SUNMOON
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Type SM41A Bearing Block Load Cell

1、Description

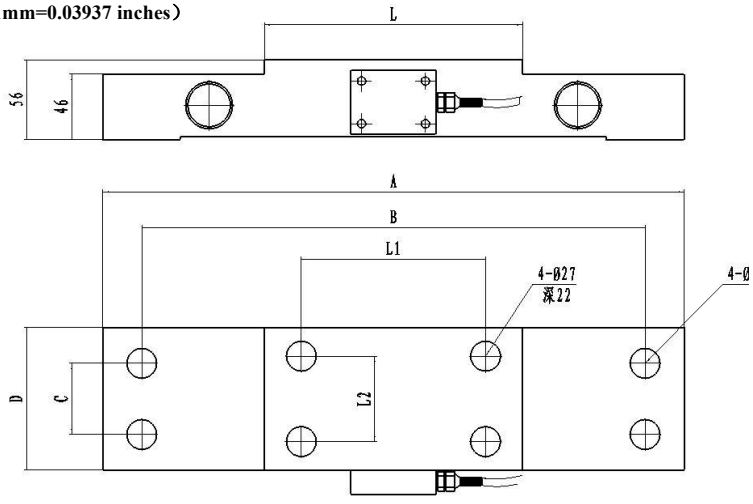
The QCX series bearing block load cell is mainly installed under the bearing housing and can also be used in other structural forms. It is a dedicated sensor mainly for measuring the bearing capacity of a certain type of bearing housing. The structural principle is a shear-type resistance strain sensor with both ends fixedly supported and the center bearing. Selected high-quality alloy steel as the elastic body and foil-type resistance strain gauges as the sensitive conversion elements. The socket is installed in the middle of the sensor, and the two ends of the sensor are fixed on the base. When the bearing housing is in load, the load is transmitted to the base through the shear elastic beams at both ends, generating strain proportional to the load in the elastic beams, which is converted into corresponding electrical signals by strain gauges.

适用于起重给、水利等各种行业中轴承座下的张力测试及控制系统。

2、Characteristics

1. Strong anti-interference ability, is convenient to install and use, and has good stability.
2. The flat plate shape ensures a stable force state, good lateral interference, and can achieve high measurement accuracy.
3. Strong overload capacity and used for overload alarm of bridge cranes.

Dimensions (In mm. 1mm=0.03937 inches)



CAP./SIZE	A	B	C	D	L	L1	L2	ØH
t/mm								
1.5	350	310	38	75	152	100	40	17
2.5	410	355	50	100	182	130	60	21
4、8、10	410	355	50	100	212	160	60	21
15、20	457	387	50	100	212	160	60	M24
Ib/inches (conversion of above dimensions)								
3306.93	137.80	122.05	14.96	29.53	59.84	39.37	15.75	6.69
5511.56	161.42	139.76	19.69	39.37	71.65	51.18	23.62	8.27
8818.49、17636.98、22046.23	161.42	139.76	19.69	39.37	83.46	62.99	23.62	8.27
33069.34、44092.45	179.92	152.36	19.69	39.37	83.46	62.99	23.62	M24

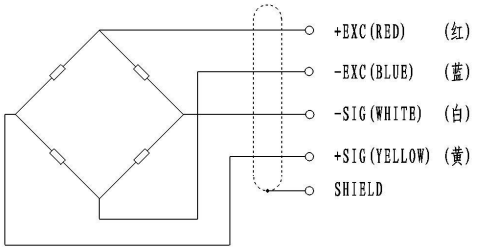
Circuit Diagram:

Red: ＋input

Blue: -input

White: +output

Yellow: -output



Specification：

Type	Technical parameters
Nominal load range	1.5～30t
Power supply	10~12 VDC
Zero balance	1.0±% of rated output
Analog output	2.0±0.01mV/V
Input resistance（Rlc）	400±20Ω（ohms）
Output resistance（Ro）	350±5Ω（ohms）
Insulation resistance	≥5000 MΩ（Mege-Ohms）
Class precision	0.1%FS
Effect of temperature	0.02%FS/10℃
Operating temperature	-40～+85℃
Safe Load Limit	200% FS
Safety margin against yielding	300% FS
Safety margin against breakage	500% FS
Material material	High performance alloy steel or (chromium ratio>15% stainless steel)
Protection type	IP67

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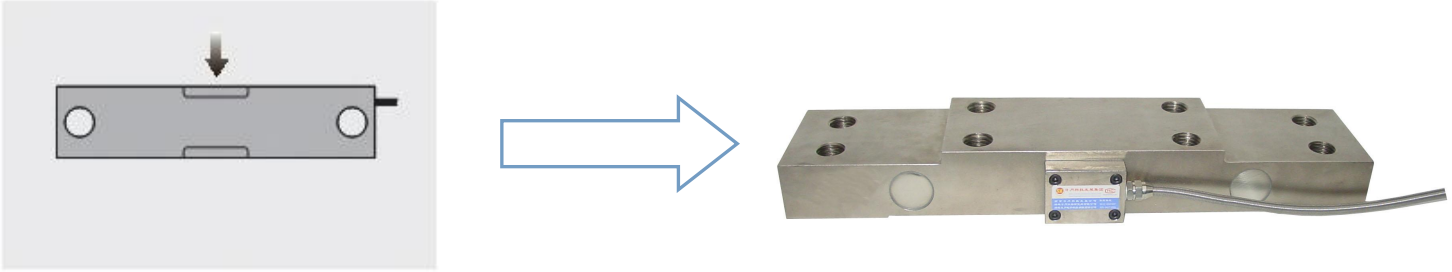
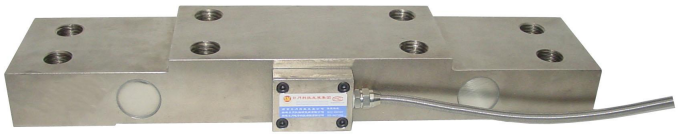
测量原理

The bearing housing is installed in the middle of the sensor, while the two ends of the sensor are fixed on the base. When the bearing housing is in load, the load is transmitted to the base through the shear elastic beams at both ends, generating strain proportional to the load in the elastic beams, which is converted into corresponding electrical signals by strain gauges.



细节介绍



平板式双剪
切梁结构，
外形高度低
安装使用方便

抗机械疲劳性能强

淬透性好

The materials are made of high-performance alloy steel or stainless steel