

TALKING

benüi®

of our

DIGITAL LOAD CELLS



What is digital load cell from Benüi company?
What are the advantages of digital load cell ?
Which analog load cells we can make?



2008 VERSION

About us

Ningbo Benui Electric Co.Ltd is a resultant company who has regulated his resources. Now, Our company has two subsidiary company : HaiShan and BenSen.Head office researches and produces high precision load cells and selfcontrol system , two subsidiary company produce appurtenances for head office.

Our company has passed ISO9001, CE, OIML registration,and established OA,ERP management system in one year, moreover, Our company has her own sales net and foreign trade department.



Our company not only produce product, And that supply technical service, and make sure the continuous quality improvement by reform and development.



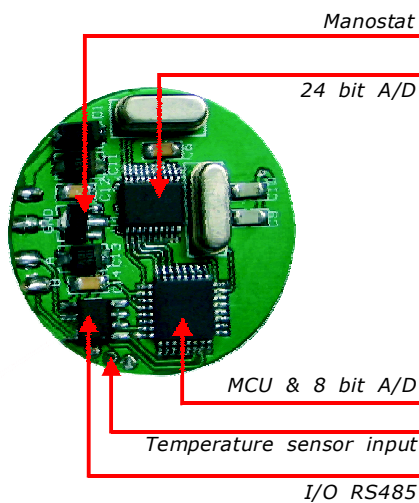
- DIGITAL load cell** ············ 02
数字式传感器
- VD-3.0E Software for digital load cell** ············ 03
VD数字称重软件界面
- BWI-31 wireless handheld indicator** ············ 04
BWI 无线手持仪表
- ATW analog to wireless converter** ············ 05
ATW无线发射器
- ATC-108A analog load cell to pc converter** ············ 06
ATC转换器
- BHW Wireless load cell** ············ 07
BHW 无线传感器
- ITW & Wireless big screen** ············ 08
ITW& 无线大屏幕
- BTY-D-SIM Phone load cell** ············ 09
BTY-D-SIM 手机式传感器
- XK3190 Digital Instruments** ············ 10
数字式仪表

Description ⇨

1. What is digital load cell from Benui company?

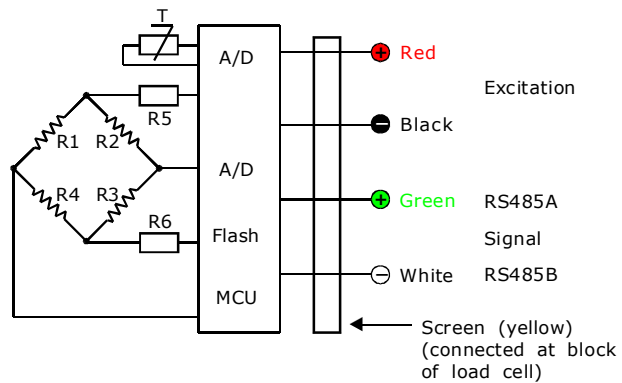
Our digital load cell is not only the analog load cell translate into digital. The difference between them: the later is based on high precision simulation load cell, and all value are controlled by simulation load cell, because of the temperature infection of numeric module, the simulation load cell and the numeric module can't be integrated for compensation. Error may be added leading the decline of the index. The digital load cell put the module in the simulation load cell, and then progress with temperature compensation, nonlinear compensation and filter treatment. Error will be compensated and disposed.

A/D module Exterior as follows
(size: $\phi 34*7$):



2. Work theory

Make up of simulation load cell and digital module. The theory of digital module such as follows:
The large difference: Benui add the temperature sensor in the load cell.

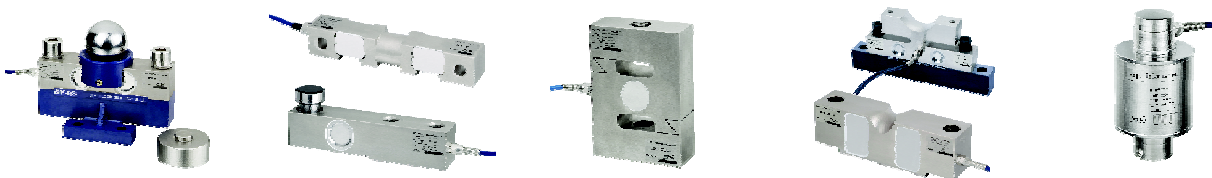


2. What are the advantages of digital load cell ?

1. Its accuracies is higger than the analog load cells;
2. Its rated output is 30,000 or 100,000 d;
3. Its consistency is good, no need to adjust the corner;

3. Which analog load cells we can make?

Most of our analog load cells can change to digital, like as the following:



1. 什么是数字式传感器?

1. 数字式传感器是指数字式输出的传感器(通常是RS485);
2. 数字式传感器是基于普通模拟式传感器的再补偿和数字化处理;
3. 数字式传感器均有一个地址码;

2. 数字式传感器的优点?

1. 精度更高;
2. 输出量大, 分度值为30,000或100,000;
3. 组合使用更方便, 互换性好, 基本不需调节角差;
4. 自我诊断, 报错功能;
5. 防干扰能力强;
6. 防作弊.

Description ⇨

Operating system:
Windows 2000,2003,XP

Communication:
Input: RS485-RS232 Max transmission distance is 1.2 km

Output: RS232 for large display
Network card for share data

Expansion:
Telecommuting by internet
Monitor video or photo
Intelligent card
Traffic light or infrared

Extraordinary function:
Can show detail of anyone load cell
Adjust corner error automatically
Division automatically

输出方式: RS232 连接大屏幕等

可扩充性:
摄像头(图片或视频), 交通指挥灯, 智能卡, 大屏幕显示屏, 打印机, 和其它电脑的外围设备。

产品描述 ⇨

操作系统: Windows 2000,2003,XP

通讯方式和距离:
输入方式: RS485 半双工
最大传输距离: 1.2 km

特别的功能:
能显示每一只传感器的工作状态, 自动弹出窗口提示设备硬件故障, 自动调整四角误差, 自动三段分度值切换, 所有数据可导入导出和备份。

VD-3.0E

Software for digital load cell

Work principle ⇨

PC sends injunction 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 multiscales 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.

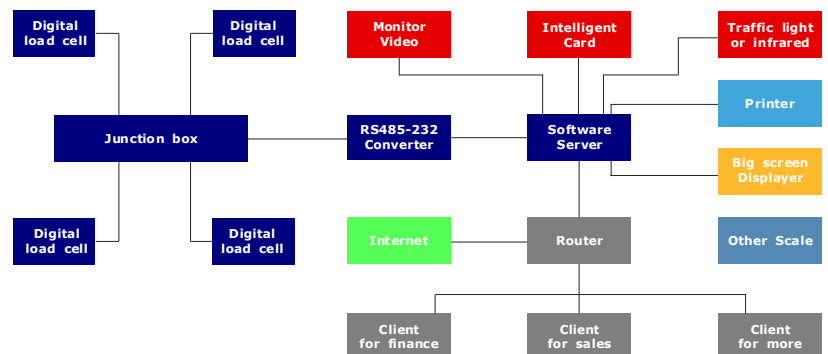


VD-3.0E Software for digital load cell

工作原理 ⇨

二台衡器协同工作, 二台电脑既是工作机又是服务器, 或设为共享一台服务器, 也可建立在互联网上, 可实现远距离控制和查询. 在右图中: 电脑1和电脑2通过交换机联接, 并通过它连接互联网, 这样任何一台能上网的电脑将可通过互联网访问电脑1和电脑2, 实现无时间无地域的限制. 在联网时应注意如下问题: (明确内部网或互联网)

1. 电脑1或电脑2到交换机的联接距离限制为: 双绞线120m, 光缆理论上无限制(但成本较高).
2. 以上均需布线, 或利用用秤单位原先的网络.
3. 如因地域限制等原因, 不能采用双绞线, 又担心光缆的成本, 可变为电脑1和电脑3各自均联接互联网, 它们可以通过电话线, 无线局域网, 无线网卡(CDMA)得到同样的效果. 监控系统的储存方式可静态(称量时自动拍摄车辆位置图)或称量过程的视频拍摄, 视频拍摄时的储存量由电脑的硬盘大小控制, 如四十天的储存量, 四组摄像头, 硬盘的容量不得小于100G.



如果需要, 更详细的资料, 请联系我们。



TALKING
benüi®
 of our
DIGITAL LOAD CELLS

BWI-31

wireless handheld indicator
 BWI 无线手持仪表

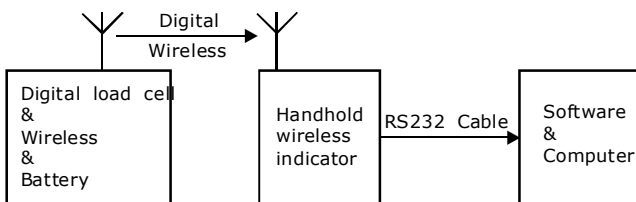
Description ⇨

Worldwide licence exempt: 2.4GHz operating frequency
Range Min: not less than 100m
Battery working life: Active not less than 70 hours (full charge and turn off backlight)
Display: LCD 128*64 with backlighting
 show weight value: 6 bit
 show working life of battery
 show strength of signal
 Hold on the peak value Can contact with computer by Rs232
Size: 254mm*75mm*33mm

Work Principle ⇨

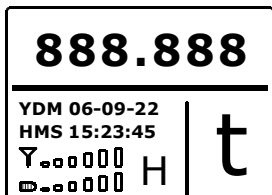
First, the load cell's out-put signal is digital, Digital compensation and temperature compensation will be finished in internal. Though 2.4G wireless module to launch after reasonable encoding.

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.

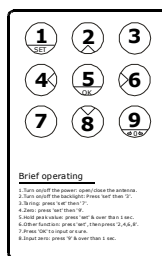


无线频率: 2.4GHz
 最小操作距离: 不小于100米
 电池工作时间: 不小于70小时 (充满电, 关闭背光时)
 显示屏: 液晶 128*64 像素(带背光)
 重量值: 6 位
 显示电池当前电量
 显示信号强度
 带峰值保持功能, 带Rs232端口
 外形尺寸: 205mm*75mm*33 mm

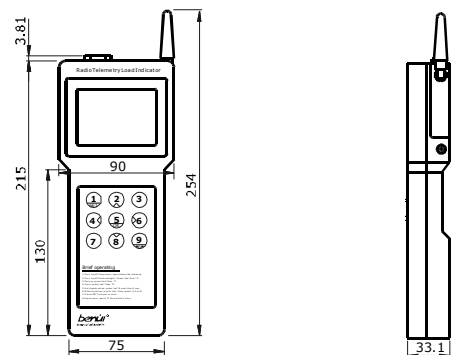
Dimensions ⇨ (In mm. 1mm = 0.03937 inches)



Display



Keyboard



这个无线仪表可接收我公司的无线传感器或ATW/ITW的无线信号,它们的区别在于:无线的传感器是指一个传感器与无线仪表通讯,无线的模块是内置于传感器之中,一体化设计的;ATW是一个外接的设备,它的作用是把几个传感器通过接线盒(模拟相加)后无线发射;ITW是一个外接的设备,它的作用是把仪表的RS232信号通过ITW发射,那么无线仪表作为一个补充,但可以移动读数。

please contact us if you want to learn more about our products.



ATW

analog to wireless converter

ATW 无线发射器

TALKING

benüi®

of our

DIGITAL LOAD CELLS

Description ⇨

Input: Analog 1~3mV/V.
 Input resistance: 350~1500Ω
 Output: Wireless
 Digital: 30,000 or 100,000d.
 Worldwide licence
 exempt:
 2.4GHz operating frequency
 Range Min: Not less than: 100m
 Size: 116mm*71mm*33mm

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!

Circuit Diagram ⇨

Electrical Termination

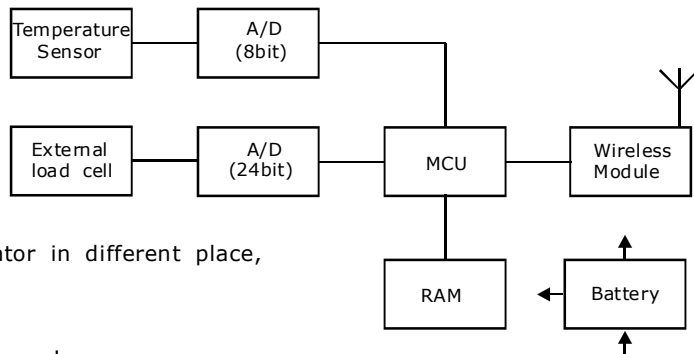
Worldwide licence exempt:

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



模拟式传感器的输入信号:

1~3mV/V.

输入阻抗:

100~1500Ω

无线频率:

2.4GHz

操作距离:

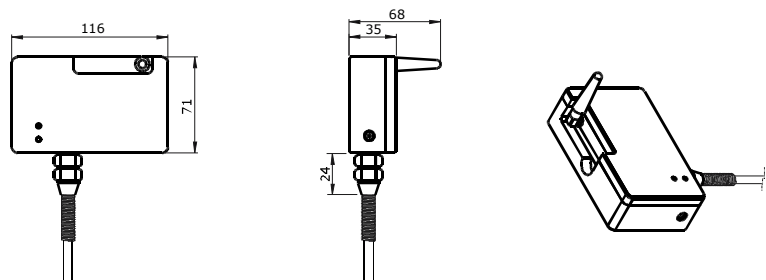
不小于: 100m

电池工作时间:

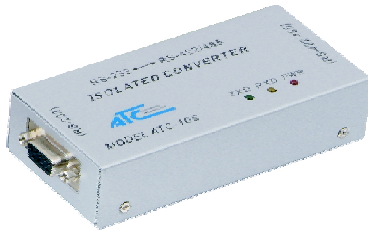
不小于70小时, 依赖于外接传感器的输入阻抗和传感器的个数

外形尺寸: 116mm*71mm*33mm

Dimensions ⇨ (In mm. 1mm = 0.03937 inches)



如果需要, 更详细的资料, 请联系我们。



Description

Input of analog load cells:

1~3mV/V,300~2000 Ohms.Device power up to 12 psc 300 Ohms load cells.

Output:standard RS232,
Can connect to PC direct.

Light insulation type

Non-linearity compensation
And Filter treatment
Exterior led show working order

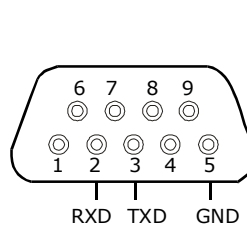
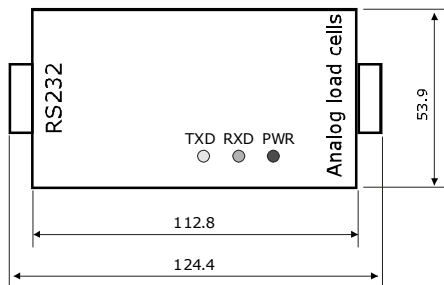
ATC-108A

analog load cell to pc converter

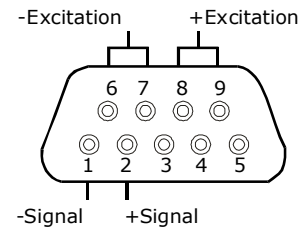
ATC 转换器

Dimensions

(In mm. 1mm = 0.03937 inches)



Output of RS232



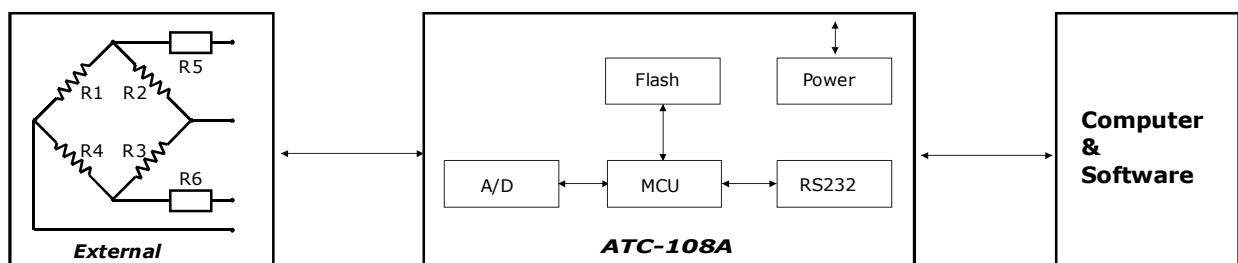
input of load cell

Work principle

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.

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.

please contact us if you want to learn more about our products.

Description

Worldwide licence exempt:
2.4GHz operating frequency

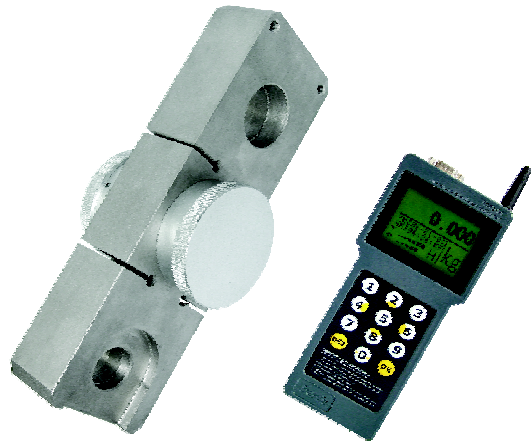
Range Min: not less than 100m

Battery working life:
Active not less than 70 hours
(full charge and turn off backlight)

Display: LCD 128*64 with backlighting
show weight value: 6 bit
show working life of battery
show strength of signal

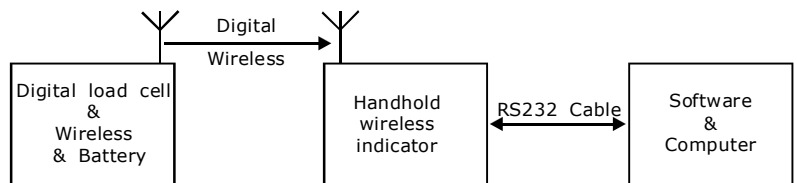
Hold on the peak value

Can contact with computer by RS232



BHW

Wireless load cell



Work principle

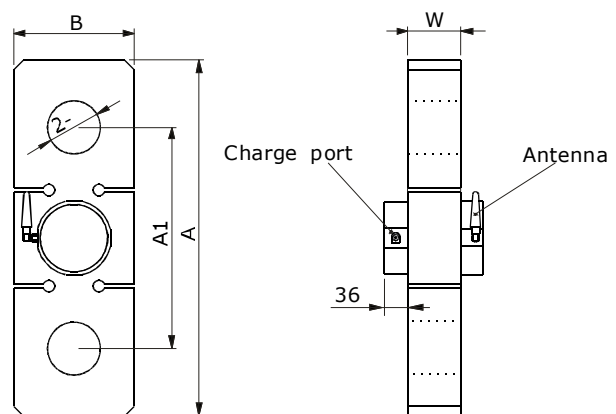
First, the load cell's output signal is digital, Digital compensation and temperature compensation will be finished in internal. Though 2.4G wireless module to launch after reasonable encoding.

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 is a option, One handheld can be connected to up to 16 sensors.

Dimensions

(In mm. 1mm = 0.03937 inches)



Notes:

1. There is a switch inside, when the unit is vertical with the antenna is upturned, the power will be on.
2. The unit power be off when the unit is charging.

CAP./SIZE	A	A1	B	W	φ	Hook
1~5t	230	160	76	34	28	7/8
10t	280	180	90	47	38	1 1/4
20~30t	370	230	125	55	53	1 3/4
40~60t	430	254	150	85	73	2 1/2
100~150t	580	320	220	115	98	3 1/2

如果需要，更详细的资料，请联系我们。

ITW

& Wireless big screen

Description ⇨

ITW can send Rs232 signal of indicator to the wireless big screen by wireless, it means that when it is hard for wiring, you do not need the wire for connection if you use ITW.

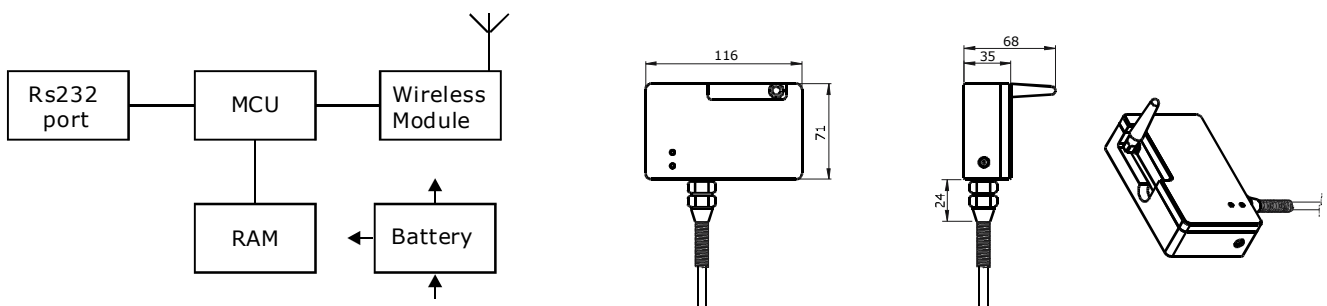
工作原理和作用

ITW 能将仪表输出的RS232信号无线发给无线的大屏幕，它的作用相当于取代了仪表中RS232的输出线。

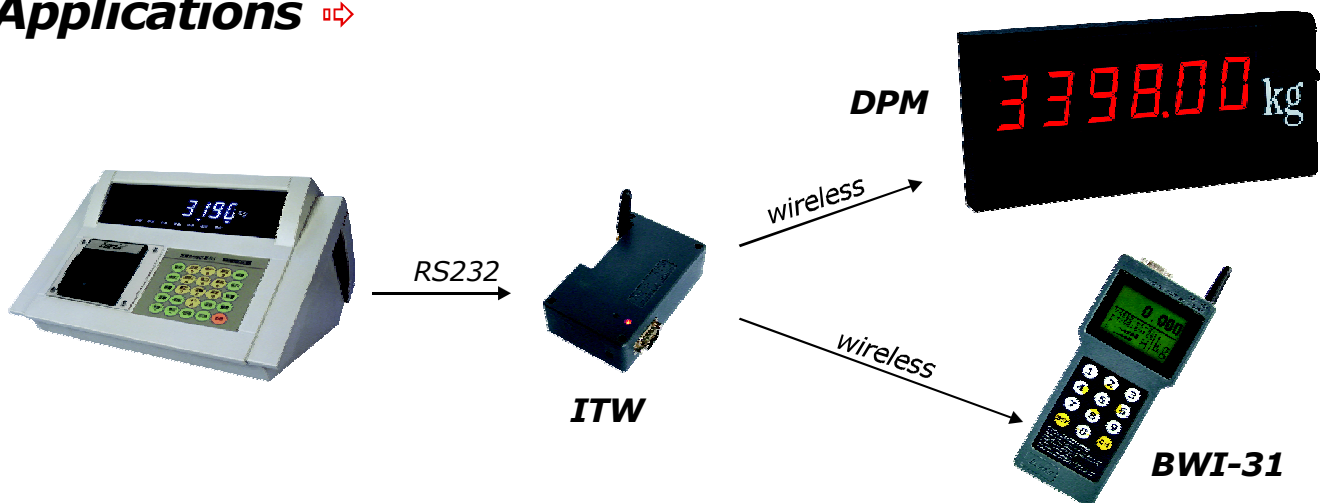


ITW

Dimensions ⇨ (In mm. 1mm = 0.03937 inches)



Applications ⇨



TALKING

benüi®

of our

DIGITAL LOAD CELLS



BTY-D-SIM

Phone load cell

BTY-D-SIM 手机式传感器

Description ⇨ It is a bidirectional communication, we can control the load cell via cell phone:

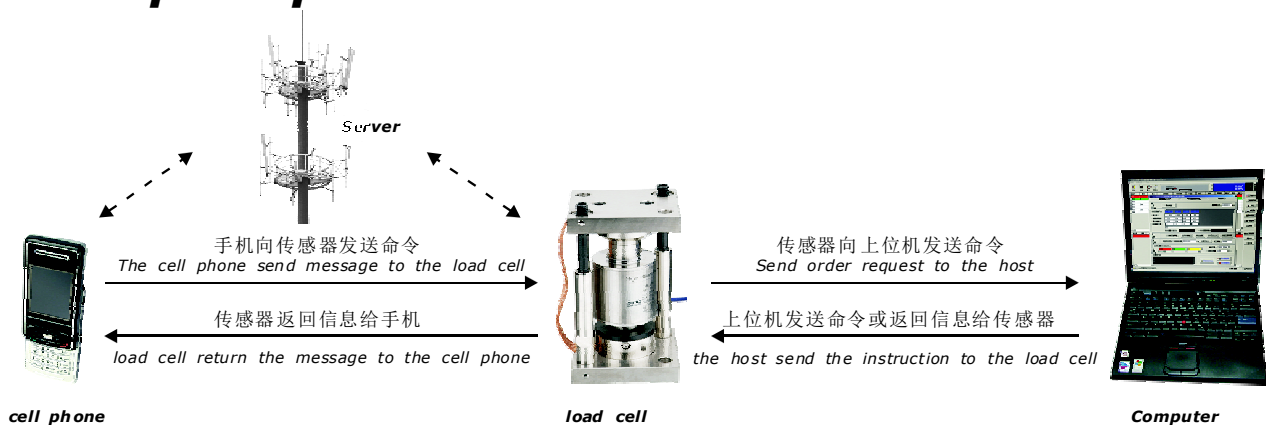
1. Can read the real-time output value and use environment temperature of the load cell.
2. Can read the original information of the load cell, such as the load cell manufacturer, date, type, rated capacity, sequence No., and the latest demarcate time and load cell property etc.
3. Can read the accumulation working time of the facility.
4. Can read the total metage (daily report forms and month report forms)
5. Can set the basic usual coefficient (foursquare error coefficient\full rated capacity coefficient \ filter coefficient \ graduator value\ the biggest rated capacity of the facility), to adjust the accuracy of the facility and satisfy user's demand;
6. Can enter into the examine and repair state and at this time the facility can't be operated, the system hints and count down were shown, also the cell phone message information shown (count down time and reason are written by the facility supplier). Notify users operators will enter into examine and repair state after finish the job within certain time.



这是一个双向通讯的传感器，它能通过手机完全地控制这个传感器

1. 手机能读到传感器的实时输出和当前环境温度。
2. 手机能读到传感器的原始信息，比如传感器的生产厂家，生产日期，型号，额定量程，生产序号，最后的标定系数和传感器的其它属性。
3. 能读到上位机的详细信息。
4. 能读到设备的使用情况；
5. 能完全控制，设置传感器或使用设备，比如重新检定设备，停机，开机，返回当前信息，设定开机条件等；

Work principle ⇨



如果需要，更详细的资料，请联系我们。



313×170×248(mm)

XK3190-DS1

Digital Instruments

数字式仪表



298×289×100(mm)

XK3190-DS2

Digital Instruments

数字式仪表

Introduction ⇨

XK3190-DS1高性能汽车衡仪表LED显示 (7位VFD, 7个状态指示符)
铝合金外壳 交直流两用 换表不需重新标定
远程升级与改制 汉化打印自定义 可靠防护抗干扰
可联接1~16个数字传感器数字传感器接口: RS485接口

Applied in floor scale truck scale weighing system with 1~16 load cell.

Connect with digital load cell; Auto/manual angel correction; Railway scale correction;
Use inner code to replace weight observing and analysis tolerance;
Zero range setup (auto/manual);
Non-linearity and calibration tolerance correction;
Password management and timing power off function;
Auto/manual, condition/non-condition, daily/sorted report print setup;
Fast filled weighing bill print setup;
Save 1500 vehicle ID/net weight, 201 cargo ID/cargo name, 100 customer ID/customer name, 100 notes and 1501 weighing records;
Weighing data save protection in case of power off;
Input character with keyboard or download from PC;
Modify communication address of digital load cell
Data check for single load cell and single angle.

Introduction ⇨

XK3190-DS2汉显仪表基于32位高速高性能ARM嵌入式系统平台拥有便捷的拼音输入和人性化操作界面。适用于采用1~16个数字传感器的静态称重系统。

32-bits fast speed and high performance ARM processor and effective.
convenient character input and personal operating window.

Applied in static weighing system equipped with 1~16 digital load cell.

Connect with digital load cell;
Auto/manual angel correction;
Use inner code to replace weight observing and analysis tolerance;
Password management and timing power off function;

Auto/manual, daily/sorted report print setup;
Fast filled weighing bill print setup;
Save 1000 vehicle ID/net weight, 1000 cargo ID/cargo name, 1000 weighing records;
Weighing data save protection in case of power off
Input character with keyboard;
Recall vehicle ID and cargo name by shortcut key.

Tech.data ⇨

Model	DS1
Digital load cell connection	RS422/RS485
load cell connection distance	1000M
load cell Excitation	DC 12V
Max.load cell connection	16
Display	7 bits VFD, 7 status indications
Standard interface	RS232C serial communication, Scoreboard at 20mA current loop Parallel printer
Transmission distance	RS232C≤50 meters
Power supply	AC 187-242V 49-51Hz
Product weight	5kg
Dimension(mm)	390(L)×325(W)×250(H)

Tech.data ⇨

Model	DS2
Digital load cell connection	RS422/RS485
load cell connection distance	1000M
load cell Excitation	DC 12V
Max.load cell connection	16
Display	Dot-matrix VFD Dot-matrix LCD
Standard interface	RS232C serial communication, Scoreboard at 20mA current loop Parallel printer
Transmission distance	RS232C≤50 meters
Power supply	AC 110-250V SMPS 50-60Hz or Dc 24V
Product weight	4.3kg
Dimension(mm)	320(L)×260(W)×340(H)
IP Protection	IP65

please contact us if you want to learn more about our products.



DIGITAL LOAD CELL

安全，先进，精简，人性化，个性化，
safety, advance, simplifiness, humanization and individualization...

NINGBO BENUI ELECTRIC CO.,LTD.

CONTACT WITH US

地址 **Add:**No.8 Laoshan Road,Dagang Industry Zone, Ningbo City, China P.C.:315800
电话 **Tel:** +86-574-8680 6868 直线 **Direct Tel:**+86-574-8680 6565
传真 **Fax:** +86-574-8680 6862
邮箱 **E-mail:**benui@benui.com 网址 **Http:**//www.benui.com www.loadcell.cn
中文网址 **Http:**//www.benui.com.cn

SALES OFFICE

FAX: +86-574-8680 6566 **E-mail:**sales@benui.com (Service & Question)
MSN:benui_bowey@hotmail.com (Service & Question on line)