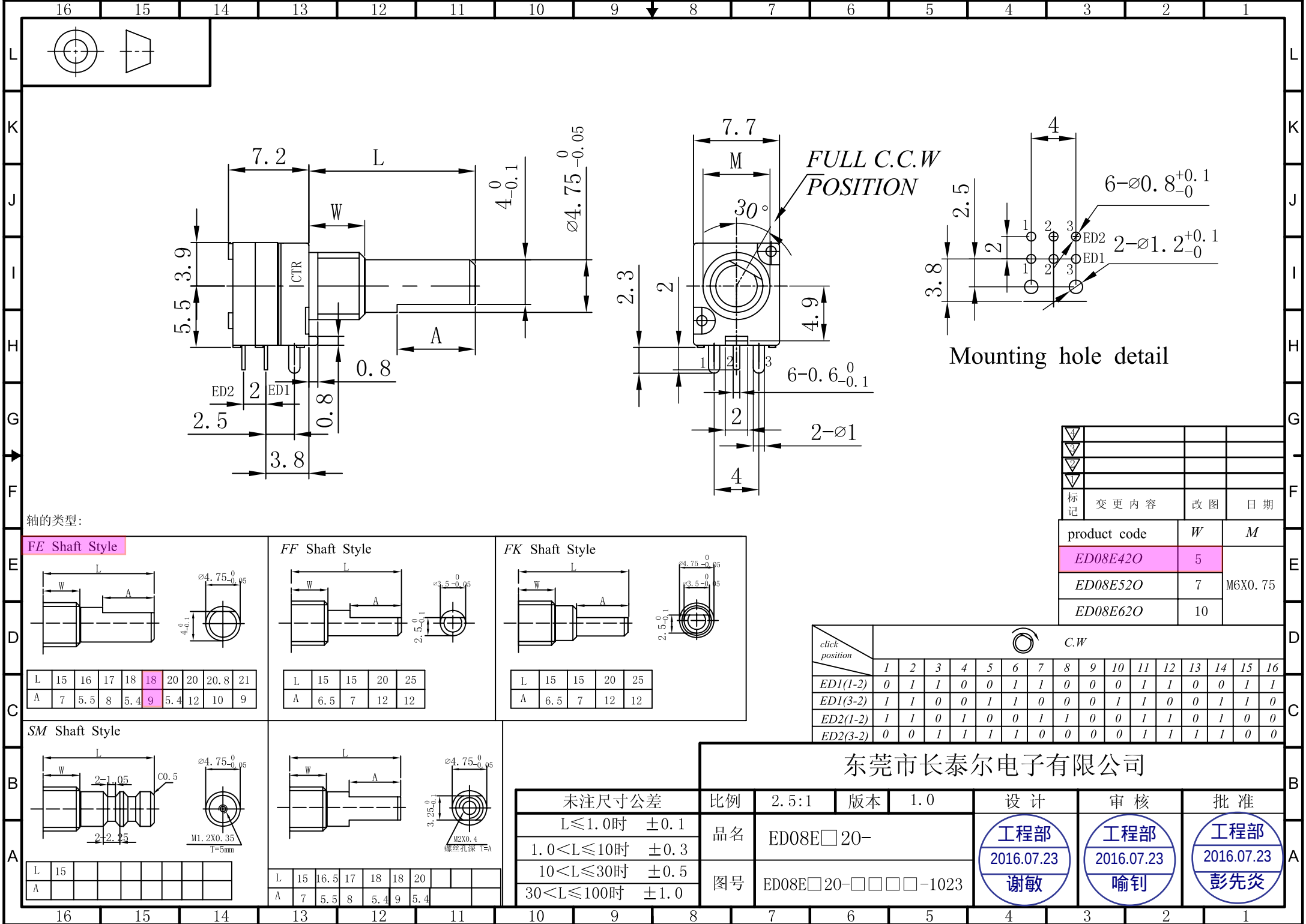


# 编码器规格书

## ENCODER SPECIFICATIONS

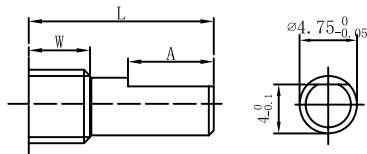
|                                                    |                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1 一般事项</b><br><b>General information</b>        |                                                                                                                                                                                                                                                                                                                                                                                            |
| 1-1 适用型号<br>Applicable models                      | ED08E 系列无开关型<br>ED08E Serial no have Switch type                                                                                                                                                                                                                                                                                                                                           |
| 1-2 使用环境温度<br>Usage environment temperature        | - 20℃ ~ + 70℃                                                                                                                                                                                                                                                                                                                                                                              |
| 1-3 保存环境温度<br>Storage environment temperature      | - 40℃ ~ + 70℃                                                                                                                                                                                                                                                                                                                                                                              |
| 1-4 测试条件<br>Test condition                         | 温度: 5~35℃, 湿度: 45~85%HR<br>Temperature: 5~35℃, Moisture: 45~85%HR                                                                                                                                                                                                                                                                                                                          |
| 1-5 环保要求<br>Environmental requisition              | 本产品符合 RoHS 指令<br>This product is compliant with RoHS Directive                                                                                                                                                                                                                                                                                                                             |
| 1-6 耐焊接热<br>Soldering heat-resistance              | 1、手工焊接温度最高 350℃ ± 5℃, 3 秒;<br>2、自动焊接温度最高 260℃ ± 5℃, 3 秒; 基板表面预热温度最高 100℃ 1 分钟以内;<br>3、以上过程均保证在 1 到 2 次;<br>4、不适用回流焊。<br><br>1. Soldering iron Max ,350℃ ± 5℃ a t 3 sec.<br>2. Au to soldering 260℃ ± 5℃ max. at 3 sec. Pre heating temperature of board surface: 100℃ max. at within 1 minutes.<br>3. To guarantee the above process at 1 or 2 times.<br>4. No apply the reflow soldering. |
| 1-7 原产地<br>Country of origin                       | 中国<br>China                                                                                                                                                                                                                                                                                                                                                                                |
| <b>2 构造</b><br><b>Construction</b>                 |                                                                                                                                                                                                                                                                                                                                                                                            |
| 2-1 外观<br>Appearance                               | 各部件应完整, 无锈蚀、裂痕、电镀不良<br>Every part should finished, be not exist rust flaw crack and bad plating                                                                                                                                                                                                                                                                                            |
| 2-2 寸法<br>Measurements                             | 依照图面规定<br>Under conditions prescribed by design drawing.                                                                                                                                                                                                                                                                                                                                   |
| <b>3 机械性能</b><br><b>Mechanical characteristics</b> |                                                                                                                                                                                                                                                                                                                                                                                            |
| 3-1 全回转角度<br>Total rotational angle                | 300° ± 5°                                                                                                                                                                                                                                                                                                                                                                                  |
| 3-2 回转力矩<br>Rotational torque                      | 70~400gf.cm (旋转速度: 60° /1 秒)<br>70~400gf.cm (Rotational velocity : 60° /1 Sec. )                                                                                                                                                                                                                                                                                                           |
| 3-3 回转止动强度<br>Rotational stopper strength          | 3Kgf.cm                                                                                                                                                                                                                                                                                                                                                                                    |
| 3-4 定位数<br>Number of detent                        | 16 个定位<br>16 Detents                                                                                                                                                                                                                                                                                                                                                                       |
| 3-5 切换角度<br>Change-Over angle                      | 20° ± 3°                                                                                                                                                                                                                                                                                                                                                                                   |

|                                                             |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                      |                                       |
|-------------------------------------------------------------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------|
| 3-6                                                         | 轴压引强度<br>Pull-Push Strength of Shaft | ≥10Kgf                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                      |                                       |
| 3-7                                                         | 螺母锁紧强度<br>Nut tightening strength    | ≥10Kgf.cm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                      |                                       |
| 3-8                                                         | 轴摇晃度<br>Shaft wobble                 | 在单个轴顶端施加压力 250gf, 轴径向偏移量小于: 0.7*轴长 L 尺寸/30mm<br>On the tip of the single shaft exert pressure 250gf , Shaft radial deviant be smaller than:0.7*shaft long L size/30mm                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                      |                                       |
| 4 电气性能<br>Electrical characteristics                        |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                      |                                       |
| 4-1                                                         | 额定电压<br>Voltage rating               | DC 5V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                      |                                       |
| 4-2                                                         | 额定电流<br>Current rating               | 1mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                      |                                       |
| 4-3                                                         | 耐电压<br>Voltage proof                 | AC 300V 1 分钟以上 (端子和本体之间, 端子和轴芯之间)<br>1 Minute at AC 300V (Between terminal – case, Between terminal –shaft).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                      |                                       |
| 4-4                                                         | 最大使用电流<br>Maximum operating current  | 2.5mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                      |                                       |
| 4-6                                                         | 绝缘抵抗<br>Insulation resistance        | DC 250V 100M Ω 以上 (端子和本体之间, 端子和轴芯之间)<br>100M Ω min. At DC 250V (Between terminal – case, Between terminal –shaft).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                      |                                       |
| 4-7                                                         | 回转寿命<br>Rotational life              | 无负荷情况下每小时旋转 600 周, 寿命10,000 周, 寿命后:<br>1、绝缘抵抗 10M Ω 以上 DC250V (端子和本体之间, 端子和轴芯之间);<br>2、耐电压 AC100V 1 分钟 (端子和本体之间, 端子和轴芯之间), 绝缘阻抗无击穿;<br>3、回转力矩: 满足第 3-2 项;<br>4、外观和结构无损坏。<br><br>10,000 cycles under no load circumstances by 600 r/h of rotation, afterlife cycle:<br>1. Insulation resistance:10M Ω min. At DC 250V. (Between terminal – case, Between terminal –shaft).<br>2. Withstanding voltage : AC 100V at 1 minute (Between terminal – case , Between terminal –shaft). No subversion on insulation resistance.<br>3. Rotational torque : Content item No. 3-2.<br>4. No damage on appearance and structure. |                                      |                                       |
| 5 防水性能<br>Waterproof standard characteristics               |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                      |                                       |
| 6-1                                                         | 防水标准<br>Waterproof standard          | <div><input checked="" type="checkbox"/> 不适用<br/>No apply</div> <div><input type="checkbox"/> 七级防水<br/>编码器轴芯轴套置于水中 1 米深处, 其它部件密封后暴露在标准大气压中, 30 分钟后电位器内部未进水。<br/>Grade -7 Of Waterproof standard<br/>Encoder's Shaft and Bush in water 1M deep, other component sealed after exposed to the standard atmosphere, after 30 minutes no water into the Encoder's inner.</div>                                                                                                                                                                                                                                            |                                      |                                       |
| 东莞市长泰尔电子有限公司<br>DONG GUAN CHANG TAI ER ELECTRONIC CO., LTD. |                                      | 制 作<br>Designed By                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 审 核<br>Checked By                    | 核 准<br>Approved By                    |
|                                                             |                                      | <div>工程部<br/>2016.07.23<br/>谢敏</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <div>工程部<br/>2016.07.23<br/>喻钊</div> | <div>工程部<br/>2016.07.23<br/>彭先炎</div> |



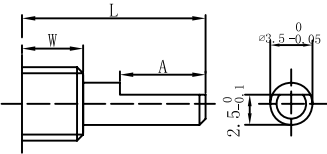
轴的类型:

FE Shaft Style



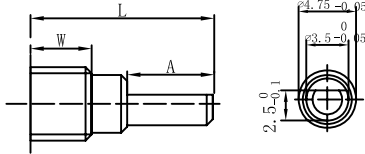
|   |    |     |    |     |    |     |    |      |    |
|---|----|-----|----|-----|----|-----|----|------|----|
| L | 15 | 16  | 17 | 18  | 18 | 20  | 20 | 20.8 | 21 |
| A | 7  | 5.5 | 8  | 5.4 | 9  | 5.4 | 12 | 10   | 9  |

FF Shaft Style



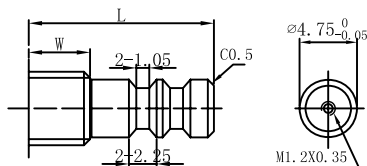
|   |     |    |    |    |
|---|-----|----|----|----|
| L | 15  | 15 | 20 | 25 |
| A | 6.5 | 7  | 12 | 12 |

FK Shaft Style

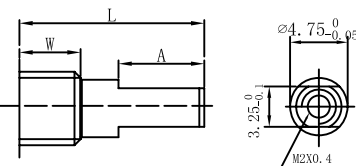


|   |     |    |    |    |
|---|-----|----|----|----|
| L | 15  | 15 | 20 | 25 |
| A | 6.5 | 7  | 12 | 12 |

SM Shaft Style



|   |    |  |  |  |  |  |  |  |  |
|---|----|--|--|--|--|--|--|--|--|
| L | 15 |  |  |  |  |  |  |  |  |
| A |    |  |  |  |  |  |  |  |  |



|   |    |      |    |     |    |     |  |  |  |
|---|----|------|----|-----|----|-----|--|--|--|
| L | 15 | 16.5 | 17 | 18  | 18 | 20  |  |  |  |
| A | 7  | 5.5  | 8  | 5.4 | 9  | 5.4 |  |  |  |

|                               |    |                     |    |     |
|-------------------------------|----|---------------------|----|-----|
| 未注尺寸公差                        | 比例 | 2.5:1               | 版本 | 1.0 |
| $L \leq 1.0$ 时 $\pm 0.1$      | 品名 | ED08E□ 20-          |    |     |
| $1.0 < L \leq 10$ 时 $\pm 0.3$ | 图号 | ED08E□ 20-□□□□-1023 |    |     |
| $10 < L \leq 30$ 时 $\pm 0.5$  |    |                     |    |     |
| $30 < L \leq 100$ 时 $\pm 1.0$ |    |                     |    |     |

|                         |                         |                          |
|-------------------------|-------------------------|--------------------------|
| 设计                      | 审核                      | 批准                       |
| 工程部<br>2016.07.23<br>谢敏 | 工程部<br>2016.07.23<br>喻钊 | 工程部<br>2016.07.23<br>彭先炎 |

Mounting hole detail

|              |      |         |    |
|--------------|------|---------|----|
| 标记           | 变更内容 | 改图      | 日期 |
| product code | W    | M       |    |
| ED08E42O     | 5    |         |    |
| ED08E52O     | 7    | M6X0.75 |    |
| ED08E62O     | 10   |         |    |

|                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
|----------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|
| click position | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| ED1(1-2)       | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0  | 1  | 1  | 0  | 0  | 1  | 1  |
| ED1(3-2)       | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1  | 1  | 0  | 0  | 1  | 1  | 0  |
| ED2(1-2)       | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0  | 1  | 1  | 0  | 1  | 0  | 0  |
| ED2(3-2)       | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0  | 1  | 1  | 1  | 1  | 0  | 0  |

东莞市长泰尔电子有限公司