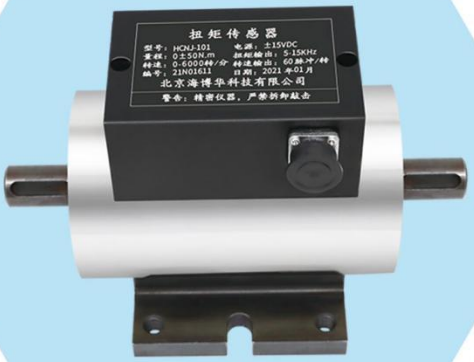

海博华®
HAIBOHUA

选型手册
SELECTION OF THE MANUAL

HCNJ系列转矩转速传感器及测功系统

北京海博华科技有限公司
Beijing Haibohua Technology Co., LTD

北京海博华科技有限公司成立于2013年，注册资金500万元，专业研发、生产和销售各类扭矩传感器、磁滞制动器、电涡流制动器、磁粉制动器、磁滞测功机、电涡流测功机、磁粉测功机、电机加载测试系统、电机对拖测试台、减速机测试系统、阀门扭矩测试台等，以及传感器配套仪器仪表和各类数据采集系统。

我公司已具备近20年的传感器和测功生产经验，拥有先进的生产设备和检测仪器、专业的技术人员、强大的销售团队及完善的售后服务。公司产品年产量数万台，其中扭矩传感器年产5000台以上,制动器系列和测试台系列年产上万套，是国内少有的扭矩传感器和制动器系列以及测试台产品并存的生产厂家。我们可提供的传感与控制元件产品覆盖面极为广泛，已成为业界最为优秀的整体传感产品方案生产商，并针对不同的行业推出整体的传感器和制动器配套方案，成功的将各类扭矩非标测试台推向全国,广泛应用于教学实验、电机、液压、船舶、重工、医疗、传动等行业,并跟多家科研所和军工单位有良好的合作,深受用户赞誉，并对业内厂商开发提供全面相关技术和信息上的支持，成为推动国内相关产业的开拓者。

我们始终以产品质量和客户服务为核心，建立了一套完善的产品质量认证体系，并取得了3A级质量服务诚信单位企业信用认证证书、中国自主创新企业.ISO9001质量体系认证证书。

我公司秉承“质量就是生命，科技就是生产力，客户就是上帝，员工就是财富”的经营理念，长期致力于工业监测仪器仪表和实验室测试仪器仪表的开发、应用和服务。保障产品技术质量，全方位服务体系,满足不同用户需求。

Beijing Haibohua Technology Co., Ltd. was established in 2013 with a registered capital of 5 million yuan, specializing in the development, production and sales of various types of torque sensors, hysteresis brake, eddy current brake, magnetic powder brake, hysteresis dynamometer, eddy current dynamometer, magnetic powder dynamometer, motor loading test system, motor towing test bench, reducer test system, valve torque test bench, etc. And sensor supporting instruments and various data acquisition systems.

Our company has nearly 20 years of experience in sensor and dynamometer production, with advanced production equipment and testing instruments, professional technicians, strong sales team and perfect after-sales service. The annual output of the company's products is tens of thousands of units, of which the annual output of torque sensor is more than 5000 units, brake series and test bench series annual output of tens of thousands of sets, is a rare domestic torque sensor and brake series and test bench products coexist manufacturers. We offer a wide range of sensing and control components, and have become the industry's best overall sensor solution manufacturer, and for different industries to launch a total sensor and brake package solutions. Successfully push all kinds of torque non-standard test bench to the country, widely used in teaching experiment, motor, hydraulic, shipbuilding, heavy industry, medical, transmission and other industries, and with a number of scientific research institutes and military units have good cooperation, praised by users, and provide comprehensive relevant technology and information support for the development of industry manufacturers, become a pioneer in promoting domestic related industries.

We always take product quality and customer service as the core, and have established a set of perfect product quality certification system, and obtained 3A grade quality service integrity unit enterprise credit certification, China's independent innovation enterprise. ISO9001 quality system certification.

Our company adhering to the "quality is life, science and technology is productivity, customers are God, employees are wealth" business philosophy, long-term commitment to industrial monitoring instruments and laboratory testing instruments development, application and service. Guarantee the technical quality of products, all-round service system, to meet the needs of different users.

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（国防科技工业第一计量测试研究中心）
CHANGCHENG INSTITUTE OF METROLOGY & MEASUREMENT
校准
CALIBRATION


中国航空工业集团公司北京长城计量测试技术研究所
（国防科技工业第一计量测试研究中心）
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商标注册证
第 34572565 号
海博华
HAIBOHUA
注 册 人 北京海博华科技有限公司
注册日期 2019年06月28日 有效期至


商标注册证
第 34573467 号
海博华


防爆电气设备
Electrical Apparatus for Explosive Atmospheres
防爆合格证
CERTIFICATE OF CONFORMITY
证书编号 №：CLEx20.1752
制造商 Manufacturer 北京海博华科技有限公司
产品名称 Name of Product 防爆扭矩传感器
型号规格 Type of Product HCNJ-105 DC24V


防爆合格证
CONFORMITY CERTIFICATE OF EXPLOSION-PROOF
证 号 CE20.1424
产品名称 防爆扭矩传感器
型号及规格 HCNJ-F101


防爆合格证
CONFORMITY CERTIFICATE OF EXPLOSION-PROOF
证 号 CE16.2213X
产品名称 压力液位变送器
型号及规格 TXY816E


防爆合格证
证号：GYB15.1920
由 北京海博华科技有限公司 制造的产品：
名 称 电阻应变式负荷传感器


中国航空工业集团公司北京长城计量测试技术研究所
（国防科技工业第一计量测试研究中心）
CHANGCHENG INSTITUTE OF METROLOGY&MEASUREMENT
检定证书
VERIFICATION CERTIFICATE
客户单位：北京海博华科技有限公司
仪器名称：压力变送器
型号/规格：TXY801
制造厂商：北京海博华科技有限公司
检定结论：根据检定结果，准予本计量器具作 压力变送器 使用。

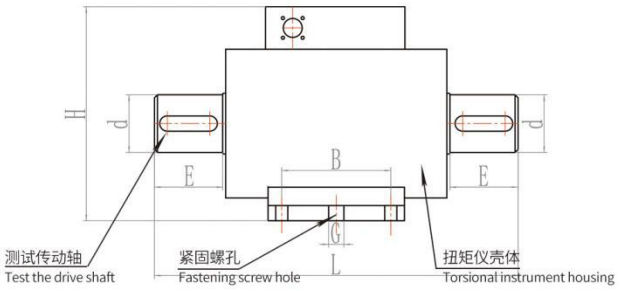
HCNJ-101
动态扭矩传感器
HCNJ-101 DYNAMIC TORQUE TRANSDUCER

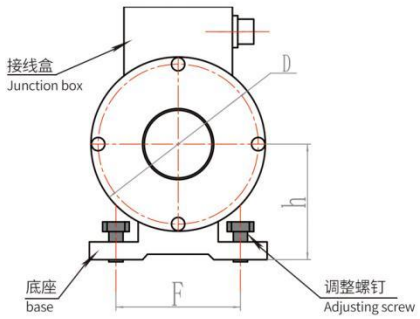
型号：HCNJ-101	电源：±15VDC
量程：0±50N.m	扭矩输出：5-15KHz
转速：0-6000转/分	转速输出：60脉冲/转
编号：21N01611	日期：2023年8月

产品介绍 / Product introduction

本传感器为通用型传感器，采用非接触式耦合技术可靠性高、抗干扰强。可以长时间高转速运转，并在动态扭矩行业测量中得到用户广泛好评。适合于动力设备与负载之间有足够的距离。同时动力设备、负载是一个相对独立体的所有旋转动力系统，需用联轴器将传感器安装于动力设备与负载之间,专门门用于测量扭矩、转速参数的传感器。

The sensor is a universal sensor, and adopts non-contact coupling technology with high reliability and strong anti-interference. It can operate at high speed for a long time and is widely praised by users in the dynamic torque industry measurement. Suitable for sufficient distance between the power equipment and the load. At the same time, the power equipment and the load are all rotating power systems of a relatively independent body, and the sensor is installed between the power equipment and the load with a coupling, and the sensor is specially used for measuring torque and speed parameters.



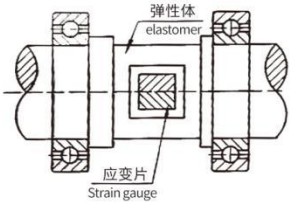


Nm	D	d	L	E	H	h	B	G	F	键（长×宽×高）Bond (length x width x height)	备注 note
5-100	Ø78	Ø18	188	28	121	54	72	10	80	24X6X3.5	单键
200	Ø88	Ø28	207	35	132	60	72	10	80	30X8X4	单键
300-500	Ø98	Ø38	240	45	143	65	72	10	80	38X10X5	双键
1000	Ø108	Ø48	275	60	152	70	69	15	90	50X14X5.5	双键
2000	Ø118	Ø55	298	70	166.5	75	69	15	90	60X16X6	双键
3K-5K	Ø143	Ø75	356	100	189.5	90	68	15	146	93X20X7.5	双键
10K-20K	Ø158	Ø98	388	118	216	109	80	15	170	108X28X12	双键
30K	Ø205	Ø125	395	110	275	140	77	15	170	102 X32X12	双键
50K	Ø215	Ø140	451	135	275	137	79	15	170	123 X36X12	双键

单键 :A single bond 双键：Double bond

单位 unit：mm

基本原理 /Basic principle



转矩的测量: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，变成与扭应变成正比的频率信号。

Torque measurement: The strain gauge electrical measurement technology is used to form a strain bridge on the elastic shaft, and the electrical signal of the elastic shaft under torsion can be measured by providing power to the strain bridge. After amplifying the strain signal, the frequency signal is transformed into a frequency signal that is proportional to the torsional strain.

技术参数 / Technical parameter

过载能力(OVERLOAD CAPACITY): 150%

频率响应(Frequency response) : 3ms

滞后(lag): ≤±0.2%F·S

非线性(Nonlinear): ≤±0.2%F·S

重复性(repetitive): ≤±0.2%F·S

绝缘电阻(Insulation resistance):≥> 250MQ

年稳定性(In the stability): 0.3%/ 年(years)

引线长度(The length of the lead):默认5M (The default 5 meters)

电源电压(The power supply voltage):DC±15V，DC24V (可选optional)

扭矩精度(Torque accuracy):默认(The default)0.5% (可选optional0.3%、0.2%.0.1%)

零转矩频率输出(Zero torque frequency output):10KHZ

正向转矩满量程频率输出(Positive torque full scale frequency output):15KHT

反向转矩满量程频率输出(Reverse torque full scale frequency output):5KHZ

转速输出信号:60-2000个脉冲/转(可选) Speed output signal: 60-2000 pulse/ tum (optona)

信号输出: 10±5KHZ(可选4~20mA,0~5V,0~10V信号输出485/232通用
Signal output: 10±5KHZ(optional 4~ 20mA,0~5V,0~ 10V signal output 485/232 universa

量程范围(Scale range): 5~1000KN.m (可根据用户尺寸量身定制) (Can be customized according to user size)

环境温度: -20 ~ 60℃(可定制高低温型低温型: -45℃ 高温型: 120℃)
The environment temperature: 20 ~ 60℃ (can be customized high and low temperature type low temperature type: -40℃ high temperature type: 120℃)

产品特点 / Product characteristics

1、既可以测量静止扭矩，也可以测量旋转扭矩

2、既可以水平安装，也可以垂直安装,可任意方向安装

3、可根据客户要求非标定制

4、体积小、重量轻、易于安装

5、不需反复调零即可连续测量正反转扭矩

6、没有集流环等磨损件，可以高转速长时间运行

7、应变弹性体强度大，可承受150%载荷

8、扭矩信号的提取方式为应变电测技术。

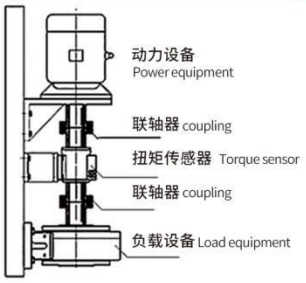
9、信号检测采用数字化处理技术，精度高、稳定性好、抗干扰强。

10、信号传输采用非接触耦合技术，转动惯量低、抗干扰强、可靠性高、 使用寿命长。

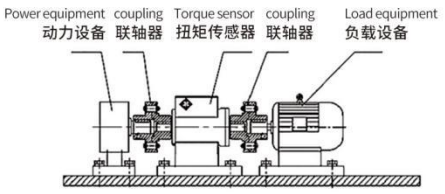
11、传感器部分可脱离二次仪表独立使用，直接与测量板卡、PLC或DCS组成扭矩测量装置

1, can measure the static torque, can also measure the rotational torque
2. It can be installed horizontally or vertically, and can be installed in any direction
3, can be customized according to customer requirements
4, Small size, light weight, easy to install
5. Continuous measurement of forward and reverse torque without repeated zero adjustment
6, No collecting ring and other wear parts, can run at high speed for a long time
7, Strain elastomer strength, can withstand 150% load
8. The extraction method of torque signal is strain electrical measurement technology.
9, Signal detection using digital processing technology, high precision, good stability, strong anti-interference.
10, Signal transmission using non-contact coupling technology, low moment of inertia, strong anti-interference, high reliability, long service life.
11, The sensor part can be used independently from the secondary instrument, directly with the measuring board, PLC or DCS to form a torque measuring device

安装方式 /Installation mode



垂直安装
Vertical installation



水平安装
Horizontal installation

应用领域 / Application field

主要用于:1、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;2、风机、水泵、齿轮箱、扭力板手的扭矩及功率的检测;3、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;4、可用于污水处理系统中的扭矩及功率的检测;5、可用于制造粘度计; 6、可用于过程工业和流程工业中。

Mainly used for :1, motor, engine, internal combustion engine and other rotary power equipment output torque and power detection; 2, fan, water pump, gear box, torque plate hand torque and power detection; 3, railway locomotives, cars, tractors, aircraft, ships, mining machinery in the torque and power detection; 4, can be used for the detection of torque and power in sewage treatment system; 5, can be used to manufacture viscometers; 6, can be used in process industry and process industry.

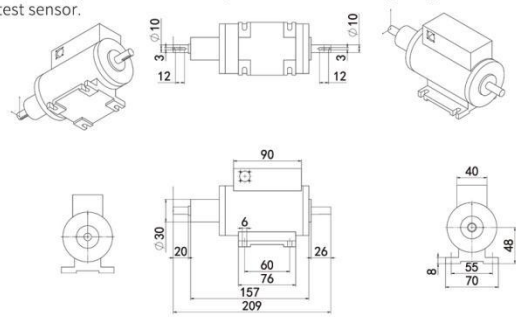
HCNJ-103
微量程扭矩传感器
HCNJ-103 MICRO RANGE TORQUE SENSOR

型号：HCNJ-103	电源：±15VDC
量程：0±1N.m	扭矩输出：5-15KHz
转速：0-3000转/分	转速输出：60脉冲/转
编号：21N02001	日期：2023年8月

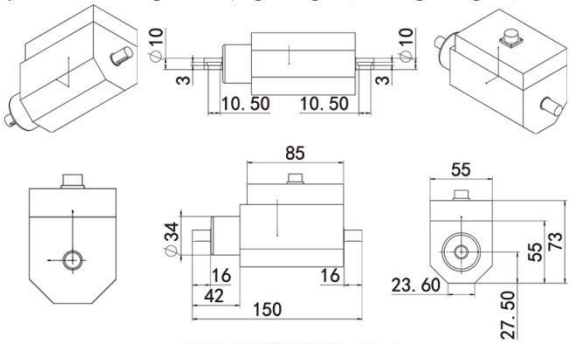
产品介绍 / Product introduction

本传感器是为了克服传感器旋转时的摩擦力矩而特殊设计的一种传感器。是在应变桥专有技术基础上研制开发的，本传感器为通用型传感器，适用于动力设备与负载之间有足够的距离，需用联轴器将传感器安装于动力设备与负载之间，适合测量范围在 0.01-4Nm 之间，专门用于测量瓶盖拧紧测试、螺丝拧紧测试、小电机测试的传感器。

The sensor is specially designed to overcome the friction torque when the sensor is rotating. Is developed on the basis of strain bridge proprietary technology, the sensor is a general purpose sensor, suitable for power equipment and load between the sufficient distance, the need to use a coupling to install the sensor between the power equipment and the load, suitable for measuring range between 0.01-4Nm, specially used for measuring bottle cap tightening test, screw tightening test, small motor test sensor.



底座固定款(0.01-4Nm)



壳体固定款(0.01-4Nm)

量程范围(Scale range): 0.01~4N.m (可根据用户尺寸量身定制) (Can be customized according to user size)

安装方式/ Installation mode

1、HCNJ-103 扭矩传感器分 A．B 端，B 端为测量端 ,A 端为辅助端。B 端通过联轴器与被测设备相联接，安装时一定要避免附加弯矩；
2、接线必须正确；
3、±15V 的范围：不得低于 ± 14.5V 不得高于 ± 15.5V；
4、信号线输出不得对地 , 对电源短路 , 输出电流不大于 10mA
5、屏蔽电缆线的屏蔽层必须与 ±15V 电源的公共端（电源地）连接
6、本传感器弹性体非常精小，严格限制过载，过载范围≤20%，否则极易损坏
7、使用中如有疑问请及时与本公司联系 , 保修期之内不得自行拆卸。

1, HCNJ-103 torque sensor is divided into a.b end, b end is the measurement end,a end is the auxiliary end. The b end is connected with the device under test through a coupling.Additional bending moments must be avoided during installation;
2, the wiring must be correct;
3, ±15V range: not less than ± 14.5V not higher than ± 15.5V;
4, the signal line output must not be to the ground, short circuit to the power supply, the output current is not more than 10mA
5, the shielding layer of the shielding cable must be connected with the common end of the ±15V power supply (power supply)
6, the sensor elastomer is very small, strictly limit overload, overload range ≤20%, otherwise it is easy to damage
7, if you have any questions in use, please contact the company in time, the warranty period shall not be disassembled.

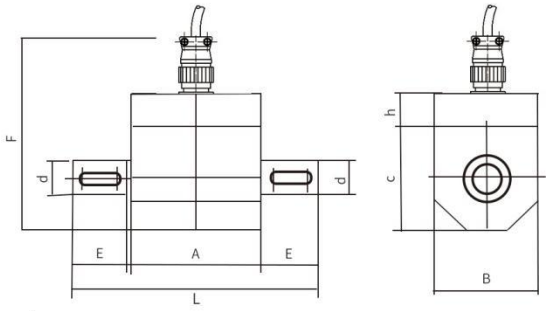
HCNJ-104
超小型扭矩传感器
HCNJ-104 ULTRA-COMPACT TORQUE SENSOR

型号：HCNJ-104	电源：±15VDC
量程：0±50N.m	扭矩输出：5-15KHz
转速：0-3000转/分	转速输出：无
编号：21N02006	日期：2023年8月

产品介绍 / Product introduction

本传感器是我公司在应变桥专有技术基础上研制开发的新产品，适用于各类要求体积小、转速高的扭矩测量场合。本产品尺寸小、使用安装简便、信号抗干扰能力强，是替代进口扭矩传感器的理想产品。

This sensor is a new product developed by our company on the basis of the proprietary technology of strain bridge, which is suitable for all kinds of torque measurement occasions requiring small volume and high speed. This product is small in size, easy to use and install, strong signal anti-interference ability, and is an ideal product to replace imported torque sensors.



单键 :A single bond 双键：Double bond

注：5-100Nm标准产品不带测转速，如果带测转速L长度增加15mm

N·M	d	L	E	A	F	C	B	H	重量	键（长 × 宽 × 高）Key (length × width × height)	备注
5-100	18	123	25	70	98	55	55	18	1KG	26×6×6	单键
<100-300	25	138	30	75	128	85	68	18	1.5KG	30×8×7	单键
>300-500	32	155	30	91	136	93	75	18	2KG	38×8×10	单键

量程范围(Scale range): 5~5000N.m (可根据用户尺寸量身定制) (Can be customized according to user size)

单位 unit：mm

安装方式/ Installation mode

1、该系列传感器无安装固定底座，需要用弹簧、拉绳或固定卡子将壳体固定，以避免壳体和信号输出导线随轴旋转。既可水平安装也可垂直安装。

2、其它安装、电气连接方法及注意事项按标准传感器进行。

1. This series of sensors does not have a fixed base, and the shell needs to be fixed with a spring, a rope or a fixed clip to avoid the shell and signal output wire rotating with the shaft. It can be installed horizontally or vertically.
2. Other installation, electrical connection methods and precautions shall be carried out according to standard sensors.

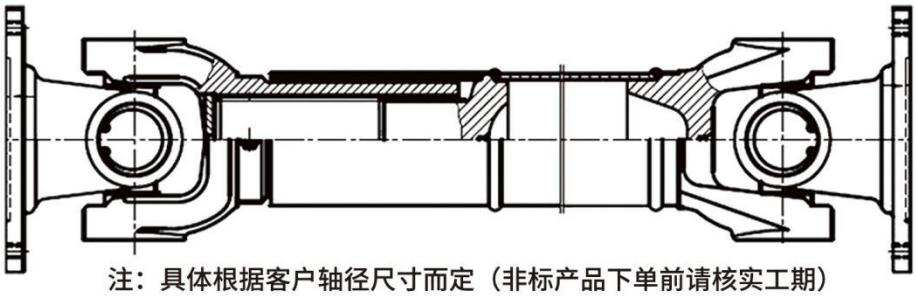
HCNJ-105
万向轴扭矩传感器
HCNJ-105 CARDAN SHAFT TORQUE SENSOR

型号：HCNJ-105	电源：±15VDC
量程：0±15000N.m	扭矩输出：5-15KHz
转速：0-500转/分	转速输出：1脉冲/转
编号：20N0407	日期：2023年8月

产品介绍 / Product introduction

万向轴扭矩传感器为本安防爆型，主要为解决油田钻井过程中因扭矩过大造成钻杆断裂，转盘扭矩测量不准等因素经常影响钻井生产，直接在万向轴.上制作传感器，配上控制系统，实时监测钻井中钻机的工作情况，万向轴传感器从推出以来，因其测量精度高，安装使用方便和长期稳定性好而受到油田用户的欢迎。

The gimbal torque sensor is a safety and explosion-proof type, mainly to solve the problem of drilling pipe fracture caused by excessive torque in the process of oilfield drilling, and the inaccurate measurement of rotary torque and other factors often affect drilling production, directly in the gimbal shaft. The sensor is equipped with a control system to monitor the work of the drilling rig in real time. Since its introduction, the cardan shaft sensor has been welcomed by oil field users because of its high measurement accuracy, easy installation and long-term stability.



注：具体根据客户轴径尺寸而定（非标产品下单前请核实工期）

量程范围(Scale range): 5~2000KN.m (可根据用户尺寸量身定制) (Can be customized according to user size)

产品特点 / Product characteristics

1、在钻井过程中应用扭矩传感器，通过对扭矩参数的解释，能正确指导工程施工，提高录井技术和资料解释水平,有利于快速发油气显示，能够提高钻井效率，确保安全钻井;

2、测量位置和方法能完全反映转盘扭矩的实际情况;

3、工艺成熟、测量精度高、长期稳定性好;

4、根据用户的具体要求设计制作;

5、石油钻井、录井、煤矿开采;农业机械传动系统扭矩检测;车辆、船舶传动系统扭矩检测。

1, the application of torque sensor in the drilling process, through the interpretation of torque parameters, can correctly guide the engineering construction, improve logging technology andThe level of data interpretation is conducive to rapid oil and gas production, which can improve the drilling efficiency and ensure the safety of drilling;

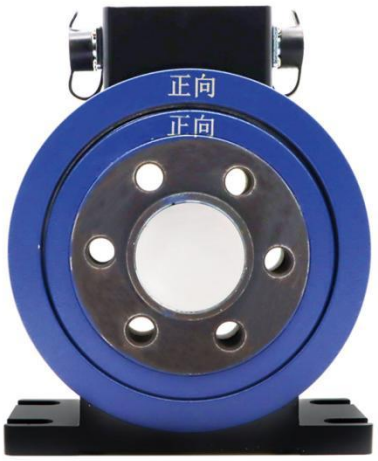
2. The measuring position and method can fully reflect the actual situation of the rotary table torque;

3, mature process, high measurement accuracy, good long-term stability;

4. Design and manufacture according to the specific requirements of users;

5. Oil drilling, logging, coal mining; Agricultural machinery transmission system torque detection; Torque detection of vehicle and ship transmission system.

HCNJ-106
盘式扭矩传感器
HCNJ-106 DISK TORQUE SENSOR



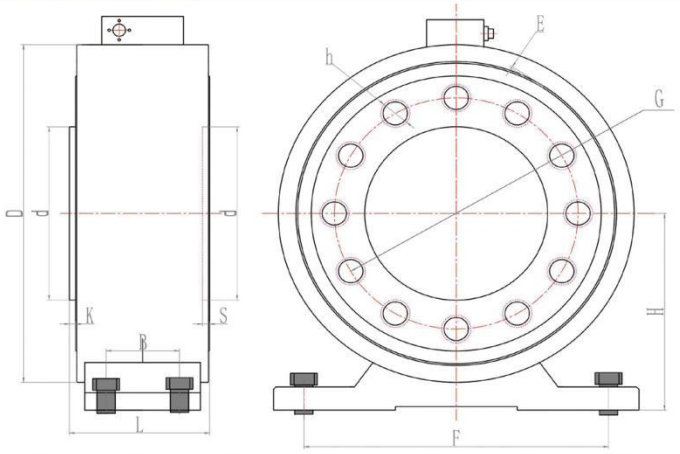
型号：HCNJ-106	量程：300N.m
精度：0.3%F.S	信号输出：频率
供电：±15VDC	编号：620101279

产品介绍 / Product introduction

盘式扭矩传感器是我公司在应变桥专有的技术上研制开发的专为轴向空间比较短的需要测量扭矩转速的场合设计的一种新型扭矩传感器，从而给广大用户带来极大的方便。

Disk torque sensor is a new type of torque sensor developed by our company on the special technology of strain bridge, which is specially designed for the occasion of measuring torque speed with relatively short axial space, thus bringing great convenience to the majority of users.

尺寸对照表 / Size comparison table



单位 unit：mm

Nm	D	d	K	S	L	G	H	h	E	F	B	备注 note
20	Φ124	Φ50	3	5	71	60	72	M6X6	1.5	120	40	
50-500	Φ144	Φ50	3	5	70	70	82	M10X6	1.5	130	40	
1K-3K	Φ180	Φ75	3	5	83	105	108	M12X8	1.5	140	37.5	
5K-20K	Φ215	Φ80	5	6	115	130	132	M18X10	1.5	190	60	
30K	Φ292	Φ150	5	6	115	200	170	M24X12	1.5	250	60	
40K-50K	Φ478	Φ220	5	5	133	362	297	M36X16	2	370	91	

量程范围(Scale range): 5~1000KN.m (可根据用户尺寸量身定制) (Can be customized according to user size)

安装方式/ Installation mode

1．HCNJ-106 盘式扭矩传感器由定子（静止外壳）和转子（旋转盘）两部分组成；
2．将转子的两端通过法兰联轴器分别与动力或负载联接；
3．静止外壳固定在基座上，调整间隙，保证静止外壳与旋转盘之间不可接触！径向跳动不得大于 0.5mm。

1. HCNJ-106 disc torque sensor consists of stator (static housing) and rotor (rotating disk);
2. The two ends of the rotor are connected with power or load respectively through a flange coupling;
3. The static shell is fixed on the base, adjust the clearance, ensure that the static shell and the rotating disk is not in contact! Radial runout shall not be greater than 0.5mm.

HCNJ-101C

端面单法兰动态扭矩传感器

HCNJ-101C END FACE SINGLE FLANGE DYNAMIC TORQUE SENSOR

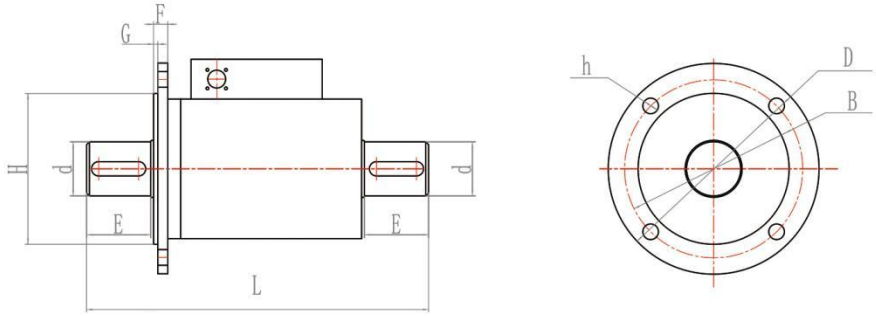
型号：HCNJ-101C	电源：±15VDC
量程：0±5N.m	扭矩输出：5-15KHz
转速：0-300转/分	转速输出：60脉冲/转
编号：18N06339	日期：2023年8月

产品介绍 / Product introduction

本系列轴向安装扭矩传感器是我公司在标准款的基础上加装法兰，特针对搅拌行业或其它特殊需要垂直安装和不方便底座固定的场合设计的，可以做成轴向端面单法兰或双法兰，可以是圆形法兰，也可以做成方形法兰。

This series of axial installation torque sensor is our company in the standard model on the basis of flange, especially for mixing industry or other special needs of vertical installation and inconvenient base fixed occasions designed, can be made into axial end single flange or double flange, can be circular flange, can also be made into a square flange.

尺寸对照表/ Size comparison table



单键 Single bond　双键 Double bond　　单位 unit：mm

Nm	D	d	L	B		h	B	G	F	键（长 x 宽 X 高）Key (L x W X H)	备注 remark
5-100	ϕ138	ϕ18	188	28	ϕ78	ϕ9x4	120	3	11	24X6X3.5	单键
200	ϕ158	ϕ28	207	35	ϕ100	ϕ10x4	138	3	15	30X8X4	单键
300-500	ϕ148	ϕ38	240	45	ϕ106	ϕ11x4	125	3	10	38X10X5	双键
1000	ϕ180	ϕ48	275	60	ϕ130	ϕ11x6	160	3	13	50X14X5.5	双键
2000	ϕ180	ϕ55	298	70	ϕ124	ϕ12x6	151	3	15	60X16X6	双键
3K-5K	ϕ200	ϕ75	356	100	ϕ120	ϕ14x6	166	3	16	93X20X7.5	双键
10K-20K	ϕ258	ϕ98	388	118	ϕ158	ϕ14x8	224	3	17	108X28X12	双键

量程范围(Scale range): 5~2000KN.m (可根据用户尺寸量身定制) (Can be customized according to user size)

HCNJ-F101
防爆扭矩传感器
HCNJ-F101 EXPLOSION-PROOF TORQUE SENSOR

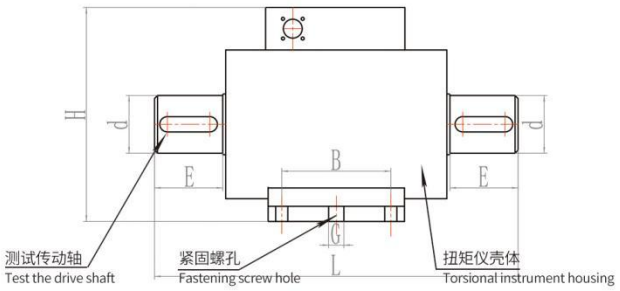
型号：HCNJ-F101	
额定电压：24VDC	输出信号：4-20mA
防护等级：IP 66	测量精度：0.5%
防爆合格证号：CE20.1424	防爆标志：Ex d I IB T4 Gb
日期：2023年8月	产品编号：20N06001

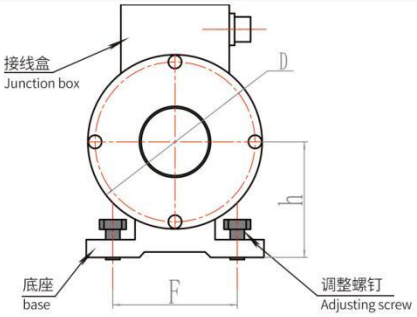
产品介绍 / Product introduction

HCNJ-F101防爆扭矩传感器是在标准扭矩传感器的基础上做防爆处理，防爆标准EXD IIBT4GB，是一种测量各种扭矩、转速及机械功率的精密测量仪器。主要用于:需要防爆的石油、天然气、煤矿、化工、军工、制药、钻井机械、电机、发动机、内燃机、航空航天、船舶等危险系数比较高并需要防爆的扭矩转速测量场合。

HCNJ-F101 explosion-proof torque sensor is based on the standard torque sensor to do explosion-proof treatment, explosion-proof standard EXD IIBT4GB, is a kind of measurement of various torque, speed and mechanical power precision measuring instrument. Mainly used: need explosion-proof oil, natural gas, coal mine, chemical industry, military, pharmaceutical, drilling machinery, motor, engine, internal combustion engine, aerospace, ships and other dangerous coefficient is relatively high and need explosion-proof torque speed measurement occasions.

尺寸对照表 / Size comparison table



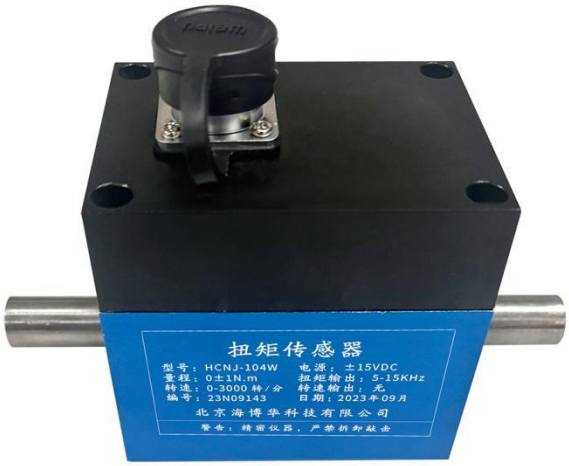


单键 :A single bond 双键：Double bond　　单位 unit：mm

Nm	D	d	L	E	H	h	B	G	F	键（长 × 宽 × 高）Bond (length x width x height)	备注 note
5-100	⌀78	⌀18	188	28	121	54	72	10	80	24X6X3.5	单键
200	⌀88	⌀28	207	35	132	60	72	10	80	30X8X4	单键
300-500	⌀98	⌀38	240	45	143	65	72	10	80	38X10X5	双键
1000	⌀108	⌀48	275	60	152	70	69	15	90	50X14X5.5	双键
2000	⌀118	⌀55	298	70	166.5	75	69	15	90	60X16X6	双键
3K-5K	⌀143	⌀75	356	100	189.5	90	68	15	146	93X20X7.5	双键
10K-20K	⌀158	⌀98	388	118	216	109	80	15	170	108X28X12	双键
30K	⌀205	⌀125	395	110	275	140	77	15	170	102 X32X12	双键
50K	⌀215	⌀140	451	135	275	137	79	15	170	123 X36X12	双键

量程范围(Scale range): 5~2000KN.m (可根据用户尺寸量身定制) (Can be customized according to user size)

HCNJ-104W
超小型扭矩传感器
HCNJ-104W ULTRA-COMPACT TORQUE SENSOR

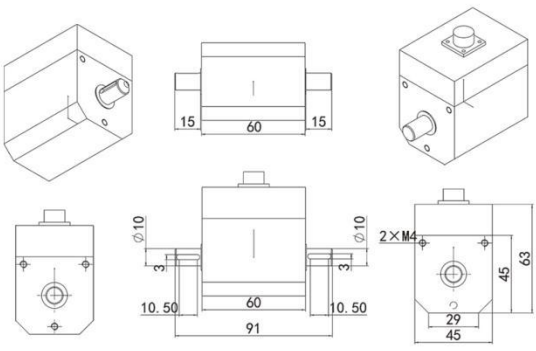


型号：HCNJ-104W	电源：±15VDC
量程：0±1N.m	扭矩输出：5-15KHz
转速：0-3000转/分	转速输出：无
编号：23N09143	日期：2023年09月

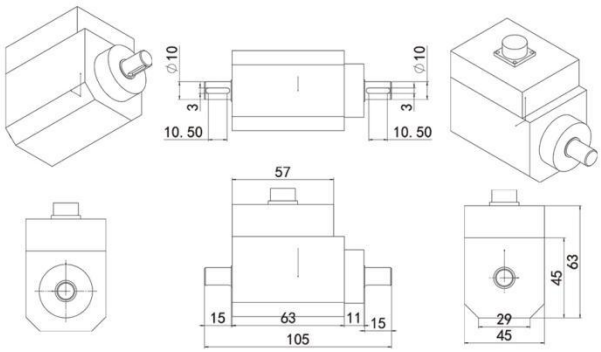
产品介绍 / Product introduction

本传感器是我公司在应变桥专有技术基础上研制开发的新产品，适用于各类要求体积小、转速高的扭矩测量场合。本产品尺寸小、使用安装简便、信号抗干扰能力强，是替代进口扭矩传感器的理想产品。

This sensor is a new product developed by our company on the basis of strain bridge proprietary technology, which is suitable for all kinds of torque measurement occasions requiring small volume and high speed. This product size is small, easy to use and install, signal anti-interference ability is strong, is an ideal product to replace the imported torque sensor.



1-10Nm



0.01-0.5Nm

如需测转速L总长加长20cm

量程范围(Scale range): 0.01~10N.m (可根据用户尺寸量身定制) (Can be customized according to user size)

产品特点 / Product characteristics

1、采用非接 触式原理；
2、适合远距离传输；
3、尺寸小、重量轻，易于安装；
4、不需要反复调零即可以连续测量正反转扭矩；
5、检测精度高，稳定性好，抗干扰性强，可任意位置任意方向安装.

1、Non-contact principle;
2、Suitable for long-distance transmission;
3、Small size, light weight, easy to install;
4、The forward and reverse torque can be measured continuously without repeated zero adjustment;
5、High detection accuracy, good stability, strong anti-interference, can be installed in any position in any direction.

HCNJ-101J
扭矩角度传感器
HCNJ-104W ULTRA-COMPACT TORQUE SENSOR

型号：HCNJ-101J	电源：±24VDC
量程：0±50N.m	扭矩输出：5-15KHz
转速：0-5000转/分	转速输出： 无
编号：23N03060	日期：2023年03月

产品介绍 / Product introduction

HCNJ-101J 扭矩角度传感器是在应变桥专有技术基础上研制开发的，专门用于测量扭矩、角度参数的传感器。此款传感器是 HCNJ-101 标准款的基础上加装角度编码器，角度输出 360-10000 线可选 (可根据客户要求定输出方式)，从而使角度测量更精确，方便客户采集。

HCNJ-101J torque Angle sensor is developed on the basis of strain bridge proprietary technology, which is specially used for measuring torque and Angle parameters. This sensor is based on the HCNJ-101 standard model with Angle encoder, Angle output 360-10000 line optional (can be determined according to customer requirements), so that the Angle measurement is more accurate, convenient for customers to collect.

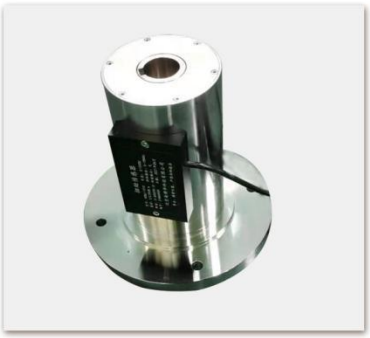
技术参数 / Technical parameter

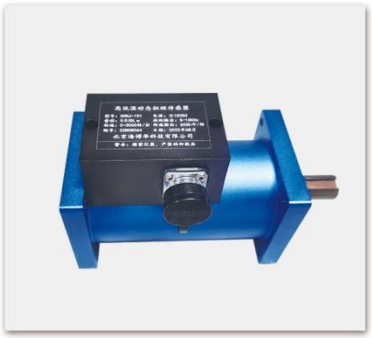
指标名称 Index name	扭矩参数规格 Torque parameter specification	角度参数规格 Angle parameter specification
量程 range	5N.m、10N.m、20N.m、50N.m、100N.m、200N.m、500N.m、1KN.m、2KN.m、5KN.m、10KN.m、20KN.m、30KN.m、50KN.m、100KN.m、200KN.m、300KN.m、500KN.m	
供电电源 Power supply	默认±15VDC（适用频率信号输出）可选24VDC、±12VDC	DC 5-30V
消耗电流 Current consumption	最大300mA Max. 300mA	最大100mA Max. 100mA
扭矩信号 Torque signal	5-15KHz（幅值12V,零点10KHz）、输出标准电流4-20mA，电压1-5V、0-5V、1-10V、0-10V、±5V、±10V或通讯RS485（可选） 5-15KHz (amplitude 12V, zero 10KHz), output standard current 4-20mA, voltage 1-5V, 0-5V, 1-10V, 0-10V, ±5V, ±10V or communication RS485 (optional)	输出信号：NPN、PNP、电压、互补、线性驱动器 Output signal: NPN, PNP, voltage, complementary, linear driver
转速量程 Speed range	0-3000转/分以内 Within 0-3000 RPM	允许最高转速：6000转/分 Maximum allowable speed: 6000 RPM
转速信号 Speed signal	脉冲/旋转（Pulse/rotation）：360、400、500、600、1000、1024、1200、1500、1800、2000、3600、4000、4090、10000（可选）(optional)	
精度 precision	默认±0.5%，（±0.25%、±0.1%可选）	
年稳定性 Annual stability	0.3%/年 0.3%/ year	
绝缘电阻 Insulation resistance	≥200MΩ(100VDC)	
环境温度 Ambient temperature	-20～60°C	-10～70°C
相对湿度 Relative humidity	0～90%RH	35～85%RH
过载能力 Overload capacity	150%	允许负载最大30mA The maximum allowable load is 30mA
频率响应 Frequency response	3ms	100kHz
引线长度 Lead length	默认5米 Default 5 m	0.5 m
接线定义 Connection definition	绿：公共地、红：电源正、蓝：电源负、白：转速输出、黄：扭矩输出、银：屏蔽 Green: public, red: power positive, blue: power negative, white: speed output, yellow: torque output, silver: shielding	红：+V 黑：0V 白：A 蓝：B 棕：Z 屏蔽线：F.G Red: +V Black: 0V White: A Blue: B Brown: Z Shielding line: F.G

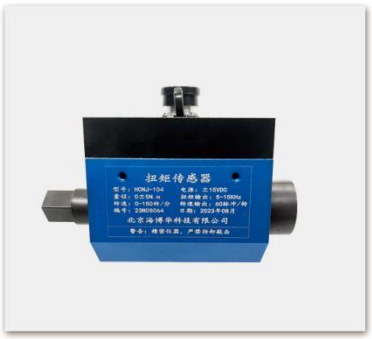
量程范围(Scale range): 5~500KN.m (可根据用户尺寸量身定制) (Can be customized according to user size)

部分非标扭矩传感器

Partial non-standard torque sensor

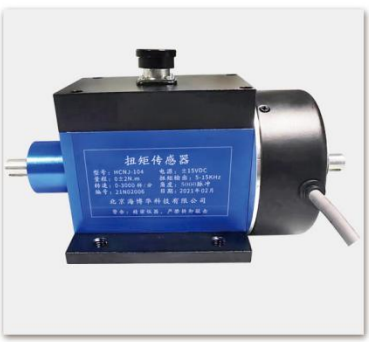






部分非标扭矩传感器

Partial non-standard torque sensor



HCNJ-102
双轴静态扭矩传感器
HCNJ-102 TWO-AXIS STATIC TORQUE SENSOR

型号：HCNJ-102	量程：0-±1000N.m
精度：0.5%FS	供电：10V
输出信号：mV	日期：2020年8月

产品介绍 / Product introduction

本产品适于静态或者旋转角度小于360度的扭矩检测场合。精度高，性能稳定可靠，量程范围大。静态扭矩测量，两端均为键连接，安装使用方便。广泛应用于扭矩扳手、转向机、电动执行器、阀门、轴承、试验机等旋转角度小于360度的扭矩检测场合。

This product is suitable for static or rotation Angle less than 360 degrees torque detection. High precision, stable and reliable performance, large range. Static torque measurement, both ends are connected by keys, easy to install and use. Widely used in torque wrench, steering machine, electric actuator, valve, bearing, testing machine and other rotation Angle less than 360 degrees torque detection occasions.

技术参数 / Technical parameter

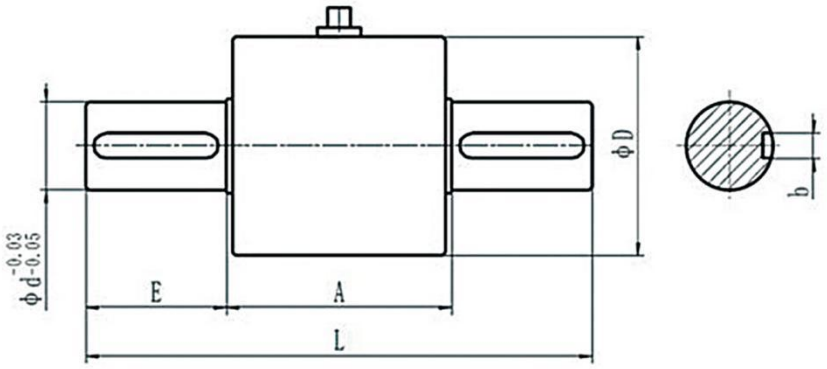
参数 parameter	技术指标 Technical indicators	参数 parameter	技术指标 Technical indicators
量程 range	0-100 万 Nm	响应频率 Response frequency	100us
灵敏度 The sensitivity	1.5±10% mV / V	绝缘电阻 Insulation resistance	⩾5000MΩ/ 100VDC
零点输出 Zero output	±1% F·S	激励电压 Excitation voltage	10VDC(9-15VDC)
非线性 nonlinear	±0.1，0.3% F·S	温度补偿范围 Temperature compensation range	-10 ~ 60°C
滞后 lag	⩽±0.05% F·S	工作温度范围 Operating temperature range	-20 ~ 65°C
重复性 repetitive	⩽±0.05% F·S	安全超载 Safety overload	150% F·S
蠕变 creep	⩽±0.03% F·S/30min	极限超载 Limit of the overload	200% F·S
温度灵敏度漂移 Temperature sensitivity drift	0.03% F·S / 10°C	电缆线尺寸 Cable size	Ø5.2×3M
零点温度漂移 Zero point temperature shift	0.03% F·S / 10°C	零点温度漂移 Zero point temperature shift	红/E+，黑/E-，绿/S+，白/S- Red /E+, black /E-, green /S+, white /S-
输入电阻 Input resistance	350,750±10Ω	输入电阻 Input resistance	铝，不锈钢或合金钢 Aluminum, stainless steel or alloy steel
输出电阻 The output resistance	350,700±5Ω	输出电阻 The output resistance	可定制 Can be customized

产品特点 / Product characteristics

1、适用于静止扭矩的测量;
2、检测精度高、稳定性好、抗干扰性强;
3、体积小、重量轻、易于安装;
4、应变弹性体强度大，可承受150%载荷;
5、抗干扰性强，可垂直、水平安装;
6、不需反复调零即可连续测量静止扭矩;
7、电阻应变为敏感元件和集成电路构成的一体产品，精度高，性能稳定可靠，测量范围广。

1、Suitable for measuring static torque;
2、High detection accuracy, good stability, strong anti-interference;
3、Small size, light weight, easy to install;
4、Continuous measurement of stationary torque without repeated zeroing;
5、The strain elastomer has high strength and can withstand 150% load;
6、Strong anti-interference, can be installed vertically and horizontally;
7、Resistance strain is an integrated product composed of sensitive components and integrated circuits. high precision, stable and reliable performance, wide measuring range.

结构示意图及尺寸对照表/Structure diagram and size comparison table



量程 (Nm)	ΦD	Φd	L	E	A	b	重量 (Kg)
0.01-2	60	10	105	30	45	3	0.6
5-100	60	I8	105	30	45	6	0.9
200	70	28	150	46	58	8	1.5
500	80	38	180	60	60	10	2
1000	90	18	207	72	63	14	3
2000	100	55	246	90	66	16	5
5000	120	72	288	110	68	60	10
1 万 -2 万	140	98	290	105	80	80	17
3 万 -5 万	定 制						
7 万 -10 万	定 制						
15-20 万	定 制						
30-50 万	定 制						
60-80 万	定 制						

应用领域 / Application field


用于阀门扭矩测试


用于执行器测试系统

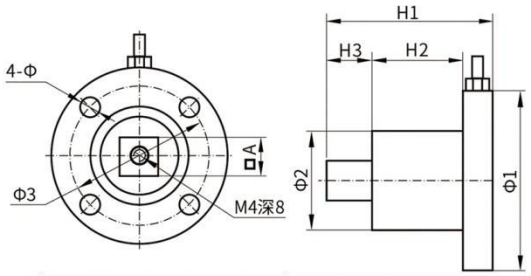

用于阀门涡轮箱试验

HCNJ-102A
单法兰外四方扭矩传感器
HCNJ-102A SINGLE ENGINE OUTSIDE QUAD TORQUE SENSOR

产品介绍 / Product introduction

适用于静态、非连续旋转的扭矩力值的测量与控制。

It is suitable for measuring and controlling the torque force value of static and discontinuous rotation.



尺寸 mm / 量程 Nm	A	H1	H2	H3	∅1	∅2	∅3	∅
2~200	12.5	55	30	15	59	32	45	6.5
300~1500	25.4	75	40	24	68	40	55	8.5
2000~3000	25.4	85	44	24	98	56	80	13

产品特点 / Product characteristics

1、检测精度高、稳定性好、抗干扰性强；
2、体积小、重量轻、易于安装；
3、内轴与外壳一体设计；
4、不需反复调零即可连续测量静止扭矩。

1, high detection accuracy, good stability, strong anti-interference;
2, small size, light weight, easy to install;
3. Integrated design of inner shaft and shell;
4. Continuous measurement of static torque without repeated zero adjustment.

技术参数 / Technical parameter

参数 parameter	技术指标 Technical indicators	参数 parameter	技术指标 Technical indicators
量程 range	0-100 万 Nm	响应频率 Response frequency	100us
灵敏度 The sensitivity	1.5±10% mV / V	绝缘电阻 Insulation resistance	≥5000MΩ/ 100VDC
零点输出 Zero output	±1% F·S	激励电压 Excitation voltage	10VDC(9-15VDC)
非线性 nonlinear	±0.1，0.3% F·S	温度补偿范围 Temperature compensation range	-10 ~ 60°C
滞后 lag	≤±0.05% F·S	工作温度范围 Operating temperature range	-20 ~ 65°C
重复性 repetitive	≤±0.05% F·S	安全超载 Safety overload	150% F·S
蠕变 creep	≤±0.03% F·S/30min	极限超载 Limit of the overload	200% F·S
温度灵敏度漂移 Temperature sensitivity drift	0.03% F·S / 10°C	电缆线尺寸 Cable size	Ø5.2×3M
零点温度漂移 Zero point temperature shift	0.03% F·S / 10°C	电气连接 Electrical connections	红/E+，黑/E-，绿/S+，白/S- Red /E+, black /E-, green /S+, white /S-
输入电阻 Input resistance	350,750±10Ω	材质 The material	铝，不锈钢或合金钢 Aluminum, stainless steel or alloy steel
输出电阻 The output resistance	350,700±5Ω	其他要求 Other requirements	可定制 Can be customized

HCNJ-102B

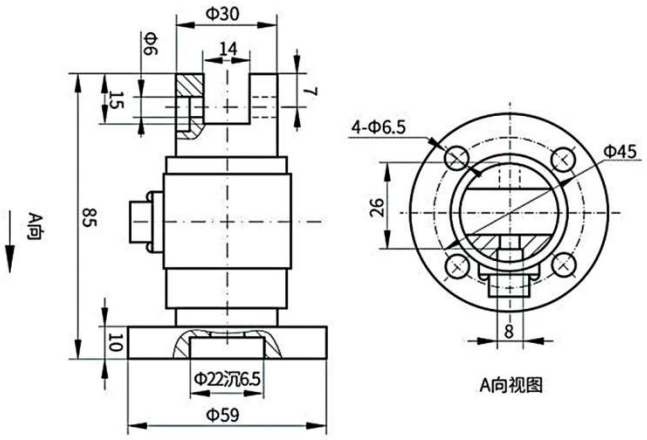
单法兰U型槽扭矩传感器

HCNJ-102B SINGLE FLANGE U-SLOT TORQUE SENSOR

产品介绍 / Product introduction

适用于静态、非连续旋转的扭矩力值的测量与控制。

It is suitable for measuring and controlling the torque force value of static and discontinuous rotation.



产品特点 / Product characteristics

1、电阻应变为敏感元件，精度高，性能稳定可靠；
2、低量程扭矩测量，安装使用方便；
3、一端为键（U 型槽）连接，一端为法兰盘连接。

1, resistance strain is a sensitive component, high precision,stable and reliable performance;
2, low range torque measurement, easy to install and use;
3, one end of the key (U-groove) connection, one end of the flange connection.

技术参数 / Technical parameter

参数 parameter	技术指标 Technical indicators	参数 parameter	技术指标 Technical indicators
量程 range	0-100 万 Nm	响应频率 Response frequency	100us
灵敏度 The sensitivity	1.5±10% mV / V	绝缘电阻 Insulation resistance	≥5000MΩ/ 100VDC
零点输出 Zero output	±1% F·S	激励电压 Excitation voltage	10VDC(9-15VDC)
非线性 nonlinear	±0.1，0.3% F·S	温度补偿范围 Temperature compensation range	-10 ~ 60°C
滞后 lag	≤±0.05% F·S	工作温度范围 Operating temperature range	-20 ~ 65°C
重复性 repetitive	≤±0.05% F·S	安全超载 Safety overload	150% F·S
蠕变 creep	≤±0.03% F·S/30min	极限超载 Limit of the overload	200% F·S
温度灵敏度漂移 Temperature sensitivity drift	0.03% F·S / 10°C	电缆线尺寸 Cable size	Ø5.2×3M
零点温度漂移 Zero point temperature shift	0.03% F·S / 10°C	电气连接 Electrical connections	红/E+，黑/E-，绿/S+，白/S- Red /E+, black /E-, green /S+, white /S-
输入电阻 Input resistance	350,750±10Ω	材质 The material	铝，不锈钢或合金钢 Aluminum, stainless steel or alloy steel
输出电阻 The output resistance	350,700±5Ω	其他要求 Other requirements	可定制 Can be customized

HCNJ-102D

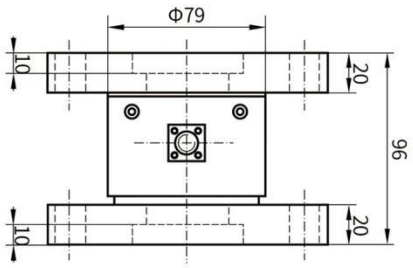
双法兰静态扭矩传感器

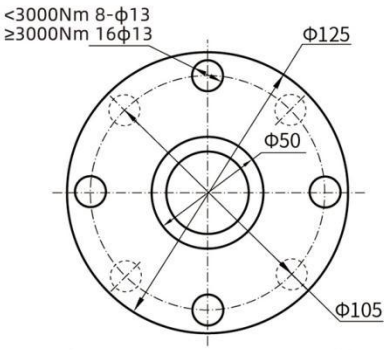
HCNJ-102D DOUBLE FLANGE STATIC TORQUE SENSOR

产品介绍 / Product introduction

适用于静态、非连续旋转的扭矩力值的测量与控制。

It is suitable for measuring and controlling the torque force value of static and discontinuous rotation.





此图为1000-5000Nmm外形尺寸图
如需其他量程请咨询销售人员
The figure is 1000-5000Nmm outline size diagram
If you need other ranges, please consult the sales staff

产品特点 / Product characteristics

1、电阻应变为敏感元件精度高，性能稳定可靠；
2、中低量程扭矩测量，安装使用方便；
3、两端均为法兰盘连接。

1. Resistance strain is a sensitive component with high precision and stable and reliable performance;
2, low and middle range torque measurement, easy to install and use;
3. Both ends are connected with flanges.

技术参数 / Technical parameter

参数 parameter	技术指标 Technical indicators	参数 parameter	技术指标 Technical indicators
量程 range	0-100 万 Nm	响应频率 Response frequency	100us
灵敏度 The sensitivity	1.5±10% mV / V	绝缘电阻 Insulation resistance	⩾5000MΩ/ 100VDC
零点输出 Zero output	±1% F·S	激励电压 Excitation voltage	10VDC(9-15VDC)
非线性 nonlinear	±0.1，0.3% F·S	温度补偿范围 Temperature compensation range	-10 ~ 60°C
滞后 lag	⩽±0.05% F·S	工作温度范围 Operating temperature range	-20 ~ 65°C
重复性 repetitive	⩽±0.05% F·S	安全超载 Safety overload	150% F·S
蠕变 creep	⩽±0.03% F·S/30min	极限超载 Limit of the overload	200% F·S
温度灵敏度漂移 Temperature sensitivity drift	0.03% F·S / 10°C	电缆线尺寸 Cable size	Ø5.2×3M
零点温度漂移 Zero point temperature shift	0.03% F·S / 10°C	电气连接 Electrical connections	红/E+，黑/E-，绿/S+，白/S- Red /E+, black /E-, green /S+, white /S-
输入电阻 Input resistance	350,750±10Ω	材质 The material	铝，不锈钢或合金钢 Aluminum, stainless steel or alloy steel
输出电阻 The output resistance	350,700±5Ω	其他要求 Other requirements	可定制 Can be customized

磁粉制动器、离合器

MAGNETIC POWDER BRAKE, CLUTCH

产品介绍 / Product introduction

磁粉离合器是由主动转子（输入轴）、从动转子（输出轴）、含激磁饯圈的磁辄组成，三部分相同心装配，形成了一个可以相对转动的整体，在主动转子和从动转子之间的环形空隙（工作腔）内填有高导磁性的合金磁粉。

激磁绌圈无电流通过时，工作腔中的磁粉呈松散状态。在主动转子所产生的离心力的作用下，磁粉被均匀的甩在主动转子的内壁上，主、从动转子之间无力的相互作用，磁粉离合器处于分离状态，没有转矩的传递。

激磁钱圈有电流通过时，磁辄中产生工作磁通，工作腔中的磁粉沿磁通方向呈链状连接起来（形成磁粉链），磁粉离合器就是靠此时磁粉与磁粉、磁粉与工作面之间的摩擦力和磁粉链之间的抗剪力来传：递转矩，磁粉离合器处于结合状态。（见图 1）

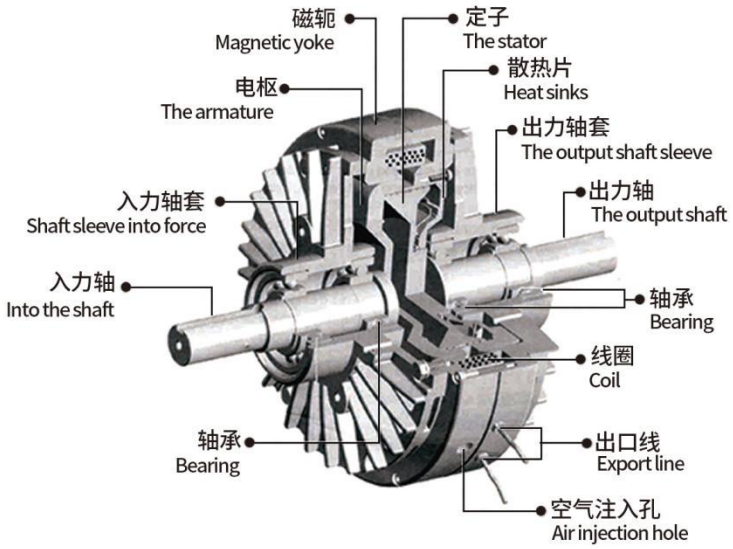
切断电流时，磁通随激磁电流的消失而消失，磁粉在重力的作用下又重新处于松散状态，并在离心力的作用下，被甩在主动转子的内壁上，磁粉离合器又处于分离的状态。

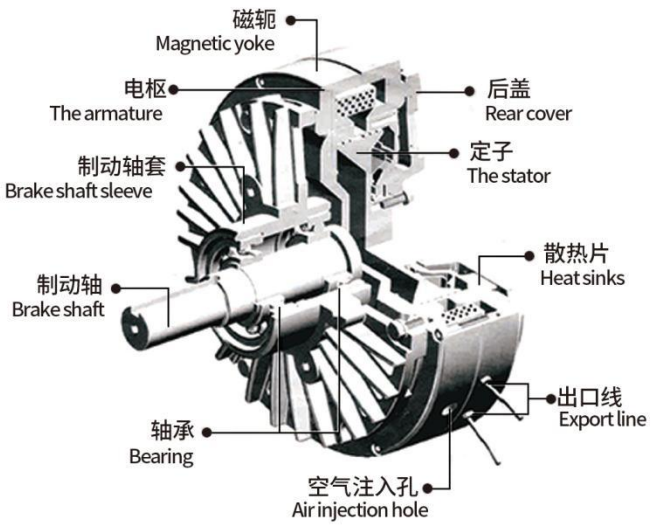
Magnetic powder clutch is composed of an active rotor (input shaft), a driven rotor (output shaft) and a magnetic lot containing an excitation canker. The three parts are assembled with the same core to form a relatively rotating whole. The annular gap (working cavity) between the active rotor and the driven rotor is filled with alloy magnetic powder with high magnetic permeability.

When no current passes through the excitation ring, the magnetic powder in the working chamber is loose. Under the action of the centrifugal force generated by the active rotor, the magnetic powder is evenly dumped on the inner wall of the active rotor, the weak interaction between the master and driven rotor, the magnetic powder clutch is in the separation state, there is no transmission of torque.

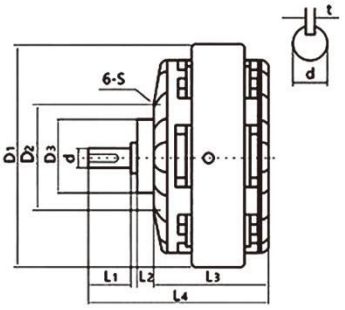
Magnetic field coil is energized, the money to do work in magnetic flux, the magnetic powder in working cavity along the direction of the magnetic flux is chain link (form a chain of magnetic powder), magnetic powder clutch is depend on the magnetic powder and magnetic powder, magnetic powder and working surface between friction and magnetic powder chain between the shear resistance to preach: pass torque, magnetic powder clutch in the combined state. (see figure 1)

When the current is cut off, the magnetic flux disappears with the disappearance of the excitation current, and the magnetic powder is in loose state again under the action of gravity, and under the action of centrifugal force, is thrown on the inner wall of the active rotor, and the magnetic powder clutch is in the state of separation.





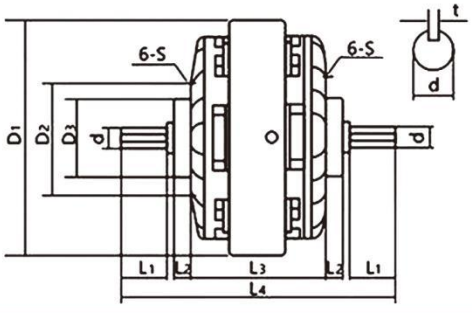
单轴磁粉制动器/Single-axis magnetic powder brake



FZ-D/A 单轴系列 磁粉制动器 FZ-D/A single shaft series magnetic powder brake

型号 Model	主要技术参数 Main technical parameters				外形尺寸 Overall dimensions												净重量 Turnning
	转矩 (N.m) Torque	电压 (V) Voltage	转速 (r/min) Speed	电流 (A) Current	D1	D2	D3	L1	L2	L3	L4	6-S	轴部 D	轴部 T	径 深(R) diameter	径 深(R) deep	
FZ-6-D	6	24	1400	0.8	130	62	44	25	10	68	108	M5	12	4	M4	8	3
FZ-12-D	12	24	1400	1	157	62	50	30	15	84	133	M5	16	5	M4	8	5
FZ-25-D	25	24	1400	1.5	182	78	58	40	19	91	154	M6	20	6	M5	10	7.5
FZ-50-D	50	24	1400	1.8	219	100	75	50	22	110	185	M6	25	8	M6	12	13
FZ-100-D	100	24	1000	2	290	120	90	65	25	142	237	M8	30	8	M10	20	28
FZ-200-D	200	24	1000	3	335	140	110	70	30	170	275	M10	35	10	M10	20	47
FZ-400-D	400	24	1000	4	398	200	130	99	35	199	338	M12	45	14	M10	20	73

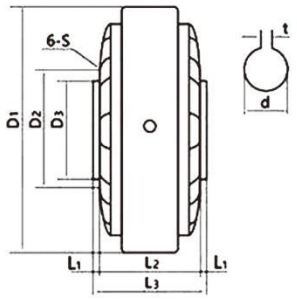
双轴磁粉制动器/Dual-axis magnetic powder brake



FL-S/A 双轴系列磁粉离合器 FL-S/A dual shaft series magnetic powder clutch

型号 Model	主要技术参数 Main technical parameters				外形尺寸 Overall dimensions												净重量 Turnning
	转矩 (N.m) Torque	电压 (V) Voltage	转速 (r/min) Speed	电流 (A) Current	D1	D2	D3	L1	L2	L3	L4	6-S	轴部 D	轴部 T	径 深(R) diameter	径 深(R) deep	
FL-6-S	6	24	1400	0.8	130	62	44	25	10	74	154	M5	12	4	M4	8	3
FL-12-S	12	24	1400	1	157	62	50	30	15	95	192	M5	16	5	M4	8	7
FL-25-S	25	24	1400	1.5	182	78	58	40	19	100	225	M6	20	6	M5	10	9
FL-50-S	50	24	1400	1.8	219	100	75	50	22	120	296	M6	25	8	M6	12	14
FL-100-S	100	24	1000	2	290	120	90	65	25	158	347	M8	30	8	M10	20	30
FL-200-S	200	24	1000	3	335	140	110	70	30	186	396	M10	35	10	M10	20	50
FL-400-S	400	24	1000	4	398	200	130	99	35	222	500	M12	45	14	M10	20	80

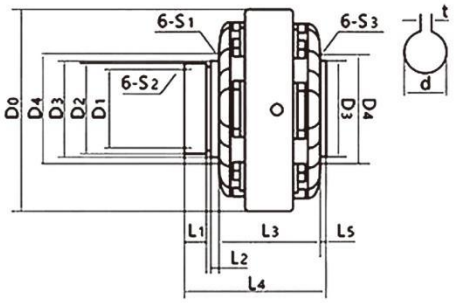
磁粉制动器/Magnetic powder brake



FZ-K/B 空心轴系列磁粉制动器 FZ- K/B hollow shaft series magnetic powder brake

型号 Model	主要技术参数 Main technical parameters				外形尺寸 Overall dimensions									净重量 Turnning
	转矩 (N.m) Torque	电压 (V) Voltage	转速 (r/min) Speed	电流 (A) Current	D1	D2	D3	L1	L2	L3	d	t	6-S	
FL-6-K	6	24	1000	0.8	130	62	52	3	54	60	16	5	M5	2.5
FL-12-K	12	24	1000	1	150	82	65	3	64	70	20	6	M5	4
FL-25-K	25	24	1000	1.5	182	110	90	4	70	78	25	8	M6	6.5
FL-50-K	50	24	1000	1.8	219	130	110	5	86	96	30	8	M8	11.5
FL-100-K	100	24	800	2	260	140	120	5	100	110	35	10	M10	16
FL-200-K	200	24	800	3	320	170	150	5	120	130	45	14	M10	24

孔氏离合器/Kong clutch



FZ- K/B 空心轴系列　磁粉制动器 FL-K/B hollow shaft series hole clutch

型号 Model	主要技术参数 Main technical parameters				外形尺寸 Overall dimensions												净重量 Turnning
	转矩 (N.m) Torque	电压 (V) Voltage	转速 (r/min) Speed	电流 (A) Current	D0	D1	D2*L1	D3*L2	D4	L3	L4	d	t	6-S1	6-S2	6-S3	
FL-6-K	6	24	1400	0.8	130	50	60*16	62*6	70	91	3	16	5	M5	M4	M5	3
FL-12-K	12	24	1400	1	157	63	70*18	72*7	80	107	3	20	6	M5	M4	M5	6
FL-25-K	25	24	1400	1.5	182	71	80*21	82*10	97	125	4	25	8	M6	M5	M6	9
FL-50-K	50	24	1400	1.8	219	85	95*22	97*11	110	144	4	30	8	M6	M6	M8	14.5
FL-100-K	100	24	1000	2	290	105	125*24	128*14	145	183	5	35	10	M8	M8	M8	33
FL-200-K	200	24	1000	3	335	125	140*28	145*17	165	200	5	45	14	M10	M10	M10	48

CZ系列磁粉制动器、磁粉离合器

CZ SERIES MAGNETIC POWDER BRAKE, MAGNETIC POWDER CLUTCH

产品介绍 / Product introduction

磁粉制动器、 磁粉离合器是一种性能优越的自动控制元件。 它以磁粉为工作介质， 以激磁电流为控制手段， 达到控制制动转矩或传递转矩的目的。 其输出转矩与激磁电流呈良好的线性关系， 而与转速或滑差无关， 并具有响应速度快、 结构简单等优点。

用于张力自动控制系统： 磁粉制动器、 磁粉离合器与自动张力控制仪及张力检测传感器配套， 可组成自动闭环张力控制系统， 广泛应用于印刷、 包装、 造纸及纸品加工、 纺织、 玻璃纤维、 电线电缆橡胶皮革、 金属箔带加工等设备。

用于转矩转速功率测试系统： 磁粉制动器、 磁粉离合器与我公司生产的转矩转速传感器、 转矩转速功率测量仪配套， 可组成成套转矩转速功率测试系统， 广泛应用于动力机械、 传动机械输入、 输出的转矩、 转速、 功率、 效率的动态和静态的检测。

磁粉离合器还用于缓冲起动、 过载保护、 调速等。

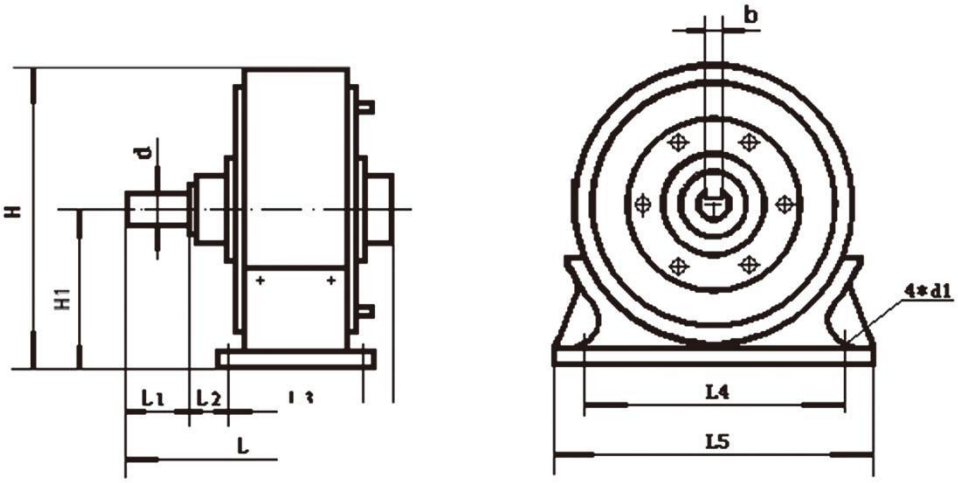
Magnetic powder brake and magnetic powder clutch are automatic control components with superior performance. It uses magnetic powder as the working medium and excitation current as the control means to achieve the purpose of controlling braking torque or transferring torque. The output torque has a good linear relationship with the excitation current, and has nothing to do with the speed or slip, and has the advantages of fast response speed and simple structure.

For automatic tension control system: magnetic powder brake, magnetic powder clutch and automatic tension control instrument and tension detection sensor supporting, can form an automatic closed-loop tension control system, widely used in printing, packaging, paper and paper processing, textile, glass fiber, wire and cable rubber leather, metal foil belt processing equipment.

For torque speed power test system: magnetic powder brake, magnetic powder clutch and torque speed sensor produced by our company, torque speed power measuring instrument supporting, can form a complete set of torque speed power test system, widely used in power machinery, transmission machinery input, output torque, speed, power, efficiency dynamic and static detection.

Magnetic powder clutch is also used for buffer starting, overload protection, speed regulation and so on.

结构示意图/Structure diagram



1、激磁电流——转矩特性：

激磁电流与转矩呈良好线性关系，通过调节激磁电流可以无极控制转矩的大小。其特性如图 A 所示。

2、转速——转矩特性：

转矩与转速无关，保持定值。静力矩和动力矩没有差别。其特性如图 B 所示。

3、负载特性：

磁粉制动器的允许滑差功率，在额定转矩转速内，散热条件一定时，是定值。在超转速运行时，最高转速不得超过额定转速的 2 倍，转矩不得超过额定转矩的 1/3。其特性如图 C 所示。

1, excitation current - torque characteristics:
The excitation current has a good linear relationship with the torque, by regulating the excitationThe current can control the torque without poles. Its characteristics are shown in Figure A.
2, speed - torque characteristics:
Torque has nothing to do with speed and is maintained at a fixed value. Static moment and dynamic moment are notThere is a difference. Its characteristics are shown in Figure B.
3, load characteristics:
The allowable slip power of the magnetic powder brake, within the rated torque speed,This parameter is set when the heat dissipation condition is certain. Maximum rotation during overspeed operationThe speed shall not exceed 2 times the rated speed and the torque shall not exceed the rated torque1/3 of it. Its characteristics are shown in Figure C.

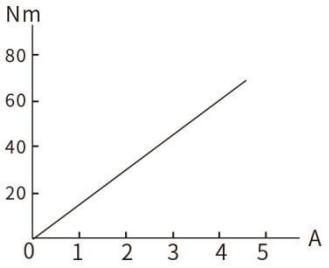


图 A

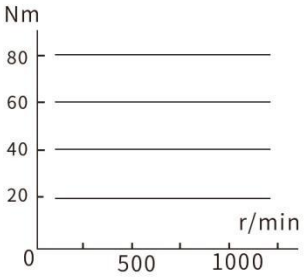


图 B

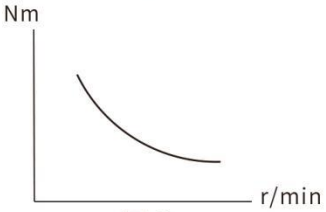


图 C

技术指标 / Technical index

型号 Model number	技术参数 Technical parameter				安装尺寸 Mounting dimension										
	额定转矩 Nm Rated torque Nm	激磁电流 A excitation Electric current A	滑差功率 KW slip power KW	冷却方式 cooling way	d	H1	H	L	L1	L2	L3	L4	L5	d1	b
CZ-0.1- 0.3	3	0.6	0.04	自冷	12	55	99	75	20	12	18	74	88	7	4
CZ-0.2	2	0.6	0.15	自冷	9	55	105	103	20	32.5	26	100	115	5.5	削平
CZ0.5- 0.6	6	0.5	0.3	自冷	12	72	131	84	20	-2	60	110	130	7	4
CZ-1	10	0.6	0.8	水冷	12	100	188	135	26	7	70	155	180	9	4
CZ-2	20	0.6	1.6	水冷	18	120	220	144	30	20	78	155	190	11	6
CZ-5	50	0.8	3.5	水冷	22	150	260	170	40	9	110	185	225	11	6
CZ-10	100	1	7	水冷	30	165	300	190	55	6	100	185	220	13	8
CZ-20	200	2	10	水冷	35	180	335	233	60	30	125	268	300	13	10
CZ-30	300	2.5	12	水冷	45	210	385	345	70	23	150	300	350	13	14
CZ-40	400	2.5	12	水冷	45	210	385	345	70	23	150	300	350	13	14
CZ-50	500	2.5	14	水冷	60	240	440	324	100	19	180	340	400	17	18
CZ-100	1000	2.5	18	水冷	60	280	522	478	100	31	220	430	500	17	18
CZ-200	2000	3	25	水冷	75	325	610	543	110	50	250	520	600	22	20
CZ-500	5000	3	40	水冷	90	430	818	662	140	50	320	600	700	22	25
CZ-1000	10000	4	50	水冷	120	600	1125	740	160	40	360	900	1030	26	32
CZ-2000	20000	5	75	水冷	155	725	1545	900	180	105	400	1300	1450	34	40

磁滞制动器
HYSTERESIS BRAKE

产品介绍 / Product introduction

磁滞制动器作为扭矩负载和功率吸收应用于测试平台、驱动器等寿命试验中。作为张力控制应用于电线、电缆、绳、线、纸和影带的放卷及放线设备中。在启动加载过程中作为联轴器、过载保护使用。

标准型磁滞制动器有单出轴与双出轴两种安装方式，根据使用空间、安装形式选择，应用范围广，通用性强。主要应用于高速绕线设备、电机、小型内燃机、齿轮箱及其它旋转装置的寿命实验的模拟负载，高端运动器材的精确负载。

Hysteresis brakes are used as torque loads and power absorbers in test platforms, drives and other life tests. Used as tension control in unwinding and unwinding equipment of wire, cable, rope, thread, paper and tape. It is used as coupling and overload protection in the process of starting loading.

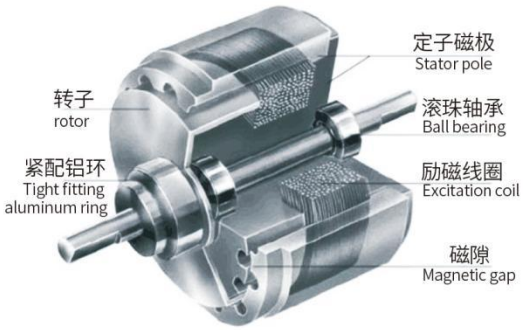
Standard hysteresis brake has single shaft and double shaft two kinds of installation, according to the use of space, installation form selection, wide application range, strong versatility. Mainly used in high-speed winding equipment, motor, small internal combustion engine, gear box and other rotating device life experiment simulation load, high-end sports equipment accurate load.

技术指标 / Technical index

型号 model	额定扭矩 The rated torque	额定电流 Rated current	电压 voltage	线圈电阻 Coil resistance	重量 The weight of the	额定划差功率 Rated differential power				惯性矩 Moment of inertia	最高转速 The highest speed
						加压缩空气 Add compressed air		不加压缩空气 No compressed air			
						5分钟 5 minutes	持续 continuous	5分钟 5 minutes	持续 continuous		
	Nm	mA	VDC	O	KG	watts	watts	watts	watts	kg.cm²	rpm
AHB-002M	0.02	160	24	150	0.15	/	/	25	6	1.5*10-3	20000
AHB-01M	0.1	192	24	125	0.39	/	/	55	15	4.6*10-2	20000
AHB-02M	0.2	200	24	120	0.51	200	200	75	20	6.8*10-2	20000
AHB-03M	0.3	250	24	96	1.35	400	400	120	35	1.8*10-1	20000
AHB-05M	0.5	250	24	96	1.35	400	400	120	35	1.8*10-1	20000
AHB-1M	1	250	24	96	1.8	800	800	320	80	1.1*100	18000
AHB-2M	2	300	24	80	3.5	1000	800	460	115	3.2*100	15000
AHB-3M	3	400	24	60	5.2	1300	1300	680	165	6.8*100	12000
AHB-4M	4	500	24	50	5.7	1800	1800	800	165	6.8*10-1	12000
AHB-6M	6	800	24	30	9.6	3000	2800	1200	350	1.4*101	12000
AHB-8M	8	1000	24	25	9.6	3000	2800	1200	350	1.4*101	12000
AHB-10M	10	1500	24	16	20.6	3800	3500	1800	280	2.62*101	12000
AHB-15M	15	1200	24	20	23	2800	2500	1200	350	5.6*101	12000
AHB-30M	30	2400	24	10	46	5300	3000	4000	450	1.12*10²	10000

工作原理/Working principle

磁滞制动器是定子磁级和一个由特殊材料制成的转子两部分组成，通过转子 / 轴组件固定在一起但不互相接触，即可将磁学中的磁滞原理运用来控制扭矩力。当磁级线圈未通电时，转子 / 轴能够在滚动轴承上自由旋转，通电后定子磁级的间隙产生磁场，转子也将因为磁场效应，产生制动效果，当转子在外力作用克服磁滞效应转动时，既产生相应的扭矩。扭矩仅与磁滞电流的大小有关，与转速无关，实现非接触的扭矩传输。



The hysteresis brake is composed of two parts of the stator magnetic stage and a rotor made of special materials, which are fixed together by the rotor/shaft assembly but not in contact with each other, and the hysteresis principle in magnetism can be applied to control the torque force. When the magnetic coil is not energized, the rotor/shaft can rotate freely on the rolling bearing. After the stator magnetic stage is energized, the gap of the stator magnetic stage generates a magnetic field, and the rotor will also produce a braking effect because of the magnetic field effect. When the rotor overcomes the hysteresis effect by external force, the corresponding torque will be generated. Torque is only related to the size of hysteresis current, independent of speed, to achieve non-contact torque transmission.

产品特点/Product characteristics

1、励磁电流与输出转矩基本成比例关系，传送转矩在额定值的 5- 100% 范围内可以被控制，输出扭矩为额定扭矩的 1009%-135%, 小电流可以控制输出较大的转矩；
2、无论滑转速度的变化如何，其传送的转矩能基本保证；
3、能够在容许的滑差功率下连续滑转，除轴承外没有其他磨损件；
4、无接触式扭矩传递，运转平滑，转速范围大，免维护，使用寿命长；
5、工作中安静无声，无摩擦，免维护，使用寿命长；
6、转矩很大程度上与速度独立，扭矩无级可调。

1, the excitation current and the output torque is basically proportional to each other, the transmission torque can be controlled within the range of 5-100% of the rated value, the output torque is 1009%-135% of the rated torque, small current can control the output of larger torque;
2. Regardless of the change of sliding speed, the transmitted torque can be basically guaranteed;
3, can slip continuously under the allowable slip power, no other wear parts except bearing;
4, non-contact torque transmission, smooth operation, large speed range, maintenance-free, long service life;
5, silent, frictionless, maintenance-free, long service life;
6, torque is largely independent of speed, torque stepless adjustable.

产品型号/ Product model

HB-002M-D

D：双出轴 D: DOUBLE AXIS
L：左出轴 L:LEFTOFF AXIS
R：右出轴 R: RIGHT OFF THE AXIS

型号规格SPECIFICATIONS

HB：标准型磁滞制动器	HB: Standard hysteresis brake
LB：空心轴型磁滞制动器	LB: Hollow shaft magnetic hysteresis brake
AHB：气冷型磁滞制动器	AHB: Air-cooled hysteresis brake
MHB：匹配型磁滞制动器	MHB: Matching hysteresis brake

产品应用/ Product application

1、为高速自动绕线机提供精确的张力控制；
2、用于各类线圈的绕制过程中对张力的精确控制；
3、应用于运动机构的制动和承载；
4、为纸线、薄膜、胶带等分条机械提供精确的张力控制；
5、为线材波动放卷提供恒张力控制；
6、用于电机、小型内燃机、齿轮箱和其他旋转装置的寿命试验模拟负载；
7、应用于排线生产等多卷轴张力的控制系统；
8、应用于绳索、线缆生产等多卷轴力的控制。

1, for high-speed automatic winding machine to provide accurate tension control;
2, for the precise control of tension in the winding process of various types of coils;
3, applied to the braking and bearing of the motion mechanism;
4, for paper line, film, tape and other slitter machinery to provide accurate tension control;
5, to provide constant tension control for wire fluctuation unwinding;
6, used for motors, small internal combustion engines, gear boxes and other rotat ing devicesLife test simulated load;
7, used in line production and other multi-reel tension control system;
8, used in rope, cable production and other multi-reel force control.

WZ系列-电涡流制动器

WZ SERIES - EDDY CURRENT BRAKES

产品介绍 / Product introduction

电涡流制动器是一种性能优越的自动控制元件，它利用涡流损耗的原理来吸收功率。以激磁电流为控制手段，达到控制制动转矩目的，其输出转矩与激磁电流呈良好的线性关系。并具有响应速度快、结构简单等优点。

电涡流制动器与我公司生产的 HN-201 扭矩功率仪、HCNJ-101 系列转矩转速传感器、WLK 型控制器、数据测试软件可组成，成套自动测功系统。广泛应用于动力机械、传动机械输入、输出的转矩、转速、功率、效率的检测。广泛应用于不同负载状态下动力机械输入技术参数的检测，如：电流、电压电功率、功率因数；油耗、烟度、振动、噪音；流量、压力等。广泛应用于不同负载状态下动力机械控制器技术参数的检测，如变频器、直流电机控制器等。

Eddy current brake is a kind of automatic control element with superior performance. It uses the principle of eddy current loss to absorb power. The braking torque is controlled by the excitation current, and the output torque has a good linear relationship with the excitation current. It has the advantages of fast response speed and simple structure.

Eddy-current brake and our company's HN-201 torque power meter, HCNJ-101 series torque speed sensor, WLK controller, data test software can be composed of a complete set of automatic power measurement system. Widely used in power machinery, transmission machinery input, output torque, speed, power, efficiency detection. It is widely used in the detection of power machinery input technical parameters under different load states, such as: current, voltage, electric power, power factor; Fuel consumption, smoke, vibration, noise; Flow, pressure, etc. It is widely used in the detection of technical parameters of power mechanical controller under different load states, such as frequency converter, DC motor controller, etc.

技术指标 / Technical index

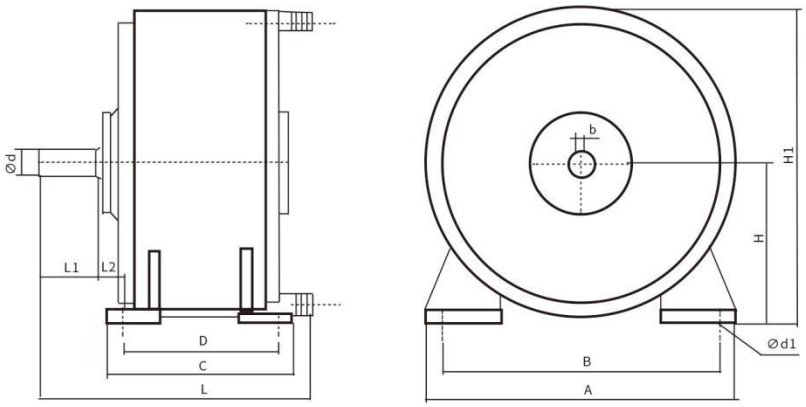
specifications 规格型号	Rated speed 额定转速 r/min	The rated torque 额定转矩 Nm	Rated power 额定功率 KW	The excitation voltage 励磁电压 V	Field current 励磁电流 A	The cooling water 冷却水量 L/min
WZ-10	200-3000	10	1.5	< 90	< 5	10
WZ-20		20	3			20
WZ-50		50	8			30
WZ-100		100	15			40
WZ-200	300-3000	200	30			50
WZ-300		300	45			60
WZ-650		650	100	< 180	< 10	70
WZ-1000		1000	150			80
WZ-2000		2000	315			160
WZ-3000		3000	470		< 20	240
WZ-6500		6500	1000		< 40	550
WZ-10000		10000	1570		< 60	800
WZ-14000		14000	2200		< 90	1100
转速1500R/min不超过额定转矩；转速1500R/min不超过额定功率KW Speed 1500r/min does not exceed rated torque; Speed 1500R /min does not exceed the rated power KW						

产品特点/Product characteristics

1、转矩与激磁电流线性关系良好，适合于自动控制；
2、结构简单，运行稳定、价格低廉、使用维护方便；
3、采用水冷却，噪音低、振动小；
4、输入转速范围宽，可用于变频调速等各类电动机及动力机械的型式试验；
5、控制器采用直流电源，控制功率小。

1, torque and excitation current linear relationship is good, suitable for automatic control;
2, simple structure, stable operation, low price, easy to use and maintenance;
3, the use of water cooling, low noise, small vibration;
4, the input speed range is wide, can be used for variable frequency speed regulation and other types of motorsAnd type test of power machinery;
5, the controller adopts DC power supply, small control power.

尺寸对照表/Size comparison table



specifications 规格型号	A	B	C	D	H	H1	L	L1	L2	d	b	d1
WZ-10	255	210	155	125	135	262	221	40	20	20	6	10
WZ-20	290	260	175	145	150	295	255	55	23	25	8	12
WZ-50	360	310	220	170	185	365	296	60	27.5	35	10	12
WZ-100	420	350	246	196	215	425	320	70	20	40	12	18
WZ-200	500	430	300	230	260	500	394	100	29	55	16	18
WZ-300	540	450	350	280	280	540	488	140	33.5	60	18	22
WZ-650	660	500	385	285	340	670	530	120	66	70	20	22
WZ-1000	616	506	493	406	315	720	598	105	40	65	18	28
WZ-2000	775	610	557	457	355	770	652	105	40	70	20	35
WZ-3000	870	710	714	590	450	915	1083	210	108	100	28	35
WZ-6500	1650	1140	1100	940	800	1550	1230	160	50	110	2-28	33

产品应用/ Product application

电涡流制动器与我公司生产的WLK型控制器配套，可组成手动张力控制系统。与我公司生产的 ZK型自动张力控制仪及张力检测传感器配套，可组成闭环自动张力控制系统。广泛应用于印刷、包装、造纸及纸品加工、纺织、印染、电线、电缆、橡胶皮革、金属板带加工等有关卷绕装置的张力自动控制系统中。

The eddy current brake is equipped with the WLK controller produced by our company to form a manual tension control system. With the ZK type automatic tension controller and tension detection sensor produced by our company, it can form a closed-loop automatic tension control system. Widely used in printing, packaging, paper making and paper processing, textile, printing and dyeing, wire, cable, rubber leather, metal plate and strip processing and other related winding device tension automatic control system.

KTC-800A 磁粉张力控制器

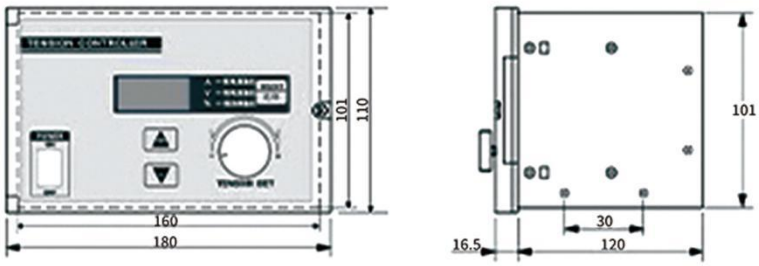
KTC-800A MAGNETIC POWDER TENSION CONTROLLER

产品特点 / Product characteristics

1、采用适应性强的开关电源供电。
2、输入电源 AC185~264V, 输出 DC 0~24V/4AO
3、采用脉宽调制，效率高。
4、具有四种控制方式选择：恒电流输出，恒电压输出，恒功率输出，外接电位器
5、采用按键和脉冲电位器调节张力
6、自动过流保护
7、多种安装方式，安装便利，美观实用。

1, the use of adaptable switching power supply.
2, input power AC185~264V, output DC 0~24V/4AO
3, using pulse width modulation, high efficiency.
4, with four control mode choice: constant current output, constant current Voltage output, constant power output, external potentiometer
5, the use of key and pulse potentiometer to adjust the tension
6, automatic overcurrent protection
7, a variety of installation methods, convenient installation, beautiful and practical. .

外形尺寸图/Outline dimensional drawing



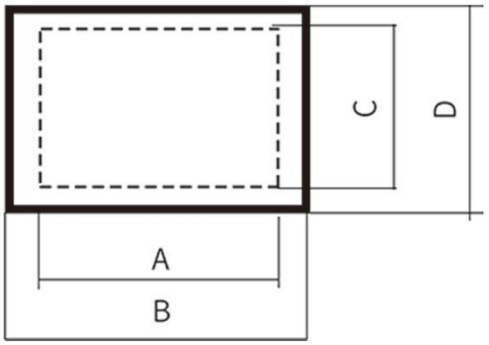
基本技术规格/Basic technical specification

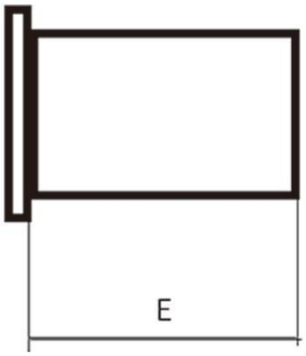
搭配参考 With reference to				
型号 model	The rated torque (N.m) 额定转矩 (N.m)	Equipped with tension controller KD200A 配套张力控制器 KD200A	Supporting tension controller TC800A 配套张力控制器 TC800A	Supporting tension controller TC-D 配套张力控制器 TC-D
6N-0.6KG 离合器制动器	6	2A、3A、4A	0~4A	2A、3A
12N-1.2KG 离合器制动器	12	2A、3A、4A		
25N-2.5KG 离合器制动器	25	2A、3A、4A		
5ON-5KG 离合器制动器	50	3A、4A		3A
10ON-10KG 离合器制动器	100	3A、4A		
200N-20KG 离合器制动器	200	3A、4A		
400N-4OKG 离合器制动器	400	4A		

离合器制动器 Clutch brake

WLK 加载控制器

WLK LOAD CONTROLLER





产品介绍/Product introduction

WLK 型控制器是采用开关方式控制的直流稳流电源，具有小型、轻量和高效率的特点。主要用于提供磁粉制动器、磁粉离合器或电涡流制动器的激磁电流。

WLK controller is a DC steady current power supply controlled by switching mode, which has the characteristics of small size, light weight and high efficiency. It is mainly used to supply the excitation current of magnetic powder brake, magnetic powder clutch or eddy current brake.

技术参数/Technical parameter

产品名称 The product name	规格型号 specifications	技术参数 Technical parameters					控制方式 The control mode
		工作电压 Working voltage	空载输出电压V No load output voltage V	额定输出电流A Rated output current A	绝缘阻抗MΩ Insulation impedance MΩ	稳流精度 Accuracy of steady flow	
手动控制器 manual controller	WLK-1A	AC 180-250V 50HZ	40	1	10	1%	a)手动调节控制旋钮，改变输出电流 A) Manually adjust the control knob to change the output current
	WLK-3A			3			
	WLK-5A		80	5			
模拟量控制器 Analog quantity controller	WLK-1A(0-5V)		40	1			a)手动调节控制旋钮，改变输出电流。 b)接受上位机0-5V模拟量,对应输出电流;无电流输出,5V对应额定输出电流。注1 A) Manually adjust the control knob to change the output current. B) Receive 0-5V analog quantity of upper computer, corresponding to output current; No current output,5V corresponds to the rated output current. Note 1
	WLK-3A(0-5V)			3			
	WLK-5A(0-5V)		80	5			
程控控制器 Program control controller	WLKC-3B		40	3			a)手动调节控制旋钮,改变输电流。 b)通过 RS232通讯端口接受上位机数字量信号,对应输出电流。注2 A) Manually adjust the control knob to change the transmission flow. B) Receive the digital signal of the upper computer through the RS232 communication port, corresponding to the output current. Note 2
	WLKC-5B		80	5			

注 1: 手动、模拟量控制可通过仪表背板拨动开关切换。

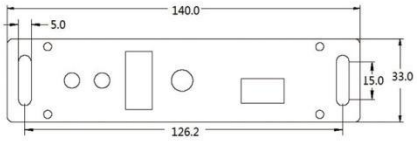
注 2：注手动、程控可通过仪表面板“ 模式 ”触摸键切换。当模式灯亮时只接受上位机控制，模式灯灭时只接受手动控制。

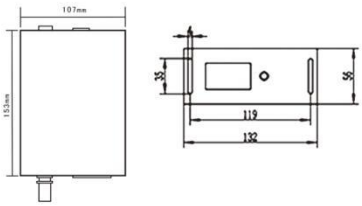
Note 1: Manual and analog control can be switched by toggle switch of instrument backplane.

Note 2: Note manual and program control can be switched by "Mode" touch key on instrument panel. When the mode light is on, it can only be controlled by the upper computer. When the mode light is off, it can only be controlled manually.

磁滞控制器

HYSTERESIS CONTROLLER





产品介绍 / Product introduction

对于恒流式电流源内置稳压稳流电路，通过接入 DC24V 电压，调节输出稳定有效的电流。

For the constant current source, the built-in voltage stabilizing circuit can adjust the output stable and effective current by connecting to DC24V voltage.

使用说明/ Instructions for use

对于采用 24VDC 电压控制的磁滞制动器，除了直接电压调节以外，我们一般建议采用更加细分的电流控制，磁滞制动器的扭矩调节与控制是由调整经过电磁线圈的直流电流大小来决定输出扭矩的变化的。扭矩与电流值的大小成线性关系，采用恒流源同时可将制动器温度变化造成的线圈阻止漂移（扭矩波动）移因素降低。

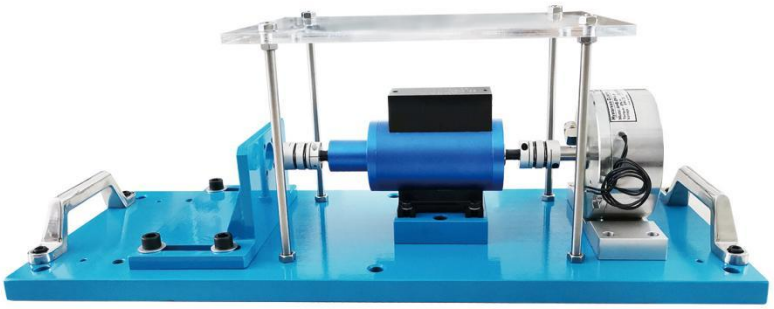
For the hysteresis brake with 24VDC voltage control, in addition to direct voltage regulation, we generally recommend the use of more subdivided current control, torque regulation and control of the hysteresis brake is by adjusting the DC current through the electromagnetic coil to determine the change of the output torque. Torque and current value of the size of a linear relationship, the use of constant current source at the same time can brake temperature changes caused by the coil to prevent drift (torque fluctuation) shift factors to reduce.

技术参数/ Technical parameter

型号 model	CZ		CS-P			
规格 specifications	CS-500	CS-1000	CS-50-05P	CS-1000-05P	CS-500-10P	CS-1000-10P
额定电流 Rated current	500mA	1000mA	500mA	1000mA	500mA	1000mA
控制方式 The control mode	10 全电位器手动式 10 Full potentiometer manual type		0-5V 模拟电压 0-5V analog voltage		0-10V 模拟电压 0-10V analog voltage	
电压 voltage	24VDC 标配电源适配器（有） 24VDC standard power adapter (yes)					
使用环境 Using the environment	0°C-45 °C 40%- -80%RH					
显示方式 Display mode	三位数显电流表 Three digit digital ammeter					
安装方式 installation	便携移动非固定安装，如需要需借助外置卡扣 Portable mobile non-fixed installation, if necessary with the help of external buckle					
最小分辨单位 Least resolving unit	1mA					

小功率电机加载测试台

LOW POWER MOTOR LOADING TEST BENCH



产品介绍 / Product introduction

电机性能测试台主要用来测试电机的输入电压、输入电流（交流 / 直流）、输入电功率、功率因数（交流）；输出转矩、转速、机械功率；效率；温升、振动、噪音等。可进行电机的综合性能试验，为电机厂家提供准确的参数依据。

电机性能测试台可以测试各类异步电机、同步电机、永磁电机、交流电机、直流电机、新能源电机等。

该类电机测试台主要由被测电机、转矩转速传感器、模拟负载（磁粉制动器、电涡流制动器、磁滞制动器等根据不同情况而定）、安装平台、连接夹具、测控系统（仪表、软件等）、电气控制系统等组成。

Motor performance test bench is mainly used to test the input voltage, input current (AC/DC), input electrical power, power factor (AC); Output torque, speed, mechanical power; Efficiency; Temperature rise, vibration, noise, etc It can carry out the comprehensive performance test of the motor and provide the accurate parameter basis for the motor manufacturer.

Motor performance test bench can test all kinds of asynchronous motor, synchronous motor, permanent magnet motor, AC motor, DC motor, new energy motor, etc.

This kind of motor test bench is mainly composed of the motor under test, torque speed sensor, analog load (magnetic powder brake, eddy current brake, hysteresis brake according to different conditions), installation platform, connecting fixture, measurement and control system (instrument, software, etc.), electrical control system, etc.

设备功能 / Device function

1、测试过程可手动加载或自动加载，可以将试验数据 (扭矩、转速、功率、电压、电流、功率因数、温度、振动、噪音）及曲线导出到 WORD 或 EXCEL 中并可以进行打印，

2、可以对测试曲线进行自动连续存储或按使用者的意愿进行手动存储 ;

3、对于参数的各种设置具有记忆功能，只需输入一次即可 ;

4、能实时采集、处理、显示、存储电机试验所需的转速、扭矩、电流、电压、功率、效率等值 ;

5、测试台为非标定做，根据客户被测件参数来选择合适的方案。

1, the test process can be manually loaded or automatically loaded, can be the test data (torque, speed, power, voltage, current, power factor, temperature,Vibration, noise) and curves are exported to Word or Excel and can be printed,

2. The test curve can be automatically and continuously stored or manually stored according to users' wishes;

3. It has memory function for various Settings of parameters, only need to input once;

4, can real-time collection, processing, display, storage motor test required speed, torque, current, voltage, power, efficiency equivalent;

5, the test bench is not calibrated to do, according to the parameters of the customer under test to choose the right scheme.

试验项目 / Pilot project

堵转试验 Locked-rotor test	电压电流 Voltage current	加载试验 Load test
效率试验 Efficiency test	温升试验（振动、噪音等） Temperature rise test (vibration, noise, etc.)	
空载试验（计算三相电流不平衡度） No-load test (calculation of three-phase current imbalance)		

电机加载测试台
MOTOR LOADING TEST BENCH

产品介绍/Product introduction

电机性能测试台主要用来测试电机的输入电压、 输入电流 （交流 / 直流）、 输入电功率、 功率因数 （交流）；输出转矩、 转速、机械功率； 效率； 温升、 振动、 噪音等。 可进行电机的综合性能试验， 为电机厂家提供实时参数依据。

电机性能测试台可以测试各类异步电机、 同步电机、 永磁电机、 交流电机、 直流电机、 新能源电机等。

该类电机测试台主要由被测电机、 转矩转速传感器、 模拟负载 （磁粉制动器、 电涡流制动器、 磁滞制动器等根据不同情况而定）、安装平台、 连接夹具、 测控系统 （仪表、 软件等）、 电气控制系统等组成。

The motor performance test bench is mainly used to test the input voltage, input current (AC/DC), input power and power factor (AC) of the motor. Output torque, speed, mechanical power; Efficiency; Temperature rise, vibration, noise, etc. The comprehensive performance test of motor can be carried out to provide real-time parameter basis for motor manufacturers.

Motor performance test bench can test all kinds of asynchronous motor, synchronous motor, permanent magnet motor, AC motor, DC motor, new energy motor and so on.

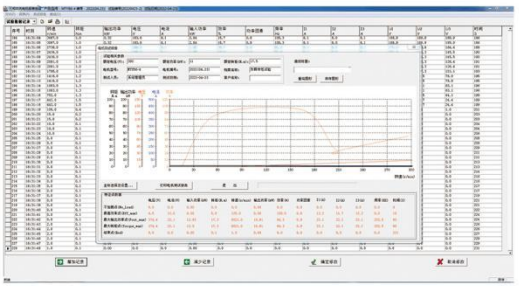
This type of motor test bench is mainly composed of the measured motor, torque speed sensor, simulated load (magnetic powder brake, eddy current brake, hysteresis brake, etc., depending on different circumstances), installation platform, connection fixture, measurement and control system (instrumentation, software, etc.), electrical control system, etc.

设备功能/Device function

1、 测试过程可手动加载， 可以将试验数据 (扭矩、 转速、 功率、 电压、 电流、 功率因数、 温度、振动、 噪音） 及曲线导出到 EXCEL 中并可以进行打印；
2、 可以对测试曲线进行自动连续存储或按使用者的意愿进行手动存储；
3、 对于参数的各种设置具有记忆功能， 只需输入一次即可；
4、 能实时采集、 处理、 显示、 存储电机试验所需的转速、 扭矩、 电流、 电压、 功率、 效率等值；
5、 测试台为非标定做， 根据客户被测件参数来选择合适的方案。

1, the test process can be manually loaded, you can test data (torque, speed, power, voltage, current, power factor, temperature, temperature, etc.) Vibration, noise) and curves are exported to Excel and can be printed;
2, the test curve can be automatically stored continuously or manually stored according to the user's wishes;
3, for the parameters of the various Settings with memory function, only need to enter once;
4, real-time acquisition, processing, display, storage motor test required speed, torque, current, voltage, power, efficiency equivalent;
5, the test bench is not calibrated, according to the customer's parameters to choose the appropriate program.

测试软件参考界面/Test software reference interface



试验项目/Pilot project

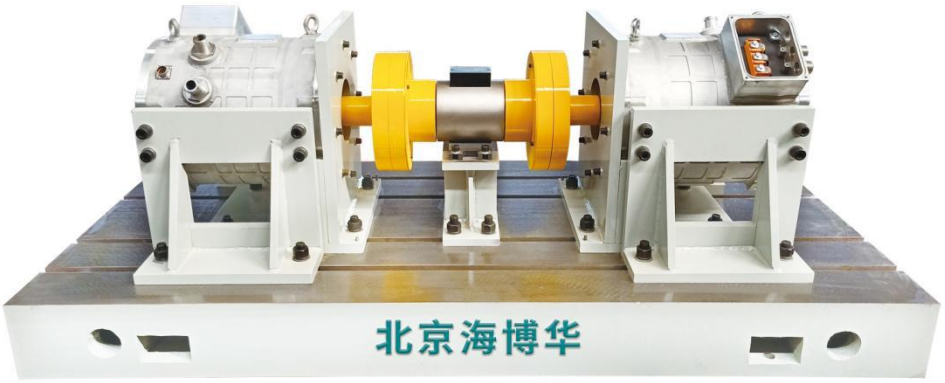
堵转试验 Locked-rotor test　　电压电流 Voltage current　　加载试验 Load test　　功率因数 Power factor

效率试验 Efficiency test　　温升试验（振动、噪音等）Temperature rise test (vibration, noise, etc.)　　输出扭矩转速 Output torque speed

空载试验（计算三相电流不平衡度） No-load test (calculation of three-phase current imbalance)　　输入功率输出功率 Input power Output power

电机对拖测试台

MOTOR TOWING TEST BENCH



产品介绍/Product introduction

电机对拖测试台的负载端采用电机进行加载， 被测电机由需方自行接线控制， 负载电机采用专用控制器对电机进行恒转矩控制并对被测电机进行加载测试，测试过程中负载电机作为发电机运行，发出的电能会用我司能耗电阻器直接发热耗电，保证整体平台的稳定运行。（电处理根据情况可以消耗、 并网、 回馈）

电机对拖测试台主要用来测试电机的输入电压、 输入电流 （交流 / 直流）、 输入电功率、 功率因数 （交流）；输出转矩、 转速、 机械功率； 效率； 温升、 振动、 噪音等。 可进行电机的综合性能试验， 为电机厂家提供准确的参数依据

电机对拖测试台可以测试各类异步电机、 同步电机、 永磁电机、 交流电机、 直流电机、 新能源电机等。

电机对拖测试台主要由被测电机、 转矩转速传感器、 模拟负载 （电机）、 安装平台、 连接夹具、 测控系统 （仪表、 软件等）、电气控制系统等组成。

Motor to drag the load end of the test bed used to load, motor to be tested by the buyer themselves line control, load motor adopts special controller to control the constant torque motor and the tested motor load test, the test load motor as a generator to run, in the process of electricity can be directly with our energy consumption resistor heating power, ensure the stable operation of the whole platform. (Electrical treatment according to the situation can be consumed, connected to the grid, feedback)

Motor to drag test bench is mainly used to test the input voltage, input current (AC/DC), input electrical power, power factor (AC); Output torque, speed, mechanical power; Efficiency; Temperature rise, vibration, noise, etc It can carry out the comprehensive performance test of the motor and provide the accurate parameter basis for the motor manufacturer

Motor tow test bench can test all kinds of asynchronous motor, synchronous motor, permanent magnet motor, AC motor, DC motor, new energy motor, etc.

The motor tow test bench is mainly composed of the motor under test, torque speed sensor, analog load (motor), installation platform, connecting fixture, measurement and control system (instrument, software, etc.), electrical control system, etc.

设备功能/Device function

1、 测试过程可手动加载， 可以将试验数据 (扭矩、 转速、 功率、 电压、 电流、 功率因数、 温度、振动、 噪音） 及曲线导出到 EXCEL 中并可以进行打印；
2、 能对电机进行耐久性和性能试验；
3、 能对电机的特定工况点进行测试；
4、 通过系统能实时显示电机的电压、 电流、 转矩、 转速、 功率数值；
5、 在 “ 选点测量 ” 方式下， 能实时显示采集数据和曲线；
6、 具有历史数据和曲线回放功能；

1, the test process can be manually loaded, you can test data (torque, speed, power, voltage, current, power factor, temperature, temperature, etc.) Vibration, noise) and curves are exported to Excel and can be printed;
2, the durability and performance of the motor can be tested;
3, can test the specific working conditions of the motor;
4, through the system can display the voltage, current, torque, speed, power value of the motor in real time;
5, in the "selected point measurement" mode, can display real-time acquisition data and curves;
6, with historical data and curve playback function;

试验项目/Pilot project

堵转试验 Locked-rotor test	电压电流 Voltage current	加载试验 Load test	功率因数 Power factor
效率试验 Efficiency test	温升试验（振动、噪音等）Temperature rise test (vibration, noise, etc.)		输出扭矩转速 Output torque speed
空载试验（计算三相电流不平衡度） No-load test (calculation of three-phase current imbalance)		输入功率输出功率 Input power Output power	

变速箱/减速机性能测试系统

TRANSMISSION/REDUCER PERFORMANCE TEST SYSTEM

产品介绍/Product introduction

变速箱 / 减速机性能测试系统可分别检测变速箱输入输出的转矩、 转速、 功率， 通过测量仪显示检测参数。 在被测变速箱输入输出端各接入一台扭矩传感器， 转矩转速传感器串接在电机与负载中间， 可直接检测变速器的输入 输出转矩、 转速、 功率， 检测参数更精确。 转矩转速测量仪显示测量值， 并可将转矩、 转速转换为 4-20MA 模拟量发送到上位机。

The transmission/reducer performance test system can detect the torque, speed and power of the transmission input and output respectively, and display the test parameters through the measuring instrument. A torque sensor is connected to each input and output end of the transmission under test. The torque and speed sensor is connected in series between the motor and the load, which can directly detect the input and output torque, speed and power of the transmission, and the detection parameters are more accurate. The torque and speed measuring instrument displays the measured value, and can convert the torque and speed into 4-20mA analog quantity and send it to the host computer.

设备功能/Device function

1、 减速机试验系统能对减速机进行空载试验、 效率试验、 温升试验、 耐久试验；
2、 减速机试验系统能实时测量电机输入电压、 电流功率因数， 测量减速机的输入转矩、 转速、 功率、 输出转矩、转速、 功率、 效率、 温升、 振动噪音等；
3、 可以将试验数据及曲线导出到 EXCEL 中， 可以通过打印机对测试结果进行数据、 曲线打印；
4、 界面美观、 操作简单。

1. The reducer test system can carry out no-load test, efficiency test, temperature rise test and durability test for the reducer;
2. The reducer test system can measure the input voltage and current power factor of the motor in real time, and measure the input torque, speed, power and output torque of the reducer.Speed, power, efficiency, temperature rise, vibration noise, etc.;
3. Test data and curves can be exported to Excel, and test results can be printed by printer.
4, beautiful interface, simple operation.

试验项目/Pilot project

耐久试验 Endurance test	功率试验 Power test	噪音试验 Noise test
效率试验 Efficiency test	温升试验 Temperature rise test	振动试验 Vibration test
加载试验 （输入输出扭矩、 转速、 功率） Loading test (input and output torque, speed, power)		

磁滞测功机

HYSTERESIS DYNAMOMETER

产品介绍/Product introduction

磁滞测功机： 可以测试电机的电压、 电流、 功率、 功率因数、 频率、 转矩、 转速、 输出功率和效率 ，仪表测量准确度为 0.5 级， 适用于测试各种交直流电动机、 串激电动机、 直流永磁电动机、 罩极式感应电机、 单相分马力感应电机、 三相异步电机、 同步电机等电机特性， 被广泛用于家用电器、 航空、 汽车、 电机、 机械和电动工具等科研、 生产、 检测行业。

磁粉测功机： 磁粉测功机又 称电磁测功机，由带磁粉加载器、 支架、 底板、 转速传感器、 力矩传感器、 轴承及冷却系统组成 ，常规磁粉测功机适用于 10KW 以下的低速被试品的测试， 由于结构上需要转子和定子通过磁粉进行机械接触产生转矩， 因此不适合中高速电机的测试。 常规的磁粉测功机使用循环液体（水）冷却， 运行功率于 500W 的磁粉测功机通常采用自然风对流冷却， 适用于测试低速直流电机、 减速电机和部分汽车电机等。

涡流测功机： 涡流测功机又称电涡流测功机， 由带励磁线圈的定子、 感应式转子、 支架、 底板、 转速传感器、 转矩传感器、 轴承及冷却系统组成， 常规涡流测功机适用于 10KW 以下的高速被试品的测试， 由于需要依靠转速产生转矩， 因此不适合较低转速电机的测试。 常规的涡流测功机使用循环液体（水）冷却， 运行功率于 200W 的涡流测功机通常采用自然风对流冷却， 适用于测试高速直流电机、 串激电机和部分高速电动工具等。

Hysteresis dynamometer: It can test the voltage, current, power, power factor, frequency, torque, speed, output power and efficiency of the motor. The measuring accuracy of the instrument is 0.5, which is suitable for testing all kinds of AC and DC motors, series motors, DC permanent magnet motors, shield pole induction motors, single-phase divided horsepower induction motors, three-phase asynchronous motors, synchronous motors and other motor characteristics. It is widely used in research, production and testing industries such as household appliances, aviation, automobiles, motors, machinery and power tools.

Magnetic particle dynamometer: Magnetic powder dynamometer, also known as electromagnetic dynamometer, is composed of magnetic powder loader, bracket, bottom plate, speed sensor, torque sensor, bearing and cooling system, conventional magnetic powder dynamometer is suitable for low-speed test subjects below 10KW, due to the structure of the rotor and stator through magnetic powder mechanical contact to produce torque, so it is not suitable for high-speed motor testing. The conventional magnetic powder dynamometer uses circulating liquid (water) cooling, and the magnetic powder dynamometer running at 500W is usually cooled by natural wind convection, which is suitable for testing low-speed DC motors, deceleration motors and some automotive motors.

Eddy current dynamometer: Eddy current dynamometer, also known as eddy current dynamometer, is composed of stator with excitation coil, induction rotor, bracket, bottom plate, speed sensor, torque sensor, bearing and cooling system, conventional eddy current dynamometer is suitable for the test of high-speed subjects below 10KW, because it needs to rely on speed to produce torque, so it is not suitable for the test of low speed motor. The conventional eddy current dynamometer uses circulating liquid (water) cooling, and the eddy current dynamometer running at 200W is usually cooled by natural wind convection, which is suitable for testing high-speed DC motors, series motors and some high-speed power tools.

名称 name	型号 Model number	量程 range	冷却方式 Cooling mode	功率 （半小时内） Power (within half an hour)	冷却方式 Cooling mode	功率 （半小时内） Power (within half an hour)
磁滞系列 Hysteresis series	HCNJ-30	30N.m	风冷	≥2500W	水冷 + 风冷	≥4500W
	HCNJ-20	20N.m	风冷	≥1800W	水冷 + 风冷	≥3500W
	HCNJ-15	15N.m	风冷	≥1500W	水冷 + 风冷	≥2800W
	HCNJ-10	10N.m	风冷	≥1100W	水冷 + 风冷	≥2000W
	HCNJ-8	8N.m	风冷	≥900W	水冷 + 风冷	≥1800W
	HCNJ-5	5N.m	风冷	≥550W	水冷 + 风冷	≥1100W
	HCNJ-2	2N.m	风冷	≥250W	水冷 + 风冷	≥500W
	HCNJ-1	1N.m	风冷	≥180W		
	HCNJ-0.5	0.5N.m	风冷	≥90W		
	HCNJ-0.1	0.1N.m	风冷	≥20W		
	HCNJ-0.05	0.05N.m	风冷	≥10W		

名称 name	型号 Model number	量程 range	冷却方式 Cooling mode	功率 （半小时内） Power (within half an hour)
磁粉系列 Magnetic powder series	HCNC-300	300N.m	双水冷 + 风冷	≥7KW
	HCNC-200	200N.m	双水冷 + 风冷	≥5.5KW
	HCNC-100	100N.m	双水冷 + 风冷	≥4KW
	HCNC-50	50N.m	水冷 + 风冷	≥3KW
	HCNC-20	20N.m	水冷 + 风冷	≥1.8KW

名称 name	型号 Model number	量程 range	冷却方式 Cooling mode	功率 （半小时内） Power (within half an hour)
电涡流系列 Eddy current series	HCND-1	1N.m	水冷 + 风冷	≥350KW
	HCND-2	2N.m	水冷 + 风冷	≥500W
	HCND-5	5N.m	水冷 + 风冷	≥1100W
	HCND-10	10N.m	水冷 + 风冷	≥2200W
	HCND-15	15N.m	水冷 + 风冷	≥3KW
	HCND-20	20N.m	水冷 + 风冷	≥3.5KW
	HCND-50	50N.m	水冷 + 风冷	≥6KW

车桥加载试验台
AXLE LOADING TEST BENCH

产品介绍/Product introduction

对车桥两侧分别模拟加载，加载转矩各自可调；实时检测两侧各自的加载转矩、转速、功率；工控机自动采集检测参数。可在软件中设置车桥两侧加载程序。比如左侧以多大转矩加载多长时间，右侧以多大转矩加载多长时间。加载控制过程中自动记录加载数据，可生成报表，可储存打印。

The loading is simulated on both sides of the axle respectively, and the loading torque is adjustable respectively. Real-time detection of the respective loading torque, speed, power on both sides; The industrial computer automatically collects and detects parameters. The loading program on both sides of the axle can be set in the software. For example, the left side with how much torque loading for how long, the right side with how much torque loading for how long. In the process of loading control, the loading data is automatically recorded, and reports can be generated and stored and printed.

设备功能/Device function

1、可模拟车桥测功机起步加速性能测试，加载转矩连续可调；
2、检测左右输出端转矩、转速、功率；
3、可以对测试数据进行存储；
4、可以对测试曲线进行自动连续存储或按使用者的意愿进行手动存储；
5、具有历史数据曲线回放功能；
6、可以将试验数据及曲线导出，可以通过打印机对测试结果进行数据、曲线打印；
7、在 Windows 环境下运行，界面生动、美观；
8、多种加载方式可以手动、程控加载；

1, can simulate the starting acceleration performance test of the axle dynamometer, and the loading torque is continuously adjustable;
2, detect the left and right output torque, speed, power;
3, can store the test data;
4, the test curve can be automatically stored continuously or according to the user's wishes Willing to manually store;
5, with historical data curve playback function;
6, the test data and curves can be exported through the printer Print the data and curves of the test results;
7, running in Windows environment, the interface is vivid and beautiful;
8, a variety of loading methods can be manual, programmed loading;

试验项目/Pilot project

输入电压、电流、功率因数	Input voltage, current, power factor
左端输出转矩、转速、功率	Left end output torque, speed, power
右端输出转矩、转速、功率	Right end output torque, speed, power
振动噪音	Vibration noise

阀门/执行器扭矩测试台

VALVE/ACTUATOR TORQUE TESTER

产品介绍/Product introduction

本测试系统由立式磁粉制动器、转矩转速传感器、测试台架、执行器安装夹具、检测柜等组成，它可以任意改变被测电动执行器的负载，直接测量出执行器负载耐久状态下的输出转矩、转速。被测件：阀门、电动执行器、气动执行器等（回转角度小于 180 度、多圈旋转）我公司执行器测试台架有两种：执行器立式安装测试台架和执行器卧式测试台架。立式测试台架多用于重型执行器，方便通过起吊设备将执行器吊装到测试设备工作台面。卧式测试台架多用于轻型执行器，为方便安装，在执行器安装夹具上加装有丝杆进退机构，方便将执行器轻松推入测试工位检测，并在测试完毕轻松退出检测工位。

The test system is composed of vertical magnetic powder brake, torque speed sensor, test bench, actuator mounting fixture, detection cabinet, etc. It can arbitrarily change the load of the electric actuator under test, and directly measure the output torque and speed of the actuator under the durable state of load.Parts under test: valve, electric actuator, pneumatic actuator, etc. (rotation Angle less than 180 degrees, multi-turn rotation)There are two kinds of actuator test bench in our company: vertical actuator installation test bench and horizontal actuator test bench.Vertical test bench is mainly used for heavy actuators, which can be easily lifted to the workbench of test equipment by lifting equipment.Horizontal test bench is mostly used for light actuators. In order to facilitate installation, a lead screw advance and retreat mechanism is installed on the actuator installation fixture, which facilitates the actuator to be easily pushed into the test station for detection and easily exit the detection station after the test is completed.

设备功能/Device function

1、可对执行器模拟加载，加载转矩连续可调；

2、检测伺服电机不同转速下执行器正反转输出转矩；

3、可以对测试数据进行存储；

4、可以对测试曲线进行自动连续存储或按使用者的意愿进行手动存储；

5、具有历史数据曲线回放功能；

6、可以将试验数据及曲线导出，可以通过打印机对测试结果进行数据、曲线打印；

7、在 Windows 环境下运行，界面生动、美观；

8、多种加载方式可以手动、程控加载；

1、can simulate the loading of the actuator, and the loading torque is continuously adjustable

2、Detect the forward and reverse output torque of the actuator at different speeds of the servo motor;

3、Test data can be stored;

4、The test curve can be automatically and continuously stored or according to the user's intention Willing to carry out manual storage;

5、with the function of historical data curve playback;

6、can export the test data and curve, and print the data and curve of the test results through the printer;

7、In Windows, the interface is vivid and beautiful.

8、kinds of loading methods can be manual, program controlled loading.

试验项目/Pilot project

电参数：±0.5% F.S（电流、电压、功率因数、电功率）

Electrical parameters：±0.5% F.S (current, voltage, power factor, electrical power)

机 械：±0.2% F.S（转矩、转速、输出功率）

Machinery: ±0.2% F.S (torque, speed, output power)

效 率：±0.5% F.S　　Validity: ±0.5% F.S

台柜一体式电机对拖测试系统

CABINET INTEGRATED MOTOR TOWING TEST SYSTEM

产品介绍/Product introduction

电机对拖测试台的负载端采用电机进行加载， 被测电机由需方自行接线控制， 负载电机采用专用控制器对电机进行恒转矩控制并对被测电机进行加载测试，测试过程中负载电机作为发电机运行，发出的电能会用我司能耗电阻器直接发热耗电，保证整体平台的稳定运行。（电处理根据情况可以消耗、 并网、 回馈）；

电机对拖测试台主要用来测试电机的输入电压、 输入电流 （交流 / 直流）、 输入电功率、 功率因数 （交流）；输出转矩、 转速、 机械功率； 效率； 温升、 振动、 噪音等。 可进行电机的综合性能试验， 为电机厂家提供准确的参数依据；

电机对拖测试台可以测试各类异步电机、 同步电机、 永磁电机、 交流电机、 直流电机、 新能源电机等；

本测试台采用机柜一体式做平台， 节省空间、 更适用于教学演示和产品展示；

电机对拖测试台主要由被测电机、 转矩转速传感器、 模拟负载 （电机）、 安装平台、 连接夹具、 测控系统 （仪表、 软件等）、电气控制系统等组成。

The motor uses the motor to load the load end of the towed test bench, and the measured motor is controlled by the customer's own wiring. The load motor uses a special controller to control the constant torque of the motor and load the measured motor. During the test, the load motor operates as a generator, and the electric energy emitted by the load motor will be directly heated and consumed by the energy consumption resistor of our company to ensure the stable operation of the whole platform. (Electrical processing can be consumed, connected to the grid, and feedback according to the situation);

The motor towing test bench is mainly used to test the input voltage, input current (AC/DC), input power and power factor (AC) of the motor. Output torque, speed, mechanical power; Efficiency; Temperature rise, vibration, noise, etc. The comprehensive performance test of motor can be carried out to provide accurate parameter basis for motor manufacturers;

Motor towing test bench can test all kinds of asynchronous motor, synchronous motor, permanent magnet motor, AC motor, DC motor, new energy motor, etc.

The test bench uses a cabinet as a platform, which saves space and is more suitable for teaching demonstration and product display;

The motor towing test bench is mainly composed of the measured motor, torque speed sensor, analog load (motor), installation platform, connection fixture, measurement and control system (instrument, software, etc.), electrical control system, etc.

设备功能/Device function

1、 测试过程可手动加载， 可以将试验数据 (扭矩、 转速、 功率、 电压、 电流、 功率因数、 温度、振动、 噪音） 及曲线导出到 EXCEL 中并可以进行打印；
2、 能对电机进行耐久性和性能试验；
3、 能对电机的特定工况点进行测试；
4、 通过系统能实时显示电机的电压、 电流、 转矩、 转速、 功率数值；
5、 在 “ 选点测量 ” 方式下， 能实时显示采集数据和曲线；
6、 具有历史数据和曲线回放功能；

1, the test process can be manually loaded, you can test data (torque, speed, power, voltage, current, power factor, temperature, temperature, etc.) Vibration, noise) and curves are exported to Excel and can be printed;
2, the durability and performance of the motor can be tested;
3, can test the specific working conditions of the motor;
4, through the system can display the voltage, current, torque, speed, power value of the motor in real time;
5, in the "selected point measurement" mode, can display real-time acquisition data and curves;
6, with historical data and curve playback function;

试验项目/Pilot project

堵转试验 Locked-rotor test	电压电流 Voltage current	加载试验 Load test	功率因数 Power factor
效率试验 Efficiency test	温升试验（振动、噪音等）Temperature rise test (vibration, noise, etc.)		输出扭矩转速 Output torque speed
空载试验（计算三相电流不平衡度） No-load test (calculation of three-phase current imbalance)			输入功率输出功率 Input power Output power

三维台架电机扭矩加载测试系统

THREE - DIMENSIONAL BENCH MOTOR TORQUE LOADING TEST SYSTEM

产品介绍/Product introduction

电机对拖测试台的负载端采用电机进行加载， 被测电机由需方自行接线控制， 负载电机采用专用控制器对电机进行恒转矩控制并对被测电机进行加载测试，测试过程中负载电机作为发电机运行，发出的电能会用我司能耗电阻器直接发热耗电，保证整体平台的稳定运行。（电处理根据情况可以消耗、 并网、 回馈）；

电机对拖测试台主要用来测试电机的输入电压、 输入电流 （交流 / 直流）、 输入电功率、 功率因数 （交流）；输出转矩、 转速、 机械功率； 效率； 温升、 振动、 噪音等。 可进行电机的综合性能试验， 为电机厂家提供准确的参数依据；

电机对拖测试台可以测试各类异步电机、 同步电机、 永磁电机、 交流电机、 直流电机、 新能源电机等；

本测试台采用三维调节形式做平台， 可实现上下、 左右调节， 并方便更换不同规格的被测电机；

电机对拖测试台主要由被测电机、 转矩转速传感器、 模拟负载 （电机）、 安装平台、 连接夹具、 测控系统 （仪表、 软件等）、电气控制系统等组成。

The motor uses the motor to load the load end of the towed test bench, and the measured motor is controlled by the customer's own wiring. The load motor uses a special controller to control the constant torque of the motor and load the measured motor. During the test, the load motor operates as a generator, and the electric energy emitted by the load motor will be directly heated and consumed by the energy consumption resistor of our company to ensure the stable operation of the whole platform. (Electrical processing can be consumed, connected to the grid, and feedback according to the situation);

The motor towing test bench is mainly used to test the input voltage, input current (AC/DC), input power and power factor (AC) of the motor. Output torque, speed, mechanical power; Efficiency; Temperature rise, vibration, noise, etc. The comprehensive performance test of motor can be carried out to provide accurate parameter basis for motor manufacturers;

Motor towing test bench can test all kinds of asynchronous motor, synchronous motor, permanent magnet motor, AC motor, DC motor, new energy motor, etc.

The test bench adopts the three-dimensional adjustment form as the platform, which can realize the adjustment up and down, left and right, and facilitate the replacement of different specifications of the measured motor;

The motor towing test bench is mainly composed of the measured motor, torque speed sensor, analog load (motor), installation platform, connection fixture, measurement and control system (instrument, software, etc.), electrical control system, etc.

设备功能/Device function

1、 测试过程可手动加载， 可以将试验数据 (扭矩、 转速、 功率、 电压、 电流、 功率因数、 温度、振动、 噪音） 及曲线导出到 EXCEL 中并可以进行打印；

2、 能对电机进行耐久性和性能试验；

3、 能对电机的特定工况点进行测试；

4、 通过系统能实时显示电机的电压、 电流、 转矩、 转速、 功率数值；

5、 在 “ 选点测量 ” 方式下， 能实时显示采集数据和曲线；

6、 具有历史数据和曲线回放功能；

1, the test process can be manually loaded, you can test data (torque, speed, power, voltage, current, power factor, temperature, temperature, etc.) Vibration, noise) and curves are exported to Excel and can be printed;

2, the durability and performance of the motor can be tested;

3, can test the specific working conditions of the motor;

4, through the system can display the voltage, current, torque, speed, power value of the motor in real time;

5, in the "selected point measurement" mode, can display real-time acquisition data and curves;

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试验项目/Pilot project

堵转试验 Locked-rotor test	电压电流 Voltage current	加载试验 Load test	功率因数 Power factor
效率试验 Efficiency test	温升试验（振动、噪音等）Temperature rise test (vibration, noise, etc.)		输出扭矩转速 Output torque speed
空载试验（计算三相电流不平衡度） No-load test (calculation of three-phase current imbalance)		输入功率输出功率 Input power Output power	

手摇气动马达测试台

HAND OPERATED PNEUMATIC MOTOR TEST BENCH

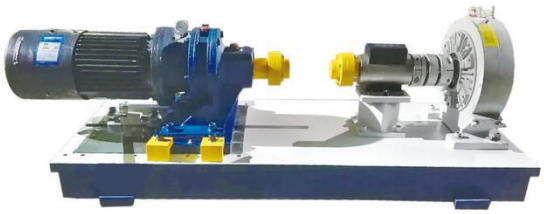
产品介绍/Product introduction

本设备由 HCNJ-101 转矩转速传感器、HN-201 转矩转速测量仪、WZ 系列电涡流制动器、加载控制器、轴承座、测试专用安装平板、测试专用联轴器、传感器垫块、防护罩组成，以人工手握被测件，使用测功机对被测件模拟加载。

This equipment is composed of HCNJ-101 torque speed sensor, HN-201 torque speed measuring instrument, WZ series eddy current brake, loading controller, bearing seat, special installation plate for testing, special coupling for testing, sensor pad and protective cover. The tested part is held manually, and the tested part is simulated loaded by dynamometer.

传动轴试验台

DRIVE SHAFT TEST BENCH



产品介绍/Product introduction

对传动轴及轴套拧紧，模拟动态拧紧及静态拧紧。动态拧紧指轴及轴套在旋转过程中逐步拧紧，静态拧紧指固定一端，对另一端施加拧紧转矩。

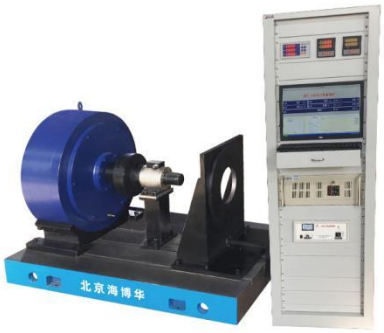
加载设备可适应不同轴及轴套长度，允许轴及轴套对换输入输出，轴及轴套的固定方式将来可能不同，可通过配置升级适应不同的轴及轴套。

Tighten the drive shaft and shaft sleeve to simulate dynamic and static tightening. Dynamic tightening means that the shaft and sleeve are gradually tightened during rotation, and static tightening means that one end is fixed and the other end is applied tightening torque.

Loading equipment can adapt to different coaxial and sleeve lengths, allowing shaft and sleeve to change input and output, shaft and sleeve fixed way may be different in the future, can be upgraded through configuration to adapt to different shaft and sleeve.

液压马达测试台

HYDRAULIC MOTOR TEST BENCH



产品介绍/Product introduction

液压马达是液压系统的一种执行元件，它将液压泵提供的液体压力能转变为其输出轴的机械能（转矩和转速）。对于马达生产厂家或者使用厂家，液压马达测试是必要的，这样才能判定所生产或者使用的马达的机械特性。

液压马达测试台由液压站、液压马达、扭矩传感器、电涡流制动器、测控系统组成。可测试液压马达的转矩、转速、功率；进口压力、出口压力、压差；循环流量、泄漏流量、容积效率、总效率；进、出口温度、温差等。

The hydraulic motor is an executive element of the hydraulic system, which converts the liquid pressure energy provided by the hydraulic pump into the mechanical energy of its output shaft (torque andRotational speed). For motor manufacturers or user manufacturers, hydraulic motor testing is necessary to determine the production or use of the motorMechanical properties.

The hydraulic motor test bench is composed of hydraulic station, hydraulic motor, torque sensor, eddy current brake and measurement and control system. Test hydraulic motorTorque, speed, power; Inlet pressure, outlet pressure, pressure difference; Circulation flow, leakage flow, volumetric efficiency, total efficiency; Inlet and outlet temperatureTemperature difference, etc.

螺旋桨测试台

PROPELLER TEST BENCH

产品介绍/Product introduction

本设备由电机与桨叶组成系统，电机带动桨叶回转，检测速度、转矩、反冲推力，检测数据实时显示，并可通过上位机储存、打印。在测试台上同时安装变矩机构（包括舵机），由舵机控制桨叶变角度。支承座用于固定舵机和桨叶。

This equipment is composed of a motor and blade system. The motor drives the blade to turn, detects speed, torque and recoil thrust, and displays the detection data in real time.And can be stored and printed through the upper computer. A torque converter (including steering gear) is installed on the test bench at the same time, and the steering gear controls the blade Angle change. Support seatUsed to fix the steering gear and blades.

推进器测试台

PROPELLER TEST STAND

产品介绍/Product introduction

对被测物模拟加载，加载阻尼连续可调。检测减速电机输出转矩、转速、功率，通过转矩转速测量仪实显示检测参数。本设备由安装平板、磁滞加载器、微量程转矩传感器、测试专用柔性联轴节、加载控制器、转矩转速功率测量仪组成。

Simulated loading of the measured object, and the loading damping is continuously adjustable. Detect the output torque, speed and power of the reducer motor, and display the test parameters through the torque speed measuring instrument. The device is composed of a mounting plate, a hysteresis loader, a micro-scale torque sensor, a flexible coupling for testing, a loading controller and a torque speed power measuring instrument.

磁性齿轮测试台

MAGNETIC GEAR TEST BENCH

产品介绍/Product introduction

对齿轮传动模拟加载，加载转矩连续可调；显示齿轮传动输出的转矩、转速、功率。减速电机提供驱动动力，轴承座可固定被测齿轮，防止由于磁力吸合引起测量误差减速电机与轴承座相对固定，可整体上下移动，调节两齿轮中心距，可通过表头显示两齿轮间隙扭矩传感器可检测齿轮传递出来的转矩、转速，磁滞加载器可接受控制器指令，对齿轮模拟加载。

The gear transmission is simulated loading, and the loading torque is continuously adjustable. Display the torque, speed and power output of the gear drive. The reducer motor provides driving power, and the bearing seat can fix the measured gear to prevent the measurement error caused by magnetic suction. The reducer motor and the bearing seat are relatively fixed, and can move up and down as a whole to adjust the center distance of the two gears. The torque sensor can detect the torque and speed transmitted by the gear through the meter head. Simulated loading of gears.

非圆带轮测试台

NON-CIRCULAR WHEEL TEST BENCH

产品介绍/Product introduction

本设备由安装台架（桌子）、电机安装支架、传感器垫块、测端安装支架、测端安装垫块、转矩转速传感器、转矩转速功率仪、角度传感器、一体式加载测功机、加载控制器、L 型支架、联轴节、移动滑台、升降工作台、安调、运输、工控机、（数据采集 / 工控机 / 工控柜 / 工控软件）以检测非圆带轮的性能参数。

The equipment consists of mounting bench (table), motor mounting bracket, sensor pad, measuring end mounting bracket, measuring end mounting pad, torque and speed sensor, torque and speed power meter, Angle sensor, integrated loading dynamometer, loading controller, L-bracket, coupling, moving slide table, lifting table, security adjustment, transportation, industrial computer, (data acquisition/industrial computer/industrial control cabinet) / Industrial control software) to detect the performance parameters of non-circular pulley.

液压扭矩扳手测试台

HYDRAULIC TORQUE WRENCH TEST BENCH

产品介绍/Product introduction

液压扭矩扳手测试台可检测扭矩扳手逆时间单向转矩，设备另配有仪表机柜，安装有工控机数据采集系统，配有定制软件，可自动采集被测件输出的转矩，可生成转矩与时间关系曲线，可生成报表，可储存、打印。

本设备由安装平台、静态转矩测量传感器、测矩主轴、支承座及仪表柜、转矩测量仪、工控机、专用测试软件组成。

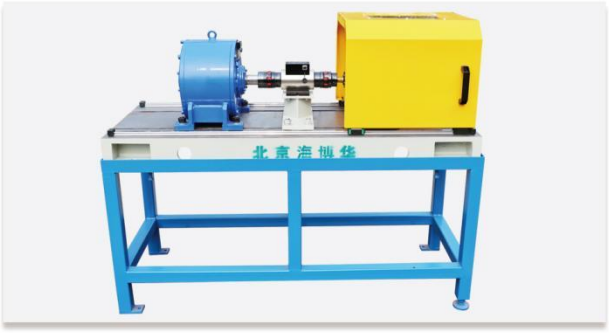
The hydraulic torque wrench test bench can detect the torque wrench reverse time one-way torque, the equipment is equipped with an instrument cabinet, installed with industrial computer data acquisition system, equipped with customized software, can automatically collect the torque output of the measured part, can generate torque and time curve, can generate reports, can be stored and printed.

The equipment is composed of installation platform, static torque measuring sensor, torque measuring spindle, supporting seat and instrument cabinet, torque measuring instrument, industrial computer and special testing software.

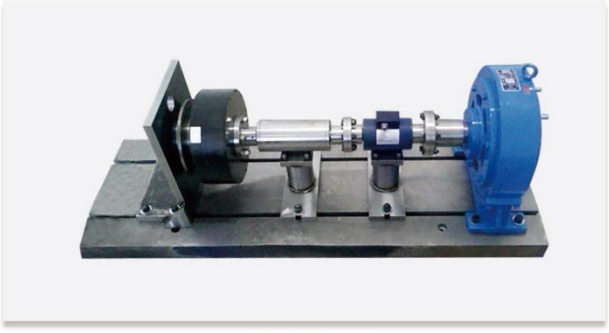
650KW电机加载测试台
650KW motor loading test bench

发动机测试台
Engine test stand

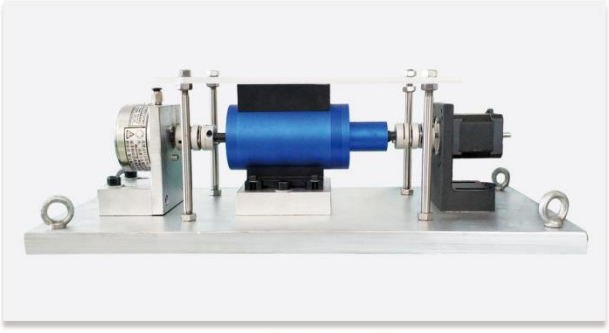
管状电机加载测试台
Tubular motor loading test bench



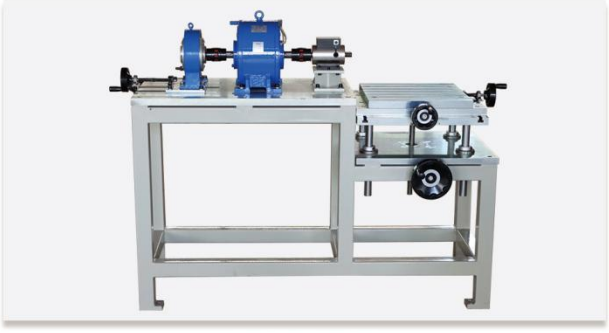
电机加载测试台
Motor loading test bench



轮毂电机测试台
Hub motor test bench

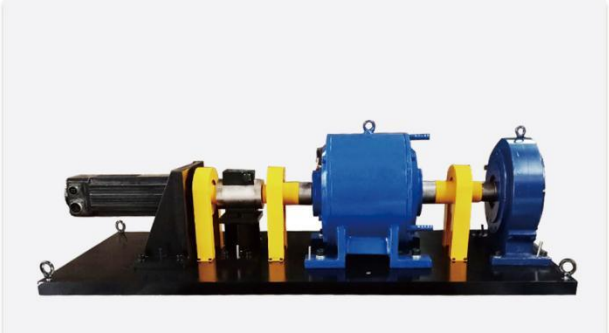


0.4KW电机加载测试台
0.4KW motor loading test stand

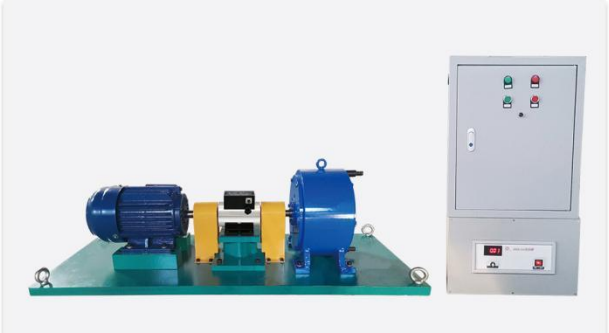


电机加载三维台
Motor loading 3D table

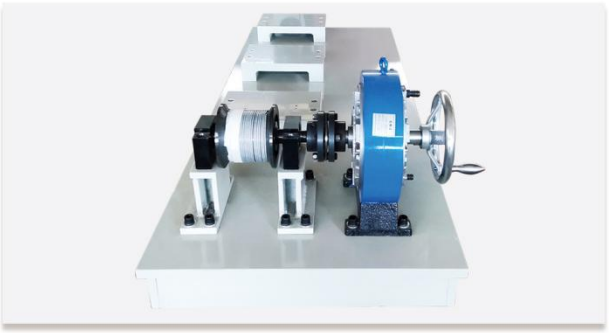
变桨电机测试台
Variable paddle motor test bench



1KW电机测试台电涡流磁粉串联
1KW motor test bench eddy current magnetic powder in series



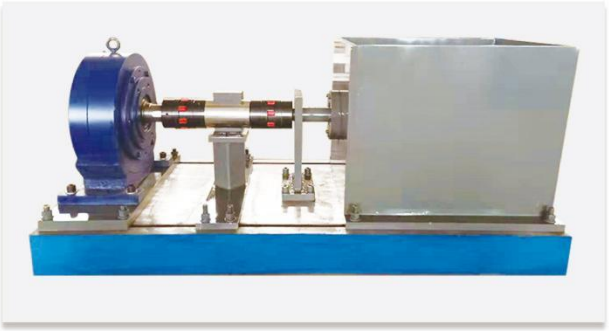
永磁同步电机加载测试台
Permanent magnet synchronous motor loading test bench



直线电机加载测试台
Linear motor loading test bench

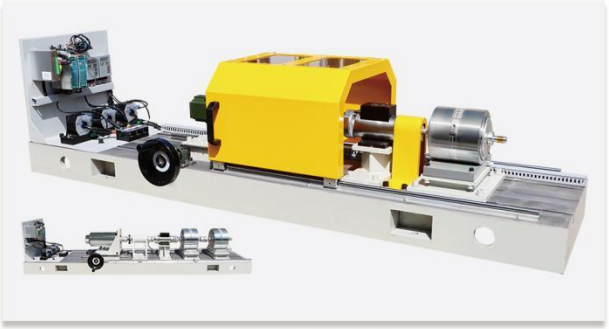
摩托发动机加载测试台
Motorcycle engine loading test bench

割草机加载测试台
Mower loading test bench



船用电机加载测试台
Marine motor loading test bench

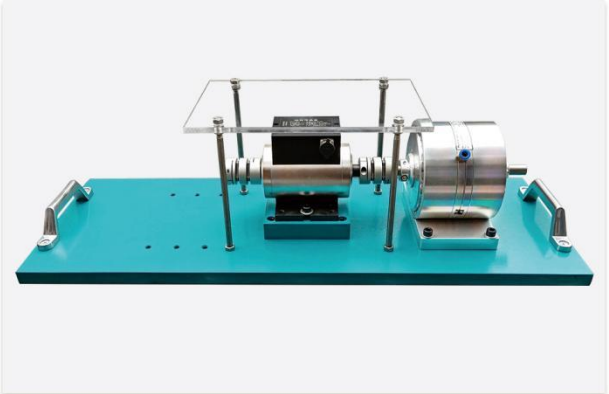
油泵电机测试台
Oil pump motor test bench



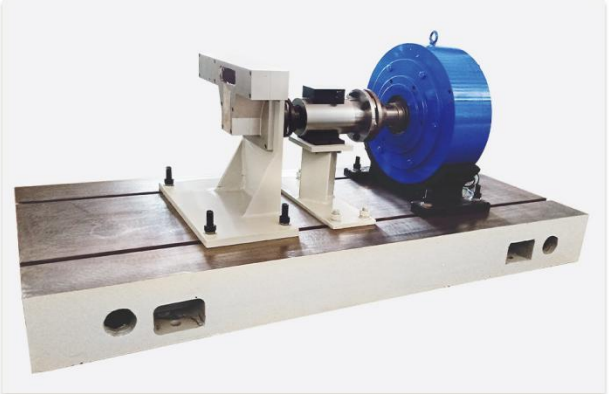
永磁同步电机加载测试台
Permanent magnet synchronous motor loading test bench

电机加载测试台
Motor loading test bench

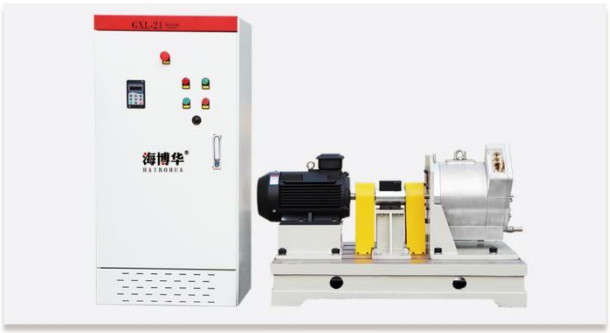
电机加载测试台
Motor loading test bench



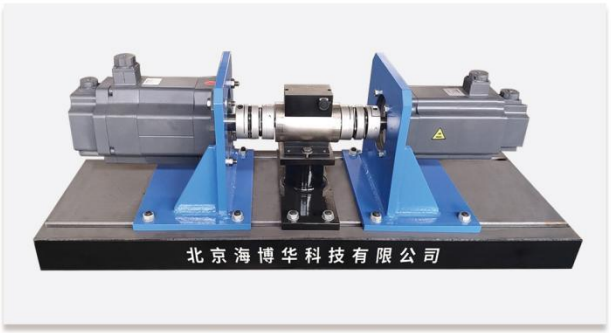
电机加载测试台
Motor loading test bench



舵机性能测试台
Steering gear performance test bench

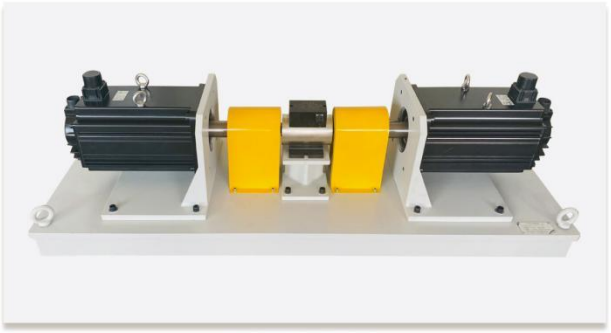


电机对拖测试台
Motor towing test bench



伺服电机对拖测试台
Servo motor towing test bench

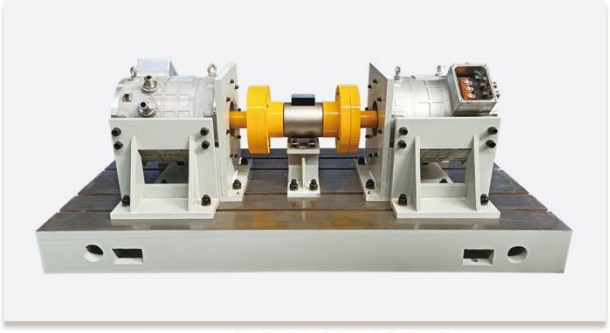
电机对拖式变速箱模拟加载测试台
Motor to drag transmission simulation loading test bench



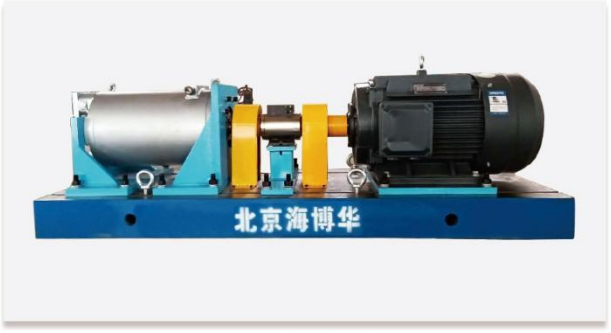
电机对拖测试台
Motor towing test bench

电机对拖测试台
Motor towing test bench

电机对拖测试台
Motor towing test bench



105KW 永磁同步电机对拖测试台
105KW permanent magnet synchronous motor towing test bench

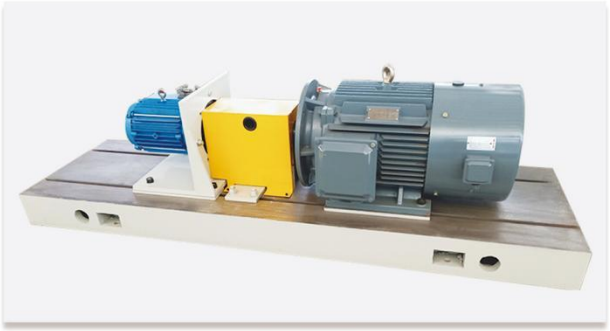


45KW电机对拖测试台
45KW motor towing test bench

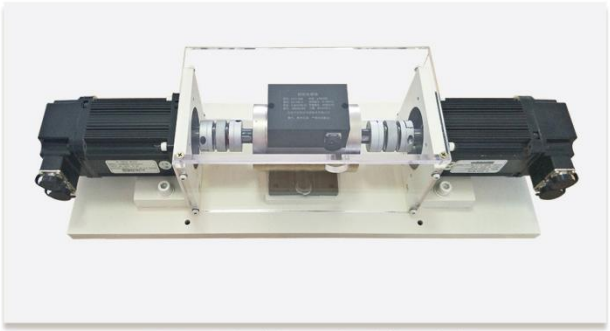
10KW电机对拖试验台
10KW motor towing test bench

11KW永磁同步电机对拖测试系统
11KW permanent magnet synchronous motor towing test system

11KW电机对拖测试台
11KWMotor towing test bench



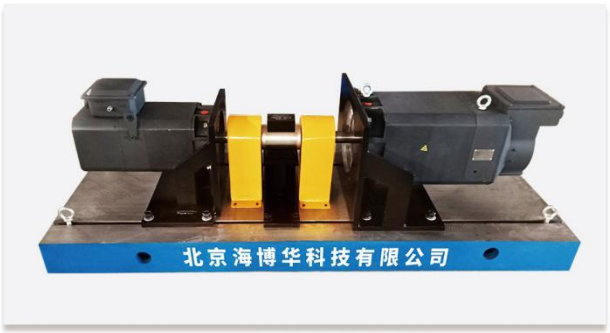
电机对拖测试台
Motor towing test bench



0.75KW交流伺服电机对拖测试台
0.75KW AC servo motor towing test bench

105KW异步变频电机对拖测试台
105KW asynchronous variable frequency motor towing test bench

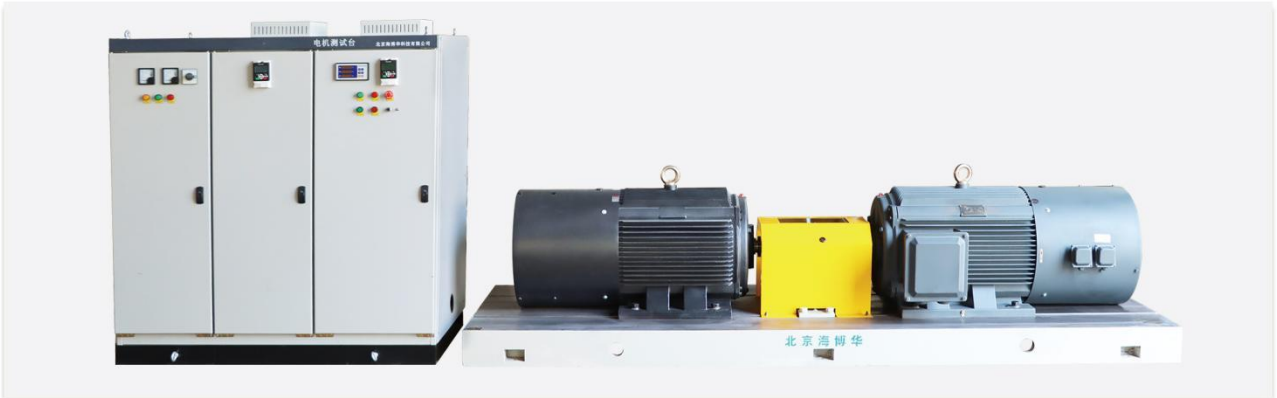
电机对拖测试台
Motor towing test bench



18.5KW伺服电机对拖测试台
18.5KW servo motor towing test bench

变频器电机对拖测试台
Inverter motor towing test bench

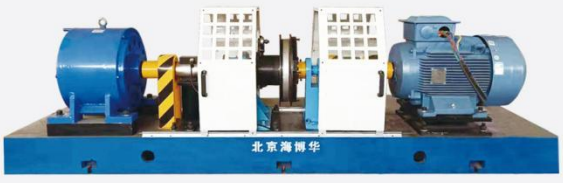
电机对拖测试台
Motor towing test bench



160KW电机驱动器对拖测试系统
160KW motor driver towing test system

齿轮减速箱性能测试台
Gear gearbox performance test bench

减速机效率测试台
Speed reducer efficiency test bench



磁力耦合器性能测试台
Magnetic coupler performance test bench

齿轮传动测试台
Gear drive test bench

变速箱性能测试台
Transmission performance test bench

减速机效率测试台
Speed reducer efficiency test bench

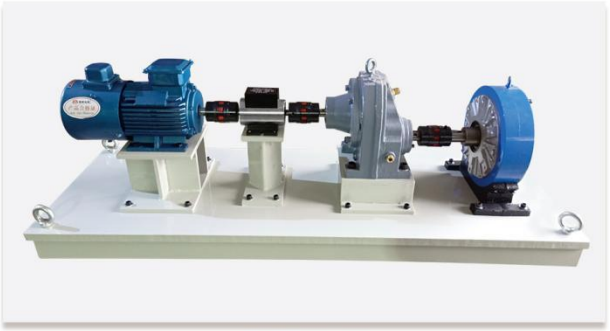
高低位减速机性能测试台
High and low speed reducer performance test bench

斜齿轮减速机测试系统
Helical gear reducer test system

离合器性能测试系统
Clutch performance test system

联轴器试验台
Coupling test bench

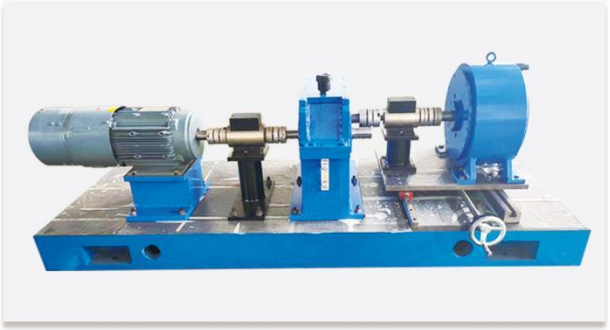
减速电机测试台
Gear motor test bench



减速机测试台
Reducer test bench

减速机测试系统
Reducer test system

电机性能测试台
Motor performance test bench

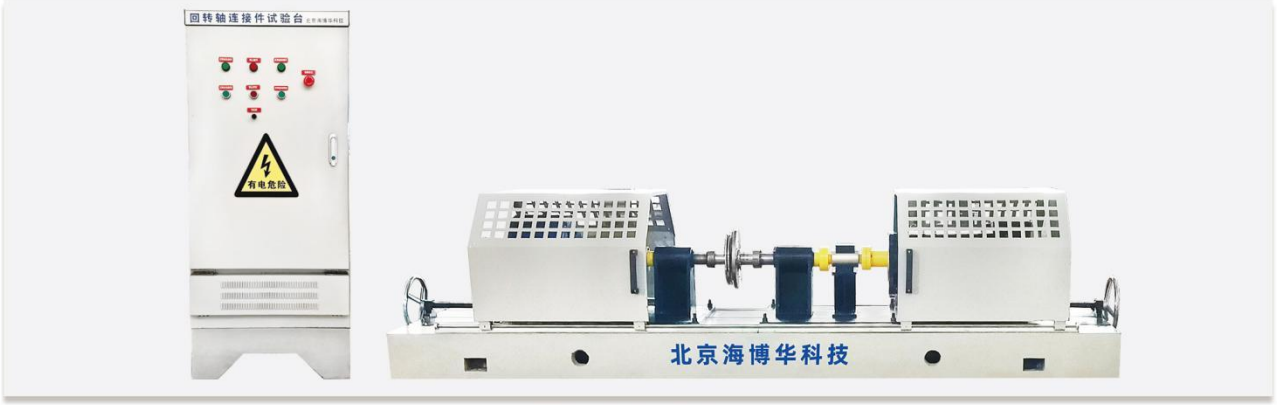


减速机测试台
Reducer test bench

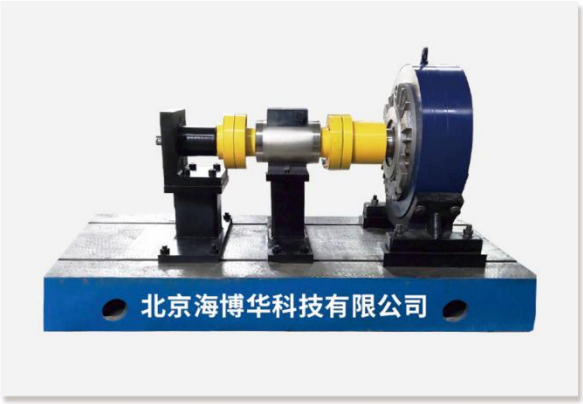
变速箱测试台
Transmission test stand

齿轮箱磨合试验台
Gear box run-in test bench

无人机变速箱测试台
Drone gearbox test bench



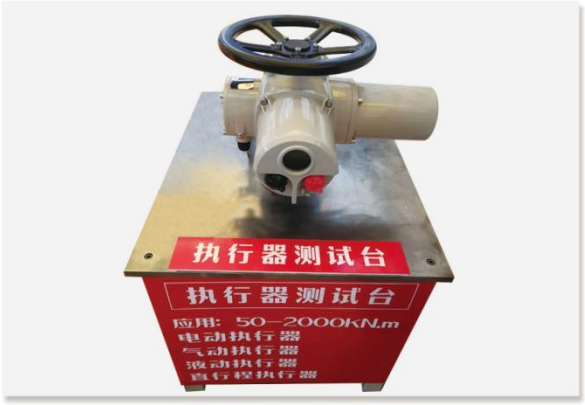
回转轴连接件测试台
Rotary shaft connection test bench



执行器测试台
Actuator test bench

阀门驱动扭矩测试台
Valve drive torque test bench

卧式阀门扭矩测试台
Horizontal valve torque test bench



执行器测试台（静态加载）
Actuator test bench (static loading)

卧式阀门扭矩测试台
Horizontal valve torque test bench

卧式阀门扭矩测试台
Horizontal valve torque test bench

阀门扭矩测试台
Valve torque test bench

立式执行器测试台
Vertical actuator test bench

阀门扭矩测试系统
Valve torque testing system

液压扭矩扳手测试系统
Hydraulic torque wrench test system

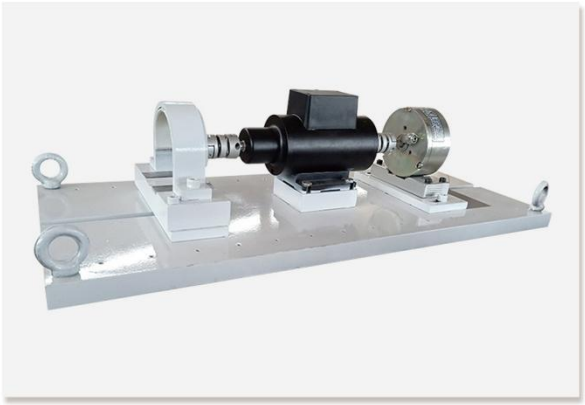
磁力耦合器测试系统
Magnetic coupler test system

电机对拖测试台
Motor towing test bench

磁性齿轮加载测试台
Magnetic gear loading test bench

非圆带轮测试系统
Non-circular pulley test system

轴承测试台
Bearing test bench



稀土永磁电机试验台
Rare earth permanent magnet motor test bed

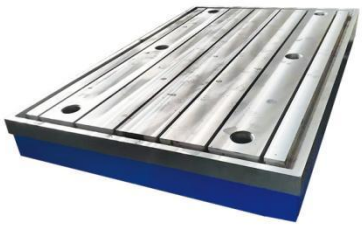
高压双联泵测试台
High pressure dual pump test bench

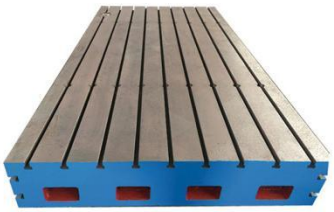
测试台配套产品

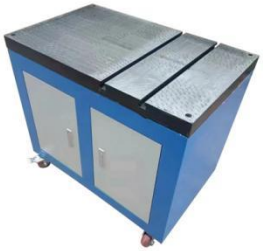
TEST BENCH SUPPORTING PRODUCTS

台式工控柜
Desktop industrial control cabinet

立式工控柜
Vertical industrial control cabinet







各类铸铁平台
Cast iron platform

电机夹具
Motor fixture

三维台支架
Three-dimensional table support

L型支架
L-bracket

梅花系列联轴器
Plum series coupling

拧紧力矩 Tightening moment (N.m)	1~75
额定扭矩 Rated torque (N.m)	1.5~430
最大扭矩 Maximum torque (N.m)	3~860
最高转速 Maximum speed (RPM)	19000~5500
惯性力矩 Moment of inertia ($kg.m^2$)	$1.0*10^{-7}$~$4.5*10^{-3}$
容许偏角 Allowable deflection Angle (°)	1
轴向偏差 Axial deviation (mm)	±0.6

十字滑块联轴器
Cross slide coupling

拧紧力矩 Tightening moment (N.m)	1.5~28
额定扭矩 Rated torque (N.m)	1.5~56
最大扭矩 Maximum torque (N.m)	3~110
最高转速 Maximum speed (RPM)	7000~2500
惯性力矩 Moment of inertia ($kg.m^2$)	$1.5*10^{-7}$~$3.5*10^{-4}$
容许偏角 Allowable deflection Angle (°)	3
轴向偏差 Axial deviation (mm)	±0.2

法兰单膜片联轴器
Flanged single diaphragm coupling

拧紧力矩 Tightening moment (N.m)	1.5~16
额定扭矩 Rated torque (N.m)	5~82
最大扭矩 Maximum torque (N.m)	10~160
最高转速 Maximum speed (RPM)	11000~8000
惯性力矩 Moment of inertia ($kg.m^2$)	$7.2*10^{-6}$~$1.8*10^{-4}$
容许偏角 Allowable deflection Angle (°)	1
轴向偏差 Axial deviation (mm)	±0.18~±0.2

法兰双膜片联轴器
Flanged double diaphragm coupling

拧紧力矩 Tightening moment (N.m)	1.5~16
额定扭矩 Rated torque (N.m)	5~82
最大扭矩 Maximum torque (N.m)	10~160
最高转速 Maximum speed (RPM)	11000~8000
惯性力矩 Moment of inertia ($kg.m^2$)	$9.8*10^{-6}$~$1.4*10^{-3}$
容许偏角 Allowable deflection Angle (°)	1.5
轴向偏差 Axial deviation (mm)	±0.18~±0.2

合金单膜片
Alloy single diaphragm

拧紧力矩 Tightening moment (N.m)	0.8~16
额定扭矩 Rated torque (N.m)	2~255
最大扭矩 Maximum torque (N.m)	4~510
最高转速 Maximum speed (RPM)	10000~4000
惯性力矩 Moment of inertia ($kg.m^2$)	$6.7*10^{-7}$~$1.8*10^{-3}$
容许偏角 Allowable deflection Angle (°)	1
轴向偏差 Axial deviation (mm)	±0.09~±0.2

合金双膜片
Alloy double diaphragm

拧紧力矩 Tightening moment (N.m)	0.8~16
额定扭矩 Rated torque (N.m)	2~255
最大扭矩 Maximum torque (N.m)	4~470
最高转速 Maximum speed (RPM)	10000~4000
惯性力矩 Moment of inertia ($kg.m^2$)	$6.7*10^{-7}$~$1.8*10^{-3}$
容许偏角 Allowable deflection Angle (°)	1
轴向偏差 Axial deviation (mm)	±0.09~±0.2

波纹管联轴器
Bellows coupling

拧紧力矩 Tightening moment (N.m)	1.2~20
额定扭矩 Rated torque (N.m)	2.2~102
最大扭矩 Maximum torque (N.m)	5.6~204
最高转速 Maximum speed (RPM)	7600~3500
惯性力矩 Moment of inertia ($kg.m^2$)	$2.2*10^{-6}$~$6.0*10^{-6}$
容许偏角 Allowable deflection Angle (°)	2~5
轴向偏差 Axial deviation (mm)	±0.3~±1.5

十字滚针万向节联轴器
Cross needle roller universal joint coupling

拧紧力矩 Tightening moment (N.m)	1.5~16
额定扭矩 Rated torque (N.m)	35~350
最大扭矩 Maximum torque (N.m)	70~700
最高转速 Maximum speed (RPM)	4000
惯性力矩 Moment of inertia ($kg.m^2$)	$2.2*10^{-6}$~$6.0*10^{-6}$
容许偏角 Allowable deflection Angle (°)	40
轴向偏差 Axial deviation (mm)	±0.012

单路信号转换模块

SINGLE CHANNEL SIGNAL CONVERSION MODULE

产品介绍/Product introduction

E单路信号转换模块作为 HCNJ系列动态扭矩传感器的配套产品，是将扭矩传感器输出信号进行精密放大，线路内部进行稳压、恒流供桥、电压电流转换阻抗适配，线性补偿，温度补偿等，将力学量转换成标准电流、电压信号输出:4~20mA、1-5V或RS232/RS485 通讯接口后，直接与自动控制设备接口或与计算机联网。

E single-channel signal conversion module, as a supporting product of HCNJ series dynamic torque sensor, is to precisely amplify the output signal of the torque sensor, perform voltage regulation, constant current supply bridge, voltage and current conversion impedance adaptation, linear compensation, temperature compensation, etc., inside the line. The mechanical quantity is converted into standard current and voltage signal output :4~20mA, 1-5V or RS232/RS485 communication interface, directly interface with automatic control equipment or network with the computer.

产品特点/Product characteristics

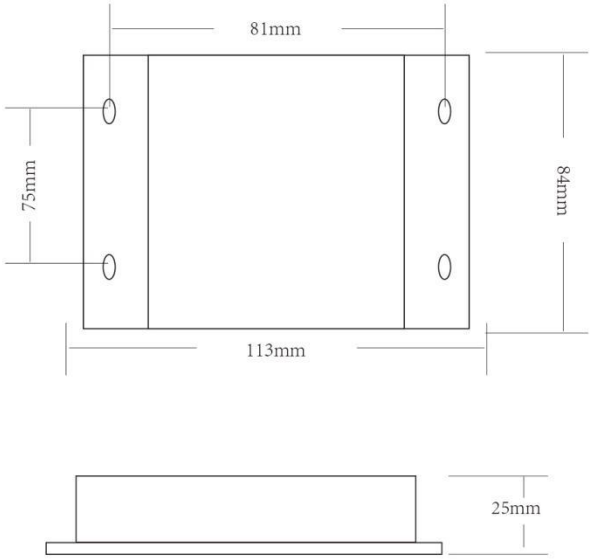
1、接动态扭矩传感器，将扭矩信号转换为标准的电压或者电流或者通讯信号；

2、电源具有反接保护、浪涌防护、过流保护功能；

3、拥有输出精度高、抗干扰能力强、稳定性好、使用寿命长的优点。

1. Connect the dynamic torque sensor to convert the torque signal into a standard voltage or current or communication signal;
2, the power supply with reverse protection, surge protection, overcurrent protection function;
3. It has the advantages of high output accuracy, strong anti-interference ability, good stability and long service life.

结构示意图/Structure diagram



技术参数/Technical parameter

技术参数 Technical parameter	技术指标 Technical index
额定输入 Rated input	动态扭矩信号 5-15KHZ Dynamic torque signal 5-15khz
额定输出 Rated output	4-20mA，0-5V，0-10V，±5V，±10V，RS232 或 RS485 等
非线性 nonlinearity	≤±0.05%F·S
供电电压 Supply voltage	24VDC
接线方式 Connection mode	红线：电源 +；绿线：电源地；黄线：扭矩信号 +；蓝线：扭矩转速信号公共地 Red line: Power +; Green line: power source; Yellow line: torque signal +; Blue line: Torque speed signal public

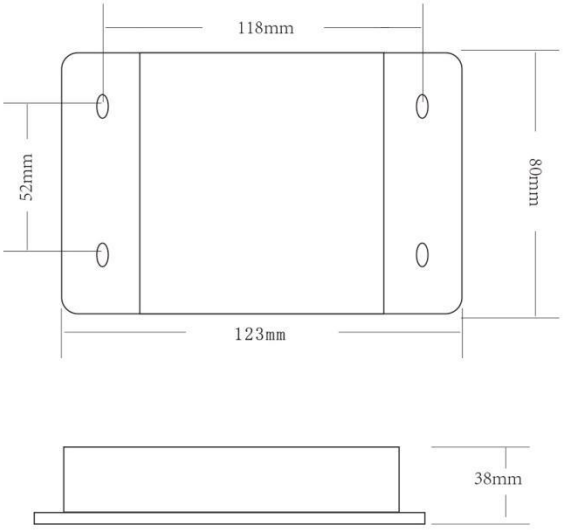
双路信号转换模块
DUAL SIGNAL CONVERSION MODULE

产品介绍/Product introduction

F双路信号转换模块作为HCNJ系列动态扭矩传感器的配套产品，是将扭矩传感器输出信号进行精密放大，线路内部进行稳压、恒流供桥、电压电流转换，阻抗适配，线性补偿，温度补偿等，将力学量转换成标准电流、电压信号输出：4～20mA、1-5V或RS232/RS485通讯接口后，直接与自动控制设备接口或与计算机联网。

F dual signal conversion module as HCNJ series dynamic torqueThe supporting product of the sensor is the output signal of the torque sensorPrecision amplification, voltage regulation, constant current bridge supply, voltage electricity inside the lineCurrent conversion, impedance adaptation, linear compensation, temperature compensation, etc., will forceVolume conversion into standard current, voltage signal output: 4 ~ 20mA,After 1-5V or RS232/RS485 communication interface, direct with automatic controlDevice interface or network with computer.

结构示意图/Structure diagram



产品特点/Product characteristics

1、接动态扭矩传感器，将扭矩信号和转速信号两者转换为标准的电压或者电流或者通讯信号；

2、电源具有反接保护、浪涌防护、过流保护功能；

3、拥有输出精度高、抗干扰能力强、稳定性好、使用寿命长的优点。

1, the dynamic torque sensor, the torque signal and speed signal into a standard voltage or current or communication signal;
2, the power supply with reverse protection, surge protection, overcurrent protection function;
3. It has the advantages of high output accuracy, strong anti-interference ability, good stability and long service life.

技术参数/Technical parameter

技术参数 Technical parameter	技术指标 Technical index
额定输入 Rated input	动态扭矩信号 5-15KHZ, 转速信号 60 脉冲 / 转 Dynamic torque signal 5-15khz, speed signal 60 pulse/revolution
扭矩额定输出 Rated torque output	4-20mA，0-5V，0-10V，±5V，±10V，RS232 或 RS485 等
转速额定输出 Rated output of speed	4-20mA，0-5V，0-10V，RS432 或 RS485 等
非线性 nonlinearity	≤±0.05%F·S
供电电压 Supply voltage	24VDC
接线方式 Connection mode	模拟量输出：红线：电源 +；绿线：电源地；黄线：扭矩信号输出；白线：转速信号输出；蓝线：扭矩、转速公共地；银色：屏蔽线。通讯输出：红线：电源 +；绿线：电源地；黄线：485+；蓝色：485- Analog output: Red line: Power +; Green line: power source; Yellow line: torque signal output; White line: speed signal output; Blue line: torque, speed common; Silver: Shielding cable. Communication output: Red line: Power +; Green line: power source; Yellow line: 485+; Blue: 485-

HN-201 扭矩功率仪

HN-201 TORQUE POWER METER

产品介绍/Product introduction

HN-201扭矩转速功率仪专门配套HCNJ系列动态扭矩传感器使用。输入信号5-15KHZ和60脉冲/转，可以现场显示扭矩、转速和功率3个参数，并标配清零、扭矩转速两路4-20mA变送、RS485通讯接口等功能。

HN-201 Torque speed power meter is specially used with HCNJ series dynamic torque sensor. Input signal 5-15KHZ and 60 pulse/RPM, can display torque, speed and power 3 parameters, and standard with zero, torque speed two 4-20mA transmission, RS485 communication interface and other functions.

尺寸 size	A 外型盘装 160X80X170mm，开孔尺寸：152X76mm 包括液晶显示和数码管显示 2 种； T 外形台式放置：270X106X220mm。 A appearance plate installed 160x80x170mm, opening size: 152X76mm, including LCD display and digital tube display two kinds; T shape desktop placement: 270x106x220mm.
电源 The power supply	仪表电源：220VAC 功耗：低于 15VA Meter power supply: 220VAC power consumption: less than 15VA
外供电源 The power source	±15VDC 或 24VDC 二者选其一，负载能力大于 300mA It can be ±15VDC or 24VDC. The load capacity is greater than 300mA
使用环境 Using the environment	-10°C~70°C，湿度 0~90%RH, 不结露。 -10°C~70°C, humidity 0~90%RH, no condensation.
测量分辨率 Measurement resolution	仪表内部测量分辨率可达 1/1000000, 显示分辨率受 5 位显示数码管限制，显示分辨率为 1/120000 The internal measurement resolution of the instrument can reach 1/1000000, and the display resolution is limited by the 5-bit display digital tube, and the display resolution is 1/120000
测量速度 Measurement speed	每秒 25 次 25 times per second
显示范围 Display range	扭矩测量：-99999~99999Nm，显示取绝对值：0~99999Nm，小数点位置可设定 转速显示：0~99999，小数点位置可设定 功率显示：0 ～ 99999，小数点自动调节 Torque measurement: -99999~99999Nm, display absolute value: 0~99999Nm, decimal point position can be set Speed display: 0~99999, decimal point position can be set power display: 0~99999, decimal point automatic adjustment
脉冲输入信号 Pulse input signal	各种 NPN、PNP、OC 门输出的传感器信号、接近开关，旋转编码器 All kinds of NPN, PNP, OC gate output sensor signal, proximity switch, rotary encoder
测量频率 Measure the frequency	转速脉冲输入 0.3HZ ～ 20KHZ 扭矩脉冲输入 5KHZ ～ 15KHZ，可扩展至 1HZ~60KHZ Speed pulse input 0.3Hz ~ 20KHz Torque pulse input 5KHz ~ 15KHz, can be extended to 1HZ~60KHZ
标配变送输出 Standard transformer output	测量刷新频率：每秒 30 次，适用于快速反应场合。光电隔离 2 路 4MA~20MA 直流电流输出。 输出分辨率：1/4000；误差小于 ±0.2% F·S，负载能力：小于等于 600Ω Measurement refresh rate: 30 times per second, suitable for rapid response applications. Photoelectric isolation 2 channels of 4mA~20mA DC current output. Output resolution: 1/4000; Error less than ±0.2% F·S, load capacity: less than or equal to 600 Ω
可选串口通讯 Optional serial port communication	可选配串口打印功能，配接标准的的串口打印机，直接支持中文型，中文型打印形式安排可根据客户要求做改动。 Optional serial port printing function, with a standard serial port printer, directly support Chinese type, Chinese type printing arrangement can be changed according to customer requirements.

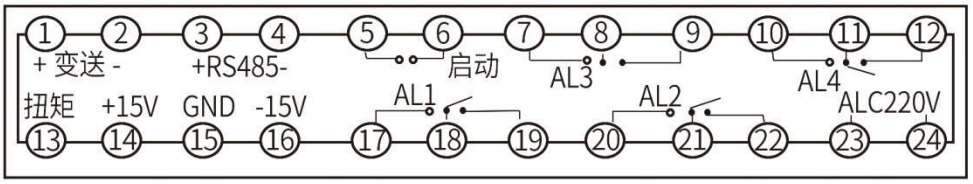
XSKM 转矩控制仪

XSKM TORQUE CONTROLLER

产品介绍/Product introduction

XSKM转矩控制仪配接HCNJ脉冲输出的扭矩传感器，输入信号范围10HZ ~ 25KHZ，-般配接5KHZ ~15KHZ的传感器。可实时显示扭矩测量值，带上下限两点报警输出。

XSKM torque controller is equipped with HCNJ pulse output torque sensor, input signal range 10HZ ~ 25KHZ, - matched with 5KHZ ~15KHZ sensor. Torque measurement can be displayed in real time, with two lower limit alarm output.



尺寸 size	外形尺寸：160X80X115mm 开孔尺寸：152X76mm Overall size: 160X80X115mm Opening size: 152X76mm
电源 The power supply	220VAC，功耗小于 10VA 220VAC, power consumption less than 10VA
外供电源 The power source	±15VDC 或 24VDC 二者选其一 Choose from ±15VDC or 24VDC
工作环境 The work environment	工作温度范围 -10°C~60°C；工作湿度范围 0~98%RH 无结露 Operating temperature range -10°C~60°C; Operating humidity range 0~98%RH No condensation
通讯 communication	RS232 或 RS485 二者选其一，打印功能光电隔离，默认 9600 波特率，通讯地址由 ADD 参数设置 Optional RS232 or RS485, printing function photoelectric isolation, default 9600 baud rate, communications address set by ADD parameter
测量速度 Measurement speed	0.1 级精度，测控速度每秒 10 次。 0.1 precision, measurement and control speed of 10 times per second.
显示范围 Display range	扭矩测量：-99999~99999Nm，显示取绝对值：0~99999Nm，小数点位置可设定 Torque measurement: -99999~99999Nm, display absolute value: 0~99999Nm, decimal point position can be set
脉冲输入信号 Pulse input signal	各种 NPN、PNP、OC 门输出的传感器信号、接近开关，旋转编码器。独特的数字滤波功能，当信号不稳定时，需加大数字滤波设定值，即可稳定测量。 All kinds of NPN, PNP, OC gate output sensor signal, proximity switch, rotary encoder. Unique digital filter function, when the signal is unstable, need to increase the digital filter set value, can be stable measurement.
测量频率 Measure the frequency	扭矩脉冲输入 5KHZ ～ 15KHZ，可扩展至 1HZ~60KHZ Torque pulse input 5KHz ~ 15KHz, can be extended to 1HZ~60KHZ
变送输出 Analog output	光电隔离 1 路 4mA~20mA 直流电流输出。输出分辨率：1/4000；误差小于 ±0.2% F·S， 负载能力：小于等于 600Ω Photoelectric isolation 1 channel 4mA~20mA DC current output. Output resolution: 1/4000; Error less than ±0.2% F·S, load capacity: less than or equal to 600 Ω
报警功能 Alarm function	带报警锁定功能，可通过参数设置是否打开报警锁定功能。带报警延时功能，防止报警误动作，经延时确认后才输出报警，也可通过设置参数取消报警延时。报警：最多可选配 8 点报警输出，每点报警的方式可设定，每点报警的回差可设定，前两点的报警延时可单独设定 With alarm lock function, you can set whether to enable alarm lock function. With alarm delay function, prevent alarm misaction, the output alarm after the delay confirmation, also can cancel the alarm delay by setting parameters. Alarm: up to 8 points of alarm output can be selected, the way of alarm at each point can be set, the return error of alarm at each point can be set, and the alarm delay of the first two points can be set separately
注 note	可根据用户要求定做，适应专用行业需求 Can be customized according to user requirements, to meet the needs of special industry

8710C 单相电参数测试仪

8710C SINGLE-PHASE ELECTRICAL PARAMETER TESTER

产品介绍/Product introduction

基本测量精度:0.2%，提供电压、电流、功率、功率因数、频率等参数测试，电流量程切换、RMS/AC/DC切换、RS232/485,通讯功能可设置上下限报警功能(声光报警)。

Basic measurement accuracy :0.2%, provide voltage, current, power, power factor, frequency and other parameters test, current range switching, RMS/AC/DC switching, RS232/485, communication function can set the upper and lower limit alarm function (sound and light alarm).

技术参数/Technical parameter

输入方式 Input mode	电压、电流均为浮值输入 Both voltage and current are input with floating values
输入阻抗 The input impedance	电压输入阻抗约为2MΩ、电流输入阻抗抵挡约0.5Ω，高档约4mΩ voltage input impedance is about 2MΩ, current input impedance is about 0.5 Ω, high-grade about 4m Ω
	-外部传感器信号输入端子输入阻抗根据输入电压变化而变化 The input impedance of the signal input terminal of the external sensor varies according to the input voltage
A/D转换 A/D conversion	采样周期月70μS，24位，电压、电流同时采样 sampling cycle month 70μS, 24 bits, voltage, current sampling at the same time
校零方式 Zero way	每次换量程时或每次改变测量模式时校准零点 calibrate zero at each change of range or change of measurement mode
显示方式 Display mode	4窗口LED显示 4 window LED display
显示更新 Display update	显示刷新周期0.05秒~5秒可设 Display refresh period is set to 0.05s to 5s
仪表重量 Meter weight	约2.8KG about 2.8kg
仪表外形最大尺寸 Maximum size of the meter	宽X高X深（223.5X107.5X380） W X H X D (223.5x107.5x380)
大气压力 Atmospheric pressure	86kPa~106kPa
温度 temperature	（0~40）℃
相对湿度 Relative humidity	≤85%RH
仪表工作电源 Instrument power supply	AC（100~265）V 50/60Hz

8920三相电参数仪

8920 THREE-PHASE ELECTRICAL PARAMETER INSTRUMENT

产品介绍/Product introduction

基本测量精度0.2%,提供电压、电流、功率、寄份功率、频率、谐波测量等参数测试,满足直流、交流信号(0.5HZ~2000HZ)， 三通道功率输入单元(5A/40A/ 外扩电流钳)，适用于变频家电、电机、开关电源等对采样率有较高要求的测量领域。

Basic measurement accuracy 0.2%, provide voltage, current, power, sending power, frequency, harmonic measurement and other parameters test, meet the DC, AC signal (0.5HZ~2000HZ), three-channel power input unit (5A/40A/ external expansion current clamp), It is suitable for variable frequency household appliances, motors, switching power supplies and other measurement fields that have high sampling rate requirements.

技术参数/Technical parameter

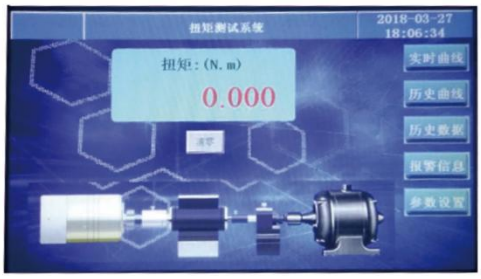
输入方式 Input mode	电压、电流均为浮值输入 Both voltage and current are input with floating values
输入阻抗 The input impedance	电压输入阻抗约为2MΩ、电流输入阻抗约4mΩ The voltage input impedance is about 2M Ωand the current input impedance is about 4m Ω
	外部传感器信号输入端子输入阻抗根据输入电压变化而变化 The input impedance of the signal input terminal of the external sensor varies according to the input voltage
A/D转换 A/D conversion	采样速度为8000次/S，24位，电压、电流同时采样 Sampling speed is 8000 times /s, 24 bits, voltage and current are sampled simultaneously
校零方式 Zero way	每次换量程时或每次改变测量模式时校准零点 calibrate zero at each change of range or change of measurement mode
显示方式 Display mode	7窗口LED显示 7window LED display
整机功耗 The machine power consumption	＜10VA
仪表重量 Meter weight	约5KG about 5kg
仪表外形最大尺寸 Maximum size of the meter	宽X高X深（223.5X151.5X384） W X H X D (223.5x151.5x384)
大气压力 Atmospheric pressure	86kPa~106kPa
温度 temperature	(0~40）℃
相对湿度 Relative humidity	≤85%RH
仪表工作电源 Instrument power supply	AC 85V~265V 50/60Hz

TPC触摸屏显示器

TPC TOUCH SCREEN DISPLAY

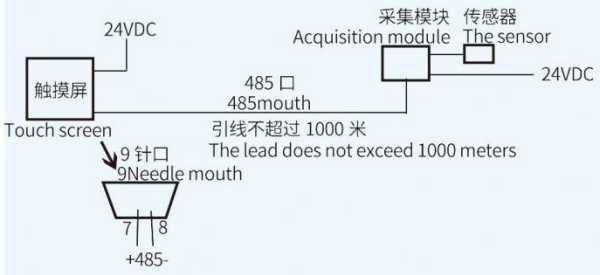
产品介绍/Product introduction

屏幕采用7英寸电阻式触摸屏,全中文显示操作方便,不用看复杂的说明书,就可以直接操作。广泛应用于工业控制和数据记录的场合，节省电.脑，不用再费心的安装软件，也省去了繁琐的调试和驱动安装过程。把各个部件连接上就可以使用。可以将数据的Excel表格导出到U盘，以便客户进一步的分析数据;可以数据删除，报警信息存储;可以将触摸屏和传感器分开安装，触摸屏和传感器最远可以达到1公里。



Screen adopts 7-inch resistive touch screen, all Chinese display is easy to operate, do not need to read complex instructions, you can directly operate. Widely used in industrial control and data recording occasions, save electricity. Brain, no need to bother with the installation of software, but also save the tedious debugging and drive installation process. Connect the parts together and you can use them. The Excel table of the data can be exported to the U disk, so that customers can further analyze the data; Can delete data, alarm information storage; The touch screen and sensor can be installed separately, and the touch screen and sensor can reach up to 1 km.

接线方式/Connection mode



接线方式:触摸屏与采集模块之间联线一共有2根，485+和485-。一般情况下都已经甩出线头，并且都标注好了，如果现场不需要加长引线的情况下，直接将采集模块的485+和触摸屏的485+相连，把采集模块的485-同触摸屏的485-相连即可。

Wiring mode: There are 2 cables between the touch screen and the acquisition module, 485+ and 485-. Under normal circumstances, the wire head has been thrown out, and are marked well, if the field does not need to extend the lead, directly connect the 485+ of the acquisition module and the 485+ of the touch screen, and connect the 485 of the acquisition module with the 485 of the touch screen.

尺寸 size	外形尺寸：202X150X45mm，开孔尺寸：191X137mm OVERALL SIZE: 202X150X45MM, OPENING SIZE: 191X137MM
供电 Power supply	24V 供电，功耗小于 30W Dynamic torque signal 5-15khz, speed signal 60 pulse/RPM
工作环境 Working environment	湿度范围：5%RH~90%RH Humidity range: 5%-90% RH
功能 Feature	最多可以连接 16 路传感器信号；可以将数据存到 U 盘；数据删除。数据存储满后会自动覆盖最早的数据；报警信息存储。可以设置曲线的最大值和最小值，设置上、下限报警值；具有清零功能。 Up to 16 sensor signals can be connected; Data can be saved to the U disk; Data deletion. Data is automatically overwritten when the data store is fullEarly data; Alarm information storage. You can set the maximum and minimum value of the curve, set the upper and lower limit alarm value; With zero clearing function.
造型 moulding	选型 : TPC - □(配接的所有仪表或传感器模块型号并备注具体数量和通道数)- □(总共通道数)-√(通道之间是否有关联运算 :Y 为有关联运算，N 为无关联运算，有关联运算时需备注具体关联运算 .) 可以选型的配接仪表或传感器模块有，模拟量压力和温度，扭矩等传感器模块，脉冲输入的扭矩传感器模块，或所有自产仪表。 Type selection: TPC - □(Models of all meters or sensor modules with specific quantity and channelnumber)- □(Total number of channels)-√(Whether related connection calculation between channels :Y refers to related connection calculation, N refers to no connection calculation, specific connection calculation should be noted when related connection calculation.) You can select the connection meter or sensor module, analog pressure and temperature sensor module, torque sensor module, pulse input torque sensor module, or all homemade meters.
安装说明 Installation instructions	触摸屏到传感器采集模块之间是通过 485 接口连接的引线最长不能超过 1000 米 . The lead wire connecting the touch screen to the sensor acquisition module through the 485 interface cannot exceed 1000 meters.
备注 remark	触摸屏已过 CE 认证 EN55022 EN55024 已过 FCC 认证 PART15 电磁兼容 符合工业三级标准。 防护等级 IP65(前面板)。 The touchscreen has passed the CE certification EN55022 EN55024 FCC certification PART15 Electromagnetic compatibility with industrial level 3 standards. Protection grade IP65(front panel).

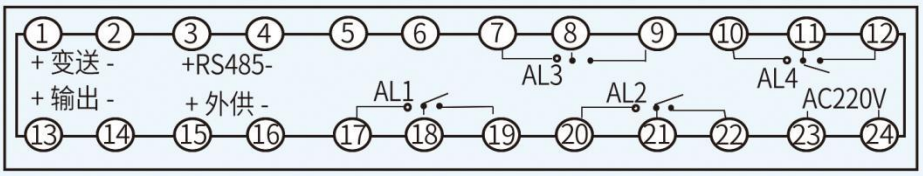
XSE5 静态转矩控制仪

XSE5 STATIC TORQUE CONTROLLER

产品介绍/Product introduction

XSE5扭矩显示仪是专i门]配套HCNJ系列静态扭矩传感器使用，现场显示扭矩值，带两点报警功能,路变送输出功能。

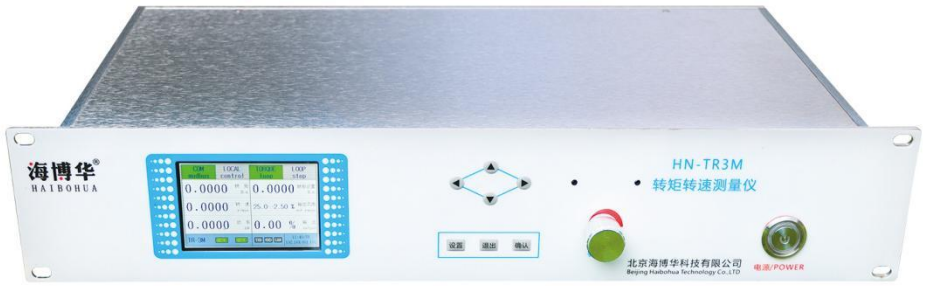
XSE5 torque display instrument is specially designed i gate] supporting HCNJ series static torque sensor used, on-site display torque value, with two-point alarm function, route transmission output function.



尺寸 size	外形尺寸：160X80X115mm 开孔尺寸：152X76mm Overall size: 160X80X115mm Opening size: 152X76mm
仪表电源 Instrument power supply	220VAC，功耗小于 7VA 220VAC, power consumption less than 7 VA
外供电源 External power supply	24VDC、12VDC、5VDC、或低温漂的精密电源 10V 精密，12V 精密等，订货时注明 24VDC, 12VDC, 5VDC, or low temperature drift precision power supply 10V precision, 12V precision, etc., when ordering
工作环境 Working environment	-10°C~70°C，湿度低于 90%R.H 宽温范围的仪表需在订货时注明 -10°C~70°C, humidity less than 90%R.H wide temperature range of the instrument should be noted when ordering
通讯选件 Communication option	光电隔离，RS232 或 RS485 二者选其一 通讯协议可选，modbus RTU 和 ASCII 码两种协议选其一 Optional RS232 or RS485, printing function photoelectric isolation, default 9600 baud rate, communications add ress set by ADD parameter
测量速度 Measuring speed	每秒 15 次，若要求更高的采样速度，请在订货时注明。 15 times per second, if higher sampling speed is required, please indicate when ordering.
显示范围 Display range	扭矩测量：-19999~99999Nm，小数点位置可设定 输入采用全隔离 18 位 AD 转换，测量精度 0.05%F·S Torque measurement: -19999~99999Nm, decimal point position can be set input using fully isolated 18-bit AD conversion, measurement accuracy 0.05%F·S
模拟输入 Analog input	0-20mA，4-20mA, 0-5VDC,1-5VDC,0-10VDC,±5VDC， mV，热电阻，热电偶，电阻信号等，订货时注明 0-20mA, 4-20Ma, 0-5VDC,1-5VDC,0-10VDC,±5VDC, MV, thermal resistance, thermocouple, resistance signal, etc., indicate when ordering
数字滤波 Digital filtering	独特的数字滤波功能，当被测物理量处于震动场合时，只需加大数字滤波参数设置，便可很好的测量。 The unique digital filter function, when the measured physical quantity is in the vibration situation, only need to increase the digital filter parameter setting, can be very good measurement.
变送输出 Converter output	光电隔离 1 路 4mA~20mA 直流电流输出。输出分辨率：1/4000；误差小于 ±0.2% F·S， 负载能力：小于等于 600Ω RS232 或 RS485 二者选其一，打印功能 Photoelectric isolation 1 channel 4mA~20mA DC current output. Output resolution: 1/4000; Error less than ±0.2% F·S, load capacity: less than or equal to 600 ω RS232 or RS485 one of the two, print function
报警功能 Alarm function	2 点报警输出，最多 8 路报警继电器输出。 2 point alarm output, up to 8 alarm relay output.
其他 other	带面板按键清零，清零方式可设，带误清零恢复功能 带峰值检测功能，保存测量过程中的最大值，当执行清零操作时，峰值也随之清零，重新开始计算峰值，若要求峰值单独清零需在订货时注明。带峰值自动清零功能，适合最大值连续检测场合。 Reset with panel button, reset mode can be set, reset with error reset recovery function and peak detection function, save the maximum value in the measurement process, when the reset operation is performed, the peak value will also be reset, start to calculate the peak value, if the peak value should be cleared separately, please note when ordering. With peak automatic zero clearing function, suitable for maximum continuous detection.
注 note	可根据用户要求定做，适应专用行业需求 Can be customized according to user requirements, to meet the needs of special industry

TR3M转矩转速控制仪

TR3M TORQUE SPEED CONTROL INSTRUMENT



产品介绍/Product introduction

TR3M转矩转速控制仪以频率式转矩传感器为检测元件，测量、控制传动机械的转矩、转速、功率，是TR3F型测量仪器的升级产品。

TR3M torque speed controller uses frequency torque sensor as detection element to measure and control the torque, speed and power of transmission machinery. It is an upgrade of TR3F measuring instrument.

产品特点/Product characteristics

1.高速数据采集；
2.恒转矩或恒转速PID控制；
3.转矩、转速独立采样周期；
4.转矩、转速超限报警，输出节点可驱动固态继电器；
5.同步输出转矩、转速模拟电压信号，0~10v输出；
6.0~10v控制信号输出，控制变频器、磁粉制动器等设备；
7.RS232和RS485标准串行接口，实现与计算机通信，用户自由切换；
8.以太网LAN接口；
9.输入、输出单元光电隔离；
10.所有设置的参数及工作状态掉电自动存储；
11.较完善的系统硬件自检功能，菜单显示系统故障；
12.实时时钟；
13.智能化人机界面。

1. High-speed data acquisition;
2. Constant torque or constant speed PID control;
3. Independent sampling period of torque and speed;
4. Torque, speed limit alarm, output node can drive solid state relay;
5. Synchronous output torque, speed analog voltage signal, 0~10v output;
6.0~10v control signal output, control frequency converter, magnetic powder brake and other equipment;
7.RS232 and RS485 standard serial interface, to achieve communication with the computer, user free switching;
8. Ethernet LAN interface;
9. Photoelectric isolation of input and output units;
10. All set parameters and working status are automatically stored after power failure;
11. More perfect system hardware self-check function, menu display system fault;
12. Real-time clock;
13. Intelligent man-machine interface.

技术要求/Technical requirement

1.转矩、转速输入信号：5V~15V脉冲信号，脉冲宽度大于0.5us；
2.转矩频率：由用户自由设定；出厂设置10KHz±5KHz；
3.转矩、转速通道输入阻抗：1000欧；
4.转矩转速传感器供电：±15V/500mA（标配）；
5.0~10V模拟量输出驱动电流：20mA；
6.工作电源：220V。

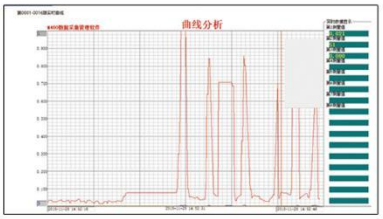
1. Torque, speed input signal: 5V~15V pulse signal, pulse width greater than 0.5us;
2. Torque frequency: set freely by the user; Factory setting 10KHz±5KHz;
3. Torque, speed channel input impedance: 1000 euros;
4. Torque speed sensor power supply: ±15V/500mA (standard);
5.0~10V analog output driving current: 20mA;
6. Working power supply: 220V.

技术指标/Technical index

1.转矩频率测量精度：0.01%FS	1. Torque frequency measurement accuracy: 0.01%FS
2.转速频率测量精度：0.01%FS	2. Speed frequency measurement accuracy: 0.01%FS
3.采样周期：1ms~10s	3. Sampling period: 1ms to 10s

数据采集系列
DATA ACQUISITION SERIES

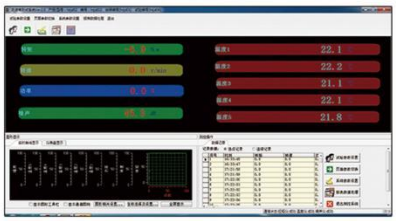
M400数据采集软件（简配） M400 Data Acquisition Software (simple configuration)

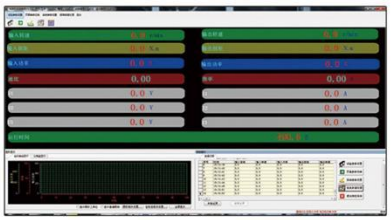


本软件通过计算机串行口采集仪表测量数据并在电脑上实时显示、存储,对存储数据进行曲线分析、曲线打印、趋势浏览.报表生成、报表编辑、报表打印、转化生成 TXT、EXCEL 文件等。可配接 485 输出的信号转换模块和 485 输出的显示仪表包含软件安装盘一个、密码狗和 485 转 USB 转换数据线一根具有最大、最小、平均值统计功能,通讯速度 0.1秒/次,稳定可靠，仪表及测量通道选用由用户组合，4-11 位显示仪表通用。

The software collects the instrument measurement data through the computer serial port, displays and stores it in real time on the computer, and performs curve analysis, curve printing and trend browsing for the stored data. Report generation, report editing, report printing, conversion to generate TXT, EXCEL files, etc. Can be equipped with 485 output signal conversion module and 485 output display instrument includes a software installation disk, password dog and 485 to USB conversion data line with maximum, minimum, average statistical function, communication speed 0.1 seconds/time, stable and reliable, instrument and measurement channel selection by the user combination, 4-11 bit display gauges are common.

数据采集软件（中配） Data Acquisition Software (medium)

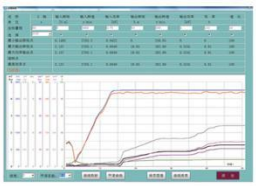




本软件可以测量被测物的输出转矩、转速、输出功率、温升变化及噪音等性能参数，打印试验报告，绘制被测物的性能曲线，通过系统实时显示。能对被测物进行耐久性和性能试验数据。对测试数据进行连续存储或按使用者的意愿进行选点存储。具有历史数据和曲线回放功能，可通过打印机对测试结果进行打印。软件界面美观、生动。

The software can measure the output torque, speed, output power, temperature rise change and noise and other performance parameters of the measured object, print the test report, draw the performance curve of the measured object, and display it in real time through the system. The durability and performance test data can be carried out on the tested objects. The test data is stored continuously or at selected points according to the user's wishes. With historical data and curve playback function, the test results can be printed through the printer. The software interface is beautiful and vivid.

数据采集软件（高配） Data acquisition Software (advanced)



本系统由信号采集器、计算机和软件配合电机试验台、测量变送器，现场采集转速、扭矩、功率、电压、电流、温升.噪音等参数。能实时采集、处理、存储测试台所需的扭矩、转速、电压、电流、功率、效率等值，可以对测试数据进行自动连续存储或按使用者的意愿进行手动存储;具有历史数据回放功能，对于参数设置具有记忆功能，只需输入一次即可;可以将试验数据及曲线导出到 EXCEL 中，对测试结果进行数据、曲线打印;界面更美观、生动。

The system is composed of signal collector, computer and software with motor test bench and measuring transmitter to collect speed, torque, power, voltage, current and temperature rise on site. Noise and other parameters. It can collect, process and store the torque, speed, voltage, current, power and efficiency equivalent required by the test bench in real time, and can store the test data automatically and continuously or manually according to the user's wishes. It has the function of historical data playback, and the parameter setting has the memory function, which only needs to be entered once; The test data and curves can be exported to EXCEL, and the test results can be printed. The interface is more beautiful and vivid.

部分客户名录

电机

山东凯欧电机科技有限公司
沈阳黎明电机制浩有限公司
苏州真核电机科技有限公司
包头市腾实特种电机有限责任公司
深圳市利宏微形电机有限公司
中山市恒和电机有限公司
诸暨和创电机科技有限公司
临清市陇焊电机有限公司
深圳市六都电机技术有限公司
天津市陆航电机技术有限公司
湘潭电机股份有限公司
浙江联宜电机有限公司
珠海市吉力电机技术有限公司
贵州航天林泉电机有限公司
湘潭华联电机有限公司
江苏紫金东方超声电机有限公
常州市旭泉精密电机有限公司
北京京电毕捷电机有限公司
深圳市利宏微形电机有限公司
南京万玛超声电机有限公司
东莞市上林电机有限公司
东莞市秦注电机有限公司
沈阳轩唐特种电机有限公司
江阴市璜十松韩申机厂
陕西华通机电制造有限公司
北京合康新能变频技术有限公司
清正源华（北京）科技有限公司
湖南时铭电气有限公司
东莞市威政机电科技有限公司
北京凌坤电气有限公司
深圳联和电机有限公司
常州博克雷斯电机有限公司
飞腾电机有限公司
成都微精电机股份公司
丹东山川电机有限公司

传动

苏州市君熠精密传动有限公司
武汉正通传动技术有限公司
振华集团
连云港杰瑞自动化有限公司
北京史河科技有限公司
埃夫特智能装备股份有限公司
香港生产力促进局
山西中科智能装备科技有限公司
深圳市瑞景创科技有限公司
广州恭谦祥动力设备有限公司
西安航空发动机成套设备有限公司

油田

胜利油田
大港油田
中国石油集团钻井工程技术研究院
钻井机械研究所
中石油川庆钻探工程有限公司
湖北创联石油科技有限公司
葫芦岛市渤海石油机械厂
大港油田集团中成机械制造有限公司

汽车领域

比亚迪公司
北汽新能源汽车有限公司
长城汽车股份有限公司
莱芜环球汽车零部件有限公司
本田汽车（中国）有限公司
中国北车股份有限公司
齐齐哈尔车辆集团公司

东风汽车股份有限公司
三一汽车制造有限公司

大学

清华大学
中国矿业大学
北京航空航天大学
北京工业大学
北京理工大学
西华大学
五邑大学
北京科技大学
温州大学
中北大学
宁波诺丁汉大学
昆明理工大学
湖南大学
西安交通大学
北方工业大学
武汉理工大学
河北工程大学
江苏大学
西华大学
上海复旦微电子集团股份有限公司

阀门

天津市麦雷斯阀门制浩有限公司
天津市沃特斯众友阀门有限公司
天津市天蝶恒通阀门有限公司
石家庄天诚阀门制造有限公司
上海风雷阀门集团有限公司
天津市法斯特阀门科技有限公司
般德阀门科技有限公司
浙江北泽阀门科技有限公司
石家庄阀门一厂股份有限公司
苏州莱特阀门有限公司
常州汇丰船舶附件制造有限公司
天津津苏扬阀门有限公司
江苏横河自控阀门有限公司
天津百诚阀门制造有限公司
凯泰阀门（集团)有限公司

研究所

三一重工
中联重科
北方重工集团
江苏中威重工
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Beijing Haibohua Technology Co., LTD

地址：北京经济技术开发区文化园西路8号

电话：13161456023

网址：www.haibohua.com

邮编：100176