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超薄分体式绝对值编码器
AM34
安装手册



Absolute Encoders
AM34
Installation instruction



物料号/Art No.: 703435-0001

版本Ver. B

European Sales Representative

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1. 前言

这个安装手册提供编码器连接和开始使用的安装流程。

从AM34的数据手册可以获得更多信息，联系我们或者从网站下载手册。

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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 AM34 datasheet, on request or on download from our Internet site.

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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。

->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(ESD)造成损坏的风险

注意防静电操作注意事项。编码器，包括外壳是一个静电放电灵敏装置。

->不要接触插头的触点或者电子器件！

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。

超限使用造成的损坏风险

-> 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)。

连接电缆不能牵引安装，只能固定安装使用。

编码器作为一个部件安装到装置上（电机，机器）。他不会直接提供给最终客户。

制造商集成编码器到他们的设备上，并且确保其符合CE标准并标注CE标志。



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 ESD

Observe Precautions for ESD Handling. The Encoder, including housing, is an electrostatic discharge sensitive device. Do not touch plug contacts or electronic components!

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! As-

sembly 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. 安装 Mounting

检查包装盒物品/Check list of items

物品清单: 1个编码器, 1根电缆, 安装附件包(含3个M3x8螺钉, 防尘塞1个)

List of items: encoder x1, cable x1, accessory package(Screw M3x8 x3, Plug x1)



A

编码器注意事项/Precautions

a) 电机轴承位于编码器侧，需有密封盖（避免轴承油脂污染编码器码盘）

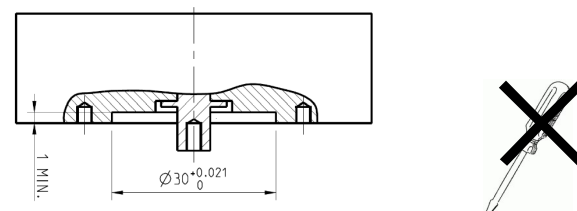
b) 编码器安装面需加工编码器定位圆槽（ $\phi 30(+0.021/0)$ ）

c) 安装时请使用使用扭力扳手

a) Motor bearing on encoder side and requires a sealing cover for preventing grease from contaminating disk

b) Encoder mounting surface needs to be machined with positioning circular groove($\phi 30 (+0.021/0)$)

c) Use a torque screwdriver when assembly



B

编码器的安装/Assembly

a) 将编码器轴穿入电机轴（此时编码器安装面与电机安装面，有间隙）

b) 用扳手或手逆时针旋转拆卸堵塞，并轻轻取下（此时编码器安装面与电机安装面贴合）

c) 锁紧M3螺钉固定编码器轴（M= 0.8±0.1Nm）

d) 使用扭力扳手锁紧两侧M3螺钉固定编码器（M=0.8±0.1Nm）

e) 用扳手或手顺时针旋转安装防尘塞盖，完成安装

注意：编码器属于易碎品，要轻拿轻放。防尘塞必须安装避免码盘污染。

a) Attaching the encoder (there is still a gap between the encoder and the motor plate)

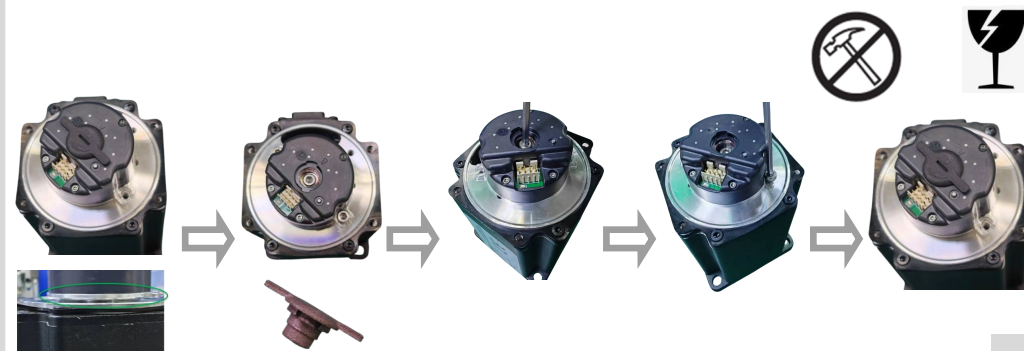
b) By turning the plug counterclockwise with a screwdriver, the gap between the encoder and the motor plate closes and the plug is lifted slightly

c) Fixing of the central screw M3 (M= 0.8±0.1Nm)

d) Fixing the M3 screws on both side (M=0.8±0.1Nm)

e) Assemble the plug clockwise with a screwdriver

Attention: Encoders are fragile items and should be handled with care.



C

使用调试线缆进行参数优化/Use debug cable calibration

通过简单的按钮操作，就可轻松连接编码器，无需电脑可在现场直接进行精度优化。

With button operation, encoder can be easily accuracy calibration without a computer.



电缆连接完成后，请执行校准操作，以获得更好的使用效果。校准操作方法，请参考网站的《AM34操作手册》。

Please perform calibration operation to achieve better performance. Please refer to the AM34 Operation Manual on the website.

D

连接软件进行参数优化/Use software calibration

使用支持5MHz波特率的RS485适配器连接电脑。

Connect to computer using an RS485 adapter that supports 5MHz baud rate.



连接完成后，请执行校准操作，以获得更好的使用效果。调试软件使用及校准操作方法，请参考网站的《AM34操作手册》。

Please perform calibration operation to achieve better performance. Please refer to the AM34 Operation Manual on the website.

E

4. 拆卸 Disassembly

编码器拆卸/Encoder disassembly

- a)用扳手或手逆时针旋转拆卸防尘塞，取下

b)松下两侧固定编码器M3螺钉。

c)松下固定编码器轴M3螺钉。

d)用扳手或手顺时针旋转安装堵塞，完成拆卸（此时编码器安装面与电机安装面脱离）。

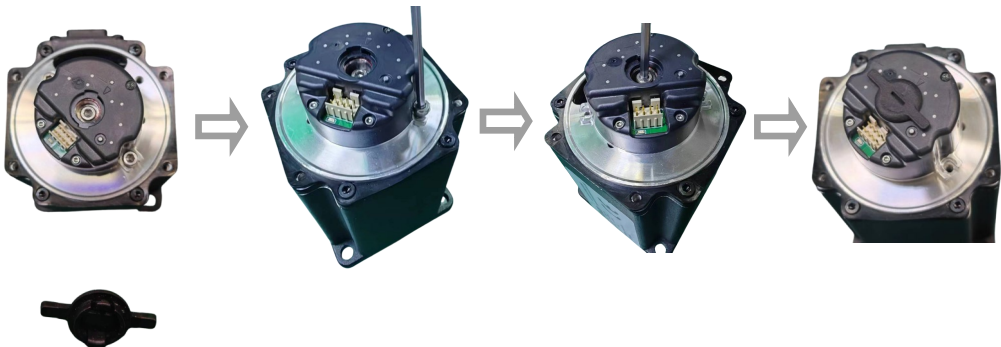
注意：编码器属于易碎品，要轻拿轻放。防尘塞必须安装避免码盘污染。
- a)By turning the plug counterclockwise with a screwdriver

b)Loosen the M3 crews on both side

c)Loosen of the central screw M3

d)Slightly lift the encoder cap until the plug rests on the encoder cap and then turn the plug clockwise until the arrows come into alignment

Attention: Encoders are fragile items and should be handled with care.



F

5. 技术数据 / Technical data

供电电压	5V±10% (SELV)	存储温度	-30℃~+80℃
Operating Voltage		Storage Temperature	
电源消耗	Max 120mA	工作温度	-40℃~+110℃
Power consumption		Operating Temperature	
最高转速	10,000 PRM	最大相对湿度	85%
Max Speed		Max. relative humidity	
允许轴最大轴向跳动	±0.2 mm		
Mating shaft axial move-			
允许轴最大径向跳动	TIR 0.05 mm		
Mating shaft runout			
外壳防护等级	IP20		
Enclosure rating			

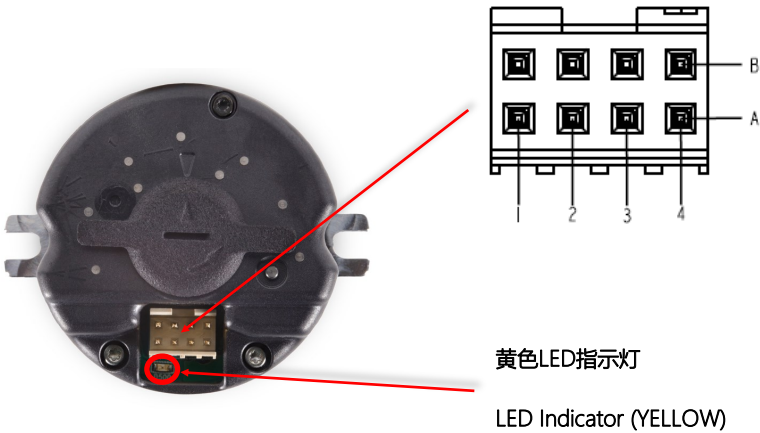
6. 电气连接 / Connection diagram

串行异步通讯/RS485 Compatible

PIN	颜色 Color	定义 Assignment	PIN	颜色 Color	定义 Assignment
1A	透明 Transparent	SHIELD	1B	/	/
2A	/	/	2B	/	/
3A	蓝 Blue	SD+	3B	蓝/黑 Blue/Black	SD-
4A	红 Red	+5V	4B	黑 Black	GND

BISS-C

PIN	颜色 Color	定义 Assignment	PIN	颜色 Color	定义 Assignment
1A	透明 Transparent	SHIELD	1B	/	/
2A	绿 Green	DATA+	2B	绿/黑 Green/Black	DATA-
3A	蓝 Blue	CLOCK+	3B	蓝/黑 Blue/Black	CLOCK-
4A	红 Red	+5V	4B	黑 Black	GND



指示灯状态 Indicator State	黄色代表LED亮，白色代表灭 Yellow indicates LED lit, white indicates LED off	LED 指示灯状态描述 LED State description	含义 Meaning
长灭 OFF		LED一直不亮 LED is not illuminated at all	未上电或初始化状态 In state INITIALIZATION
长亮 ON		LED一直常亮 LED is illuminated continually	正常运行状态 In state OPERATIONAL
单闪 Single Flash		LED闪烁一次(0.3s)，然后在长时间(1.5s)延迟后重复。 LED flashes once, then repeats after a long delay.	"自调整"运行中 In state autocalibrartion running
双闪 Double Flash		LED快速连续闪烁两次(0.3s)，然后长时间(1.5s)重复延迟。 LED flashes twice in quick succession, then repeats after a long delay.	"置零"运行中 In state preset running
慢闪 Blinking		LED连续闪烁(0.8s)，但速度慢，间隔均匀。 LED flashes on and off continually but slowly with even spacing.	报警 In state Error
快闪 Flickering		LED连续亮灭(0.2s)，但速度快，间隔均匀。 LED flashed on and off continually but rapidly with even spacing.	"固件升级"运行中 In state Firmware-Update running

7. 订货代码 / Ordering information

7.1 中文

型号	分辨率	供电电压	轴径	接口	环境温度	接线
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
AM34H	1223 12位多圈，23位单圈	A 5VDC	Z.0F φ6盲孔	BE BiSS-C	A -40℃... +85℃	00 不带电缆
高精度	0823 8位多圈，23位单圈		Z.0T φ8盲孔	AS 串行异步通讯(2.5Mbps)	B -40℃... +110℃	A5 8 针插头+0.5m电缆
AM34L				AE 串行异步通讯(5Mbps)		
标准精度				SG SSI格雷码		

7.2 English

Type	Resolution	Supply	Shaft	Interface	Temperature	Connection
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
AM34H	1223 12bit MT+23bit ST	A 5VDC	Z.0F 6mm	BE BiSS-C	A -40℃... +85℃	00 without cable
±80°	0823 8bit MT+23bit ST		Hub Shaft	AS NRZ (2.5Mbps)	B -40℃... +110℃	A5 8 pole PCB connector, axial+0.5m cable
AM34L			Z.0T 8mm	AE NRZ (5Mbps)		
±120°			Hub Shaft	SG SSI Gray		

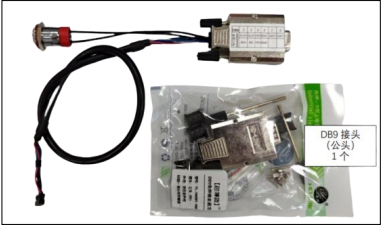
7.3 附件/Accessories



调试电缆/Debug cable

订货号/order number

118138-0500



调试电缆(带按钮+DB9插头)/
Debug cable with button +
DB9 connector

订货号/order number

118399-0001