

Error codes 错误代码

The following error codes may appear on the display during the course of using the Duo Instrument. Before returning an instrument, ensure that the batteries are not low.

E=1. Infra Red communication error - Repeat operation. 红外连接错误; 重新连接

E=2. Measurement attempted when not calibrated. Calibrate the TU校准仪器

E=3. Traverse Unit - Oscillator fault - If fault is persistent, return to a Taylor Hobson Service Centre. 振荡器错误; 建议返修

E=4. Traverse Unit - Motor Positioning fault - If fault is persistent, return to a Taylor Hobson Service Centre. 马达位置错误; 建议返修

E=5. Traverse Unit - NVRAM Error - If fault is persistent, return to a Taylor Hobson Service Centre. NVRAM 错误; 建议返修

E=6. Traverse Unit - Profile Over-range. Re-attempt measurement. 轮廓超量程; 重试

E=7. Traverse Unit - Parameter Over-range. Re-attempt measurement. 参数超限; 重试

E=8. Traverse Unit - Motor Speed Setup error. Re-attempt Setup procedure. 马达速度设置错误

E=9. Traverse Unit - Gain Setup error. Re-attempt Setup procedure. 增益错误

E=10. Control Unit - Oscillator fault - If fault is persistent, return to a Taylor Hobson Service Centre. 控制单元: 振荡器错误, 建议返修

E=11. Traverse Unit - Calibration information download error. Try again. 校准错误, 重试

E=12. Traverse Unit - Not set up. Run the Setup procedure. 驱动单元: 未设置

E=13. <Reserved>

E=14. : Traverse Unit - Electronic Measurement error - If fault is persistent, return to a Taylor Hobson Service Centre. 电路错误, 返修

Specification

Traverse length. 5mm (0.2in) 驱动长度

Measurement length. 4mm (0.16in) 测量长度

Traverse speed. 2mm/s (0.08in/s) 测量速度

Gauge range. 200 μ m (8000 μ in) 量程

Gauge resolution. 0.05 μ m (2 μ in) 分辨率

Display resolution: Ra. 0.01 μ m (0.4 μ in)
Display resolution: Rz, Rt*, Rp*, Rv*. 0.1 μ m (1 μ in) 显示分辨率

Cut off. 0.8mm (0.03in) +/- 15% 取样长度

Uncertainty. 0.1 μ m (4 μ in) or 5% of result, to 95% confidence level 不确定度

Results range: Ra. 40 μ m (1600 μ in), see ISO 4288-1996 最大Ra值

Results range: Rz, Rt*, Rp*, Rv*. 199.9 μ m (8000 μ in), see ISO 4288-1996

Stylus. Diamond, radius 5 μ m nominal, 90° tip angle, skid radius: 10mm nominal. 测针

Filter type: 2CR, (200:1) 滤波器

Sample spacing: 1 μ m 采样间隔

Stylus Force. 10mN (1gf) max at mid range 测力

Batteries. Control Unit: One x 3V Lithium 电池 2450. Traverse Unit: Three x 3V Lithium 2450

Units. μ m or μ in 单位制

Operating conditions. 10 to 35°C, 80%RH non-condensing 环境要求

Size. 125mm x 80mm x 38mm (4.92in x 3.15in x 1.5in) 尺寸

Weight. 200g (7oz) 重量

***5 parameter model only.**



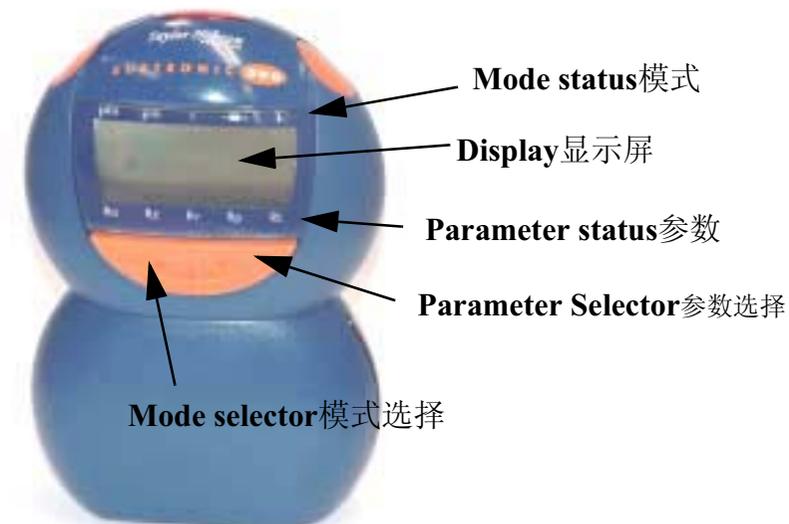
Surtronic Duo

112-2916 (2 parameter model) and 112-3115 (5 parameter model)

Operator's Leaflet K505-54

Issue 1.1 January 2002
Leicester, England

www.taylor-hobson.com



Declaration of Conformity

Manufacturer's Name: Taylor Hobson Limited

Manufacturer's Address: 2 New Star Road, Leicester, England, LE4 9JQ

It is declared that the product: **Surtronic Duo**

Marketing CHINA: TEL: 86 (010) 82951585 82946733 FAX: 86 010 58859230

Conforms to all applicable requirements of BS EN 50081-1:1992, BS EN 50082-1:1998 and BS EN 61010:2001.

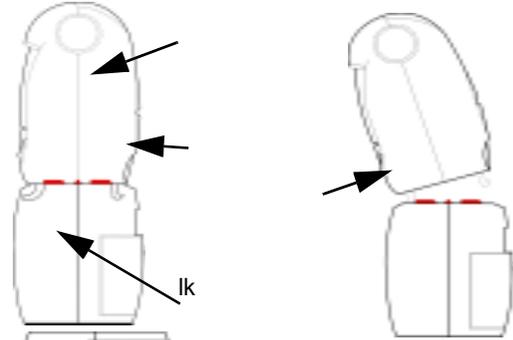
The above product complies with the requirements of the EMC Directive 89/336/EEC as amended.

The above product complies with the requirements of the EMC Directive 73/23/EEC as amended.

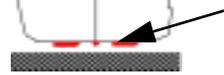
Getting Started

Storage. The Surtronic Duo is supplied in its storage configuration, that is Traverse Unit connected to Control Unit. Before use, it is necessary to separate the Traverse Unit from the Control Unit.

Note: It is recommended that the unit is stored in the storage configuration when not in use, to prevent damage to the stylus.



Positioning. Position the Traverse Unit on the surface to be measured as shown.

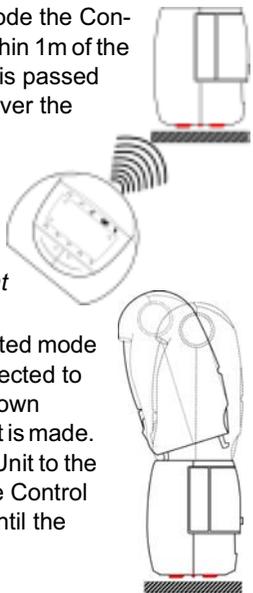


There are two modes for operating the Surtronic Duo:

Remote. In remote mode the Control Unit is positioned within 1m of the Traverse Unit and data is passed between the two units over the IrDA link.

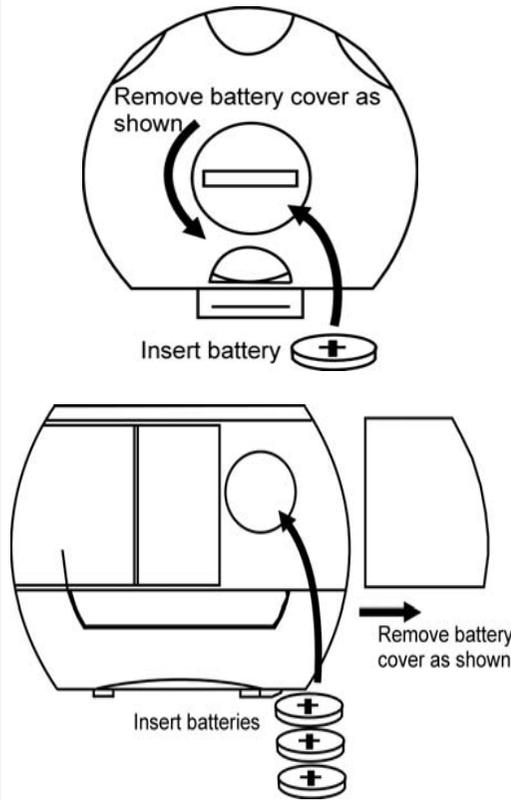
Note: The alignment between the Traverse Unit and Control Unit must be maintained during the measurement process.

Connected. In connected mode the Control Unit is connected to the Traverse Unit as shown before the measurement is made. To connect the Control Unit to the Traverse Unit, insert the Control Unit as shown and tilt until the latch engages.



Inserting the batteries

Remove battery covers as shown. Insert new batteries, one 3V Lithium 2450 in the Control Unit and three 3V Lithium 2450 in the Traverse Unit. Replace the battery covers.



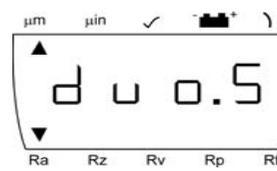
CAUTION: ONLY USE THE RECOMMENDED BATTERIES. 警告：推荐使用3伏锂电2450

Battery Disposal

WARNING: DO NOT ATTEMPT TO RECHARGE THE BATTERIES. USED AND OLD BATTERIES MUST BE DISPOSED OF SAFELY. DO NOT INCINERATE.

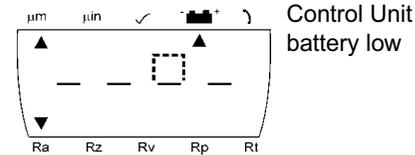
Switching on

If the Control Unit is not used for five minutes the unit enters the power saving mode, with the display turned off. Pressing any button will reactivate the Control Unit.

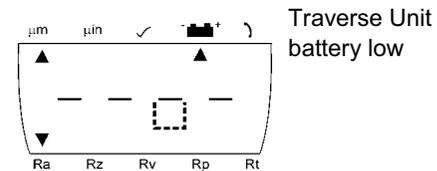


The Traverse Unit switches off completely after five minutes without a new measurement. To reactivate the Traverse Unit press the On button. An LED flashes to confirm activation.

Low battery indicators: 电池电压低:



Control Unit battery low



Traverse Unit battery low

Calibrate the gauge 校准

Position the Traverse Unit to measure the Calibration Standard supplied with the instrument. 驱动单元放置在标配的Ra样板上,

样板标称值Ra=5.81微米

On the Control Unit press the Mode Select buttons until is indicated on Mode status.

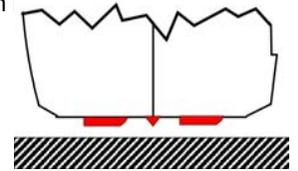
控制单元选择校准模式，按开始键，仪器自动完成校准。注意Ra=5.81um; Rz=21.5um。

Press the Start button on the Control Unit. This will initiate the gauge calibration procedure. The Control Unit will display the results of the calibration. The Ra value should be 5.81um and the Rz value 21.5um.

Measuring 测量

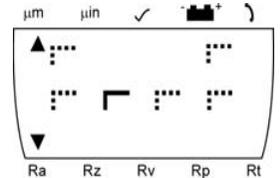
Operation of the Control Unit, whether the system

Remote modes, Position the Traverse Unit on the surface to be measured. On the Control Unit press the Select



parameter button to select the parameter that is required to be displayed upon completion of measurement. Using the Select mode button select either metric or imperial units as required.

To begin the measurement press either of the Start buttons. The 'measurement in progress' display is as shown.



The measured parameter is displayed as shown. If there is an error the appropriate error code is displayed, see Error Codes.1)



1) 将驱动单元放置在工件上，使测针接触被测表面

- 按模式选择键指示至um;
- 按开始键，仪器将执行测量
- 按参数选择键依次查看各参数结果

All parameters (not just the selected parameter) are transmitted to the Control Unit at the same time and temporarily stored. The stored results may then be stepped through using the select buttons.