

**benüii**®  
*benüi electric*

# 本原电子 Catalogue

高品质的电阻应变式传感器、自控系统制造商

High-quality resistance strain sensor, automatic control system manufacturer



2010  
VERSION

## About us 企业简介

宁波本原电子有限公司是一家设计、生产和销售高精度称重传感器和自控系统的专业公司，公司厂房面积12,000平方米，拥有完整的先进的生产、测试设备，优良的生产环境和雄厚的技术工艺能力，年生产传感器500,000只(套)以上，其中55%以上产品销往国外。

目前公司通过了ISO9001、OIML、CE和防爆等认证，取得了多项专利证书和多个国外专项认证，建立健全了OA、ERP管理系统，设立了基本覆盖全国的销售网络及国际贸易部。

我们不仅制造产品，更是为了向您提供完全的技术解决方案及优良的服务；我们通过优化、改良老产品、开发新产品、并以高端产品（模块化、数字化、智能化）为主作为企业的产品结构和发展方向。特别地，我们公司在行业内首个开发的称重系统或传感器与手机功能融合应用，可实现远程无线控制、管理、升级等功能，相信不久的将来，随着手机功能不断的完善和3G的应用，此类系统和传感器必将成为新一代智能式产品。

我们坚信，本原的每一个细节将是你选择我们产品和服务的关键点。

NingBo Benüi Electric company, who focus on designing, producing and selling weighing load cells and auto control system. Its plant covers 12,000 square meters, there are whole complete equipments for producing and testing, its working condition is very nice and R&D ability is strong. Now we Benüi with the annual producing capacity more than 500,000 pieces or sets, and more than 55% are sold abroad.

We Benüi has already passed the approval of ISO9001, OIML, CE and Anti-explosion till now, and gained the many patents and certificates on weighing field, and meantime established and completed the management system like OA and ERP. We Benüi also has a sales net almost covered all of China and most of major countries in abroad.

We Benüi believe that every feature of Benüi is the point why you choice our products and/or services.

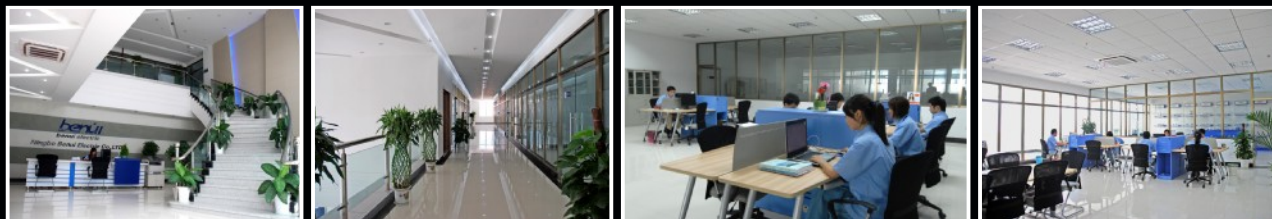


Office Sence

办公环境

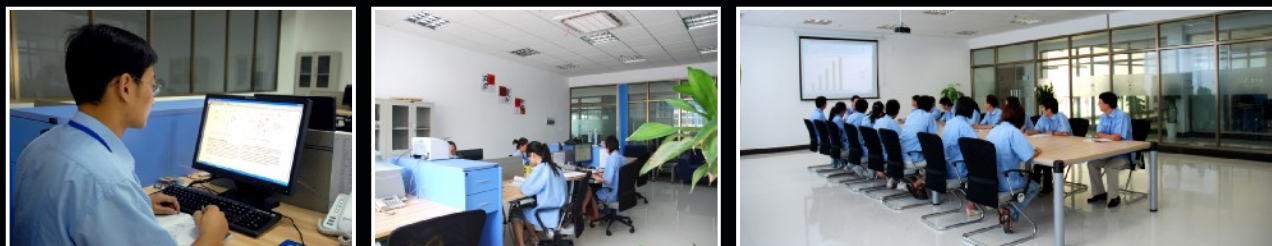
### This is new Benui, this is new beginning...

Benui founded on 2004, now Benui is one of the leading manufactory on the weighing field in China, annual production more than 500,000 pieces load cells, sales to all over the world, anywhere you can see and touch our products near you. On May 1st 2009, we moved to our new factory, which covers an area of 12,000 square meters. The employees are more than 300, including about 80 professional technicians. We equips many high precision instruments, equipments, advanced technologies and quality control system, this is new Benui...



宁波本原电子有限公司始建于2004年，在经过6年的不断发展之后，本原现已成为生产能超过50万只高精度传感器的生产基地。我们新工厂位于洋沙山工业区，总面积达12000平方米。于2009年5月1日正式投入运营。全厂员工300多人，其中专业技术人员将近80人左右。厂房具备各类高精密度仪器和设备，高效的技术、质量、生产管理团队，完善的检测手段和严格的质量管理体系。

本原从客户下单开始，从产品的设计、生产、物流运输，全程始终提供专业的一对一客户服务及网络在线咨询，客户可随时通过一对一的服务人员或者网络了解所需产品的进度及各类信息。全程高品质服务，只为客户满意的认可。





## Factory Sence 生产环境

**Every feature of Benui is the point why you choice our products and/or services.**

Its plant covers 12,000 square meters, there are whole complete equipments for producing and testing, Its working condition is very nice and R&D ability is strong, we Benui with the annual producing capacity more than 500,000 pieces or sets.

**Our advantages:**

- ◎ Innovation, advanced design and production technics
- ◎ Special making for customer special requirement
- ◎ Supply nice services for developing, designing, producing and selling

We Benui believe that every feature of Benui is the point why you choice our products and/or services.



**我们坚信，本原的每一个细节将是你选择我们产品和服务的关键点。**

公司厂房面积12,000平方米，拥有完整的先进的生产、测试设备，优良的生产环境和雄厚的技术工艺能力，年生产传感器500,000只(套)以上。

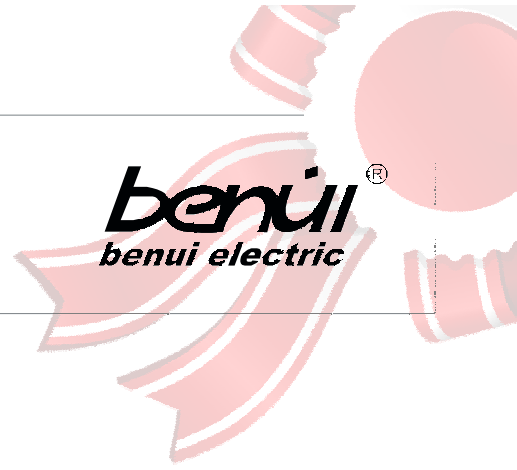
**我们的优势**

- ◎ 创新、领先的设计意识及生产工艺
- ◎ 根据客户特殊要求，可进行个性化量身定制
- ◎ 集研发，设计生产销售，实现一站式全程快捷服务

我们本原倡导科学、严谨、以人为本的管理理念，本着高起点、高速度、超常规、快节奏的发展理念，努力将公司建设成为一流的电子生产企业，并以我们高素质的队伍、高科技的产品、高质量的服务，力争在行业中树立典范作用。







## 资质证书

### QUALIFICATION CERTIFICATES



1	2	3	4
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- 商标注册证 1 Trademark registered licence
- ISO9001:2000 2 ISO9001:2000
- 制造计量器具许可证 3 Measure instrument licence
- 自主进出口权证书 4 Certificate of import/export

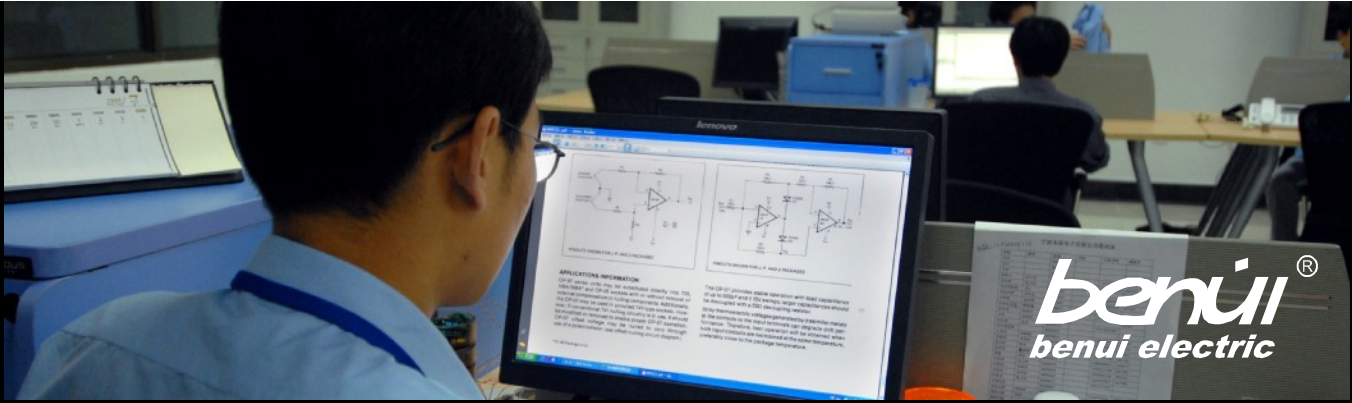
## 专利证书

### PATENT CERTIFICATES

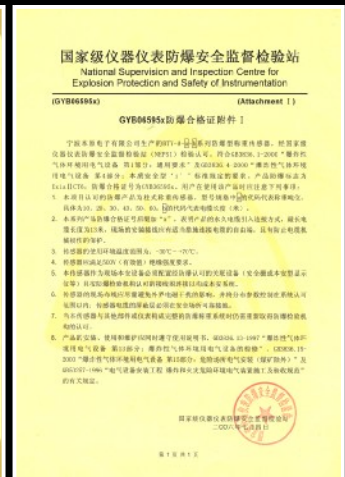


1	2	3	4
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- 称重传感器实用新型专利证书 1 Load cell patent certificate
- 手机通讯装置实用新型专利证书 2 New model Load cell with SIM card patent certificate
- 称重传感器外观专利证书 3 Load cell facies patent certificate
- 包装箱(称重传感器)外观专利证书 4 Packing facies patent certificate



## PRODUCTS CERTIFICATES 产品认证

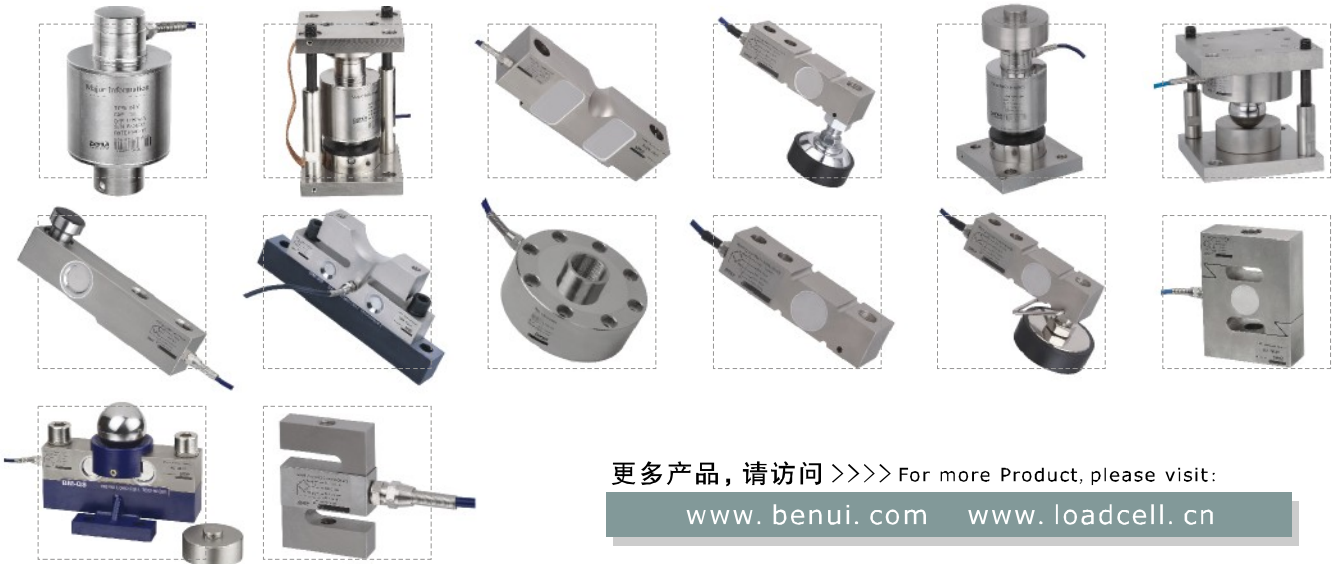


1	2	3
4	5	6

1 计量器具型式合格证书  
 2 传感器 CE 证书  
 3 无线仪表 CE 证书  
 4 OIML 证书  
 5 防爆合格证书  
 6 防爆合格证书附件

1 Measuring instrument certificate  
 2 Load cells CE certificate  
 3 Wireless indicator CE certificate  
 4 OIML certificate  
 5 Anti-explosion certificate  
 6 An accessories of Anti-explosion certificate

About products



更多产品, 请访问 >>>> For more Product, please visit:

[www.benui.com](http://www.benui.com) [www.loadcell.cn](http://www.loadcell.cn)

We have 11 kinds load cell,software,indicator and scale,at the same time we have been developing new products. please contact us if our product do not satisfy you,we will do ourbest to produce according to your requirement.Usually we will delivery the products to you in 30 days after we receive your project.

我们有11种传感器,软件,仪表和称重系统等,同时,我们一直致力于开发新的产品.如果你在浏览本样册后没有符合你的产品,那么请联系我们,我们将可为你定制开发,一般地,我们可以在30天内交货自收到从我们确定所有的开发细节.

Contents

Compression typel load cells 压式传感器	P01-P08
Torsional ring type load cells 扭环式传感器	P09-P14
Double beam type load cells 双剪切梁式传感器	P15-P26
Single beam type load cells 单剪切梁式传感器	P27-P33
S type load cells S型传感器	P34-P36
Single point type load cells 单点式传感器	P37-P44
Tension type load cells 拉式传感器	P45-P46
Digital load cells 数字式传感器	P47
High-temp. load cells 高温式传感器	P48
Anti-Explode type load cells 防爆式传感器	P49-P50
Wireless load cells 无线式传感器	P51-P56
Software & indicator 软件和仪表	P57-P59
Accessories & other 附件和其它	P60-P61
Wireless weigh pad 无线的轴重称	P62-P63



# BTY Self-restoring rocker-pin load cell 柱式传感器

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
10,20,30,40,50,60t.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Accuracy 精度:**  
C3 OIML R60.

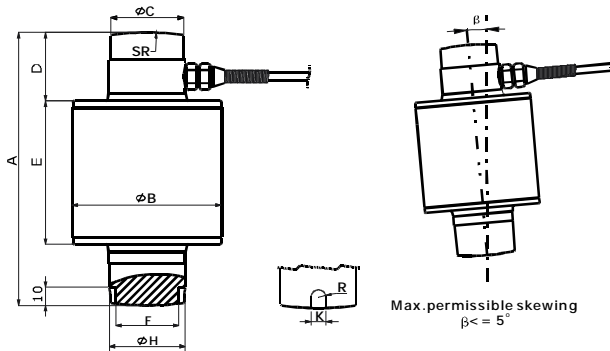
**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)

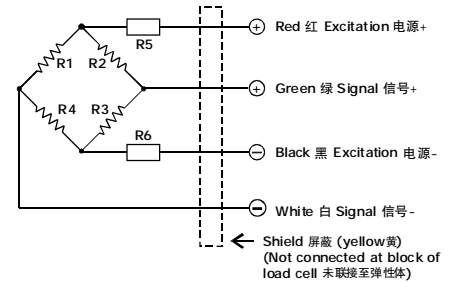


CAP./SIZE	A	B	C	D	E	F	H	K	SR
10~30t	150	82	40	38	82	34.7	41.7	8	150
40~60t	170	88	53	47	95	43	53	10	200

## Circuit Diagram 电路图

### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:  
≤30t: 12.0 m, ≥40t: 18m.  
Diameter:  $\phi$  6  
Connection 接线方式:  
Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.  
不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	10,20,30,40,50,60	t
Maximal numbers of load cell verification Intervals 最大检定分度数 ( $N_{lc}$ ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 ( $V_{min}$ ):	0.01	% of rated load
Rated output 额定输出 ( $C_n$ ):	$2.0 \pm 0.1\%$	mV/V
*Combined error 综合误差:	0.015	$\pm\%$ of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	$\pm\%$ of rated output/ $^{\circ}C$
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	$\pm\%$ of rated output/ $^{\circ}C$
Zero balance 零点平衡:	1.0	$\pm\%$ of rated output
Input resistance( $R_{ic}$ ) 输入阻抗:	$775 \pm 5$	$\Omega$ (Ohms)
Output resistance( $R_o$ ) 输出阻抗:	$702 \pm 2$	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq 5000$	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	$^{\circ}C$ / $^{\circ}F$
Recommend excitation 推荐工作电压:	8~15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.

# BTY-M Self-restoring rocker-pin module 柱式模块

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
10,20,30,40,50,60t.

**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

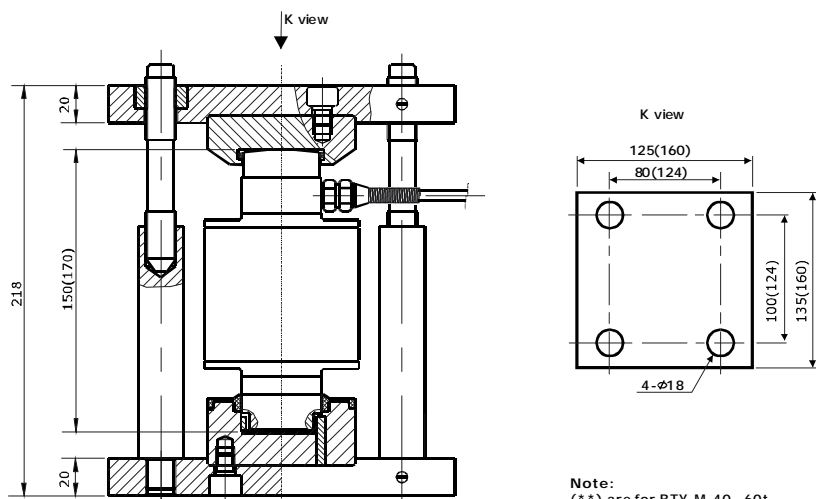
**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



## Circuit Diagram 电路图

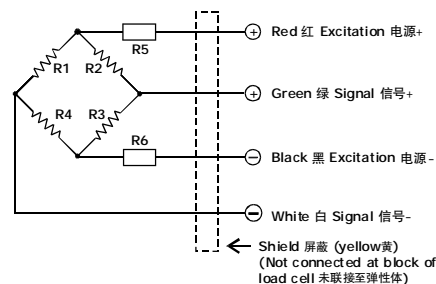
### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:  
<=30t: 12.0 m, >=40t: 18m.

Diameter:  $\phi 6$

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else,  
it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	10,20,30,40,50,60	t
Maximal numbers of load cell verification Intervals 最大检定分度数 ( $N_k$ ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 ( $V_{min}$ ):	0.01	% of rated load
Rated output 额定输出 ( $C_n$ ):	$2.0 \pm 0.1\%$	mV/V
*Combined error 综合误差:	0.015	$\pm$ % of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	$\pm$ % of rated output / $^{\circ}C$
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	$\pm$ % of rated output / $^{\circ}C$
Zero balance 零点平衡:	1.0	$\pm$ % of rated output
Input resistance ( $R_{ic}$ ) 输入阻抗:	$775 \pm 5$	$\Omega$ (Ohms)
Output resistance ( $R_o$ ) 输出阻抗:	$702 \pm 2$	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq 5000$	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	$^{\circ}C$ / $^{\circ}F$
Recommend excitation 推荐工作电压:	8 ~ 15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.

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http://www.benüi.com www.loadcell.cn  
中文网站 http://www.benüi.com.cn www.benüi.cn

# BTY-MA Self-restoring rocker-pin module 柱式模块

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
10,20,30,40,50,60t.

**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

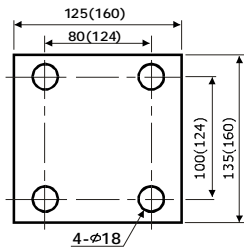
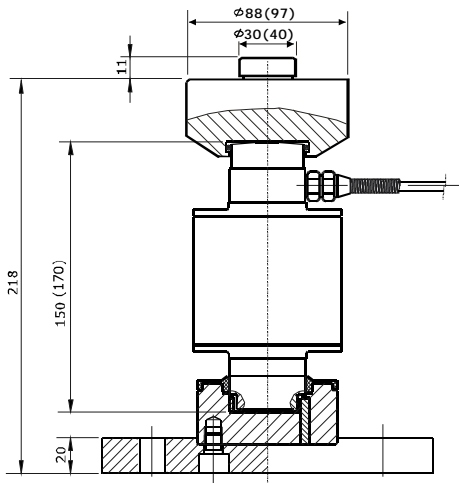
**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



Note:  
(\*\*) are for BTY-M-40-60t

## Circuit Diagram 电路图

**Electrical Termination 电路终端**

4 Core cable standard lengths 电缆长度:

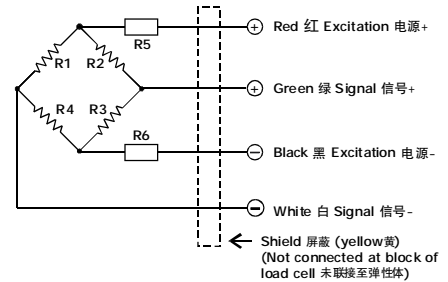
$\leq 30t$ : 12.0 m,  $\geq 40t$ : 18m.

Diameter:  $\phi 6$

Connection 接线方式:

Refer to the following drawing.

参阅下面的图形.



**Notice 注意:**

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Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	$^{\circ}C$ / $^{\circ}F$
Recommend excitation 推荐工作电压:	8~15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.

综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求。



# BTY-MF Self-restoring rocker-pin module 柱式模块

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
10,20,30,40 t.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Accuracy 精度:**  
C3 OIML R60.

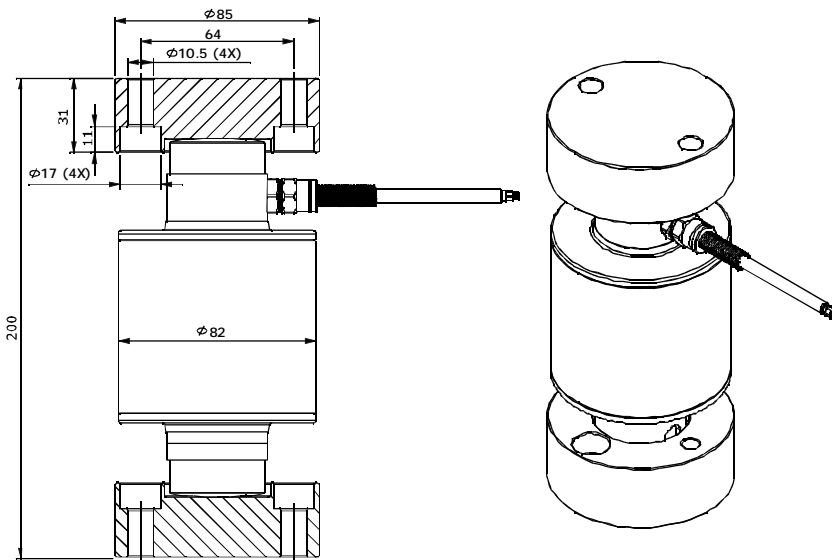
**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



## Circuit Diagram 电路图

### Electrical Termination 电路终端

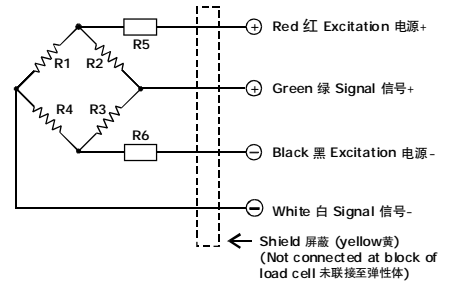
4 Core cable standard lengths 电缆长度: 12.0 m.

Diameter:  $\phi 6$

Connection 接线方式:

Refer to the following drawing.

参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	10,20,30,40	t
Maximal numbers of load cell verification Intervals 最大检定分度数 ( $N_k$ ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 ( $V_{min}$ ):	0.01	% of rated load
Rated output 额定输出 ( $C_n$ ):	$2.0 \pm 0.1\%$	mV/V
*Combined error 综合误差:	0.015	$\pm$ % of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	$\pm$ % of rated output / $^{\circ}C$
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	$\pm$ % of rated output / $^{\circ}C$
Zero balance 零点平衡:	1.0	$\pm$ % of rated output
Input resistance ( $R_{ic}$ ) 输入阻抗:	$775 \pm 5$	$\Omega$ (Ohms)
Output resistance ( $R_o$ ) 输出阻抗:	$702 \pm 2$	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq 5000$	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	$^{\circ}C$ / $^{\circ}F$
Recommend excitation 推荐工作电压:	8 ~ 15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.

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# BT302 Self-restoring rocker-pin load cell 柱式传感器

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
50, 100 klbs, 23, 45t.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Accuracy 精度:**  
C3 OIML R60.

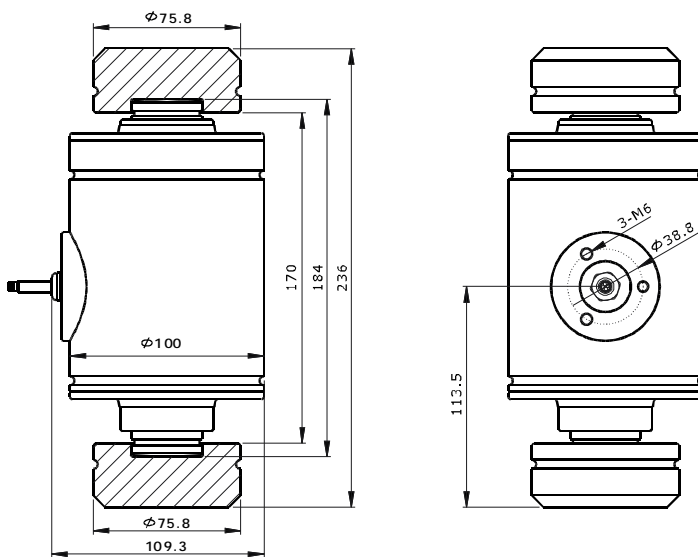
**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



## Circuit Diagram 电路图

### Electrical Termination 电路终端

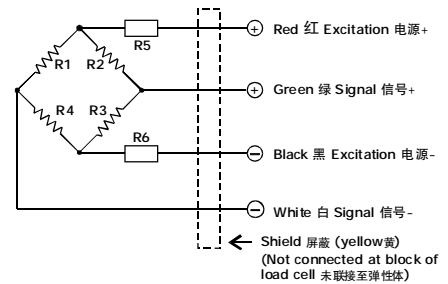
4 Core cable standard lengths 电缆长度:  
<= 30t: 12.0 m, >= 40t: 18m.

Diameter:  $\phi 6$

Connection 接线方式:

Refer to the following drawing.

参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	50, 100 klbs, 23, 45t	klbs/t
Maximal numbers of load cell verification Intervals 最大检定分度数 (N <sub>lc</sub> ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度数 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	1.75 ± 0.1%	mV/V
*Combined error 综合误差:	0.015	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance (R <sub>lc</sub> ) 输入阻抗:	775 ± 5	Ω (Ohms)
Output resistance (R <sub>o</sub> ) 输出阻抗:	702 ± 2	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥ 5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	°C / °F
Recommend excitation 推荐工作电压:	8 ~ 15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TK<sub>0</sub>, TK<sub>c</sub> are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.

# BCP Column load cell 柱式传感器

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
20,30,50,100,200,300 klbs.

**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.027%

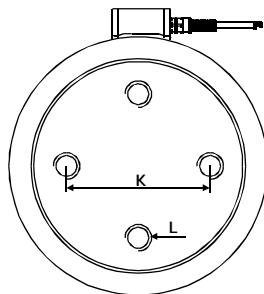
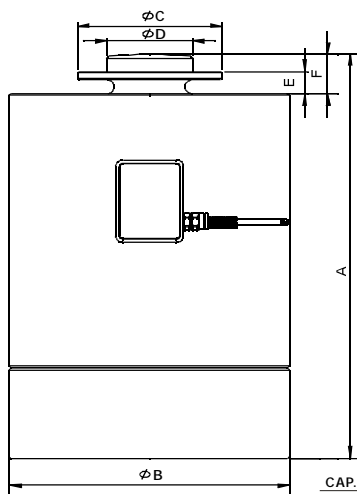
**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



Elevation view

CAP./SIZE	A	B	C	D	E	F	H	K	L
20-50klbs	190.5	114.3	57.1	31.8	12.7	19.1	63.5	60.3	3/8-24
100klbs	231.8	152.4	79.4	44.5	15.9	27.0	64.3	101.6	1/2-20
200klbs	295.3	203.2	114.3	63.5	15.9	27.0	89.7	139.7	5/8-18
300klbs	355.8	252	127	76.2	19.1	33.3	109.5	139.7	3/4-16

## Circuit Diagram 电路图

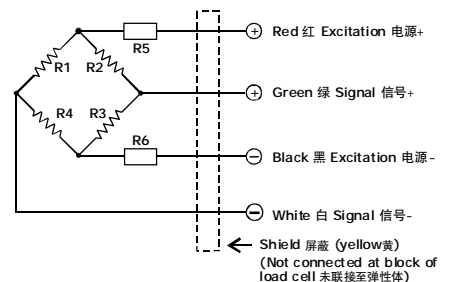
### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:  
<=50klbs: 3.0 m, >=100klbs: 10m.

Diameter: phi 6

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	20,30,50,100,200,300	klbs
Maximal numbers of load cell verification Intervals 最大检定分度数 (Nk):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0 ± 0.1%	mV/V
* Combined error 综合误差:	0.015	± % of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	± % of rated output/°C
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	± % of rated output/°C
Zero balance 零点平衡:	1.0	± % of rated output
Input resistance (R <sub>ic</sub> ) 输入阻抗:	775 ± 5	Ω (Ohms)
Output resistance (R <sub>o</sub> ) 输出阻抗:	702 ± 2	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥ 5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	°C / °F
Recommend excitation 推荐工作电压:	8-15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TK<sub>0</sub>, TK<sub>c</sub> are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.



# LFR Wheel shaped load cell 轮辐式传感器

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
0.5, 1, 2, 3, 5, 7.5, 10, 20, 30  
40, 50, 60t .

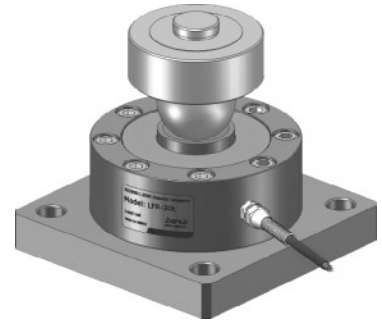
**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Accuracy 精度:**  
C3 OIML R60.

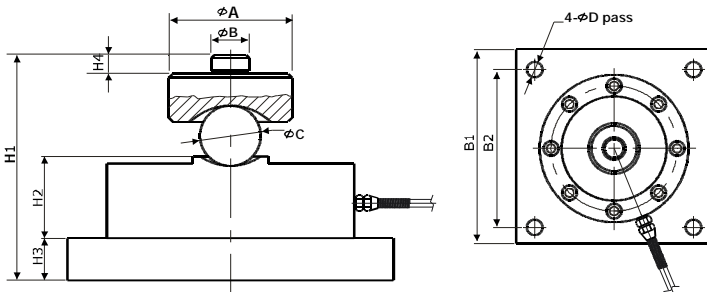
**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



CAP./SIZE	φA	φB	φC	φD	H1	H2	H3	H4	B1	B2
0.5, 1, 2, 3t	39	15	25.4	11	88.7	34.8	18	10	138	112
5, 10t	48	20	38.1	13	123.9	47.8	20	10	160	130
20, 3t	88	30	50.8	18	162.6	57.2	25	11	170	133
40, 50, 60t	96.5	40	76.2	22	193.8	58	30	11	220	180

## Circuit Diagram 电路图

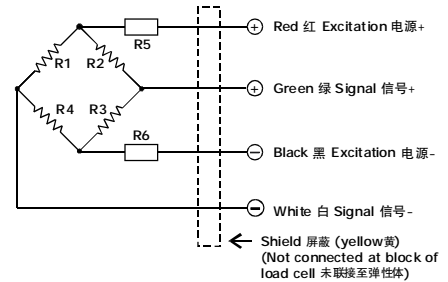
### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:  
0.5-3t: 3 m, 5-10: 6m, 20-60t: 13m.

Diameter: φ 6

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else,  
it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	0.5-60	t
Maximal numbers of load cell verification Intervals 最大检定分度数 (N <sub>ic</sub> ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0 ± 0.1%	mV/V
*Combined error 综合误差:	0.015	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance (R <sub>ic</sub> ) 输入阻抗:	775 ± 5	Ω (Ohms)
Output resistance (R <sub>o</sub> ) 输出阻抗:	702 ± 2	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥ 5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	°C / °F
Recommend excitation 推荐工作电压:	8-15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.

综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求。

# LFT Wheel shaped load cell 轮辐式传感器

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
0.5, 1, 2, 3, 5, 7.5, 10, 20, 30t .

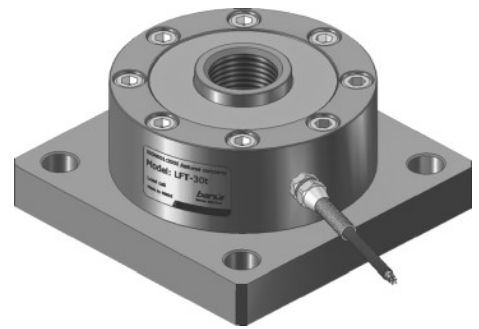
**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Accuracy 精度:**  
C3 OIML R60.

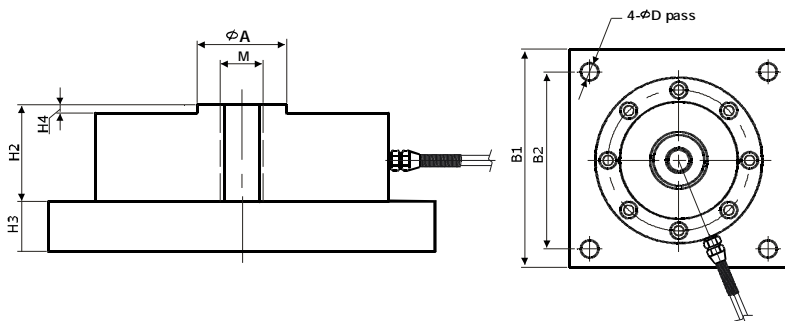
**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



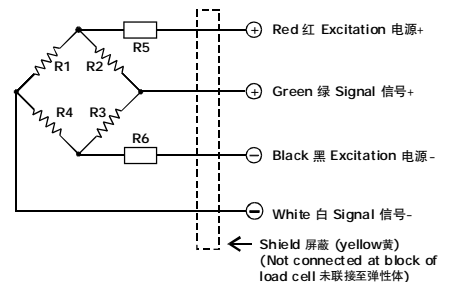
CAP./SIZE	φA	φD	M	H2	H3	H4	B1	B2
0.5, 1, 2, 3t	29	11	16	34.8	18	3	138	112
5, 10t	39	13	32x2	47.8	20	6.4	160	130
20, 30t	50.4	18	39x3	57.2	25	6.4	170	133

## Circuit Diagram 电路图

### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:  
0.5~3t: 3 m, 5~10: 6m, 20~30t: 13m.  
Diameter: φ6

Connection 接线方式:  
Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	0.5~60	t
Maximal numbers of load cell verification Intervals 最大检定分度数 ( $N_k$ ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 ( $V_{min}$ ):	0.01	% of rated load
Rated output 额定输出 ( $C_n$ ):	2.0±0.1%	mV/V
*Combined error 综合误差:	0.015	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance( $R_{ic}$ ) 输入阻抗:	775 ± 5	Ω (Ohms)
Output resistance( $R_o$ ) 输出阻抗:	702 ± 2	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	°C / °F
Recommend excitation 推荐工作电压:	8~15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

The data for deviation of synthesis error,TK0,TKc are typicl values.The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值,它最终将符合OIML R60中的相应条款的要求.

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# BRN Torsional ring load cell 扭环式传感器

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
25,30,40,50,60t.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Accuracy 精度:**  
C3 OIML R60.

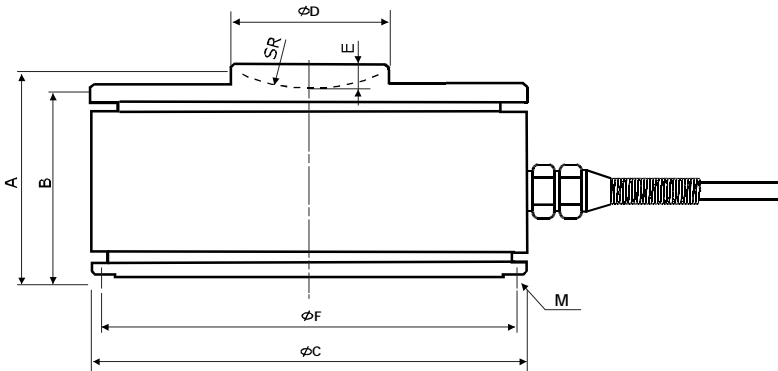
**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



CAP./SIZE	A	B	C	D	E	F	M	SR
25-30t	53	46	120	45	4.5	112	8-M5	40
40-60t	70	63	140	51	4.5	130	8-M5	60

## Circuit Diagram 电路图

### Electrical Termination 电路终端

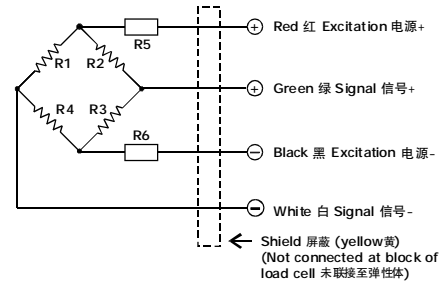
4 Core cable standard lengths 电缆长度:

$\leq 30t$ : 12.0 m,  $\geq 40t$ : 18m.

Diameter:  $\phi 6$

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else,  
it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	25,30,40,50,60	t
Maximal numbers of load cell verification Intervals 最大检定分度数 ( $N_{lc}$ ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 ( $V_{min}$ ):	0.01	% of rated load
Rated output 额定输出 ( $C_n$ ):	$2.0 \pm 0.1\%$	mV/V
*Combined error 综合误差:	0.015	$\pm\%$ of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	$\pm\%$ of rated output/ $^{\circ}C$
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	$\pm\%$ of rated output/ $^{\circ}C$
Zero balance 零点平衡:	1.0	$\pm\%$ of rated output
Input resistance ( $R_{ic}$ ) 输入阻抗:	$1550 \pm 5$	$\Omega$ (Ohms)
Output resistance ( $R_o$ ) 输出阻抗:	$1402 \pm 2$	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq 5000$	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	$^{\circ}C$ / $^{\circ}F$
Recommend excitation 推荐工作电压:	8~24	V (DC or AC)
Maximum excitation 最大工作电压:	48	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.

综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求。



# BRN-M Torsional ring module 扭环式模块

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
25,30,40,50,60t.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢。

**Accuracy 精度:**  
C3 OIML R60.

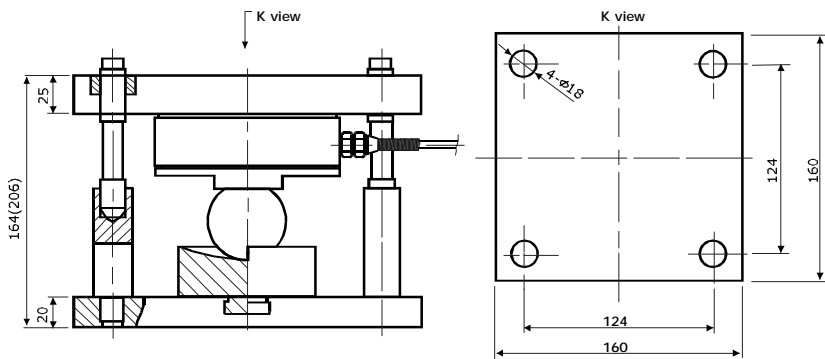
**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



Note:  
(\*\*) are for BRN-M-40~60t

## Circuit Diagram 电路图

### Electrical Termination 电路终端

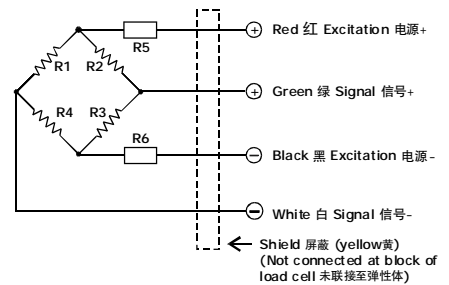
4 Core cable standard lengths 电缆长度:

<=30t: 12.0 m, >=40t: 18m.

Diameter:  $\phi 6$

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形。



### Notice 注意:

Do not change the length of cable, or else,  
it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度。

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	25,30,40,50,60	t
Maximal numbers of load cell verification Intervals 最大检定分度数 ( $N_k$ ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 ( $V_{min}$ ):	0.01	% of rated load
Rated output 额定输出 ( $C_n$ ):	2.0 $\pm$ 0.1%	mV/V
*Combined error 综合误差:	0.015	$\pm$ % of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	$\pm$ % of rated output/ $^{\circ}$ C
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	$\pm$ % of rated output/ $^{\circ}$ C
Zero balance 零点平衡:	1.0	$\pm$ % of rated output
Input resistance( $R_{ic}$ ) 输入阻抗:	1550 $\pm$ 5	$\Omega$ (Ohms)
Output resistance( $R_o$ ) 输出阻抗:	1402 $\pm$ 2	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq$ 5000	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70/-20 ~ +160	$^{\circ}$ C / $^{\circ}$ F
Recommend excitation 推荐工作电压:	8~24	V (DC or AC)
Maximum excitation 最大工作电压:	48	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

The data for deviation of synthesis error,TK0,TKc are typicl values.The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值,它最终将符合OIML R60中的相应条款的要求。

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# BRN-MA Torsional ring module 扭环式模块

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
25, 30, 40, 50, 60t.

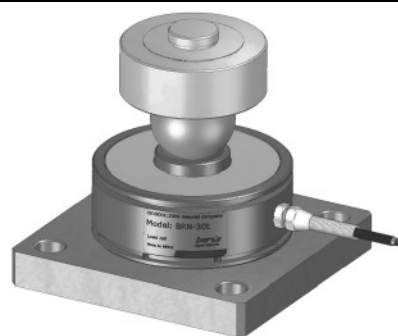
**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Accuracy 精度:**  
C3 OIML R60.

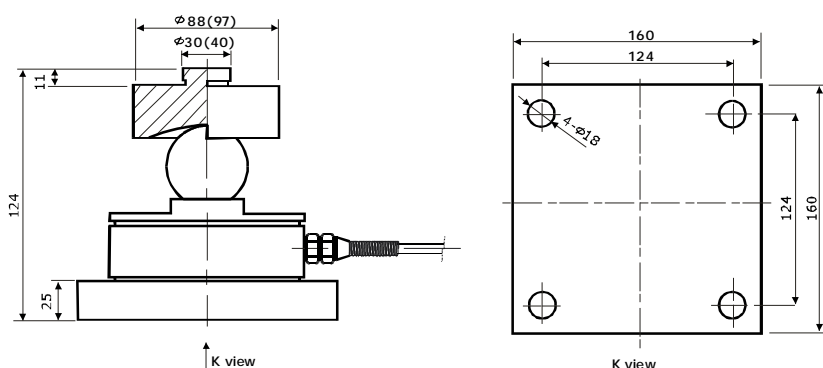
**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(1 in mm. 1mm = 0.03937 inches)



Note:  
(\*\*) are for BRN-M-40-60t

## Circuit Diagram 电路图

**Electrical Termination 电路终端**

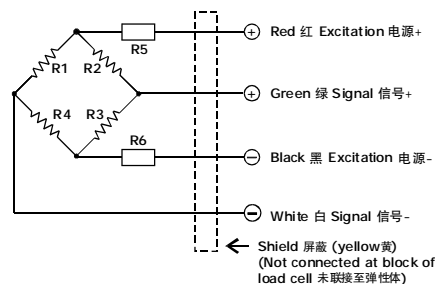
4 Core cable standard lengths 电缆长度:

$\leq 30t$ : 12.0 m,  $> 40t$ : 18m.

Diameter:  $\phi 6$

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



**Notice 注意:**

Do not change the length of cable, or else,  
it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	25, 30, 40, 50, 60	t
Maximal numbers of load cell verification Intervals 最大检定分度数 ( $N_{lc}$ ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 ( $V_{min}$ ):	0.01	% of rated load
Rated output 额定输出 ( $C_n$ ):	$2.0 \pm 0.1\%$	mV/V
*Combined error 综合误差:	0.015	$\pm\%$ of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	$\pm\%$ of rated output/ $^{\circ}C$
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	$\pm\%$ of rated output/ $^{\circ}C$
Zero balance 零点平衡:	1.0	$\pm\%$ of rated output
Input resistance ( $R_{lc}$ ) 输入阻抗:	$1550 \pm 5$	$\Omega$ (Ohms)
Output resistance ( $R_o$ ) 输出阻抗:	$1402 \pm 2$	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq 5000$	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	$^{\circ}C$ / $^{\circ}F$
Recommend excitation 推荐工作电压:	8 ~ 24	V (DC or AC)
Maximum excitation 最大工作电压:	48	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.

综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求。

# RNT Torsional ring load cell 扭环式传感器

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
1, 2.2, 4.7, 10, 22, 33, 47, 68, 100,  
150, 220, 330, 470t.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Accuracy 精度:**  
C3 OIML R60.

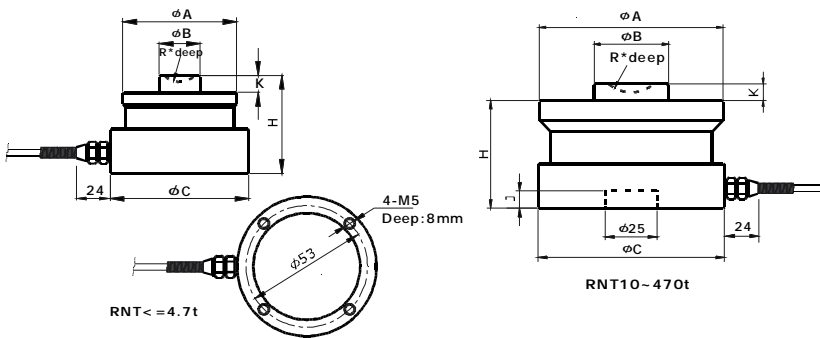
**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



CAP./SIZE	1t	2.2t	4.7t	10t	15t	22t	33t	47t	68t	100t	150t	220t	330t	470t
$\phi A$	49	49	49	74	75	75	95	130	130	150	150	225	225	270
$\phi B$	20	20	20	30	30	30	40	60	60	70	70	100	100	120
$\phi C$	60	60	60	75	75	75	95	130	130	150	150	225	225	270
H	43	43	43	50	50	50	65	75	85	90	100	130	145	170
J	-	-	-	7	7	7	7	7	7	7	7	10	10	10
K	7.5	7.5	7.5	6.5	6.5	6.5	10	14	14	16	16	24	24	28
R	15	15	15	25.4	25.4	25.4	50	60	-	-	-	-	-	-
	2.2	2.2	2.2	3.3	3.3	3.3	3.3	5.1	-	-	-	-	-	-

## Circuit Diagram 电路图

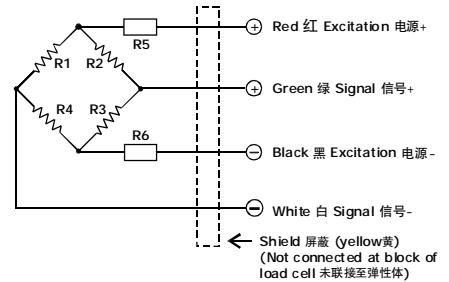
**Electrical Termination 电路终端**

4 Core cable standard lengths 电缆长度:  
<= 15t: 5.0 m, 22~68t: 13m, >=100t: 5.0m.

Diameter:  $\phi 6$

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



**Notice 注意:**

Do not change the length of cable, or else,  
it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	1~470t	t
Maximal numbers of load cell verification Intervals 最大检定分度数 ( $N_c$ ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 ( $V_{min}$ ):	0.01	% of rated load
Rated output 额定输出 ( $C_n$ ):	2.0 $\pm$ 0.1%	mV/V
*Combined error 综合误差:	0.015	$\pm$ % of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	$\pm$ % of rated output/ $^{\circ}$ C
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	$\pm$ % of rated output/ $^{\circ}$ C
Zero balance 零点平衡:	1.0	$\pm$ % of rated output
Input resistance( $R_{ic}$ ) 输入阻抗:	775 $\pm$ 5/ >= 33t: 1550 $\pm$ 10	$\Omega$ (Ohms)
Output resistance( $R_o$ ) 输出阻抗:	702 $\pm$ 2/ >= 33t: 1402 $\pm$ 2	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq$ 5000	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20~+70/-20~+160	$^{\circ}$ C / $^{\circ}$ F
Recommend excitation 推荐工作电压:	8~24	V (DC or AC)
Maximum excitation 最大工作电压:	48	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

The data for deviation of synthesis error,TK0,TKc are typical values.The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值,它最终将符合OIML R60中的相应条款的要求.

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# RNT-M Torsional ring module 扭环式模块

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
1, 2, 2.4, 7, 10, 22, 33, 47t.

**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

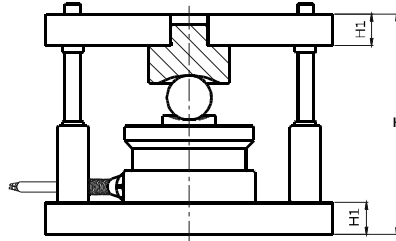
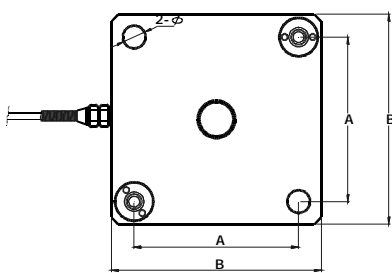
**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



CAP./SIZE	A	B	H	H1	φ
1-4.7t	94	120	114.4	18	13
10-22t	94	120	137.8	18	13
33t	105	130	181.1	22	18
47t	124	160	228.7	22	18

## Circuit Diagram 电路图

### Electrical Termination 电路终端

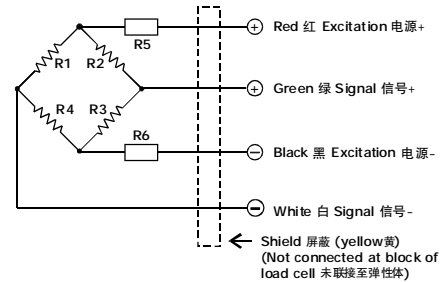
4 Core cable standard lengths 电缆长度:

<= 15t: 5.0 m, 22~68t: 13m.

Diameter: φ 6

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	1, 2, 2.4, 7, 10, 22, 33, 47	t
Maximal numbers of load cell verification Intervals 最大检定分度数 ( $N_{lc}$ ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 ( $V_{min}$ ):	0.01	% of rated load
Rated output 额定输出 ( $C_n$ ):	$2.0 \pm 0.1\%$	mV/V
*Combined error 综合误差:	0.015	$\pm\%$ of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	$\pm\%$ of rated output/ $^{\circ}C$
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	$\pm\%$ of rated output/ $^{\circ}C$
Zero balance 零点平衡:	1.0	$\pm\%$ of rated output
Input resistance ( $R_{ic}$ ) 输入阻抗:	$775 \pm 5 / >= 33t: 1550 \pm 10$	$\Omega$ (Ohms)
Output resistance ( $R_o$ ) 输出阻抗:	$702 \pm 2 / >= 33t: 1402 \pm 2$	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq 5000$	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	$^{\circ}C / ^{\circ}F$
Recommend excitation 推荐工作电压:	8~24	V (DC or AC)
Maximum excitation 最大工作电压:	48	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.

综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.



# RNT-MA Torsional ring module 扭环式模块

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
1,2,2,4,7,10,22,33,47t.

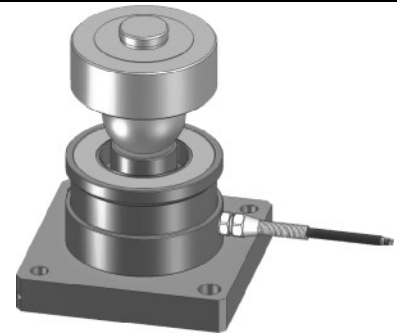
**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢。

**Accuracy 精度:**  
C3 OIML R60.

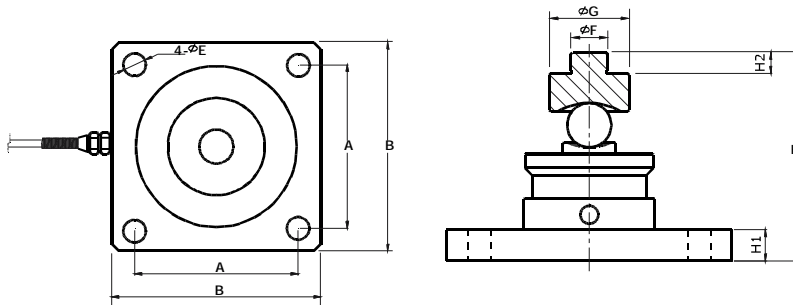
**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



CAP./SIZE	A	B	H	H1	H2	φE	φF	φG
1~4.7t	94	120	108.4	18	12	13	21.5	39
10~22t	94	120	131.8	18	12	13	21.5	46
33t	105	130	159.1	22	8	18	30	88
47t	124	160	217.7	22	11	18	40	97

## Circuit Diagram 电路图

### Electrical Termination 电路终端

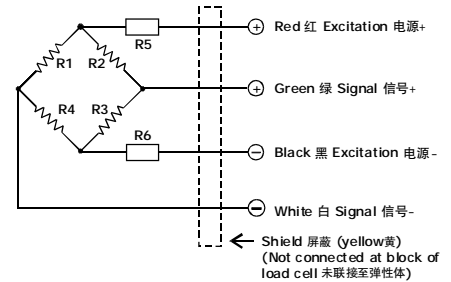
4 Core cable standard lengths 电缆长度:

<= 15t: 5.0 m, 22~68t: 13m.

Diameter: φ6

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形。



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度。

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	1,2,2,4,7,10,22,33,47	t
Maximal numbers of load cell verification Intervals 最大检定分度数 (Nk):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0±0.1%	mV/V
*Combined error 综合误差:	0.015	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance(R <sub>ic</sub> ) 输入阻抗:	775±5 / >= 33t: 1550±10	Ω (Ohms)
Output resistance(R <sub>o</sub> ) 输出阻抗:	702±2 / >= 33t: 1402±2	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	°C / °F
Recommend excitation 推荐工作电压:	8~24	V (DC or AC)
Maximum excitation 最大工作电压:	48	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

The data for deviation of synthesis error,TK0,TKc are typicl values.The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值,它最终将符合OIML R60中的相应条款的要求。

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# QS Double beam load cell 桥式传感器

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
10,20,30,40,50t.

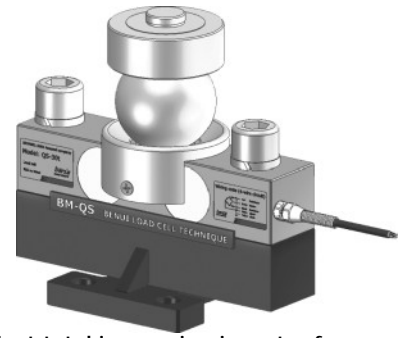
**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

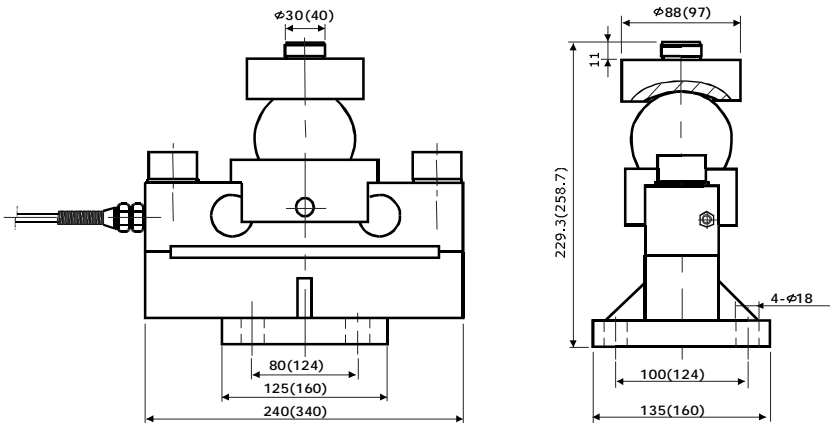
**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



Note:  
(\*\*) are for QS-40-50t

## Circuit Diagram 电路图

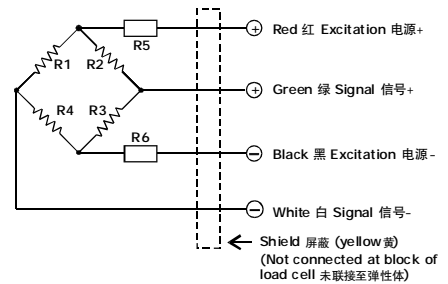
### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:  
<=30t: 12.0 m, >=40t: 18m.

Diameter:  $\phi 6$

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else,  
it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item 项目 \ Parameter 参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	10,20,30,40,50	t
Maximal numbers of load cell verification Intervals 最大检定分度数 (N <sub>lc</sub> ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0 ± 0.1%	mV/V
* Combined error 综合误差:	0.015	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (T <sub>kc</sub> ):	0.0012	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (T <sub>k0</sub> ):	0.0008	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance (R <sub>ic</sub> ) 输入阻抗:	775 ± 5	Ω (Ohms)
Output resistance (R <sub>o</sub> ) 输出阻抗:	702 ± 2	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥ 5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	°C / °F
Recommend excitation 推荐工作电压:	8-15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, T<sub>k0</sub>, T<sub>kc</sub> are typical values. The sum of these data meets the requirements according to OIML R60.

综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求。

# QS-S Double beam load cell 桥式传感器

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
10,20,30,40t.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Accuracy 精度:**  
C3 OIML R60.

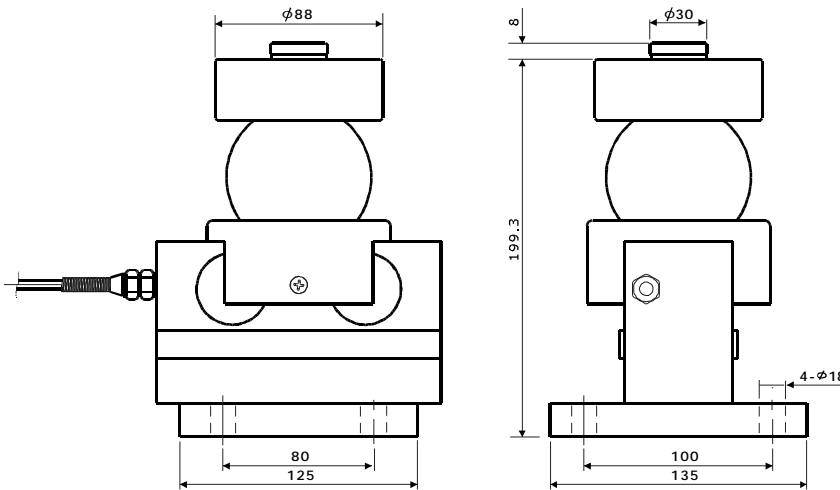
**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



## Circuit Diagram 电路图

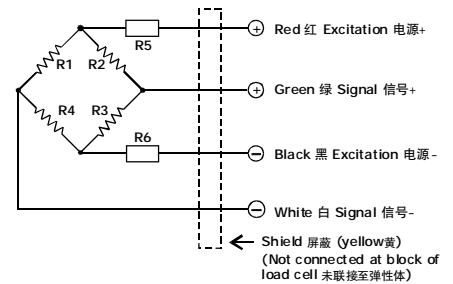
### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:  
<=30t: 12.0 m, >=40t: 18m.

Diameter:  $\phi 6$

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else,  
it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	10,20,30,40	t
Maximal numbers of load cell verification Intervals 最大检定分度数 ( $N_k$ ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 ( $V_{min}$ ):	0.01	% of rated load
Rated output 额定输出 ( $C_n$ ):	$2.0 \pm 0.1\%$	mV/V
*Combined error 综合误差:	0.015	$\pm$ % of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	$\pm$ % of rated output / $^{\circ}C$
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	$\pm$ % of rated output / $^{\circ}C$
Zero balance 零点平衡:	1.0	$\pm$ % of rated output
Input resistance ( $R_{ic}$ ) 输入阻抗:	$775 \pm 5$	$\Omega$ (Ohms)
Output resistance ( $R_o$ ) 输出阻抗:	$702 \pm 2$	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq 5000$	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	$^{\circ}C / ^{\circ}F$
Recommend excitation 推荐工作电压:	8-15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.

# QS-S2 Double beam load cell 桥式传感器

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
10,20,30,40t.

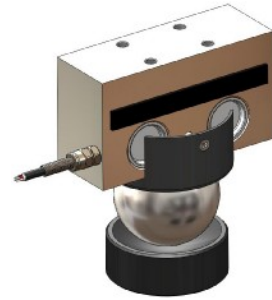
**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

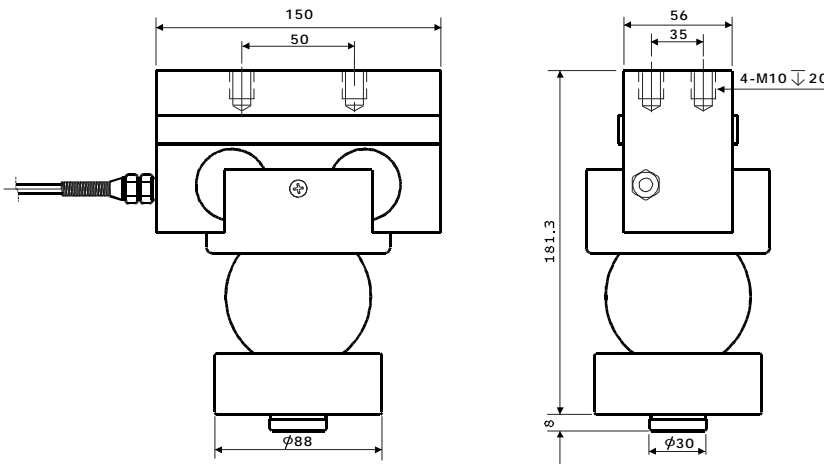
**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



## Circuit Diagram 电路图

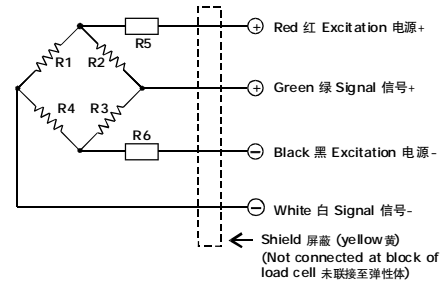
### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:  
<=30t: 12.0 m, >=40t: 18m.

Diameter: φ6

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else,  
it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷(E <sub>max</sub> ):	10,20,30,40	t
Maximal numbers of load cell verification Intervals 最大检定分度数 (N <sub>lc</sub> ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0 ± 0.1%	mV/V
* Combined error 综合误差:	0.015	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (TKo):	0.0008	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance(R <sub>ic</sub> ) 输入阻抗:	775 ± 5	Ω (Ohms)
Output resistance(R <sub>o</sub> ) 输出阻抗:	702 ± 2	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	°C / °F
Recommend excitation 推荐工作电压:	8~15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TKo, TKc are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.



# LP Double beam load pin 轴销式传感器

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
1,2,3,5,10t.

**Accuracy 精度:**  
C2 OIML R60.

**Output 额定输出:**  
2.0mV/V  
4~20mA  
0~5V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.027%

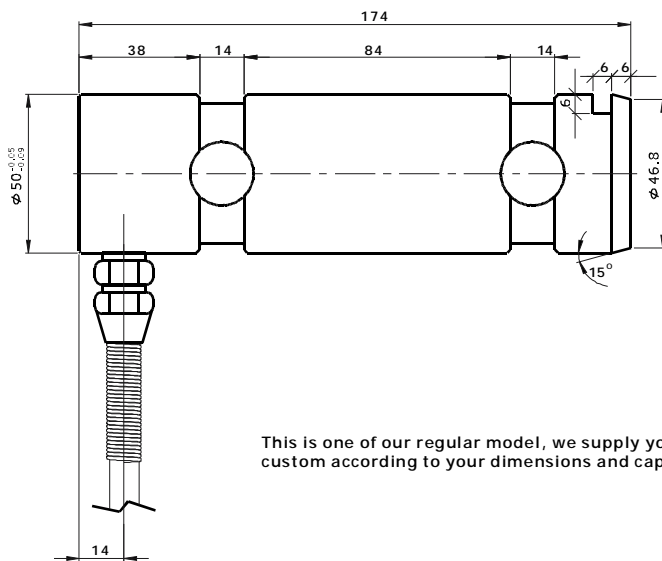
**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



This is one of our regular model, we supply your custom according to your dimensions and capacity

## Circuit Diagram 电路图

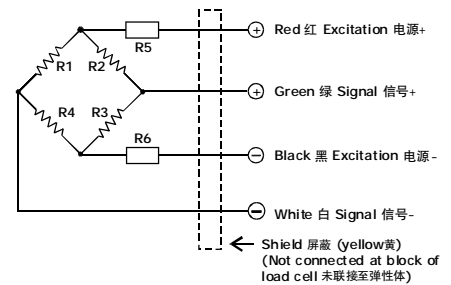
### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:  
<=30t: 12.0 m, >=40t: 18m.

Diameter:  $\phi$  6

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C2	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	1,2,3,5,10	t
Maximal numbers of load cell verification Intervals 最大检定分度数 ( $N_k$ ):	2000	d
Minimum load cell verification intervals Intervals 最小检定分度值 ( $V_{min}$ ):	0.02	% of rated load
Rated output 额定输出 ( $C_n$ ):	2.0 $\pm$ 0.1%	mV/V
*Combined error 综合误差:	0.027	$\pm$ % of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0024	$\pm$ % of rated output/ $^{\circ}$ C
Temperature effect on zero balance 零点温度影响 (TK0):	0.002	$\pm$ % of rated output/ $^{\circ}$ C
Zero balance 零点平衡:	1.0	$\pm$ % of rated output
Input resistance( $R_{ic}$ ) 输入阻抗:	775 $\pm$ 5	$\Omega$ (Ohms)
Output resistance( $R_o$ ) 输出阻抗:	702 $\pm$ 2	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq$ 5000	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	$^{\circ}$ C / $^{\circ}$ F
Recommend excitation 推荐工作电压:	8~15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

The data for deviation of synthesis error,TK0,TKc are typicl values.The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值,它最终将符合OIML R60中的相应条款的要求.

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# QSA Double beam load cell 桥式传感器

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
10,20,25,35,50,75,100klbs.

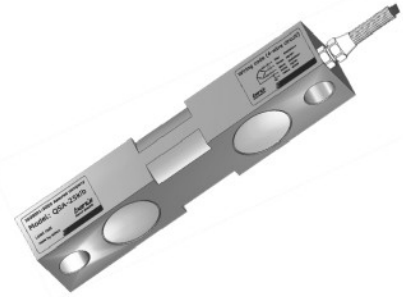
**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

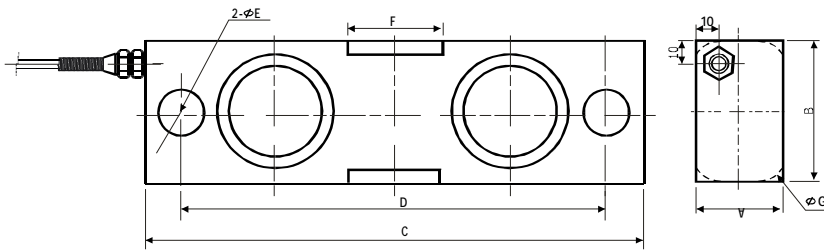
**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



CAP./SIZE	A	B	C	D	E	F	G
10~25klb	36.6	49.3	222.2	190.5	20.6	41.1	50.5
35klb	38.1	63.5	222.2	190.5	20.6	41.1	64.8
50~75klb	62	74.7	393.7	292.1	33.3	82.5	75.9
100klb	74.7	100.1	469.9	381.0	41.4	82.5	107.9

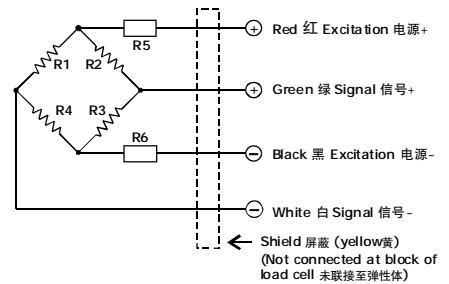
## Circuit Diagram 电路图

### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:  
<=35klbs: 6.0 m, >=50klbs: 12.0m.

Diameter: φ 6

Connection 接线方式:  
Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.  
不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	10,20,25,35,50,75,100	klbs
Maximal numbers of load cell verification Intervals 最大检定分度数 (N <sub>ic</sub> ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0 ± 0.1%	mV/V
*Combined error 综合误差:	0.015	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance(R <sub>ic</sub> ) 输入阻抗:	775 ± 5	Ω (Ohms)
Output resistance(R <sub>o</sub> ) 输出阻抗:	702 ± 2	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥ 5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	°C / °F
Recommend excitation 推荐工作电压:	8~15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

The data for deviation of synthesis error,TKo,TKc are typicl values.The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值,它最终将符合OIML R60中的相应条款的要求.

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# QSA-M

# QSA module 桥式模块

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
10,20,25,35,50,75,100klbs.

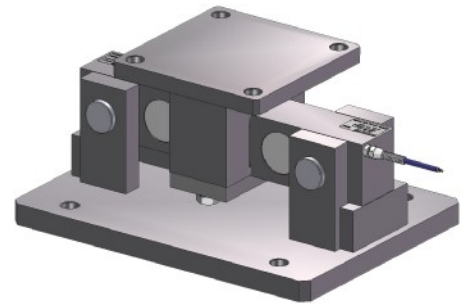
**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Accuracy 精度:**  
C3 OIML R60.

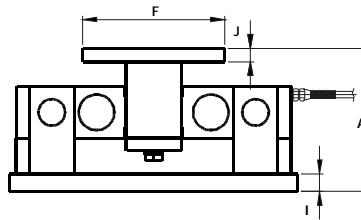
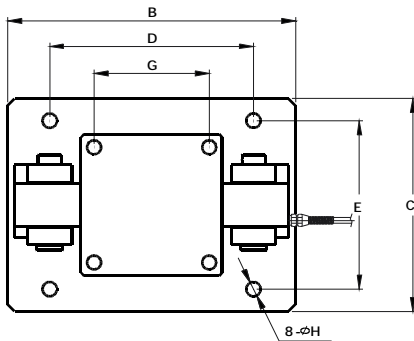
**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In inch. 1 inch = 25.4 mm)



CAP./SIZE (klb)	A	B	C	D	E	F	G	H	I	J
10~25	7.90	12.00	8.00	7.50	6.00	8.00	6.00	0.78	0.75	0.75
50~75	9.30	16.25	12.00	11.5	9.50	9.00	6.50	0.78	1.00	1.00
100~125	11.75	23.50	14.00	20.00	12.00	10.00	8.00	1.12	1.50	1.50

## Circuit Diagram 电路图

### Electrical Termination 电路终端

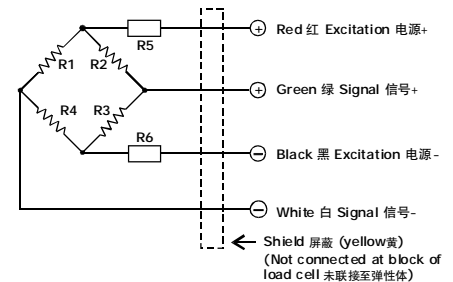
4 Core cable standard lengths 电缆长度:  
<=35klbs: 6.0 m, >=50klbs: 12.0m.

Diameter: φ6

Connection 接线方式:

Refer to the following drawing.

参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	10,20,25,35,50,75,100	klbs
Maximal numbers of load cell verification Intervals 最大检定分度数 (Nk):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0 ± 0.1%	mV/V
*Combined error 综合误差:	0.015	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance (R <sub>ic</sub> ) 输入阻抗:	775 ± 5	Ω (Ohms)
Output resistance (R <sub>o</sub> ) 输出阻抗:	702 ± 2	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥ 5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	°C / °F
Recommend excitation 推荐工作电压:	8~15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

The data for deviation of synthesis error, TK<sub>0</sub>, TK<sub>c</sub> are typical values. The sum of these data meets the requirements according to OIML R60.  
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# QSB Double beam load cell 桥式传感器

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
10, 20, 25, 35, 50, 75klbs.

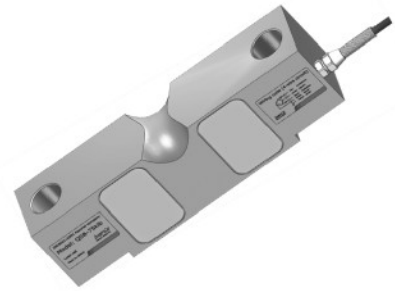
**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

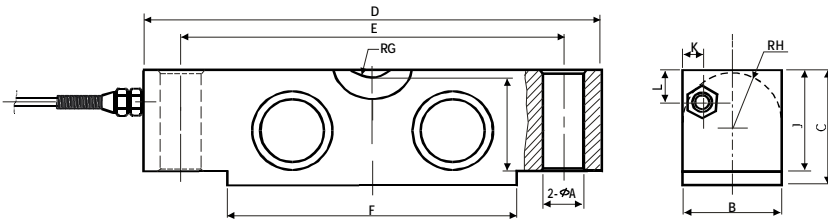
**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(1 in mm. 1mm = 0.03937 inches)



CAP./SIZE (klb)	A	B	C	D	E	F	G	H	I	J	K	L
10~25	17.3	42.9	49.3	196.9	165.1	125.1	19.1	22.9	41.4	43.2	8.8	13.6
40	20.6	49.3	62.0	260.4	215.9	162.4	25.4	28.5	50.8	53.3	9.0	31.0
50~75	27.0	60.2	74.7	260.4	215.9	162.4	25.4	34.8	64.5	67.3	10.4	37.4

## Circuit Diagram 电路图

### Electrical Termination 电路终端

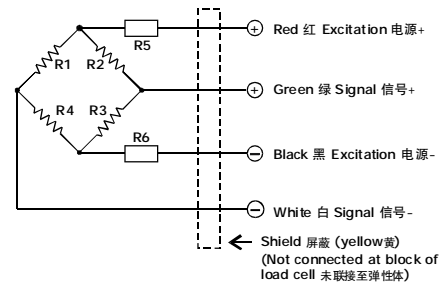
4 Core cable standard lengths 电缆长度:  
<=40klbs: 6.0 m, >=50klbs: 12.0m.

Diameter:  $\phi 6$

Connection 接线方式:

Refer to the following drawing.

参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	10,20,25,35,50,75	klbs
Maximal numbers of load cell verification Intervals 最大检定分度数 ( $N_{lc}$ ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 ( $V_{min}$ ):	0.01	% of rated load
Rated output 额定输出 ( $C_n$ ):	$2.0 \pm 0.1\%$	mV/V
*Combined error 综合误差:	0.015	$\pm\%$ of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	$\pm\%$ of rated output/ $^{\circ}C$
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	$\pm\%$ of rated output/ $^{\circ}C$
Zero balance 零点平衡:	1.0	$\pm\%$ of rated output
Input resistance ( $R_{lc}$ ) 输入阻抗:	$775 \pm 5$	$\Omega$ (Ohms)
Output resistance ( $R_o$ ) 输出阻抗:	$702 \pm 2$	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq 5000$	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	$^{\circ}C / ^{\circ}F$
Recommend excitation 推荐工作电压:	8~15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.



# QSB-M QSB module 桥式模块

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
10,20,25,35,50,75klbs.

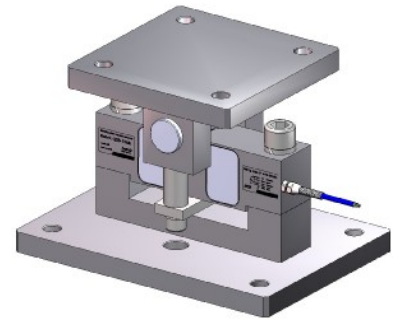
**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Accuracy 精度:**  
C3 OIML R60.

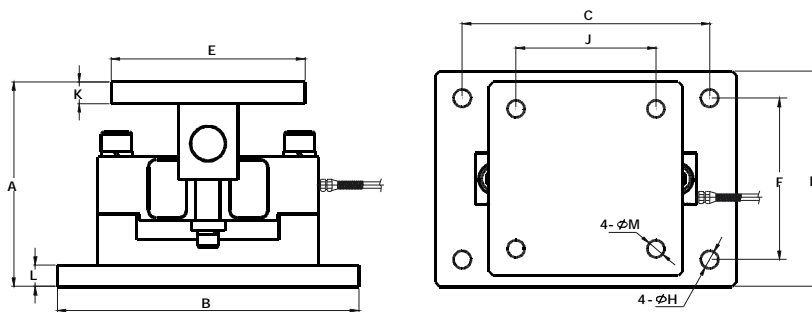
**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In inch. 1 inch = 25.4 mm)



CAP./SIZE (klb)	A	B	C	D	E	F	H	J	K	L	M
10~25	6.50	10.00	7.50	8.00	8.00	6.00	0.78	6.00	0.75	0.75	0.78
40	7.80	14.00	11.50	10.00	8.00	7.50	1.12	6.00	0.75	1.00	0.78
50~75	9.50	14.00	11.50	10.00	9.00	7.50	1.12	6.50	1.00	1.00	1.12

## Circuit Diagram 电路图

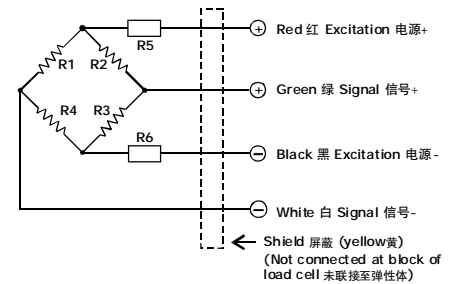
### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:  
<=40klbs: 6.0 m, >=50klbs: 12.0m..

Diameter:  $\phi 6$

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	10,20,25,35,50,75	klbs
Maximal numbers of load cell verification Intervals 最大检定分度数 (N <sub>k</sub> ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0 ± 0.1%	mV/V
*Combined error 综合误差:	0.015	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance (R <sub>ic</sub> ) 输入阻抗:	775 ± 5	Ω (Ohms)
Output resistance (R <sub>o</sub> ) 输出阻抗:	702 ± 2	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥ 5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	°C / °F
Recommend excitation 推荐工作电压:	8 ~ 15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

The data for deviation of synthesis error, TK<sub>0</sub>, TK<sub>c</sub> are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合 OIML R60 中的相应条款的要求.

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# QSC Double beam load cell 桥式传感器

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
5, 10, 20, 30, 60, 100, 150, 200klbs.

**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

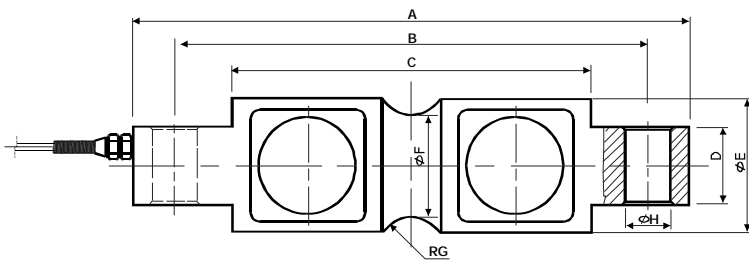
**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



CAP./SIZE	A	B	C	D	E	F	G	H
5-10klb	206.3	174.8	133.1	28.5	43.2	37.6	12.7	16.8
20klb	206.3	174.8	133.1	28.5	49.3	37.6	12.7	16.8
30-60klb	260.4	215.9	164.8	60.2	76.2	69.3	25.4	26.9
100klb	285.8	241.3	190.2	63.5	95.3	82.3	25.4	26.9
150klb	285.8	241.3	190.2	71.1	99.1	92.5	38.1	26.9
200klb	409.0	330.2	254.0	116.8	136.7	131.1	50.8	39.6

## Circuit Diagram 电路图

### Electrical Termination 电路终端

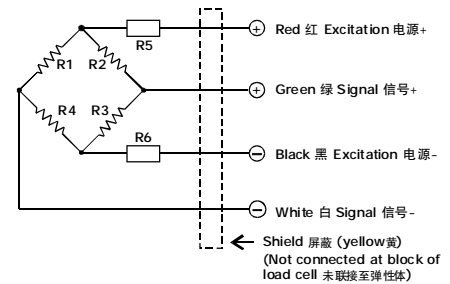
4 Core cable standard lengths 电缆长度:  
<=30klbs: 6.0 m, >=50klbs: 12.0m.

Diameter:  $\phi 6$

Connection 接线方式:

Refer to the following drawing.

参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	5, 10, 20, 30, 60, 100, 150, 200	klbs
Maximal numbers of load cell verification Intervals 最大检定分度数 ( $N_{lc}$ ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 ( $V_{min}$ ):	0.01	% of rated load
Rated output 额定输出 ( $C_n$ ):	$2.0 \pm 0.1\%$	mV/V
*Combined error 综合误差:	0.015	$\pm\%$ of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	$\pm\%$ of rated output/ $^{\circ}C$
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	$\pm\%$ of rated output/ $^{\circ}C$
Zero balance 零点平衡:	1.0	$\pm\%$ of rated output
Input resistance ( $R_{lc}$ ) 输入阻抗:	$775 \pm 5$	$\Omega$ (Ohms)
Output resistance ( $R_o$ ) 输出阻抗:	$702 \pm 2$	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq 5000$	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	$^{\circ}C / ^{\circ}F$
Recommend excitation 推荐工作电压:	8-15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.

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# QSC-M QSC module 桥式模块

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
5, 10, 20, 30, 60, 100, 150, 200klbs.

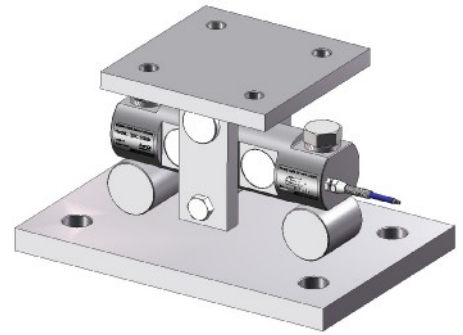
**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Accuracy 精度:**  
C3 OIML R60.

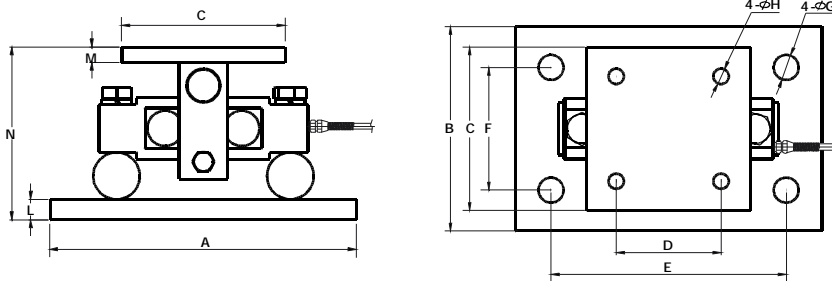
**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In inch. 1 inch = 25.4 mm)



CAP./SIZE (klb)	A	B	C	D	E	F	G	H	L	M	N
5~20	11.00	8.00	5.50	3.00	8.00	4.00	1.06	0.63	0.75	0.50	5.48
30~75	15.00	10.00	8.00	5.13	11.50	6.00	1.22	0.75	1.00	0.75	8.43
100~150	18.00	12.00	10.00	7.50	14.00	9.00	1.38	0.81	1.25	1.25	10.39
200	26.00	12.00	12.00	9.00	20.00	9.00	1.88	1.06	2.00	2.00	15.73

## Circuit Diagram 电路图

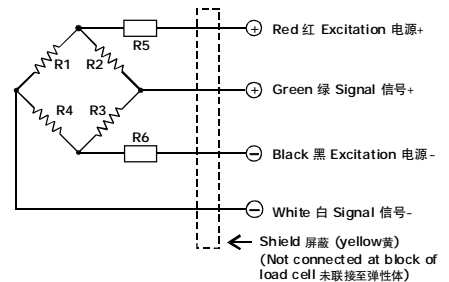
### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:  
<=30klbs: 6.0 m, >=50klbs: 12.0m.

Diameter:  $\phi 6$

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	5, 10, 20, 30, 60, 100, 150, 200	klbs
Maximal numbers of load cell verification Intervals 最大检定分度数 ( $N_k$ ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 ( $V_{min}$ ):	0.01	% of rated load
Rated output 额定输出 ( $C_n$ ):	$2.0 \pm 0.1\%$	mV/V
* Combined error 综合误差:	0.015	$\pm$ % of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	$\pm$ % of rated output / $^{\circ}C$
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	$\pm$ % of rated output / $^{\circ}C$
Zero balance 零点平衡:	1.0	$\pm$ % of rated output
Input resistance ( $R_{ic}$ ) 输入阻抗:	$775 \pm 5$	$\Omega$ (Ohms)
Output resistance ( $R_o$ ) 输出阻抗:	$702 \pm 2$	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq 5000$	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	$^{\circ}C$ / $^{\circ}F$
Recommend excitation 推荐工作电压:	8~15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.

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中文网站 http://www.benui.com.cn www.benui.cn

# QSF Double beam load cell 桥式传感器

## Description 主要特性

**Capacities 定量程额: ( $E_{max}$ )**  
10,22,30,45,50,75,100klbs.

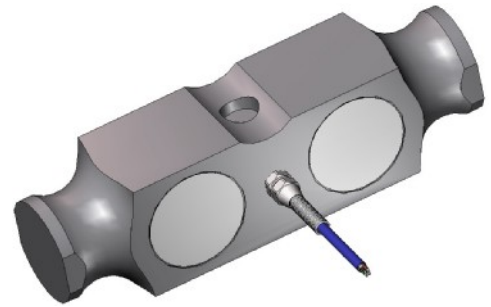
**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

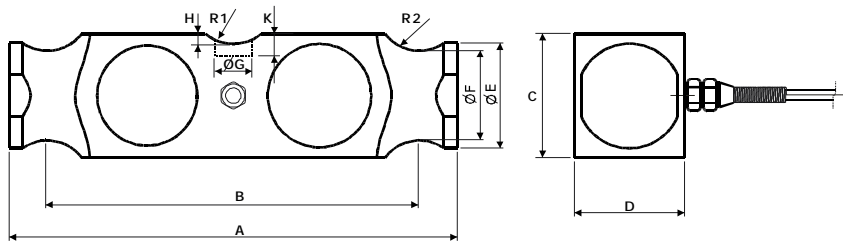
**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



CAP./SIZE	A	B	C	D	E	F	G	H	K	R1	R2
10~45 klbs	260	216	72	64	61	52	22	6	19	25.4	25.4
50~100 klbs	292	254	86	76	70	60	30	10	25	38.1	38.1

## Circuit Diagram 电路图

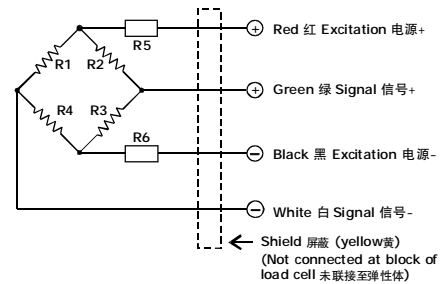
### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:  
<=30t: 12.0 m, >=40t: 18m.

Diameter:  $\phi 6$

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	10,22,30,45,50,75,100	klbs
Maximal numbers of load cell verification Intervals 最大检定分度数 ( $N_{lc}$ ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 ( $V_{min}$ ):	0.01	% of rated load
Rated output 额定输出 ( $C_n$ ):	$3.0 \pm 0.1\%$	mV/V
*Combined error 综合误差:	0.015	$\pm\%$ of rated output
Temperature effect on sensitivity 灵敏度温度影响 ( $T_{kc}$ ):	0.0012	$\pm\%$ of rated output/ $^{\circ}C$
Temperature effect on zero balance 零点温度影响 ( $T_{k0}$ ):	0.0008	$\pm\%$ of rated output/ $^{\circ}C$
Zero balance 零点平衡:	1.0	$\pm\%$ of rated output
Input resistance ( $R_{lc}$ ) 输入阻抗:	$775 \pm 5$	$\Omega$ (Ohms)
Output resistance ( $R_o$ ) 输出阻抗:	$702 \pm 2$	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq 5000$	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	$^{\circ}C / ^{\circ}F$
Recommend excitation 推荐工作电压:	8~15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error,  $T_{k0}$ ,  $T_{kc}$  are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.



# YB Fish dorsal part load cell 鱼背式传感器

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
1,2,3,5,7.5,10,20,30,40,50,60t.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Accuracy 精度:**  
C3 OIML R60.

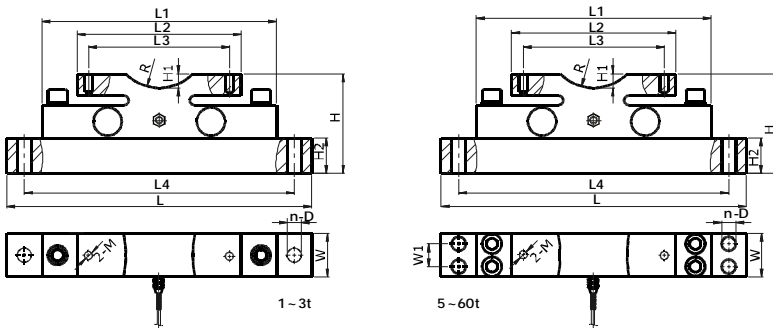
**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



CAP./SIZE	L	L1	L2	L3	L4	H	H1	H2	W	W1	M	n-D	R
1,2,3t	320	230	145	120	275	85	18	25	40	-	M12	2- $\phi$ 18	60
5,7,10t	310	240	145	120	275	100	18	30	50	25	M12	4- $\phi$ 13	60
15,20,30t	390	300	210	180	345	127	20	45	56	29	M16	4- $\phi$ 18	80
40,50,60t	500	395	235	200	445	173	21	67	86	45	M20	4- $\phi$ 22	90

## Circuit Diagram 电路图

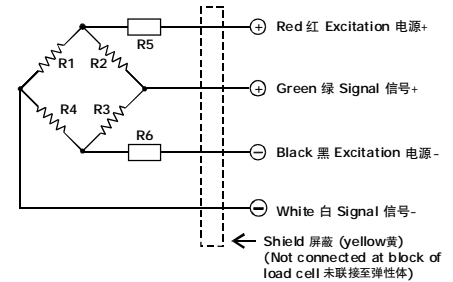
### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:  
1-3t: 3m, 5-10t: 6m, >=20t:10m.

Diameter:  $\phi$ 6

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else,  
it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	1~60	t
Maximal numbers of load cell verification Intervals 最大检定分度数 ( $N_k$ ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 ( $V_{min}$ ):	0.01	% of rated load
Rated output 额定输出 ( $C_n$ ):	$2.0 \pm 0.1\%$	mV/V
*Combined error 综合误差:	0.015	$\pm$ % of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	$\pm$ % of rated output/ $^{\circ}$ C
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	$\pm$ % of rated output/ $^{\circ}$ C
Zero balance 零点平衡:	1.0	$\pm$ % of rated output
Input resistance( $R_{ic}$ ) 输入阻抗:	$775 \pm 5$	$\Omega$ (Ohms)
Output resistance( $R_o$ ) 输出阻抗:	$702 \pm 2$	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq 5000$	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	$^{\circ}$ C / $^{\circ}$ F
Recommend excitation 推荐工作电压:	8~15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.

# SQB

# Single beam load cell 悬臂梁式传感器

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
0.1, 0.2, 0.5, 1, 2, 3t.  
0.5, 1, 1.5, 2, 2.5, 3, 4, 5 klbs

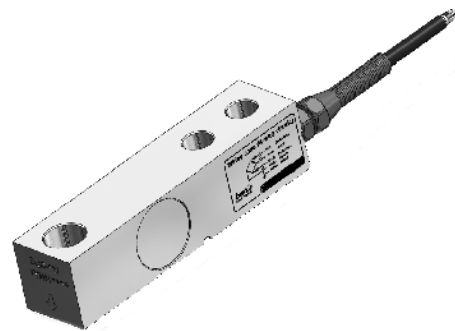
**Output 额定输出:**  
2.0 mV/V or 3.0 mV/V at klb  
Digital: 1,000,000d.

**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Accuracy 精度:**  
C3 OIML R60.

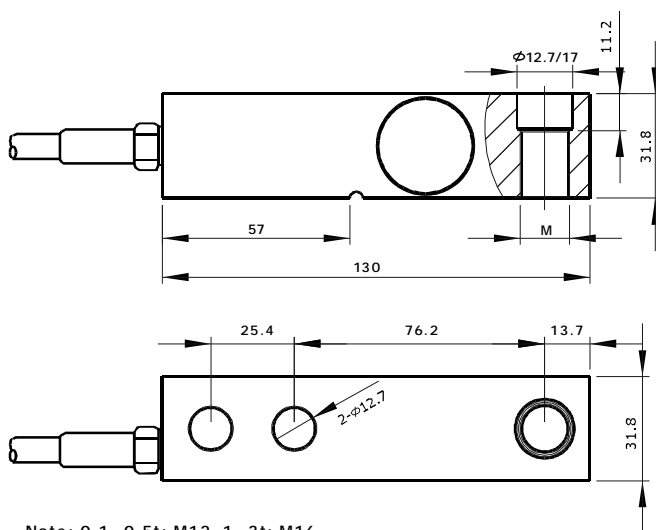
**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(1 in mm. 1mm = 0.03937 inches)

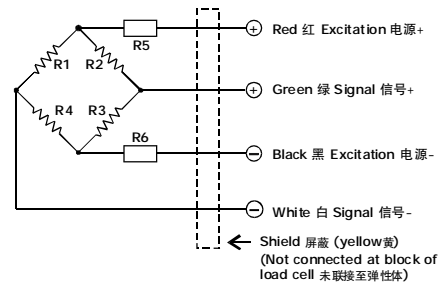


Note: 0.1~0.5t: M12, 1~3t: M16

## Circuit Diagram 电路图

### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度: 3m.  
Diameter:  $\phi 5$   
Connection 接线方式:  
Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.  
不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	0.1, 0.2, 0.5, 1, 2, 3	t
Maximal numbers of load cell verification Intervals 最大检定分度数 ( $N_{lc}$ ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 ( $V_{min}$ ):	0.01	% of rated load
Rated output 额定输出 ( $C_n$ ):	$2.0 \pm 0.1\%$	mV/V
*Combined error 综合误差:	0.015	$\pm\%$ of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	$\pm\%$ of rated output/ $^{\circ}C$
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	$\pm\%$ of rated output/ $^{\circ}C$
Zero balance 零点平衡:	1.0	$\pm\%$ of rated output
Input resistance ( $R_{lc}$ ) 输入阻抗:	$385 \pm 5$	$\Omega$ (Ohms)
Output resistance ( $R_o$ ) 输出阻抗:	$351 \pm 2$	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq 5000$	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	$^{\circ}C / ^{\circ}F$
Recommend excitation 推荐工作电压:	8~12	V (DC or AC)
Maximum excitation 最大工作电压:	18	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求。

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
0.1, 0.2, 0.5, 1, 2, 3, 5t.

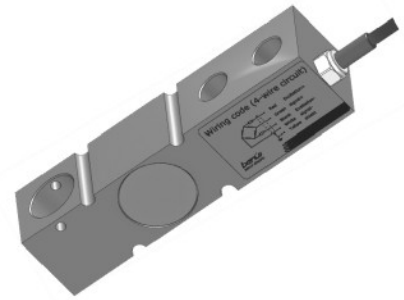
**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

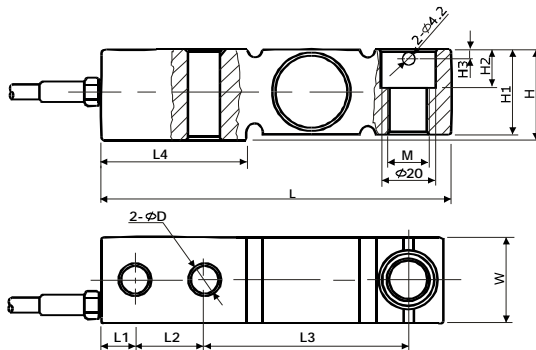
**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



CAP./SIZE	L	L1	L2	L3	L4	W/H1	H	H2	H3	D	M
0.1~0.5t	130	12.7	25.4	76.2	54	31.8	33.8	14.2	3.5	12.5	M12
1~3t	130	12.7	25.4	76.2	54	31.8	33.8	14.2	3.5	12.5	M16
5t	171.5	19.1	38.1	95.3	77	38.1	41	16	4.5	21	M18*1.5

## Circuit Diagram 电路图

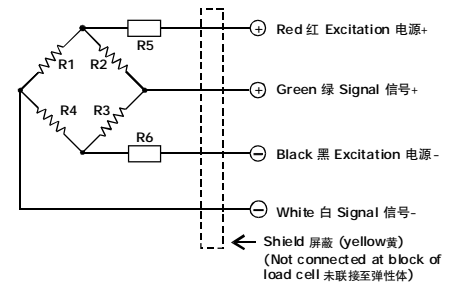
### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:  
0.1~3t: 3m, 5t: 6m.

Diameter: φ5

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else,  
it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	0.1, 0.2, 0.5, 1, 2, 3, 5	t
Maximal numbers of load cell verification Intervals 最大检定分度数 (N <sub>k</sub> ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0 ± 0.1%	mV/V
*Combined error 综合误差:	0.015	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance (R <sub>ic</sub> ) 输入阻抗:	385 ± 5	Ω (Ohms)
Output resistance (R <sub>o</sub> ) 输出阻抗:	351 ± 2	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥ 5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	°C / °F
Recommend excitation 推荐工作电压:	8~12	V (DC or AC)
Maximum excitation 最大工作电压:	18	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

The data for deviation of synthesis error, TK<sub>0</sub>, TK<sub>c</sub> are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.

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# SQC-M Series single beam module 悬臂梁式系列模块

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
0.1, 0.2, 0.5, 1, 2, 3, 5t.

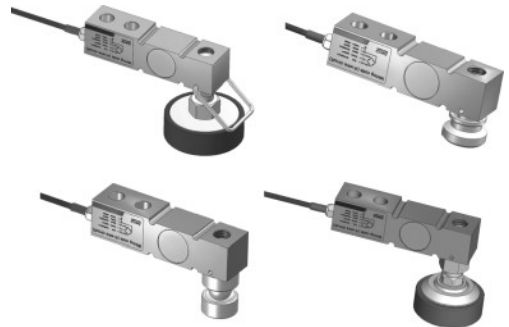
**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Accuracy 精度:**  
C3 OIML R60.

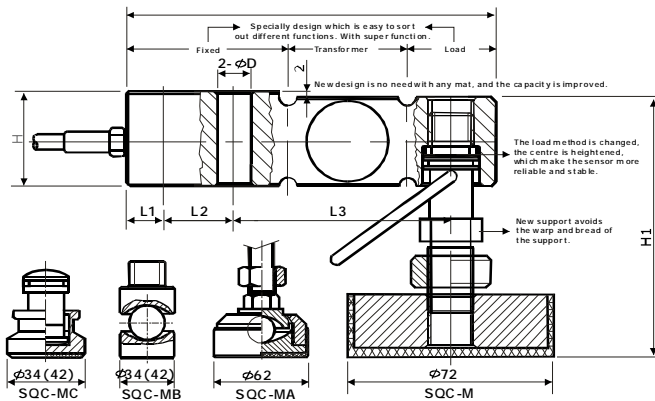
**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



Note: (xx) are for 5t

CAP./SIZE	L	L1	L2	L3	D	H	H1	H1	H1	H1
							SQC-M	SQC-MA	SQC-MB	SQC-MC
0.1~3t	130	12.7	25.4	76.2	12.7	33.8	74~84	78~88	73.5	59
5t	171.5	19.1	38.1	95.3	20.5	41	82~92	86~96	85	80.8

## Circuit Diagram 电路图

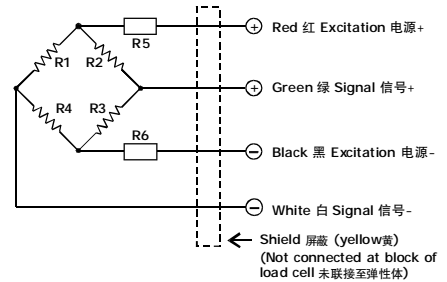
### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:  
0.1~3t: 3m, 5t: 6m.

Diameter:  $\phi$  5

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	0.1, 0.2, 0.5, 1, 2, 3, 5	t
Maximal numbers of load cell verification Intervals 最大检定分度数 (Nic):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度数 ( $V_{min}$ ):	0.01	% of rated load
Rated output 额定输出 ( $C_n$ ):	$2.0 \pm 0.1\%$	mV/V
*Combined error 综合误差:	0.015	$\pm\%$ of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TkC):	0.0012	$\pm\%$ of rated output/ $^{\circ}$ C
Temperature effect on zero balance 零点温度影响 (Tk0):	0.0008	$\pm\%$ of rated output/ $^{\circ}$ C
Zero balance 零点平衡:	1.0	$\pm\%$ of rated output
Input resistance ( $R_{ic}$ ) 输入阻抗:	$385 \pm 5$	$\Omega$ (Ohms)
Output resistance ( $R_o$ ) 输出阻抗:	$351 \pm 2$	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq 5000$	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	$^{\circ}$ C / $^{\circ}$ F
Recommend excitation 推荐工作电压:	8~12	V (DC or AC)
Maximum excitation 最大工作电压:	18	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, Tk0, TkC are typical values. The sum of these data meets the requirements according to OIML R60.

综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.



# SB/SBA

# Single beam load cell 悬臂梁式传感器

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
0.5, 1, 2, 3, 5, 8, 10, 20t.

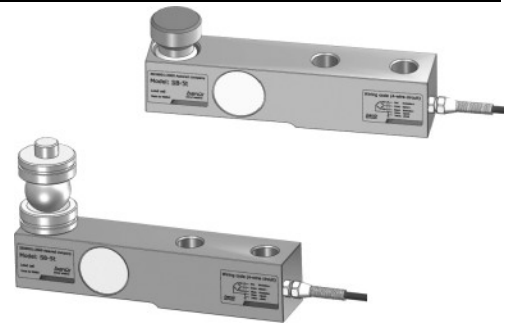
**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Accuracy 精度:**  
C3 OIML R60.

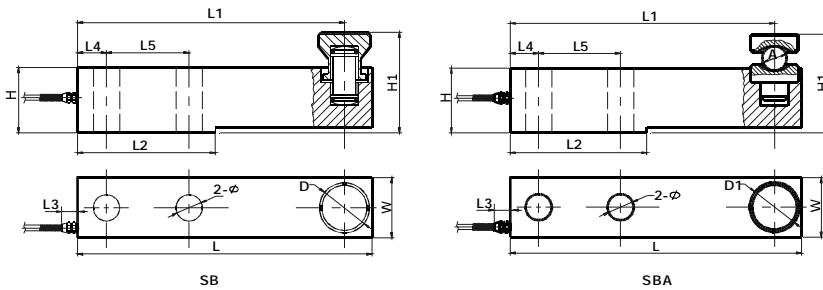
**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



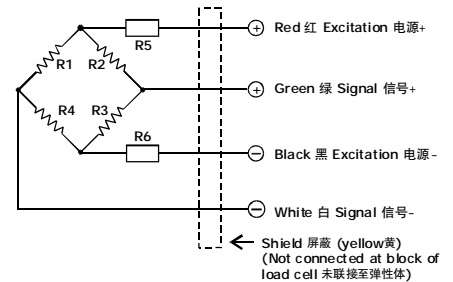
CAP./SIZE	L	L1	L2	L3	L4	L5	H	H1	φ	D	D1	W	A
0.5, 1, 2, 3t	203	181	95	24	19	64	43	57.9	13	35	39	37	15.9
5, 8t	235	213	110	24	23	66	52	78.9	21	42	44	48	25.48
10t	279	247	133	24	25	82	67	127.7	28	57	58	60	38.1
20t	318	280	153	24	32	89	82.5	143.5	34	70	69	70	50.8

## Circuit Diagram 电路图

### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:  
0.5~3t: 3m, 5~8t: 7m, 10t: 9m, 20t: 12m.  
Diameter: φ6

Connection 接线方式:  
Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.  
不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	0.5, 1, 2, 3, 5, 8, 10, 20	t
Maximal numbers of load cell verification Intervals 最大检定分度数 (Nk):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0 ± 0.1%	mV/V
*Combined error 综合误差:	0.015	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (Tk):	0.0012	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (Tk0):	0.0008	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance (R <sub>ic</sub> ) 输入阻抗:	385 ± 5	Ω (Ohms)
Output resistance (R <sub>o</sub> ) 输出阻抗:	351 ± 2	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥ 5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	°C / °F
Recommend excitation 推荐工作电压:	8 ~ 12	V (DC or AC)
Maximum excitation 最大工作电压:	18	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

The data for deviation of synthesis error, Tk<sub>0</sub>, Tk<sub>c</sub> are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.

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# SB-M SB model 悬臂梁式模块

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
0.5, 1, 2, 3, 5, 8, 10, 20t.

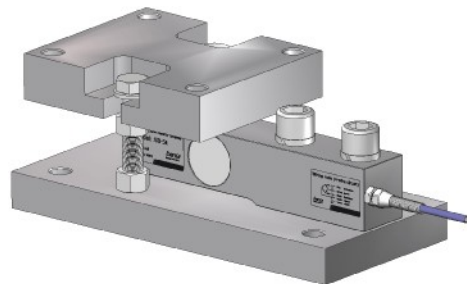
**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

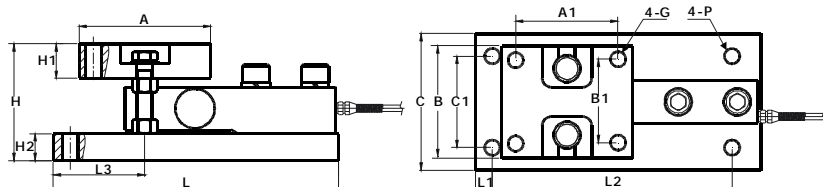
**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



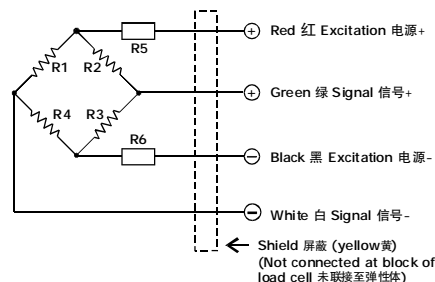
CAP./SIZE	A	A1	B	B1	C	C1	L	L1	L2	L3	H	H1	H2	G	P
0.5, 1, 2, 3t	150	124	128	102	112	80	286	32	226	96	102	28	23	M10	13
5, 8t	178	146	152	120	152	102	318	32	257	99	130	38	30	M16	17
10t	184	152	154	122	154	106	360	32	295	105	168	45	45	M20	21
15~25t	220	170	220	170	220	170	400	25	350	115	213	55	55	M24	26

## Circuit Diagram 电路图

### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:  
0.5~3t: 3m, 5~8t: 7m, 10t: 9m, 20t: 12m.  
Diameter:  $\phi$  6  
Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.  
不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	0.5, 1, 2, 3, 5, 8, 10, 20	t
Maximal numbers of load cell verification Intervals 最大检定分度数 ( $N_{lc}$ ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度数 ( $V_{min}$ ):	0.01	% of rated load
Rated output 额定输出 ( $C_n$ ):	$2.0 \pm 0.1\%$	mV/V
*Combined error 综合误差:	0.015	$\pm$ % of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	$\pm$ % of rated output/ $^{\circ}$ C
Temperature effect on zero balance 零点温度影响 (TKo):	0.0008	$\pm$ % of rated output/ $^{\circ}$ C
Zero balance 零点平衡:	1.0	$\pm$ % of rated output
Input resistance ( $R_{lc}$ ) 输入阻抗:	$385 \pm 5$	$\Omega$ (Ohms)
Output resistance ( $R_o$ ) 输出阻抗:	$351 \pm 2$	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq 5000$	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	$^{\circ}$ C / $^{\circ}$ F
Recommend excitation 推荐工作电压:	8~12	V (DC or AC)
Maximum excitation 最大工作电压:	18	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TKo, TKc are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.

# BWG Single beam load cell 悬臂梁式传感器

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
50,100,200,300,500,1000kg

**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

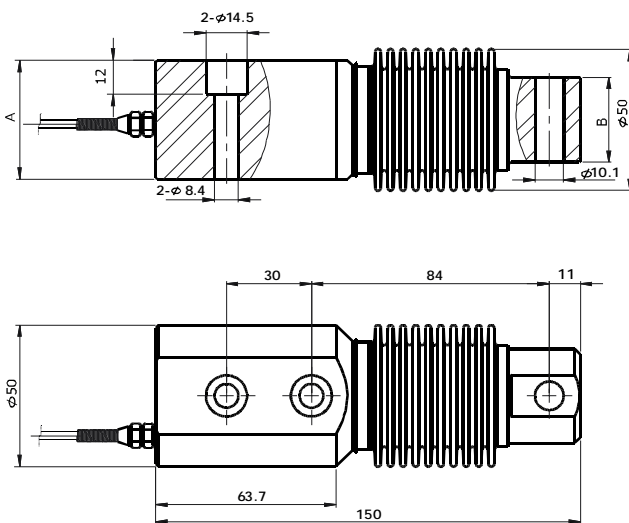
**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



## Circuit Diagram 电路图

### Electrical Termination 电路终端

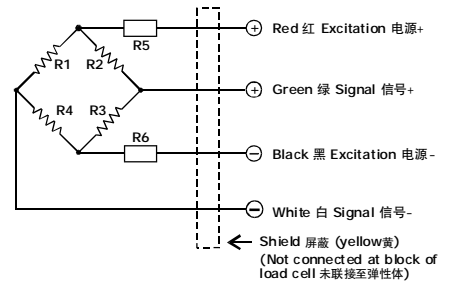
4 Core cable standard lengths 电缆长度:

<=300kg: 3.0 m, >=500kg: 6.0m.

Diameter: φ6

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	50,100,200,300,500 1000	kg
Maximal numbers of load cell verification Intervals 最大检定分度数 (N <sub>k</sub> ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0 ± 0.1%	mV/V
* Combined error 综合误差:	0.015	± % of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	± % of rated output/°C
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	± % of rated output/°C
Zero balance 零点平衡:	1.0	± % of rated output
Input resistance (R <sub>ic</sub> ) 输入阻抗:	385 ± 5	Ω (Ohms)
Output resistance (R <sub>o</sub> ) 输出阻抗:	351 ± 2	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥ 5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	°C / °F
Recommend excitation 推荐工作电压:	8 ~ 12	V (DC or AC)
Maximum excitation 最大工作电压:	18	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TK<sub>0</sub>, TK<sub>c</sub> are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.

# BWGA

# Single beam load cell 悬臂梁式传感器

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
10, 20, 50, 100, 200, 250kg

**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

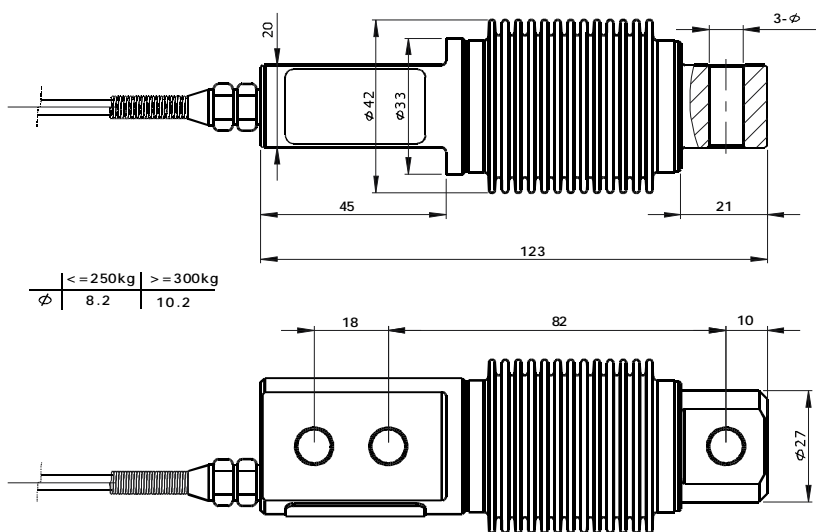
**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



## Circuit Diagram 电路图

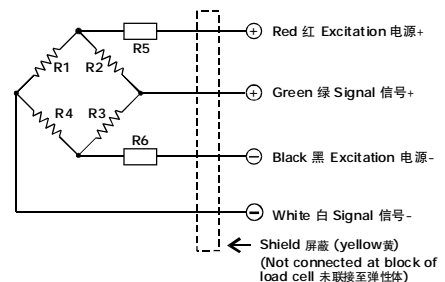
### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度: 3m.

Diameter: φ6

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item 项目 \ Parameter 参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	10, 20, 50, 100, 200, 250	kg
Maximal numbers of load cell verification Intervals 最大检定分度数 (N <sub>lc</sub> ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度数 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0 ± 0.1%	mV/V
*Combined error 综合误差:	0.015	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance (R <sub>lc</sub> ) 输入阻抗:	385 ± 5	Ω (Ohms)
Output resistance (R <sub>o</sub> ) 输出阻抗:	351 ± 2	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥ 5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	°C / °F
Recommend excitation 推荐工作电压:	8 ~ 12	V (DC or AC)
Maximum excitation 最大工作电压:	18	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TK<sub>0</sub>, TK<sub>c</sub> are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.



# TSA S type load cell S型传感器

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
50, 100, 200, 250, 300, 500, 1000kg.

**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

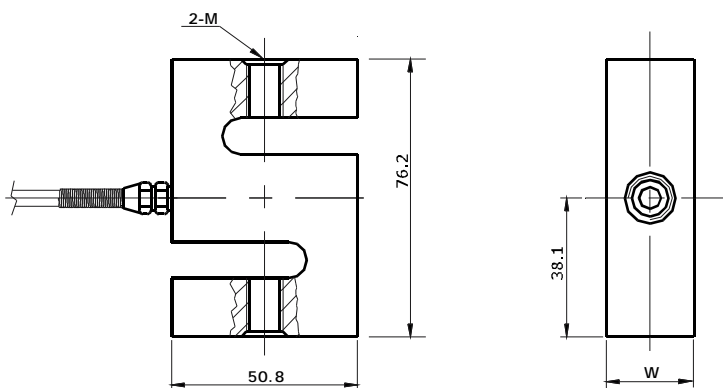
**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP66. Enclosure is immersed in water in its service position for 30min.  
Lowest point of enclosure less than 850mm tall = 1000mm below surface of water.  
Highest point of enclosure more than 850mm tall = 150mm below surface of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



CAP./SIZE (kg)	50	100	150	200	250	300	500	1000
W	15	15	15	19	19	19	19	38
M	M8	M8	M8	M12	M12	M12	M12	M16

## Circuit Diagram 电路图

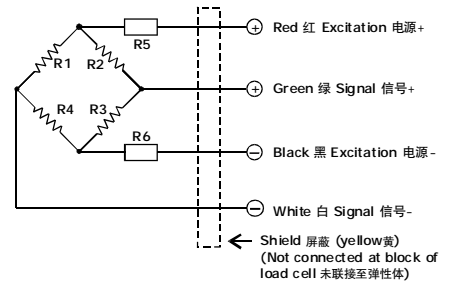
### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度: 3m.

Diameter:  $\phi 6$

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else,  
it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item 项目 \ Parameter 参数	C3	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	50 ~ 1000	Kg
Maximal numbers of load cell verification Intervals 最大检定分度数 ( $N_k$ ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 ( $V_{min}$ ):	0.01	% of rated load
Rated output 额定输出 ( $C_n$ ):	$2.0 \pm 0.1\%$	mV/V
*Combined error 综合误差:	0.015	$\pm\%$ of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	$\pm\%$ of rated output/ $^{\circ}C$
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	$\pm\%$ of rated output/ $^{\circ}C$
Zero balance 零点平衡:	1.0	$\pm\%$ of rated output
Input resistance ( $R_{ic}$ ) 输入阻抗:	$385 \pm 5$	$\Omega$ (Ohms)
Output resistance ( $R_o$ ) 输出阻抗:	$351 \pm 2$	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq 5000$	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	$^{\circ}C / ^{\circ}F$
Recommend excitation 推荐工作电压:	8 ~ 12	V (DC or AC)
Maximum excitation 最大工作电压:	18	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.

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# TSC S type load cell S型传感器

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
0.5, 1, 2, 3, 5, 7.5, 10, 20t.

**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

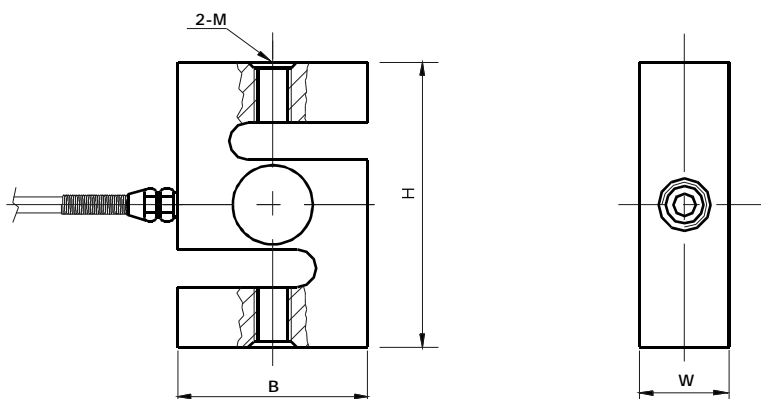
**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)

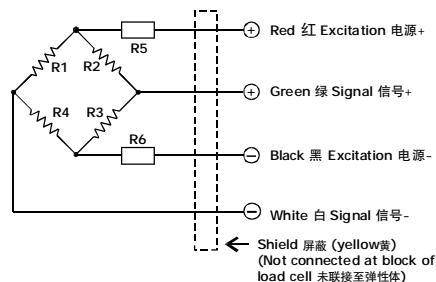


CAP./SIZE	H	B	W	M
0.5, 1, 2, 3t	86	64	28	M16
5t	106	80	36	M24*2
7.5, 10t	178	130	51	M30*2
15, 20t	190	160	60	M39*2

## Circuit Diagram 电路图

### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:  
1-3t: 3m, 5-10t: 10m, 20t: 10m.  
Diameter:  $\phi$  6  
Connection 接线方式:  
Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.  
不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	0.5, 1, 2, 3, 5, 7.5, 10, 20	t
Maximal numbers of load cell verification Intervals 最大检定分度数 (N <sub>lc</sub> ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0 ± 0.1%	mV/V
*Combined error 综合误差:	0.015	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance (R <sub>ic</sub> ) 输入阻抗:	385 ± 5	Ω (Ohms)
Output resistance (R <sub>o</sub> ) 输出阻抗:	351 ± 2	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥ 5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	°C / °F
Recommend excitation 推荐工作电压:	8 ~ 12	V (DC or AC)
Maximum excitation 最大工作电压:	18	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求。

# TSG S type anti-overload load cell S型过载保护式传感器

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
0.5, 1, 2, 3, 5, 7.5, 10, 20t.

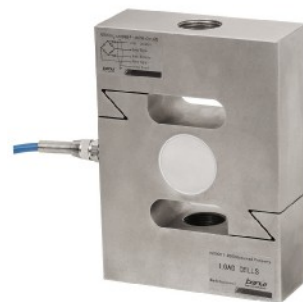
**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

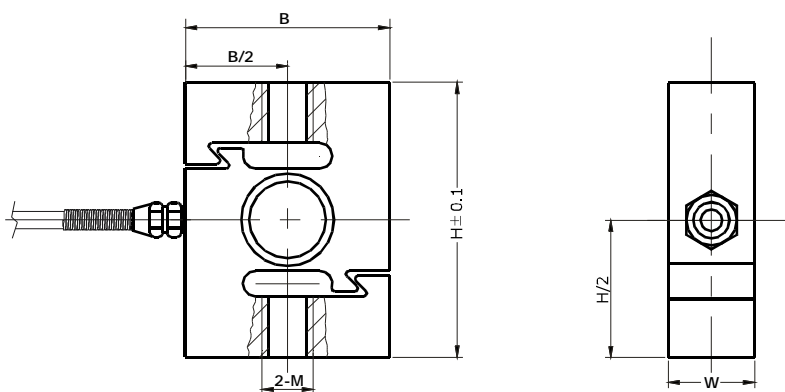
**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



CAP./SIZE	H	B	W	M
0.5, 1t	80	70	26	M12
2, 3, 5t	108	96	26	M18*1.5
7.5t	140	110	32	M24*2
10t	178	130	51	M30*2
15, 20t	190	160	60	M39*2

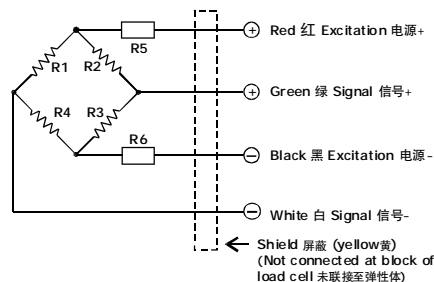
## Circuit Diagram 电路图

### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:  
1~3t: 3m, 5~10t: 10m, 20t: 10m.

Diameter:  $\phi 6$

Connection 接线方式:  
Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	0.5, 1, 2, 3, 5, 7.5, 10, 20	t
Maximal numbers of load cell verification Intervals 最大检定分度数 (N <sub>k</sub> ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0 ± 0.1%	mV/V
*Combined error 综合误差:	0.015	± % of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	± % of rated output/°C
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	± % of rated output/°C
Zero balance 零点平衡:	1.0	± % of rated output
Input resistance (R <sub>ic</sub> ) 输入阻抗:	385 ± 5	Ω (Ohms)
Output resistance (R <sub>o</sub> ) 输出阻抗:	351 ± 2	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥ 5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	°C / °F
Recommend excitation 推荐工作电压:	8 ~ 12	V (DC or AC)
Maximum excitation 最大工作电压:	18	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

The data for deviation of synthesis error, TK<sub>0</sub>, TK<sub>c</sub> are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.

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# ILEC Single point load cell 单点式传感器

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
0.3, 0.5, 1, 2, 3t.

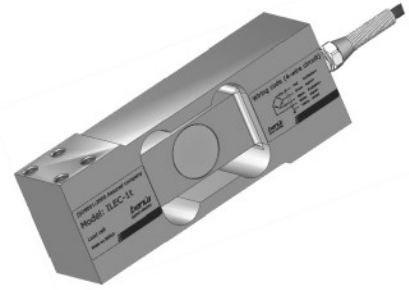
**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

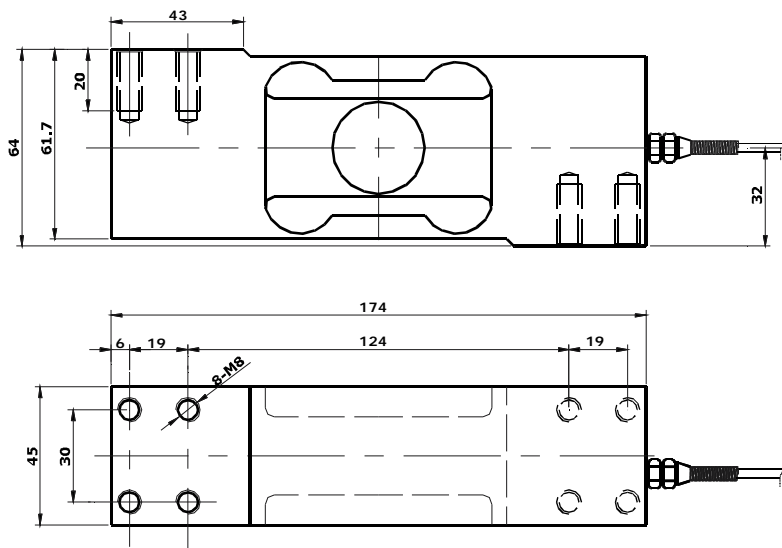
**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



## Circuit Diagram 电路图

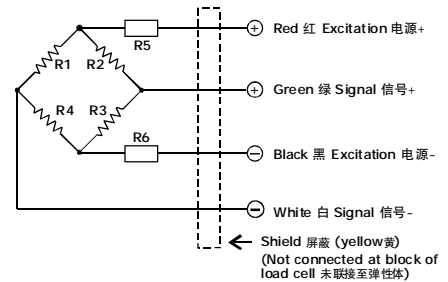
### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度: 3m.

Diameter:  $\phi 6$

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	0.3, 0.5, 1, 2, 3	t
Maximal numbers of load cell verification Intervals 最大检定分度数 (N <sub>lc</sub> ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度数 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0 ± 0.1%	mV/V
*Combined error 综合误差:	0.015	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance (R <sub>lc</sub> ) 输入阻抗:	385 ± 5	Ω (Ohms)
Output resistance (R <sub>o</sub> ) 输出阻抗:	351 ± 2	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥ 5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	°C / °F
Recommend excitation 推荐工作电压:	8 ~ 12	V (DC or AC)
Maximum excitation 最大工作电压:	18	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.



# BA642 Single point load cell 单点式传感器

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
100,150,200,250,300kg.

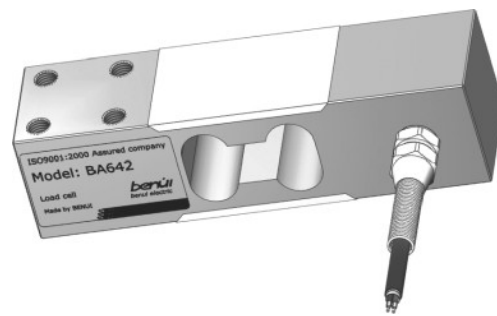
**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Material of elastomer 主要材料:**  
Aluminum, alloy or stainless steel  
铝合金, 合金钢或不锈钢.

**Accuracy 精度:**  
C3 OIML R60.

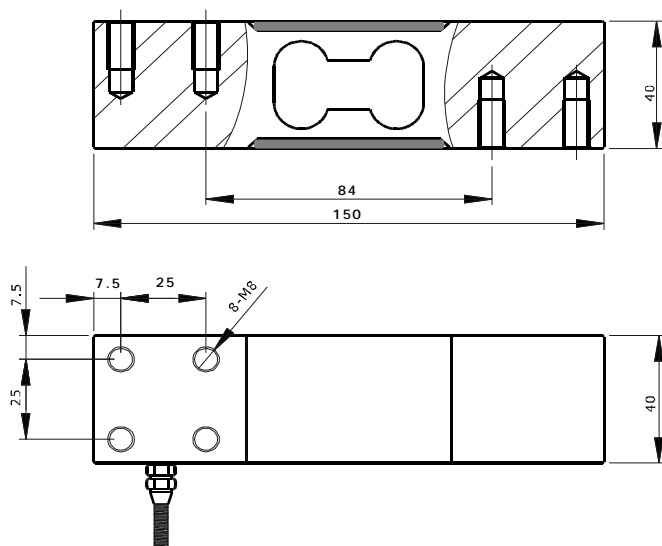
**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

**Sealed to IEC 529:**  
Protection grade: IP66. Enclosure is immersed in water in its service position for 30min.  
Lowest point of enclosure less than 850mm tall= 1000mm below surface of water.  
Highest point of enclosure more than 850mm tall= 150mm below surface of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



## Circuit Diagram 电路图

### Electrical Termination 电路终端

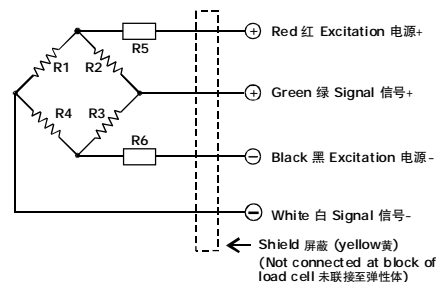
4 Core cable standard lengths 电缆长度: 2.5m.

Diameter:  $\phi 6$

Connection 接线方式:

Refer to the following drawing.

参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	100, 150, 200, 250, 300	kg
Maximal numbers of load cell verification Intervals 最大检定分度数 ( $N_k$ ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 ( $V_{min}$ ):	0.01	% of rated load
Rated output 额定输出 ( $C_n$ ):	$2.0 \pm 5\%$	mV/V
* Combined error 综合误差:	0.015	$\pm$ % of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.002	$\pm$ % of rated output / $^{\circ}C$
Temperature effect on zero balance 零点温度影响 (TK0):	0.001	$\pm$ % of rated output / $^{\circ}C$
Zero balance 零点平衡:	1.0	$\pm$ % of rated output
Input resistance ( $R_{ic}$ ) 输入阻抗:	$385 \pm 15$	$\Omega$ (Ohms)
Output resistance ( $R_o$ ) 输出阻抗:	$350 \pm 3$	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq 5000$	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-10 ~ +40 / 14 ~ +104	$^{\circ}C / ^{\circ}F$
Recommend excitation 推荐工作电压:	8 ~ 12	V (DC or AC)
Maximum excitation 最大工作电压:	18	V (DC or AC)
Material of elastomer 弹性体材料:	Aluminum, Alloy steel, Stainless steel 铝合金, 合金钢, 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.

# 60410 Single point load cell 单点式传感器

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
100,200,300,500,1000kg.

**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

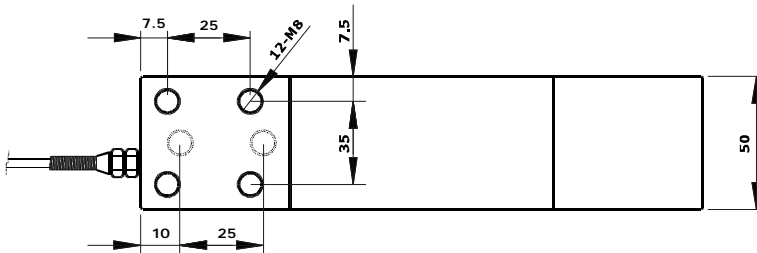
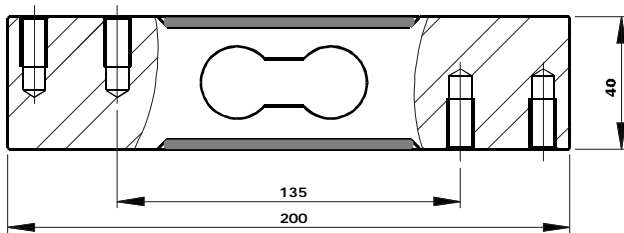
**Material of elastomer 主要材料:**  
Aluminum, alloy or stainless steel  
铝合金,合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP66. Enclosure is immersed in water in its service position for 30min.  
Lowest point of enclosure less than 850mm tall=1000mm below surface of water.  
Highest point of enclosure more than 850mm tall= 150mm below surface of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



## Circuit Diagram 电路图

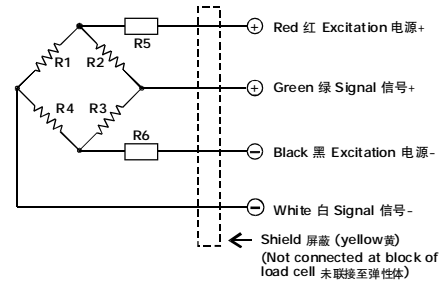
**Electrical Termination 电路终端**

4 Core cable standard lengths 电缆长度:3m.

Diameter:  $\phi 6$

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



**Notice 注意:**

Do not change the length of cable, or else,  
it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	100,200,300,500,1000	kg
Maximal numbers of load cell verification Intervals 最大检定分度数 (N <sub>ic</sub> ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0 ± 5%	mV/V
*Combined error 综合误差:	0.015	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.002	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (TK0):	0.001	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance(R <sub>ic</sub> ) 输入阻抗:	385 ± 15	Ω (Ohms)
Output resistance(R <sub>o</sub> ) 输出阻抗:	350 ± 3	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥ 5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-10 ~ +40/14 ~ +104	°C / °F
Recommend excitation 推荐工作电压:	8~12	V (DC or AC)
Maximum excitation 最大工作电压:	18	V (DC or AC)
Material of elastomer 弹性体材料:	Aluminum, Alloy steel, Stainless steel 铝合金,合金钢,不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.

# BA601 Single point load cell 单点式传感器

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
3~40kg.

**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

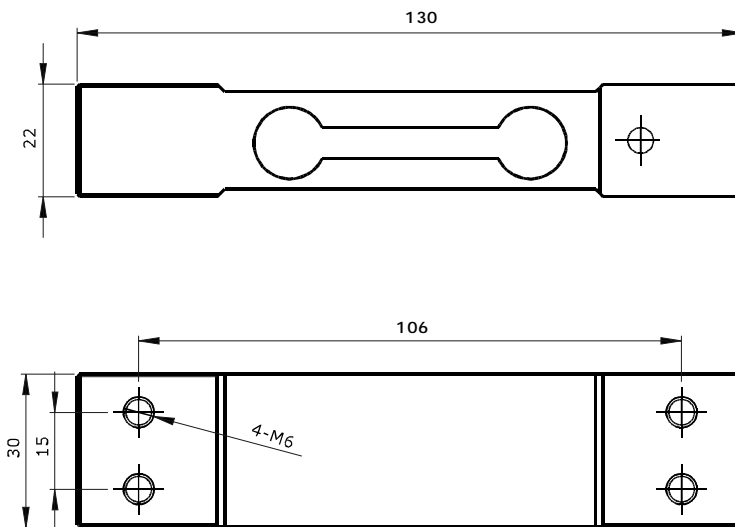
**Material of elastomer 主要材料:**  
Aluminum, alloy or stainless steel  
铝合金, 合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP66. Enclosure is immersed in water in its service position for 30min.  
Lowest point of enclosure less than 850mm tall=1000mm below surface of water.  
Highest point of enclosure more than 850mm tall=150mm below surface of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



## Circuit Diagram 电路图

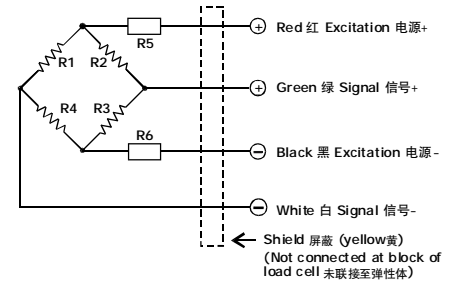
### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度: 0.3m.

Diameter:  $\phi 4.2$

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else,  
it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	3~40	kg
Maximal numbers of load cell verification Intervals 最大检定分度数 (N <sub>k</sub> ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0 ± 5%	mV/V
*Combined error 综合误差:	0.015	± % of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.002	± % of rated output/°C
Temperature effect on zero balance 零点温度影响 (TK0):	0.001	± % of rated output/°C
Zero balance 零点平衡:	1.0	± % of rated output
Input resistance (R <sub>ic</sub> ) 输入阻抗:	385 ± 15	Ω (Ohms)
Output resistance (R <sub>o</sub> ) 输出阻抗:	350 ± 3	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥ 5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-10 ~ +40 / 14 ~ +104	°C / °F
Recommend excitation 推荐工作电压:	8~12	V (DC or AC)
Maximum excitation 最大工作电压:	18	V (DC or AC)
Material of elastomer 弹性体材料:	Aluminum, Alloy steel, Stainless steel 铝合金, 合金钢, 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.

# BA619

## Single point load cell 单点式传感器

### Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
20,50,100,200,300kg.

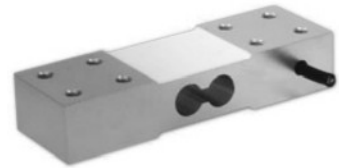
**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

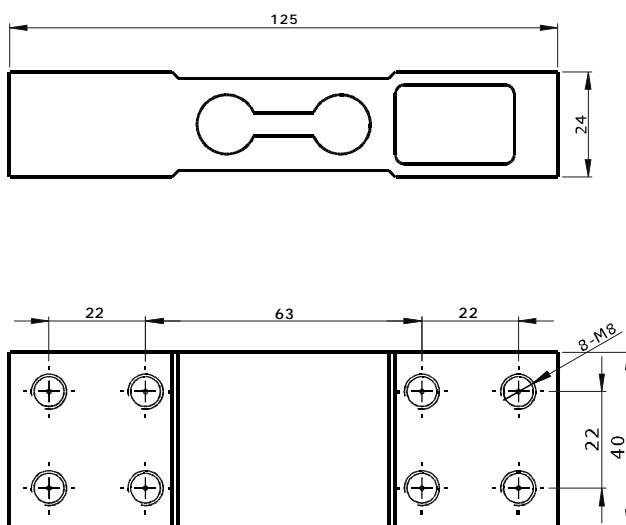
**Material of elastomer 主要材料:**  
Aluminum, alloy or stainless steel  
铝合金, 合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP66. Enclosure is immersed in water in its service position for 30min.  
Lowest point of enclosure less than 850mm tall=1000mm below surface of water.  
Highest point of enclosure more than 850mm tall=150mm below surface of water.



### Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



### Circuit Diagram 电路图

#### Electrical Termination 电路终端

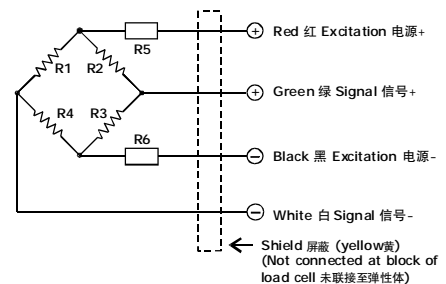
4 Core cable standard lengths 电缆长度: 1.5m.

Diameter:  $\phi 4.2$

Connection 接线方式:

Refer to the following drawing.

参阅下面的图形.



#### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四芯电缆的长度, 否则这将影响传感器的灵敏度.

### Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	20, 50, 100, 200, 300	kg
Maximal numbers of load cell verification Intervals 最大检定分度数 ( $N_{ic}$ ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 ( $V_{min}$ ):	0.01	% of rated load
Rated output 额定输出 ( $C_n$ ):	$2.0 \pm 5\%$	mV/V
*Combined error 综合误差:	0.015	$\pm\%$ of rated output
Temperature effect on sensitivity 灵敏度温度影响 ( $T_{kc}$ ):	0.002	$\pm\%$ of rated output/ $^{\circ}C$
Temperature effect on zero balance 零点温度影响 ( $T_{k0}$ ):	0.001	$\pm\%$ of rated output/ $^{\circ}C$
Zero balance 零点平衡:	1.0	$\pm\%$ of rated output
Input resistance ( $R_{ic}$ ) 输入阻抗:	$385 \pm 15$	$\Omega$ (Ohms)
Output resistance ( $R_o$ ) 输出阻抗:	$350 \pm 3$	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq 5000$	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-10 ~ +40 / 14 ~ +104	$^{\circ}C / ^{\circ}F$
Recommend excitation 推荐工作电压:	8 - 12	V (DC or AC)
Maximum excitation 最大工作电压:	18	V (DC or AC)
Material of elastomer 弹性体材料:	Aluminum, Alloy steel, Stainless steel 铝合金, 合金钢, 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error,  $T_{k0}$ ,  $T_{kc}$  are typical values. The sum of these data meets the requirements according to OIML R60.

综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.



# BA628 Single point load cell 单点式传感器

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
50~500kg.

**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

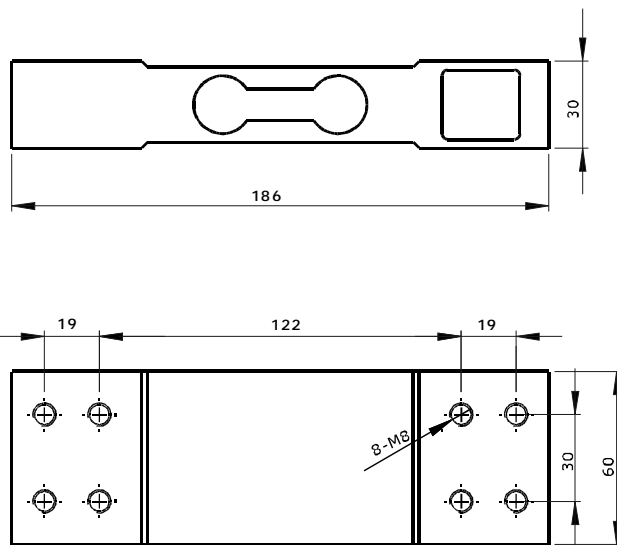
**Material of elastomer 主要材料:**  
Aluminum, alloy or stainless steel  
铝合金, 合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP66. Enclosure is immersed in water in its service position for 30min.  
Lowest point of enclosure less than 850mm tall=1000mm below surface of water.  
Highest point of enclosure more than 850mm tall=150mm below surface of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



## Circuit Diagram 电路图

**Electrical Termination 电路终端**

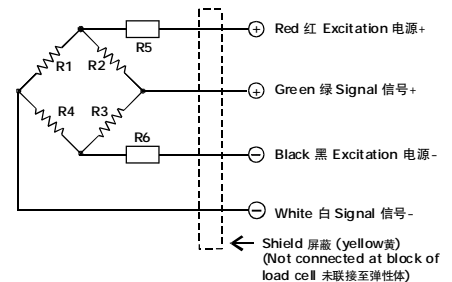
4 Core cable standard lengths 电缆长度: 2m.

Diameter:  $\phi 4.2$

Connection 接线方式:

Refer to the following drawing.

参阅下面的图形.



**Notice 注意:**

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四芯电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	50~500	kg
Maximal numbers of load cell verification Intervals 最大检定分度数 (Nlc):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 ( $V_{min}$ ):	0.01	% of rated load
Rated output 额定输出 ( $C_n$ ):	$2.0 \pm 5\%$	mV/V
*Combined error 综合误差:	0.015	$\pm$ % of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.002	$\pm$ % of rated output/ $^{\circ}$ C
Temperature effect on zero balance 零点温度影响 (TKo):	0.001	$\pm$ % of rated output/ $^{\circ}$ C
Zero balance 零点平衡:	1.0	$\pm$ % of rated output
Input resistance (R <sub>ic</sub> ) 输入阻抗:	$385 \pm 15$	$\Omega$ (Ohms)
Output resistance (R <sub>o</sub> ) 输出阻抗:	$350 \pm 3$	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq 5000$	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-10 ~ +40/14 ~ +104	$^{\circ}$ C / $^{\circ}$ F
Recommend excitation 推荐工作电压:	8~12	V (DC or AC)
Maximum excitation 最大工作电压:	18	V (DC or AC)
Material of elastomer 弹性体材料:	Aluminum, Alloy steel, Stainless steel 铝合金, 合金钢, 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TKo, TKc are typical values. The sum of these data meets the requirements according to OIML R60.

综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.

# BA629

## Single point load cell 单点式传感器

### Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
50~700kg.

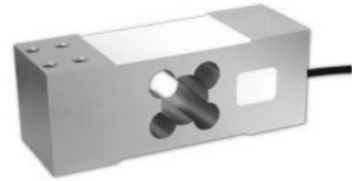
**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

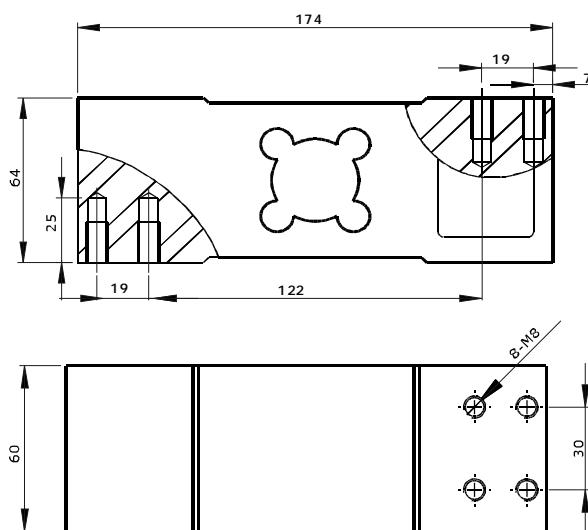
**Material of elastomer 主要材料:**  
Aluminum, alloy or stainless steel  
铝合金, 合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP66. Enclosure is immersed in water in its service position for 30min.  
Lowest point of enclosure less than 850mm tall=1000mm below surface of water.  
Highest point of enclosure more than 850mm tall=150mm below surface of water.



### Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



### Circuit Diagram 电路图

**Electrical Termination 电路终端**

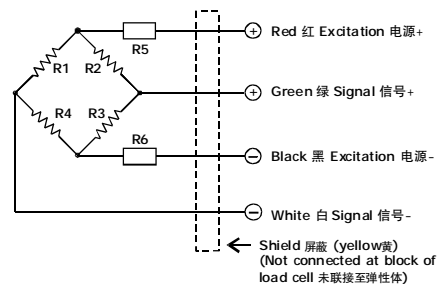
4 Core cable standard lengths 电缆长度: 3m.

Diameter:  $\phi 4.2$

Connection 接线方式:

Refer to the following drawing.

参阅下面的图形.



**Notice 注意:**

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四芯电缆的长度, 否则这将影响传感器的灵敏度.

### Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	50 ~ 700	kg
Maximal numbers of load cell verification Intervals 最大检定分度数 (N <sub>ic</sub> ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0 ± 5%	mV/V
*Combined error 综合误差:	0.015	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (T <sub>kc</sub> ):	0.002	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (T <sub>k0</sub> ):	0.001	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance(R <sub>ic</sub> ) 输入阻抗:	385 ± 15	Ω (Ohms)
Output resistance(R <sub>o</sub> ) 输出阻抗:	350 ± 3	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥ 5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-10 ~ +40/14 ~ +104	°C / °F
Recommend excitation 推荐工作电压:	8 - 12	V (DC or AC)
Maximum excitation 最大工作电压:	18	V (DC or AC)
Material of elastomer 弹性体材料:	Aluminum, Alloy steel, Stainless steel 铝合金, 合金钢, 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, T<sub>k0</sub>, T<sub>kc</sub> are typical values. The sum of these data meets the requirements according to OIML R60.

综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.

# BA638

# Single point load cell 单点式传感器

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
50~500kg.

**Output 额定输出:**  
2.0mV/V

**Material of elastomer 主要材料:**  
Aluminum, alloy or stainless steel  
铝合金, 合金钢或不锈钢.

**Accuracy 精度:**  
C3 OIML R60.

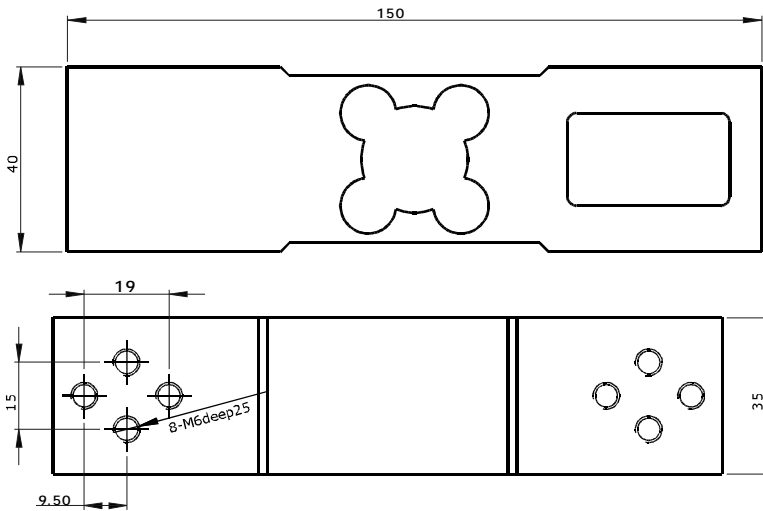
**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

**Sealed to IEC 529:**  
Protection grade: IP66. Enclosure is immersed in water in its service position for 30min.  
Lowest point of enclosure less than 850mm tall=1000mm below surface of water.  
Highest point of enclosure more than 850mm tall=150mm below surface of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



## Circuit Diagram 电路图

### Electrical Termination 电路终端

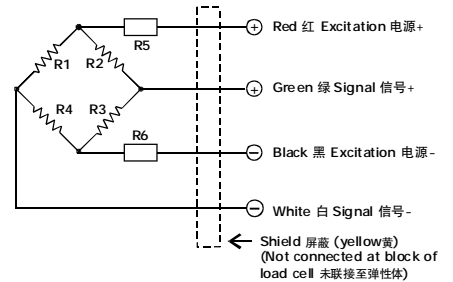
4 Core cable standard lengths 电缆长度: 1.5m.

Diameter:  $\phi 4.2$

Connection 接线方式:

Refer to the following drawing.

参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四芯电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	50~500	kg
Maximal numbers of load cell verification Intervals 最大检定分度数 (N <sub>ic</sub> ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0 ± 5%	mV/V
*Combined error 综合误差:	0.015	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.002	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (TKo):	0.001	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance (R <sub>ic</sub> ) 输入阻抗:	385 ± 15	Ω (Ohms)
Output resistance (R <sub>o</sub> ) 输出阻抗:	350 ± 3	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥ 5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-10 ~ +40 / 14 ~ +104	°C / °F
Recommend excitation 推荐工作电压:	8~12	V (DC or AC)
Maximum excitation 最大工作电压:	18	V (DC or AC)
Material of elastomer 弹性体材料:	Aluminum, Alloy steel, Stainless steel 铝合金, 合金钢, 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TKo, TKc are typical values. The sum of these data meets the requirements according to OIML R60.

综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
1~120t.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Accuracy 精度:**  
C3 OIML R60.

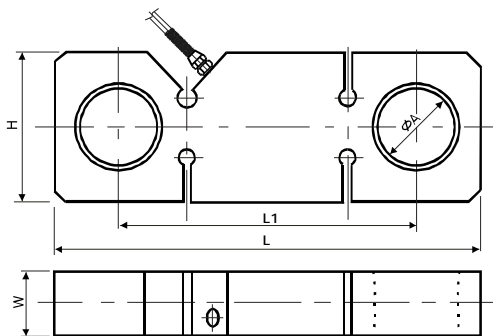
**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



CAP./SIZE	A	A1	B	W	φS	Shackle	Hook
1-5t	230	160	76	34	30	7/8	5/8
10t	280	188	90	47	40	1 1/4	3/4
20-30t	370	230	125	55	53	1 3/4	----
40-50t	430	260	150	65	73	2 1/2	----
60t	430	260	150	85	73	2 1/2	----
100-120t	580	340	220	115	98	3 1/2	----

## Circuit Diagram 电路图

### Electrical Termination 电路终端

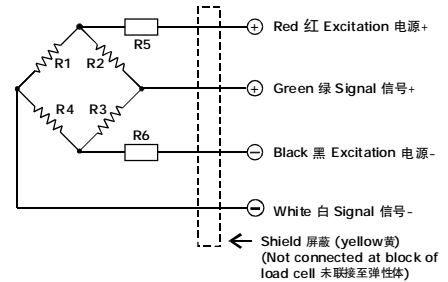
4 Core cable standard lengths 电缆长度:

<=30t: 10.0 m, >=40t: 18m.

Diameter: φ 6

Connection 接线方式:

Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	1~120	t
Maximal numbers of load cell verification Intervals 最大检定分度数 (N <sub>ic</sub> ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0 ± 5%	mV/V
*Combined error 综合误差:	0.015	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance(R <sub>ic</sub> ) 输入阻抗:	385 ± 5	Ω (Ohms)
Output resistance(R <sub>o</sub> ) 输出阻抗:	351 ± 2	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥ 5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	°C / °F
Recommend excitation 推荐工作电压:	8~12	V (DC or AC)
Maximum excitation 最大工作电压:	18	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.

综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.



# GLB Special for crane scales load cell 吊秤用传感器

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
1,2,3,5,7.5,10,15t,20t.

**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

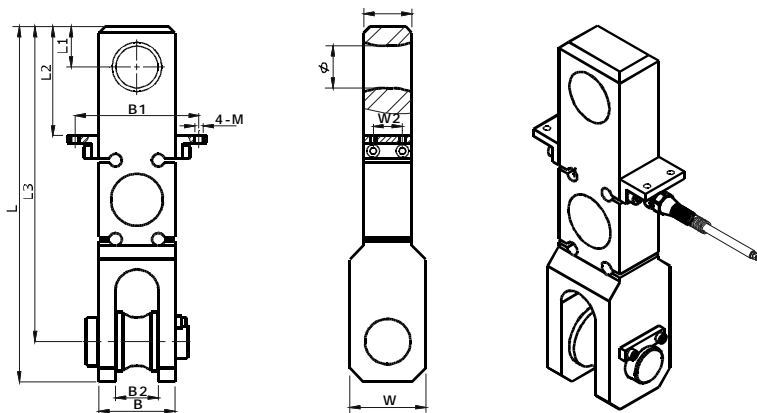
**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

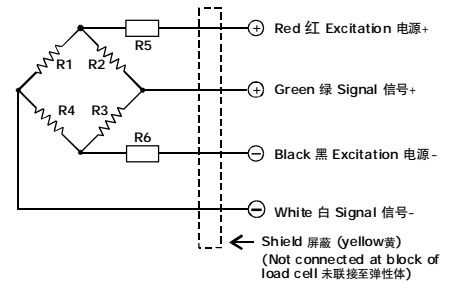
(In mm. 1mm = 0.03937 inches)



CAP./SIZE	L	L1	L2	L3	B	B1	B2	M	W	W1	W2	∅
1~5t	228	25	73	216	55	84	29	5	45	26	18	27
7.5~10t	281	32	86	249	60	98	34	6	60	38	23	33
15~20t	330	40	110	300	85	125	50	8	75	55	40	44

## Circuit Diagram 电路图

**Electrical Termination 电路终端**  
4 Core cable standard lengths 电缆长度: 0.5m  
Diameter: ∅6  
Connection 接线方式:  
Refer to the following drawing.  
参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.  
不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	1,2,3,5,7.5,10,15,20	t
Maximal numbers of load cell verification Intervals 最大检定分度数 (Nk):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0 ± 5%	mV/V
*Combined error 综合误差:	0.015	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance(R <sub>ic</sub> ) 输入阻抗:	775 ± 5	Ω (Ohms)
Output resistance(R <sub>o</sub> ) 输出阻抗:	702 ± 2	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥ 5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	°C / °F
Recommend excitation 推荐工作电压:	8~15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.

# About the digital load cells 数字式传感器

1. We have 2 types digital load cell which are in 4 wires and 6 wires;  
我们现有二种数字式产品, 分别是4线制式和6线制式;
2. Most of our analog load cells are changeable to make digital type.  
大多数的模拟式传感器是可以制造成数字式的。

## Specification 技术参数

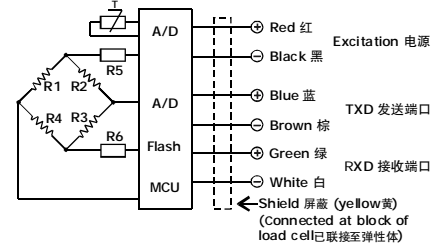
Item项目\ Parameter参数	C3	Unit 单位
Rated load 额定载荷(Emax):	Depend on analog load cells	t
Maximal numbers of load cell verification Intervals 最大检定分度数 (Nlc):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (Vmin):	0.01	% of rated load
Rated output 额定输出 (Cn):	30,000 or 100,000	d
*Combined error 综合误差:	0.015	± % of rated output
Temperature effect on sensitivity 灵敏度温度影响:	0.0012	± % of rated output/°C
Temperature effect on zero balance 零点温度影响:	0.0008	± % of rated output/°C
Zero balance 零点平衡:	1.0	± % of rated output
Measuring rate A/D转换率:	50/25	/Sec
Baudrate 传输波特率:	9600/19200	Bps
Filter mode 滤波方式 1:	3~0.05(Low pass filter)	HZ
Filter mode 滤波方式 0:	8~3(Low pass filter)	HZ
Maxium transmission distance 最大通讯距离:	1200	m
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20~ +70/-20~ +160	°C/ °F
Recommend excitation 推荐工作电压:	7~12	V( DC Only)
Maximum excitation 最大工作电压:	15	V( DC Only)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

The data for deviation of synthesis error,TKo,TKc are typical values.The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值,它最终将符合OIML R60中的相应条款的要求。

## Circuit Diagram 电路图

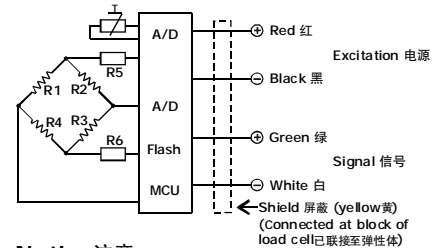
### Electrical Termination 电路终端

6 Core cable connection 接线方式:  
Refer to the following drawing.  
参阅下面的图形。



### 4 Core cable connection 接线方式:

Refer to the following drawing.  
参阅下面的图形。



### Notice 注意:

The 7 and/or 5 wires of cable should be short circuit before using.

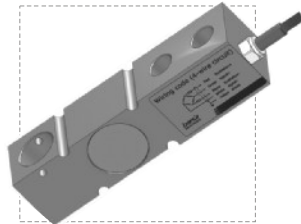
Do not test the insulation resistance!

在使用前,传感器的电缆接头(7/5线)应保持短路状态;  
严禁测试绝缘电阻!

The following digital load cells are typical model in our company.  
Please visit our website to get more informations about that model...  
如需了解更多的数字式产品, 请浏览我们的网站...



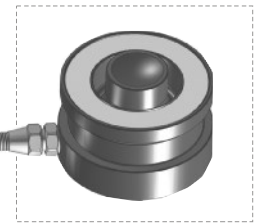
>>P01



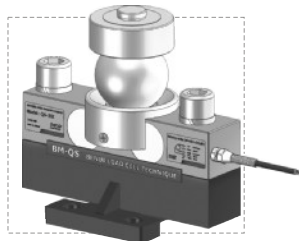
>>P28



>>P30



>>P12



>>P15



>>P09



>>P35



# About the high-temperature load cells 高温传感器

1. Usually, the accuracy is C2 to most of high-temp. load cells;  
大多数的高温传感器的精度为C2;
2. Most of our analog load cells are changeable to make high-temp. type.  
大多数的模拟式传感器是可以制造成高温式的。

## Specification 技术参数

Item项目 \ Parameter参数	C2	Unit 单位
Rated load 额定载荷(Emax):	Depend on regular load cells	t
Maximal numbers of load cell verification Intervals 最大检定分度数 (Nlc):	2000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (Vmin):	0.02	% of rated load
Rated output 额定输出 (Cn):	2.0 ± 0.1%	mV/V
*Combined error 综合误差:	0.027	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0024	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (TKo):	0.002	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance(RIc) 输入阻抗:	---	Ω (Ohms)
Output resistance(Ro) 输出阻抗:	---	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +160 / -5 ~ +320	°C / °F
Recommend excitation 推荐工作电压:	8~15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

The data for deviation of synthesis error,TKo,TKc are typical values.The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值,它最终将符合OIML R60中的相应条款的要求.

## Circuit Diagram 电路图

### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:

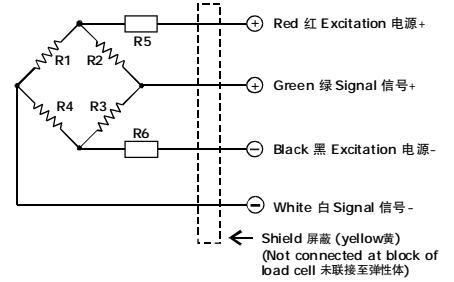
<=30t: 12.0 m, >=40t: 18m.

Diameter: φ 6

Connection 接线方式:

Refer to the following drawing.

参阅下面的图形.

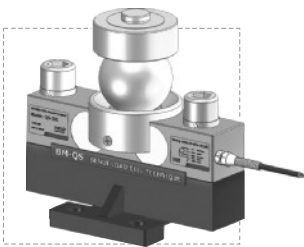


### Notice 注意:

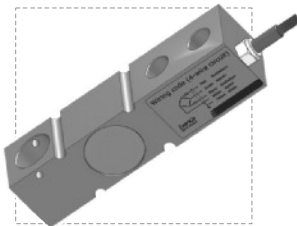
Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四芯电缆的长度, 否则这将影响传感器的灵敏度.

The following High-temp. load cells are typical model in our company.  
Please visit our website to get more informations about that model...  
如需了解更多的高温式产品, 请浏览我们的网站...



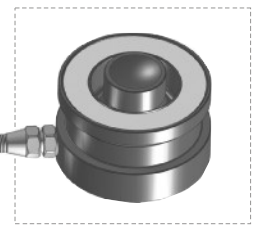
>>P15



>>P28



>>P30



>>P12



>>P26



>>P09



>>P35



# BTY-AE

# Anti-explode load cell 防爆柱式传感器

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
10,20,30,40,50,60t.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Accuracy 精度:**  
C3 OIML R60.

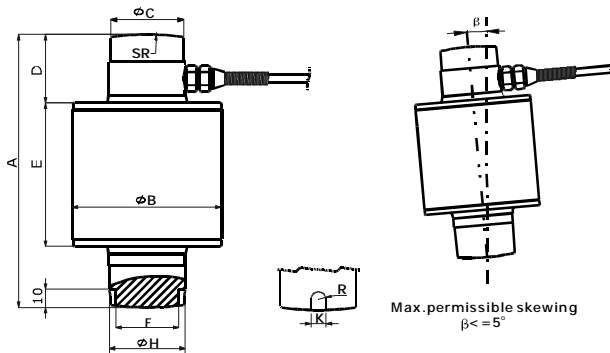
**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%  
Anti-explode grade 防爆等级: Exia II CT6

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



CAP./SIZE	A	B	C	D	E	F	H	K	SR
10~30t	150	82	40	38	82	34.7	41.7	8	150
40~60t	170	88	53	47	95	43	53	10	200

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	10,20,30,40,50,60	t
Maximal numbers of load cell verification Intervals 最大检定分度数 (N <sub>ic</sub> ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0 ± 0.1%	mV/V
*Combined error 综合误差:	0.015	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance(R <sub>ic</sub> ) 输入阻抗:	775 ± 5	Ω (Ohms)
Output resistance(R <sub>o</sub> ) 输出阻抗:	702 ± 2	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥ 5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	°C / °F
Recommend excitation 推荐工作电压:	8~15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

The data for deviation of synthesis error,TK0,TKc are typical values.The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值,它最终将符合OIML R60中的相应条款的要求.

## Circuit Diagram 电路图

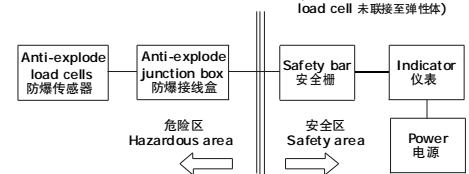
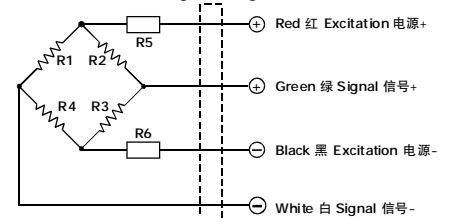
### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:  
≤ 30t: 12.0 m, >=40t: 18m.

Diameter: φ 6

Connection 接线方式:

Refer to the following drawing 参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

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中文网站 http://www.benui.com.cn www.benui.cn



# QS-AE

# anti-explode load cell 防爆桥式传感器

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
10,20,30,40,50t.

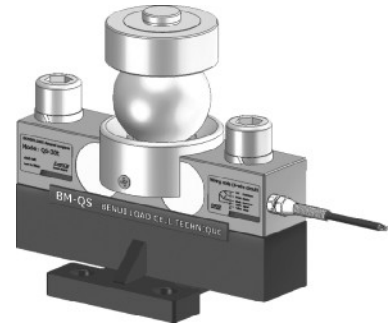
**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Accuracy 精度:**  
C3 OIML R60.

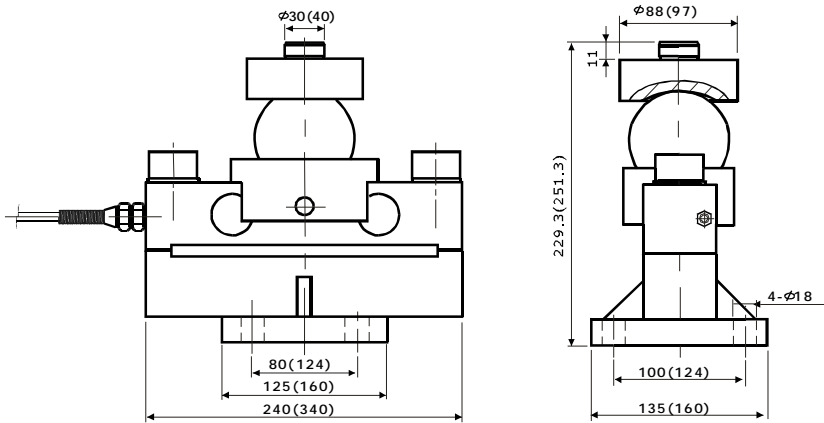
**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
**Combined error 综合误差: 0.015%**  
**Anti-explode grade 防爆等级: Exia II CT6**

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



Note:  
(\*\*) are for QS-40-50t

## Circuit Diagram 电路图

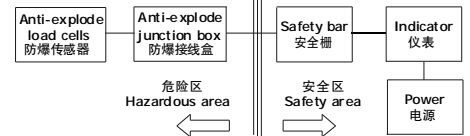
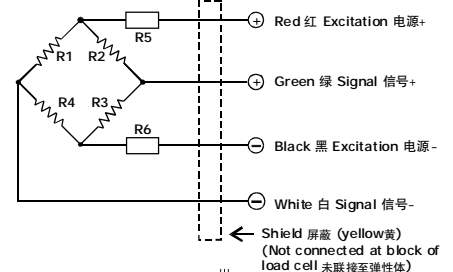
### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:  
≤30t: 12.0 m, ≥40t: 18m.

Diameter: φ6

Connection 接线方式:

Refer to the following drawing 参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	10,20,30,40,50	t
Maximal numbers of load cell verification Intervals 最大检定分度数 (N <sub>c</sub> ):	3000	d
Minimum load cell verification Intervals 最小检定分度值 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0±0.1%	mV/V
*Combined error 综合误差:	0.015	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance(R <sub>ic</sub> ) 输入阻抗:	775±5	Ω (Ohms)
Output resistance(R <sub>o</sub> ) 输出阻抗:	702±2	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20~+70/-20~+160	°C / °F
Recommend excitation 推荐工作电压:	8~15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

The data for deviation of synthesis error,TKo,TKc are typical values.The sum of these data meets the requirements according to OIML R60.

综合误差为理论值,它最终将符合OIML R60中的相应条款的要求.

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http://www.benüi.com www.loadcell.cn

中文网站 http://www.benüi.com.cn www.benüi.cn

# BHW Wireless load cell 无线传输传感器

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
1~120t.

**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

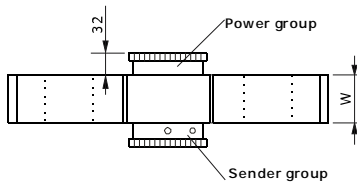
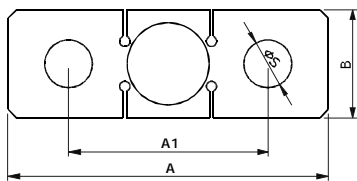
**Sealed to IEC 529:**

Protection grade: IP67. Enclosure is immersed in water in its service position for 30min.  
Lowest point of enclosure less than 850mm tall=1000mm below surface of water.  
Highest point of enclosure more than 850mm tall=150mm below surface of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



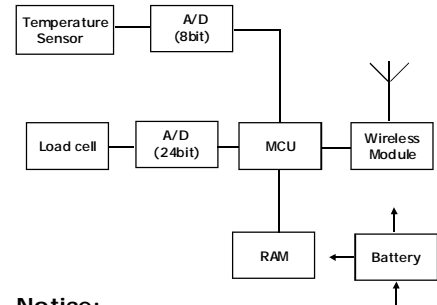
Note:  
Do not open the sender group, no any share parts there!

CAP./SIZE	A	A1	B	W	φS	Shackle	Hook
1~5t	230	160	76	34	30	7/8	5/8
10t	280	188	90	47	40	1 1/4	3/4
20~30t	370	230	125	55	53	1 3/4	----
40~50t	430	260	150	65	73	2 1/2	----
60t	430	260	150	85	73	2 1/2	----
100~120t	580	340	220	115	98	3 1/2	----

## Circuit Diagram 电路图

### Electrical Termination

Worldwide licence exempt: 2.4GHz  
operating frequency Range Min: not less than 100m  
Battery working life: Active not less than 70 hours  
(full charge)  
Battery type: Li-ion Rechargeable



### Notice:

Do not use the wireless load cell in explosive and unsafe place.  
The wireless range will be affected when in different weather, the load cell with the indicator in different place, orientation or obstruct from. For charger: according to Li-ion battery. Do not excess discharge!

## Specification 技术参数

Item 项目 \ Parameter 参数	C3	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	1~120	t
Maximal numbers of load cell verification Intervals 最大检定分度数 ( $N_{lc}$ ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 ( $V_{min}$ ):	0.01	% of rated load
Rated output 额定输出 ( $C_n$ ):	$2.0 \pm 0.1\%$	mV/V
*Combined error 综合误差:	0.015	$\pm\%$ of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	$\pm\%$ of rated output/ $^{\circ}C$
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	$\pm\%$ of rated output/ $^{\circ}C$
Zero balance 零点平衡:	1.0	$\pm\%$ of rated output
Input resistance ( $R_{ic}$ ) 输入阻抗:	$775 \pm 5$	$\Omega$ (Ohms)
Output resistance ( $R_o$ ) 输出阻抗:	$702 \pm 2$	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq 5000$	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20~+70/-20~+160	$^{\circ}C / ^{\circ}F$
Recommend excitation 推荐工作电压:	8~15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合 OIML R60 中的相应条款的要求。

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# BWH Wireless load cell 无线传输传感器

## Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
0.5, 1, 2, 3t.

**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

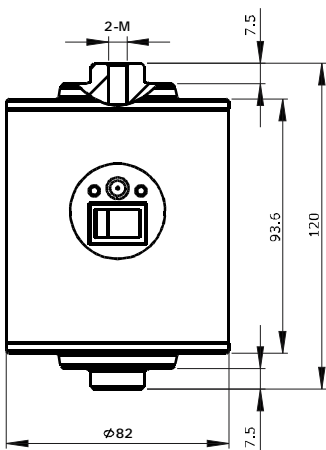
**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP67. Enclosure is immersed in water in its service position for 30min.  
Lowest point of enclosure less than 850mm tall=1000mm below surface of water.  
Highest point of enclosure more than 850mm tall=150mm below surface of water.

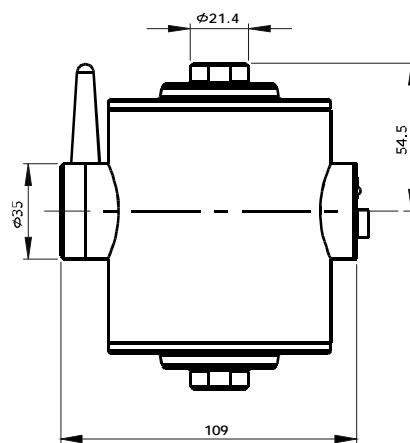


## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



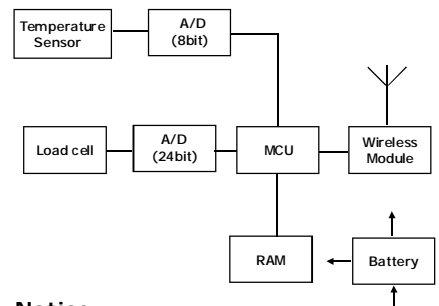
2-M12 when 0.5-1t, 2-M16 when 2-3t



## Circuit Diagram 电路图

### Electrical Termination

Worldwide licence exempt: 2.4GHz  
operating frequency Range Min: not less than 100m  
Battery working life: Active not less than 70 hours  
(full charge)  
Battery type: Li-ion Rechargeable



### Notice:

Do not use the wireless load cell in explosive and unsafe place.  
The wireless range will be affected when in different weather, the load cell with the indicator in different place, orientation or obstruct from. For charger: according to Li-ion battery. Do not excess discharge!

## Specification 技术参数

Item 项目 \ Parameter 参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	0.5, 1, 2, 3	t
Maximal numbers of load cell verification Intervals 最大检定分度数 (N <sub>ic</sub> ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0 ± 0.1%	mV/V
* Combined error 综合误差:	0.015	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance (R <sub>ic</sub> ) 输入阻抗:	775 ± 5	Ω (Ohms)
Output resistance (R <sub>o</sub> ) 输出阻抗:	702 ± 2	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥ 5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	°C / °F
Recommend excitation 推荐工作电压:	8 ~ 15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

The data for deviation of synthesis error, TK<sub>0</sub>, TK<sub>c</sub> are typical values. The sum of these data meets the requirements according to OIML R60.  
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# BTY-SIM

## Wireless/SMS load cell 手机短信传感器

### Description 主要特性

**Capacities 额定量程: (E<sub>max</sub>)**  
10,20,30,40,50,60t.

**Accuracy 精度:**  
C3 OIML R60.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.015%

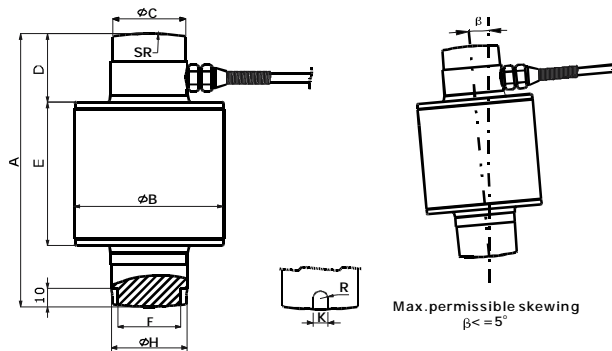
**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



### Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)

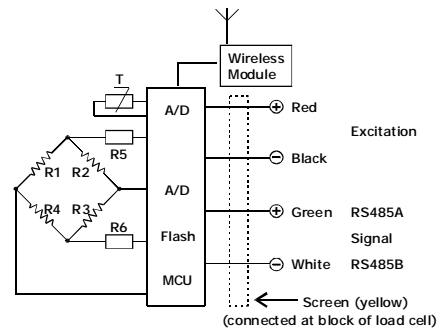


CAP./SIZE	A	B	C	D	E	F	H	K	SR
10-30t	150	82	40	38	82	34.7	41.7	8	150
40-60t	170	88	53	47	95	43	53	10	200

### Circuit Diagram 电路图

#### Electrical Termination 电路终端

4 Core cable standard lengths 电缆长度:  
≤30t: 12.0 m, ≥40t: 18m.  
Diameter: φ 6  
Connection 接线方式:  
Refer to the following drawing.  
参阅下面的图形.



#### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.  
不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

### Specification 技术参数

Item项目 \ Parameter参数	C3	Unit 单位
Rated load 额定载荷 (E <sub>max</sub> ):	10,20,30,40,50,60	t
Maximal numbers of load cell verification Intervals 最大检定分度数 (N <sub>ic</sub> ):	3000	d
Minimum load cell verification intervals Intervals 最小检定分度值 (V <sub>min</sub> ):	0.01	% of rated load
Rated output 额定输出 (C <sub>n</sub> ):	2.0 ± 0.1%	mV/V
*Combined error 综合误差:	0.015	±% of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0012	±% of rated output/°C
Temperature effect on zero balance 零点温度影响 (TK0):	0.0008	±% of rated output/°C
Zero balance 零点平衡:	1.0	±% of rated output
Input resistance(R <sub>ic</sub> ) 输入阻抗:	775 ± 5	Ω (Ohms)
Output resistance(R <sub>o</sub> ) 输出阻抗:	702 ± 2	Ω (Ohms)
Insulation resistance 绝缘电阻:	≥5000	MΩ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	°C / °F
Recommend excitation 推荐工作电压:	8~15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.  
综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.



# ATW Analog to wireless converter 模拟和无线转换器

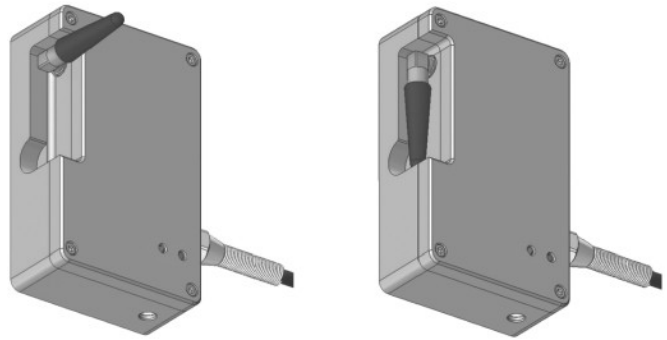
## Description 主要特性

**Input 输入:**  
 Analog 模拟信号: 1~3mv/v.  
 Input resistance 输入阻抗: 350~1500.

**Output 额定输出:**  
 Wireless 无线  
 Digital: 30,000 or 100,000d.

**Worldwide licence exempt 全球通用许可:**  
 2.4GHz operating frequency.

**Range Min 有效操作范围:**  
 Not less than 不小于: 100m.

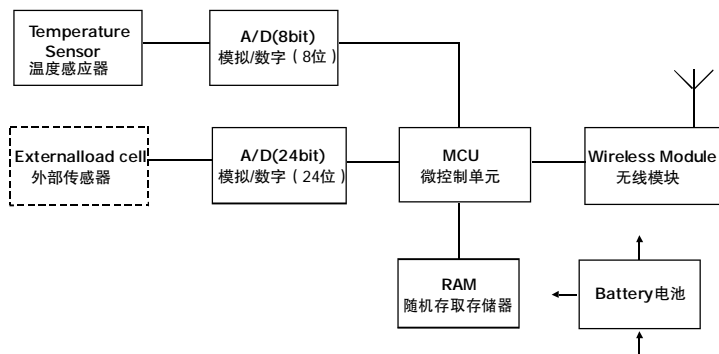


## Circuit Diagram 电路图

(In mm. 1mm = 0.03937 inches)

**Electrical Termination**  
 Worldwide licence exempt:  
 2.4GHz operating frequency  
 Range Min: not less than 100m  
 Battery working life: Active not less than 70 hours (full charge)  
 Battery type: Li-ion Rechargeable

**电路终端**  
 全球通用许可: 2.4GHz 操作频率  
 有效操作范围: 不少于100米  
 电池工作时间: 在充满的状态下, 不少于70个小时



### Notice:

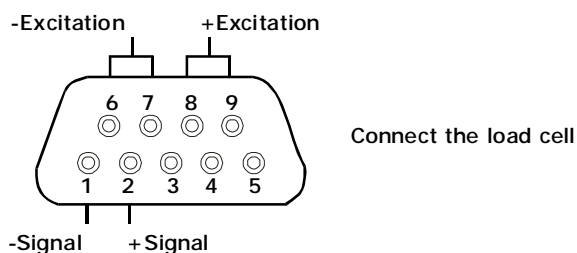
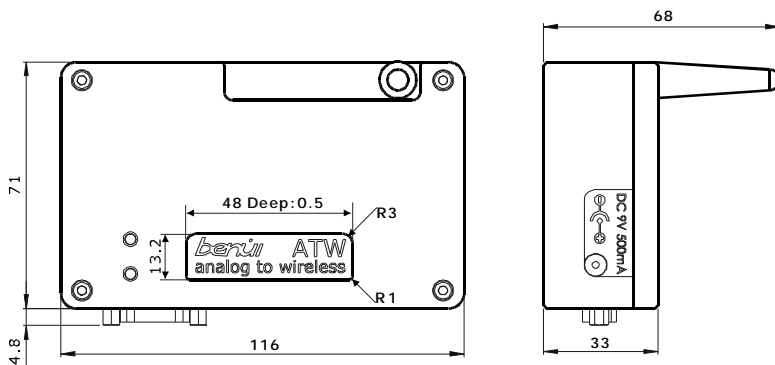
Do not use the wireless load cell in explosive and unsafe place. The wireless range will be affected when in different weather, the load cell with the indicator in different place, orientation or obstruct from. For charger: according to Li-ion battery. Do not excess discharge!

### 注意点:

不要在爆炸性的或不安全的地方使用无线传感器, 无线的工作效果在不同的场合、地区或有无障碍物, 都会受到影响. 可充电的锂电池在充满的状态下, 可以工作70个小时以上. 充电时间请不要过长或过度.

## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



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# ATC-108A

## Analog load cells to PC converter 模拟传感器-电脑转换器

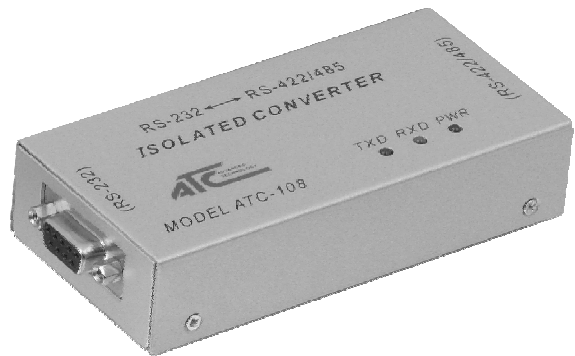
### Description 主要特性

**Input 输入:**  
Analog 模拟信号: 1~3mv/v.  
Input resistance 输入阻抗: 350~1500.

**Output 额定输出:**  
Digital: 30,000 or 100,000d.  
Can connect PC directly.  
可直接联接电脑, 无需仪表.

**Light insulation type 光电隔离**  
**Non-linearity compensation 非线性补偿**  
**Filter treatment 滤波处理**

**Exterior LEDs show working order LED 显示工作状态**



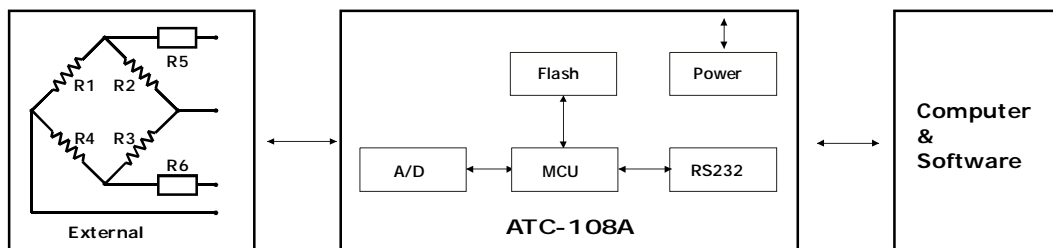
### Circuit Diagram 电路图

(In mm. 1mm = 0.03937 inches)

This is a based weighting solution, It can be used for either analog strtic weighing. No need the indicator, and it has a low cost. Usually, it connects the junction box between the computer.

这是基本的称重系统解决方案, 它能应用在各种静态衡器. 不需要仪表可直接联接电脑. 低成本.

The signal of some analog load cells will be magnified after analog adding by the junction box, which will be dealt with by MCU after A/D conversion, then will output to PC by RS232 module. Please refer to following picture.

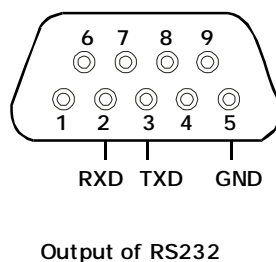
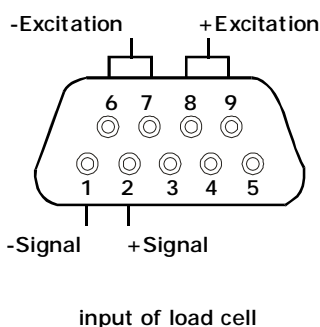
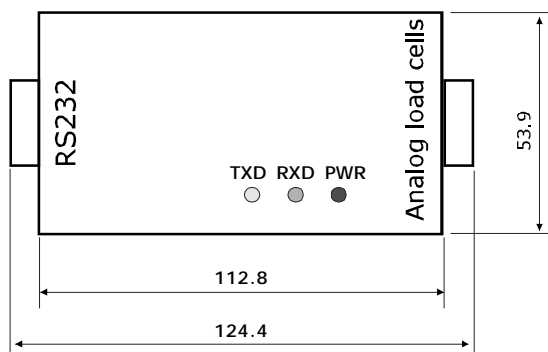


### Note:

Multi-load cells should connect junction box then connect to ATC-108A.

### Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



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# BWI - 31 Wireless indicator 无线手持仪表

## Description 主要特性

**Worldwide licence exempt:** 2.4GHz operating frequency 全球通用许可: 2.4GHz 操作频率

**Range Min:** not less than 100m  
有效作用范围: 不少于100米

**Battery working life:** Active not less than 70 hours (full charge with turning off backlight)  
电池工作时间: 充满电情况下不少于70个小时

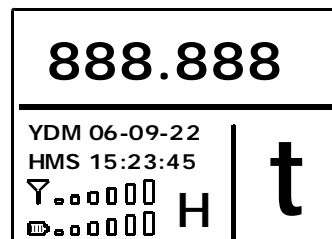
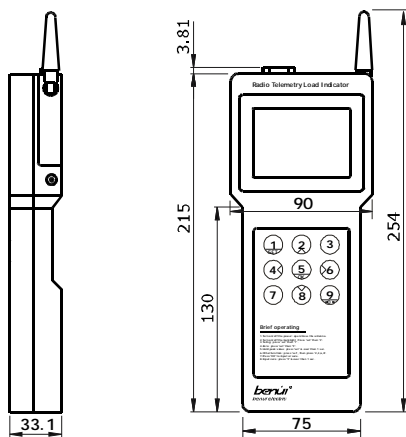
**Display:** LCD 128\*64 with backlighting 带背光  
show weight value: 6 bit 六位数字重量  
show working life of battery 带电池电量显示  
show strength of signal 带信号强度显示

**Hold on the peak value** Can contact with computer by RS232 保持峰值; 通过RS232接口可以连接电脑。

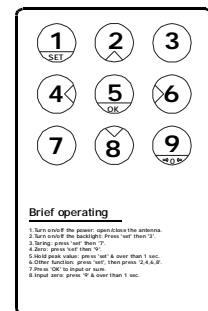


## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



Display interface 显示屏界面



Keyboard 键盘

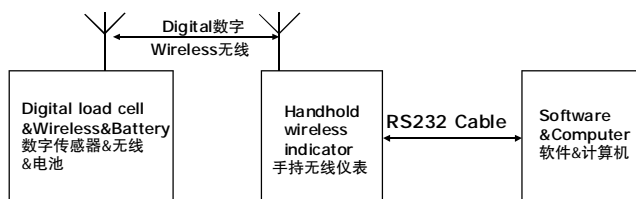
## Work principle 工作原理

First, the load cell's out-put signal is digital, Digital compensation and temperature compensation will be finished in internal. Though 2.4G wireless module to launch after reasonable .

Handheld receive load cell output and its internal battery power consumption values then show them on the LCD display, and handheld through the RS232 output to a computer or large-screen display. If necessary, Multi-channel working can be changed, One handheld can be connected to up to 16 sensors.

传感器输出为数字信号, 数字补偿和温度补偿均在内部完成. 通过2.4Hz无线模块发射.

手持仪表接收传感器的输出, 显示数值在LCD屏幕上. 手持仪表可以通过RS232接口连接到计算机或大屏幕. 如果有需要, 可以改变成多频道, 一个手持仪表可以最多连接到16个传感器同时.



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# VD-3.0E Software for digital load cell 数字传感器软件

## Description 主要特性

**Operating system 操作系统:** Windows 2000,2003,XP

**Communication 通信:**

**Input 输入:** RS485-RS232

**Max transmission distance is 1.2 km 最大传输距离是1.2米**

**Output: RS232 for large display 输出: RS232到屏幕**

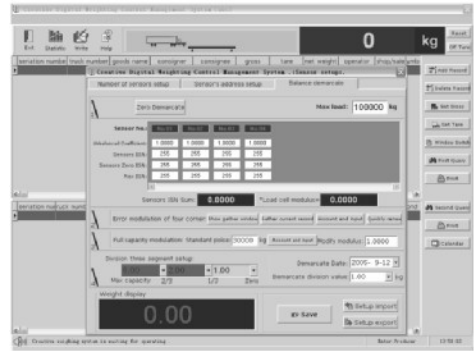
**Network card for share data 用网卡可以数据共享**

**Expansion 扩展应用:**

Telecommuting by internet Monitor video

or photo Intelligent card Traffic light or infrared

用视频监控或交通灯智能摄像卡或红外线远程控制



**Extraordinary function 特殊功能:**

Can show detail of anyone load cell;

Adjust corner error automatically;

Division automatically.

可以显示传感器自动调节角差和自动调节分度值

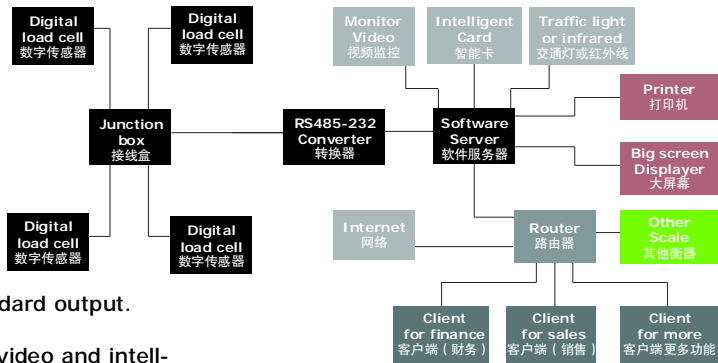
## Work principle 工作原理

PC sends in junction to respective digital load cell by RS485-232 and junction box, then feedback data to PC, after counting, will display the real weight of scale, this is basically complete weighing process.

PC will save real weight and other information except for readable available data, used for statistic, analy and query.

Printer and big screen displayer can be available in this system, and moreover equip with standard output.

On the base, you can also choose traffic light, monitor video and intelligent card. Or you can work with another scale and share with the same data. Make multi-scales work together. Of course, all above function can be available. If you build internet constructure, so clients can visit and deal with data by net.



■ This part is basal, the model of software corresponding is VD-3.0E .

■ This part is optional, the model of software corresponding is VD-3.0E-V

■ This part is optional, at the same time, It needs one or more corresponding software for clients, the model of software corresponding is VD-3.0E-L . The client soft is VD-3.0E-LG.

■ This part is optional, at the same time, It needs one or more corresponding software for clients, the model of software corresponding is VD-3.0E-I . The client soft is VD-3.0E-IG.

If you want to add other functions, we can develop them according to your requirement.

- 1.1) 微机通过RS485-232发送指令到各个数字传感器和接线,然后把数据反馈到微机.经计算后,会显示实际称重.
- 1.2) 微机会保存称重数值和另外的信息,除了用于统计分析、查询上面用得可读数据.
- 1.3) 打印机和大屏幕适用于这个系统,该设备带标准输出.
- 1.4) 你可以选择交通灯, 监控摄像智能卡. 或者可以和其他衡器一起工作并且共享相同的数据. 同时使多个称共同工作. 只要你建造了网络构造, 那么客户就能访问并且通过网络处理数据.

■ 这部分是基础, 通信软件型号VD-3.0E

■ 这部分是可选择的, 通信软件模块型号VD-3.0E-V

■ 这部分也是可选择的, 同时, 如果需要一个或更多的通信软件给客户, 那么通信软件模型为VD-3.0E-L. 客户软件为VD-3.0E-LG.

■ 这部分也是可选择的, 同时, 如果需要一个或则更多的通信软件给客户, 那么通信软件模型为VD-3.0E-I. 客户软件为VD-3.0E-IG.

另外, 如果有需要, 我们可以根据你们具体要求再增加功能. ( 上述颜色对应下图字体颜色 )

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# VA-3.OE Software for indicator 软件应用于仪表

## Description 主要特性

Operating system 操作系统: Windows 2000,2003,XP

Communication 通信:

Input输入: RS485-RS232

Max transmission distance is 1.2 km 最大传输距离是1.2公里

Output: RS232 for large display 输出: RS232到屏幕

Network card for share data 用网卡可以数据共享

Expansion 扩展应用:

Telecommuting by internet Monitor video  
or photoIntelligent cardTraffic light or infrared  
用视频监控或交通灯智能摄像卡或红外线远程控制



## Work principle 工作原理

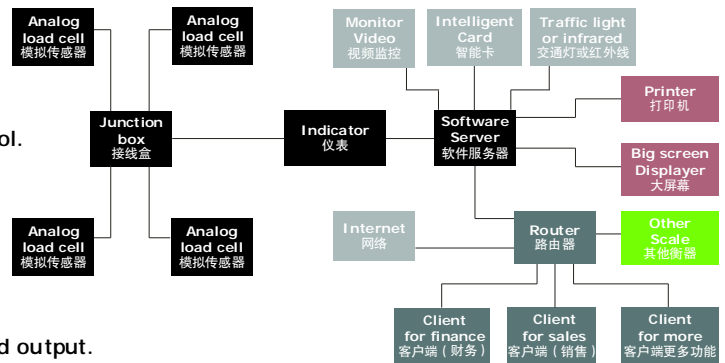
There is a option for using digital load cells with digital indicator or using analogue load cells with analogue indicator.

Most of our indicators can connect with this software by RS232, because they r using same protocol.

Indicator sends the real weight to PC, PC will save real weight and other information except for readable available data, used for statistic, analy and query.

Printer and big screen displayer can be available in this system, and moreover equip with standard output.

On the base, you can also choose trafic light, monitor video and intelligent card. Or you can work with another scale and share with the same data. Make multi-scales work together. Of course, all above function can be available.If you build internet constructure, so clients can visit and deal with data by net.



■ This part is basal,the model of software corresponding is VA-3.OE .

■ This part is optional,the model of software corresponding is VA-3.OE-V .

■ This part is optional,at the same time, It needs one or more corresponding software for clients,the model of software corresponding is VD-3.OE-L . The client soft is VA-3.OE-LG.

■ This part is optional, at the same time, It needs one or more corresponding software for clients,the model of software corresponding is VD-3.OE-I . The client soft is VA-3.OE-IG.

If you want to add other functions , we can develop them according to your requirement.

- 1.1 ) 在这里有一个选项,用数字式传感器配套数字式仪表,或用模拟式传感器配套模拟式传感器.
- 1.2 ) 仪表发送称重值到微机,微机会保存称重数值和另外的信息,除了用于统计、分析、查询上面用得可读数据.
- 1.3 ) 打印机和大屏幕适用于这个系统,该设备带标准输出.
- 1.4 ) 你可以选择交通灯, 监控摄像智能卡,或者可以和其他称一起工作并且分享相同的数据.同时使多个称共同工作.只要你建造了网络构造,那么客户就能访问并且通过网络处理数据.

■ 这部分是基础, 通信软件型号VA-3.OE

■ 这部分是可选的, 通信软件模块型号VA-3.OE-V

■ 这部分也是可选的, 同时, 如果需要一个或更多的通信软件给客户, 那么通信软件模型为VA-3.OE-I. 客户软件为VA-3.OE-IG.

■ 这部分也是可选的, 同时, 如果需要一个或则更多的通信软件给客户, 那么通信软件模型为VA-3.OE-L. 客户软件为VA-3.OE-LG.

另外, 如果有需要, 我们可以根据你们具体要求再增加功能.

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# XK3190 Series indicator for digital load cells 数字仪表



Encloser: Stainless steel



Encloser: Aluminum housing



Encloser: ABS

## XK3190-DS3数字式仪表

XK3090-DS3 is widely applied in electronic floor scale, electronic truck scale, static railway scale and so on alike static weighing system equipped with 1~16 digital load cell.

Auto/manual angle correction

Digital load cell communication address modification function

Single load cell and single angle data check function

Call and display inner code to replace weight observing and analysis tolerance

Able to set up zero-tracking range, zero(auto/manual) range

With bi-divisions switch function

Non-linearity correction and calibration tolerance correction

Time power-off function

Able to set up print function for fast filled weighing bill

Weighing data save/check/delete/protection in case of power off

Standard RS232C (RS422/RS485 optional) communication interface with selectable baud rate

Standard scoreboard interface with 20mA current loop method

Standard parallel print interface

Able to save 1500 vehicle ID and corresponding tare weight, 201 cargo ID and corresponding cargo name, 1001 weighing records

Able to print out various parameters of indicator.

## 产品简介

XK3190-DS3显示器适用于电子地上衡、电子汽车衡、静态轨道衡等采用1~16个数字传感器的静态称重系统。

可连接数字传感器

自动/手动角差修正

具有轨道衡修正模式

数字传感器通讯地址修改功能

单个传感器数据查看功能

调用内码显示方便, 替代感量砝码观察及分析允差

零位跟踪范围、置零(开机/手动)范围可分别设置

二档分度值自动切换;

非线性修正功能和标定误差修正功能

定时关机功能

快速填充式过磅单打印功能设置

称重记录贮存/检查/删除/断电保护

配备RS-232C (RS422/RS485选配) 通讯口

配备电流环大屏幕通讯口; 配备标准并行打印接口

数字传感器连接

连接方式: RS485方式

通讯距离: 约1000米

连接个数: 1~16个

传感器电源: DC 10V, 0.8A (Max)

显示

显示方式: 7位超高亮白光数码管, 10个状态指示符

显示范围: -325000 ~ 325000 (d=10)

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# JB Junction Box 接线盒

## Description 主要特性

We have three types junction box:  
Signal adjustable, Excitation adjustable, Digital.

我们有三种接线盒:  
调整信号的, 调整输入的和数字式的

Stainless steel junction box,  
ABS junction box and  
aluminium junction box can be chose.  
The speciality of the cable port are 4,6,8,10,12.

不锈钢接线盒, 铝接线盒和ABS接线盒可供选择.  
有4,6,8,10,12线制的接线盒可供选择.



## Connecting 配线图

Max. permissible voltage: 18V

最大允许输入电压: 18V

Operating temperature range:

工作温度范围:

-10~50 / -14~122 °C / °F

Storage temperature range:

储存温度范围:

-10~50 / -4~140 °C / °F

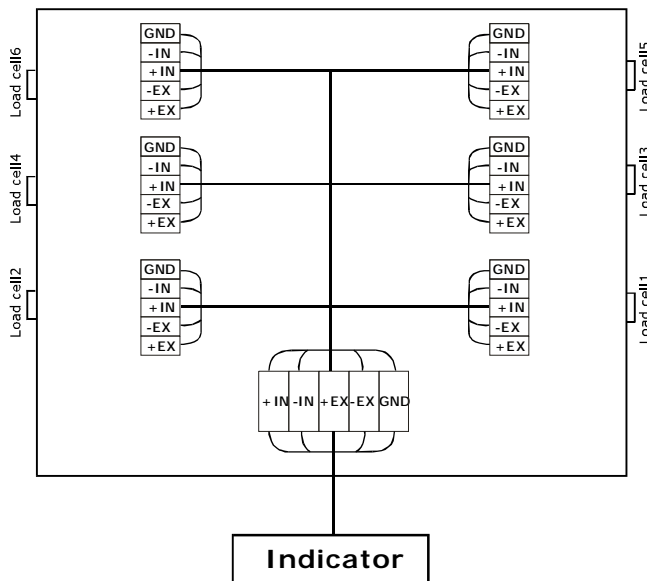
Cable connection: diameter 5~7mm

适用电缆直径: 5~7mm

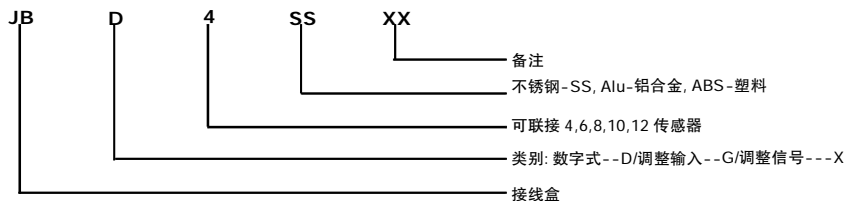
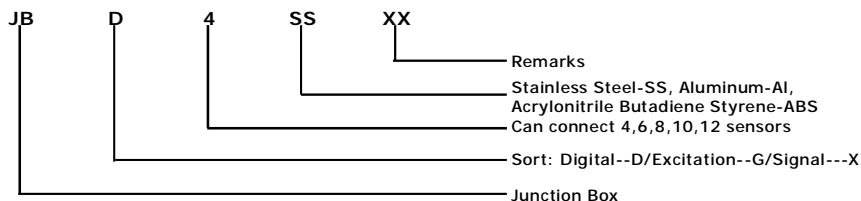
Protection grade according to

IEC529: Ip67

防护等级: Ip67



## Name and how to Choose 命名规则和选择



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# CABLE 传感器专用电缆

## Description 主要特性

wire cable 4 and 6 wire cable ;  
Length: 20m or 100m;  
Low capacity ,high capacitive symmetry;  
In according to Benui colour code.

4线和6线,  
长度100m或200m每卷;  
电缆按本原公司的色系方式.



## Technical Data

Type	PRVP 4*97/0.2	PRVP 6*7/0.2
Number of wires	4	6
Wire colours (according to Benui colour code)	Red ,blake,green,white	Red ,brown,green,blue,blake,white
Outer diameter	5.2mm ± 0.2	6.3mm ± 0.3
Coating material	PRVP	
Wire cross section mm	0.2	
Wire resistance Ω/mm	0.9	
Capacity PF/m	80	
Screen	1	
Temperature range	-30~ +85[-22~ +185]	

# BSD big screen displayer 大屏幕

## Description 主要特性

Received by RS-232C (TXD) , three module of 3.5.8 inch can be chosen.



可支持大多数市场上的常用仪表

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# APLC Axle pad load cell 移动式称重板用传感器

## Description 主要特性

**Capacities 额定量程: ( $E_{max}$ )**  
1,2,3,5,7.5,10 t.

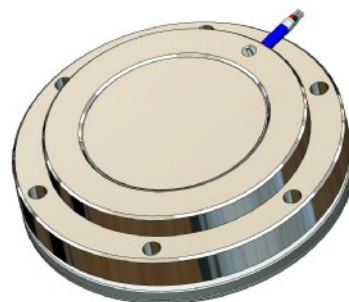
**Accuracy 精度:**  
C2 OIML R60.

**Output 额定输出:**  
2.0mV/V  
Digital: 1,000,000d.

**Execution standard 执行标准:**  
GB/T 7551-2008 Certificate  
(eqv OIML R60)  
Combined error 综合误差: 0.027%

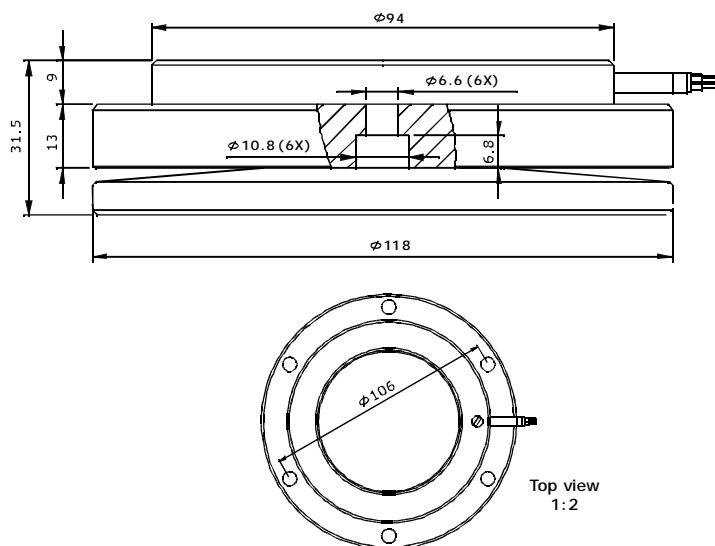
**Material of elastomer 主要材料:**  
Alloy steel or stainless steel.  
合金钢或不锈钢.

**Sealed to IEC 529:**  
Protection grade: IP67 or IP68. Protection against total immersion in water for 30 minutes at a pressure corresponding to a 1 m head of water.



## Dimensions 外形尺寸

(In mm. 1mm = 0.03937 inches)



## Circuit Diagram 电路图

### Electrical Termination 电路终端

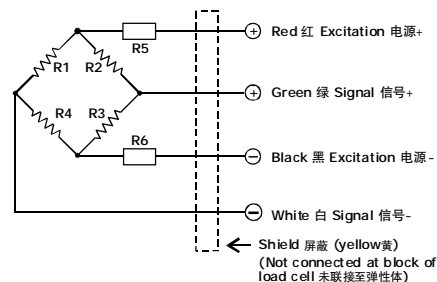
4 Core cable standard lengths 电缆长度: 1m.

Diameter:  $\phi 5$

Connection 接线方式:

Refer to the following drawing.

参阅下面的图形.



### Notice 注意:

Do not change the length of cable, or else, it will effect the sensitivity of load cell.

不要改变四蕊电缆的长度, 否则这将影响传感器的灵敏度.

## Specification 技术参数

Item项目 \ Parameter参数	C2	Unit 单位
Rated load 额定载荷 ( $E_{max}$ ):	1,2,3,5,10	t
Maximal numbers of load cell verification Intervals 最大检定分度数 ( $N_k$ ):	2000	d
Minimum load cell verification intervals Intervals 最小检定分度值 ( $V_{min}$ ):	0.02	% of rated load
Rated output 额定输出 ( $C_n$ ):	$2.0 \pm 0.1\%$	mV/V
*Combined error 综合误差:	0.027	$\pm$ % of rated output
Temperature effect on sensitivity 灵敏度温度影响 (TKc):	0.0024	$\pm$ % of rated output/ $^{\circ}C$
Temperature effect on zero balance 零点温度影响 (TK0):	0.002	$\pm$ % of rated output/ $^{\circ}C$
Zero balance 零点平衡:	1.0	$\pm$ % of rated output
Input resistance ( $R_{ic}$ ) 输入阻抗:	$775 \pm 5$	$\Omega$ (Ohms)
Output resistance ( $R_o$ ) 输出阻抗:	$702 \pm 2$	$\Omega$ (Ohms)
Insulation resistance 绝缘电阻:	$\geq 5000$	M $\Omega$ (Mega-Ohms)
Safe overload 安全过载:	150	% of rated capability
Ultimate overload 极限过载:	300	% of rated capability
Operating temperature range 工作温度范围:	-20 ~ +70 / -20 ~ +160	$^{\circ}C$ / $^{\circ}F$
Recommend excitation 推荐工作电压:	8-15	V (DC or AC)
Maximum excitation 最大工作电压:	24	V (DC or AC)
Material of elastomer 弹性体材料:	Alloy steel 合金钢 / Stainless steel 不锈钢	
Protection class 防护等级:	IP67/IP68	

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The data for deviation of synthesis error, TK0, TKc are typical values. The sum of these data meets the requirements according to OIML R60.

综合误差为理论值, 它最终将符合OIML R60中的相应条款的要求.

# BWI-PAD

Wireless weighing pad system 无线轴称重系统

## Description 主要特性

**Worldwide licence exempt:** 2.4GHz operating frequency 全球通用许可: 2.4GHz 操作频率

**Range Min:** not less than 100m  
有效作用范围: 不少于100米

**Battery working life:** full charge with turning off backlight

Indicator: Active not less than 70 hours

Pad: Active not less than 12 hours

电池工作时间: 充满电情况下

仪表: 不少于70个小时

称重板: 不少于12小时

**Display:** LCD 128\*64 with backlighting 带背光

show weight value: 6 bit 六位数字重量

show working life of battery 带电池电量显示

show strength of signal 带信号强度显示

**Hold on the peak value** Can contact with computer by RS232 保持峰值; 通过RS232接口可以连接电脑。



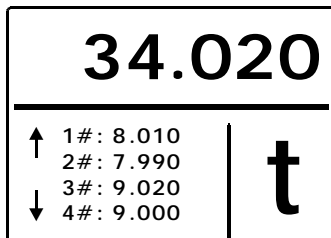
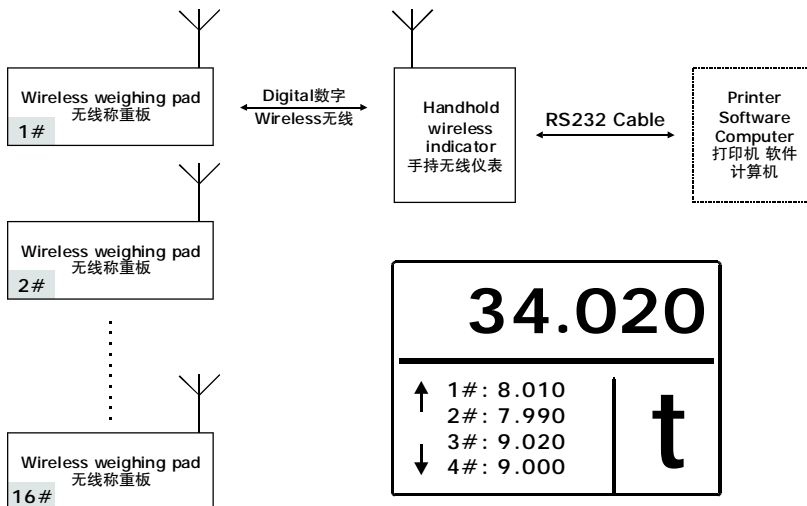
## Work principle 工作原理

BWI-31 wireless indicator is able to connect with Max 16 nos wireless weighing pads, indicator will list every weight from pads which it searched automatically, then show total weight at the one screen with the listing.

**One of advantages is that no need any cable/wire for connection in the whole system.**

BWI-31 无线仪表可最多处理16个称重板, 仪表将自动扫描在测量范围内的所有称重板, 同时显示每个称重板的承重值和它们的总和。

**此类产品的最大优点在于: 整个系统中没有任何电缆/电线需要去联接, 你只需要打开电源。**



Display interface 显示屏界面

### The format of bill for thermal printer

Date: YYYY.MM.DD  
Time: HH:MM:SS  
Truck ID: \*\*\*\*\*  
Goods ID: \*\*\*\*\*  
GoodsGW: \*\*\*\*\*  
GoodsNW: \*\*\*\*\*  
Axle 1#: \*.\*.\*.\*  
Axle 2#: \*.\*.\*.\*  
Axle 3#: \*.\*.\*.\*  
  
Axle 8#: \*.\*.\*.\*  
Total: \*.\*.\*.\*

日期: 年.月.日  
时间: 时:分:秒  
汽车号码: \*\*\*\*\*  
货物名: \*\*\*\*\*  
货物毛重: \*\*\*\*\*  
货物净重: \*\*\*\*\*  
轴 1#: \*.\*.\*.\*  
轴 2#: \*.\*.\*.\*  
轴 3#: \*.\*.\*.\*  
  
轴 8#: \*.\*.\*.\*  
总重: \*.\*.\*.\*

More informations about the referred products:

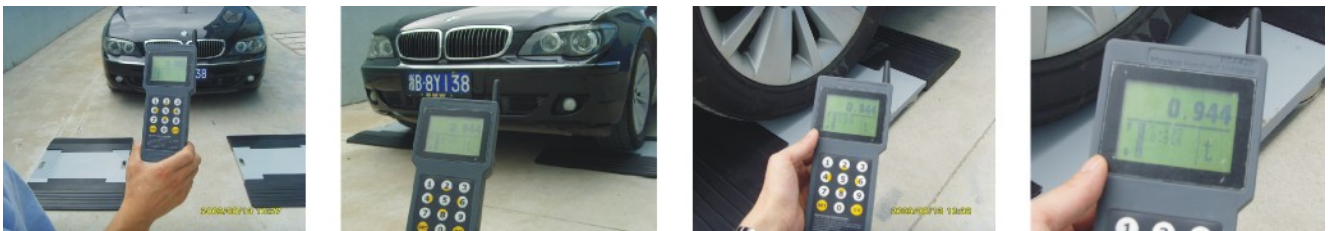
**Weighing pad:**

<http://www.benui.com/uploadfile/pdf/pad.pdf>

**Wireless indicator:**

<http://www.benui.com/uploadfile/pdf/bwi31.pdf>

## Operation 工作实景



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E-mail: sales@benui.com benui@benui.com  
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# DESIGN & Customization

**benüi**<sup>®</sup>  
benüi electric

我们擅长于设计生产各种高精度的称重传感器和自控系统的整体方案解决, 从简单的单片机称重测力控制到大型复杂的多台式多类型复合式组合应用, 网络应用, 无线应用, 远距离监测监控, 无人值守等, 均能在7天内提供方案, 30天内提供样机。

同时我们为公司现有的产品提供个性化的设计生产。

BENUI is good at designing for all kinds of high precision load cell and self-control system. Rang from simple SCM weighing control to Muti-system, internet connection, remote control, wireless application and so on. All of these can be solved within 7 days, supply sample within 30 days.

Meanwhile, we support OEM, special inquiry, customize order and so on.

## Load cells 称重传感器



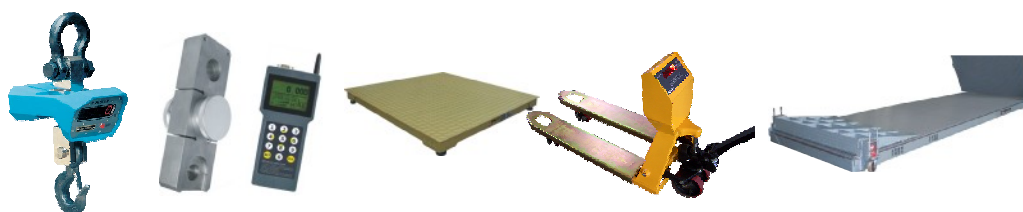
## Software & Indicator 软件及相关



## Accessories 配件及相关



## Weight Scales 衡器及系统



# 数字式传感器及其系统应用简要说明

## Digital system assembly brief

宁波本原电子有限公司是国内第一批生产数字式传感器及其系统应用的制造设计厂家之一，自2005年开始销售以来，根据不同用户的使用反馈和技术进步，目前我们可提供的数字式系统更加完善，功能更加强大，是目前电子衡器理想的升级换代产品。

### 数字式系统的优点:

#### 1. 高精度

每只数字式传感器的输出码为1000,000d，数据在传输过程中无损耗，无干扰，与模拟式最大的区别在于计算的方式为数字加，而不是模拟量之和。

#### 2. 智能化

仪表监视每只数字式传感器的工作状态，及时报错或报告系统参数异常，而不是模拟式系统只有在发生故障时报错。

#### 3. 高安全性

数字式的通讯协议可加密，从根本上杜绝像模拟式系统时加装遥控器等作弊方法，同时可杜绝非专业厂家的维修和保养。

### 我们数字式系统的特点:

#### 1. 自动编址。

只需联接所有任意地址的传感器，仪表将自动搜索并将它们自动编址。当然仪表也支持手动编址，以符合使用习惯和符合各传感器在秤台中的物理位置；

2. 自动计算修正角差。只需将一定重量的重物依次压角，仪表将按线性方程组解出最佳补偿系数；

3. 无线工具表可方便地对数字式系统进行标定，加密，备份标定数据及导入导出等人性化操作，可将以上数据备份到另一载体存档。

4. 仪表可绑定数字式传感器，这将意味着那台仪表只能与确定的那几只传感器工作，以杜绝新型数字式遥控器或其它额外的，无用的或虚假的设备的增加，每次开机检查。

5. 仪表自动记录每只传感器和总称量的过载次数，时间，车号等信息，可方便查看，并可设置过载次数阈值。

Ningbo Benui Electric Co.,Ltd is the first one of manufacturers who produces digital load cell and digital system from 2005, supply all kinds of service inquiry for customers. Nowadays our digital products with more advanced technology, more strong, more smart function and consummate. It is the best replacement instead of previous traditional weighing products.

### Digital system advantages:

#### 1. High precision

Each digital load cell output is 1000,000d, data transmission more fast, no any wastage, no interference. The most difference between analog that is the counting is digital stacking, not analog summation.

#### 2. Intelligence

Digital indicator monitors each load cell, If any abnormal condition, indicator will show it. Not when the load cell rejected, indicator just can show condition.

#### 3. Security

Digital protocol can be with encryption, any another operator can not cheat. And avoiding non-professionism to replace and/or adjust.

### Benui advantages:

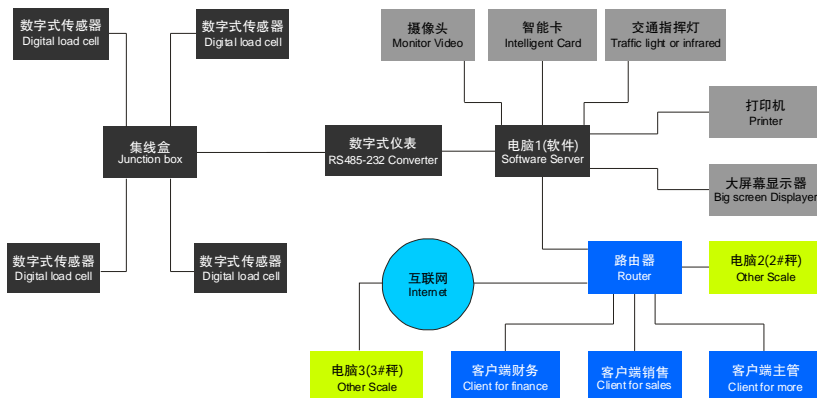
1. Just need to connect all the hardware, indicator will search and arrange address automatically. Of course the indicator can edit manually, in order to satisfy with customers requiry and satisfy with the load cell condition.

2. Adjust corner automatically, just need to put load on each corner, indicator will compensation coefficient according to linear equation.

3. Backup all data after calibration, support lead in/out.

4. The indicator can restrict the load cells, no one can replace and/or calibration the system.

5. The indicator will recode the note automatically once one of load cells getting over loading.



### 我们的数字式系统的可扩展应用:

1. 可以不用数字式仪表，而由计算机直接处理数字信号，完全可替代仪表，界面友好，操作更加方便。
2. 默认支持多种打印机和大屏幕。
3. 支持摄像头，智能卡，交通灯道匝控制，可实现无人值守。
4. 可组网，实现内部数据共享和管理，可简单实现ERP的管理。
5. 可联接互联网，实现远距离的共享和管理。

### Benui Supports:

1. Computer deals with digital signal, no need to use digital indicator. And more important computer interface more clear, more convinient to operate.
2. Support almost printers and big-screen.
3. Support camera, smart card, traffic light. No need to watch over.
4. Data can be share and controled on intranet.
5. Data can be share and controled on internet.

# DIGITAL

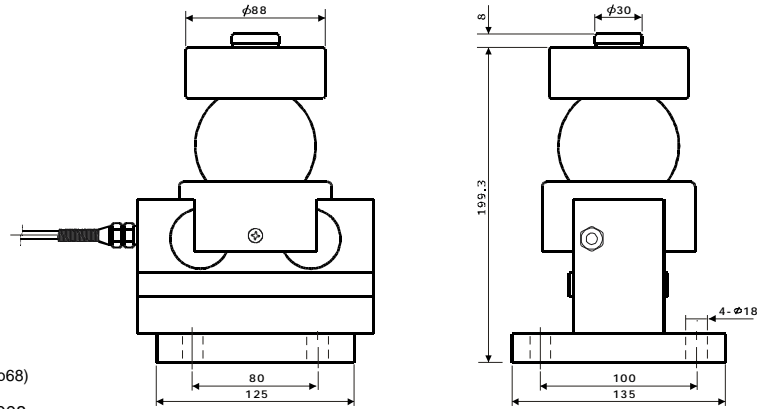


# 数字式系统主要部件简要介绍

## Digital system main parts brief



### QSS-D 桥式数字传感器(QSS-D Digital Lcs)



额定量程 (Capacities) : 10, 20, 30, 40t  
 弹性体材料 (Material) : 合金钢或不锈钢  
 (Alloy or stainless steel)  
 额定输出 (Output) : 1, 000, 000d  
 防护等级 (Protection) : IP67 或 IP68 (IP67 or IP68)  
 精度等级 (Accuracy) : C3 01ML R60  
 执行标准 (Executive Standard) : GB/T 7551-2008

### DS3 数字式称重仪表(DS3 Digital indicator)



- 数字传感器连接
- 连接方式：RS485方式
- 通讯距离：约1000米
- 连接个数：1~16个
- 传感器电源：DC 10V, 0.8A (Max)
- 显示方式：7位超高亮白光数码管，10个状态指示符
- 分度值：二段自动切换
- 带打印机和大屏幕等接口

- Connection mode: RS485
- Transmission distance: 1000m approx
- load cell number: 1-16pcs
- Power: DC 10V 0.8A (Max)
- Display mode: seven digit LED
- Rang: - 325000 ~ 325000

不锈钢, 铝合金, 塑料外壳 可选  
 外接蓄电池电源 可选

### BWI-31T 无线工具仪表(BWI-31T Wireless Tool)



- 具备最高权限, 可方便调试/检查数字式系统;
- 无线操作, 可方便于现场指挥和调试;
- 调试后的结果将无线传输保存到DS3仪表;
- 可对数字式系统进行一键加密;
- 可备份所有标定数据;
- 可导入导出标定数据到仪表或另一载体;
- 内置可充电电池, 可连续工作72小时以上。

- With all permission
- Wireless operation, Convenient to use for calibration
- Can encrypted for digital system
- Copy and backup all the calibrating data Lead in and lead out calibrating data to indicator or other carrier
- Battery working time can last 72 hours

中文界面 可选  
 无线通讯或有线通讯 可选  
 带背光点阵式显示  
 随配充电器

注: 当此工具表联接到数字式系统时, DS3仪表将休眠, 以防止此工具表作为遥控作弊器

### BED-43 加密狗(Encryption Dog)



- 此设备相当于电子钥匙, 与标定有关的操作均需此设备的参与, 同时包括但不限于更换仪表, 传感器和其它硬件等;
- 可对数字式系统进行一键加密;
- 支持自定义加密和权限管理, 并可保存管理方案;
- 操作简单, 只需将它插在仪表的通讯口, 加密或其它操作后移除。

- As a softdog
- Can encrypted for digital system
- Any calibration must connect with this one

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◎ 外观专利 : ZL 2009 3 03002075.5

◎ 实用新型专利 : ZL 2009 2 0193037.5



# 汽车衡传感器终结者 I

终结者 I 型传感器具备以下五大优点：

## 一、结构紧凑，精度高，稳定性好；

传统桥式传感器的弹性体和底座通常是采用两根M24的高强度螺栓连接的，而紧固螺栓的方法一般是采用力矩扳手人力紧固，如果想要达到两根螺栓一致的紧固力几乎是不可能实现的，势必影响产品本身的一致性和线性。而终结者 I 型传感器采用了弹性体和底座一体式设计，大胆的抛弃了传统的连接方法，源头上去除了产品本身的一大故障点，同时也大大增强了产品的使用稳定性。经过改良后的终结者 I 型传感器在精度方面也有显著提高，结构也更加紧凑、简洁！

## 二、周身富贵银，做工精致，外观时尚；

终结者 I 型传感器的主体部分和底板均采用银色化学镀，附着力高不容易生锈。传统桥式传感器的底座部分一般都需要采用电焊加固，从而在外观上显得有些粗糙。而终结者 I 型传感器的底板是经过精细打磨加工而成，配合一体式的主体连接尤为显的精致美观。时尚的外观设计带给使用者耳目一新的感觉！

## 三、重量轻，携带轻便，安装方便；

原先传统桥式传感器质量较重，维修人员外出维修携带很不方便，如果要带上几套的话工作强度就非常之高。这就成了我们开发人员在设计过程中考虑的一个重点因素，最终终结者 I 型传感器还是做到了，它不但比传统桥式传感器重量明显减轻，而且在承受满量程称量和超载状态下所反应的疲劳程度要比传统桥式传感器更胜一筹。在安装方面更是实现了单人单手操作，大大降低了技术人员的工作强度！

## 四、互换性强，不改变用户的使用习惯；

任何一款产品设计初衷应该是着眼与市场普遍存在的产品的互换性和兼容性；考虑是否符合广大用户的使用习惯。终结者 I 型传感器两者兼备，它的技术参数和安装尺寸与市场绝大多数的传感器制造商所生产的同类型传感器普遍一致，从而做到了比较高的互换性和匹配程度，而且无须改变用户以往的使用习惯！

## 五、个性化和差异化的定制简单；

随着衡器市场的迅速发展，竞争也日趋激烈，衡器制造企业为自己量身定造配套所许的传感器已显得尤为重要。终结者 I 型传感器不仅可以为您提供技术参数的差异化，而且也可以为您提供安装尺寸的个性化。夺身打造，有备无患！

There are advantages listed in below five major points for "Terminator" I load cells:

### 1.) Compact structure , high accuracy , good stability

Usually traditional bridge type load cells' elastomer and base is connected by two pieces of M24 high-intensity screw bolts, and the methods to fastening the bolt is that using manual wrench. Its really impossible if want to make two bolt are gotten force equally, so this must will affect the load cells' consistency and linearity. But our "BENUI" "Terminator" I load cell adopts the elastomer and base "all-in-one" structure successful over come the major fault point which may cause the problem.

### 2.) Whole body in rich silver with delicate crafts and fashion appearance

The major body and base of "Terminator" I are in silver chemical plating, high adhesive and not easy to get rusty. Normally traditional bridge type load cells' base is fastening by plating, so its appearance looks coarse. Oppositely, "Terminator" I load cell base is not only delicately polished but also with its "all-in-one" structure, it impresses us very much as its clean and delicate appearance.

### 3.) Light weight, easy and convenient to carry and install

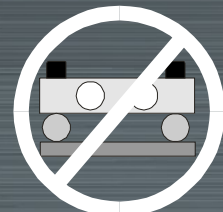
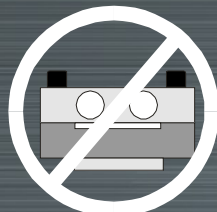
Previous bridge type load cells are pretty heavy, not easy and un-convenient to carry for maintenance purpose. It will be a heavy burden if bring several sets of load cells. That's the major factor we R&D teams took into consideration, finally we made it. Our "Terminator" I not only in less weight but also has better performance of elastomer on full load and over load state than traditional one. Especially, one man with one hand can finish installation easily, it drastically reduce the working intensity of technicians.

### 4.) Replace easily, no need to change the using habit of user

Any models of items must focus on its products should be easy to replace and compatible with general existing items in market, also will consider whether in line with most of users' habits or not? "Terminator" I meets above both requirements property. Its technical parameters and installation dimensions are consistent with most of same type load cells produced by another load cells manufacturer

### 5.) Custom easily for personalize and differentiation

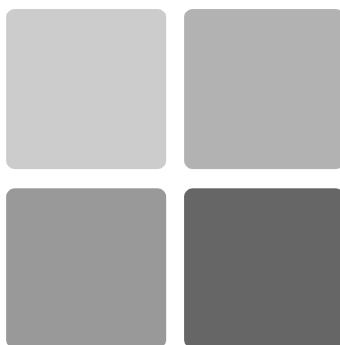
With the development of weighing equipments market, its competition is also much more fiercely. It becomes much more important for weighing equipments manufacturer custom load cells for themselves. At this way, "Terminator" I not only supply you the differentiation of technical parameters but also with the personalized of installation dimensions. Do not hesitate and doubt any more, go for "BENUI" "Terminator" I QS-S load cell as this is really your smart and wise choice



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# 创新实现价值

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