad
Mz	300 in-lb.	380 in-lb.	.244e6 in-lb./rad

When used with a JR3 electronic system with analog output, sensor resolution is 1 part in 16,000 of the rated loads or better. Useable resolution may be limited by the A/D system used to digitize the data.

Refer to JR3 drawing No. 4897 for the mechanical details of the sensor.

The JR3 external electronic system can be ordered with the electrical full scales set as low as 20% of the mechanical full scale. Any or all axes can be specified at any value between the sensor load rating and 20% of the sensor load rating. There will be a slight increase in noise and thermal variation when set at the minimum full scale but normally this does not cause difficulty.

Optionally, two different sets of full scales, selected by moving jumpers in the electronic system can be specified. This allows the same sensor and electronic system to be used for tasks requiring substantially different full scales.

Axis	30E15A 100L300 Load Rating	Minimum Full Scale
Fx	100 lb.	20 lb.
Fy	100 lb.	20 lb.
Fz	200 lb.	40 lb.
Mx	300 in-lb.	60 in-lb.
My	300 in-lb.	60 in-lb.
Mz	300 in-lb.	60 in-lb. *

* Under some conditions Mz may be specified with a full scale below 60 in-lb. Contact JR3 for additional information.