

## EAM300-B - SSI

Blind hollow shaft

Magnetic single- or multiturn encoders 14 bit ST / 18 bit MT

### 产品一览

- Encoder single- or multiturn / SSI
- Precise magnetic sensing
- Angular accuracy up to  $\pm 0.15^\circ$
- Resolution max. 32 bit (14 bit ST, 18 bit MT)
- Additional incremental signals
- Clock frequency up to 2 MHz
- High protection up to IP 67
- 极强的抗冲击和抗振动性



### 技术数据

#### 技术数据 – 电气参数

电源电压	4.5...30 VDC
典型电流消耗	60 mA (5 VDC · 无负载) 20 mA (24 VDC · 无负载)
初始化时间	$\leq 170$ ms (上电后)
数据时效性	典型值：2 $\mu$ s (循环请求)
接口	SSI
功能	多圈 单圈
工作模式	线性反馈移位寄存器 (可根据需求提供)
每圈步数	$\leq 16384$ / 14位
圈数	$\leq 262144$ / 18位
绝对精度	$\pm 0.15^\circ$ (+20 $\pm 15^\circ$ C) $\pm 0.25^\circ$ (-40...+85 $^\circ$ C)
感应原理	磁式
编码	格雷码或二进制码
编码顺序	顺时针：正对法兰顺时针旋转时输出值上升
输入	SSI时钟：线驱动RS422 调零输入 计数方向
输出方式	SSI数据：线驱动RS422
抗干扰性	EN 61000-6-2
辐射干扰	EN 61000-6-3 (电缆长度 < 30米 · 未连接直流网络) EN 61000-6-4

#### 技术数据 – 电气参数

诊断功能	DATAVALID (可根据需求提供)
认证	UL认证 / E217823

#### 技术数据 – 机械参数

尺寸 (法兰)	$\varnothing 30$ mm
轴类型	$\varnothing 6$ mm (盲孔型)
防护等级 (EN 60529)	IP 65 (无轴封) IP 67 (带轴封)
运行速度	$\leq 6000$ rpm
启动转矩	$\leq 0.75$ Ncm (+20 $^\circ$ C · IP 65) $\leq 1.1$ Ncm (+20 $^\circ$ C · IP 67)
转子惯量	0.71 gcm <sup>2</sup>
允许轴负载	$\leq 10$ N 轴向 $\leq 10$ N 径向
材质	外壳：镀锌钢 法兰：铝 空心轴：不锈钢
工作温度	-40...+85 $^\circ$ C (参见“概述”)
相对湿度	95%
耐抗性	EN 60068-2-6 抗振动30 g · 10-2000 Hz EN 60068-2-27 抗冲击500 g · 1 ms
近似重量	130 g
连接	M12 法兰接头 · 8针 2米直接出线

### 可选配件

- Protection against corrosion C5-M

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## 概述

自热效应与转速、防护等级、安装方式、环境条件以及电子元器件和电源电压密切相关。在进行精确的散热设计时必须加以考虑。假定静止时的自热效应为每1000 rpm升温6K，运动时的自热效应为每1000 rpm升温1.5K (IP65防护等级) 或3.5K (IP67防护等级)。当编码器在接近最大极限性能运行时，需要测量编码器法兰面的实际温度值。当编码器在接近最大极限性能运行时，需要测量编码器法兰面的实际温度值。

## 端子定义

### Cable

for connection reference **-L** and **-U**

Core colour	Signals	Description
brown	+Vs	Voltage supply
white	0 V	Voltage supply
green	Clock+	Clock signal
yellow	Clock-	Clock signal
grey	Data+	Data signal
pink	Data-	Data signal
blue	SET	Zero setting input
red	DIR	Counting direction input

Screen: connected to housing

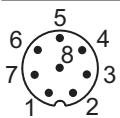
Cable data: 8 x 0.09 mm<sup>2</sup>

### Flange connector M12, 8-pin

for connection reference **-A** and **-B**

Pin	Signals	Description
1	0 V	Voltage supply
2	+Vs	Voltage supply
3	Clock+	Clock signal
4	Clock-	Clock signal
5	Data+	Data signal
6	Data-	Data signal
7	SET	Zero setting input
8	DIR	Counting direction input

Screen: connected to housing



## 端子含义

SET	Zero setting. Input for zero setting at any position. The zero setting operation is triggered by a high pulse and has to be in line with the selected direction of rotation (DIR). Impulse duration >100 ms. Connect to 0 V after zero setting for maximum interference immunity.
DIR	Counting direction input. The input is standard on high. For maximum interference immunity connect to +Vs respectively 0 V depending on counting direction. CW HIGH - CCW LOW (Version with DATAVALID does not include the counting direction input).

## 触发电平

### 控制输入

输入高电平

输入低电平

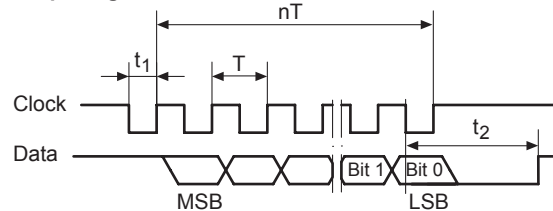
### 输入电路

<0.4 V (>2 ms)

+Vs 或开路

## 数据传输

### Output signal



$T = 0.5 \dots 10 \mu\text{s}$

$t_1 = 0.25 \dots 5 \mu\text{s}$

$t_2 = 20 \pm 2 \mu\text{s}$

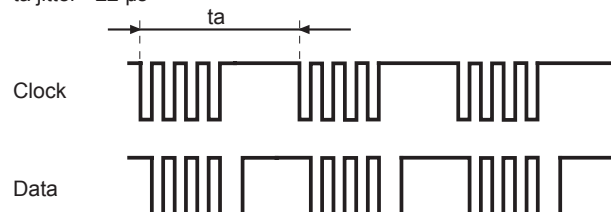
$f_{\text{max.}} = 2 \text{ MHz}$

### Data acquisition time $t_a$

Following timing of the SSI Masters is the requirement for a data refresh rate of typ. 2  $\mu\text{s}$ . If this is not fulfilled the data refresh rate is <50  $\mu\text{s}$ .

$t_a < 5000 \mu\text{s}$

$t_a \text{ jitter} < \pm 2 \mu\text{s}$

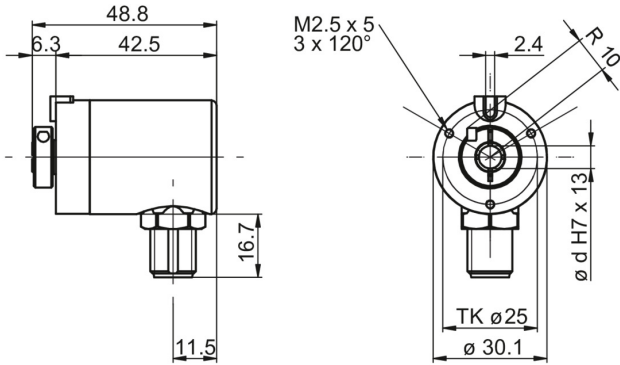


# EAM300-B - SSI

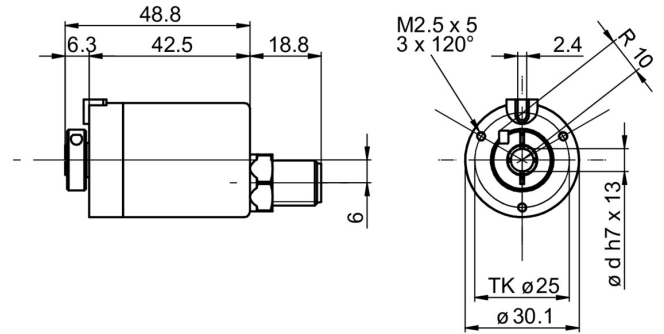
Blind hollow shaft

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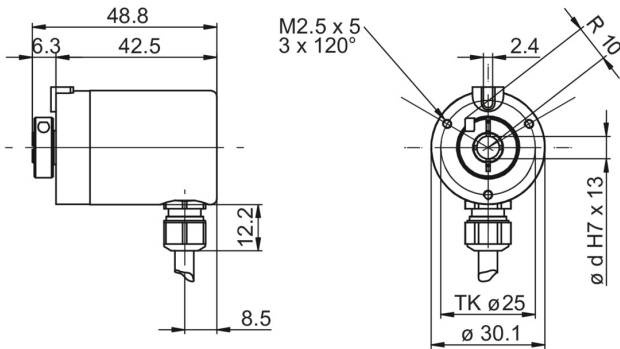
尺寸



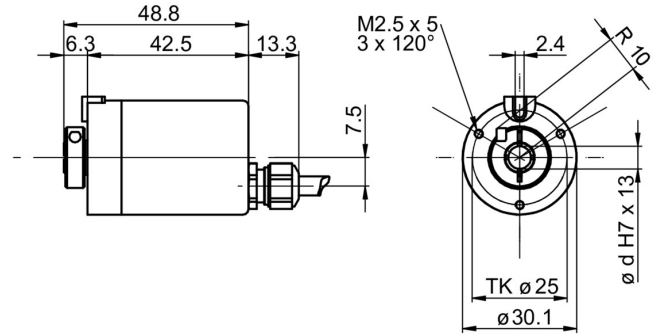
M12 法兰接头 · 径向 · IP 65



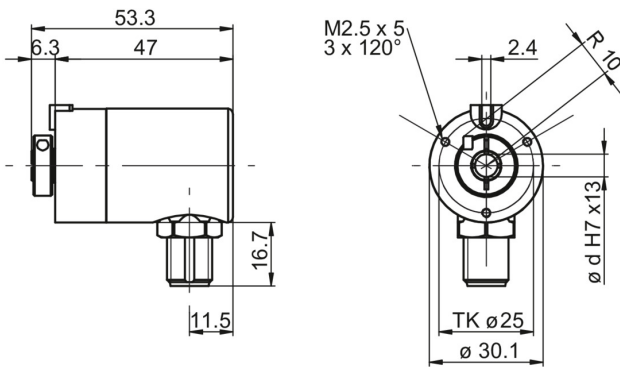
M12 法兰接头 · 轴向 · IP 65



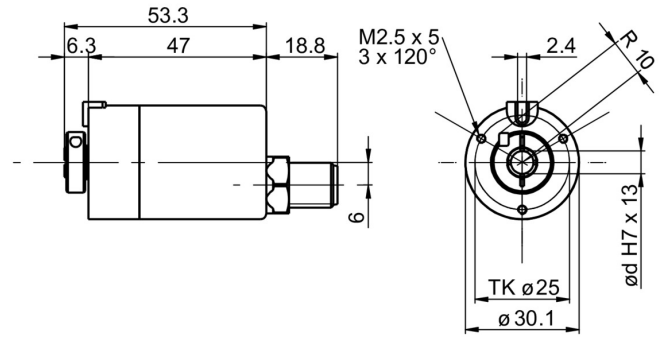
径向电缆出线 · IP 65



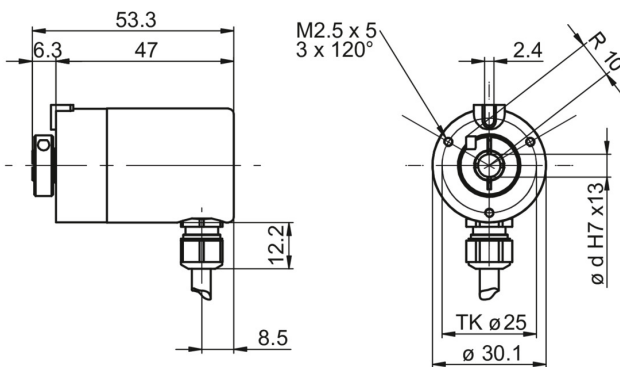
轴向电缆出线 · IP 65



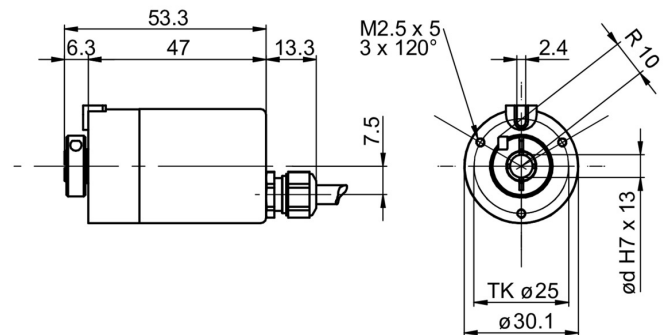
M12 法兰接头 · 径向 · IP 67



M12 法兰接头 · 轴向 · IP 67



径向电缆出线 · IP 67



轴向电缆出线 · IP 67

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**订货资料**

	EAM300	-	B	#	6	.	#	##	##	.	##	##	0	.	A
<b>Product</b>	EAM300														
<b>Shaft type</b>	Blind hollow shaft		B												
<b>Flange (Hollow shaft)</b>	Without stator coupling		N												
	With stator coupling 36 mm		F												
<b>Blind hollow shaft</b>	ø 6 mm, clamping ring, A-side				6										
<b>Protection class</b>	IP 65														5
	IP 67														7
<b>Connection</b>	Flange socket axial, M12, 8-pin, male contacts, CCW														A
	Flange socket radial, M12, 8-pin, male contacts, CCW														B
	Cable radial, 2 m														L
	Cable axial, 2 m														U
<b>Voltage supply / interface</b>	4.5...30 VDC, SSI binary														4B
	4.5...30 VDC, SSI gray														4G
<b>Resolution Singleturn</b>	12 Bit														12
	13 Bit														13
	14 Bit														14
<b>Resolution Multiturn</b>	No option														00
	12 Bit														12
	13 Bit														13
	16 Bit														16
	18 Bit														18
<b>Resolution supplement</b>	No option														0
<b>Operating temperature</b>	-40...+85 °C														A

**附件**
**安装附件**

10164796 弹簧安装片套件