



## 微特技术有限公司

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官方微信

微特技术有限公司  
WEITE TECHNOLOGIES CO., LTD.



WEITE will always focus on the field of safety management of lifting equipment, leading the industry to develop in direction of the crane large data management, whole-life process monitoring services, and intelligent lifting ecosystem. Becoming a global leader in the field of lifting safety management.

## 微特简介 COMPANY PROFILE



微特技术有限公司\* 2002年创建于水电之都” --- 宜昌。属国家高新技术企业，双软企业, 国家级服务型制造示范平台建设企业，全国起重机械标准化技术委员会技术委员，并参与4项国标起草，承办多次国标会议。

微特一直致力于起重安全管理领域；以保障起重设备在运行过程中的安全可靠为己任。先后建设有3大技术平台、全国劳模科研团队，自主专利达150余项，产品通过CE、ISO、CCS等认证，具有超大型起重安全设备生产资质，防爆资质，起重机维修改造A级资质等。应用领域覆盖电力、化工、钢铁、船舶、冶金、施工、建筑、港口、海工等行业。

WEITE TECHNOLOGIES CO.,LTD. Ltd is a national high-tech enterprise which located in the “Hydropower capital”— Yichang. WEITE was founded in 2002 , located in Yichang High-New Technology Zone. WEITE is a key enterprise supported by Hubei province and committed to researching, developing and producing lifting safety instrumentations, automatic monitoring control systems, etc. WEITE engage in ensuring lifting equipments to running safe as own duty.

WEITE's core with new and high technology, has acquired 40 more patents, and Hubei province science significant achievement, third place of Hubei Science and Technology Award. WEITE Independent research and development of products are widely used in marine industry,

凭借过硬的品质和专业的服务，微特与国内数百家大型企业集团达成合作，其单位有：CNOOC、COSL、CREC、CSSC、SANY、SINOPEC、PowerChina、CNPC、ConocoPhillips中国、ROCK、CNEC、MCC、CCCC、CHEC、CRBC、ZPMC、CIMC、712、719、722、武昌造船厂、武钢、包钢、攀钢、二汽等等特大型企业、500强企业。

在国内重点工程与“一带一路”国际建设中均可见微特的身影，微特已成为中国知名的起重安全保护专家，起重机安全技术的领导者，大型重要起重机安全监控方案的首选品牌。

\* 经国家工商总局批准，“宜昌市微特电子设备有限责任公司”名称从2018年4月23日变更登记为“微特技术有限公司”。

electrical, chemical, steel, metallurgy, construction, ports and other industries.

WEITE regards quality as life, company has passed the European Union CE standard production, ISO9001-2008 international quality system certification, and the products through UL certification, Classification Society (CCS) certification. WEITE has established long-term cooperation with several large size enterprises in China by reliable quality and good reputation.

WEITE always stand firmly on ensuring lifting equipment more safe and reliable towards our customers, i. e. corporate conception oriented by integrity, pragmatic, innovation and specialization.

## 品质保障 QUALITY ASSURANCE



- ★ 国家高新技术企业
- ★ 欧盟CE认证企业
- ★ ISO9001-2008认证企业
- ★ 船级社CCS认证企业
- ★ 2500t 超大型起重机超载限制器生产资质
- ★ 342000kN.m超大型力矩限制器生产资质
- ★ 起重机械检修A级资质
- ★ 起重机力矩限制器防爆资质
- ★ 起重机安全监控管理系统 国家认可资质
- ★ 宜昌市传感物联网实验室建设企业
- ★ 四项国标起草单位

- ◆ National grade high-tech enterprise
- ◆ The EC CE authentication enterprise
- ◆ ISO9001-2008 quality system certification
- ◆ Classification society CCS certification enterprises
- ◆ 2500 t very large crane overload limiter production qualification
- ◆ 342000 kn. m very large load moment indicator production qualification
- ◆ Hoisting machinery maintenance class A qualification
- ◆ Crane load moment indicator explosion-proof certificate
- ◆ Crane safety monitoring management system of national recognized qualification
- ◆ Yichang sensing united laboratory construction enterprise
- ◆ Drafting compang of four national standards



## 先进的仪表实验检测实验室 CRANE SAFETY INSTRUMENT EXPERIMENTAL TESTING CENTER

为了进一步提升产品品质，微特投资建设了传感物联网实验室，在同行中率先了引进了微机控制电子式万能试验机、雷击浪涌发生器、静电放电发生器、工频磁场、电快脉冲、高低温交变湿热试验箱等一系列先进实验测试设备。通过模拟极端条件下的应用环境来测试微特产品，以充分确保产品的可靠性。

To improve the product quality, WEITE invested and built a Sensor Testing Laboratory, and was the first to introduce Electrical Universal Testing Machine, Lightning Surge Generator, Electrostatic discharge generator,



PFMF,EFT/B,GDJS and other advanced testing machine. WEITE test products through simulating application environment under extreme conditions,to ensure the reliability of each product.



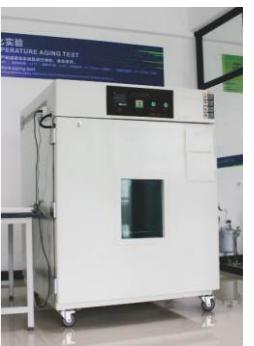
用于吊装实验的起重实验机  
Hoisting Experiment Crane



电子式万能试验机  
Electronic universal testing machine



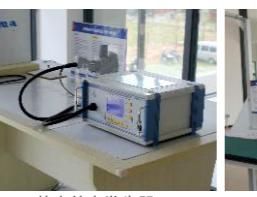
高低温交变湿热试验箱  
High and low temperature alternating hot and humid test chamber



高温老化试验箱  
High temperature aging test chamber



电快速脉冲群试验机  
EFT/B (Electrical fast transient burst) Testing Machine



雷击浪涌发生器  
Lightning surge generator



工频磁场试验机  
PFMF (power frequency magnetic fields) Testing Machine



电磁振动试验台  
Electromagnetic vibration table



深水压力试验机  
Deepwater Pressure Testing Machine



自动光学检测机  
(Automated Optical Inspection)



信号质量分析仪  
Signal quality analyzer



自动贴片机  
SMT Machine

传感器检测  
Sensor detection

需要更多资料请致电微特或访问微特官网: [www.wtau.com](http://www.wtau.com)  
More information about Weite, please visit our website: [www.wtau.com](http://www.wtau.com)

## ► 海洋起重机安全监控管理装置 OFFSHORE CRANE SAFETY MONITORING MANAGEMENT SYSTEM



系统应用示意图 SCHEMATIC DIAGRAM



型 号	W650V3
显 示	8 inch LCD
环境温度	-20°C~70°C
环境湿度	95% (25°C)
信号输入	≤6 channels
控制输出	≤6 channels
系统误差	≤5%(F.S)
能量消耗	<30W
报警音量	>60db
防护等级	IP 65
工作电压	AC220V/DC24V

Style No.	W650V3
Display	8 inch LCD
Operating temperature	-20°C~70°C
Operating humidity	95% (25°C)
Signal input	≤6 channels
Control output	≤6 channels
System composition error	≤5%(F.S)
Power consumption	<30W
Alarm volume	>60db
IP grade	IP 65
Power supply	AC220V/DC24V

您有特殊的应用要求吗？您需要监测特殊的工况信息吗？

凭借先进的技术和丰富的经验，微特可根据您的特殊要求量身定制。微特人热衷为您提供全面的起重设备安全保护方案。

Do you have special application requirements?

You need to customize product according to the function?

Relying on advanced technology and rich experience, Wiete has outstanding strength in the customization services of crane safety protection. WTAU people keen to provide you with complete lifting equipment safety protection solution.

## ► 优越性 THE SUPERIORITY

### ► 确保安全,可靠 RELIABLE

- \* ISO、CE、CCS认证，品质可靠
- \* 时刻监控起重机作业的各项数据
- \* 意外断电有数据保护功能
- \* 视觉和听觉双重报警
- \* 带操作黑匣子记录功能，对危险操作可返回查看
- \* 充分考虑现场工作情况，防水防尘防碰撞
- \* ISO、CE、CCS certification, quality and reliable
- \* Time monitoring crane job data
- \* Unexpected power outages data protection features
- \* Visual and auditory dual alarm
- \* With the operating data logging capabilities, dangerous operation to return to the View
- \* Give full consideration to the work site, waterproof and dustproof anti-collision

### ► 功能扩展,实用 PRACTICAL

- \* 在线监测项目
- \* 累计载荷重量记录
- \* 累计循环次数记录
- \* 累计运行时间记录
- \* 主副钩钢丝绳保养提示
- \* On-line monitoring project
- \* The cumulative load weight record
- \* Cumulative record cycles
- \* Total run time record
- \* Main hook and rope maintenance tips

### ► 使用方便,直观 INTUITIVE

- \* 一屏显示各类数据、所有信息尽收眼底
- \* 显示图形可完全符合您的起重机设备
- \* 模拟起重机动态显示(指定型号仪表)
- \* 系统简单易懂，智能人机交互
- \* Full screen display various data, all information can be seen
- \* Display graphics fit your crane device
- \* Dynamic display can simulate crane (instrument) of the specified type
- \* System operation simple, intelligent human-computer interaction.

### ► 兼容性强,灵活 FLEXIBLE

- \* 中英文界面切换
- \* 系统兼容于各类主流传感器
- \* 系统适用于各类起重机
- \* 系统输出信号类型广泛
- \* Chinese and English interface
- \* Compatible with all types of sensors on the market
- \* Applicable to all types of crane
- \* Widely output signal types

### ► 提升效率,提高生产力 PRODUCTIVE FORCES

- \* 保障起重机安全可靠、高效的运行
- \* 支持数据下载分析（远程功能可实现在线分析与诊断）
- \* 直观的图形显示给操作员提供便捷的参考
- \* 可靠的售后团队，及时响应你的需求
- \* Ensuring crane safe, reliable and efficient operation
- \* Supported operating data download (remote function available on-line analysis and diagnosis)
- \* Intuitive graphical display provides the operator with a quick reference
- \* Reliable after-sales team to respond to your needs in a timely manner

您需要远程监控所有起重机吗？

微特力矩限制器可实现互联网远程监控功能，您可以通过电脑或手机监控任何地点的起重设备。即时了解远方起重机的各项功能数据、或者查看任意时间段的历史数据。同时，微特远程监控平台具有独到的在线分析、远程诊断、远程修复、远程锁机等功能，帮助您轻松管理多个起重设备。

Do you need to remote monitoring all cranes ?

WTAU moment limiter can realize Internet remote monitoring function, you can monitor any lifting equipment through your computer or a cell phone. Instant understanding each function of crane distance data, or view the historical data from any time period. WTAU remote monitoring platform, meanwhile, has a unique online analysis, remote diagnosis, remote repair, remote locking machine, and other functions, helps you to easily manage multiple lifting equipment.

## WS-ZX销轴式传感器



## WS-ZX shaft type weight sensor

测量范围：从5KN开始  
典型应用：.工业称重  
.制造自动化  
.钢丝绳的拉力测量  
测量精度： $1.0 \pm 0.005\text{mv/v}$   
极限过载：250%F.S  
密封等级：IP68  
安全过载：150%F.S  
使用温度范围：-30°C ~ +70°C

特性：  
.内置薄膜传感元件  
.不锈钢材质  
.集成放大电路  
.具有较好的长期稳定性  
.抗冲击性能强  
.适合动态.静态测量  
.温度漂移小

Range: start from 5KN  
Typical Applications: Industrial weighing; manufacturing automation; wire rope pull strength measurement  
Accuracy of measurement:  $1.0 \pm 0.005\text{mv/v}$   
Ultimate overload: 250%F.S  
IP Code: IP68  
Safe overload: 150%F.S  
Temperature range: -30°C ~ +70°C

## Characteristics

- . Built-in film sensing element
- . Stainless steel material
- . The integrated amplifier circuit
- . Long-term stability
- . Strong impact resistance
- . Suitable for dynamic and static measurements
- . Tiny temperature drift error

## WS-ZS重量传感器



## WS-ZS weight sensor

测量范围：从0.05T---500T  
典型应用：.负载感应  
.传送运输系统  
.钢丝绳的拉力测量  
测量精度： $1.0 \pm 0.005\text{mv/v}$   
极限过载：250%F.S  
密封等级：IP68  
安全过载：150%F.S  
使用温度范围：-30°C ~ +70°C

特性：  
.内置薄膜传感元件  
.不锈钢材料  
.集成放大电路  
.具有较好的长期稳定性  
.抗冲击性能强  
.重复精度高  
.适合动态.静态测量  
.温度漂移小

Range: 0.05ton~500ton  
Typical Applications: load sensing; Transfer transportation system; wire rope pull strength measurement  
Accuracy of measurement:  $1.0 \pm 0.005\text{mv/v}$   
Ultimate overload: 250%F.S  
IP Code: IP68  
Safe overload: 150%F.S  
Temperature range: -30°C ~ +70°C

Characteristics

- . Built-in film sensing element
- . Stainless steel material
- . The integrated amplifier circuit
- . Long-term stability
- . Strong impact resistance
- . Suitable for dynamic and static measurements
- . Tiny temperature drift error

## WS-BH拉力传感器



## WS-BH plate-ring type tension sensor

测量范围：从500KG开始  
典型应用：.负载感应  
.传送运输系统  
.钢丝绳的拉力测量  
测量精度： $1.0 \pm 0.005\text{mv/v}$   
极限过载：250%F.S  
密封等级：IP68  
安全过载：150%F.S  
使用温度范围：-30°C ~ +70°C

特性：  
.内置薄膜传感元件  
.不锈钢材料  
.集成放大电路  
.具有较好的长期稳定性  
.抗冲击性能强  
.重复精度高  
.适合动态.静态测量  
.温度漂移小

Range: start from 500KG  
Typical Applications: load sensing; Transfer transportation system; wire rope pull strength measurement  
Accuracy of measurement:  $1.0 \pm 0.005\text{mv/v}$   
Ultimate overload: 250%F.S  
IP Code: IP68  
Safe overload: 150%F.S  
Temperature range: -30°C ~ +70°C

## Characteristics

- . Built-in film sensing element
- . Stainless steel material
- . The integrated amplifier circuit
- . Long-term stability
- . Strong impact resistance

## WS-SHL三滑轮传感器



## WS-SHL three pulley weight sensor

测量范围：从500KG开始  
典型应用：.负载感应  
.传送运输系统  
.钢丝绳的拉力测量  
测量精度： $1.5 \pm 0.005\text{mv/v}$   
极限过载：250%F.S  
密封等级：IP68  
安全过载：150%F.S  
使用温度范围：-30°C ~ +70°C

特性：  
.内置薄膜传感元件  
.不锈钢材料  
.集成放大电路  
.具有较好的长期稳定性  
.抗冲击性能强  
.重复精度高  
.适合动态.静态测量  
.温度漂移小

Range: start from 500KG  
Typical Applications: load sensing; Transfer transportation system; wire rope pull strength measurement  
Accuracy of measurement:  $1.0 \pm 0.005\text{mv/v}$   
Ultimate overload: 250%F.S  
IP Code: IP68  
Safe overload: 150%F.S  
Temperature range: -30°C ~ +70°C

Characteristics

- . Built-in film sensing element
- . Stainless steel material
- . The integrated amplifier circuit
- . Long-term stability
- . Strong impact resistance
- . Suitable for dynamic and static measurements
- . Tiny temperature drift error

## WS-FSY-1风速传感器

## WS-FSY-1 wind speed sensor



测量范围：1.0~60m/s  
准确度： $<30\text{m/s} \pm (0.5 + 0.05\%)$   $\geq 30\text{m/s} \pm 5\%$   
分辨率：0.1m/s  
起动风速： $<0.7\text{m/s}$   
工作环境： $-30^\circ\text{C} \sim +60^\circ\text{C}$   
底座安装内孔： $\phi 68$

Range: 1.0~60m/s  
Accuracy:  $<30\text{m/s} \pm (0.5 + 0.05\%)$   $\geq 30\text{m/s} \pm 5\%$   
Resolution: 0.1m/s  
Starting wind speed:  $<0.7\text{m/s}$   
Temperature:  $-30 \sim +60^\circ\text{C}$   
Base mounting hole:  $\phi 68$

## WS-SC/FX 风向传感器

## WS-SC/FX Wind direction sensor



供电电压：DC12~24V  
输出方式：电压：0~5V 电流：4~20mA 数字：RS485、RS232  
启动风速：0.5m/s 测量范围：16个方向（360度）  
分辨率：0.1m/s 系统误差：±3%  
传输距离：大于1000m 工作温度：-20℃~80℃  
重量：<1kg

Working voltage: DC12V~24V  
Output singal: 4~20mA or by request  
Starting wind speed: 0.5m/s Range: 16 directions(360 degrees)  
Resolution: 0.1m/s Systematic error : +/-3%  
Transmission distance: >1000m  
Working temperature: -20~+80 degree Celsius  
Weight: <1.0kg

## WS-SAG-1213编码器

## WS-SAG-1213 encoder



接口：同步串行 (RS422)  
输出码：格雷码或二进制码  
单圈最大脉冲数：65,563(16位)  
EMC EN61000-6-2 EN61000-6-4

Interface: Synchronous Serial (RS422)  
Output code: Gray code or binary code  
One-loop Maximum number of pulse: 65,563(16 bits)  
EMC EN61000-6-2 EN61000-6-4

## WS-JDC-100角度传感器

## WS-JDC-100 angle sensor



型号：WS-JDC-100-L(左装式)

WS-JDC-100-R (右装式)

所用元件：导电塑料电位器(CPP)

测量范围：-10° ~+110°

额定输出：DC3~6.9V/0~90°

工作电压：DC15V

线性度：0.05、0.1、1%

耐冲击性：20g 15~20ms

耐水性：防水型 IP68

使用环境湿度：10~95%

使用温度范围：-30~+70°C

Type: WS-JDC-100-L(left mounted)

WS-JDC-100-R(right mounted)

Element: conductive plastic potentiometer (CPP)

Rated output: DC15V

Linearity: 0.05、0.1、1%

Water resistance: waterproof type, Ip68

Temperature range: -30~+70°C

Range: -10° ~+110°

Working voltage: DC15V

Impact resistance: 20g 15~20ms

Humidity range: 10~95%

## WS-GJ-1高度限制开关

## WS-GJ-1 height limit switch



用于其重机钢丝绳防过卷的一种机械式自动保护开关,它与一适合重量的重锤配套使用,利用吊钩的上下运动托起或放下重锤时断开或接通开关,实现自动切断卷扬机动力电源,达到限制钢丝绳过卷的目的.

适用电源：DC12V -- AC380V

额定电流：5A

WS-GJ-1 switch is used for lifting wire rope anti-volume limit an electrical automatic protection switch. It is an appropriate weight of the hammer supporting the use of hook up and down movement to hold up or disconnect or turn-on switch, put down the hammer to achieve the purpose of automatically cut off the hoist power supply connected braking system to limit rope over volume, and reach hook in the purpose of a certain height within the lift.

Adapter power: DC12V -- AC380V

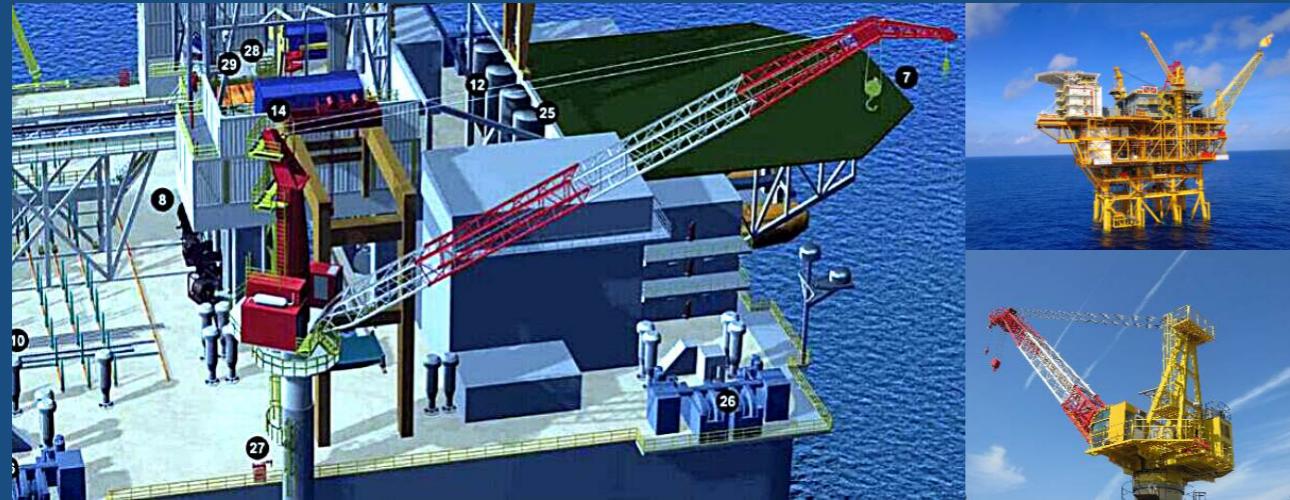
Rated current: 5A

# WT-W660V3吊车空间安全监控管理系统

## WT-W660V3 CRANE SPACE SAFETY MONITORING MANAGEMENT SYSTEM

### ▶ 系统功能介绍 SYSTEM FUNCTION INTRODUCTION

WT-W660V3吊车空间安全监控管理系统是根据国家GB/T28264-2012新标准研制的针对各类臂架设备的改造和新建标准的强制实施，同时适用于各领域的起重施工设备。



### ▶ 系统特点介绍 PLATFORM FEATURES

#### 全方位实时监控

该系统对设备的运行进行全方位的实时监控，避免吊车在吊物过程中与现场设备碰撞，降低因操作者的疏忽或失误而造成安全事故，有效的保证该设备和其它设备的安全；

#### 航空级数据记录仪（黑匣子）

根据现场吊车所在3维空间的相关数字坐标，该系统能实时准确的反映监控对象的实时工况，并配备航空级别的故障数据记录仪（黑匣子）可随时再现设备不同时段的关键数据库，提供可追溯的客观历史记录；

#### 三大模块全面保障设备安全

系统以安全监控、信息记录及远程控制模块为基础，实现故障自我诊断、对设备可能出现的危险进行有效的预警、对发生故障的设备依据历史数据分析，全面提高大型设备的安全性；

#### 设备环境三维控制

通过建立吊车使用环境的三维坐标，避免吊车在使用过程中和设备的相互碰撞，通过传感器和监控仪表控制吊车在安全空间内运行。

Based on GB/T28264-2012(the newest national standard) enforce compliance, WT-W660V3 crane space safety monitoring management system is made for kinds of boom device transformation and creation, and its applicable to hoisting construction equipment in all areas.

#### All-round real-time monitoring

This system takes all-round real-time monitoring to the hoisting equipment, to avoid the crane collide with other equipments around, reduce the occurrence of accidents because of operator's negligence or improper operation, effective to keep the crane and equipments around safety.

#### Aircraft grade data recorder

According to the crane's 3-d digital coordinates, the system can real-time accurate reflect the condition of real-time monitoring objects, and equipped with aircraft grade data recorder, and it can represent the key database at different times of the equipment at any time, to provide the traceability of objective history.

#### The three modules to ensure the safe operation of equipment

Based on safety monitoring module, information record module and remote control module, the system achieve crane malfunction self-diagnosis function, give effective alarm for possible danger, record fault information for analyzing, to improve the safety of equipment.

#### Equipment environment 3-d control

Building crane working condition 3-d digital coordinates, to avoid the crane collide with other equipments around, effective to keep the crane and equipments around operation safety by sensors and monitoring instrument.

### ▶ 海洋吊机典型应用示意图 (WT-W660V3)

#### MARINE CRANE TYPICAL APPLICATION SCHEMES(WT-W660V3)



### ▶ 典型应用平台相关技术参数

#### TYPICAL APPLICATION PLATFORM RELATED TECHNICAL PARAMETER

##### 工作要求

输入电压 : AC220V / DC24V

##### Working requirements

Input voltage: AC220V/DC24V

##### 现场通讯功能

Modbus/RTU标准通讯协议

(根据不同接口配置协议转换模块)

2路USB通讯接口

3路RS232/RS485接口

1路100M以太网口

数据传输速率不低于19.2Kbps

(远端视频传输速率不低于512Kbps)

工作温度 : -40 ~ +70°

系统通讯误码率不大于1.5%

##### Filed communication function

- Modbus/RTU standard communication protocol  
(Configure transformation module with different interfaces.)
- 2 channels USB communication interfaces
- 3 channels RS232/RS485 communication interfaces
- 1 channel 100M Ethernet interface
- Data transfer rate no less than 19.2Kbs (remote video transfer rate no less than 512Kbs)
- Working temperature: -40 ~ +70 degree Centigrade
- System communication error code rate no greater than 1.5%

##### Remote communication function

GPRS, 3G, Internet communication model  
Remote fault diagnosis  
Remote equipment maintenance

GPRS、3G、Internet通讯模式

远程故障诊断

远程设备维护

##### 图形终端

10.4寸TFT彩色液晶触摸屏

工作温度 : -30 ~ +50°

##### Graphics terminal

10.4 inch TFT Colorful LCD touching screen  
Working temperature: -30 ~ +50 degree Centigrade

## WT-W660V3吊车空间安全监控管理系统 典型应用平台相关特点

WT-W660V3 CRANE SPACE SAFETY MONITORING MANAGEMENT SYSTEM  
TYPICAL APPLICATION PLATFORM RELATED CHARACTERISTIC



- 具备常用的通讯接口，无源开关量信号接口、4-20mA模拟信号接口，脉冲量信号接口，有独立并可扩展的I/O功能。整机数据采用Modbus或Profibus通讯。
- 可实时查看历史操作记录，并可在后台进行分析判断操作的正确性。
- 能将设备的各种运行信息上传并记录在服务器中。
- 可远程查看设备的实时GPS位置。
- 对常规故障进行预警，报警并控制，并保存故障信息，提高设备运行的安全可靠性。
- 对设备历史运行记录进行管理。
- 利用远程模块，实现设备的远程修复。
- 提供与PLC的通讯接口，能读取各类实时数据并实时显示。

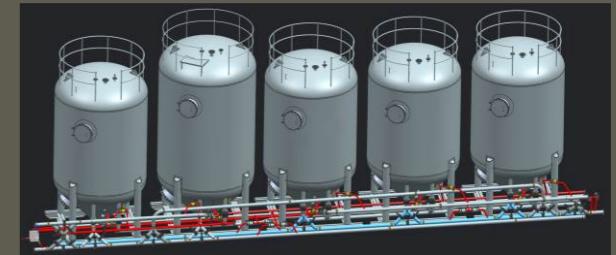


## WT-W650V灰罐称重系统 WT-W650V cement tank load system

### 产品介绍 PRODUCT INTRODUCTION

微特开发的水泥浆配给料灌装平台系统，须配备自动配给料称重控制电器系统，以实现水泥浆各原料罐按比例自动给料、缺料报警、原料罐装料过载报警，缺料时提供报警信号使配料系统停机等工况。

Cement slurry filling platform system should be equipped with automatic ration material weighing control system to realize slurry feedstock proportionally, starved feeding alarm, feeding overload alarm, and when starved feeding, offer alarm signal to stop running, etc.



### 执行的标准和规范 STANDARDS AND SPECIFICATIONS

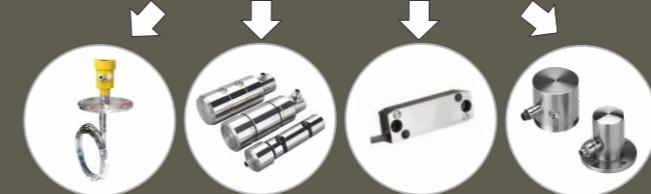
灰罐配料称重系统的制造及材料符合下列标准与规范。

符合国家标准GB3836.1-2000《爆炸性环境用防爆电气设备通用要求》及GB3836.4-2000《爆炸性环境用防爆电气设备本质安全型电路和电气设备“i”的要求》电气设备的控制、继电保护设计遵循GB和IEC相关标准。供货的电气设备和材料从国内外公认合格的制造厂商中选择。随机配套控制箱、小型仪表盘应采用防尘防溅密封结构，并符合GB4208中规定的IP56等级的要求。

WT-W650V cement tank load system's manufacturing process and materials comply with the following standards and specifications.

Meet the national standards GB3836.1-2000 <General requirements for explosive environment with explosion-proof electrical equipment> and GB3836.4-2000 < General requirements for explosive environment with explosion-proof electrical equipment which with secure circuit and electrical equipment “i”> electrical equipment control, relay protection design follow GB and IEC standards. Electrical equipment and materials from the corresponding industry recognized manufacturers. Whole system with control box, Small dashboard using dustproof splash seal structure, and meet IP56 in GB4208 standard.

### 系统布局及传感器布局 SYSTEM LAYOUT AND SENSOR LAYOUT

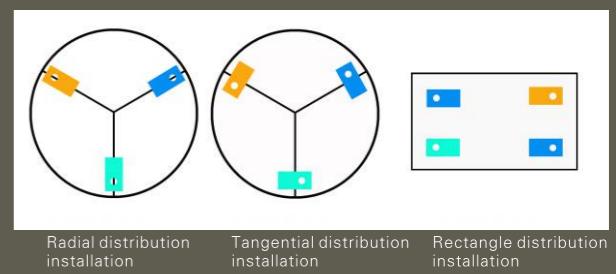


#### 传感器可选择的组合：

- 重量传感器
- 导波雷达传感器
- 重量传感器+导波雷达传感器

#### Sensor optional combination

- Weight sensor
- Guided wave radar sensor
- Weight sensor + Guided wave radar sensor



## WT-W650V灰罐称重系统现场安装

### WT-W650V CEMENT TANK LOAD SYSTEM FIELD INSTALLATION



防爆接线盒现场  
Explosion-proof junction box



现地仪安装图片  
Instrument installation drawing



配料房显示仪表安装图片  
Mixing room display instrument



## WT-W650V 显示仪表参数

### WT-W650V DISPLAY INSTRUMENT PARAMETERS:

防爆级别 : Ex dIIBT4

工作电压 : DC12~24V或AC220V

产品功能 : 产品带数据记录功能和黑匣子功能

工作环境温度 : -30°C ~ +70°C

工作环境湿度 : 20°C ~ 95%RH (不能结露)

整机功耗 : < 35W

报警音量 : > 60db

系统误差 :  $\leq \pm 3\%$

\* ISO、CE、CCS认证，品质可靠

\* 时刻监控灰罐作业的各项数据

\* 意外断电有数据保护功能

\* 视觉和听觉双重报警

\* 带操作黑匣子记录功能，对危险操

作可返回查看

\* 充分考虑现场工作情况，防水防尘防碰撞

Explosion-proof grade: Ex dII BT4

Working voltage: DC12V~24V or AC220V

Function: Built-in data records and storage capabilities

Working temperature: -30 ~ 70 degree Centigrade

Working humidity: 20 ~ 90 % RH (Prohibit dew)

Power consumption:  $\leq 50W$

Alarm volume:  $\geq 60db$

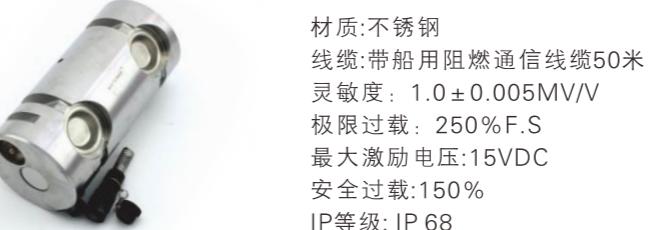
System error:  $\leq \pm 3\%$

- ISO/CE/ CCS certification, reliable character
- Real-time monitoring kinds of cement tank's data
- Breakpoint memory and power-off protection function
- Sound and light warning function
- Can view real-time operating history records
- Waterproof, dustproof and anti-collision

## WT-W650V灰罐称重系统传感器

### WT-W650V CEMENT TANK LOAD SYSTEM SENSOR

#### WS-ZX重量传感器



材质:不锈钢  
线缆:带船用阻燃通信线缆50米  
灵敏度:  $1.0 \pm 0.005MV/V$   
极限过载: 250% F.S  
最大激励电压:15VDC  
安全过载:150%  
IP等级: IP 68

#### WS-ZX weight sensor

Material:  
Stainless steel  
Cable: with marine flame retardant communication cable 50 meters  
Sensitivity:  $1.0 \pm 0.005MV/V$   
Limit overload: 15VDC  
The biggest excitation voltage  
Safety overload: 150%  
IP Code: IP68



#### WS-ZS重量传感器

材质:不锈钢  
线缆:带船用阻燃通信线缆50米  
灵敏度:  $1.0 \pm 0.005MV/V$   
极限过载: 250% F.S  
最大激励电压:15VDC  
安全过载:150%  
IP等级: IP 68



#### WS-TP重量传感器

贴片式称重料位计是利用支撑结构受力变形这一特征，具有高灵敏度准确的检测出材料微小的变形并将这些变形转换成重量值，只需要将传感器紧密的用螺栓贴合在支撑结构上



#### WS-DB雷达物位计

雷达物位计可以测量从发射信号到返回信号的时间差，从而测算可测量距离和物位，不需要载体介质，可以以光速传递。

脉冲工作频率:  
26GHz (JPR-155-159) ,  
6GHz (JPR-151-154) ,

导波频率:  
500M-2GHz(JVR-151-156)

适用介质: 固体粉料

应用: 水泥仓粉料的测量、粉煤灰粉料测量

防爆认证:

Exib II C T6 Gb/ Exd II C T6 Gb

测量范围: 30m

频率: 500MHz-1.8GHz

天线: 双缆式天线

测量精度:  $\pm 5mm$

过程温度: (-40~250) °C

#### WS-DB Radar Material Level Measuring Instrument

Radar Material Level Measuring Instrument can measure time difference from the launch information to return signal, thus measurement can measure distance and location, don't need a carrier medium, and can be passed at the speed of light,

the working frequency of pulse:

26 GHZ (JPR – 155–159),  
6 GHZ (JPR – 151–154),

guided wave frequency:  
500 m – 2 GHZ (JVR – 151–156).

Applicable medium: solid powder  
Applications: cement silo powder, fly ash powder measurement

Explosion-proof certification: Exib II C T6 Gb/Exd II C T6 Gb

Range: 30m

Frequency: 50MHz-1.8GHz

Antenna: double line antenna

Accuracy of measurement:  $\pm 5mm$

Process temperature: (-40 ~ +250 degree Centigrade)

# WT-W630V锚机称重仪

## WT-W630V WINDLASS LOAD SYSTEM

### 产品简介 PRODUCT INTRODUCTION

WT-W630V型产品采用微电脑或工业标准的PC104控制机为核心控制，模块化结构，全按键操作，液晶显示。具有精度高、性能稳定、工作可靠、安装调试简便等特点及数字显示、声光报警、断电保护等功能。由于采用开放性的软件设计，该系列产品具有很强的现场编程能力，锚机设备的各种工况参数的设置或者修改，均可通过仪器面板的按键完成，使调试工作变得简单直观。

WT-W630V adopts microcomputer control or industrial standard PC104 machine as control core, modular structure, all keystrokes, liquid crystal display (LCD). With high precision, stable performance, reliable operation, easy installation and debugging, etc and digital display, sound and light alarm, power protection, etc. Because of using open software design, this series of products have strong field programming ability, windlass devices under various working conditions of parameter setting or change, all can finish through the instrument panel of buttons, make it simple and intuitive debugging.



### 产品功能概述 FUNCTION INTRODUCTION

本产品融电子技术和微电脑技术为一体。其主要功能如下：

1. 能够自动检测设备的各种信号并输入仪表进行微机处理。如：重量信号、仪表能显示预先设定的各种工况参数。如、额定重量、实际重量、
2. 系统能自动对锚机的性能参数进行连续采样，实时跟踪，微电脑进行运算、比较、判断，随时发出声光报警，显示各参数的同时，并切断锚机向危险方向运行的回路，同时允许其向安全方向运行，从而实现安全自动控制；
3. 参数输入时有防抖动延时功能，对数据掉电保持功能，存贮的数据可保持10年；
4. 密码设定功能，防止参数误设定；
5. 主机通用性好，在不改变主机的情况下，只要将软件加以修改，就能够满足现场使用要求。

如果您有特殊要求，本公司可为您按需定制。

This product is a combination of electronic technology and microcomputer technology. Main functions are as follows:

1. Automatic test equipment of all kinds of signals, input them to instrument, and microcomputer processing. Such as: weight signal. The meter can display preset parameters under various working conditions. Such as: the rated weight, actual weight;
2. System can automatically continuous sampling parameters on the performance of the windlass, real-time tracking, microcomputer arithmetic, comparison, judgment, ready to send out sound and light alarm, display parameters at the same time, and cut off the windlass to dangerous direction circuit, at the same time allow it to run in the direction of security and safety so as to realize the automatic control;
3. Anti delay jitter when inputting parameters, data protection when unexpected power outages ,storage of data can be stored for 10 years;
4. Password to prevent the parameters set by mistake;
5. Host has good generality, can meet the demand of the worksite by changing the software, special requirements can be customized.

### 锚机称重仪系统重要组成

#### IMPORTANT PART OF WT-W630V WINDLASS LOAD SYSTEM

##### 称重监控主机



工作电压: DC12~24V或AC220V  
产品功能: 产品带数据记录功能和黑匣子功能  
环境温度: -30℃ ~ +70℃  
环境湿度: 20℃ ~ 95% RH (不能结露)  
整机功耗: <35W  
报警音量: >60db  
系统误差: ≤ ± 3%  
工作方式: 连续  
防护等级: 室外部分IP67  
室内部分IP65  
控制继电器: 容量 AC220V 5A

##### Parameters of monitoring host

Working voltage: DC12~24V or AC220V  
Product features: with the function of data records and storage capabilities  
Working temperature: -30 ~ 70 degree Centigrade  
Working humidity: 20 ~ 90 % RH (Prohibit dew)  
Power consumption: <35W      Alarm volume: >60db      System error: ≤ ± 3%  
Work style: continuous      IP grade: indoor part IP67, outdoor part Ip65  
Control Relay: capacity AC220V 5A

##### 半潜平台锚机称重传感器 (WS-ZS-500T)



Semi-submersible platform Windlass load sensor (WS-ZS-500T)  
量程范围: 50 ~ 500t  
精度等级: 0.02  
灵敏度: 1.6 ± 0.005mV/V  
输入阻抗: 380 ± 20 Ω  
输出阻抗: 350 ± 2 Ω  
绝缘电阻: ≥5000MΩ  
最大供桥电压: 15V  
安全过载: 120% F.S.  
温度范围: -30℃ ~ +70℃  
输出信号: 0~20mV电压模拟信号  
材质: 不锈钢

Range: 50 ~ 500ton  
Accuracy: 0.02  
Sensitivity: 1.6±0.005mV/V  
Input resistance: 380±20Ω  
Output resistance: 350±2Ω  
Insulation resistance: ≥5000MΩ  
The biggest bridge voltage: 15V  
Safe overload: 120% F.S.  
Temperature range: -30 ~ 70 degree Centigrade  
Output signal: 0~20mV voltage analog signals  
Material: stainless steel

##### WS-BH拉力传感器



测量范围: 0.5T~300T  
材质: 不锈钢材质  
灵敏度: 1.0 ± 0.005MV/V  
测量精度: 0.01  
极限过载: 250% F.S;  
最大激励电压: 15VDC,e、  
安全过载: 150%,  
IP等级: IP 68

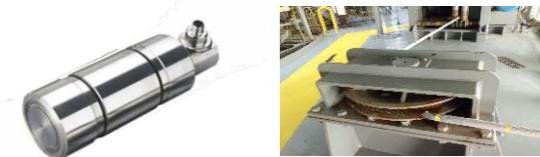
内部采用薄膜应变计，比较传统的电阻式应变片更小更准确，产品通过ISO9001; 2000认证

##### WS-BH plate-ring type tension sensor

Range: 0.5ton –300ton  
Material: stainless steel  
Sensitivity: 1.0 ± 0.005mV/V  
Accuracy: 0.01  
Limit overload: 250% F.S.  
The biggest excitation voltage: DC15V  
Safe overload: 150% F.S.  
IP grade: IP68

Internal use thin film strain gauge, smaller than the traditional resistive strain gauge, the more accurate. It passed the ISO9001:2000.

##### 自升式钻井平台锚机安装WS-ZX-150T



# WT-W800型修井机大车称重防碰仪

## WT-W800 WORKOVER RIG LOAD AND ANTI-COLLISION SYSTEM

### 产品简介 PRODUCT INTRODUCTION

WT-W800V型绞车大钩称重防碰仪是由：监控主机，大车称重传感器、绞车传感器、电磁换向阀、声光报警器、（液）路管线等组成的监控，能监控钻机的参数、工况及大钩运行速度，在设定的高度进行报警提醒司钻注意，或驱动换向阀打开刹车的气（液）路系统，防止大钩上碰下砸。

WT-W800V workover rig load and anti-collision system is consist of monitoring host, load sensor, winch sensor, electromagnetic directional valve, audible and visual alarm and lines. Its function is to monitor working condition, parameters, hook hoisting speed of the drilling rig and remind driver, or driver directional control valve to open the steam (fluid) road system, prevent the hook collision.

### 产品功能概述 FUNCTION INTRODUCTION

- 1、电子指重表是用于测量钻机工作时的悬重及钻压，用液晶显示屏替代机械指针表，用电子传感器替代液压发生器，有更高的采集及显示精度。除模拟指针外，还有数字直观的显示，由于具备自发光的能力，因此显示更加清楚明亮
- 2、大钩高度可采用滚筒标定及钩位标定两种方式，实现了大钩位置准确，快捷的标定和调整。滚筒标定是通过计算滚筒上钢丝绳的长度来对大钩高度进行理论计算。钩位标定是通过测量大钩实际移动距离与绞车传感器输出值之间的对应关系来计算大钩高度。
- 3、当大钩高度值因悬重变化而偏离实际值时，可通过按键进行自动调整
- 4、显示大钩速度值。可根据不同钻机的起身特性曲线，由悬重值对大钩速度进行精确标定
- 5、指示大钩升降状态
- 6、仪表能设置大钩上限，下限报警，各报警点均有输出继电器对应，可驱动声光报警器或刹车执行机构
- 7、整机符合防爆电气安全标准
- 8、根据需要，可增加其它相关参数



- ◆ Electronic weighing scale is used to measure the drill heavy and pressure when hung, replace mechanical pointer table with LCD screen, replace hydraulic generator with electronic sensors, has a higher precision of acquisition and display. In addition to the analog pointer, and digital visual display, because have the ability to spontaneously light, thus showing a more clear and bright.
- ◆ Hook height drum or hook calibration can be used to realize the hook position accurate and fast calibration and adjustment. Drum calibration is determined by calculating length of wire rope which on the roller to debug hook theory calculation. Hook calibration is determined by measuring the hook of the actual moving distance and winch sensor output value to calculate the corresponding relationship between hook height.
- ◆ When the hook height value deviated from its actual value because of hanging load, it can be adjusted automatically through the buttons.
- ◆ Display hook speed value. According to different drilling rig hoisting characteristic curve, hook speed accurate calibration by hanging load.
- ◆ Indicate hook lifting state.
- ◆ Instrument can set hook upper limit and lower limit alarm, the corresponding emergency alarm are output relay, can drive the acousto-optic alarm or brake actuators.
- ◆ Meet explosion-proof electrical safety standards.
- ◆ According to the need, can increase other related parameters.

### 修井机大车称重防碰仪重要组成

#### IMPORTANT PART OF WT-W800V WORKOVER RIG LOAD AND ANTI-COLLISION SYSTEM



##### 监控主机

工作电压: DC24V&AC220V  
报警设置点: 上限1, 下限1,  
                  上限2, 下限2  
报警触点输出: 12路  
数据存储: 15天  
防护等级: IP65  
防爆等级: ExdII BT4  
工作环境温度: -40°C~80°C

##### Parameters of monitoring host

Working voltage: DC24V & AC220V  
Alarm setting point:  
    upper limit1, lower limit1,  
    upper limit2, lower limit2  
Alarm contact output: 12  
Data storage: 15 days  
IP grade: IP65  
Explosion-proof grade: ExdII BT4  
Working temperature:  
    -40 ~ 80 degree Centigrade



##### WS-BH配套悬重传感器

WS-BH electronic tensile force sensor replaced the traditional pressure generator, with the steel wire rope's dead rope fixator paired, when the deadline anchor under the action of steel wire rope, stretching, the tension is converted a current signal which is proportional to the hanging load.



##### WS-SAG-1213绞车传感器

工作电压: DC8V  
工作环境温度: -40°C~80°C  
防爆等级: 本质安全型  
防护等级: IP65  
输出信号: SSI 单圈 65536 脉冲/圈



##### WS-DCF电磁换向阀

技术参数:防爆级别为Ex dIIBT4  
动作方式: 电磁铁  
复位方式: 电磁铁操作复位。  
接口: ISO228/1标准G1/4  
环境温度: -20°C ~ +60  
                  (防爆型-15°C ~ +50°C )  
介质温度: -20°C ~ +80°C  
                  (防爆型-15°C ~ +50°C )  
安装: 符合NAMUR标准和VDI/VDE3845

##### WS-DCF electromagnetic directional valve

Explosive-proof grade: Ex dIIBT4  
Action method: Electromagnet  
Reset mode: reset electromagnet operation  
Interface: ISO228/1 standard G1/4  
Environmental temperature: -20 ~ +60 degree  
Centigrade (Explosive-proof type -15 ~ +50 degree Centigrade)  
Medium temperature: -20 ~ +80 degree  
Centigrade (Explosive-proof type -15 ~ +50 degree Centigrade)  
Installation: Meet NAMUR standard and  
VDI/VDE3845's two holes



##### WS-BJD报警灯

防爆标志 : Ex dIIBT6;  
工作电压 : DC24V;  
报警电流 : ≤100mA (DC24V)  
频闪频率 : 60次/min  
声响强度 : 90 ~ 100dB  
使用环境 温度: -30°C ~ +70°C  
相对湿度: ≤95% 不结露  
大气压力: 80kPa ~ 110kPa  
重 量 : 1.2kg

##### WS-BJD Alarm light

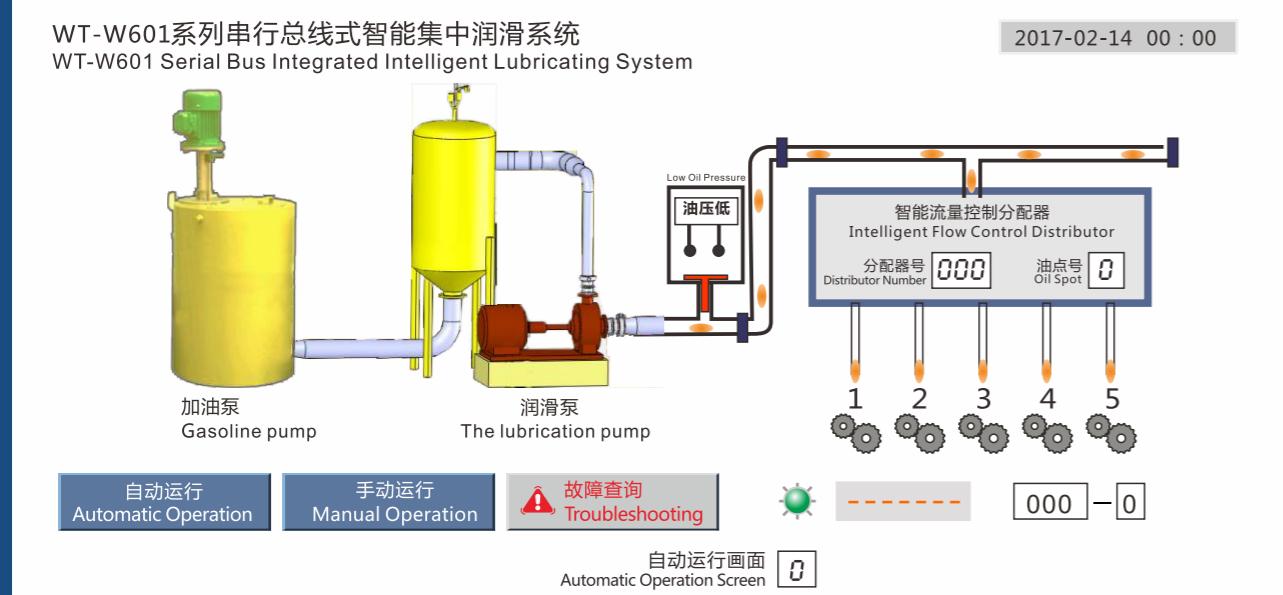
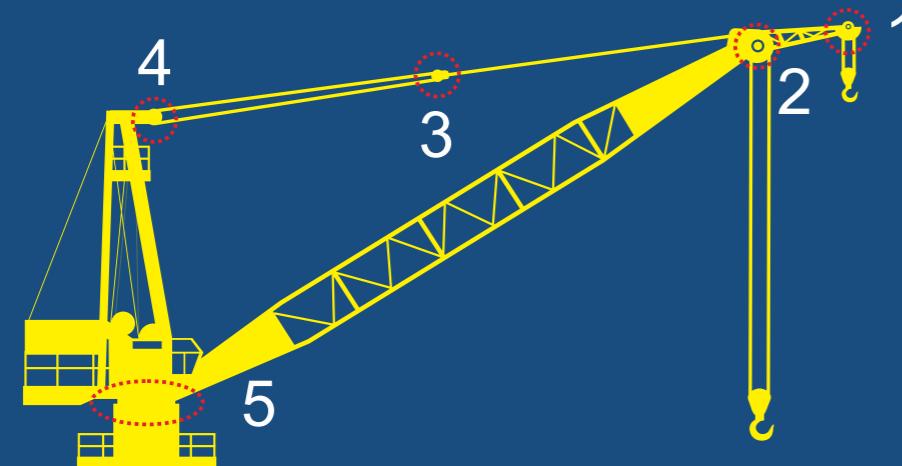
Explosive-proof grade: Ex dIIBT6;  
Working voltage: DC24V  
Alarm current: ≤100mA (DC24V)  
Flicker frequency: 60 times/min  
Alarm volume: 90 ~ 100 dB  
Environmental temperature: -30 ~ +70 degree  
Centigrade  
Humidity: 95 % RH (Prohibit dew)  
Atmospheric pressure: 80kPa ~ 110k Pa  
Weight: 1.2kg

# WT-W601系列海洋吊机自动润滑系统

## WT-W601 OFFSHORE CRANE SELF-LUBRICATION SYSTEM

### 产品简介 PRODUCT INTRODUCTION

WT-W601系列海洋吊车自动润滑系统根据吊车设计规范，为保障吊车的正常运行，减少人为保养的不到位，避免引起设备无润滑状态下的运行对设备的轴承、滑轮、钢丝绳等的损害和磨损。该系统可和WT-W650V3系统综合运用，让吊车运行记录的数据为吊车的润滑系统提供数据支撑，为吊车的安全和平稳运行提供保障。

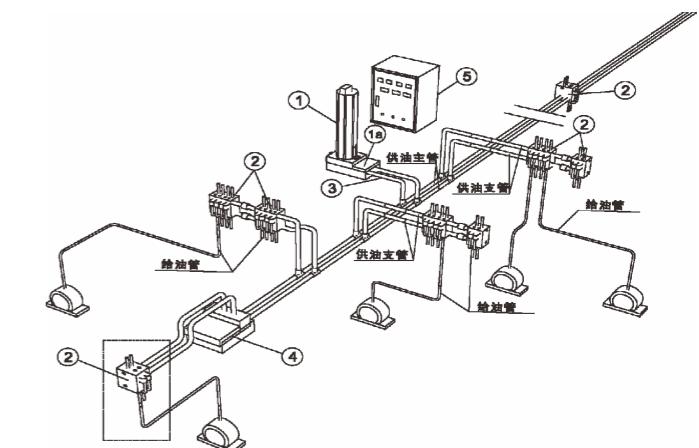
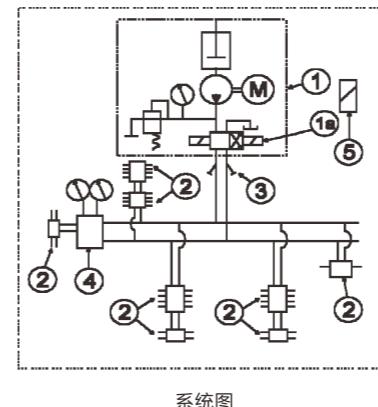


### 系统特点 FUNCTION INTRODUCTION

根据每个关键节点加注润滑油的需要和周期，分段分时分周期给相关节点加注润滑油可以采用手动和电动两种。

You can add the lubricating oil to the key points according to the needs and period (time division/week division and etc). The methods for adding the lubricating oil can be manual and electric.

### ► 电动润滑泵终端式系统 Electric lubrication pump terminal type system



#### 一、系统介绍

电控柜内的指令时间继电器使系统按照规定的给油间隔时间自动动作，按“给油时间延长”表示给油工作的异常，另设有“贮油器空”，“过负荷运转”等警报信号。指令时间继电器按系统一次给油工作实际所需时间加2~5分钟调整。

供油主管末端装有压力操纵阀或压差开关阀或两只压力开关阀（每管线单配），当末端压力达到设定值，向电控柜发送信号，换向阀1a换向，润滑泵停止系统一次给油工作完成。经过设定的时间间隔后，系统再次工作，从另一条主油管供油。

系统设计通常按给油时间5分钟以内（最高8分钟以内）设计，压差开关/压力操纵阀的标准设定压力为5MPa左右。

压差开关/压力操纵阀设置在压力损失最大处的供油主管末端，建议以后再布置一块分配器（见下图双点线框内），以便于末端油脂的更新。

对于中小型系统，为方便电器配线，可以采用前端压力控制换向，即在换向阀二出口管线上并联安装压力控制器，末端无须安装压差开关/压力操纵阀。

#### 二、特点

采用末端压力作为系统给油工作完成的控制参数，设计容易。适用于润滑点分布较广的场合。

#### 1. Introduction of The system

The instruction time relay in electric cabinet automatic operate according to the specified time of interval oil supply. Press “oil supply delay” means oil supply work abnormal. Also have warning signal like “Oil Tank Empty” and “Overload operation”. The instruction time relay add 2 to 5 minutes for adjusting according to once oil supply actual time.

The end of oil supply pipes is equipped with a pressure control valve or differential pressure switch valve or two pressure on and off valve (single line per pipe). When the end of pressure reach the setting value, it will send signal to electric cabinet, selector valve 1a work, the pump stop the system once to finish the lubrication. After the setting interval time, system work again and supply oil from another oil pipe.

The system usually design according to oil supply time with-in 5 minutes( max within 8 minutes), the standard setting pressure of pressure valve is about 5 MPa.

The pressure valve is setted on the end of the main oil supply pipe where is the max pressure-loss. It is recommended to arrange a distributor (please check the two-wire box below) to update the end oil easily.

For small and medium-sized systems, for the convenience of electric appliance wiring, you can use the front-end pressure to control commutator, which is to paralleling install a pressure controller in the second exit of selector valve. No need to install one pressure valve in the end of system.

#### 2. The Feature

It is using the end of the pressure as a system to finish the oil control parameters, easy design. Applicable to wide range distributed of lubrication points situation.