DAYSENSOR

PRODUCT MANUAL

Sensor & Measuring Instrument
Products Catalogue



Bengbu Dayang sensing System Engineering Co.,Ltd

PT. Jovatech Amerta Engineering · WhatsApp 0812-8021-1494 · info@jovatech.co.id · jovatech.co.id

National Force Sensitivity Sensor Research Base

It is widely used in industrial automation industry and metallurgy, oil field, chemical industry, military industry, aerospace, major scientific research institutions, universities, automobile, transportation, energy, machinery manufacturing, building materials and other industries.

Contact Us

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Penawaran, konsultasi & pemasangan di Indonesia



High speed patch machine



Machining center

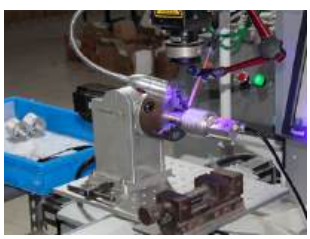


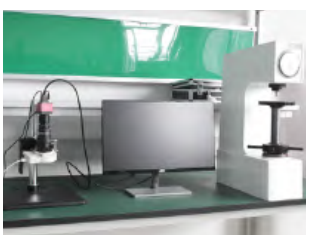






Professional production equipment











Main Products

- Load cells
- Torque sensor
- Miniature load cells
- Pressure sensor
- Weighing control instrument
- Ingredient Instrument
- Transmitter
- Various ingredient control systems

Certificate Of Honor


CIC

质量管理体系认证证书

证书号：

蚌埠大洋传感系统工程有限公司

GB/T19001-2016/ISO9001:2015

认证/注册范围

自2018年09月15日至2021年09月14日


高新技术企业

证书


中华人民共和国

制造计量器具许可证


中国测试技术研究院

检 定 证 书


中国测试技术研究院

校准证书


实用新型专利证书


实用新型专利证书


HTT

Certificate of Conformity

CE


HTT

Certificate of Conformity

RoHS


挂牌证书

蚌埠大洋传感系统工程有限公司 证券
（证券简称：大洋传感 证券代码：630520）
于二〇一九年七月三十一日在安徽省股权托管
交易中心科技创新专板培育层挂牌
特发此证。

安徽省股权托管交易中心有限责任公司
二〇一九年七月


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2020F081-34 号


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校准证书


中国航发南方工业有限公司计量实验室


中国航发南方工业有限公司计量实验室
校准结果

Glossary

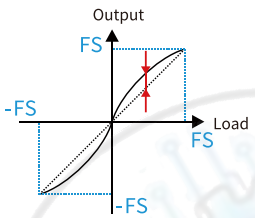
Glossary Of Torque Meter

Measurement range

The torque sensor can measure the range of torque (Nm).

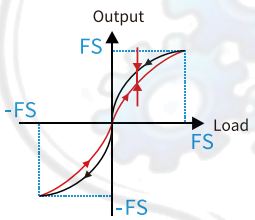
Non-linearity

Maximum deviation from the actual output of the ideal line from zero to full range (%FS).



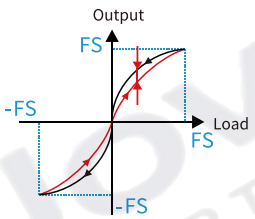
Hysteresis

Maximum deviation (%FS) from zero to full range.



Repeatability

Maximum deviation (%FS) for multiple loads applied under the same condition.



Safe overload

Normal recovery range for load beyond full range (%FS).

Operation temperature range

Temperature range (℃).

Temperature effect on zero

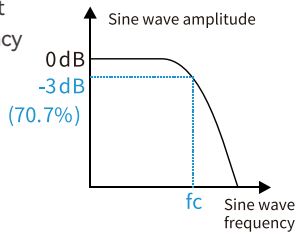
Range of zero point caused by ambient temperature change (%FS / ℃).

Temperature effect on span

Range of output (FS) from ambient temperature change (%FS / ℃).

Cut-off frequency

For sinusoidal torque, the output is-3dB (about 0.7 times) frequency (Hz).



Torsional constant

Torque required to twist the 1 rad (Nm / rad).

Maximum torsional angle

Tortorsion angle (rad) under maximum load.

Inertia moment

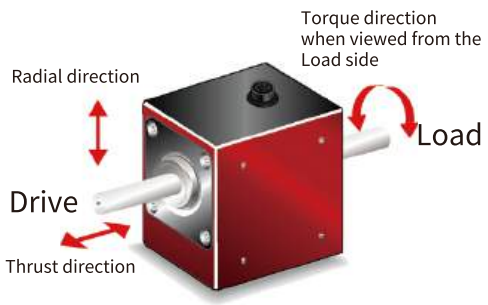
Proportional constant of angular acceleration and torque ($kgcm^2$).

Thrust direction

In directions parallel to the axis of rotation in this product.

Radial direction

The direction perpendicular to the rotation axis in this product.



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Instructions about the unit

Unit	Name	Instructions
Nm	Newton metre	Torque unit.1 Nm refers to the force (torque) applied in the center of rotation when the force of 1N acts on the 1m force arm
RPM	Revolutions per minute	The number of revolutions in 1 minute
rad	radian	Angle unit.1 rad approximately 57.2957°
FS	full scale	Maximum value in the measurement range. %FS is short for the full-range percentage

Conversion table

	Nm	Ncm	kgm	kgcm	gcm	Ncm
Nm	1	10^{2}	0.10197	10.197	$1.0197x10^{4}$	10^{3}
Ncm	10^{-2}	1	$1.0197x10^{-3}$	0.10197	$1.0197x10^{2}$	10
kgm	9.8067	$9.8067x10^{2}$	1	10^{2}	10^{5}	$9.8067x10^{3}$
kgcm	$9.8067x10^{-2}$	9.8067	10^{-2}	1	10^{3}	98.067
gcm	$9.8067x10^{-5}$	$9.8067x10^{-3}$	10^{-5}	10^{-3}	1	$9.8067x10^{-2}$
mNm	10^{-3}	0.1	$1.0197x10^{-4}$	$1.0197x10^{-2}$	10.197	1

Glossary Of Loadcell

Safe temperature range

Does not meet the specification but do not undergo permanent characteristics change with a temperature range of (℃).

Sage overload

The imum load that does not meet specifications but does not undergo permanent characteristic changes, expressed as a percentage relative to the rated capacity (%RC).

Elastomer

A component that is proportional to the stress.

Creep

Output change when applying a rated load for a certain period of time. The absolute value of the percentage of change in rated output over 30 min (% R.R./30min).

Repeatability

The maximum value of the output difference from the same load with repeated load increases under the same conditions. Represents the absolute value of the percentage of the rated output (%R.O.).

Natural frequency

Number of vibration times (kHz) of free vibration when the converter has no load.

Maximum excitation voltage

Applied maximum excitation voltage (V) that does not cause a change in converter characteristics.

Maximum safe overload

The ultimate load structural without permanent damage is expressed as a percentage relative to the rated capacity (%R.C.).

Maximum platform size

Maximum size (mm) specified in JIS B 7611-2:2009.

Output resistance

Impedance (Ω) between the output terminals measured without the load-open input terminals at the standard test temperature.

Temperature effect on span

Change in rated output due to ambient temperature change represents the absolute value of the percentage of rated output (% R.O./10℃).

Recommended excitation voltage

The most appropriate excitation voltage (V) when using the converter.

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Insulation resistance

The DC impedance between the converter circuit and the converter itself. DC50V measurements (MΩ).

Temperature effect on zero

Change in no load output (zero equilibrium) from ambient temperature change. Represents the absolute value of the percentage of change to rated output per 10℃ (% R.O./10℃).

Zero balance

Output with no load. Is expressed as a percentage relative to the rated output (%R.O.).

Reated output (R.O.)

Output with no load. Is expressed as a percentage relative to the rated output (%R.O.).

Rated capacity (R.C.)

Maximum load that can be measured within the converter specifications.

Input resistance

Impedance (Ω) between the input terminals measured without the load-open output terminals at the standard test temperature.

Transducer or Sensor

Device for converting a physical signal into an electrical signal.

Hysteresis

The maximum value of output difference for the same load increases or decreases to the rated load. Represents the absolute value of the percentage of the rated output (%R.O.).

Strain gage

Device that changes the magnitude of the strain to the electrical impedance changes.

Non-linearity

Maximum deviation from the line connecting the no-load point to the rated load point on the correction curve when the load increases. Represents the absolute value of the percentage of the rated output (%R.O.).

Poisson's ratio

Ratio of longitudinal strain to transverse strain. Is presented by a Poisson's ratio = transverse strain / longitudinal strain.

Wheatstone bridge

A circuit that ts resistance changes to voltage changes.

Degress of protection

The degree of protection against foreign intrusion and (or) immersion is indicated by the IP code specified in JIS C 0920.

Compensated temperature range

To ensure that the zero point temperature effect and the output temperature influence can meet the specifications. And the compensated temperature range (℃).

Load cell

A converter that converts the force size to an electrical signal.

■ Standard

CE | Conformite Ruropeenne

It indicates that the product meets all the requirements for safety and noise performance in the EC directive and is necessary for business transactions in the EU area. When complying with EC instruction, you can paste CE identification within your scope of responsibility.

CE

DIN | Deutsche Industrie Normen

The German industrial standard equivalent to the Japanese JIS standard.

IP | International Protection

Dust-proof and waterproof protection grade.

IP

Accuracy Class

Indicator module used for approved model, available for transaction or certification, identified as metering (standard No. JIS B 7611-2:2009).(Accuracy level: level 3).

Ⅲ

■ Others

RoHS | Restriction of Hazardous Substances

To ban the use of chemicals that may bring bad impressions on the environment and human body in electronic and electrical products sold in the EU area. The restricted harmful substances include lead, mercury, cadmium, hexavalent chromium, PBB (polybrommobiphenyls) and PBDE (polybrommodiphenyl ether).

RoHS

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Glossary Of Measuring Instruments

(Force gauge, weighing instrument, transducer signal converter)

RTI

Referred to input.

Scale division

Minimum magnitude of change when the indicated value changes. Usually consistent with the minimum scale.

Analog filter

The signal processing mode, removes the clutter and unwanted vibration components in the signal from the sensor, and extracts the target signal frequency components. Before quantization (digital, A / D transformation), through electronic circuits. →See Digital Filters, clutter

Excitation voltage

Value of the voltage applied to the sensor bridge.

Gain drift

Gain shift (ppm / ℃) per 1℃ temperature change.
Generally, the value obtained by subtracting the difference of the amount of zero point change by the applied temperature difference. The indicated rate of change is the value of the variation part divided by the maximum display value (full range).

$$\text{Minimum input sensitivity [μV/count]} = \frac{\text{Input voltage[μV]}}{\text{Resolution ratio}}$$

$$\text{Input voltage [μV]} = \text{Rated output [mV/V]} \times \frac{\text{Full scale}}{\text{Rated capacity}} \times \text{Excitation voltage[V]} \times 10^3 (\mu V \text{ Conversion})$$

Resolution = maximum of quantized (digital)

Capacity

The maximum weighing value of the gauge device.

Actual load calibration

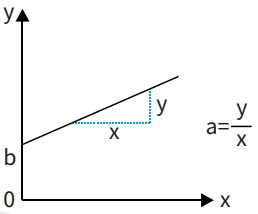
Method for correction by applying the actual weight and pressure to the sensor. See Equivalent Input Correction

Signal input range

A range of voltage and current that can be applied to the signal input terminal.

Zero/span calibration

Quanttizing the input signal from the sensor and converting the value into actual physical quantities (e. g., weight, pressure, etc.) is called range correction. Mandatory zero-return of arbitrary signals is called zero-point correction.



y=ax+b
y: Display value
x: Converts the signal from the sensor to a quantized value
a: Tilt
b: Zero correction

Zero drift

Offset of zero point per 1℃ temperature change in input conversion (μ V / ℃ RTI).
Generally speaking, after the zero point change of a certain temperature change is divided by the maximum display value, the obtained value is input into the converted value.

typ.

Typical

Digital zero regulation value

The range of zero corrections that can be made by digital zero and zero tracking.

Digital filter

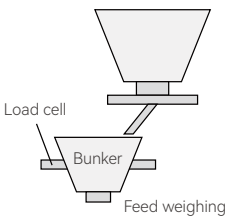
Mobile average digital filter to mobile average the quantized value. →See the analog filter

Equicvalent input calibration

Direct input is corrected for an electrical signal equivalent to the electrical signal changes generated when applying the actual weight and pressure to the sensor. → See the Actual Load Correction

Feed weighing

Put raw materials into the metering tank (hopper) and control the measurement mode of input according to the added weight.



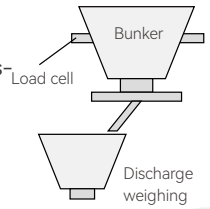
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Noise

Influence signals, external interference hindering measurement. In addition to the motor vibration and other mechanical clutter transmitted to the sensor, there are line clutter, electromagnetic wave, electrostatic and other electrical clutter.
→See the analog filter

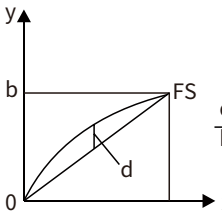
Discharge weighing

Supplement the raw materials to the metering tank (hopper) in advance, and then discharge the raw materials, and control the measurement mode of the discharge amount according to the reduced weight.



Non-linearity

The deviation between the hypothetical line connecting the zero and the maximum and the actual indicated value is expressed by a ratio relative to the maximum. Inindicates the maximum deviation between the line connecting the base point and the output maximum and the measured curve. Represented as a ratio relative to the full range (FS) (% / FS).



$\frac{d}{b}$ x(%/FS)

y: Indication value
x: Quantization value of input signal

Resolution

When quantizing the maximum input signal, divide it into several equal parts. It can be represented by the maximum value of quantization or its inverse.

1/4 Scale

The function of detecting the center of the weight value scale (within ± 1/4 scale). Inside the indicator, this function can be achieved with a resolution of 4 times that of one scale.

Remote sensing type

The function of setting the power cord that supplies power to the sensor and the cable that detects the voltage drop of the power cord, which is not affected by the length and temperature changes of the power cord, automatically maintains the voltage transmitted to the sensor within a certain range.

Ratio metric type

In order to convert the voltage energy transmitted to the sensor, setting the reference voltage to be the same will result in voltage errors due to temperature and time changes. The ratio method can offset the voltage error and perform correct quantization processing.

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LOAD CELLS INDEX

01 S type load cells

001 **DYLY-101** 0-20T 

002 **DYLY-102** 1-7T 

003 **DYLY-103** 0-10T 

004 **DYLY-104** 0-2T 2-10T 

005 **DYLY-105** 0-1.5T 

006 **DYLY-106** 0-100kg 

007 **DYLY-107** 0-200kg 

008 **DYLY-108** 0-200kg 

009 **DYLY-108M** 0-200kg 

010 **DYLY-109** 0-10kg 

011 **DYTSC** 50kg-5T 

012 **DYTSH** 0-5T 

02 Spoke type load cells

014 **DYLF-101** 0-50T 

015 **DYLF-102** 0-1000T 

016 **DYLF-104** 0-100kN 

017 **DYLF-105** 50-500T 

018 **DYLF-106** 0-50T 

03 Shear beam load cells

020 **DYX-301** 0-10T 

021 **DYX-302** 0.5-25T 

022 **DYSBS** 0-3T 

023 **DYHLJ** 0-5T 

024 **DYX-305** 0-2000kg 

025 **DYX-306A** 0-2kg 

026 **DYX-306B** 0-40kg 

027 **DYX-306C** 0-350kg 

028 **DYX-306D** 0-500kg 

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029 **DYX-307**
50-1000kg


030 **DYX-309**
0-10kN


031 **DYBW-106**
0-1000kg


032 **DYZX-001**
0-100T


033 **DYZX-002**
0-150T


034 **DYWL-001**
10-100N


035 **DYQ-101**
1-30T


036 **DYBH-102**
1-500T


037 **DYBH-103**
100T


038 **DYBH-101**
100T


039 **DYYB-001**
0-500μm/m


040 **DYYB-002**
50kg


041 **DYZC-055**
0-20T


04 Tension sensor

043 **DYZHL**
0-1000N


044 **DYZL-101**
1-200kN


045 **DYZL-104**
0-200kN


046 **DYZL-105**
3000kg


047 **DYZL-106**
20-300N


048 **DYZL-107**
0-100kg


049 **DYZL-108**
0-50kg


05 Miniature load cells

051 **DYHW-106**
5-20kg


052 **DYHW-108**
1-100kg


053 **DYHW-110**
1-100kg


054 **DYHW-112**
50-500N


055 **DYHW-113**
1-200kg


056 **DYHW-116**
0-10T


057 **DYHW-120**
0-2000kg


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06 Capsule type load cells

059 DYMH-101 50kg-15T 

060 DYMH-102 50kg-10T 

061 DYMH-103 0-500kg 

062 DYMH-104 0-5T 

063 DYMH-105 0-2T 

064 DYMH-106 0-500kg 

065 DYMH-107 0-20kN 

066 DYMH-108 0-1000kg 

067 DYMH-108D 0-5kN 

068 DYMH-109 2.5-20T 

069 DYMH-113 0-50kg 

070 DYPB-001 1-5T 

071 DYPB-002 1-3T 

072 DYPB-003 1-5T 

073 DYTB-001 1-200kg 

074 DYTB-002 1-200kg 

07 Diffused silicon pressure transmitter

076 DYPT-603 -0.1-60Mpa 

08 Column type load cells

079 DYZ-100 0-500N 

080 DYZ-101 0-2000kg 

081 DYZ-102 0-50kg 

082 DYZ-103 0-150kN 

083 DYZ-104 0-100kN 

084 DYZ-105 0-3000kg 

085 DYZ-106 0-50kN 

086 DYZ-107 0-200kg 

087 DYZ-108 0-40T 

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088 **DYZ-109** 0-40T 

089 **DYZ-011** 0-1000T 

090 **DYZ-012** 5-500T 

091 **D620** 

092 **DYZ-013** 0-30T 

093 **DYZ-014** 0-100T 

094 **DYZ-015** 0-3500T 

095 **DYZ-016** 3-30T 

096 **DYZ-018** 0-200T 

097 **DYZ-13E** 0-50kg 

098 **DYHX-001** 0-100kg 

099 **DYHX-002** 5-50T 

100 **DYHX-002M** 30-500kg 

101 **DYHX-003** 50kg-5T 

102 **DYHX-003M** 30-500kg 

103 **DYHX-004** 0-200kN 

104 **DYRTN** 1-470T 

09 Multi-axial force sensor

106 **DYDW-001** 0-1000kg 

107 **DYDW-002** 3-60N.m 100-2000N 

108 **DYDW-003** 1-50N.m 50-1000N 

109 **DYDW-004** 5-100kg 

110 **DYDW-005** 100-5000N 

111 **DYDW-006** 5-100kg 

112 **DYDW-007** 0-1000kg 

113 **DYDW-008** 300N 10N.m 

114 **DYDW-009** 10kN/750N.m 

115 **DYDW-γ25** 20-100N 0.5-5N.m 

117 **DYDW-γ45** 20-200N 0.5-5N.m 

119 **DYDW-γ74** 5000N 100N.m 

121 **DYDW-γ80** 500N 10N.m 

123 **DYDW-γ82** 500N 20N.m 

125 **DYDW-γ125** 20kN 500N.m 

127 **DYDW-γ200** 100kN 5000N.m 

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10 Weighing Modules

130 DYMK-001 0-15T 

131 DYMK-002 0-100T 

132 DYMK-003 0-5T 

133 DYMK-004 10-300kg 

134 DYMK-005 0-40T 

135 DYMK-006 0-500kg 

136 DYFW 0-25T 

137 DYCW 0-20T 

138 DYFWC 0-20T 

139 DYMK-007 0-10T 

140 DYMK-008 50T 

11 Strain torque sensor

142 DYZY-001 3000g 

143 DYDC-001 620g 

144 DYJN-101 0-10000N.m 

145 DYJN-102 0-200N.m 

146 DYJN-103 0-3000N.m 

147 DYJN-104 0-150N.m 

148 DYJN-105 0-200N.m 

149 DYJN-106 0.1-5000N.m 

150 DYJN-107 0-1000N.m 

151 DYJN-108 0.2-5k N.m 

152 DYJN-110 0-200N.m 

153 DYJN-111 0-100000N.m 

154 INCLINATION DETECTION SYSTEM 100000N.m 

12 Dynamic torque sensor

157 DYN-200 0-20000N.m 

159 DYN-200 Pro 0-20000N.m 

161 DYN-201D 0-500N.m 

163 DYN-202 0.1-5N.m 

164 DYN-203 0-3000N.m 

166 DYN-204 0-5N.m 

167 DYN-205 0-5N.m 

168 DYN-206 0-800N.m 

169 DYN-207 0-200N.m 

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170 DYN-208 1000N.m 	174 DYN-210 Mini 0.1-10N.m 	176 DYN-T40 0-10000N.m 
171 DYJN-109 0-30000N.m 	175 DYN-212 0-300N.m 	178 DYN-502 0-250000N.m 
172 DYN-210 0-300000N.m 		

INSTRUMENTATION INDEX

13 Junction box and transmitter

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183 DYTX-101 	188 D530 	193 DY094 
184 BSQ-001 	189 DYFV12 	194 X508A 
185 DY500 	190 X503 	195 X508B 
186 DY510 	191 DR304 	

14 Indicator

197 D740 TOUCH SCREEN 	200 DY054W 	202 DY055 
198 DY054 	201 DY054N 	203 DY056 

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204 X505-4 	214 DYN-303 	223 LN965A 
205 X505 	215 DY6001 	224 SXR21 
206 DY220 	216 DYCSM 	225 XSB2 
207 DY220B 	217 DY300 MULTI-FUNCTION CONTROLLER 	226 CH6 
208 DY300 	218 DY310 	227 700WC 
209 DY300A 	219 DY320 	228 DY2025 
210 DY800 	220 DY330 	229 DY3190 
211 DY810 	221 DYHB 	230 R305 
212 DY920 	222 DYCHB 	

15 Software

231 SELECTION OF ADAPTIVE SOFTWARE

232 SOFTWARE INTRODUCTION

16 Custom products/Examples

234 CUSTOM PRODUCTS/EXAMPLES

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QUALITY BUILDS BRAND
SERVICE WINS TRUST

All sensors and instruments produced and sold by the company have been strictly tested to ensure product quality

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Konsultasi pemilihan sensor, penawaran harga, dan pemasangan di pabrik Anda.