

## 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 $\pm 0.15^\circ$
- 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



### 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	$\pm 0.15^\circ$ (+20 ± 15 °C) $\pm 0.25^\circ$ (-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)

# 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

## 概述

自热效应与安装方式、环境条件以及电子元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。

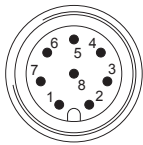
## 端子定义

**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 mm<sup>2</sup>, twisted in pairs



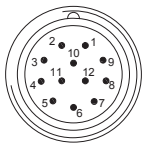
Male, A-coded

**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 mm<sup>2</sup>, twisted in pairs



Male, A-coded

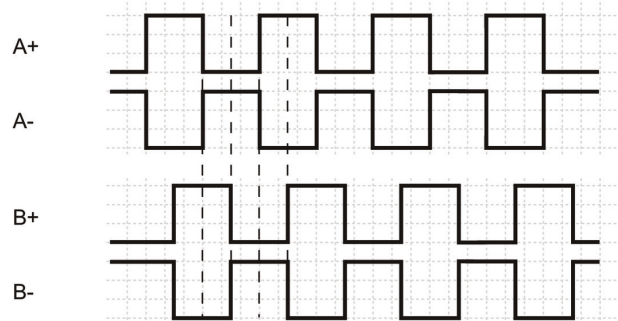
\* Not applicable by option: DATAVALID

## 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 direction 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.

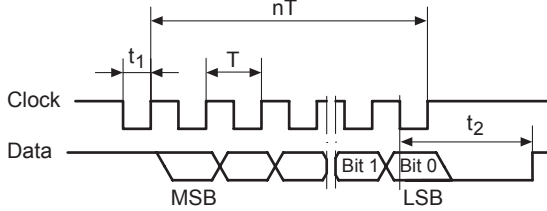
# EAM580-K - SSI

编码器套件

单圈或多圈磁式编码器 · 14位单圈 / 18位多圈

## 数据传输

### Output signal



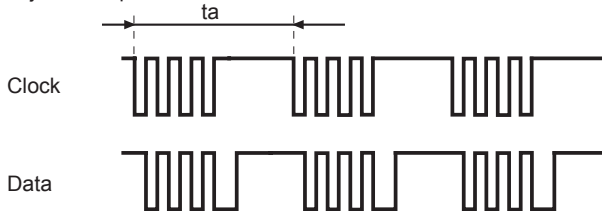
$T = 0.5 \dots 10 \mu\text{s}$        $t_1 = 0.25 \dots 5 \mu\text{s}$   
 $t_2 = 20 \pm 2 \mu\text{s}$        $f \text{ max.} = 2 \text{ MHz}$

### 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  $< 50 \mu\text{s}$ .

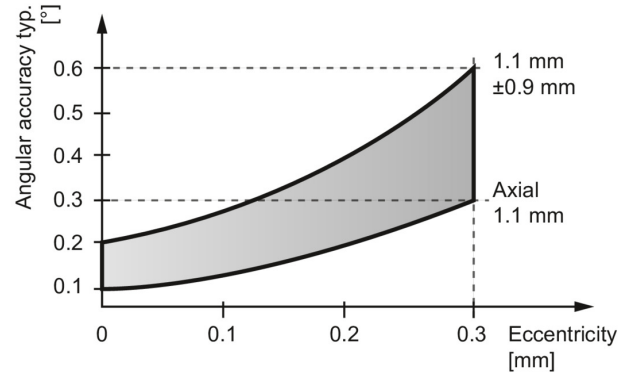
$t_a < 5000 \mu\text{s}$

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



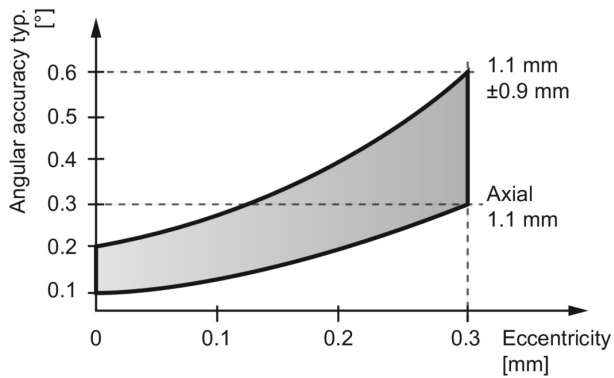
## 工作距离

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.



## 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.

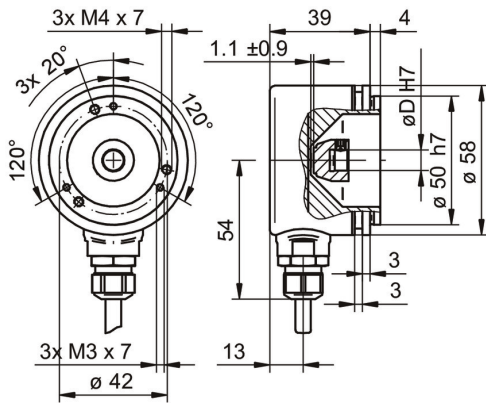


# EAM580-K - SSI

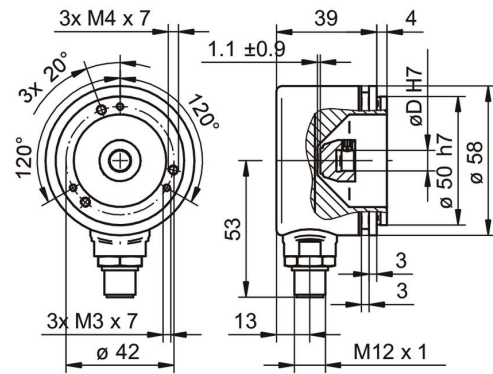
编码器套件

单圈或多圈磁式编码器 · 14位单圈 / 18位多圈

## 尺寸



EAM580R 套件型 · 电缆出线



EAM580R 套件型 · M12接插件出线

# 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

**订货资料**

	EAM580	-	K	Y	##	7	#	##	.	##	##	A
<b>Product</b>	EAM580											
<b>Shaft type</b>												
Kit				K								
<b>Flange (kit)</b>												
Servoflansch, Nut ø53 mm, M3/M4				Y								
<b>Magnet holder / bore diameter</b>												
ø6 mm											6	
ø8 mm											8	
ø12 mm											C	
<b>Protection class</b>												
IP 67											7	
<b>Connection</b>												
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
<b>Voltage supply / interface</b>												
4.5...30 VDC, SSI binary												4B
4.5...30 VDC, SSI gray												4G
<b>Resolution Singleturn</b>												
10 Bit												10
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>Operating temperature</b>												
-40...+85 °C												A

**附件**
**安装附件**

10106004 夹紧套件 ø10 mm