

## 技术数据表

### 旋转编码器系列信息

配件编号: 90000370

EI30-P 058 TM

#### 内容

- 技术参数
- 产品型号描述



图片可能不同

|              |                      |
|--------------|----------------------|
| 编码器_系列       | EI 058 TM            |
| 编码器_基本原理     | 增量                   |
| 编码器_工作原理     | 光学插值                 |
| 编码器_法兰直径     | Ø 58 mm              |
| 编码器_法兰型号     | 转速计法兰                |
| 编码器_实心轴/空心轴H | 实心轴                  |
| 编码器_供电电压     | 10 ... 30 V DC       |
|              | 4.75 ... 5.5 V DC    |
|              | 5 ... 30V DC         |
| 编码器_输出电路     | 1 Vss Sin/Cos        |
|              | HTL                  |
|              | HTL , 逆转             |
|              | TTL                  |
|              | TTL , RS422 紧凑型 , 逆转 |
| 编码器_脉冲数      | 10000 I/U            |
|              | 10240 I/U            |
|              | 12000 I/U            |
|              | 12500 I/U            |
|              | 1440 I/U             |
|              | 15000 I/U            |
|              | 16384 I/U            |
|              | 20000 I/U            |
|              | 20480 I/U            |
|              | 25000 I/U            |
|              | 2880 I/U             |
|              | 3000 I/U             |
|              | 3600 I/U             |
|              | 4000 I/U             |
|              | 5760 I/U             |
|              | 6000 I/U             |
|              | 7200 I/U             |
|              | 7500 I/U             |
|              | 8000 I/U             |
|              | 9182 I/U             |

## 技术参数

### Encoder EI30 P 058 TM

#### Resolution

|                           |                 |
|---------------------------|-----------------|
| Pulses per revolution PPR | up to 25000 PPR |
|---------------------------|-----------------|

#### Mechanical Data

|                  |                      |
|------------------|----------------------|
| Flange           | motorfeedback flange |
| Flange material  | aluminum             |
| Housing material | aluminum             |
| Flange diameter  | Ø 58 mm [Ø 2.283"]   |

#### Shaft(s)

|                 |                                                        |
|-----------------|--------------------------------------------------------|
| Shaft material  | stainless steel                                        |
| Starting torque | approx. 1 Ncm [1.416 in-ozf]<br>at ambient temperature |

|              |                                                |
|--------------|------------------------------------------------|
| <b>Shaft</b> | Ø Conus 1/10; 9.25 mm [Ø 3/8"]<br>Order No. 10 |
|--------------|------------------------------------------------|

|              |                    |
|--------------|--------------------|
| Shaft length | L: 16.5 mm [0.65"] |
|--------------|--------------------|

|                                       |                 |
|---------------------------------------|-----------------|
| Max. Permissible shaft loading radial | 80 N [8.157 kp] |
|---------------------------------------|-----------------|

|                                      |                 |
|--------------------------------------|-----------------|
| Max. Permissible shaft loading axial | 60 N [6.118 kp] |
|--------------------------------------|-----------------|

#### Bearings

|                      |                                                                                                                                                                   |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bearings type        | 2 precision ball bearings                                                                                                                                         |
| Nominal service life | 1 x 10 <sup>9</sup> revs. at 100 % rated shaft load<br>1 x 10 <sup>10</sup> revs. at 40 % rated shaft load<br>1 x 10 <sup>11</sup> revs. at 20 % rated shaft load |
| Max. operating speed | 12000 rpm                                                                                                                                                         |

#### Machinery Directive: basic data safety integrity level

|                             |                                                                      |
|-----------------------------|----------------------------------------------------------------------|
| MTTF <sub>d</sub>           | 200 a                                                                |
| Mission time (TM)           | 25 a                                                                 |
| Nominal service life (L10h) | 1 x 10 <sup>11</sup> revs. at 20 % rated shaft load<br>and 12000 rpm |
| Diagnostic coverage (DC)    | 0 %                                                                  |

#### Electrical Data

|                                  |                                                                                                                                                                                       |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power supply/Current consumption | 4,75 VDC up to 5,5 VDC: typ. 70 mA<br>(100 mA only C3, D3)                                                                                                                            |
| Power supply/Current consumption | 5 VDC up to 30 VDC: typ. 70 mA                                                                                                                                                        |
| Power supply/Current consumption | 10 VDC up to 30 VDC: typ. 70 mA<br>(100 mA only C2, C4, D4)                                                                                                                           |
| Operating principle              | optical                                                                                                                                                                               |
| Output circuit                   | TTL<br>TTL, RS422 compatible, inv.<br>HTL<br>HTL, inv.<br>1 V <sub>pp</sub> sin/cos                                                                                                   |
| Pulse frequency                  | TTL ≤ 5000 ppr: max. 200 kHz<br>HTL ≤ 5000 ppr: max. 200 kHz<br>TTL more than 1200 ppr: max. 2 MHz<br>HTL more than 1200 ppr: max. 600 kHz<br>1 V <sub>pp</sub> sin/cos: max. 100 kHz |
| Channels                         | B<br>N<br>and inverted signals                                                                                                                                                        |
| Load                             | max. 40 mA / channel<br>@ 1 V <sub>pp</sub> sin/cos: min. 120 Ohm                                                                                                                     |
| Circuit protection               | circuit type C4, C6, D4, D6 only                                                                                                                                                      |

#### Accuracy

|                    |                                                                                       |
|--------------------|---------------------------------------------------------------------------------------|
| Phase offset       | 90° ± max. 7.5 % of the period duration                                               |
| pulse-/pause-ratio | ≤5000 ppr: 50 % ± max. 7 %<br>Output circuits C2, C3, C4, D3, D4:<br>50 % ± max. 10 % |

#### Environmental data

|                                  |                                           |
|----------------------------------|-------------------------------------------|
| ESD (DIN EN 61000-4-2):          | 8 kV                                      |
| Burst (DIN EN 61000-4-4):        | 2 kV                                      |
| includes EMC:                    | DIN EN 61000-6-2<br>DIN EN 61000-6-3      |
| Vibration:<br>(DIN EN 60068-2-6) | 50 m/s <sup>2</sup> (10 Hz up to 2000 Hz) |
| Shock:<br>(DIN EN 60068-2-27)    | 1000 m/s <sup>2</sup> (6 ms)              |
| Electrical Safety:               | according DIN VDE 0160                    |

#### Duty information

|                        |          |
|------------------------|----------|
| Customs tariff number: | 90318020 |
| Country of origin:     | Germany  |

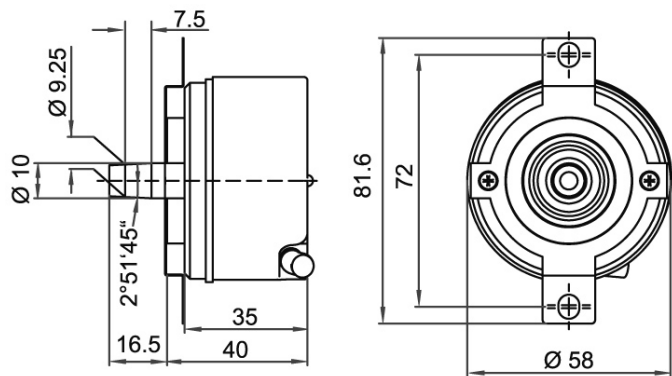
#### General Data

|                                 |                                                                                                                   |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Weight                          | approx. 220 g [7.76 oz]                                                                                           |
| Connections                     | cable output, 2 m, tangential                                                                                     |
| Protection rating<br>(EN 60529) | Housing: IP65, IP67;<br>shaft sealed: IP65                                                                        |
| Operating temperature           | -20 °C up to +80 °C<br>[-4 °F up to +176 °F]<br>1 V <sub>pp</sub> : -10 °C up to +70 °C<br>[+14 °F up to +158 °F] |
| Storage temperature             | -20 °C up to +80 °C<br>[-4 °F up to +176 °F]                                                                      |

技术参数

Encoder EI30 P 058 TM

Cable connection T-C, tangential, with 2 m cable



All dimensions in mm

Description

N inv. poss.

T-C tangential, shield connected to encoder housing

•

Assignments

|         | T-C                | T-C                        | T-C  |
|---------|--------------------|----------------------------|------|
| Circuit | C3, C4, C5, C6, C7 | C1, C2, D3, D4, D5, D6, D7 | D8   |
| GND     | WH                 | WH                         | WH   |
| (+) Vcc | BN                 | BN                         | BN   |
| A       | GN                 | GN                         | GN   |
| B       | YE                 | YE                         | GY   |
| N       | GY                 | GY                         | -    |
| -       | -                  | -                          | -    |
| A inv.  | -                  | RD                         | YE   |
| B inv.  | -                  | BK, (BU at LT)             | PK   |
| N inv.  | -                  | VT                         | -    |
| Shield  | flex               | flex                       | flex |

技术参数

Encoder EI30 P 058 TM

Options

| Low-friction bearings                                                                                                                                                                                                                                                                        | Order key       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| The encoder EI30 P 058 TM is also available as a particularly smooth- running low-friction encoder. The starting torque is thereby changed to ≤ 0.5 Ncm [0.708 in-ozf] and the protection class at the shaft input to IP50.                                                                  | LB              |
| Cable length                                                                                                                                                                                                                                                                                 | Order key       |
| The encoder EI30 P 058 TM can be supplied with more than 2 m cable.<br>The maximum cable length depends on the supply voltage and the frequency.<br>Please extend the standard order code with a three figure number, specifying the cable length in decimetres.<br>Example: 5 m cable = 050 | XXX = Decimeter |

技术参数

Encoder EI30 P 058 TM

| Example Order No. | Type          |
|-------------------|---------------|
| EI30 P 058 TM     | EI30 P 058 TM |

Pulses per revolution PPR:

|      |                                                                                                                                                                                                                                                                                                                                                       |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1024 | 4, 6, 25, 36, 50, 60, 64, 70, 88, 100, 120, 125, 150, 180, 200, 240, 250, 256, 300, 360, 400, 500, 512, 600, 720, 750, 768, 800, 900, 1000, 1024, 1200, 1250, 1270, 1500, 1800, 2000, 2048, 2500, 3000, 3600, 4000, 4096, 5000, 8000, 8192, 10000, 10240, 12500, 16384, 20000, 20480, 25000<br>1 Vpp Sin/Cos only 1024, 2048<br>Other PPRs on request |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Channels:

|   |               |
|---|---------------|
| N | N, B (SIN: B) |
|---|---------------|

Output circuit

|    | Resolution PPR                      | Power supply VDC | Output circuit                       | - | Order key |
|----|-------------------------------------|------------------|--------------------------------------|---|-----------|
| C6 | up to 2500                          | 5 - 30           | HTL (TTL at 5 VDC)                   | - | C7        |
|    |                                     | 5 - 30           | HTL, inv. (TTL/RS422 comp. at 5 VDC) | - | D7        |
|    | up to 5000                          | 4.75 - 5.5       | TTL                                  | - | C5        |
|    |                                     | 4.75 - 5.5       | TTL, RS422 comp., inverted           | - | D5        |
|    |                                     | 10 - 30          | HTL                                  | - | C6        |
|    |                                     | 10 - 30          | HTL inverted                         | - | D6        |
|    |                                     | 10 - 30          | TTL, RS422 comp., inverted           | - | C1        |
|    |                                     | 10 - 30          | TTL, RS422 comp., inverted           | - | D3        |
|    | (higher frequency) 1200 up to 25000 | 4.75 - 5.5       | TTL                                  | - | C3        |
|    |                                     | 4.75 - 5.5       | TTL, RS422 comp., inverted           | - | D3        |
|    |                                     | 10 - 30          | HTL                                  | - | C4        |
|    |                                     | 10 - 30          | HTL inverted                         | - | D4        |
|    |                                     | 10 - 30          | TTL, RS422 comp., inverted           | - | C2        |
|    | 1024, 2048                          | 4.75 - 5.5       | 1 Vpp sin/cos                        | - | D8        |

Electrical connections

|     | Description                                                                     | N inv. poss. | Order key |
|-----|---------------------------------------------------------------------------------|--------------|-----------|
| T-C | Cable: length (2 m standard)<br>tangential, shield connected to encoder housing | •            | T-C       |

Options

| Description           | Order key       |
|-----------------------|-----------------|
| Low-friction bearings | LB              |
| Without option        | Empty           |
| Cable length          | XXX = Decimeter |

|                    |               |      |   |    |     |               |              |
|--------------------|---------------|------|---|----|-----|---------------|--------------|
| Example Order No.: | EI30 P 058 TM | 1024 | N | C6 | T-C | EI30 P 058 TM | Your encoder |
|--------------------|---------------|------|---|----|-----|---------------|--------------|

产品型号描述

产品名称：EABB CCCDDEE FFFFFFF GHHJKK LLMNOPPP RR

|        |                                                                                                                                                                                                                                                                                                                                                                                               |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A      | 旋转编码器型号<br>I：增量<br>S：绝对，单圈<br>M：绝对，多圈                                                                                                                                                                                                                                                                                                                                                         |
| BB     | 系列<br>10：条目<br>30：基本型<br>50：扩展型<br>70：高级版                                                                                                                                                                                                                                                                                                                                                     |
| CCC    | 法兰直径<br>024: 24 mm<br>036: 36 mm<br>058: 58 mm<br>063: 63 mm<br>067: 67 mm<br>070: 70 mm<br>080: 80 mm<br>100：100 mm<br>115: 115 mm                                                                                                                                                                                                                                                           |
| DD     | 法兰型号<br>BB：带有盲孔钻孔的空心轴<br>CC：夹紧法兰（紧凑结构形式）<br>CF：夹紧法兰（食品和饮料）<br>CH：夹紧法兰（重负载规格）<br>CL：夹紧法兰<br>HI：空心轴（绝缘）<br>HO：空心轴<br>HT：空心轴（特殊扭矩支承）<br>RC：圆形法兰（36/40 夹紧法兰，58 带 6-mm-轴）<br>RE：圆形法兰（扩展钻孔）<br>RN：圆形法兰<br>SC：定子联轴器<br>SF：螺栓法兰（53 夹紧法兰，58 食品和饮料）<br>SI：伺服法兰（高级轴负载和 IP 地址）<br>SQ：方形法兰<br>SR：螺栓法兰（36/40 夹紧法兰，58 耐腐蚀）<br>SY：同步（增量），伺服(36)，同步(58)（绝对）<br>TM：转速计（115 带 1-mm-轴，58 电机反馈）<br>TS：转速计（10-mm-轴） |
| EE     | 轴-/钻孔直径<br>06: 6 mm<br>07: 7 mm<br>08: 8 mm<br>08: 8 mm<br>10: 10 mm<br>11: 11 mm<br>12: 12 mm<br>14: 14 mm<br>15: 15 mm<br>06-72：空心/盲孔钻孔 (6 ... 72 mm)                                                                                                                                                                                                                                       |
| FFFFFF | 信号/分辨率<br>Axxxxx: A<br>Bxxxxx: AB<br>Nxxxxx: ABN<br>P16384：可编程<br>xx：单圈，1 ... 16 位<br>xx：多圈，0 ... 43 位（单圈时为 00）                                                                                                                                                                                                                                                                               |
| G      | 电隔离（仅绝对）<br>0：无<br>1：带有                                                                                                                                                                                                                                                                                                                                                                       |
| HH     | 供电电源（仅绝对）<br>0：10 ... 32 V DC/带电隔离<br>1: 4.75 ... 5.5 V DC<br>2: 18 ... 30 V DC                                                                                                                                                                                                                                                                                                               |
| J      | 工作原理<br>M：磁性<br>O：光学<br>P：光学插值                                                                                                                                                                                                                                                                                                                                                                |

产品型号描述

|     |                                                                                                                   |
|-----|-------------------------------------------------------------------------------------------------------------------|
| KK  | 接口<br>01: RS485<br>07 : SSI 二进制<br>08: SSI Gray<br>35: CANopen<br>38: EtherCAT<br>48: PROFINET<br>58: EtherNet/IP |
| LL  | 电气连接<br>M08 : 圆形插头 M8<br>M12 : 圆形插头 M12<br>M16 : 圆形插头 M16<br>M23 : 圆形插头 M23<br>M12BC : 总线罩插头                      |
| M   | 电缆出口<br>A : 轴向<br>R : 径向<br>T : 正切                                                                                |
| NN  | 引脚数<br>xx : 引脚数                                                                                                   |
| O   | 屏蔽接口 ( 2-m-电缆 ) ( 可选 )<br>C : 已连接<br>N : 未连接                                                                      |
| PPP | 电缆长度<br>xxx : 电缆长度 ( 单位为 dm )                                                                                     |

注意



所有可用设备类型列表请查阅劳易测的网站 [www.leuze.com](http://www.leuze.com)。



