

企业愿景。

CORPORATE VISION

做一家有核心
竞争力的卓越的
能源科技公司

To be a leading energy
technology company
with core competitiveness

企业文化。

CORPORATE CULTURE

质朴 正直
扎实 坚韧
开放 协同
精进 信念

Simplicity, Integrity
Solid, Resilient
Open, Collaborative
Excellence, Belief

北京贝威通能源科技集团有限公司

BEIJING BWG ENERGY TECHNOLOGY GROUP CO.,LTD.

总部 ◆ 北京 ◆ 中国

Headquarters ◆ Beijing ◆ China

北京市朝阳区朝阳北路11号楼9层1单元909

No. 909, Unit 1, Floor 9, Building 11, Chaoyang North Road, Chaoyang District, Beijing

邮编 Postcode: 100024 电话 Tel: 010-65771862

传真 Fax: 010-85769203 邮箱 Email: 18904022723@163.com

沈阳 ◆ 中国

Shenyang ◆ China

沈阳市沈北新区蒲文路16号 (81-11号)

No. 16 Puwen Road, Shenbei New District, Shenyang (Unit 81-11)

邮编 Postcode: 110000

电话 Tel: 024-31238892 024-31238895

天津 ◆ 中国

Tianjin ◆ China

天津市滨海新区黄海路155号

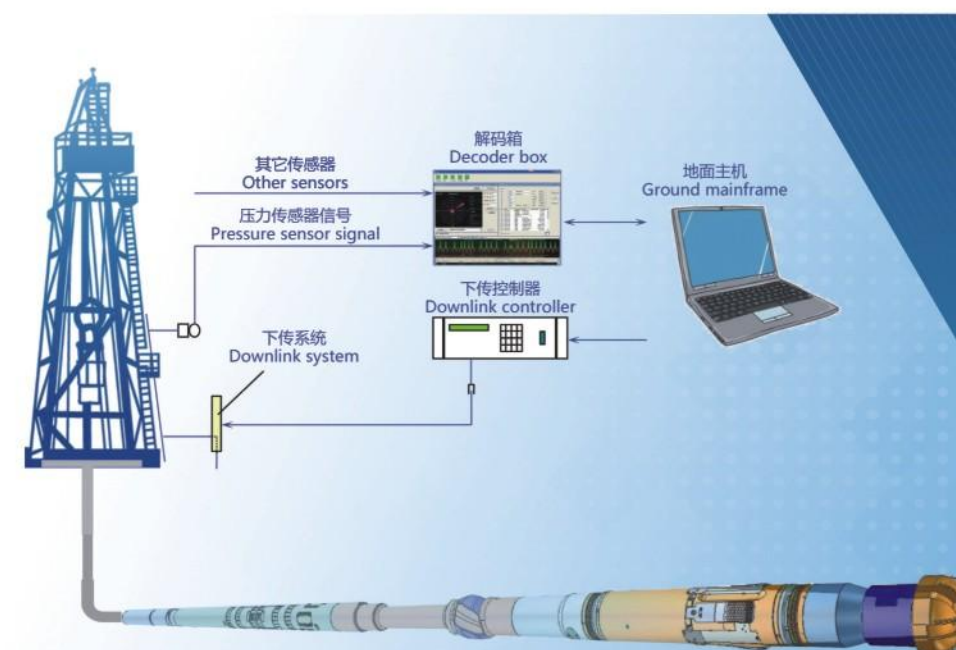
No. 155 Huanghai Road, Binhai New Area, Tianjin

邮编 Postcode: 300457

电话 Tel: 18904022723

<http://www.bwgoil.com>

BWG



北京贝威通 能源科技集团有限公司

BEIJING BWG ENERGY TECHNOLOGY GROUP CO.,LTD.

企业简介 <<<
COMPANY PROFILE

北京贝威通能源科技集团有限公司，成立于2006年，总部设于北京，是一家专注于能源科技领域进行探索和创新的前沿企业。公司致力于井下大功率发电、智能测控、精密液压控制等核心技术领域的突破，打破了国际技术垄断，填补了国家智能测导技术领域的空白。

公司创新技术包括“全尺寸系列泥浆涡轮发电机”、“全温度系列整流电路模块”以及“非接触能量传输与通讯系统”、“静态偏置推靠式液压装置”、“高温/超高温智能测控电路”等，这些产品代表了我们在智能化与数字化领域的领先地位。我们不仅在石油行业中发挥了重要作用，还将技术应用扩展至其他行业领域，展示了产品的广泛适应性和成熟稳定性。

凭借卓越的数智化创新和优质的客户服务，我们荣获了高新技术企业、科技型中小企业及专精特新中小企业等多项资质和荣誉，并拥有多项专利。我们的产品和服务凭借其先进性和稳定性赢得了行业的广泛认可，持续引领行业的发展。

Beijing BWG Energy Technology Group Co., Ltd., established in 2006 and headquartered in Beijing, is a pioneering enterprise dedicated to exploring and innovating in the field of energy technology. The company is committed to breakthroughs in core technological areas such as downhole high-power alternator, intelligent measurement and control system, and precision hydraulic control, breaking international technological monopolies and filling gaps in the national intelligent guidance technology sector.

Our innovative technologies include the "Full-Size Series Mud Turbine alternators", "Full-Temperature Series Rectifier Circuit Modules", and "Non-Contact Energy Transmission and Communication Systems", "Static Bias Thrust Hydraulic Devices", and "High Temperature/Ultra-High Temperature Intelligent Measurement and Control Circuits", which represent our leading position in the fields of automation and digitalization. We not only play a significant role in the oil industry but have also extended our technology to other sectors, demonstrating our products' wide adaptability and mature stability.

With our exceptional digital innovation and excellent customer service, we have been awarded multiple qualifications and honors, including High-Tech Enterprise, Science and Technology SME, and Specialized and New SME, and we hold numerous patents. Our products and technologies have won widespread recognition in the industry for their advancedness and stability, continually leading the industry's development.

80W泥浆涡轮发电机和整流电源 <<<

80W Mud Turbine Alternator and Rectifier Power Supply

产品简介 Product Overview

- ◆井下涡轮发电机供电，采用高温轴流式设计。
- ◆超长使用寿命，可靠性高，易维护保养。
- ◆涡轮可调，以适应当前排量。



- ◆ Downhole turbine alternator powered by a high-temperature axial-flow design.
- ◆ Extended service life, high reliability, and easy maintenance.
- ◆ Adjustable turbine to accommodate current flow.

产品参数 Product Specifications

最高作业温度 Maximum operating temperature	125℃、150℃和175℃（可选） 125°C, 150°C, and 175°C (Optional)
最高承压能力 Maximum Hydrostatitc pressure	20000psi(138Mpa)
输出功率 Output power	80W或160W 80W or 160W
电压 Voltage	28V~105V（三相交流可调） 28V~105V (Adjustable, three-phase AC)
发电机直径 Alternator diameter	70mm
发电机总长度 Total length of alternator	787mm
可适配工具尺寸 Compatible tool sizes	4-3/4"、6-3/4"、8" 和9-1/2" 4-3/4", 6-3/4", 8" and 9-1/2"
接头 Connector	美制螺纹（可定制） American standard threads (customizable)
励磁方式 Excitation mode	永磁，极对数：2 Permanent magnet, number of poles: 2
输出直流电压纹波 Output DC voltage ripple	≤200mVp-p
输出功率 Output power	≥80W
整流效率 Rectification efficiency	≥85%

300W泥浆涡轮发电机和整流电源<<<

300W Mud Turbine Alternator and Rectifier Power Supply

产品简介 Product Overview

- ◆井下涡轮发电机供电，采用高温轴流式设计。
 - ◆超长使用寿命，可靠性高，易维护保养。
 - ◆涡轮可调，以适应当前排量。
- ◆ Downhole turbine alternator powered by a high-temperature axial-flow design.
 - ◆ Extended service life, high reliability, and easy maintenance.
 - ◆ Adjustable turbine to accommodate current flow.



产品参数 Product Specifications

最高作业温度 Maximum operating temperature	125℃、150℃和175℃（可选） 125℃, 150℃, and 175℃ (optional)
最高承压能力 Maximum Hydrostatitc pressure	20000psi(138Mpa)
输出功率 Output power	160W、240W、300W（可选） 160W, 240W, 300W (optional)
电压 Voltage	37V~130V（三相交流可调） 37V~130V (adjustable, three-phase AC)
发电机直径 Alternator diameter	70mm
发电机总长度 Total length of alternator	1600mm
可适配工具尺寸 Compatible tool sizes	4-3/4"、6-3/4"、8" 和9-1/2" 4-3/4", 6-3/4", 8" and 9-1/2"
接头 Connector	美制螺纹（可定制） American standard threads (customizable)
励磁方式 Excitation mode	永磁，极对数：2 Permanent magnet, number of poles: 2
输出直流电压纹波 Output DC voltage ripple	≤200mVp-p
输出功率 Output power	≥80W
整流效率 Rectification efficiency	≥85%

300W发电机配300W整流电源<<<

300W Alternator with 300W Rectifier Power Supply

产品简介 Product Overview

- ◆井下涡轮发电机供电，采用高温轴流式设计。
 - ◆超长使用寿命，可靠性高，易维护保养。
 - ◆涡轮可调，以适应当前排量。
- ◆ Downhole turbine alternator powered by a high-temperature axial-flow design.
 - ◆ Extended service life, high reliability, and easy maintenance.
 - ◆ Adjustable turbine to accommodate current flow.



产品参数 Product Specifications



最高作业温度 Maximum operating temperature	125℃、150℃、175℃和200℃（可选） 125℃, 150℃, 175℃ and 200℃ (optional)
最高承压能力 Maximum Hydrostatitc pressure	20000psi（138MPa）
输出功率 Output power	300W、500W（可选） 300W, 500W (optional)
电压 Voltage	37V~130V 三相交流可调 37V~130V adjustable three-phase AC
发电机直径 Alternator diameter	70mm
可适配工具尺寸 Compatible tool sizes	4-3/4"、6-3/4"、8" 和9-1/2"
接头 Connector	美制螺纹（可定制） American standard threads (customizable)
励磁方式 Excitation mode	永磁，极对数：2 Permanent magnet, number of poles: 2
输出直流电压纹波 Output DC voltage ripple	≤200mVp-p
输出功率 Output power	≥80W
整流效率 Rectification efficiency	≥85%
整流电源尺寸 Rectifier power supply dimensions	310mm*55mm*24mm

整流电路模块 <<<

Rectifier Circuit Module

产品简介 Product Overview

- ◆产品耐温高、产品应用范围广，具备各种保护功能。
- ◆产品系列化：各种功率类型。
- ◆适应性强，可以适应各种负载特性。
- ◆High temperature resistance, wide application range, equipped with various protective functions.
- ◆Product serialization: various power types.
- ◆Strong adaptability, capable of handling various load characteristics.



产品参数 Product Specifications

最高工作温度 Maximum operating temperature	150 °C和175°C 150°C and 175°C
模块厚度 Module thickness	22mm (0.87 in)
额定输出电压 Rated output voltage	DC 48V ±0.6V (可调) DC48V±0.6V (adjustable)
额定输出电流 Rated output current	随负载动态调整 Dynamically adjusts with load
标称输出功率 Nominal output power	80W、160W、300W、600W
电源输出噪声（均方根值） Power supply output noise (RMS)	≤ 200mV
转速输出信号 Speed output signal	方波；频率为发电机转速 Square wave; frequency corresponds to alternator speed
转速信号输出方式 Speed signal output mode	OC门 OC gate
冷却方式 Cooling method	自然冷却 Natural cooling

电机驱动电路 <<<

Motor drive circuit

产品简介 Product Overview

- ◆可实现无位置传感器或有霍尔传感器控制，根据客户选用电机设计。
- ◆具有过流过压保护功能。
- ◆Capable of operating with no position sensor or with Hall sensor control, designed according to the customer's choice of motor.
- ◆Features overcurrent and overvoltage protection.



产品参数 Product Specifications

输入电源电压 Input power voltage	25V ~ 48V
额定功率 Rated power	可根据客户要求定制 Customizable according to customer requirements
输出转速范围 Output speed rangeh	宽调速范围200rpm-6000rpm（3对极电机） Wide speed range 200rpm-6000rpm (3-pole motor)
板载过流保护时间 On-board overcurrent protection time	大于1s Greater than 1s
最高工作温度 Maximum operating temperature	150°C和175°C 150°C and 175°C
标准尺寸 Standard dimensions	38mm*150mm*18mm

电磁阀脉冲器 <<< Solenoid Valve Pulser

产品简介 Product Overview

- ◆超长使用寿命，可靠性高。
 - ◆较低功耗、低电压。
 - ◆结构简单，成本低廉。
 - ◆易维护保养，维保周期短。
- ◆ Extended service life, high reliability.
 - ◆ Low power consumption, low voltage.
 - ◆ Simple structure, low cost.
 - ◆ Easy maintenance, short maintenance cycles.



产品参数 Product Specifications

脉冲类别和供电方式 Pulse type and power supply method	正脉冲方式，涡轮发电机供电 Positive pulse mode, powered by turbine alternator
泥浆脉冲信号幅值 Mud pulse signal amplitude	≥100 psi
直流供电，启动电压 DC power supply, start-up voltage	(34±8) V
纹波峰峰值 Ripple peak-to-peak value	≤ 200mV
最大启动功耗 Maximum start-up power consumption	≤30W
蘑菇头动作频率 Mushroom head actuation frequency	≥2Hz
最高工作温度 Maximum operating temperature	150℃、175℃ (可选) 150℃, 175℃ (optional)
最大工作压力 Maximum working pressure	140MPa
适用排量范围 Applicable displacement range	15 L/s~63L/s
泥浆密度范围 Mud density range	0.95 g/cm3~2.1g/cm3
最大体积含沙量 Maximum sand content by volume	1%
泥浆脉冲信号上升沿时间 Mud pulse signal rise time	≤100 ms ≤100 mc

脉冲器主阀组件 <<< Pulser main valve assembly

产品简介 Product Overview

- ◆原理：钻井液通过钻挺向下达到主阀组件，在主阀组件，一部分钻井液通过主阀的滤网头进入到阀体内，其余的钻井液从限流环和主阀体（主阀）之间空隙流过。流入主阀体内的钻井液向下达到控制阀组件，从控制阀胶囊外壳上的泄流孔流出。
 - ◆通过控制阀组件来控制主阀的升降，达到控制限流环与主阀之间的过流面积。
- ◆Principle: Drilling fluid passes through the drill string down to the main valve assembly, where part of the fluid enters the valve body through the main valve's filter head, while the remainder flows through the gap between the flow restriction ring and the main valve body (main valve). The drilling fluid flowing into the main valve body reaches the control valve assembly, exiting through the drainage holes on the outer shell of the control valve capsule.
 - ◆Control the lifting of the main valve via the control valve assembly, adjusting the flow area between the flow restriction ring and the main valve.



产品参数 Product Specifications

正脉冲方式 Positive pulse mode	涡轮发电机供电 Powered by a turbine alternator
泥浆脉冲信号幅值 Mud pulse signal amplitude	≥100 psi
先导阀组件内电磁阀采用直流供电 Solenoid in the pilot valve assembly powered by DC	启动电压 (34±8) V Start-up voltage (34±8)V
纹波峰峰值 Ripple peak-to-peak value	≤ 200mV
最大启动功耗 Maximum start-up power consumption	≤30W
蘑菇头动作频率 Mushroom head actuation frequency	≥2Hz
最高工作温度 Maximum operating temperature	150℃
最大工作压力 Maximum working pressure	140MPa
适用排量范围 Applicable displacement range	15 L/s~63L/s
泥浆密度范围 Mud density range	0.95 g/cm3~2.1g/cm3
最大体积含沙量 Maximum sand content by volume	1%

非接触式旋转变压器和供电信号传输系统<<<

Non-contact Rotary Transformer and Power Signal Transmission System

产品简介 Product Overview

- ◆安装结构简单，运行可靠。
- ◆产品系列化，可适合各井眼尺寸作业。
- ◆超长使用寿命，可靠性高，易维护保养。
- ◆500小时内免维护（特殊情况除外）。
- ◆ Simple installation structure, reliable operation.
- ◆ Product serialization, suitable for various wellbore sizes.
- ◆ Extended service life, high reliability, and easy maintenance.
- ◆ Maintenance-free within 500 hours (except under special circumstances).



产品参数 Product Specifications

最高作业温度 Maximum operating temperature	150 °C、175°C (可选) 150°C, 175°C (optional)
最高承压能力 Maximum Hydrostatic pressure	20000 psi (138 Mpa)
输入电压 Input voltage	36V ±5%
输出电压 Output voltage	30V~43V (电压随负载轻重变化) 30V~43V (voltage varies with load intensity)
传输功率 Transmission power	不小于120W Not less than 120W
能量传输效率 Energy transmission efficiency	大于85% Greater than 85%
可适配工具尺寸 Compatible tool sizes	4-3/4"、6-3/4" 和9-1/2" 4-3/4", 6-3/4" and 9-1/2"
信号传输速率 Signal transmission rate	9600bps
双向通讯误码率 Bidirectional communication bit error rate	< 1%
电源管理板输出电 Power management board output	+5V, ±12V (可定制) +5V, ±12V (customizable)
电源输出纹波 Power output ripple	≤50mV
限流保护 Current limiting protection	5A, 保护门限可调 5A, adjustable protection threshold
电路数量 Number of circuits	8块 8 pieces

4.75 双柱塞液压模块单元<<<

4.75 Dual Piston Hydraulic Unit

产品简介 Product Overview



- ◆电机采用无刷直流浸油电机，扭矩输出稳定，转速高、寿命长。
- ◆微型泵为柱塞结构，输出压力高，额定输出可达30MPa。
- ◆阀组根据型号不同配置，一个节流阀，通过流阻产生压力，一个溢流阀，保护液压系统，提供超压保护。
- ◆该HU三只一组，成组使用，通过控制电机转速，控制活塞推力，向相反方向推动仪器，达到导向的目的。
- ◆Motor uses a brushless DC submersible motor, providing stable torque output, high speed, and long lifespan.
- ◆The micro pump features a piston structure, high output pressure, with a rated output of up to 30MPa.
- ◆Valve group configured according to model, includes one throttle valve that generates pressure through flow resistance, and one relief valve for hydraulic system protection, providing overpressure protection.
- ◆This Hydraulic Unit is used in sets of three, utilizing motor speed control to manage piston thrust, pushing instruments in opposite directions to achieve guidance.

产品参数 Product Specifications

最高作业温度 Maximum operating temperature	150°C
规格 Specification	4.75
总长度 Total length	307.3mm
重量 Weight	约2.3kg Approximately 2.3 kg
活塞最大行程 Maximum piston stroke	10mm
活塞最大推力 Maximum piston thrust	1350kg (单个柱塞) 1350kg (per piston)
电机额定功率 Motor rated power	22 W
泵最大工作压力 Pump maximum operating pressure	30MPa

6.75单柱塞液压模块单元<<<

6.75 Single Piston Hydraulic Module Unit

产品简介 Product Overview



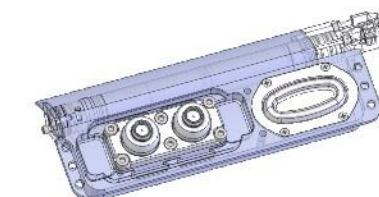
- ◆电机采用无刷直流浸油电机，扭矩输出稳定，转速高、寿命长。
- ◆微型泵为柱塞结构，输出压力高，额定输出可达30MPa。
- ◆阀组根据型号不同配置，一个节流阀，通过流阻产生压力，一个溢流阀，保护液压系统，提供超压保护。
- ◆该HU三只一组，成组使用，通过控制电机转速，控制活塞推力，向相反方向推动仪器，达到导向的目的。
- ◆Motor uses a brushless DC submersible motor, providing stable torque output, high speed, and long lifespan.
- ◆The micro pump features a piston structure, high output pressure, with a rated output of up to 30MPa.
- ◆Valve group configured according to model, includes one throttle valve that generates pressure through flow resistance, and one relief valve for hydraulic system protection, providing overpressure protection.
- ◆This Hydraulic Unit is used in sets of three, utilizing motor speed control to manage piston thrust, pushing instruments in opposite directions to achieve guidance.

产品参数 Product Specifications

最高作业温度 Maximum operating temperature	150°C
规格 Specification	6.75"
总长度 Total length	335.2mm
重量 Weight	约6.45kg Approximately 6.45 kg
活塞最大行程 Maximum piston stroke	12mm
活塞最大推力 Maximum piston thrust	3000Kg
电机总线电压(DC) Motor bus voltage (DC)	28V

6.75双柱塞液压模块单元<<<

6.75 Dual Piston Hydraulic Module Unit



产品简介 Product Overview

- ◆电机采用无刷直流浸油电机，扭矩输出稳定，转速高、寿命长。
- ◆微型泵为柱塞结构，输出压力高，额定输出可达30MPa。
- ◆阀组根据型号不同配置，一个节流阀，通过流阻产生压力，一个溢流阀，保护液压系统，提供超压保护。
- ◆该HU三只一组，成组使用，通过控制电机转速，控制活塞推力，向相反方向推动仪器，达到导向的目的。
- ◆Motor uses a brushless DC submersible motor, providing stable torque output, high speed, and long lifespan.
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- ◆Valve group configured according to model, includes one throttle valve that generates pressure through flow resistance, and one relief valve for hydraulic system protection, providing overpressure protection.
- ◆This Hydraulic Unit is used in sets of three, utilizing motor speed control to manage piston thrust, pushing instruments in opposite directions to achieve guidance.

产品参数 Product Specifications

最高作业温度 Maximum operating temperature	150°C
规格 Specification	6.75
总长度 Total length	375.7mm
重量 Weight	约7.4kg Approximately 7.4 kg
活塞最大行程 Maximum piston stroke	17mm
活塞最大推力 Maximum piston thrust	2450kg (单个柱塞) 2450kg (per piston)
电机额定功率 Motor rated power	44.6 W
泵最大工作压力 Pump maximum operating pressure	30MPa

近钻头井斜测量模块<<<

Near-bit Inclination Measurement Module

产品简介 Product Overview

- ◆单元传感器探头距离钻头1m以内，可以实时测量井斜、动态电阻率等参数和钻头的姿态、轨迹信息。
- ◆采用镜像补偿测量和动态滤波的方法，滤除离心加速度、振动和冲击等对于测量值的影响，使得井斜静态测量精度在0.3°以内，动态测量精度控制在0.5°以内。
- ◆可以满足随钻测井中高精度地质导向需求。
- ◆Sensor unit located within 1m of the drill bit, capable of real-time measurements of well inclination, dynamic resistivity, and drill bit attitude and trajectory.
- ◆Employ mirror compensation measurement and dynamic filtering to eliminate the effects of centrifugal acceleration, vibration, and shock on measurements, ensuring static measurement accuracy within 0.3° and dynamic accuracy within 0.5°.
- ◆Meet the high-precision geological guidance requirements of logging while drilling.

产品参数 Product Specifications

系统供电及功耗 System power supply and consumption	外部供电方式1（推荐）：5V±0.1V 瞬态功耗小于1W；稳态功耗小于0.5W External power supply option 1 (recommended): 5V±0.1V, peak power consumption less than 1W; steady state consumption less than 0.5W
	外部供电方式2：16V~48V 瞬态功耗小于2W；稳态功耗小于1W。 External power supply option 2: 16V~48V, peak power consumption less than 2W; steady state consumption less than 1W.
输出数据 Output data	井斜，高边工具面 Well inclination, high side tool face
对外接口 External interfaces	连接方式1：ITT15 连接方式2：焊盘 Connection type 1: ITT15, connection type 2: bonding Pad
通讯方式 Communication methods	RS-485、TTL、RS-232
测量范围及精度 Measurement range and accuracy	倾角测量范围：0°~120°，精度±0.1 Inclination measurement range: 0°~120°, accuracy ±0.1
环境条件 Environmental conditions	-20℃~150℃



EEJ伸缩补偿短节<<<

EEJ Expansion Compensation Short Section

产品简介 Product Overview

- ◆伸缩补偿短节在油井处理、注水或地热引起温度波动时补偿垂直移动。
- ◆伸缩本体全部行程都使用软线，同时具有较长的密封区域，在井下条件下，可以伸缩一定的长度。
- ◆Compensates for vertical movement during temperature fluctuations caused by oil well treatments, water injection, or geothermal activities.
- ◆The entire stroke of the expansion body uses a flexible line and has a long sealing area, allowing for certain lengths of expansion under well conditions.



产品参数 Product Specifications

最高作业温度 Maximum operating temperature	150 °C
本体长度 Main body length	1803.4mm
伸缩部分可调整长度 Adjustable length of the expansion section	≤250mm
最高承压能力 Maximum Hydrostatitc pressure	20000 psi (138 Mpa)
额定电压 Rated voltage	100V
额定电流 Rated current	3A(@150℃)
耐电压 Voltage resistance	600V/50Hz/1min
工作最大功率 Maximum working power	300W
绝缘电阻 Insulation resistance	500MΩ

连续波脉冲器 <<<
Continuous Wave Pulser



产品简介 Product Overview

- ◆利用从0~40Hz高频脉冲来产生连续信号，速率会提高很多，最高脉宽可达40bps。
- ◆最大功率630W,能提供的最大扭力为15Nm。内部注有液压油，起到润滑降温的作用。
- ◆旋变器选用5对极，提供更高的准确度和分辨力。
- ◆Utilize high-frequency pulses from 0~40Hz to generate continuous signals, significantly increasing the rate, with maximum pulse width up to 40bps.
- ◆Maximum power 630W, capable of delivering up to 15Nm of torque. Contain hydraulic oil internally for lubrication and cooling.
- ◆Rotating transformer uses 5 pole pairs, offering higher accuracy and resolution.

产品参数 Product Specifications

最高作业温度 Maximum operating temperature	150℃、175℃ (可选) 150℃, 175℃ (optional)
规格 Specification	4.75" 、6.75"
总长度 Total length	747mm (含分流阀808.6mm) 747mm (including diverter valve 808.6mm)
重量 Weight	约21.9kg (含分流阀约24.5kg) Approximately 21.9kg (including diverter valve approximately 24.5kg)
旋转扭矩 Rotational torque	4-15Nm
最大功耗 Maximum power consumption	630W (90V@7A)
最大角度 Maximum angle	±12° (机械限位±15°) ±12° (mechanical limit ±15°)

1000W泥浆涡轮发电机 <<<
1000W Mud Turbine Alternator



产品简介 Product Overview

- ◆井下涡轮发电机供电，采用高温轴流式设计。
- ◆超长使用寿命，可靠性高，易维护保养。
- ◆涡轮可调，以适应当前排量。
- ◆Downhole turbine alternator powered by a high-temperature axial-flow design.
- ◆Extended service life, high reliability, and easy maintenance.
- ◆Adjustable turbine to accommodate current flow.

产品参数 Product Specifications

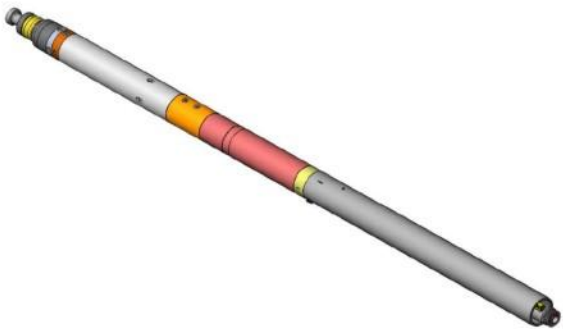
最高作业温度 Maximum operating temperature	150℃
最高承压能力 Maximum Hydrostatitc pressure	20000psi (138MPa)
输出功率 Output power	1000W
电压 Voltage	50V~250V (三相交流可调) 50V~250V (adjustable three-phase AC)
外筒直径 Outer cylinder diameter	φ75mm (2.953in.)
总长度 Total length	895mm (35.23in.)
重量 Weight	24kg (52.91lbs.)
可适配工具尺寸 Compatible tool sizes	6-3/4in 4-3/4in
接头 Connector	上端为堵头，下接口为艾克母螺纹 (ACME) Top end capped, lower interface with ACME female thread
励磁方式 Excitation mode	永磁，极对数：2对 Permanent magnet, number of pole pairs: 2 pairs

直驱式脉冲器 <<<

Direct Drive Pulser

产品简介 Product Overview

- ◆坚固耐用，适用恶劣工况。
- ◆信号稳定，可靠性高。
- ◆易维护保养，维保周期短。
- ◆脉冲幅值可以调节。
- ◆ Robust and durable, suitable for harsh conditions.
- ◆ Stable signal, high reliability.
- ◆ Easy maintenance, short maintenance cycles.
- ◆ Adjustable pulse amplitude.



产品参数 Product Specifications

输入电压范围 Input voltage range	50-290V DC
输出电性能 Output electrical performance	30V/100W
驱动电机 Drive motor	三相直流电机 Three-phase DC motor
阀头行程 Valve head stroke	20mm
工作温度 Working temperature	-40℃~+150℃
防护等级 Protection rating	IP68
绝缘等级 Insulation class	200级 Class 200

Curve发电机 <<<

Curve Alternator

产品简介 Product Overview

- ◆井下涡轮发电机供电，采用高温轴流式设计。
- ◆超长使用寿命，可靠性高，易维护保养。
- ◆涡轮可调，以适应当前排量。
- ◆ Downhole turbine alternator powered by a high-temperature axial-flow design.
- ◆ Extended service life, high reliability, and easy maintenance.
- ◆ Adjustable turbine to accommodate current flow.



产品参数 Product Specifications

最高作业温度 Maximum operating temperature	125℃、150℃
最高承压能力 Maximum Hydrostatitc pressure	20000psi (138MPa)
输出功率 Output power	200W
电压 Voltage	40V~138V (三相交流可调) 40V~138V (adjustable three-phase AC)
发电机直径 Alternator diameter	70mm
发电机总长度 Total length of alternator	1047, mm (41.22 in.)
可适配工具尺寸 Compatible tool sizes	6-3/4in
重量 Weight	16kg (35.3lbs.)
励磁方式 Excitation mode	永磁，极对数：2 Permanent magnet, number of poles: 2

接头
Connector

上端采用七芯连接器，高压密封圈动密封，
下接口采用单芯插针+过渡接头连接
Top end with a seven-core connector, high-pressure dynamic seal, lower
interface with a single-pin plug and transition connector

方位伽马短节 <<<

Azimuthal Gamma Joints

产品简介 Product Overview



- ◆ 可同时提供高精度的静态、动态两种井斜、工具面、温度、钻具实时旋转状态、传感器位置等参数。
- ◆ 根据钻具旋转状态自动将伽马信号自动分配到8扇区，高精度8扇区测量（具体功能可定制）。
- ◆ 内部电路单元可以给其他随钻成像仪器实时动态提供高精度的位置信息，并配合其参数测量完成参数的成像测量功能。
- ◆ 可应用于随钻方位伽马、多扇区伽马测量以及伽马成像测量。
- ◆ Provide high-precision static and dynamic measurements of well inclination, tool face, temperature, real-time rotation state of the drill string, and sensor position.
- ◆ Automatically allocates the gamma ray signal to 8 sectors based on the rotation state of the drill, offering high-precision 8-sector measurement (customizable features).
- ◆ The internal circuit unit provides real-time dynamic high-precision positional information for other logging-while-drilling instruments, complementing parameter measurements for imaging functions.
- ◆ Applicable for logging-while-drilling azimuthal gamma, multi-sector gamma measurement, and gamma imaging.

产品参数 Product Specifications

伽马测量 Gamma measurement	8条曲线数据 8-curve data
测量范围 Measurement range	0-500API, ±2API@100API
工作转速 Operational speed	0-300RPM, ±1RMP
温度测量 Temperature measurement	-40℃ ~ 150℃, ±0.3℃
井斜 Well inclination	0-180° (静态井斜±0.1°; 动态井斜±0.2°) 0-180° (static inclination ±0.1°; dynamic inclination ±0.2°)
工具面 Tool face	0-360°
无故障工作时间 Fault-free operating time	≥1000小时 ≥1000 hours
转速信号输出方式 Speed signal output mode	OC门 OC gate
震动、冲击 Vibration, shock	MWD随钻标准 MWD standard

方位伽马模块 <<<

Azimuthal Gamma Module

产品简介 Product Overview



- ◆ 采用大规模集成电路。
- ◆ 硬件及软件抗震动设计。
- ◆ 硬件及软件防抖动设计。
- ◆ 耐高温，可达150℃。
- ◆ 4扇区方位伽马输出（可选2、8、16扇区）。
- ◆ 旋转、定向时的井斜输出。
- ◆ 旋转时的短节转速。
- ◆ Utilize large-scale integrated circuits.
- ◆ Hardware and software designed for vibration resistance.
- ◆ Hardware and software designed for jitter reduction.
- ◆ High temperature resistant, up to 150℃.
- ◆ 4-sector azimuthal gamma output (optional 2, 8, 16 sectors).
- ◆ Output of inclination during rotation and orientation.
- ◆ Short section rotational speed during rotation.

产品参数 Product Specifications

工作电压 Working voltage	15~36V DC
测量范围 Measurement range	0-500API, ±2API@100API
工作转速 Operational speed	0-300RPM, ±1RMP
温度测量 Temperature measurement	-40℃ ~ 150℃, ±0.3℃
井斜 Well inclination	0-180° (静态井斜±0.1°; 动态井斜±0.3°) 0-180° (static inclination ±0.1°; dynamic inclination ±0.3°)
工具面 Tool face	0-360°
接口方式 Interface method	RS232, RS485
复合钻的伽马计数率 Gamma count rate in composite drilling	与定向钻进时的伽马计数率数值偏差≤3% Gamma count rate deviation ≤3% during directional drilling
震动、冲击 Vibration, shock	MWD标准 MWD standard

M30 电力线载波通信板 <<<

M30 power line carrier communication board

产品简介 Product Overview



- ◆M30 电力线载波通信板实现了功率和通信同时传输, 此板将通信信号调制成FSK 载波信号叠加再电力线上, 也可以将功率线上的FSK 信号解调成通信信号, 即半双工通信。
- ◆The M30 power line carrier communication board enables simultaneous power and communication transmission; modulates communication signals into FSK carrier signals superimposed on the power line, and demodulates FSK signals from the power line into communication signals, facilitating half-duplex communication.

产品参数 Product Specifications

基本参数 Basic Parameters	◆工作电压Vwork= 5 V (单电源供电) ◆电力线电压Vpower= 24 ~48 V (宽范围电压适应) ◆波特率BaudRate= 9600 BPS (通信帧间隔20ms) ◆Operating voltage Vwork= 5 V (single power supply) ◆Power line voltage Vpower= 24 ~ 48 V (wide voltage range) ◆Baud rate= 9600 BPS (communication frame interval 20ms)
通信接口 Communication interface	◆RS232 通信接口主控板需要带有可控232 输出的接口。 ◆RS485 通信接口标准RS485 接口。 ◆其他接口可以定制。 ◆每块电路板只能选择一种通信接口, 而不能同时选择。 ◆RS232 communication interface requires a controllable 232 output interface on the main control board. ◆RS485 communication interface standard RS485 interface. ◆Other interfaces can be customized. ◆Each circuit board can only choose one communication interface, not multiple simultaneously.
安装尺寸 Installation dimensions	◆板子的所有固定孔直径3.2mm, 使用M3螺丝固定。 ◆电路板尺寸, 长宽高: 150mm*28mm*15mm。 ◆All mounting holes on the board are 3.2mm in diameter, fixed with M3 screws. ◆Circuit board dimensions, LxWxH: 150mm*28mm*15mm.
工作温度 Working temperature	最高工作温度: 150°C和175°C Maximum operating temperature: 150°C and 175°C

DC/DC高温电源 <<<

DC/DC high-temperature power supply

产品简介 Product Overview



- ◆高温环境提供稳定直流电源。
- ◆Provide stable DC power in high-temperature environments.

产品参数 Product Specifications

工作温度 Working temperature	-55°C ~ +175°C
输出功率 Output power	5W、10W, 可定制。 5W, 10W, customizable.
体积 Dimensions	长宽高: 150mm*28mm*15mm, 可定制。 LxWxH: 150mm*28mm*15mm, customizable.
输出路 Output path	可定制, 数多达三路 Customizable, up to three paths
输出纹波 Output ripple	最大100mV, 典型30mV Maximum 100mV, typical 30mV
输入范围 Input range	可定制 Customizable
过压及过流故障切断延迟再启动 Overvoltage and overcurrent fault cut-off delay restart	
输入欠压和过压关断保护 Input under-voltage and over-voltage shutdown protection	

智能化解决方案 <<<

分类	名称	特点
软件类	维保管理系统	维保过程软件系统管理，云服务器存储，可app随时记录和查询，取消纸质记录文件。
	Hu充油台 自动化充油测试	无人值守，自动和手动切换，充油后自动进入测试阶段并存储数据，绘制过程曲线。
检测设备类	CVA自动化 测试台	机械手操作，自动测试、打标、监控录像、记录数据。
	M30滑环 自动测量设备	自动测量尺寸及绝缘。
	SDM+驱动 电路测试盒	将搭接的外连电路集成到一个盒中，可外接示波器等其余设备，快插接头形式，省去接线步骤。
	Hu电机测试设备	自动测试HU电机性能参数并记录数据，绘制性能曲线。
装配工装类	发电机线 包电控装卸工装	采用电动缸将线包压入和推出，省去人工丝杠操作，并且过程中压力实时测量，异常时电动推杆自动缩回，避免人工经验判断，量化操作。
生产制造类	3D打印机	可承接3D打印需求订单，打印样品、模具等。

Intelligent solutions

Category	Name	Features
Software	Maintenance management system	Maintenance process software system management, cloud server storage, accessible via app for anytime recording and querying, eliminates paper records.
	HU oil charging station automated oil charging test	Unmanned, automatic and manual switching, automatically enter testing phase after oil charging and stores data, plot process curves.
Testing equipment	CVA automated testing bench	Robotic operation, automatic testing, marking, monitoring video recording, data logging.
	M30 slip ring automatic measurement equipment	Automatically measure dimensions and insulation.
	SDM+ drive circuit test box	Integrate external circuits into a single box, compatible with oscilloscopes and other devices, quick-connect fittings eliminate wiring steps.
	HU motor testing equipment	Automatically test HU motor performance parameters and records data, plot performance curves.
Assembly tooling	alternator coil pack electrical assembly and disassembly tooling	Use electric cylinders to press in and eject coil packs, eliminating manual screw operations, with real-time pressure measurement during the process; in case of anomalies, the electric push rod automatically retracts, avoiding manual judgment, quantifying operations.
Manufacturing	3D printer	Capable of undertaking 3D printing orders for prototypes, models, etc.

智能化解决方案 <<<

Intelligent solutions



SDM加驱动电路测试盒
SDM+ drive circuit test box



3D打印机
3D printer



Hu电机测试设备
HU motor testing equipment



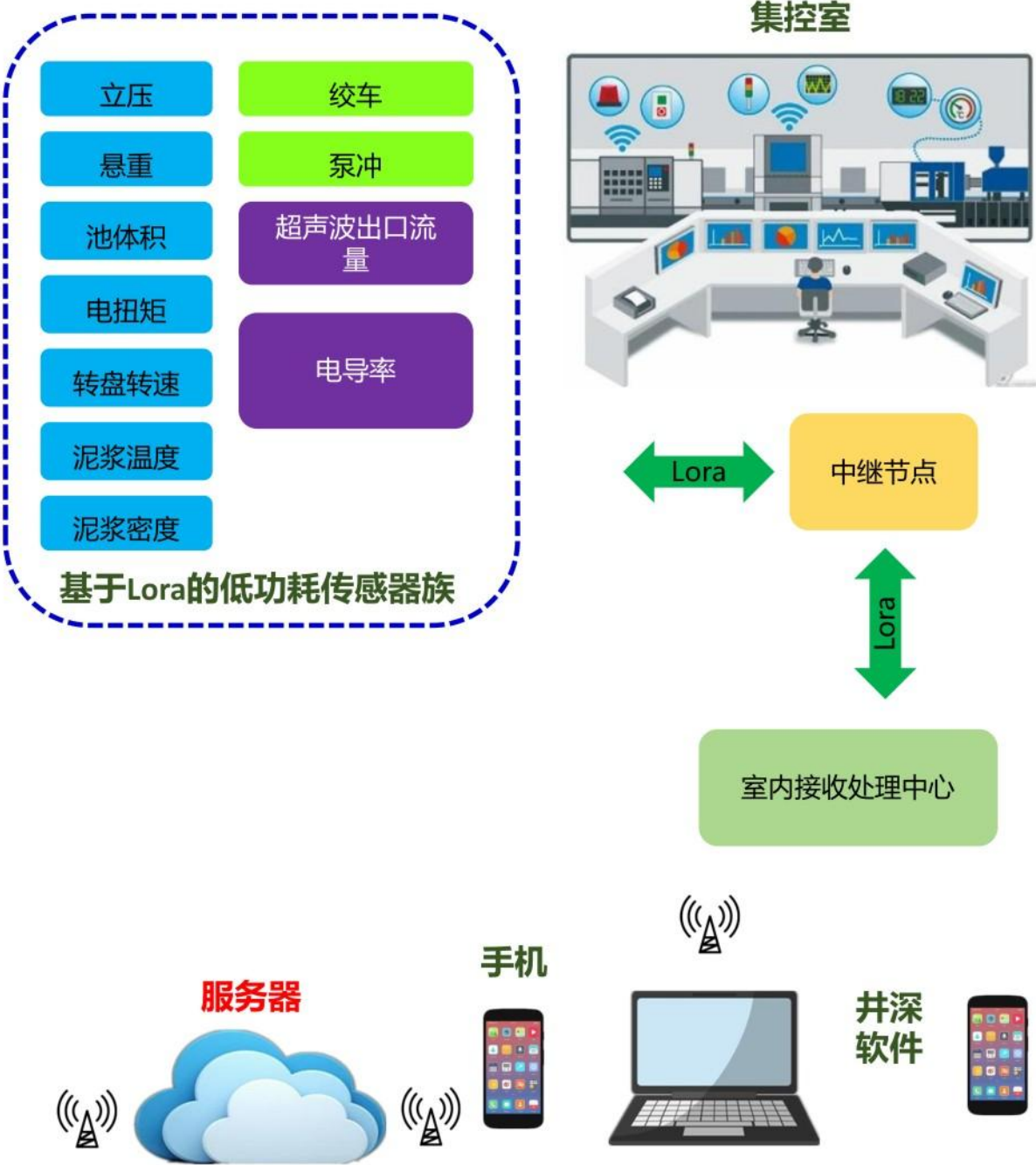
Hu充油台自动化充油测试
HU oil charging station automated
oil charging test



发电机线包电控装卸工装
Alternator coil pack electrical assembly
and disassembly tooling

无线低功耗录井仪 <<<

Wireless low-power logging instrument



区域	传感器名称	直接测量参数	量程	精度	采样频率	工作时间
钻台工作区	转盘转速传感器	转盘转速	0—2000rpm	±1rpm	1-10Hz	50天
	大钩载荷传感器	大钩载荷	0—4000KN	1% F.S	1-10Hz	50天
	大钩载荷传感器	井深	0-65535脉冲	±1脉冲	1-10Hz	50天
	立压传感器	立压	0—40MPa	0.5% F.S	1-10Hz	50天
	套压传感器	套压	0—60MPa	0.5% F.S	1-10Hz	50天
	电扭矩传感器	电扭矩	0—1000A	1% F.S	1-10Hz	50天
泥浆工作区	泵冲传感器	泵冲数	0—2000rpm	±1rpm	1-10Hz	50天
	泥浆密度传感器	泥浆密度	0.8—3.0g/cm3	0.01 g/cm3	1-10Hz	50天
	超声波液位传感器	泥浆罐液面高度	0-5m	±1cm	1-10Hz	50天
	泥浆温度传感器	泥浆温度	-40~200℃	±1℃	1-10Hz	50天



MWD地面系统无线解码 <<<

MWD Ground system wireless decoding

- ◆一种MWD地面系统的完全无线化解码设备。实现了井场完全无线化的改造，提高生产效率，降低安全风险。
- ◆A fully wireless decoding device for MWD ground systems. The complete wireless transformation of the well site has been achieved, improving production efficiency and reducing safety risks.

室内无线收发终端

Indoor wireless transceiver terminal



压力传感器及无线终端

Pressure sensors and wireless terminals

司显供电及数据转发终端

Driller display power supply and data forwarding terminal

