

EAM300-S - SSI

Solid shaft with synchro flange

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
- 极强的抗冲击和抗振动性
- High resistance to shock and vibrations



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	≤ 170 ms (上电后)
数据时效性	典型值：2 μ 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	≤ 16384 / 14位
圈数	≤ 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
诊断功能	DATAVALID (可根据需求提供)

技术数据 – 电气参数

认证 UL认证 / E217823

技术数据 – 机械参数

尺寸 (法兰)	$\varnothing 30$ mm
轴类型	$\varnothing 5 \times 12$ mm 实心轴 $\varnothing 6 \times 12$ mm 实心轴 $\varnothing 8 \times 12$ mm 实心轴
法兰	同步法兰
防护等级 (EN 60529)	IP 65 (无轴封) IP 67 (带轴封)
运行速度	≤ 6000 rpm
启动转矩	≤ 0.75 Ncm (+20 $^\circ$ C · IP 65) ≤ 1.1 Ncm (+20 $^\circ$ C · IP 67)
转子惯量	0.98 gcm ²
允许轴负载	≤ 10 N 轴向 ≤ 10 N 径向
材质	外壳：镀锌钢 法兰：铝 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	150 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

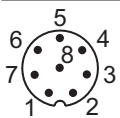
Cable data: 8 x 0.09 mm²

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

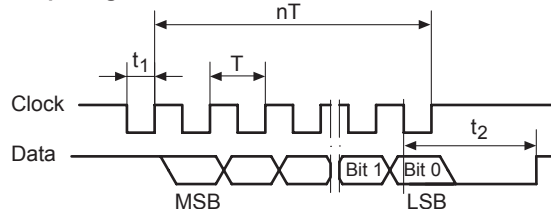
控制输入

输入电路

输入高电平	<0.4 V (>2 ms)
输入低电平	+Vs 或开路

数据传输

Output signal



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

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

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

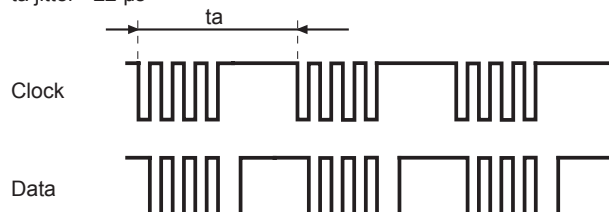
$f_{\text{max.}} = 2 \text{ MHz}$

Data acquisition time t_a

Following timing of the SSI Masters is the requirement for a data refresh rate of typ. 2 μs . If this is not fulfilled the data refresh rate is <50 μs .

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

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

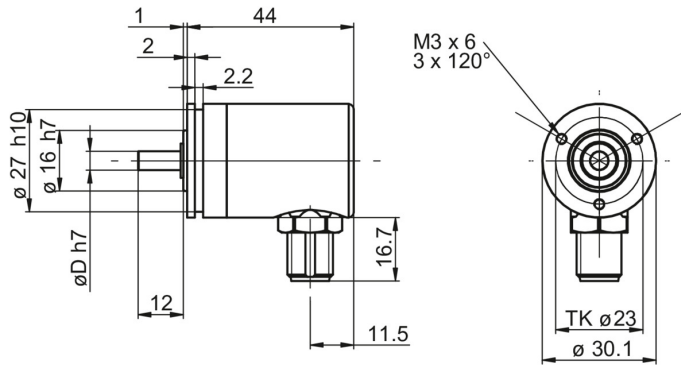


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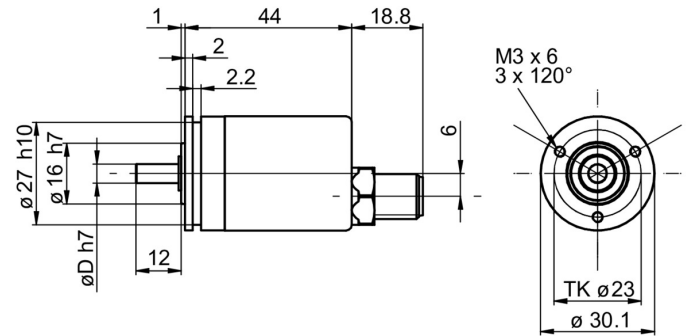
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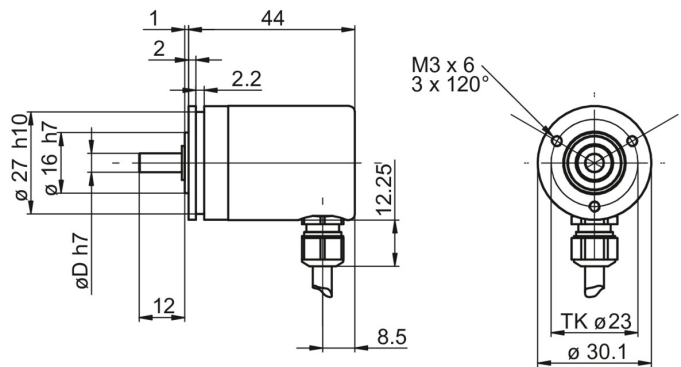
尺寸



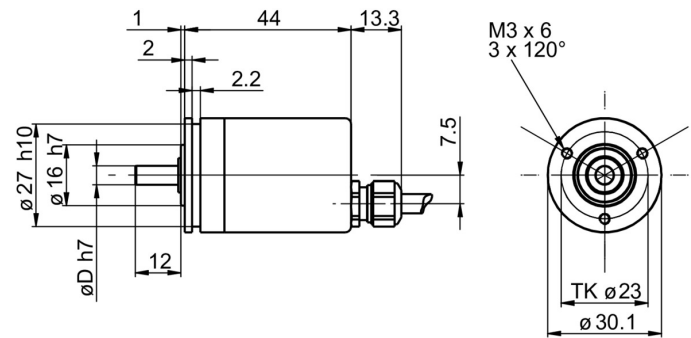
M12 法兰接头 · 径向 · IP 65



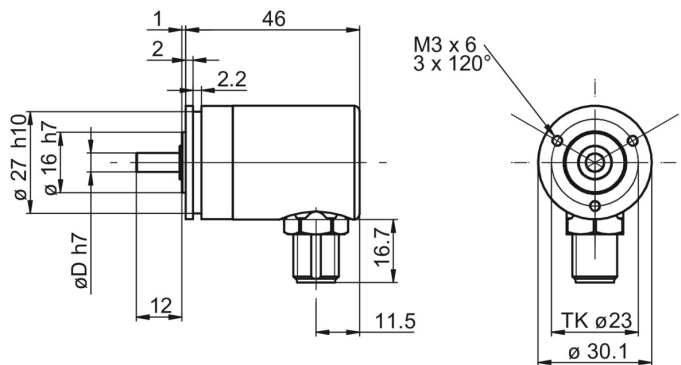
M12 法兰接头 · 轴向 · IP 65



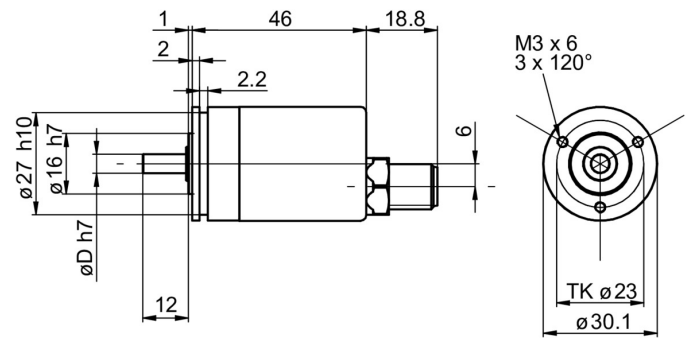
径向电缆出线 · IP 65



轴向电缆出线 · IP 65



M12 法兰接头 · 径向 · IP 67



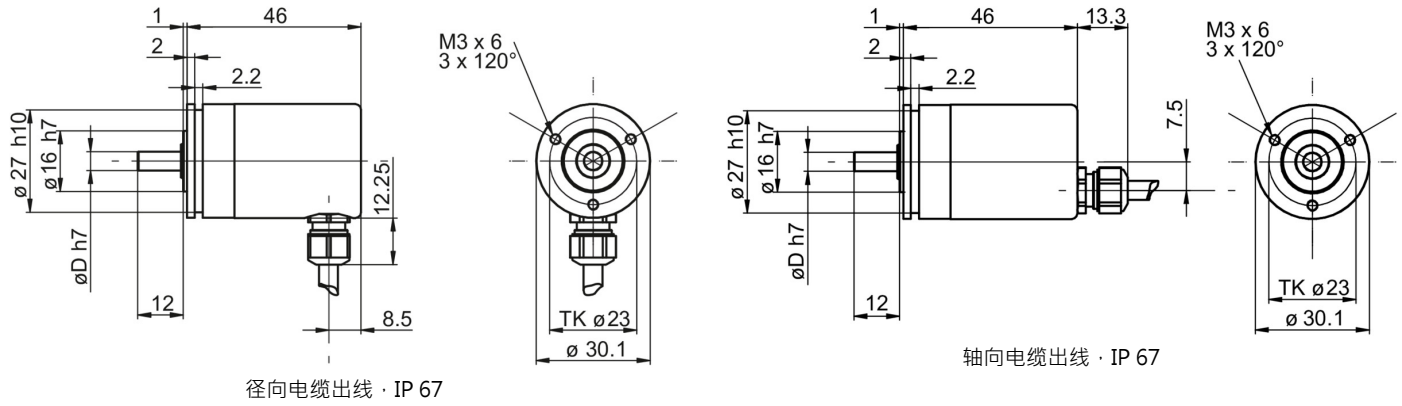
M12 法兰接头 · 轴向 · IP 67

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尺寸



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订货资料

	EAM300	-	S	M	#	.	#	##	##	.	##	##	0	.	A
Product	EAM300														
Shaft type															
Solid shaft				S											
Flange (shaft)															
Bride synchro, ø27mm, M3				M											
Shaft															
ø8 x 12 mm					8										
ø5 x 12 mm					5										
ø6 x 12 mm					6										
Protection class															
IP 65								5							
IP 67								7							
Connection															
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						
Voltage supply / interface															
4.5...30 VDC, SSI binary									4B						
4.5...30 VDC, SSI gray									4G						
Resolution Singleturn															
12 Bit												12			
13 Bit												13			
14 Bit												14			
Resolution Multiturn															
No option													00		
12 Bit													12		
13 Bit													13		
16 Bit													16		
18 Bit													18		
Resolution supplement															
No option														0	
Operating temperature															A
-40...+85 °C															

附件

安装附件

10106004 夹紧套件 ø10 mm