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成都市成华区航天路118号联东U谷成都新经济园

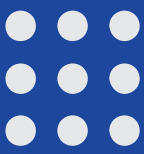
LianDong U Valley Chengdu New Economy Park, No. 118 Hangtian Road, Chenghua District, Chengdu,
Sichuan, China

TEL: 罗经理 (Manager Luo) +86 15608230021 E-mail: 3066006906@qq.com

无线实时传输
Wireless Real-time Transmission,

低功耗超长续航
Low Power Consumption, Ultra-long Battery Life

优势维度 Advantage	技术亮点 Technical Highlight	应用价值 Application Value
极速传输 Ultra-Fast Transmission	自研智能无线加密传输协议 (1Hz实时传输) Proprietary intelligent wireless encryption protocol (1 Hz real-time transmission)	数据零延迟、 保障工业系统高效运行 Zero-latency data ensures efficient operation of industrial systems.
长效续航 Extended Battery Life	超低功耗算法 (19000mAh锂亚柱式电池1-3年续航) Ultra-low-power algorithm (19,000 mAh lithium cylindrical battery, 1-3 years lifespan)	降低安装、维护成本、适应复杂工况 Reduces installation and maintenance costs.
严苛防护 Adaptability to Harsh Conditions	双防爆认证 (Gb/T6+Ga/T4) Robust protection with dual explosion-proof certifications (Gb/T6+Ga/T4)	适用于高危作业环境、安全无忧 Reliable performance in high-risk operational environments.
精准测量 Precision Measurement	精度维度0.075%-0.5%FS可选精度 Selectable accuracy levels(0.075%-0.5%FS)	确保数据精准、支撑科学决策 Delivers precise data to support informed decision-making.



核心产品矩阵 赋能智慧工业

Core Products: Intelligent Industrial Solutions

Our solutions integrate wireless technology, AI, and digitalization to
enhance surface testing in oil and gas operations.

无线智能压力变送器

WIRELESS INTELLIGENT PRESSURE TRANSMITTER

产品特点 /Product Features

HD-WP无线智能压力变送器作为工业级智能仪表，核心优势突出且适配性极强。无需布线部署，大幅降低施工与维护成本，适配多领域压力监测场景。安装方式灵活多样，可根据现场工况自由选择，环境适应性优异，能在恶劣工况下长期稳定运行。无线传输安全加密，数据传输稳定无泄露，续航能力强劲，实现长期免维护。具备防爆性能，适配危险工况，工业级材质兼具抗腐蚀、抗振动特性，可实现远程无人值守监测，高效助力工业物联网智能化升级。

The HD-WP wireless intelligent pressure transmitter, as an industrial-grade intelligent instrument, boasts outstanding core advantages and exceptional adaptability. It eliminates the need for wiring, significantly reducing construction and maintenance costs, and is suitable for pressure monitoring scenarios across multiple fields. Flexible installation methods allow for selection based on site conditions, offering excellent environmental adaptability and enabling long-term stable operation even in harsh environments. Secure and encrypted wireless transmission ensures stable and leak-free data transmission, robust battery life, and long-term maintenance-free operation. Explosion-proof design makes it suitable for hazardous conditions, and industrial-grade materials provide corrosion and vibration resistance, enabling remote unattended monitoring and efficiently supporting the intelligent upgrade of the Industrial Internet of Things (IIoT).



技术参数

规格型号: HD-WP
量程范围: -0.1~300MPa区间范围内 (可选)
精度等级: $\pm 0.075\%FS$ 、 $\pm 0.1\%FS$ 、 $\pm 0.25\%FS$ 、 $\pm 0.5\%FS$ (可选)
安装方式: 螺纹连接、法兰连接、支架 (可选)
供电方式: 内置19000mAh锂亚柱式电池
防爆级别: Ex db IIC T6 Gb、Ex iaIIC T4 Ga (可选)
防护等级: IP66
工作环境: 温度-40℃~60℃、湿度<95%无结露

传输频率	1秒	3秒	5秒
电池寿命	12个月	30个月	50个月
传输距离	1-3000m		
通讯方式	GFSK LER低功耗长续航无线安全传输加密协议		
工作频段	ISM433M、ISM470-510M		

Technical parameters

Specifications and Models: HD-WP
Measuring range: -0.1~300MPa (optional)
Accuracy classes: $\pm 0.075\%FS$, $\pm 0.1\%FS$, $\pm 0.25\%FS$, $\pm 0.5\%FS$ (optional)
Installation methods: threaded connection, flange connection, bracket (optional)
Power supply: Built-in 19000mAh lithium-ion cylindrical battery
Explosion-proof rating: Ex db IIC T6 Gb, Ex iaIIC T4 Ga (optional)
Protection rating: IP66
Operating environment: Temperature -40℃~60℃, humidity <95% with no condensation

transmission frequency	1 second	3 seconds	5 seconds
Battery life	12 months	30 months	50 months
Transmission distance	1-3000m		
Communication methods	GFSK LER Low Power Long Battery Life Wireless Secure Transmission Encryption Protocol		
Operating frequency band	ISM433M, ISM470-510M		



无线智能温度变送器

WIRELESS INTELLIGENT TEMPERATURE TRANSMITTER

产品特点 /Product Features

HD-WT无线智能温度变送器为工业级智能仪表，优势突出、适配广泛。无需布线，大幅节省施工与维护成本；安装灵活，防护出色，可在复杂工业环境长期稳定运行。无线加密传输安全可靠，续航强劲实现长期免维护，具备多档防爆选项适配危险工况，工业级耐用品质，支持远程无人值守，助力工业物联网升级。

The HD-WT wireless intelligent temperature transmitter is an industrial-grade smart instrument with outstanding advantages and wide applicability. It requires no wiring, significantly reducing construction and maintenance costs; it offers flexible installation, excellent protection, and can operate stably for extended periods in complex industrial environments. Its secure and reliable wireless encrypted transmission, strong battery life enabling long-term maintenance-free operation, multiple explosion-proof options to adapt to hazardous conditions, industrial-grade durability, and support for remote unattended operation facilitate the upgrade of the Industrial Internet of Things (IIoT).



技术参数

规格型号: HD-WT
量程范围: -100~2000℃区间范围内 (可选)
精度等级: ±0.5%FS
安装方式: 螺纹连接、法兰连接、支架 (可选)
供电方式: 内置19000mAh锂亚柱式电池
防爆级别: Ex db IIC T6 Gb、Ex iaIIC T4 Ga (可选)
防护等级: IP66
工作环境: 温度-40℃~60℃、湿度<95%无结露

传输频率	1秒	3秒	5秒
电池寿命	12个月	30个月	50个月
传输距离	1-3000m		
通讯方式	GFSK LER低功耗长续航无线安全传输加密协议		
工作频段	ISM433M、ISM470-510M		

Technical parameters

Specifications: HD-WT
Measuring range: -100~2000℃ (optional)
Accuracy class: ±0.5%FS
Installation methods: threaded connection, flange connection, bracket (optional)
Power supply: Built-in 19000mAh lithium-ion cylindrical battery
Explosion-proof rating: Ex db IIC T6 Gb, Ex iaIIC T4 Ga (optional)
Protection rating: IP66
Operating environment: Temperature -40℃~60℃, humidity <95% with no condensation

transmission frequency	1 second	3 seconds	5 seconds
Battery life	12 months	30 months	50 months
Transmission distance	1-3000m		
Communication methods	GFSK LER Low Power Long Battery Life Wireless Secure Transmission Encryption Protocol		
Operating frequency band	ISM433M, ISM470-510M		

无线智能差压变送器

WIRELESS INTELLIGENT DIFFERENTIAL PRESSURE TRANSMITTER

产品特点 /Product Features

HD-WH无线智能差压变送器为工业级仪表，优势鲜明。无需布线，省施工维护成本；安装灵活、防护优良，可在复杂环境稳定运行。无线加密传输可靠，续航强劲免维护，具备防爆性能适配危险工况，工业级耐用，支持远程无人值守，助力工业物联网升级。

The HD-WH wireless intelligent differential pressure transmitter is an industrial-grade instrument with distinct advantages. It requires no wiring, saving on construction and maintenance costs; it offers flexible installation, excellent protection, and stable operation in complex environments. Reliable encrypted wireless transmission, strong battery life, and maintenance-free operation make it suitable for hazardous conditions. Its industrial-grade durability supports remote unattended operation, facilitating the upgrade of the Industrial Internet of Things (IIoT).



技术参数

规格型号: HD-WH
量程范围: 0~300KPa区间范围内 (可选)
精度等级: $\pm 0.075\%$ FS
安装方式: 螺纹连接、支架 (可选)
供电方式: 内置19000mAh锂亚柱式电池
防爆级别: Ex db IIC T6 Gb
防护等级: IP66
工作环境: 温度-40℃~60℃、湿度<95%无结露

传输频率	1秒	3秒	5秒
电池寿命	12个月	30个月	50个月
传输距离	1-3000m		
通讯方式	GFSK LER低功耗长续航无线安全传输加密协议		
工作频段	ISM433M、ISM470-510M		

Technical parameters

Specifications and Models: HD-WH
Measurement range: 0~300KPa (optional)
Accuracy class: $\pm 0.075\%$ FS
Installation methods: threaded connection, bracket (optional)
Power supply: Built-in 19000mAh lithium-ion cylindrical battery
Explosion-proof rating: Ex db IIC T6 Gb
Protection rating: IP66
Operating environment: Temperature -40℃~60℃, humidity <95% with no condensation

transmission frequency	1 second	3 seconds	5 seconds
Battery life	12 months	30 months	50 months
Transmission distance	1-3000m		
Communication methods	GFSK LER Low Power Long Battery Life Wireless Secure Transmission Encryption Protocol		
Operating frequency band	ISM433M, ISM470-510M		

气体检测仪

GAS DETECTOR



产品特点 /Product Features

本系列无线智能气体检测仪，涵盖甲烷、二氧化硫、硫化氢等多气体检测型号，工业级品质优势突出。无需布线，节省施工与维护成本；支架安装灵活，防护达IP66，适配-40℃~60℃等复杂环境。无线加密传输稳定可靠，续航强劲可长期免维护，具备对应防爆等级，适配危险工况，工业级耐用，支持远程无人值守，助力工业气体安全监测升级。

This series of wireless intelligent gas detectors covers multiple gas detection models, including methane, sulfur dioxide, and hydrogen sulfide, boasting outstanding industrial-grade quality. No wiring is required, saving on construction and maintenance costs; flexible bracket installation, IP66 protection, and adaptability to complex environments ranging from -40°C to 60°C. Stable and reliable encrypted wireless transmission, strong battery life allowing for long-term maintenance-free operation, corresponding explosion-proof ratings, suitability for hazardous conditions, industrial-grade durability, and support for remote unattended operation, contributing to the upgrade of industrial gas safety monitoring.

技术参数

规格型号:

检测气体	规格型号	量程范围	防爆级别	防护等级
甲烷	GT-HD-GDS	3-100%LEL	Ex ia op isIIC T4 Ga	IP66
二氧化硫	HD-GDS (SO2)	0-200ppm	Ex ia IIC T4 Ga; Ex ia IIIC T200135°C Da	IP66
硫化氢	HD-GDS (H2S)	0-200ppm	Ex ia IIC T4 Ga; Ex ia IIIC T200135°C Da	IP66

精度等级: ±5%FS

安装方式: 支架

供电方式: 内置19000mAh锂亚柱式电池

工作环境: 温度-40℃~60℃、湿度<95%无结露

传输频率	1秒	3秒	5秒
电池寿命	12个月	30个月	50个月
传输距离	1-3000m		
通讯方式	GFSK LER低功耗长续航无线安全传输加密协议		
工作频段	ISM433M、ISM470-510M		

Technical parameters

Specifications and models:

Detecting gas	Specifications and Models	Measuring range	Explosion-proof level	Protection level
methane	GT-HD-GDS	3-100%LEL	Ex ia op isIIC T4 Ga	IP66
Sulfur dioxide	HD-GDS (SO2)	0-200ppm	Ex ia IIC T4 Ga; Ex ia IIIC T200135°C Da	IP66
hydrogen sulfide	HD-GDS (H2S)	0-200ppm	Ex ia IIC T4 Ga; Ex ia IIIC T200135°C Da	IP66

Accuracy class: ±5%FS

Installation method: bracket

Power supply: Built-in 19000mAh lithium-ion cylindrical battery

Operating environment: Temperature -40℃~60℃, humidity <95% with no condensation

transmission frequency	1 second	3 seconds	5 seconds
Battery life	12 months	30 months	50 months
Transmission distance	1-3000m		
Communication methods	GFSK LER Low Power Long Battery Life Wireless Secure Transmission Encryption Protocol		
Operating frequency band	ISM433M, ISM470-510M		

无线电导率 变送器

WIRELESS CONDUCTIVITY TRANSMITTER

产品特点 /Product Features

针对石油录井核心痛点，HD-WD"N"无线电导率变送器专属适配。可精准捕捉钻井液电导率细微变化，为地层评价提供可靠支撑，解决监测精度不足问题。无线传输规避井场布线困扰，优异防爆防护性能适配井场恶劣工况，安装便捷、续航持久，实现长期免维护与无人值守，高效提升录井监测效率、降低巡检成本，保障监测连续稳定。

Addressing the core pain points of oil well logging, the HD-WD"N" wireless conductivity transmitter is specially adapted. It can accurately capture subtle changes in drilling fluid conductivity, providing reliable support for formation evaluation and solving the problem of insufficient monitoring accuracy. Wireless transmission avoids the hassle of well site wiring, its excellent explosion-proof performance adapts to harsh well site conditions, it is easy to install, has long-lasting battery life, and achieves long-term maintenance-free and unattended operation. It significantly improves logging monitoring efficiency, reduces inspection costs, and ensures continuous and stable monitoring.



技术参数

规格型号: HD-WD"N"
量程范围: 0~300mS/cm
精度等级: ±2%FS
安装方式: 支架
供电方式: 内置19000mAh锂亚柱式电池
防爆级别: Ex ia IIC T4 Ga
防护等级: IP66
工作环境: 温度-40℃~60℃、湿度<95%无结露

传输频率	1秒	3秒	5秒
电池寿命	12个月	30个月	50个月
传输距离	1-3000m		
通讯方式	GFSK LER低功耗长续航无线安全传输加密协议		
工作频段	ISM433M、ISM470-510M		

Technical parameters

Specifications: HD-WD"N"
Measurement range: 0~300 mS/cm
Accuracy class: ±2%FS
Installation method: bracket
Power supply: Built-in 19000mAh lithium-ion cylindrical battery
Explosion-proof rating: Ex ia IIC T4 Ga
Protection rating: IP66
Operating environment: Temperature -40℃~60℃, humidity <95% with no condensation

transmission frequency	1 second	3 seconds	5 seconds
Battery life	12 months	30 months	50 months
Transmission distance	1-3000m		
Communication methods	GFSK LER Low Power Long Battery Life Wireless Secure Transmission Encryption Protocol		
Operating frequency band	ISM433M, ISM470-510M		

无线电扭矩 变送器

RADIO TORQUE TRANSMITTER



产品特点 /Product Features

针对石油录井扭矩监测痛点，HD-WF"N"无线电扭矩变送器专属适配。精准监测扭矩数据，为钻井安全管控提供可靠支撑，解决监测不准难题。无线传输规避井场布线困扰，支架安装便捷，防爆防护性能优异，适配井场恶劣工况。续航持久可长期免维护，实现无人值守，提升录井监测效率、降低巡检成本，保障钻井作业安全稳定。

Addressing the pain points of torque monitoring in oil well logging, the HD-WF"N" wireless torque transmitter is specifically adapted for this purpose. It provides accurate torque data monitoring, offering reliable support for drilling safety management and solving the problem of inaccurate monitoring. Wireless transmission avoids the hassle of well site wiring, the bracket is easy to install, and it boasts excellent explosion-proof performance, making it suitable for harsh well site conditions. Its long battery life allows for extended maintenance-free operation, enabling unattended operation, improving logging monitoring efficiency, reducing inspection costs, and ensuring safe and stable drilling operations.

技术参数

规格型号: HD-WF"N"
量程范围: 0-1000A
精度等级: $\pm 2\%$ FS
安装方式: 支架
供电方式: 内置19000mAh锂亚柱式电池
防爆级别: Ex ia IIC T4 Ga
防护等级: IP66
工作环境: 温度-40℃~60℃、湿度<95%无结露

传输频率	1秒	3秒	5秒
电池寿命	12个月	30个月	50个月
传输距离	1-3000m		
通讯方式	GFSK LER低功耗长续航无线安全传输加密协议		
工作频段	ISM433M、ISM470-510M		

Technical parameters

Specifications: HD-WF"N"
Measuring range: 0-1000A
Accuracy class: $\pm 2\%$ FS
Installation method: bracket
Power supply: Built-in 19000mAh lithium-ion cylindrical battery
Explosion-proof rating: Ex ia IIC T4 Ga
Protection rating: IP66
Operating environment: Temperature -40℃~60℃, humidity <95% with no condensation

transmission frequency	1 second	3 seconds	5 seconds
Battery life	12 months	30 months	50 months
Transmission distance	1-3000m		
Communication methods	GFSK LER Low Power Long Battery Life Wireless Secure Transmission Encryption Protocol		
Operating frequency band	ISM433M, ISM470-510M		

无线绞车 变送器

WIRELESS WINCH TRANSMITTER

产品特点 /Product Features

针对石油录井绞车监测痛点，HD-WH"N"无线绞车变送器专属适配。精准捕捉绞车运行数据，为钻井起下钻安全管控提供可靠支撑，解决现场监测不准、响应滞后难题。无线传输设计规避井场复杂布局布线困扰，支架安装便捷，无需复杂施工。具备优异防爆防护性能，适配井场恶劣工况，续航持久可实现长期免维护，支持无人值守，大幅提升录井绞车监测效率、降低人工巡检成本，保障钻井作业安全稳定。

Addressing the pain points of oil well logging winch monitoring, the HD-WH"N" wireless winch transmitter is specifically adapted for this purpose. It accurately captures winch operation data, providing reliable support for safe management of drilling tripping and disconnection, and solving problems of inaccurate on-site monitoring and delayed response. The wireless transmission design avoids the wiring difficulties associated with complex well site layouts, and the bracket installation is convenient, requiring no complicated construction. It boasts excellent explosion-proof protection, adapting to harsh well site conditions, and its long battery life allows for long-term maintenance-free operation, supporting unattended operation. This significantly improves the efficiency of well logging winch monitoring, reduces manual inspection costs, and ensures safe and stable drilling operations.



技术参数

规格型号: HD-WH"N"
量程范围: 0~1250rpm
精度等级: ±1脉冲
安装方式: 支架
供电方式: 内置19000mAh锂亚柱式电池
防爆级别: Ex ia IIC T4 Ga
防护等级: IP66
工作环境: 温度-40℃~60℃、湿度<95%无结露

传输频率	1秒	3秒	5秒
电池寿命	6个月	12个月	18个月
传输距离	1-3000m		
通讯方式	GFSK LER低功耗长续航无线安全传输加密协议		
工作频段	ISM433M、ISM470-510M		

Technical parameters

Specifications: HD-WH"N"
Measuring range: 0~1250rpm
Accuracy class: ±1 pulse
Installation method: bracket
Power supply: Built-in 19000mAh lithium-ion cylindrical battery
Explosion-proof rating: Ex ia IIC T4 Ga
Protection rating: IP66
Operating environment: Temperature -40℃~60℃, humidity <95% with no condensation

transmission frequency	1 second	3 seconds	5 seconds
Battery life	6 months	12 months	18 months
Transmission distance	1-3000m		
Communication methods	GFSK LER Low Power Long Battery Life Wireless Secure Transmission Encryption Protocol		
Operating frequency band	ISM433M, ISM470-510M		

无线流量变送器

WIRELESS FLOW TRANSMITTER



产品特点 /Product Features

针对石油录井流量监测痛点，HD-FLOW"N"无线流量变送器专属适配，涵盖涡轮、靶式两种类型，适配录井多场景流量监测需求。精准捕捉流量数据，为钻井液、泥浆等流量管控提供可靠支撑，解决监测不准难题。无线传输规避井场布线困扰，支架安装便捷，防爆防护性能优异，适配井场恶劣工况。续航持久可长期免维护，支持无人值守，提升录井流量监测效率、降低巡检成本，保障钻井作业安全稳定。

Addressing the pain points of well logging flow monitoring in oilfields, the HD-FLOW "N" wireless flow transmitter is specifically adapted, covering both turbine and target types to meet the flow monitoring needs of various well logging scenarios. It accurately captures flow data, providing reliable support for the flow control of drilling fluids and mud, solving the problem of inaccurate monitoring. Wireless transmission avoids the hassle of well site wiring, the bracket is easy to install, and it boasts excellent explosion-proof performance, making it suitable for harsh well site conditions. Long-lasting battery life allows for extended maintenance-free operation, supporting unattended operation, improving well logging flow monitoring efficiency, reducing inspection costs, and ensuring safe and stable drilling operations.

技术参数

规格型号: HD-FLOW"N" (1代表涡轮、2代表靶式)
量程范围: 0~100%
精度等级: ±5%FS
安装方式: 支架
供电方式: 内置19000mAh锂亚柱式电池
防爆级别: Ex ia IIC T4 Ga
防护等级: IP66

传输频率	1秒	3秒	5秒
电池寿命	12个月	30个月	50个月
传输距离	1-3000m		
通讯方式	GFSK LER低功耗长续航无线安全传输加密协议		
工作频段	ISM433M、ISM470-510M		

Technical parameters

Specifications: HD-FLOW"N" (1 represents turbine, 2 represents target)
Measurement range: 0~100%
Accuracy class: ±5%FS
Installation method: bracket
Power supply: Built-in 19000mAh lithium-ion cylindrical battery
Explosion-proof rating: Ex ia IIC T4 Ga
Protection rating: IP66

transmission frequency	1 second	3 seconds	5 seconds
Battery life	12 months	30 months	50 months
Transmission distance	1-3000m		
Communication methods	GFSK LER Low Power Long Battery Life Wireless Secure Transmission Encryption Protocol		
Operating frequency band	ISM433M, ISM470-510M		

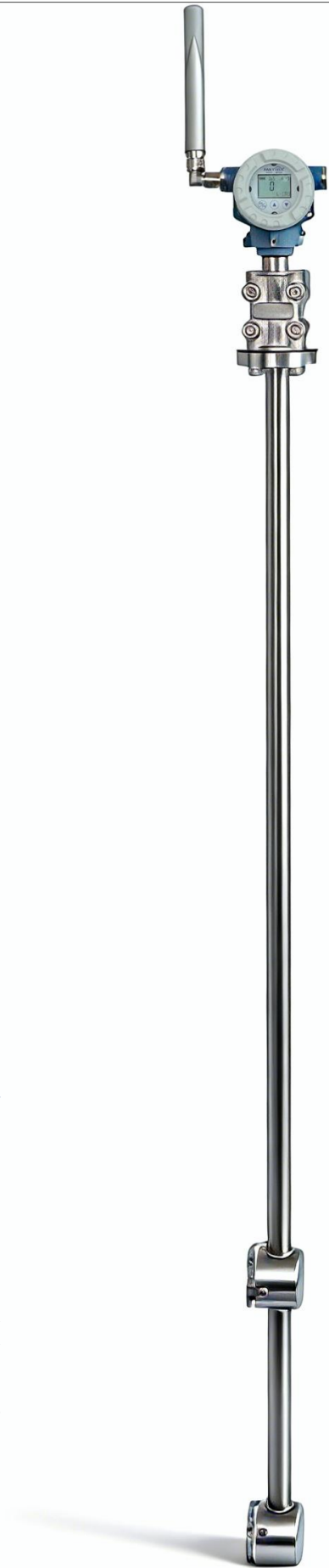
无线密度变送器

WIRELESS DENSITY TRANSMITTER

产品特点 /Product Features

针对石油录井密度监测痛点，HD-WB"N"无线密度变送器专属适配。精准捕捉钻井液、泥浆密度数据，为地层评价及钻井安全管控提供可靠支撑，解决监测不准难题。无线传输规避井场布线困扰，支架安装便捷，防爆防护性能优异，适配井场恶劣工况。续航持久可长期免维护，支持无人值守，提升录井密度监测效率、降低巡检成本，保障钻井作业安全稳定。

Addressing the pain points of density monitoring in oil well logging, the HD-WB"N" wireless density transmitter is specifically adapted for this purpose. It accurately captures drilling fluid and mud density data, providing reliable support for formation evaluation and drilling safety management, and solving the problem of inaccurate monitoring. Wireless transmission avoids the hassle of well site wiring, the bracket is easy to install, and it boasts excellent explosion-proof performance, making it suitable for harsh well site conditions. Long-lasting battery life allows for extended maintenance-free operation, supporting unattended operation, improving the efficiency of well logging density monitoring, reducing inspection costs, and ensuring safe and stable drilling operations.



技术参数

规格型号: HD-WB"N"
量程范围: 0~3g/cm³
精度等级: ±0.01g/cm³
安装方式: 支架
供电方式: 内置19000mAh锂亚柱式电池
防爆级别: Ex ia IIC T4 Ga
防护等级: IP66

传输频率	1秒	3秒	5秒
电池寿命	12个月	30个月	50个月
传输距离	1-3000m		
通讯方式	GFSK LER低功耗长续航无线安全传输加密协议		
工作频段	ISM433M、ISM470-510M		

Technical parameters

Specifications: HD-WB"N"
Measurement range: 0~3g/cm³
Accuracy class: ±0.01g/cm³
Installation method: bracket
Power supply: Built-in 19000mAh lithium-ion cylindrical battery
Explosion-proof rating: Ex ia IIC T4 Ga
Protection rating: IP66

transmission frequency	1 second	3 seconds	5 seconds
Battery life	12 months	30 months	50 months
Transmission distance	1-3000m		
Communication methods	GFSK LER Low Power Long Battery Life Wireless Secure Transmission Encryption Protocol		
Operating frequency band	ISM433M, ISM470-510M		

无线液位 变送器

WIRELESS LEVEL TRANSMITTER

产品特点 /Product Features

针对石油录井液位监测痛点，HD-WA"N"无线液位变送器专属适配，涵盖磁翻板、雷达两种类型，适配录井多场景液位监测需求。精准捕捉液位数据，为钻井液、泥浆液位管控提供可靠支撑，解决监测不准难题。无线传输规避井场布线困扰，支架安装便捷，防爆防护性能优异，适配井场恶劣工况。续航持久可长期免维护，支持无人值守，提升录井液位监测效率、降低巡检成本，保障钻井作业安全稳定。

Addressing the pain points of oil well logging level monitoring, the HD-WA"N" wireless level transmitter is specifically adapted, covering both magnetic and radar types, to meet the level monitoring needs of various logging scenarios. It accurately captures level data, providing reliable support for drilling fluid and mud level management and solving the problem of inaccurate monitoring. Wireless transmission avoids the hassle of well site wiring, the bracket is easy to install, and it boasts excellent explosion-proof performance, making it suitable for harsh well site conditions. Long-lasting battery life allows for extended maintenance-free operation, supporting unattended operation, improving logging level monitoring efficiency, reducing inspection costs, and ensuring safe and stable drilling operations.



技术参数

规格型号: HD-WA"N" (1代表磁翻板、2代表雷达)
量程范围: 0.2~5m
精度等级: ±1mm
安装方式: 支架
供电方式: 内置19000mAh锂亚柱式电池
防爆级别: Ex ia IIC T4 Ga
防护等级: IP66

传输频率	1秒	3秒	5秒
电池寿命	6个月	18个月	24个月
传输距离	1-3000m		
通讯方式	GFSK LER低功耗长续航无线安全传输加密协议		
工作频段	ISM433M、ISM470-510M		

Technical parameters

Specifications and models: HD-WA"N (1 represents magnetic flip panel, 2 represents radar)
Measuring range: 0.2~5m
Accuracy class: ±1mm
Installation method: bracket
Power supply: Built-in 19000mAh lithium-ion cylindrical battery
Explosion-proof rating: Ex ia IIC T4 Ga
Protection rating: IP66

transmission frequency	1 second	3 seconds	5 seconds
Battery life	6 months	18 months	24 months
Transmission distance	1-3000m		
Communication methods	GFSK LER Low Power Long Battery Life Wireless Secure Transmission Encryption Protocol		
Operating frequency band	ISM433M, ISM470-510M		

无线转速变送器

WIRELESS
SPEED
TRANSMITTER

产品特点 /Product Features

针对石油录井转速监测痛点，HD-WC"N"无线转速变送器专属适配。精准捕捉钻井设备转速数据，为设备运行安全管控提供可靠支撑，解决监测不准、响应滞后难题。无线传输规避井场布线困扰，支架安装便捷，防爆防护性能优异，适配井场恶劣工况。续航持久可长期免维护，支持无人值守，提升录井转速监测效率、降低巡检成本，保障钻井作业安全稳定。

Addressing the pain points of oil well logging speed monitoring, the HD-WC"N" wireless speed transmitter is specifically adapted for this purpose. It accurately captures drilling equipment speed data, providing reliable support for safe equipment operation management and solving problems such as inaccurate monitoring and delayed response. Wireless transmission avoids the hassle of well site wiring, the bracket is easy to install, and it boasts excellent explosion-proof performance, making it suitable for harsh well site conditions. Long-lasting battery life allows for extended maintenance-free operation, supporting unattended operation, improving logging speed monitoring efficiency, reducing inspection costs, and ensuring safe and stable drilling operations.



技术参数

规格型号: HD-WC"N"
量程范围: 0-6000r/min
精度等级: ±1脉冲
安装方式: 支架
供电方式: 内置19000mAh锂亚柱式电池
防爆级别: Ex ia IIC T4 Ga
防护等级: IP66

传输频率	1秒	3秒	5秒
电池寿命	6个月	12个月	18个月
传输距离	1-3000m		
通讯方式	GFSK LER低功耗长续航无线安全传输加密协议		
工作频段	ISM433M、ISM470-510M		

Technical parameters

Specifications: HD-WC"N"
Measuring range: 0-6000 r/min
Accuracy class: ±1 pulse
Installation method: bracket
Power supply: Built-in 19000mAh lithium-ion cylindrical battery
Explosion-proof rating: Ex ia IIC T4 Ga
Protection rating: IP66

transmission frequency	1 second	3 seconds	5 seconds
Battery life	6 months	12 months	18 months
Transmission distance	1-3000m		
Communication methods	GFSK LER Low Power Long Battery Life Wireless Secure Transmission Encryption Protocol		
Operating frequency band	ISM433M, ISM470-510M		

无线传输单元

WIRELESS TRANSMISSION UNIT



产品特点 /Product Features

针对石油录井信号传输痛点，HD-WRM“N”无线传输单元专属适配录井工况，可通过 4~20mA 接口接入顶驱扭矩、顶驱转速、二氧化碳分析仪等设备，将有线设备信号转换为无线传输。支持多路设备接入与多种标准协议，可通过上位机灵活修改无线传感器参数。采用支架式安装方式，适配井场现场布局，传输稳定可靠，能够适应野外井场恶劣工况，大幅提升录井信号传输效率，充分满足井场复杂传输需求。

Addressing the pain points of oil well logging signal transmission, the HD-WRM“N” wireless transmission unit is specifically adapted for well logging conditions. It can connect to devices such as top drive torque, top drive speed, and carbon dioxide analyzers via a 4~20mA interface, converting wired device signals into wireless transmission. It supports multi-device access and various standard protocols, and wireless sensor parameters can be flexibly modified via a host computer. Employing a bracket-type installation method, it adapts to the well site layout, ensuring stable and reliable transmission. It can adapt to harsh field well conditions, significantly improving well logging signal transmission efficiency and fully meeting the complex transmission needs of well sites.

技术参数

规格型号: HD-WRM“N”

量程范围: 4~20mA

精度等级: $\pm 0.05\text{mA}$

安装方式: 支架

供电方式: 内置19000mAh锂亚柱电池

防爆级别: Ex ia IIC T4 Ga

防护等级: IP66

Technical parameters

Model: HD-WRM“N”

Measuring Range: 4~20mA

Accuracy Class: $\pm 0.05\text{mA}$

Mounting Method: Bracket

Power Supply: Built-in 19000mAh Lithium-ion Battery

Explosion-proof Rating: Ex ia IIC T4 Ga

Protection Rating: IP66

无线接收单元

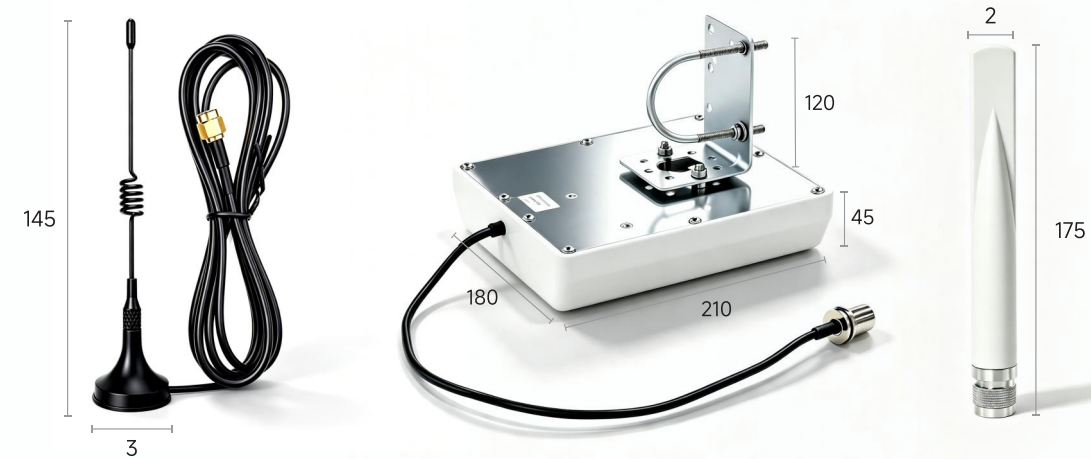
WIRELESS RECEIVER UNIT



产品特点 /Product Features

HD-WRM1无线接收单元适配本公司全系列无线变送器，变送器通过自研LER 低功耗长续航无线安全传输加密协议，将数字量信号发送至本接收单元，再转至用户指定数据系统。设备采集通道支持 16~64 路；可搭配全向鱼尾、平板、吸盘多种天线使用。配备以太网接口，兼容 ModbusTCP、ModbusRTU，同时开放 TCP、UDP 自定义协议，接入灵活便捷，可高效完成井场多路无线设备的数据汇聚转发，适配工业现场多样化系统对接需求。

The HD-WRM1 wireless receiver unit is compatible with our full range of wireless transmitters. The transmitters use our self-developed LER low-power, long-endurance wireless secure transmission encryption protocol to send digital signals to this receiver unit, which then forwards them to the user-specified data system. The device supports 16~64 acquisition channels and can be used with various antennas including omnidirectional fishtail, flat panel, and suction cup antennas. Equipped with an Ethernet interface, it is compatible with Modbus TCP and Modbus RTU, and also supports custom TCP and UDP protocols, allowing for flexible and convenient access. It can efficiently aggregate and forward data from multiple wireless devices in the well site, adapting to diverse system integration needs in industrial environments.



技术参数

规格型号: HD-WRM1

采集通道: 16~64路

供电方式: 标准POE供电、宽电压DC9~28V

适配天线: 全向鱼尾天线、平板天线、吸盘天线

通讯协议: 以太网接口, 支持标准ModbusTCP、ModbusRTU, 开放TCP、UDP自定义协议

Technical parameters

Model: HD-WRM1

Acquisition Channels: 16~64 channels

Power Supply: Standard PoE power supply, wide voltage DC9~28V

Antenna Compatibility: Omnidirectional fishtail antenna, flat panel antenna, suction cup antenna

Communication Protocol: Ethernet interface, supports standard Modbus TCP and Modbus RTU, with open TCP and UDP custom protocols

ON-SITE APPLICATION CASES

现场运用案例

我司基于自研无线传感器与采集系统软件，为西南某致密气平台打造智能化监测方案。低功耗无线传感器部署于井口采油树、分离器等关键点位，以毫秒级频率实时采集压力、温度、压差等核心参数，数据传输稳定、精准度达行业领先水平。

Based on self-developed wireless sensors and acquisition system software, our company has created an intelligent monitoring solution for a tight gas platform in the southwest. Low-power wireless sensors are deployed at key points such as wellhead Christmas trees and separators to collect core parameters such as pressure, temperature, and pressure difference in real time at a millisecond frequency. The data transmission is stable and accurate, reaching the industry-leading level.



搭配自主研发的采集系统软件，自动记录、分析海量现场数据，同步完成天然气产量智能计算。整套方案减少布线成本与维护难度，实现24小时不间断监测，为致密气高效开采与安全生产提供坚实数据支撑，助力客户降本增效。

With the self-developed acquisition system software, it automatically records and analyzes massive field data, and simultaneously completes the intelligent calculation of natural gas production. The whole solution reduces wiring costs and maintenance difficulties, realizes 24-hour uninterrupted monitoring, provides solid data support for efficient tight gas exploitation and safe production, and helps customers reduce costs and increase efficiency.

ON-SITE APPLICATION CASES

现场运用案例



• 防水测试



• 录井 硫化氢



• 录井 悬重



• 录井 雷达