Baumer
Passion for Sensors

绝对值编码器/MAGRES

EAM580-K - SSI

编码器套件

单圈或多圈磁式编码器 · 14位单圈 / 18位多圈

产品一览

- 单圈或多圈编码器套件 / SSI
- 精确的磁感应技术
- 测量精度高达±0.15°
- 分辨率最高32位(14位多圈 · 18位多圈)
- 额外的增量信号
- 时钟频率高达2 MHz
- 高防护等级：最高IP67
- 超强的抗冲击和抗振动能力
- 磁转子包含在供货范围内。

技术数据

技术数据 – 电气参数	
电源电压	4.5...30 VDC (SSI, SSI + TTL/RS422) 5.5...30 VDC (SSI + HTL/推挽式)
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 µs (循环请求)
接口	SSI SSI + 增量信号
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	±0,15 ° (+20 ±15 °C) ±0,25 ° (-40...+85 °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 增量信号：线驱动RS422或推挽式 (可选)
增量输出	1024、2048和4096 ppr (其他值可定制)
输出信号	A+ · A- · B+ · B-

技术数据 – 电气参数	
输出频率	≤350 kHz
抗干扰性	EN 61000-6-2
辐射干扰	EN 61000-6-4
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）	ø58 mm
轴类型	ø6 mm (磁转子安装孔) ø8 mm (磁转子安装孔) ø12 mm (磁转子安装孔)
防护等级（EN 60529）	IP 67
运行速度	≤6000 rpm
工作距离	1,1 ±0.9 mm (轴向) / ≤0.3 mm (偏心)
材质	外壳：镀锌钢 法兰：铝
工作温度	-40...+85 °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	250 g
连接	M12 法兰接头 · 8针 M12 法兰接头 · 12针 2米直接出线

可选配件

- 防腐等级达CX (C5-M)

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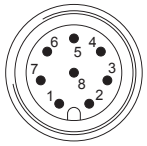
概述

自热效应与安装方式、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。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 / Flange connector M12, 8-pin
for connection reference **-L** and **-B**

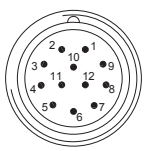
Pin	Core color	Signals	Description
1	white	0 V	Supply voltage
2	brown	+Vs	Supply voltage
3	green	Clock+	Clock signal
4	yellow	Clock-	Clock signal
5	grey	Data+	Data signal
6	pink	Data-	Data signal
7	blue	SET	Zero setting input
8	red	DIR	Counting direction input*
Screen	connected to housing		
Cable data: 4 x 2 x 0.14 mm², twisted in pairs			



Male, A-coded

Cable / Flange connector M12, 12-pin
for connection reference **-L** and **-K**

Pin	Core color	Signals	Description
1	brown	+Vs	Supply voltage
2	blue	SET	Zero setting input
3	white	0 V	Supply voltage
4	green	Clock+	Clock signal
5	pink	Data-	Data signal
6	yellow	Clock-	Clock signal
7	black	A+	Incremental signal
8	grey	Data+	Data signal
9	red	DIR	Counting direction input*
10	violet	A-	Incremental signal
11	grey/pink	B+	Incremental signal
12	red/blue	B-	Incremental signal
Screen	connected to housing		
Cable data: 6 x 2 x 0.14 mm², twisted in pairs			



Male, A-coded

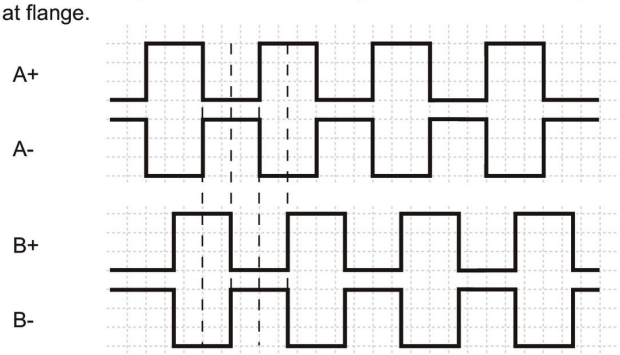
* Not applicable by option: DATAVALID

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 directon input).

输出信号

Incremental signals: clockwise rotating direction when looking at flange.



触发电平

Control inputs	**Input circuit**
Maximal	0...+Vs
Input level Low	<1 V
Input level High	>2.1 V

RS422	
Output level High	>2.3 V
Output level Low	<0.5 V
Load	<20 mA

Push-pull	
Output level High	≥+VS -2.2 V
Output level Low	<0.7 V
Load	<20 mA

Applies to standard cable lengths up to 2 m, for longer cables the voltage drop must be taken into account.

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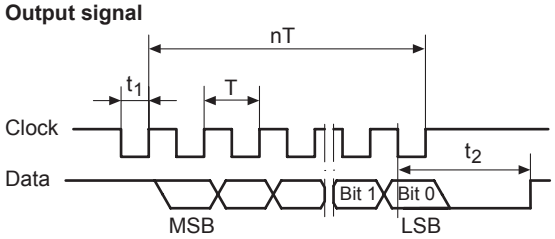
数据传输

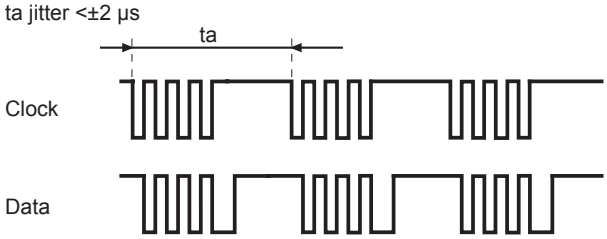
Output signal



T = 0.5...10 µs	t_1 = 0.25...5 µs
t_2 = 20 ±2 µs	f max. = 2 MHz

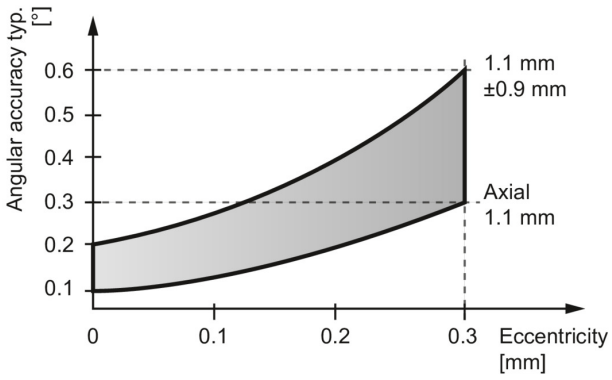
Data acquisition time ta

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.
ta <5000 µs
ta jitter <±2 µs



工作距离

The ideal working distance of the magnet related to the encoder is at an eccentricity of 0 mm and an axial distance of 1.1 mm. Deviation affects the accuracy as shown in following diagram.



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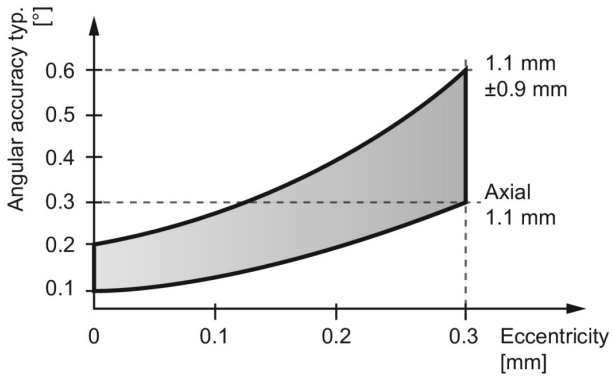

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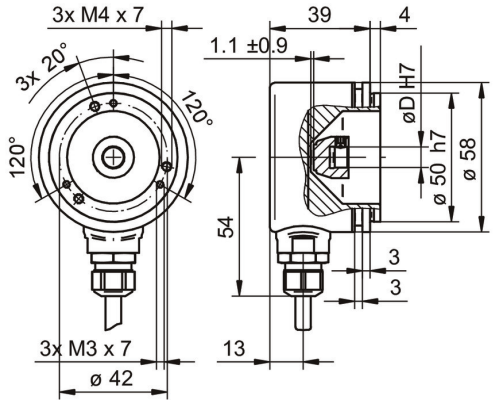
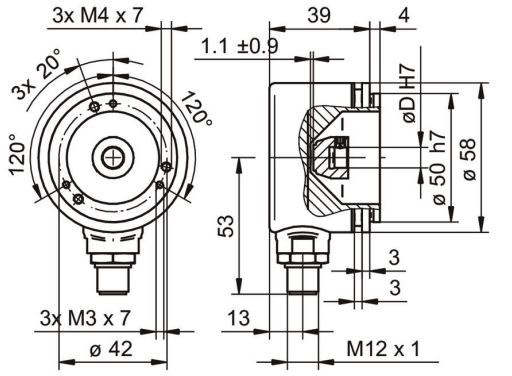
尺寸



EAM580R 套件型 · 电缆出线



EAM580R 套件型 · M12接插件出线

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订货资料

	EAM580	-	K	Y	##	7	#	##	.	##	##	#	.	A
Product														
	EAM580													
Shaft type														
Kit			K											
Flange (kit)														
Servoflansch, Nut ø53 mm, M3/M4				Y										
Magnet holder / bore diameter														
ø6 mm					6									
ø8 mm					8									
ø12 mm					C									
Protection class														
IP 67						7								
Connection														
Flange socket radial, M12, 8-pin, male contacts, CCW							B							
Flange socket radial, M12, 12-pin, male contacts, CCW							K							
Cable radial, 2 m							L							
Voltage supply / interface														
4.5...30 VDC, SSI binary								4B						
4.5...30 VDC, SSI gray								4G						
Resolution Singleturn														
10 Bit										10				
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		
4096 ppr TTL (RS422), 4 channels												H		
2048 ppr TTL (RS422), 4 channels												8		
1024 ppr TTL (RS422), 4 channels												5		
Operating temperature														
-40...+85 °C														A

附件

安装附件

10106004	夹紧套件 ø10 mm