

# HENGSTLER

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\* 如有更改, 恕不另行通知 Subject to change without notice



## HENGSTLER



大孔径正弦弦编码器

R90

安装手册



Large hollow shaft Sin/Cos encoder

RS90

Installation instructions

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**CN**

## 1. 前言

这个安装手册提供连接和开始使用这个编码器的流程。

你可以从RS90的数据手册获得更多信息, 你可以联系我们提供或者从我们的网站自行下载。

[www.hengstler.com.cn](http://www.hengstler.com.cn)

**GB**

## 1. Preface

These installation instruction are provided for the connection and starting procedure of your hollow shaft encoder.

You will get further information from the RS90 datasheet, on request or on download from our Internet site.

[www.hengstler.com.cn](http://www.hengstler.com.cn)

**CN** 2. 安全



**有资质的操作人员**

因为编码器包含敏感的电子电路, 所以编码器必须由合格的电工进行安装和拆卸。

**旋转的轴造成伤害的风险**

头发或者衣服上的东西可能被旋转的轴卷进去。

-> 在开始所有工作前, 先切断所有电源并且确保工作环境的安全!

**静电造成损坏的风险**

编码器内部的CMOS器件对于高压非常敏感, 例如衣服摩擦产生的高电压。

-> 不要接触插头的触点或者电子器件!

**机械过载造成的损坏风险**

刚性安装将使约束力增加, 并且将造成轴承的永久过载。

-> 不要限制编码器的移动! 只使用附带的钢弹簧片或者合适联轴器以此获得编码器安全!

**机械冲击造成损坏的风险**

猛烈的冲击, 例如锤子的敲击, 可以导致光电传感系统和滚珠轴承的损坏。

-> 不要用力过猛! 正确安装过程中的力量是允许的。

**过载造成的损坏风险**

-> 装置只能在技术指标的极限范围内工作。

**应用场合: 工业过程和控制**

连接端子的过电压必须被限定在过电压等级II值以内 (SELV).

**GB** 2. Safety



**Authorized persons**

The encoder should only be assembled and dismantled by a qualified electrician, as the unit contains sensitive electronic circuits.

**Risk of injury due to rotating shafts**

Hair and items of clothing may become caught up in rotating shafts.

-> Prior to commencing all works, disconnect all power suppliers and ensure that the working environment is Safe!

**Risk of destruction due to static electricity**

The CMOS modules contained in the encoder are very sensitive to high voltages such as can arise due to friction of the clothing.

-> Do not touch plug contacts or electronic components!

**Risk of destruction due to mechanical overload**

Rigid mounting will give rise to constraining forces which will permanently overloaded the bearings.

-> Never restrict the freedom of movement of encoder! Use only the enclosed sheet steel springs or a suitable coupling to secure the unit!

**Risk of destruction due to mechanical shock**

Violent shocks, e.g. due to hammer blows, can lead to the destruction of the optical sensing system and the ball bearings.

-> Never use force! Assembly is simple provided that correct procedure is followed.

**Risk of destruction due to overloading**

-> The unit may only be operated within the limits specified in the technical data.

**Fields of application: industrial processes and controls.**

Over voltage at the connecting terminals must be limited to over voltage-class-II values (SELV).

The connecting cable is not for dragline mounting, only for fix mounting.

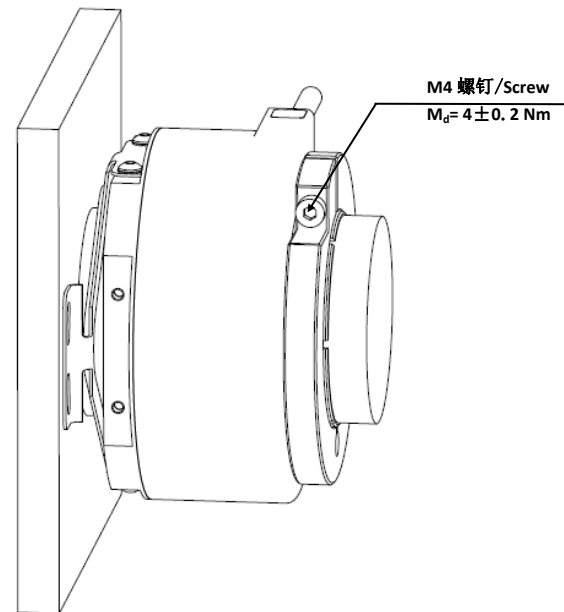
This encoder is a supply part destined for mounting to an appliance (motor, machine). It is not provided for customer sale.

Manufacturers integrating this encoder to their facilities are responsible as well for compliance with CE guidelines as for the CE mark.

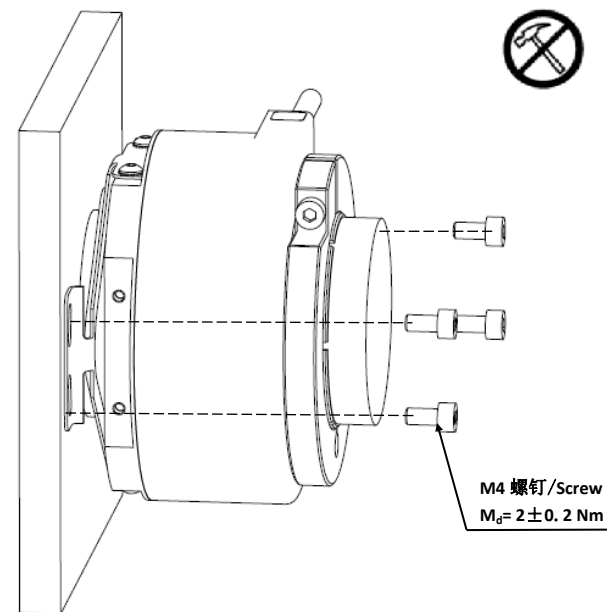
### 3. 装配/ Assembly

\* 出厂前弹簧片已安装 The tether has been installed before

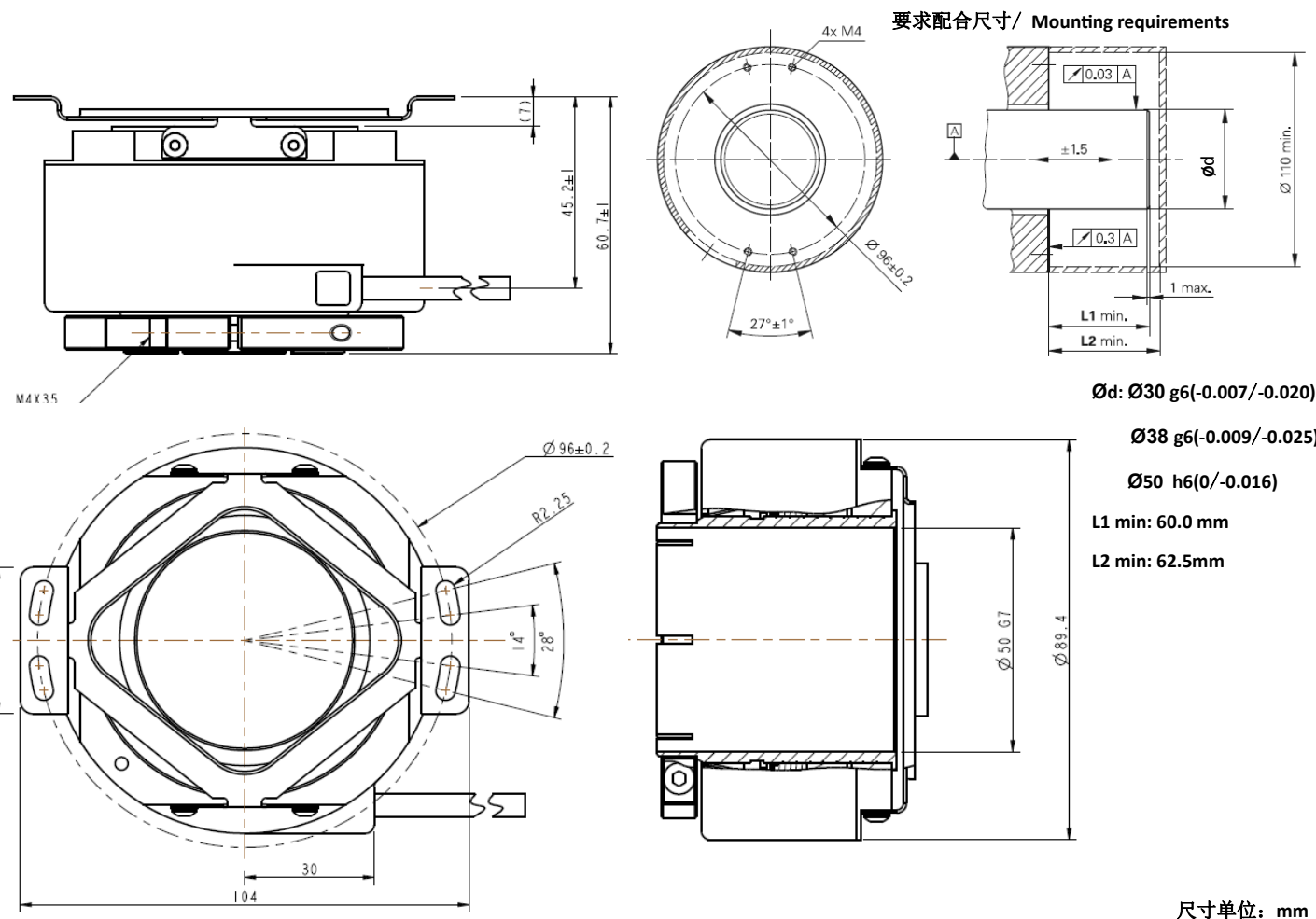
1



2



#### 4. 尺寸图/ Dimensioned Drawing



尺寸单位: mm

## 5. 机械数据/ Mechanical data

最大轴偏差 Max. shaft misalignment	轴向 ±0,5mm; 径向 :±0,1 mm Axial ±0,5mm; Radial:±0,1 mm
最高转速 Max. Shaft speed	3,000 RPM
工作温度 Operating temperature	-20 °C ... +100 °C

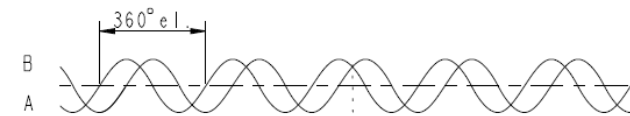
供电电压 Supply voltage	DC5V $\pm 5\%$
空载电流 consume current w/o load	150mA
增量信号 Incremental Signal	SIN/COS + TTL (Commutation signal)
最大输出频率 Max Frequency	300kHz
绝对精度 Absolute Accuracy	$\pm 35''$

## 6. 接线图 / Connection diagram

### 信号格式

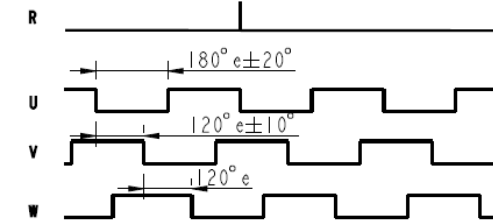
从外壳看, 逆时针方向旋转

Signal Format  
CCW VIEW FROM COVER SIDE



R 

Waveforms below show the relationship between CH R, U, V and W  
(scale differs from above)



以上显示通道R,U,V和W信号的相互关系（和上面的波形采用不同的比例）

颜色 Color	输出 Output
红 Red	Vcc
黑 Black	GND
蓝 Blue	A+
绿 Green	B+
粉 Pink	R+
红/蓝 Red/Blue	A-
白/绿 White/Green	B-
灰/粉 Pink/Grey	R-
黄 Yellow	N/C
棕 Brown	U
灰 Grey	V
白 White	W
屏蔽* Screen	屏蔽 Screen

\*电缆屏蔽接编码器外壳

\*Connected to encoder housing

## 7. 订购信息 / Ordering data

型号 Type	分辨率 Number of pulses	/ 极数 Pole	供电电压 Supply voltage	防护等级 IP	安装方式 Mounting	孔径 Hollow shaft diameter	输出信号 Output	连接 Connection
RS90	4096	/X	A	4	H	50	S	XX
RS90	4096 4096PPR	O 无 A 10极 D 16极 E 20极 F 24极 G 30极*其它 级数咨询工厂	A DC 5V	4 IP64	H 前弹簧片法兰安装, 后夹紧环轴固定 Rear Clamping ring with front tether	30 30mm 38 38mm 50 50mm  *其他孔径咨询工厂	S sin/cos	A5 0.5米径向电缆/0.5m cable radial B0 1.0米径向电缆/1.0m cable radial