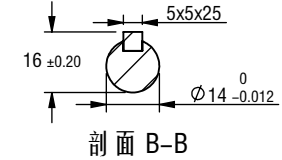
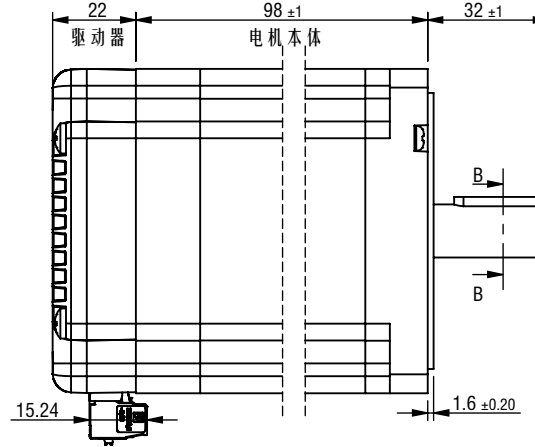
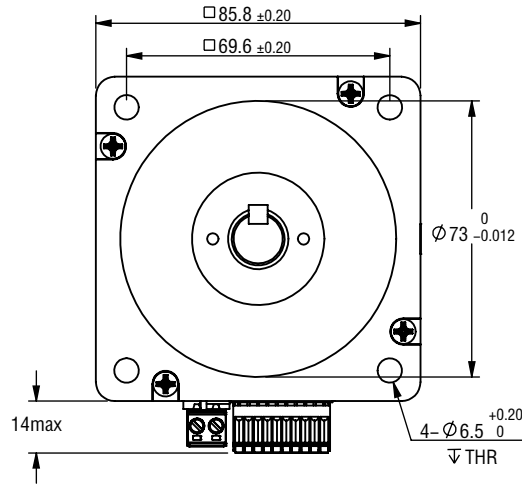
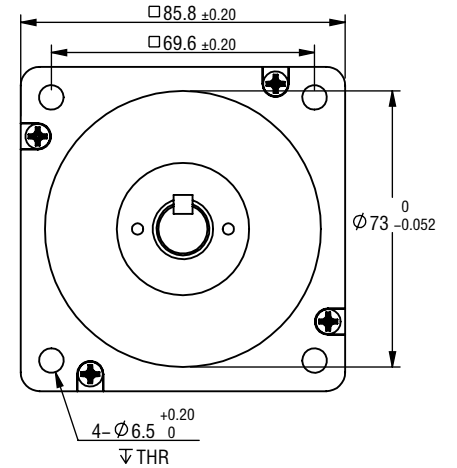
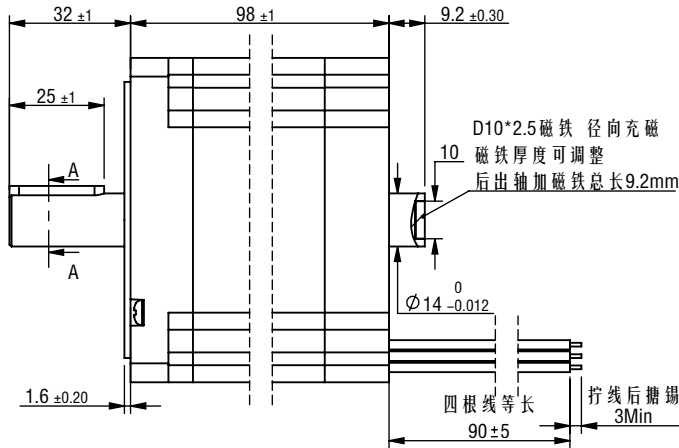
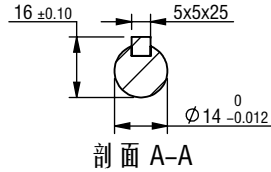
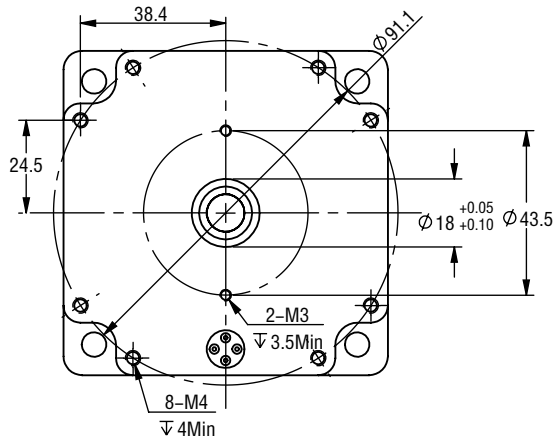


※ 尺寸/Dimensions 单位/Unit: (mm)



| ※ 规格/ Specification   |                             | ※ 端口功能/Port Function |      | ※ 端子定义/Terminal definitions   |     | ※ 铭牌内容/Label discription   |          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |                 |             |             |         |     |                                  |
|---|-----------------------------|----------------------|------|---|-----|--|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|-----------------|-------------|-------------|---------|-----|----------------------------------|
| 输入电压范围  | 18~70VAC/24~100VDCvdc       | 序号                   | 名称   | 功能  |     | <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">                     Type:<br/>                     IG86ET65<br/>                     1.8DEG 6.0A<br/>                     18~70VAC/24~100VDC INPUT<br/>                     www.lesn.com<br/>                     Pro. Date:2021/12/06                 </div> |          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |                 |             |             |         |     |                                  |
| 输出力矩范围  | 最大6.5N.m                    | 1                    | V+   | 电源正 (18~70VAC/24~100VDCvdc) 交流时不分正负极  |     |  |          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |                 |             |             |         |     |                                  |
| 电流设置  | 软件可调, 0.5~6.5可调, 出厂适配电机     | 2                    | V-   | 电源地 (GND) 交流时不分正负极  |     |  |          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |                 |             |             |         |     |                                  |
| 细分设置  | 软件200~1000000整数可调, 出厂默认4000 | 3                    | X0+  | 光电隔离, 差分, 兼容5~24VDC, 可作为通用输入或高速脉冲输入, 滤波频率300KHz, 可通过上位机定义端口功能, 滤波频率。            |     |  |          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |                 |             |             |         |     |                                  |
| 编码器反馈   | 1000线(4000 Counts)编码器反馈     | 4                    | X0-  | 光电隔离, 差分, 兼容5~24VDC, 可作为通用输入或高速脉冲输入, 滤波频率300KHz, 可通过上位机定义端口功能, 滤波频率。            |     |  |          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |                 |             |             |         |     |                                  |
| 非易失性存储  | 配置参数储存在MCU内部的FLASH中         | 5                    | X1+  | 光电隔离, 差分, 兼容5~24VDC, 可作为通用输入或高速脉冲输入, 滤波频率300KHz, 可通过上位机定义端口功能, 滤波频率。            |     |  |          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |                 |             |             |         |     |                                  |
| 重量  | ≈ 3.4 Kg                    | 6                    | X1-  | 光电隔离, 差分, 兼容5~24VDC, 可作为通用输入, 滤波频率10KHz, 可通过上位机定义端口功能。                          |     |  |          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |                 |             |             |         |     |                                  |
| 转子惯量  | ≈ 2500 g.cm <sup>2</sup>    | 7                    | X2+  | 光电隔离, 差分, 兼容5~24VDC, 可作为通用输入, 滤波频率10KHz, 可通过上位机定义端口功能。                          |     |  |          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |                 |             |             |         |     |                                  |
| 通讯方式  | Modbus-RS485                | 8                    | X2-  | 报警状态输出端口, 可检测电机报警状态, 默认常闭, 正常时输出。可通过软件取反或设置成其他功能。                               |     |  |          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |                 |             |             |         |     |                                  |
| 波特率   | 115200                      | 9                    | Y0+  | 通讯端口, 通过主站MODBUS指令可对从站驱动器进行控制, 注意主站波特率必须与从站一致, 出厂默认波特率为115200, 数据位8, 停止位1, 无校验。 |     |  |          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |                 |             |             |         |     |                                  |
| 数据位   | 8                           | 10                   | Y0-  |   |     |  |          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |                 |             |             |         |     |                                  |
| 停止位   | 1                           | 11                   | 485A |   |     |  |          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |                 |             |             |         |     |                                  |
| 校验位   | 无                           | 12                   | 485B |   |     |  |          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |                 |             |             |         |     |                                  |
| ※ 拨码设置/Serial port Settings   |                             |                      |      | 第一角画法<br>Frist Angel View   |     | 型号/Model   | IG86ET65 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |                 |             |             |         |     |                                  |
| 地址  | 1                           | 2                    | 3    | 4   | 5   | 6  | 7        | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | 25  | 26  | 27  | 28  | 29  | 30  | 31  | 32   | 公差<br>Tolerance | 比例<br>Scale | 页码<br>Sheet | 名称/Name |     |                                  |
| SW1   | ON                          | OFF                  | ON   | OFF   | ON  | OFF  | ON       | OFF | ON  | OFF | ON  | OFF | ON  | OFF | ON  | OFF | ON  | OFF | ON  | OFF | ON  | OFF | ON  | OFF | ON  | OFF | ON  | OFF | ON  | OFF | ON  | OFF  | ON              | OFF         | ±0.3        | 1:2     | 1/1 | 集成式步进伺服<br>Integrated step servo |
| SW2   | ON                          | ON                   | OFF  | OFF   | ON  | ON   | OFF      | OFF | ON  | ON  | OFF | OFF | ON  | ON  | OFF | OFF | ON  | ON  | OFF | OFF | ON  | ON  | OFF | OFF | ON  | ON  | OFF | OFF | ON  | ON  | OFF | OFF  | ON              | OFF         |             |         |     |                                  |
| SW3   | ON                          | ON                   | ON   | ON  | OFF | OFF  | OFF      | OFF | ON  | ON  | ON  | ON  | OFF | OFF | OFF | OFF | ON  | ON  | ON  | ON  | OFF | OFF | OFF | OFF | ON  | ON  | ON  | ON  | OFF | OFF | OFF | OFF  | ON              | OFF         |             |         |     |                                  |
| SW4   | ON                          | ON                   | ON   | ON  | ON  | ON   | ON       | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF | ON  | ON  | ON  | ON  | ON  | ON  | ON  | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF  | OFF             | OFF         |             |         |     |                                  |
| SW5   | ON                          | ON                   | ON   | ON  | ON  | ON   | ON       | ON  | ON  | ON  | ON  | ON  | ON  | ON  | ON  | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF  | OFF             | OFF         |             |         |     |                                  |
| 备注: 需要其他地址可通过上位机设置基地址, 默认基地址为1。实际地址=拨码地址+基地址-1 SW6: 用于设定终端电阻, OFF时为0欧姆, ON时为120欧姆 |                             |                      |      |   |     |  |          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | <b>深圳市立三机电有限公司</b><br>Shenzhen Lisan Machinery & Electric Co., Ltd |                 |             |             |         |     |                                  |

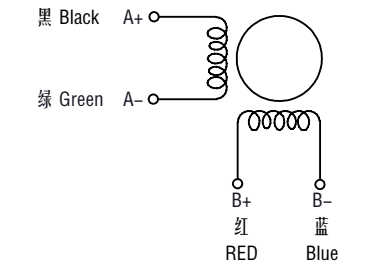
※ 尺寸/Dimensions 单位/Unit: (mm)



※ 电机规格/Motor Specification

|                                       |                          |
|---------------------------------------|--------------------------|
| 相数/No. of phase                       | 2 相/phase                |
| 步距角/Basic step angle                  | 1.8°                     |
| 步距角误差(空载)Positional accuracy(no-load) | ±0.09° 以下/Max            |
| 额定电流/Rated current                    | 6.0 A                    |
| 保持扭矩/Holding torque                   | 6.5 N.m                  |
| 相电阻/Phase resistance                  | 0.63 ± 10% ohm(20°C)     |
| 相电感/Phase inductance                  | 3.5 ± 20% mH(1KHz)       |
| 转子惯量/Rotor inertia                    | ≈ 2500 g.cm <sup>2</sup> |
| 重量/Weight                             | ≈ 3.4 Kg                 |
| 绝缘耐压/Dielectric strength              | 500V A.C                 |
| 绝缘电阻/Insulation resistance            | 100MΩ 以上/MIN             |
| 绝缘等级/Insulation class                 | B                        |
| 使用温度范围/Operation ambient temperature  | 0°C~+50°C                |
| 使用湿度范围/Operation ambient humidity     | 20%RH~90%RH              |
| 保存温度范围/Storage ambient temperature    | -20°C~+70°C              |
| 保存湿度范围/Storage ambient humidity       | 15%RH~95%RH              |

※ 接线图/Wiring diagram

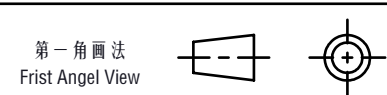


※ 励磁顺序 (2相励磁)  
Phase sequence(2 phase exciting)

| Step | A | A- | B | B- |
|------|---|----|---|----|
| 1    | + | +  | - | -  |
| 2    | - | +  | + | -  |
| 3    | - | -  | + | +  |
| 4    | + | -  | - | +  |

CW ↓ CCW ↑

※ 铭牌内容  
Label description



名称/Name  
两相步进电机  
2 phase stepping motor

型号/Model  
IC86A65-K4J60D09

|              |          |          |                            |
|--------------|----------|----------|----------------------------|
| 公差/Tolerance | 比例/Scale | 页码/Sheet | 客户型号/ Customer model       |
| ±0.3         | 1:2      | 1/1      | 客户品号/ Customer Product No. |

|            |      |      |             |      |      |
|------------|------|------|-------------|------|------|
| 制图/Drawn   | Name | Date | 设计/Design   | Name | Date |
| 审核/Checked |      |      | 批准/Approved |      |      |

**LEESN** 深圳市立三机电有限公司  
立三机电 Shenzhen Lisan Machinery & Electric Co., Ltd