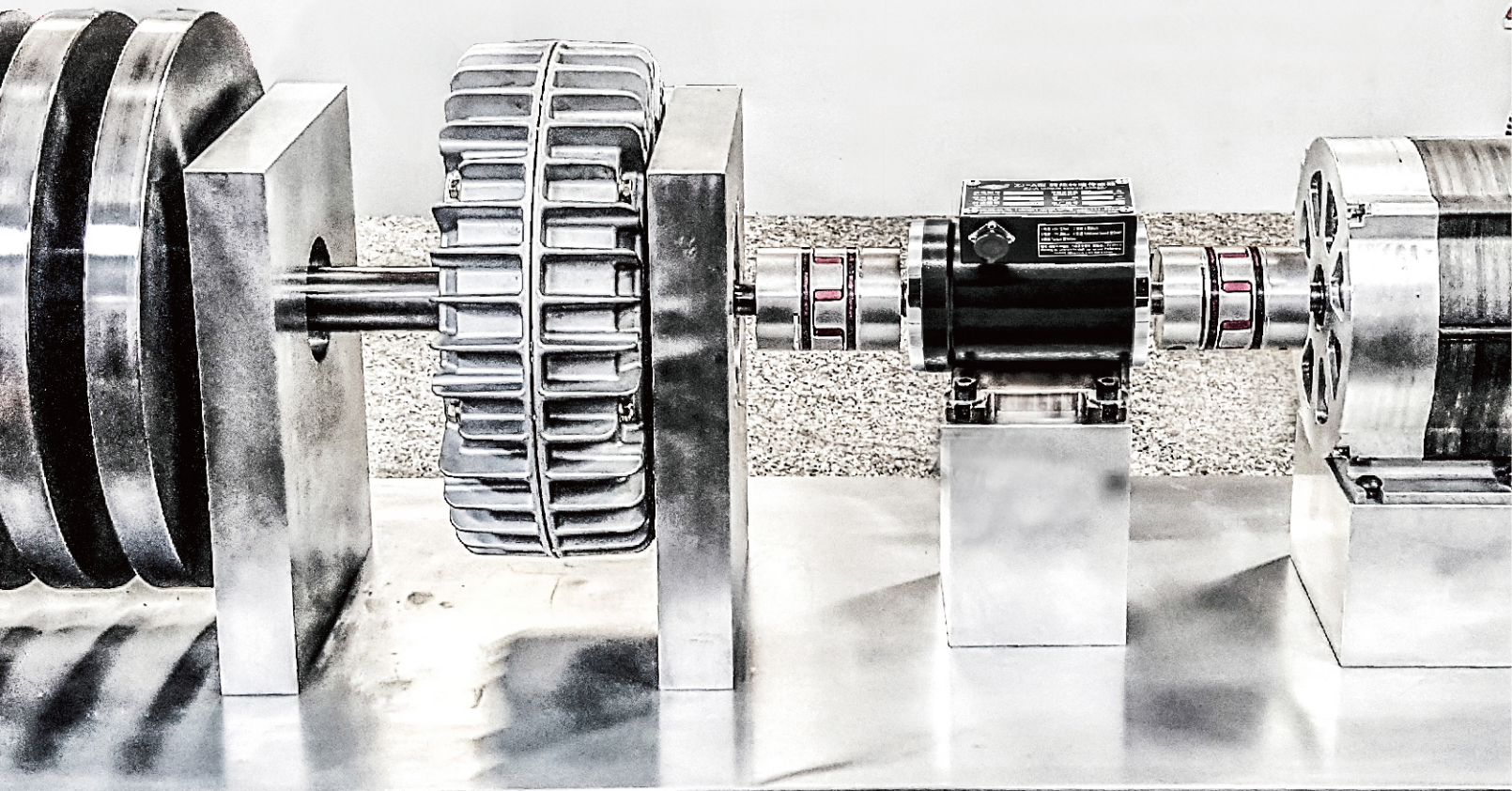




兰菱 · 扭矩传感器

LANMEC · TORQUE SENSOR

LANMEC
ELECTROMECHANICAL
TECHNOLOGY



Lanmec sensor high efficiency and first-class quality cooperative partner
兰菱测器 高效率 and 一流质量的合作伙件

Torque sensor

扭矩传感器

Measuring instrument which used for test bench and transmission engineering,
process monitoring and quality assurance

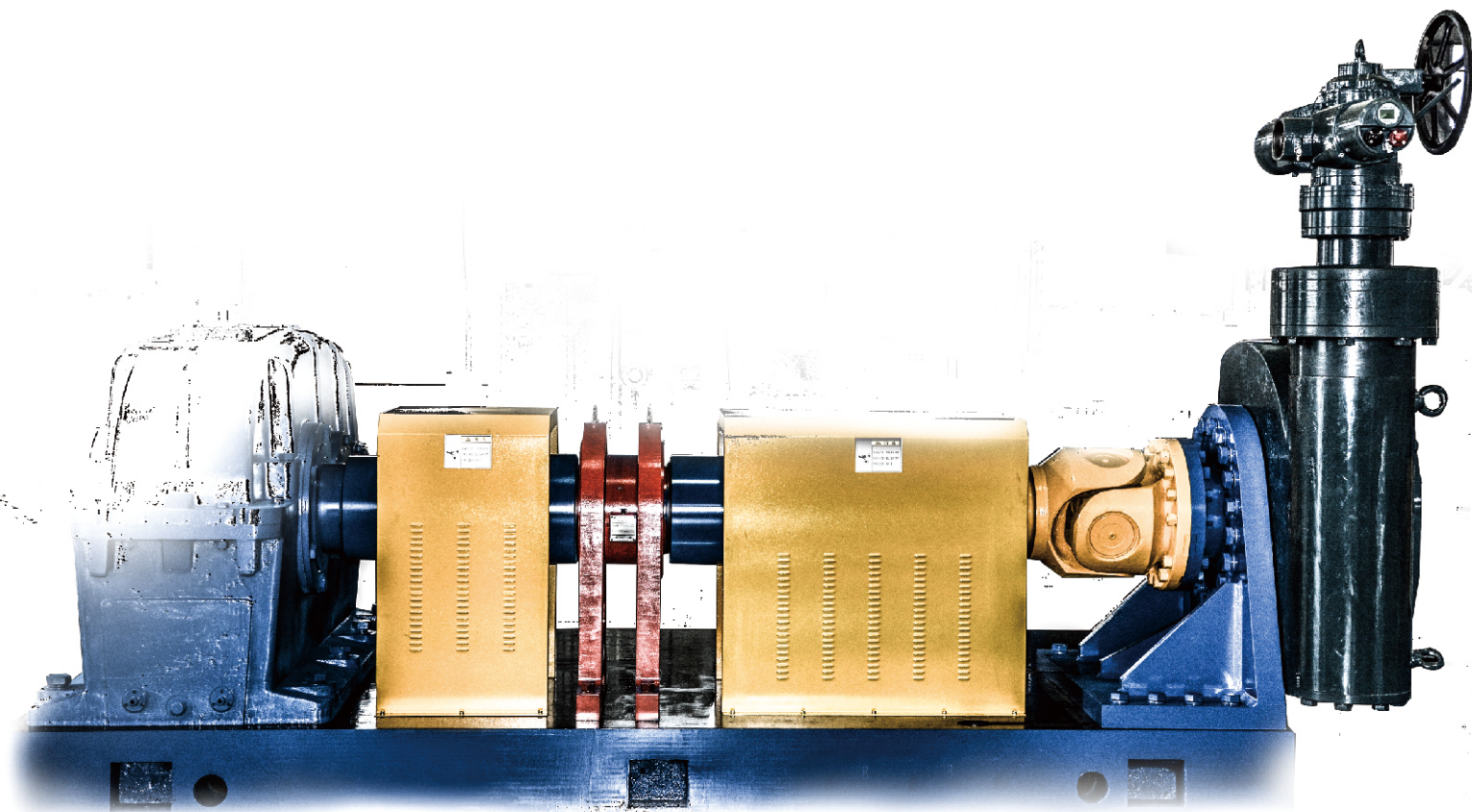
用于试验台和传动工程、过
程监控和质量保证的测量仪器

主要应用

电动机、发动机、内燃机等旋转动力设备输出
扭矩及功率的检测；风机、水泵、齿轮箱、扭
力扳手的扭矩及功率的检测；铁路机车、汽
车、拖拉机、飞机、船舶、矿山机械中的扭矩
及功率的检测；可用于污水处理系统中的扭矩
及功率的检测,可用于过程工业和流程工业中。

Main application

This sensor is a kind of precision measuring
instrument for measuring large torque, rotate
speed, and mechanical power. This device is
mainly used for detecting the torque and power of
locomotive, automobile, tractor, airplane, ship, and
mining machinery, as well as sewage disposal
system, and applied in process industry.



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公司简介

COMPANY PROFILE

江苏兰菱机电科技有限公司（原海安县兰菱机电设备有限公司）研发转矩转速传感器、数据采集系统、测试模拟负载装置（磁粉制动器、电涡流制动器、磁滞制动器等）源于1974年，系国内最早研究、设计并投入规模生产该类产品的单位之一。

公司现有职工200多名，其中技术人员80多名，并常年与清华、北大、同济、哈工大等高校合作，开发各种相关产品。在产品设计上我们始终瞄准国外同行最先进的产品，引进、消化、吸收，开发出外形美观、性能可靠、经济耐用的同类产品，可以与进口产品相媲美。

公司于2006年通过ISO9001:2000质量体系认证。转矩转速传感器严格执行国家机械行业标准：JB/T6876-1993,并于2013年通过欧盟CE认证。

转矩转速传感器采用高线性弹性轴，热处理后经进口数控车床和加工中心精加工而成。转矩转速传感器出厂需经过静态校准、动态测试、振动试验、强磁试验等试验方可出厂，保证了传感器的精度和出厂的可靠性。

公司拥有5-2000K N.m扭矩标准机，均由中国航空工业集团公司北京长城测试技术研究所校准，精度达0.03%。经过多年的不懈努力，工厂现占地30000平米、厂房15000多平米，固定资产近亿元，年产销近50000台套。产品质量、生产规模及产量稳居全国前列。

过硬的产品质量和健全的售后服务体系，为公司赢得国内外客户5000多家。多年来，公司还与航天、航空等军工单位合作开发了多种产品，是中国酒泉卫星发射中心的供应商。兰菱科技位于美丽的黄海之滨，沿海开发的新兴城市—江苏海安。我们热忱欢迎您光临本公司，为我们兰菱机电向更高目标发展多提宝贵意见！

Jiangsu Lanmec Electromechanical Technology Co., Ltd(Original name is Haiyan Lanmec Electromechanical Equipment Co., Ltd), which was founded in 1974, research and develop torque speed sensor, data acquisition system, test analog load device (magnetic powder brake, eddy current brake, hysteresis brake and so on).....In China it is one of the earliest corporation to R&D and industrialize these kinds of products for mass production.

Today two hundreds of employees with around 80 engineers commit themselves to the company.Cooperating with famous universities,such as Tsinghua university, PEKING university,Tongji university and Harbin Institute of Technology,aiming at worldwide advanced technology,the corporation develops more reliable、durable and beautiful devices for customers.

Lanmec Electromechanical acquired ISO 9001:2000 certification in 2006.Torque speed sensor strictly complies with China Administation of Machinery Industry Standard:JB/T6876-1993 and acquried EU CE certification in 2013.

Torque speed sensor with high linear elastic shaft, refined processing by the imported CNC lathes and machining centers after heat treatment. Before leaving the factory, it must pass through the static calibration, dynamic test, vibration test, strong magnetic test and so on, to ensure the accuracy and reliability of the sensor.

We have 5-2000K N.m torque standard machine, calibrated by the Chinese Aviation Industry group Corp Beijing Great Wall Testing Technology Research Institute, accuracy is up to 0.03%.

After year to year unremitting efforts,the corporation grows to land area of 30000 m² & workshops 15000 m²,fixed assets value of RMB nearly one hundred million, and output nearly 50000 units/sets one year. Product quality,scale of production and output,are in the forefront of the country.

Excellent product quality and perfect after sales service system bring more than 5000 worldwide clients to us.After collaborate with and delivery many excellent products to China Aerospace & Aviation Military Corporation,the company is authorized as a supplier for China Jiuquan Satellite Launch Center. Lanmec, reliable partner!

Lanmec locates in the beautiful coast of Yellow Sea in East China-Haian.Welcome to Lanmec!Sincerely looking forward to your valued suggestion and cooperation!





实力展示

STRENGTH DISPLAY



ZJ型 转矩转速传感器(动态) 介绍

ZJ TORQUE SPEED SENSOR (DYNAMIC) INTRODUCTION

ZJ型转矩转速传感器(动态)是采用应变片电测技术,在弹性轴上组成应变桥,向应变桥提供电源即可测得该弹性轴受扭的电信号。将该应变信号放大后,经过压/频转换,变成与扭变成成正比的频率信号。该传感器可以精确测量各种扭力、转速及机械功率。

ZJ torque speed sensor (dynamic) adopts strain gauge measurement technique. The electrical signal of elastic shaft under torsion can be measured by providing power for the strain gauge bridge. After amplified, and voltage/frequency conversion, the strain signal is converted into the frequency signal directly proportional to torsional strain.

PRODUCT FEATURES

产品特点

- 转矩转速动态测量、供电及信号非接触传递、输出信号数字化。
Torque measurement; energy and signal non-contact transmission; output signal digitized.
- 检测精度高、稳定性好、抗干扰性强。
High testing precision, high stability and anti-interference ability.
- 不需反复调零即可连续测量正反转矩。
Repeating zero setting is not required continuous measurement of positive and negative torque.
- 既可测量静止扭矩,也可测量动态扭矩。
Both static torque and dynamic torque can be measured.
- 可脱离二次仪表独立使用,输出信号可供PLC、PC直接使用。
Can be used independently without secondary instrument, output signal can directly use by PLC or PC.
- 可根据客户要求非标定制。
Can be customized according to customer requirements.

MAIN FUNCTION AND PERFORMANCE INDEX

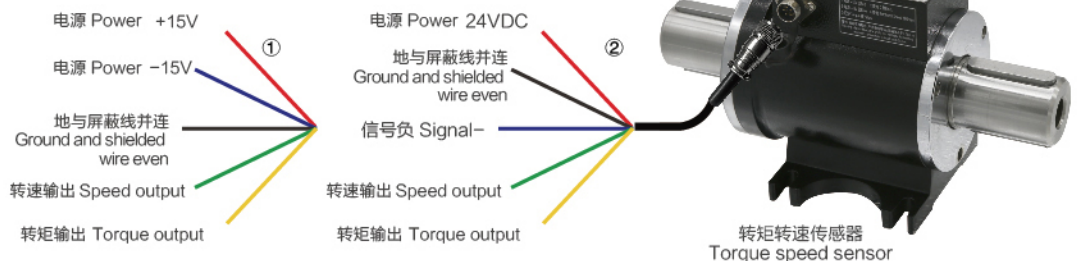
主要功能及性能指标

扭矩示值误差(Torque indication error): $< \pm 0.2\% F \cdot S$	电源电压(Power supply voltage): DC $\pm 15V \pm 5\%$, DC 24V(可选 optional)
灵敏度(Sensitivity): $1 \pm 0.2\text{ mV} / V$	转速输出信号: 60~2000个脉冲/转(可选) Speed output signal: 60~2000 pulse / turn(optional)
非线性(Nonlinear): $\leq \pm 0.2\% F \cdot S$	零转矩频率输出(Zero torque frequency output): 10KHZ
重复性(Repeatability): $\leq \pm 0.2\% F \cdot S$	正向转矩满量程频率输出(Positive torque full scale frequency output): 15KHZ
滞后(Lag): $\leq 0.2\% F \cdot S$	反向转矩满量程频率输出(Reverse torque full scale frequency output): 5KHZ
零点飘移(24小时) Zero drift (24 hours): $\leq 0.1\% F \cdot S$	信号占空比(Signal duty ratio): $(50 \pm 10)\%$
输出阻抗(Output impedance): $1K\Omega \pm 3\Omega$	传感器功耗(Power consumption of the sensor): 4W
绝缘阻抗(Insulation resistance): $>500M\Omega$	使用温度(Temperature when use): $-20 \sim 70^\circ C$
静态超载(Static overload): 150%	相对湿度(Relative humidity): $\leq 90\%RH$
断裂负载(Breaking load): 200%	
信号输出: $10 \pm 5KHz$ (可选4~20mA, 0~5V, 0~10V信号输出 / 485通讯, 通信协议见P12)	
Signal output: $10 \pm 5KHz$ (Optional 4~20mA, 0~5V, 0~10V signal output / 485 communication, communication agreement pls. see P12)	
量程范围: 0.01N.m~2000K N.m, 可以非标定制 Measurement range: 0.01~2000K N.m Non-standard can customization.	

PLUG CONNECTION AND LEAD DEFINITION

插头连接及引线定义

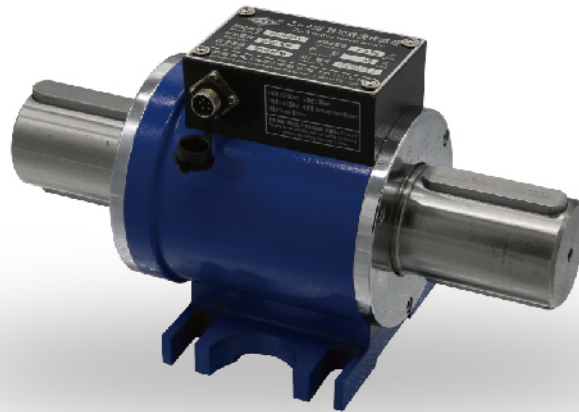
可选供电电压: ① DC $\pm 15V$ ② DC 24V
Optional power supply voltage: ① DC $\pm 15V$ ② DC 24V



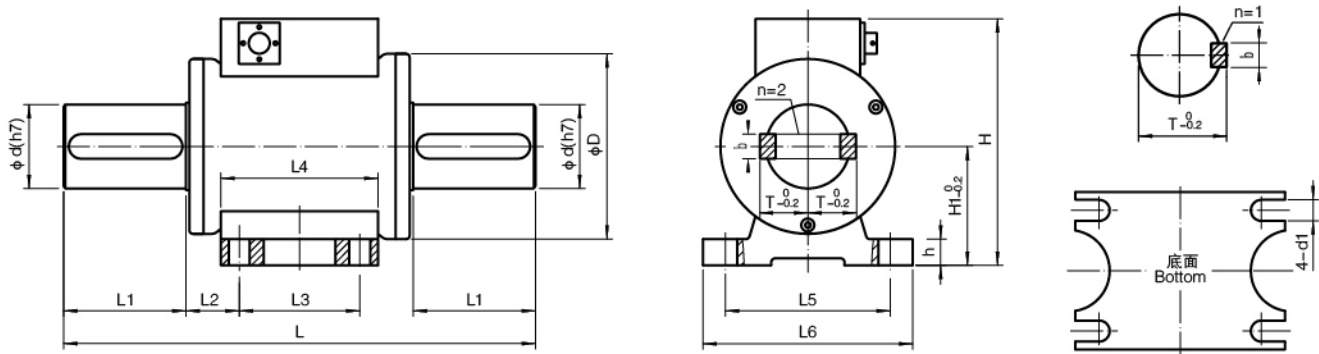
连接电缆必须是屏蔽的和低电容的。我们推荐使用兰菱电缆,因为兰菱电缆能满足这些要求。

Connect cables must be shielded and low capacitance. We recommend use LANMEC cables, which satisfy these requirements.

ZJ-A STANDARD TORQUE SPEED SENSOR



INSTALLATION SIZE CHART
外形安装尺寸图



型号 (Model)	量程 Range N.m	最高转速 Max Speed (r/min)	外形尺寸 Overall dimension			轴联结尺寸 Shaft coupling size				机座支撑尺寸 Base support size							重量 (kg)	
			H	L	D	d	键b(p7)X数量n	T	L1	L2	L3	L4	L5	L6	H1	d1		h
ZJ-5A	5	6000	114	188	78	18	6X1	20.5	31	35	72	90	75	100	55	8	12	3.8
ZJ-10A	10	6000	114	188	78	18	6X1	20.5	31	35	72	90	75	100	55	8	12	3.8
ZJ-20A	20	6000	114	188	78	18	6X1	20.5	31	35	72	90	75	100	55	8	12	3.8
ZJ-30A	30	6000	114	188	78	18	6X1	20.5	31	35	72	90	75	100	55	8	12	3.8
ZJ-50A	50	6000	114	188	78	18	6X1	20.5	31	35	72	90	75	100	55	8	12	3.8
ZJ-100A	100	6000	114	188	78	18	6X1	20.5	31	35	72	90	75	100	55	8	12	3.8
ZJ-200A	200	5000	125	209	92	28	8X1	31	41	36.5	72	90	75	100	60	8	12	5.1
ZJ-500A	500	4000	135	238	96	38	10X2	22	55	37	72	90	75	100	65	8	12	6.5
ZJ-1000A	1000	3000	143	270	106	48	14X2	27.5	70	40.5	69	90	78	120	68	12	15	9
ZJ-2000A	2000	3000	143	270	106	48	14X2	27.5	70	40.5	69	90	78	120	68	12	15	9.5
ZJ-5000A	5000	2000	187	347	144	75	20X2	42	105	34	69	100	156	180	90	12	15	23
ZJ-10000A	10000	2000	214	389	158	98	28X2	55	118	36.5	80	110	170	200	110	14	15	35
ZJ-20K A	20K	1800	225	420	168	105	28X2	58.5	125	41	88	125	180	205	115	14	15	56
ZJ-30K A	30K	1500	258	420	206	125	32X2	69.5	125	41	88	125	200	230	136	14	15	56
ZJ-40K A	40K	1500	301	480	240	150	40X2	84	150	45	90	125	190	250	153	18	20	95
ZJ-50K A	50K	1500	301	480	240	150	40X2	84	150	45	90	125	190	250	153	18	20	95
ZJ-100K A	100K	1200	331	560	280	180	45X2	100	180	55	90	130	230	290	168	18	20	160
ZJ-150K A	150K	1000	420	900	350	235	56X2	129.5	310	50	180	240	250	290	220	22	25	420
ZJ-200K A	200K	800	446	900	380	255	56X2	139.5	310	48	180	240	250	300	240	22	25	480
ZJ-300K A	300K	800	480	900	416	295	70X2	161.5	310	48	180	240	268	310	250	22	25	580

高转速、特殊要求可非标定制 High speed, special requirement can non-standard customization



ZJ-AM型 微量程转矩转速传感器

ZJ-AM MICRO RANGE TORQUE SPEED SENSOR

ZJ-AM型微量程转矩转速传感器是在标准转矩转速传感器的基础上进行结构优化，体积缩小，专用于微小扭矩的测量。主要应用于制造粘度计，微型电动马达、发动机、齿轮箱等动力检测。

ZJ-AM micro range torque speed sensor is on the basis of the standard torque speed sensor for structural optimization, volume zoom out, dedicated to small volume torque measurement. Mainly used in manufacturing viscometer, power detection such as micro electric motor, engine and gearbox.

ZJ-AM MICRO RANGE TORQUE SPEED SENSOR

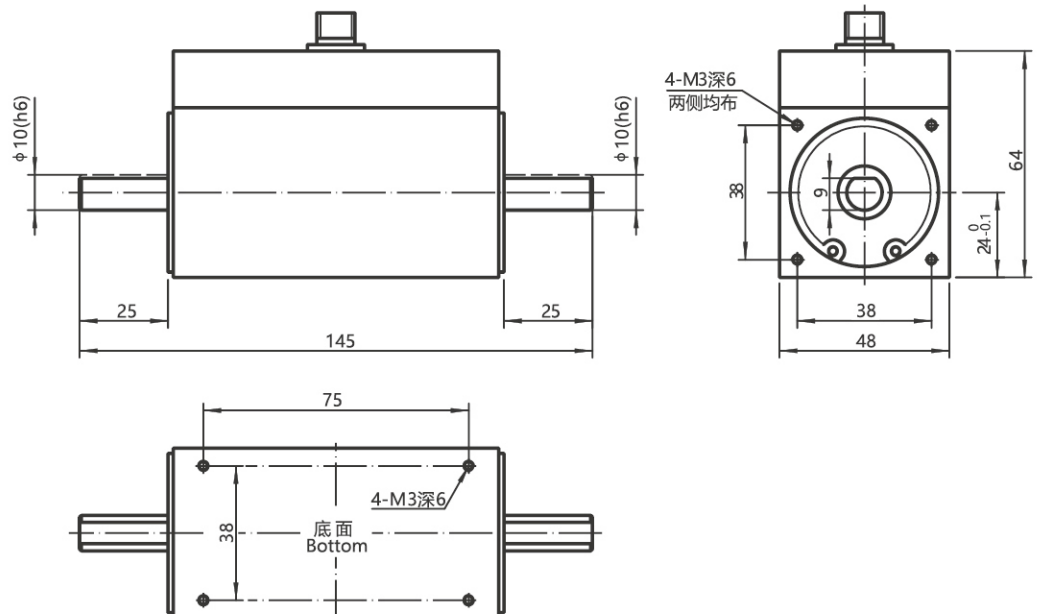
ZJ-AM型 微量程转矩转速传感器



型号 Model	量程 Range N.m	最高转速 Max Speed Rpm	精度 Accuracy
ZJ-0.05AM	0.05	11000	±0.5% F.S
ZJ-0.1AM	0.1	11000	±0.5% F.S
ZJ-0.2AM	0.2	11000	±0.5% F.S
ZJ-0.5AM	0.5	11000	±0.5% F.S
ZJ-1AM	1	9000	±0.25% F.S
ZJ-2AM	2	9000	±0.25% F.S
ZJ-3AM	3	9000	±0.25% F.S

INSTALLATION SIZE CHART

外形安装尺寸图



ZJ-A型 大量程扭矩转速传感器

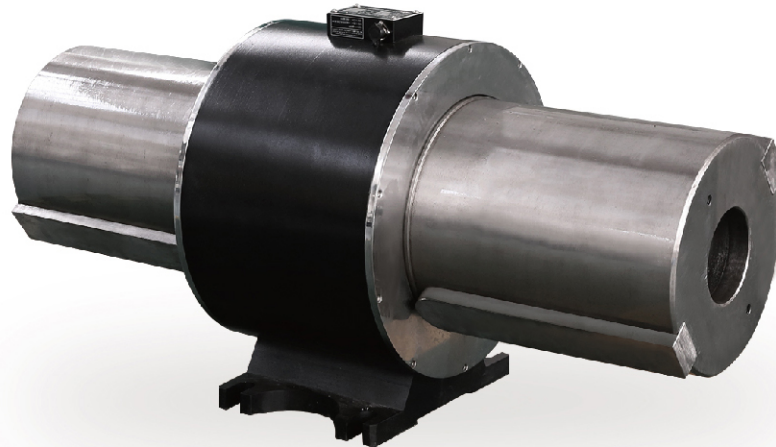
ZJ-A WIDE RANGE TORQUE SPEED SENSOR

ZJ-A型大量程扭矩转速传感器是可测量各种超大扭矩。主要应用大型电动机、发动机、内燃机等旋转动力设备输出扭矩及功率的检测；风机、水泵、齿轮箱、扭力扳手的扭矩及功率的检测；铁路机车、汽车、拖拉机、飞机、船舶、矿山机械中的扭矩及功率的检测。

ZJ-A wide range torque speed sensor can measuring super large torque, rotate speed, and mechanical power. This device is mainly used for detecting the torque and power of locomotive, automobile, tractor, airplane, ship, and mining machinery.

ZJ-A WIDE RANGE TORQUE SPEED SENSOR

ZJ-A型 大量程扭矩转速传感器



可非标定制 Can non-standard customization
外形安装尺寸图来电索取 Call for installation size chart

型号 Model	量程 Range N.m	最高转速 Max Speed Rpm	精度 Accuracy
ZJ-500K A	500K	800	±0.2% F.S
ZJ-750K A	750K	710	±0.2% F.S
ZJ-1000K A	1000K	710	±0.2% F.S
ZJ-1200K A	1200K	560	±0.2% F.S
ZJ-1500K A	1500K	560	±0.2% F.S
ZJ-2000K A	2000K	480	±0.2% F.S



600K N.m动态扭矩测试台
600K N.m Dynamic torque test bench



ZJ-AF型 法兰式转矩转速传感器

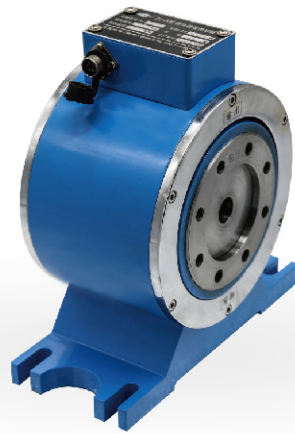
ZJ-AF FLANGE TORQUE SPEED SENSOR

ZJ-AF型法兰式转矩转速传感器输入、输出端都采用法兰联接方式（其中一端必须刚性联接）。由于该型号传感器不使用轴承，可有效地避免因轴承发热产生的测量误差。适用于高速旋转或要求轴向尺寸较短的场合使用。

ZJ-AF flange torque speed sensor input and output end use flange connection(one side must be rigid connection). Because this model sensors without the use of the bearing, can effectively avoid measurement errors caused by bearing heating. Suitable for high speed rotating or requiring short axial occasion.

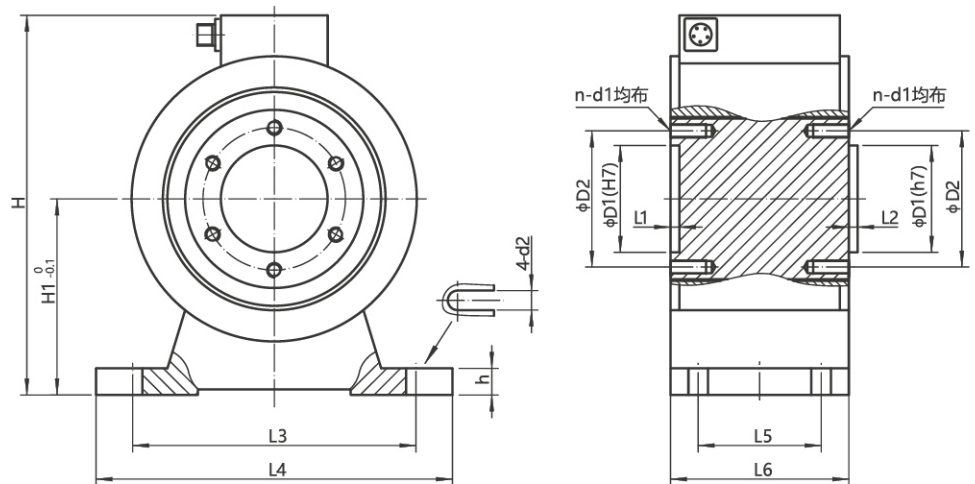
ZJ-AF FLANGE TORQUE SPEED SENSOR

ZJ-AF型 法兰式转矩转速传感器



INSTALLATION SIZE CHART

外形安装尺寸图



型号 Model	量程N.m	H	H1	D1	D2	n-d1x深度	L1	L2	L3	L4	L5	L6	d2	h
ZJ-5/10/20/50AF	5/10/20/50	185	100	52	66	6-M6x10	2	2	115	135	45	80	7	12
ZJ-100AF	100	185	100	52	66	6-M6x10	2	2	115	135	45	80	7	12
ZJ-200AF	200	195	105	52	66	6-M8x12	3	3	125	150	60	90	7	12
ZJ-500AF	500	205	105	55	70	8-M8x12	3	3	130	160	60	90	9	15
ZJ-1000AF	1000	213	110	60	80	8-M10x16	5	5	160	200	70	100	11	15
ZJ-2000AF	2000	213	110	60	80	8-M10x16	5	5	160	200	70	100	11	15
ZJ-5000AF	5000	286	150	80	136	8-M16x25	5	5	210	250	80	120	17	20

量程10000~2000K N.m 参数来电索取 Call for 10000 ~ 2000K N.m parameters

ZJ-AP型 盘式扭矩传感器

ZJ-AP DISC TORQUE SENSOR

ZJ-AP型盘式扭矩传感器输入、输出端都采用法兰联接方式（其中一端必须刚性联接）。由于该型号传感器不使用轴承，可有效地避免因轴承发热产生的测量误差。适用于高速旋转或要求轴向尺寸更短的场所使用。

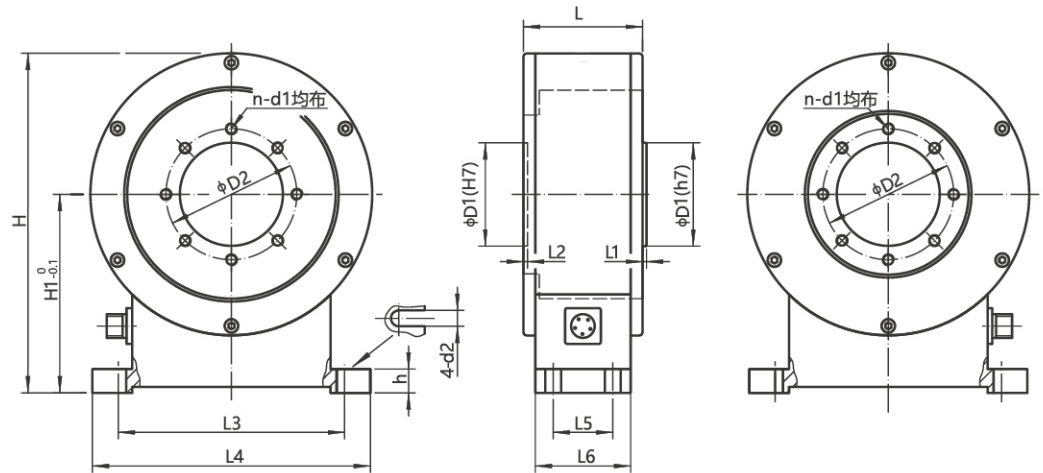
ZJ-AP disc torque sensor input and output end use flange connection(one side must be rigid connection). Because this model sensors without the use of the bearing, can effectively avoid measurement errors caused by bearing heating. Suitable for high speed rotating or requiring shorter axial size occasion.

ZJ-AP DISC TORQUE SENSOR

ZJ-AP型 盘式扭矩传感器



INSTALLATION SIZE CHART 外形安装尺寸图



型号 Model	量程N.m	L	H	H1	D1	D2	n-d1x深度	L1	L2	L3	L4	L5	L6	d2	h
ZJ-5/10/20/50AP	5/10/20/50	60	171	100	52	66	6-M6x10	2	2	115	140	30	48	7	12
ZJ-100/200AP	100/200	60	171	100	52	66	6-M6x10	2	2	115	140	30	48	7	12
ZJ-500AP	500	70	200	120	62	76	6-M8x12	3	3	135	160	40	58	9	15
ZJ-1000AP	1000	70	220	130	72	96	8-M10x12	3	3	155	180	36	58	11	15
ZJ-2000AP	2000	70	220	130	72	96	8-M10x16	3	3	155	180	36	58	11	15

量程5000~2000K N.m 参数来电索取 Call for 5000 ~ 2000K N.m parameters

ZJ-Z型 轴式静态扭矩传感器

ZJ-Z AXIS STATIC TORQUE SENSOR

ZJ-Z型轴式静态扭矩传感器广泛应用于试验机、扭力扳手、转向机、轴承、电动执行器、阀门、液压等静止扭矩测试系统中，由于出色的稳定性、较高的测量精度和极高的性价比而受到用户的青睐。

ZJ-Z axis static torque sensor are widely applied for testing machine, torque wrench, steering engine, electric actuator, valve, hydraulic and static torque test system, etc. With excellent stability, high measurement accuracy as well as very high performance cost ratio, this product is praised by the users.

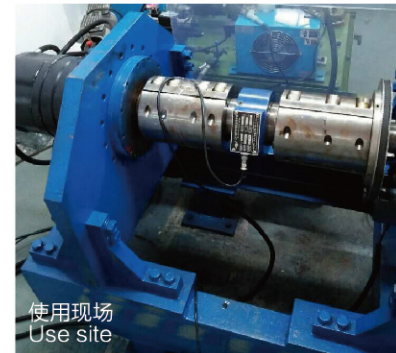
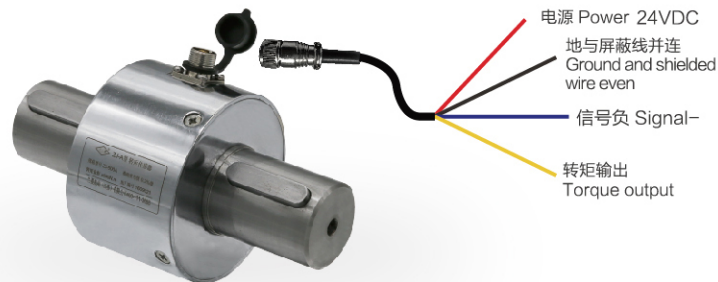
TECHNICAL INDEX

技术指标

- | | |
|---|--|
| 1. 频率响应: 100 μ s
Frequency response: 100 μ s | 4. 输出信号: 电流4~20mA, 电压1~5V,
频率方波10KHz/ \pm 5 KHz (可选)
Output signal: current 4~20mA, voltage 1~5V,
square-wave frequency 10KHz/ \pm 5 KHz (optional) |
| 2. 绝缘强度: 200M Ω (100V)
Insulation strength: 200M Ω (100V) | 5. 扭矩传感器内阻: 1000 Ω
Torque sensor resistance: 1000 Ω |
| 3. 供电: DC 12~24V 电流 \geq 50mA
Power supply: DC 12~24V, current \geq 50mA | |

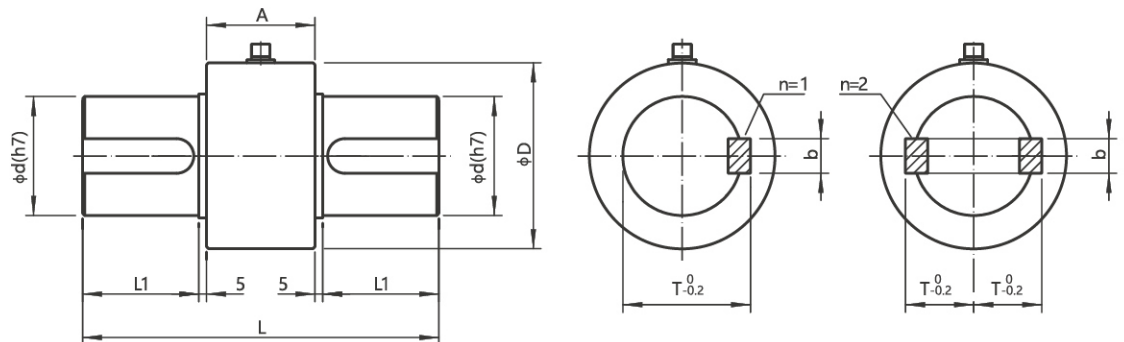
ZJ-Z AXIS STATIC TORQUE SENSOR

ZJ-Z型 轴式静态扭矩传感器



INSTALLATION SIZE CHART

外形安装尺寸图



型号 Model	量程 Range (N.m)	D	L	A	d	键(b \times p7)x数量n	T	L1
ZJ-5Z	5	60	105	47	18	6x1	20.5	27
ZJ-10Z	10	60	105	47	18	6x1	20.5	27
ZJ-20Z	20	60	105	47	18	6x1	20.5	27
ZJ-50Z	50	60	105	47	18	6x1	20.5	27
ZJ-100Z	100	60	105	47	18	6x1	20.5	27
ZJ-200Z	200	78	132	50	28	8x1	31	38
ZJ-500Z	500	87	160	50	38	10x2	22	50
ZJ-(1000/2000)Z	1000/2000	99	200	60	48	14x2	27.5	65
ZJ-5000Z	5000	132	260	60	75	20x2	42	95
ZJ-10000Z	10000	146	280	60	98	28x2	55	105
ZJ-(20K/30K)Z	20K/30K	156	310	70	105	28x2	58.5	115
ZJ-(40K/50K/60K)Z	40K/50K/60K	190	310	70	150	40x2	83	115
ZJ-100K Z	100K	220	470	70	170	45x2	100	195

量程200K~2000K N.m 参数来索取 Call for 200K ~ 2000K N.m parameters

可非标定制 Can non-standard customization

ZJ-FZ型 法兰式静态扭矩传感器

ZJ-FZ FLANGE STATIC TORQUE SENSOR

ZJ-FZ型法兰式静态扭矩传感器被广泛应用于试验机、扭力扳手、转向机、电动执行器、阀门、液压等静止扭矩测试系统中，由于出色的稳定性、较高的测量精度和极高的性价比而受到用户的青睐。

ZJ-FZ flange static torque sensor are widely applied for testing machine, torque wrench, steering engine, electric actuator, valve, hydraulic and static torque test system, etc. With excellent stability, high measurement accuracy as well as very high performance cost ratio, this product is praised by the users.

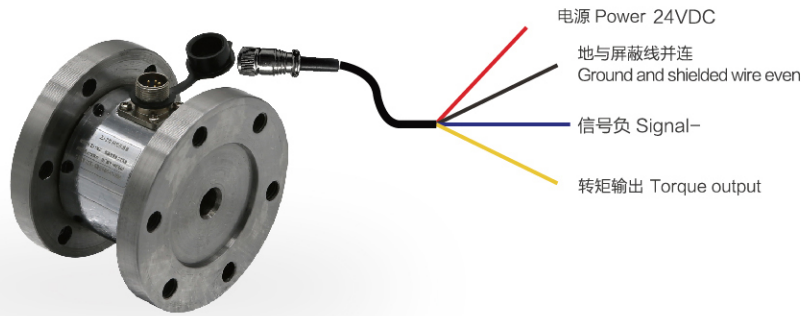
TECHNICAL INDEX

技术指标

- | | |
|---|---|
| 1. 频率响应 100 μs
Frequency response: 100 μs | 4. 输出信号: 电流 4~20mA, 电压 1~5V,
频率方波 10KHz/±5 KHz (可选)
Output signal: current 4~20mA, voltage 1~5V,
square-wave frequency 10KHz/±5 KHz (optional) |
| 2. 绝缘强度: 200MΩ (100V)
Insulation strength: 200MΩ (100V) | 5. 扭矩传感器内阻: 1000Ω
Internal resistance of torque sensor: 1000Ω |
| 3. 供电: DC 12~24V 电流 ≥50mA
Power supply: DC 12~24V, current ≥50mA | |

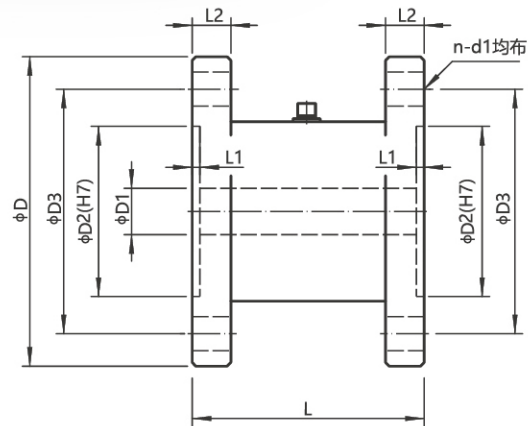
ZJ-FZ FLANGE STATIC TORQUE SENSOR

ZJ-FZ型 法兰式静态扭矩传感器



INSTALLATION SIZE CHART

外形安装尺寸图



型号 Model	量程 Range (N.M)	L	D	D1	D2	D3	n-d1	L1	L2
ZJ-5FZ	5	60	80	10	46	65	6-M8	2	10
ZJ-10FZ	10	60	80	10	46	65	6-M8	2	10
ZJ-20FZ	20	60	80	10	46	65	6-M8	2	10
ZJ-50FZ	50	60	80	10	46	65	6-M8	2	10
ZJ-100FZ	100	60	80	10	46	65	6-M8	2	10
ZJ-(200/300/400/500)FZ	200/300/400/500	70	100	16	62	82	6-M10	3	13
ZJ-(1000/2000)FZ	1000/2000	75	116	20	72	94	6-M12	4	15
ZJ-5000FZ	5000	85	165	25	115	142	8-M12	4	18
ZJ-10000FZ	10000	95	205	40	135	173	8-M18	5	22
ZJ-(20K/30K)FZ	20K/30K	115	245	50	155	205	8-M20	5	26
ZJ-(40K/50K/60K)FZ	40K/50K/60K	120	280	50	200	240	10-M20	5	30
ZJ-100K FZ	100K	150	318	50	230	274	10-M24	5	38

量程 200K~2000K N.m 参数来电咨询 Call for 200K ~ 2000K N.m parameters 可非标定制 Can non-standard customization

ZJ-A-F/V(I)型 信号转换器

ZJ-A-F/V(I) SIGNAL CONVERTER

ZJ-A-F/V(I)型信号转换器作为ZJ系列转矩转速传感器的配套产品，供用户选购使用。当用户不方便直接测量传感器输出的频率信号时，可以选用该产品进行输出信号的变换，其中F/V信号转换器可以将传感器输出的频率信号转换为标准的电压信号，F/I信号转换器可以将传感器输出的频率信号转换为标准的电流信号

ZJ-A-F/V(I)Signal converter is the accessory product of ZJ torque speed sensor provided for users. When it is inconvenient for users to measure the output frequency signal of sensor directly, this product can be used for the conversion of output signal. F/V signal converter can convert the output frequency signal of sensor into standard voltage signal. F/I signal converter can convert the output frequency signal of sensor into standard current signal.

FEATURES:

特点:

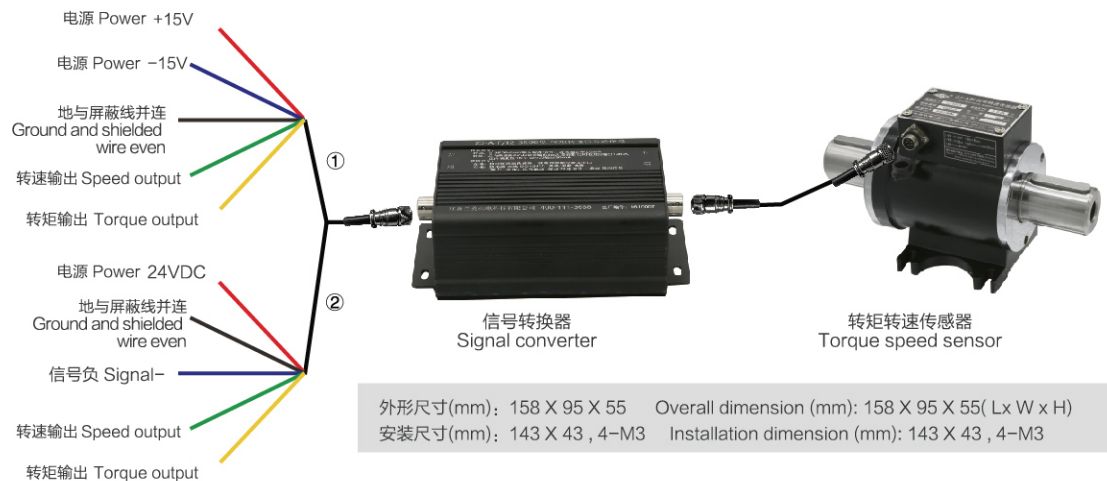
- 1.设计采用高性能集成电路，转换精度高，稳定性好。
For design, high-performance integrated circuit is adopted, with high conversion accuracy and good stability.
- 2.输入信号和输出信号完全隔离，便于用户进行系统的抗干扰设计。
Input signal and output signal are separated completely, for users to perform systematic anti-interference design.
- 3.体积小，安装方便，可以直接进行导轨安装或者平面安装。
Small volume and easy installation. Guide rail installation or plane installation can be performed directly.
- 4.采用DC ± 15V或DC 24V直流供电，功耗低。
DC ± 15V or DC 24V supply is adopted, with low power consumption.

PLUG CONNECTION AND LEAD DEFINITION

插头连接及引线定义

用户供电电压: ① DC ± 15V ② DC 24V (可选)

Customer power supply voltage: ① DC ± 15V ② DC 24V(optional)



MAIN FUNCTION AND PERFORMANCE INDEX

主要功能及性能指标

供电电源: DC ± 15V或DC 24V, 误差 ± 0.4V Power supply: DC ± 15V or DC 24V (error: ± 0.4V)

电源耗散功率: 小于1W Power supply dissipation power: less than 1W

响应时间: ≥ 100mS Response time: ≥ 100mS

转换精度: ± 0.1% F.S Conversion accuracy: ± 0.1% F.S

信号输入: 光电隔离, 同ZJ传感器配套使用 Signal input: optoelectronic isolation. This device is used with ZJ sensor.

F/V信号输出: 0-5V, 0-10V, (任选) F/V signal output: 0-5V and 0-10V (optional)

F/I信号输出: 4-20mA F/I signal output: 4-20mA

使用环境: 温度为-20℃-60℃,湿度为0-90%RH, 无腐蚀性气体等

Operating environment: temperature range: -20℃-60℃; humidity range: 0-90%RH; no corrosive gases, etc.

TS-3000型 转矩转速功率采集仪

TS-3000 TORQUE SPEED POWER ACQUISITION INSTRUMENT

FUNCTION:

功能:

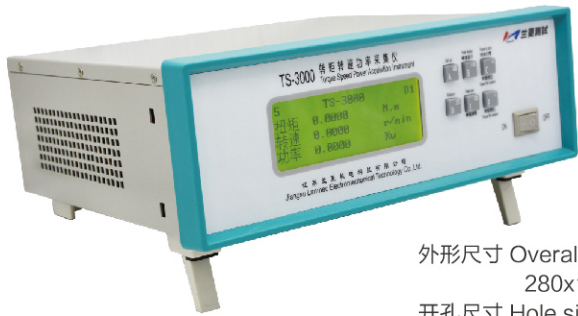
TS-3000型 转矩转速功率采集仪与ZJ系列转矩转速传感器配套使用。可显示机械传动的转矩、转速、功率,并具有峰值保持功能。

TS-3000 torque speed power acquisition instrument and can corollary use with ZJ series torque speed sensor. It can display mechanical transmission torque, speed, power, and has a peak value holding function.

TECHNICAL INDICATORS

技术指标

测量精度	Accuracy of measurement	± 0.05% F.S	± 0.05% F.S
采集周期	Acquisition cycle	≥ 10mS	≥ 10 ms
输入信号	Input signal	10K ± 5K Hz	10K ± 5K Hz
输出电压	Output voltage	± 15V DC	± 15V DC
输出信号	Output signal	485通讯(标配) 4~20mA 模拟量输出(选配) 超设定值继电器输出(标配)	485 communications (standard) 4~20mA analog output (optional) Super value relay output (standard)
网络接口	Net interface	以太网- RJ45 接口	RJ45 Ethernet interface
仪表供电	Instrument power supply	AC220VAC ± 10%	AC220VAC ± 10%



外形尺寸 Overall dimension(mm):
280x145x110(LxWxH)
开孔尺寸 Hole size(mm): 271x93

TS-3000接线端子(Terminals)



TS-3000 COMMUNICATION AGREEMENT

TS-3000 通信协议

一、通信系统物理参数

Physical parameters, communication system

1.通信方式:RS485

Communication: RS485

2.通信参数:9600,8,n,1; MODBUS RTU

Communication parameters: 9600,8,n,1; MODBUS RTU

3.浮点型符合IEEE745, 数据按 2143 的格式排列

Floating-point conforms to IEEE745, the format of the data in 2143

二、协议描述 Agreement description

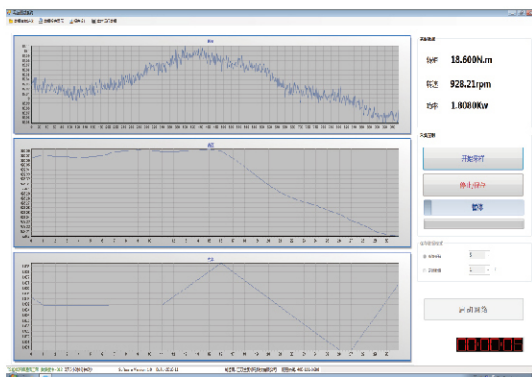
仪表支持 MODBUS读命令, 一共有 3 个参数。

Meter support MODBUS command, total three parameters.

序号 No.	地址(10进制) Address (decimal)	参数名称 Parameter name	数据格式 Data format 1	类型 Type
1	00	转矩(Torque)	Float	只读(Read-only)
2	02	转速(Speed)	Float	只读(Read-only)
3	04	功率(Power)	Float	只读(Read-only)

TS-3000 测试软件

TS-3000 TEST SOFTWARE



支持的设备:

Support equipment:

计算机: WIN7 32位操作系统

Computer: Win7 32-bit operating system

功能:

Features:

用于显示TS-3000转矩转速功率采集仪的实时转矩、转速、功率的数据、波形,并生成曲线及报表予以保存和打印。

Torque is applied to deal with TS-3000 speed power acquisition instrument of real-time speed power and torque curve and repor.

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