



最简化的起重机解决方案
带 SIL 认证的最佳的起重机控制系统

Simplifying Cranes
Optimized crane control systems with
SIL-certified products





Johannes Hübner Giessen

精密、优势、关注客户

我们专注于技术— 我们了解我们的客户。我们坚定的站在客户一边为其提供特殊的设想、定制的解决方案。为了支持我们的客户，我们提供了强大的编码器系统、强大的传动技术和全球化的服务。我们将与我们的客户一起克服在重工业领域或其它极其恶劣条件领域的巨大的挑战，继而不断的增进客户的业务。你有什么挑战？

我们的应用领域：

- 金属及轧制技术
- 港口和起重机技术
- 矿山工业
- 石油和天然气工业
- 运输
- 海洋工程
- 发电
- 其它应用领域

Precision. Strength. Customer focused.

We are fascinated by technology – and we understand our customers. We stand firmly at your side with exceptional ideas and tailor-made solutions; to support our customers we offer rugged encoder systems, powerful drive technology and a worldwide service. That is how we overcome together with our customers the huge challenges in heavy industry and other fields subject to harsh conditions to sustainably improve their business. What challenges do you have?

Our fields of applications:

- Metal and rolling mill technology
- Harbour and crane technology
- Mining industry
- Oil and gas industry
- Transport
- Marine engineering
- Power generation
- ...and many other applications

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优化的起重机控制系统 Optimized crane control systems

Johannes Hübner Giessen 带 SIL 认证的优化起重机控制系统解决方案

Hübner Giessen 系统解决方案不仅制定新的全球标准起重机的监控和控制解决方案，比如紧凑的 U-ONE® 系统，而且对于单独的设备也有自己的一套解决方案，比如 EGS® 41 (可编程电子超速开关) 和 FG(H) 40 L (带有光纤输出端口的编码器，允许光纤电缆被直接连接，用于信号传输)。我们也有借助于变送器和解码器将信号传输模式改为光纤输出的解决方案。

SIL 2 认证:

应用于与安全相关行业的 Johannes Hübner Giessen 产品均通过了依据 IEC 61508 标准的 SIL 2 认证和依据 DIN EN ISO 13849 标准的 PLD 认证。

Optimized crane control systems with SIL-certified system solutions from Johannes Hübner Giessen

Hübner Giessen system solutions not only set new global standards for crane monitoring and control with solutions such as the compact U-ONE® system, but also with single device solutions such as the EGS® 41 (programmable electronic overspeed switch) and the FG(H) 40 L (encoder with a fiber-optic output port allowing fiber-optic cables to be connected directly for signal transmission). Also external retrofit fiber-optic signal transmission solutions with the aid of transmitters and decoders are available.

SIL 2 certification:

Certified components of Johannes Hübner Giessen for usage in safety-related applications up to SIL 2 to IEC 61508 and PL d to DIN EN ISO 13849.

U-ONE® 系统 U-ONE® System

模块化的 U-ONE® 系统是基于通用的基本单元，它的输出通过抗电磁干扰的光纤连接到安装在控制柜中的电子模块。电子功能模块由一个内部总线结构耦合，根据需要可以自由连接串联（系列插件模块）。

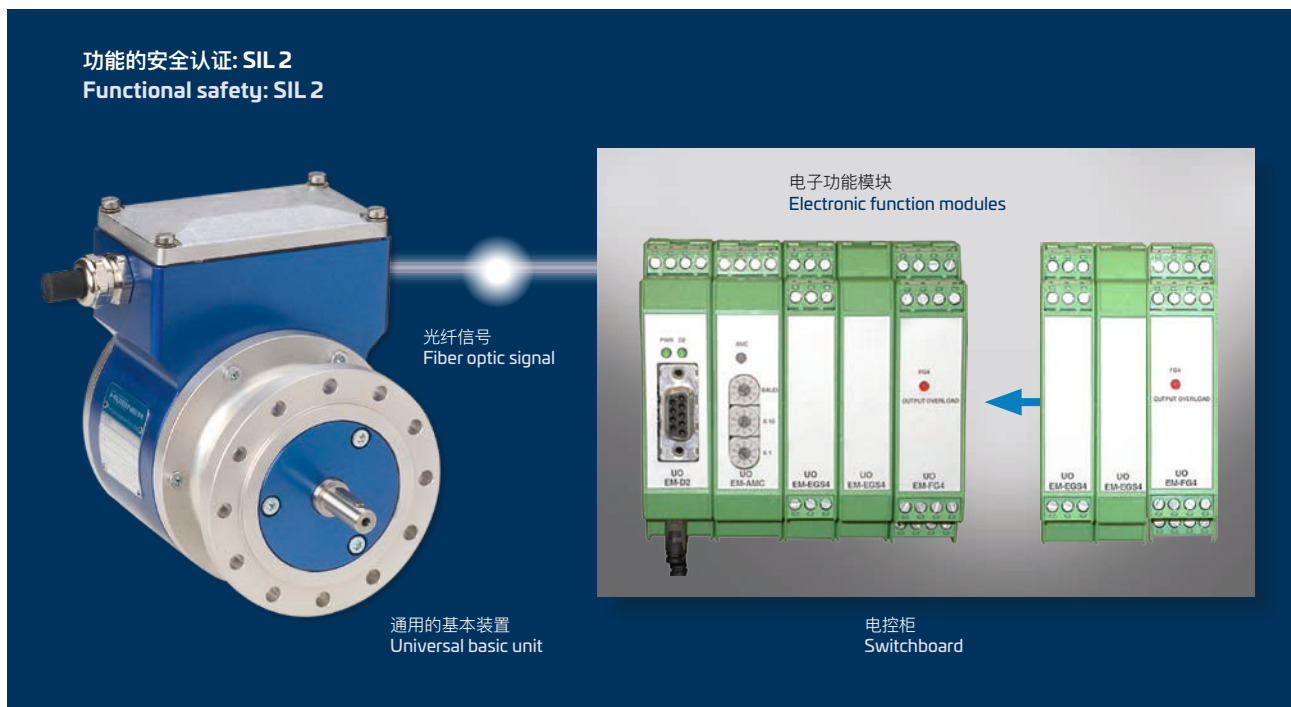
The modular U-ONE® system is based on an universal basic unit connected to electronic function modules in the switchboard via fiber optic cable immune to EMI. The electronic function modules are coupled by an internal bus structure and can be freely connected in series as required (series plug-in modules).

模块化系统的优势

- 节省空间的紧凑型设计
- 光纤信号传输，抗 EMI 干扰
- 外部电子部分置于电控柜内，实现高安全等级
- 简单的中央 USB 可编程接口
- 低布线成本（仅需要一根光缆）
- 模块结构降低调试成本
- 插件模块，易于扩展
- 高灵活度和低费用的备件

Advantages offered by the modular system

- Space-saving compact design
- EMI immune fiber optic signal transmission
- External electronics in the switchboard for high safety levels
- Simple central USB programming interface
- Low cabling costs (requires just one fiber optic cable)
- Modular structure reduces commissioning costs
- Very easy expandability with plug-in modules
- High flexibility and low cost spare parts



由于有大量可用的功能模块,使得规划灵活性高,系统可扩展性好。

例如:

- 脉冲输出
- 超速测量从 0.5 rpm 开始
- 绝对值/位置检测
- 多种总线接口
- 各种以太网模块
- 同步模块
- 过程图像显示

High planning flexibility and easy system expandability thanks to a large number of available function modules, such as:

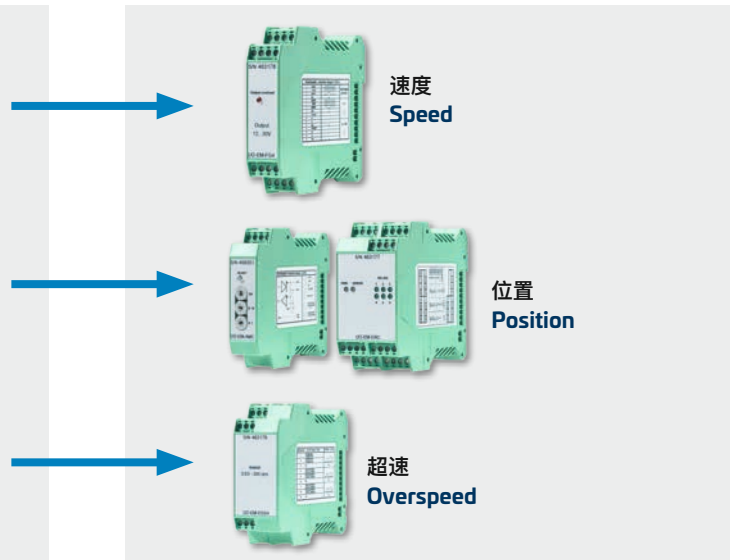
- Pulse output
- Overspeed measurement from 0.5 rpm
- Absolute value/ position detection
- Wide variety of bus interfaces
- Various Ethernet modules
- Synchronization module
- Graphic display of processes

用 U-ONE® 替代老的解决方案 Replacing an old solution with U-ONE®

一个基本装置用于 / One unit for

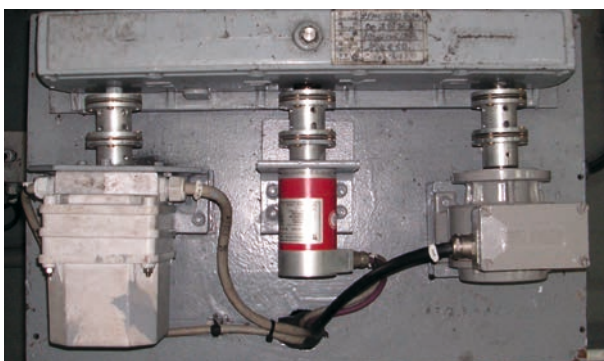


+ 附加功能
additional functions



多种电气和机械适配选项确保整个系统在改造老系统时能容易的并入到一个新的安装中。Johannes Hübner Giessen 在应用技术方面具有丰富的经验，我们准备好了并愿意帮助您在电气实现阶段和适应机械解决方案。

Diverse electrical and mechanical adaption options ensure the entire system is just as easy to incorporate in new installations as when modernising old solutions. Johannes Hübner Giessen has a huge amount of experience in applications technology and is ready and willing to assist you both during the electrical implementation phase and when adapting mechanical solutions.



举例：老的方案包含几个不同结构的单个装置，通过 4 个联轴器和一个同步转换器与传动轴连接。

Example: Old solution consisting of several single units with different construction heights connected by 4 couplings and a distribution connected with the drive shaft.



举例：使用 U-ONE® 的新的解决方案，既只需要一个基本装置。电子模块被安装在电控柜内，以确保所需的功能。

Example: New solution with U-ONE® system, i.e. just one basic unit and the electronic modules installed in the switchboard ensure the desired functions.

抗电磁干扰的光纤传输组件 EMI immune signal transmission via fiber optic components

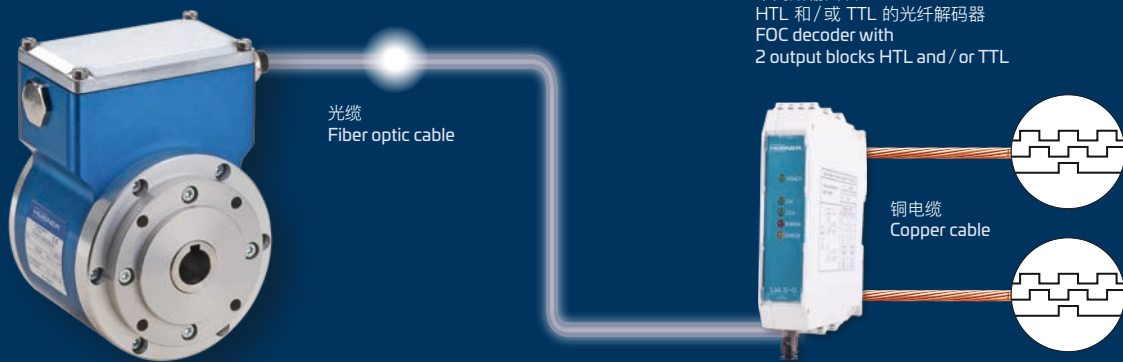
Hübner Giessen 提供的光纤组件，在消除信号电缆中干扰方面具有以下优势：

- 抗干扰的光纤信号传输
- 适用于最小 1000 米的长距离传输
- 一根光纤支持所有通道，从而大大减少布线费用。
- 光纤解码器带有两个输出模块 (TTL/HTL)
- 光缆断开监测 (可选)
- 带有电隔离的输出模块 (可选)

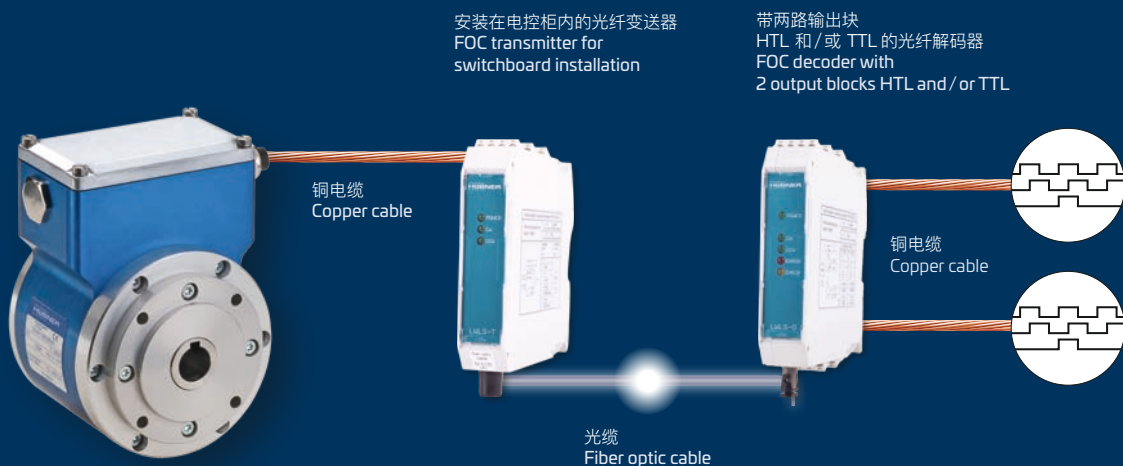
Hübner Giessen offers fiber optic components to eliminate the effects of electromechanical interference on signal cables with the following advantages:

- Interference immune fiber optic signal transmission
- For long transmission distances of min. 1000 m
- Only one fiber optic cable for all channels, thus considerably reducing cabling expenses
- Fiber optic decoder with 2 output blocks (TTL and / or HTL)
- Fiber optic cable disconnection monitoring (optional)
- Output blocks with galvanic isolation (optional)

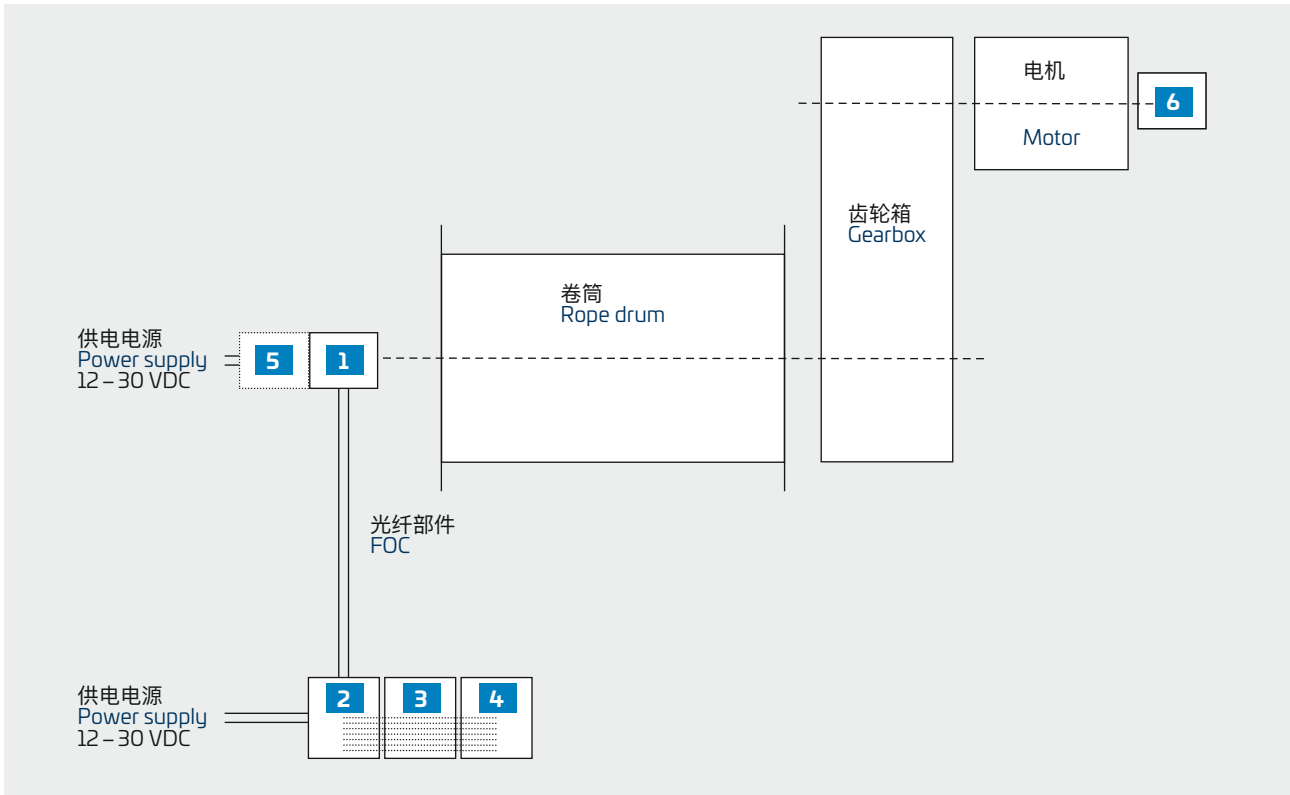
带有集成的光纤变送器的编码器
Encoder with integrated FOC transmitter



带有单独的光纤信号变送器的编码器
Encoder with separate FOC transmitter



主起升完整解决方案 Main Hoists



1 UOM 41L 1212
U-ONE® 多圈基本装置
U-ONE® Multiturn basic unit

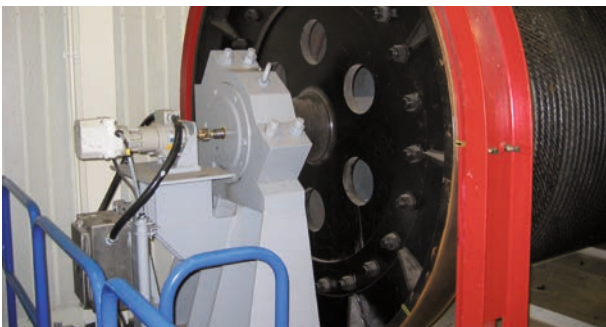
2 UO-EM-D41
解码器 (光纤转换器)
Decoder (fiber optic converter)

3 UO-EM-EGS® 41
超速开关 (2个切断点)
Overspeed switch (2 switching points)

4 UO-EM-AMP
绝对值输出接口 PROFIBUS
Absolute output interface PROFIBUS

5 GTES
机械齿轮凸轮限位开关
Mechanical geared cam limit switch

6 FG(H) 40L
光纤输出的增量编码器
Incremental encoder with fiber optic output

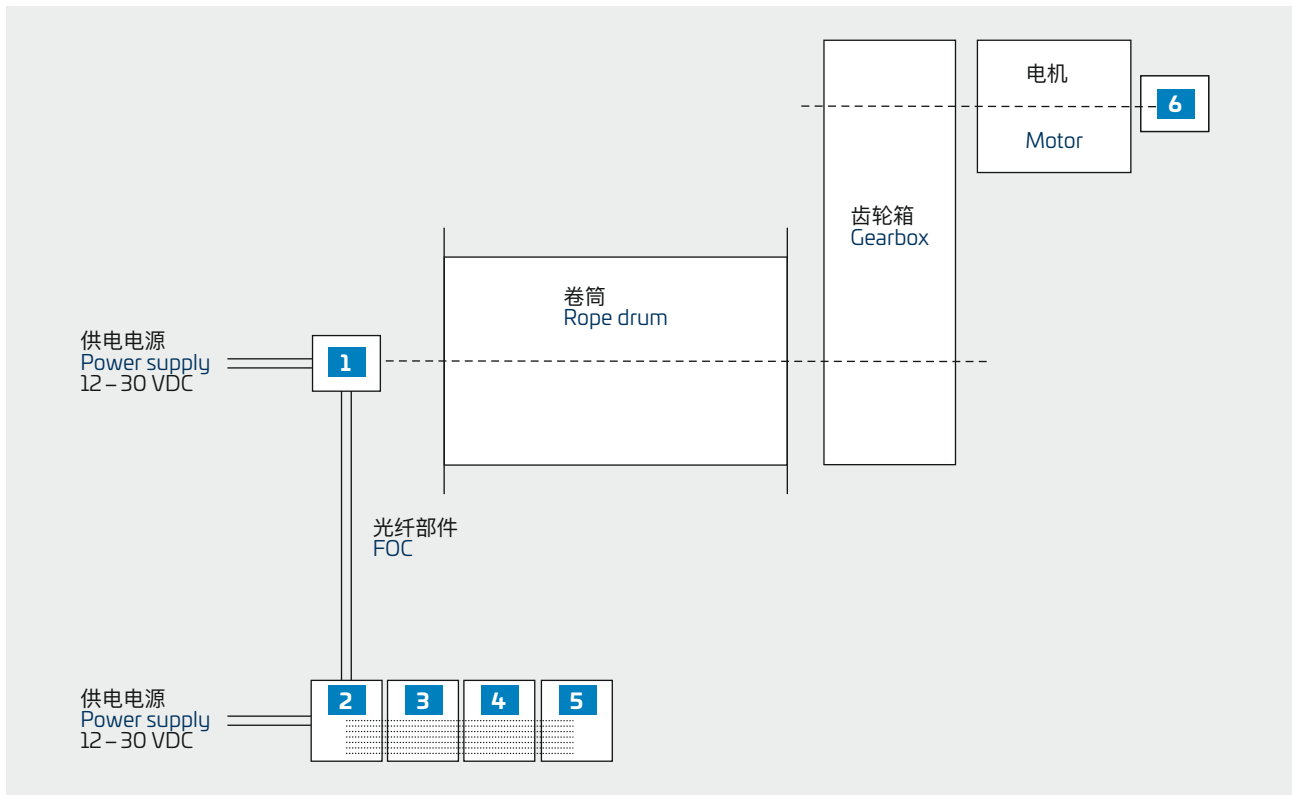


带有机械齿轮凸轮限位开关的 U-ONE® 多圈基本装置
U-ONE® Multiturn basic unit with mechanical geared cam limit switch



安装在电控柜内的电子功能模块
Elektronik funktion modules installed in switchboard

俯仰完整解决方案 Boom Hoist



1 UOM 41L 1212
U-ONE® 多圈基本装置
U-ONE® Multiturn basic unit

2 UO-EM-D41
解码器 (光纤转换器)
Decoder (fiber optic converter)

3 UO-EM-EGS® 41
超速开关 (2 个切断点)
Overspeed switch (2 switching points)

4 UO-EM-AMP
绝对值输出接口 PROFIBUS
Absolute output interface PROFIBUS

5 UO-EM-ERC
电子位置开关 (6 个切断点)
Elektronic position switch (6 switching points)

6 FG(H) 40L
光纤输出的增量编码器
Incremental encoder with fiber optic output

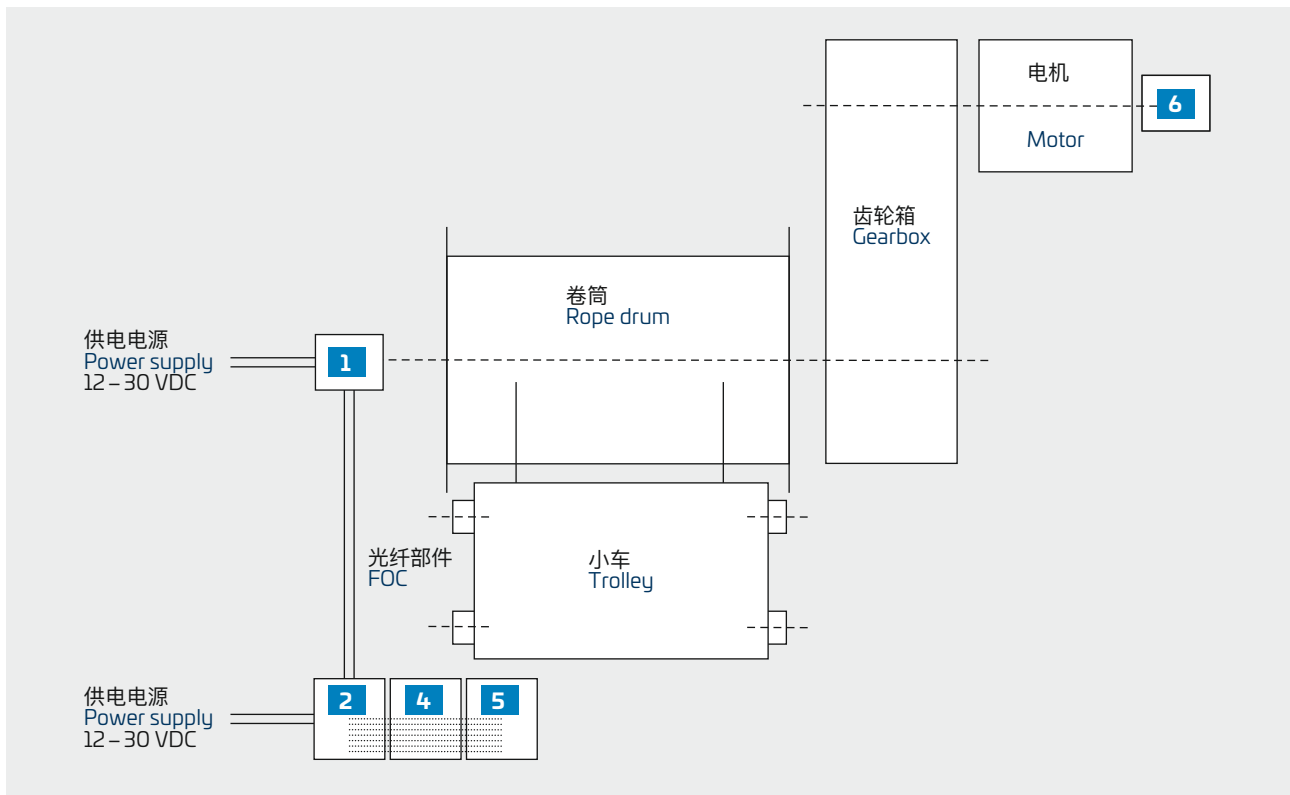


安装在电机上的增量编码器 FG(H) 40 L
Motor with mounted incremental encoder FG(H) 40 L



安装在卷筒上的 U-ONE® 多圈基本单元
U-ONE® Multiturn basic unit installed at rope drum

绳驱小车完整解决方案 Complete solution for rope-driven trolleys



1 UOM 41L 1212
U-ONE® 多圈基本装置
U-ONE® Multiturn basic unit

2 UO-EM-D41
解码器 (光纤转换器)
Decoder (fiber optic converter)

4 UO-EM-AMP
绝对值输出接口 PROFIBUS
Absolute output interface PROFIBUS

5 UO-EM-ERC
电子位置开关 (6个切断点)
Elektronic position switch (6 switching points)

6 FG(H) 40L
光纤输出的增量编码器
Incremental encoder with fiber optic output

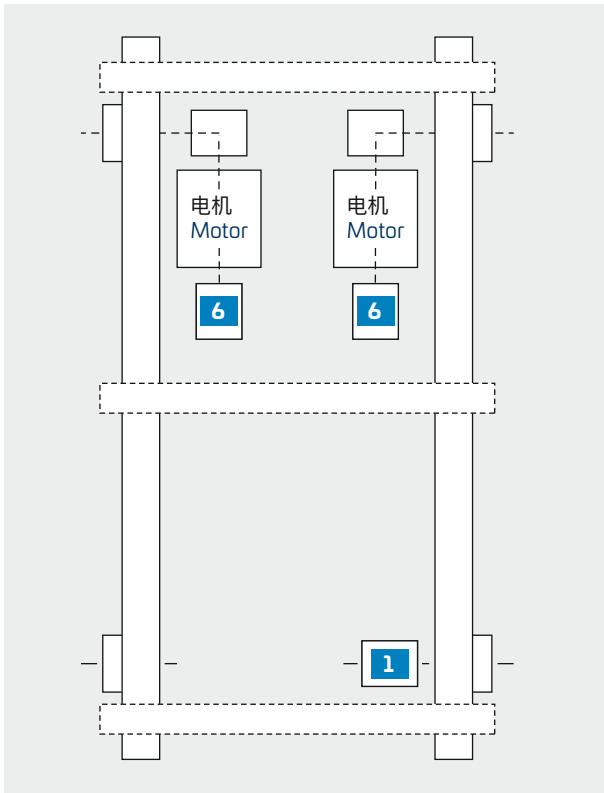


绳驱小车
Trolley with rope winch drive



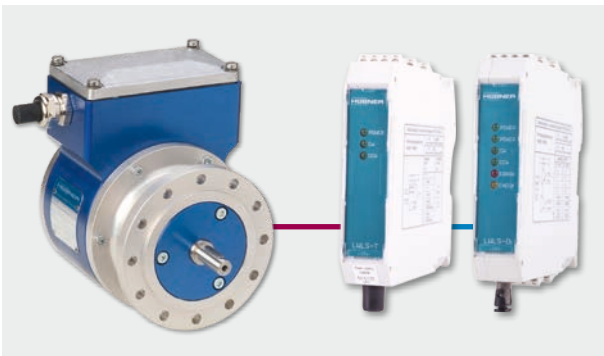
增量编码器 FG(H) 40 L
Incremental encoder FG(H) 40 L

起重机大车走行的完整解决方案 Complete solution for crane traversing gear

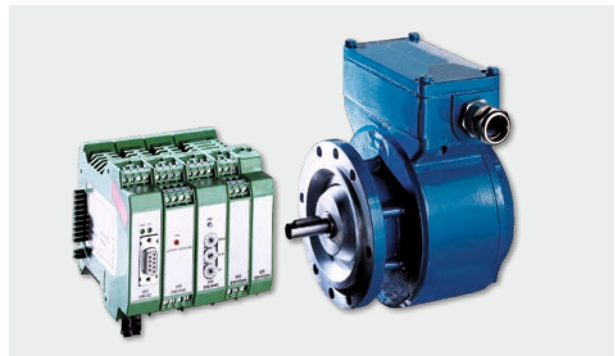


- 1 UOM 41L 1212**
U-ONE® 多圈基本装置
U-ONE® Multiturn basic unit

- 6 FG(H) 40L**
光纤输出的增量编码器
Incremental encoder with fiber optic output



光纤信号传输: 带有单独部件的编码器
Fiber optic signal transmission: encoder with separate components



U-ONE® 基本装置 / 功能模块
U-ONE® basic unit / funktion modules



安装在非传动轮上的位置检测的 U-ONE® 基本装置
U-ONE® basic unit for positioning mounted to non-driven wheel



安装在电机上的增量编码器 FG(H) 40 L
Incremental encoder FG(H) 40 L mounted to the motor

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