

| 产品规格书/SPECIFICATION                                                                                                                                                                                                                                                                             |                                                                                                                         | 机种名<br>MODEL                                  | LSV-1468M                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------|
|                                                                                                                                                                                                                                                                                                 |                                                                                                                         | 管理号<br>Spec.No.                               | LSV-1468M                                           |
| <b>1.范围/Scope</b>                                                                                                                                                                                                                                                                               |                                                                                                                         |                                               |                                                     |
| <p>本产品规格书适用于说明深圳市联视电子有限公司生产的音圈马达 (业内名称: VCM) 的产品性能和要求</p> <p>This specification is applied to the performance and requirements of the voice coil motor( "VCM" ) manufactured by Losoeo Electronics and Technology Co. Ltd(as the actuator of the mobile phone camera module for auto-focus)</p> |                                                                                                                         |                                               |                                                     |
| <b>2.产品功能描述/Fuction of the product description</b>                                                                                                                                                                                                                                              |                                                                                                                         |                                               |                                                     |
| 驱动系统:                                                                                                                                                                                                                                                                                           | 由通电导线在磁场中产生的电磁力, 驱动含有通电线圈的移动部件                                                                                          |                                               |                                                     |
| Drive System:                                                                                                                                                                                                                                                                                   | The electromagnetic force generated by the electrified wire in a magnetic field, driving the moving parts with the coil |                                               |                                                     |
| 驱动方法:                                                                                                                                                                                                                                                                                           | 当给VCM"+端子施加"+电压时, 移动部件会从芯片方向向镜头的顶部方向移动                                                                                  |                                               |                                                     |
| Driving Method:                                                                                                                                                                                                                                                                                 | The moving parts move from the sensor side to lens top direction when supplying "+voltage to "+" terminal.              |                                               |                                                     |
| <b>3.产品规格/Product specification</b>                                                                                                                                                                                                                                                             |                                                                                                                         |                                               |                                                     |
| 3.1.一般规格/General specification                                                                                                                                                                                                                                                                  |                                                                                                                         |                                               |                                                     |
| NO.                                                                                                                                                                                                                                                                                             | 项目/ITEM                                                                                                                 | 规格/SPEC                                       | 备注/REMARK                                           |
| 3-1-1                                                                                                                                                                                                                                                                                           | 外形尺寸<br>Outline dimension                                                                                               | VCM 马达高度: 22.2 x 14 x 6.5[mm]                 | 不含端子<br>Without Terminal                            |
| 3-1-2                                                                                                                                                                                                                                                                                           | 马达重量<br>VCM Weight                                                                                                      | 2.2+/-0.1g                                    | 不含镜头<br>Without lens                                |
| 3-1-3                                                                                                                                                                                                                                                                                           | 适配镜头重量<br>Lens Weight                                                                                                   | 0.9+/-0.05g                                   | 镜头重量<br>lens Weight                                 |
| 3-1-4                                                                                                                                                                                                                                                                                           | 额定电流<br>Rated current                                                                                                   | 95mA                                          | 直流电/DC                                              |
| 3-1-5                                                                                                                                                                                                                                                                                           | 最大额定电流<br>Max related current                                                                                           | 120mA                                         | 运行状态<br>Operatting                                  |
| 3-1-6                                                                                                                                                                                                                                                                                           | 绝缘电阻<br>Insulation resistance                                                                                           | 1MΩ(min)                                      | 直流电50V: 外壳和端子间<br>DC50V: Between Yoke and Terminals |
| 3-1-7                                                                                                                                                                                                                                                                                           | 端子间电阻<br>Resistance between terminals                                                                                   | 26-32Ω                                        | 常温状态<br>Normal temperature                          |
| 3-1-8                                                                                                                                                                                                                                                                                           | 扭力<br>Torque                                                                                                            | 40~120 gf·cm                                  | 适配镜头:<br>Match Lens:                                |
| 3-1-9                                                                                                                                                                                                                                                                                           | 螺纹<br>Carrier Spec.                                                                                                     | M8*P0.35                                      | 适配镜头:<br>Match Lens:                                |
| 3.2.产品工作环境和储存环境/Operating and stroage environmnet of the product                                                                                                                                                                                                                                |                                                                                                                         |                                               |                                                     |
| 3-2-1                                                                                                                                                                                                                                                                                           | 工作环境<br>Operating environment                                                                                           | ·温度/Temp.: -30~+70°C<br>·湿度/Humi.: 90%RH(max) |                                                     |
| 3-2-2                                                                                                                                                                                                                                                                                           | 储存环境<br>Stroage environment                                                                                             | ·温<br>·湿度/Humi.: 90%RH(max)                   |                                                     |

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机种名  
MODEL

LSV-1468M

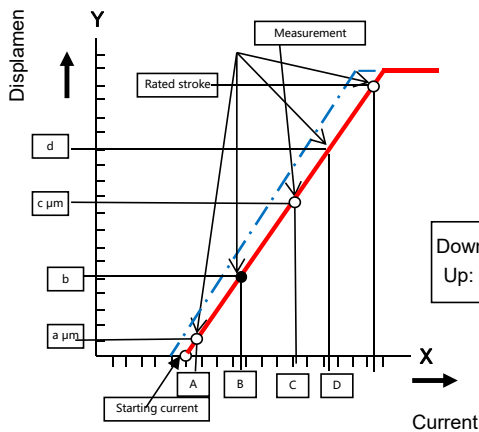
管理号  
Spec.No.

LSV-1468M

## 3.3.电气特性规格/Function Specification

| NO.   | 项目/ITEM                  | 规格/SPEC         | 方向/Direction                       | 备注/REMARK                                                         |
|-------|--------------------------|-----------------|------------------------------------|-------------------------------------------------------------------|
| 3-3-1 | 额定行程<br>Rated Stroke     | ·≥330μm(@100mA) | 向上<br>upward                       | ·测试专用镜头( lens weight =0.9g) + 全反镜                                 |
| 3-3-2 | 始动电流<br>Starting Current | ·25mA~45mA      | 向上<br>upward                       | ·测试专用镜头( lens weight =0.9g) + 全反镜                                 |
| 3-3-3 | 敏感度<br>Sensitivity       | ·4μm/mA~12μm/mA | 向上<br>upward                       | CP: C=50mA, D=80mA<br>测试专用镜头( lens weight =0.9g) + 全反镜            |
| 3-3-4 | 迟滞误差<br>Hysteresis       | ≤15μm           | 向上<br>upward                       | ·测试专用镜头( lens weight =0.9g) + 全反镜<br>·5mA/step<br>10mA→100mA→10mA |
| 3-3-5 | 动态光轴<br>Dynamic Tilt     | ≤10'            | 向上<br>upward                       | 向上, 0~300um<br>测试专用镜头( lens weight =0.9g) + 全反镜                   |
| 3-3-6 | 姿势差<br>Posture Deviation | ≤±85um          | 三姿<br>upward<br>Horizontal<br>down | 0~300um<br>测试专用镜头( lens weight =0.9g) + 全反镜                       |
| 3-3-7 | 线性度<br>Linear            | ≤10μm           | 向上<br>upward                       | 向上, 40~300um<br>测试专用镜头( lens weight =0.9g) + 全反镜                  |
| 3-3-8 | 二段位移<br>AF Current       | ≤15μm           | 向上<br>upward                       | 向上, 0~300um<br>测试专用镜头( lens weight =0.9g) + 全反镜                   |

### 【电气特性测试项目和测试方法/Measurement items and methods of the characteristics】



敏感度/Sensitivity  
= (d-c)/(D-C)

始动电流/Starting Current  
= A - (a - (B-A))/(b-a)

## 产品规格书/SPECIFICATION

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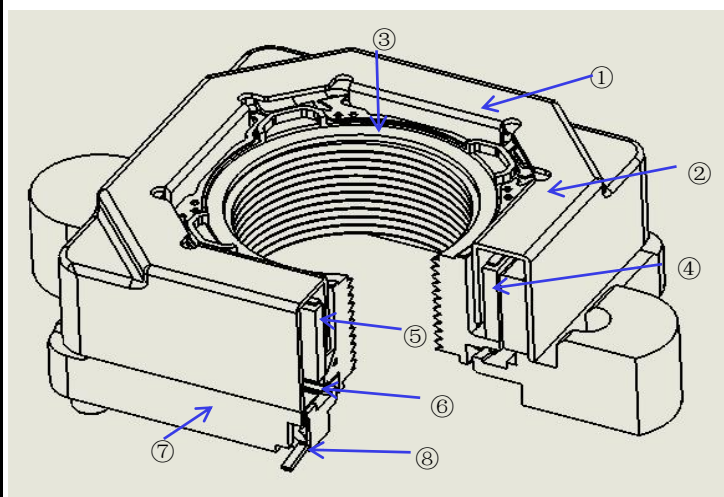
管理号

Spec.No.

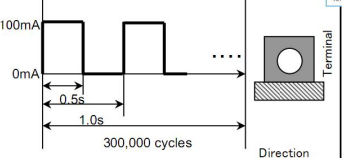
LSV-1468M

## 4.部品和材料清单/Parts and material list

| NO. | 品名<br>Parts Name | 材料<br>Material  |
|-----|------------------|-----------------|
| 1   | 铁壳<br>YOKE       | SPCC            |
| 2   | 上弹片<br>U-spring  | Ti-Cu           |
| 3   | 载体<br>CARRIER    | LCP-E525T       |
| 4   | 线圈<br>CARRIER    | Copper Wire     |
| 5   | 磁石<br>MAGNET     | Nd-Fe-B         |
| 6   | 下弹片<br>L-spring  | Ti-Cu           |
| 7   | 底座<br>BASE       | LCP-E525T       |
| 8   | 端子<br>TERMINAL   | Phosphor Bronze |



| 产品规格书/SPECIFICATION                                                                                                                                                                                                                                                                                                                                                                 |                                               | 机种名<br>MODEL                                                                                                                                                                                                                            | LSV-1468M     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
|                                                                                                                                                                                                                                                                                                                                                                                     |                                               | 管理号<br>Spec.No.                                                                                                                                                                                                                         | LSV-1468M     |
| <p><b>5.可靠性试验/Reliability test</b></p> <p>注/Note:</p> <ul style="list-style-type: none"> <li>※ 根据试验方式, 带镜头进行试验<br/>According to the test configuration, build in test lens and perform the test.</li> <li>※ 测试用的镜头镜筒由客户提供<br/>Test lens barrel is provided by the customer</li> </ul> <p>产品承认的可靠性试验的项目和方法如下:<br/>The items and methods of the reliability test are shown below:</p> |                                               |                                                                                                                                                                                                                                         |               |
| NO.                                                                                                                                                                                                                                                                                                                                                                                 | 试验项目<br>TEST ITEM                             | 试验方法<br>TEST METHOD                                                                                                                                                                                                                     | 样品数<br>SAMPLE |
| 5-1                                                                                                                                                                                                                                                                                                                                                                                 | 高温保存试验<br>High temp. storage                  | ·温度/Temp.: 85±2°C<br>·时间/Time: 200H                                                                                                                                                                                                     | 4pcs          |
| 5-2                                                                                                                                                                                                                                                                                                                                                                                 | 低温保存试验<br>Low temp. storage                   | ·温度/Temp.: -40±2°C<br>·时间/Time: 200H                                                                                                                                                                                                    | 4pcs          |
| 5-3                                                                                                                                                                                                                                                                                                                                                                                 | 高温高湿保存试验<br>High temp. &high humidity storage | ·温湿度/Temp.: 85±2°C, 90%RH±5%<br>·时间/Time: 200H                                                                                                                                                                                          | 4pcs          |
| 5-4                                                                                                                                                                                                                                                                                                                                                                                 | 热冲击试验<br>Heat cycle test                      | ·温度(时间)/Temp.(Time): 1循环/Cycle<br>-40±2°C(30min)→85±2°C(30min)<br>·切换时间/Sweep Time: 5min<br>·循环次数/Cycle times: 350 cycles                                                                                                               | 4pcs          |
| 5-5                                                                                                                                                                                                                                                                                                                                                                                 | 振动试验<br>Drop test(Unit)                       | ·试验方式/Test configuration:<br>VCM+lens<br>·将VCM固定在治具中<br>Fix the VCM in the jig<br>·振动频率/Frequency:50Hz<br>·振幅/Amplitude:1.5mm(p-p)<br>·扫描频率/Sweep: 1min<br>·方向、时间/Direction、Time:<br>X=2h, Y=2h, Z=4h                                   | 4pcs          |
| 5-6                                                                                                                                                                                                                                                                                                                                                                                 | Drop test<br>跌落测试<br>(with Lens unit)         | ·Jig + AF Motor + Lens 夹具 +<br>VCM音圈马达+镜头<br>·Jig weight : ≤100g 夹具重量: ≤100g<br>·Height : 100cm 高度: 100cm<br>·Floor : marble or steel 地板: 大理石<br>或钢板<br>·Direction : 6 faces (1cycle) 方向: 6面<br>(1轮)                                    | 4pcs          |
|                                                                                                                                                                                                                                                                                                                                                                                     |                                               | <p>试验后, 在常温常湿状态下放置2小时后(不超过24小时)进行测试, 满足产品规格书3-3部分+/-15%。<br/>·After test, dispose in normal temperature for more than 2 hours(less than 24 hours) , and then take the measurement.Meet the product specification section 3-3+/-15%.</p> |               |

| 产品规格书/SPECIFICATION |                                  | 机种名<br>MODEL                                                                                                                                                                                                                                                                                                              | LSV-1468M                          |                                                                                                                                                                                                                    |
|---------------------|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     |                                  | 管理号<br>Spec.No.                                                                                                                                                                                                                                                                                                           | LSV-1468M                          |                                                                                                                                                                                                                    |
| NO.                 | 试验项目<br>TEST ITEM                | 试验方法<br>TEST METHOD                                                                                                                                                                                                                                                                                                       | 样品数<br>SAMPLE                      | 判定标准                                                                                                                                                                                                               |
| 5-7                 | 寿命试验<br>Life test                | ·试验方式/Test configuration:<br>VCM+LENS<br>·电流/Current: 0~100mA<br>·温度/Temp.: 23°C±2°C<br>·方向/Direction: 垂直向上(Horizontal)<br>·次数/Cycles:<br>350,000cycles<br>(1cycle=0.5sON-0.5sOFF)                                                       | 4pcs/each<br>temp.<br>Total: 8pcs  | ·试验后, 在常湿常湿状态下放置2小时后(不超过24小时)进行测试, 满足产品规格书3-2部分。<br>·After test, dispose in normal temperature for more than 2 hours(less than 24 hours), and then take the measurement.Meet the product specification section 3-2 |
| 5-8                 | 落下试验II(包装)<br>Drop test(Package) | ·试验方式/Test configuration:<br>同正常出货包装<br>Same as the package for normal shipment<br>·将试验品VCM按照放在正常出货包装箱内的托盘小包的角上, 其余部分用不良品填充。<br>Put the test VCM in the coners of the tray package in the catton box<br>·数量/Q'ty: 1pcs/corner<br>·高度/Height: 1m<br>·方向/Direction:<br>1corner,3edges,6faces—1 cycle<br>·次数/Cycles: 1Cycles | 2pcs/Each<br>corner<br>Total: 8pcs |                                                                                                                                                                                                                    |

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|-----------------------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------|
|                                         |                                                   | 管理号<br>Spec.No.                                                                        | LSV-1468M                                |
| <b>6.品质/Quality</b>                     |                                                   |                                                                                        |                                          |
| 6.1.检查项目/Inspection items               |                                                   |                                                                                        |                                          |
| NO.                                     | 项目<br>ITEM                                        | 条件<br>CONDITION                                                                        |                                          |
| 6-1-1                                   | 外观<br>Appearance                                  | 满足附加的外观基准书<br>Meet the visual inspection standard attached                             |                                          |
| 6-1-2                                   | 重要尺寸<br>Critical dimension                        | 在指定的尺寸规格公差范围内<br>Within the tolerance specified                                        |                                          |
| 6-1-3                                   | 特性<br>Characteristics                             | 满足产品规格书章节3-3<br>Meet the specification section3-3                                      |                                          |
| 6-1-4                                   | 扭力<br>Torque                                      | 满足产品规格书章节3-1-8<br>Meet the specification section3-1-7                                  |                                          |
| 6.2.适用检查水准/Inspection level applied     |                                                   |                                                                                        |                                          |
| NO.                                     | 项目<br>ITEM                                        | 条件<br>CONDITION                                                                        | 标准<br>Standard                           |
| 6-2-1                                   | 重大缺陷<br>Critical defect                           | 电气特性/Characteristics<br>外观/Appearance                                                  | AQL=0.65                                 |
|                                         | 一般缺陷<br>General defect                            | 重要尺寸/Critical dimension                                                                |                                          |
| 6-2-2                                   |                                                   | 满足章节3-3/Meet section 3-3<br>满足章节6-1-1/Meet section6-1-1<br>满足章节6-1-2/Meet section6-1-2 |                                          |
| <b>7.耐热特性/Heatproof characteristics</b> |                                                   |                                                                                        |                                          |
| NO.                                     | 项目<br>ITEM                                        | 耐热特性<br>HEATPROOF CHARACTERISTICS                                                      | 条件<br>CONDITION                          |
| 7-1                                     | ·上弹簧/Top spring<br>·下弹簧/Bottom spring<br>·外壳/Yoke | 标准250°C<br>Standard 250°C                                                              | 在正常适用条件下<br>In the scope of normal usage |
|                                         | ·底座/BASE<br>·载体/CARRIER<br>·上盖/COVER              | 标准245°C<br>Standard 245°C                                                              |                                          |
| 7-3                                     | ·磁石/MAGNET                                        | 标准 110°C<br>Standard 110°C                                                             |                                          |

|                            |                 |           |
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**8. 产品安全/Product safety**

本产品是半成品,所以不保证成品的安全标准。  
This product is half-finished product,so not assured the safety standard of finished product.

**9. 环境相关的化学物质/Environment related chemical substances**

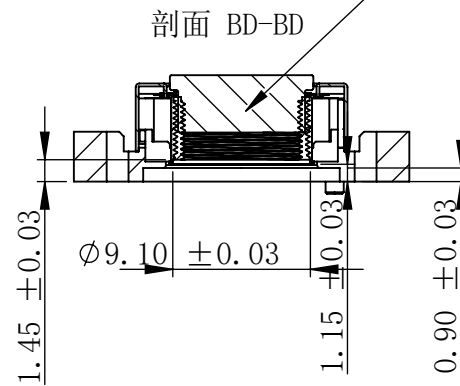
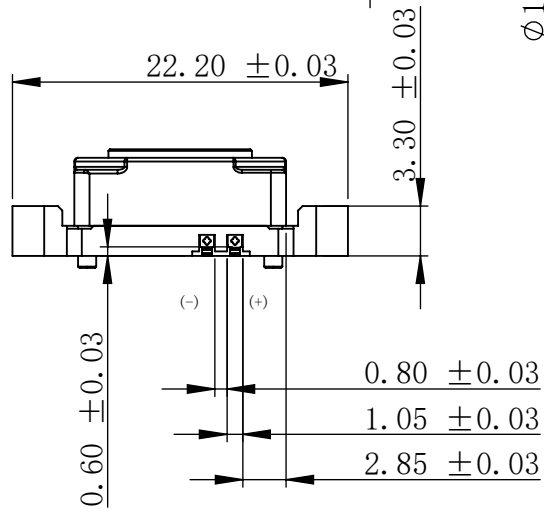
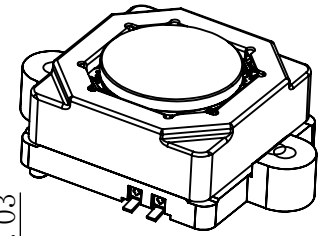
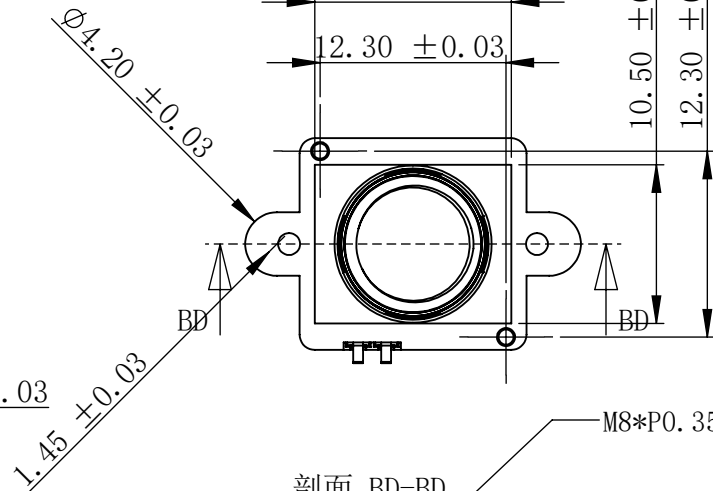
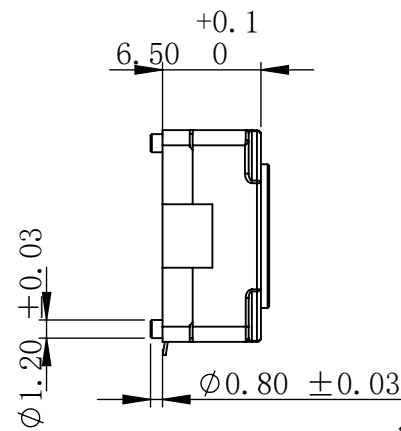
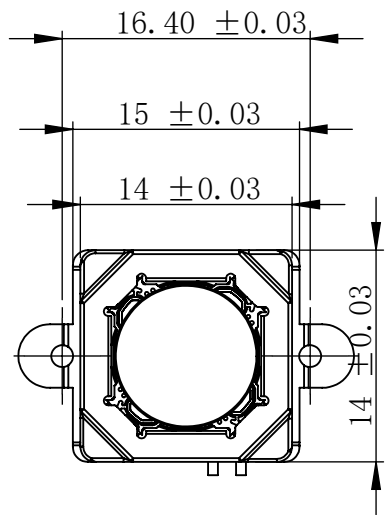
9.1. 环境相关的化学物质控制标准/Environment related chemical substances control standard  
有害物质控制标准PID-LS301-N02  
Standard of Controlled Hazardous Substance PID-LS301-N02

9.2. 无卤/Halogen-free

|                                          | 容许含量<br>Allowable contents |
|------------------------------------------|----------------------------|
| 溴<br>Bromine                             | < 900ppm                   |
| 氯<br>Chlorine                            | < 900ppm                   |
| 溴和氯的总含量<br>Total of bromine and chlorine | < 1500ppm                  |

**10. 备注/Remarks**

如发生争议, 双方协商解决。  
If any defect is found, the problem should be resolved through mutual discussion.  
尺寸、特性、材料和供应商发生变更时, 需双方协商后才能实施  
Changes in dimensions, materials, characteristics and suppliers shall be made after mutual consultation.



|            |               |            |                   |             |        |       |                 |            |               |                    |               |
|------------|---------------|------------|-------------------|-------------|--------|-------|-----------------|------------|---------------|--------------------|---------------|
|            |               |            | 角度公差<br>TOLERANCE | ±0.5        | 一般公差   |       | 姓名<br>NAME      | 日期<br>DATE | 深圳市联视电子有限公司   |                    |               |
|            |               |            | 单位<br>UNIT        | mm          | 0. XXX | ±0.01 |                 |            | 设计<br>DRAWN   | 程亮                 | 2023/<br>5/27 |
|            |               |            | 材料<br>MATERIAL    |             | 0. XX  | ±0.02 | 确认<br>CHECKED   | 雷旭辉        | 2023/<br>5/27 | 图号<br>DWG. NO.     |               |
| 序号<br>SYM. | 内容<br>CONTENT | 日期<br>DATE | 变更<br>CHANGE      | 比例<br>SCALE | X      | ±0.1  | 校准<br>ENG APPR. |            |               | 适用機種<br>MODEL NAME | 通用            |