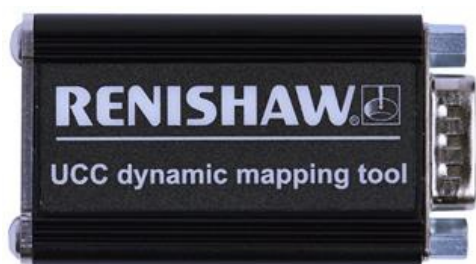


UCC dynamic mapping tool user's guide

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Documentation part number: H-1000-5363-01-D



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General information

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 ORIGINAL LANGUAGE VERSION

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The use of this symbol on Renishaw products and / or accompanying documentation indicates that the product should not be mixed with general household waste upon disposal. It is the responsibility of the end user to dispose of this product at a designated collection point for waste electrical and electronic equipment (WEEE) to enable reuse or recycling. Correct disposal of this product will help to save valuable resources and prevent potential negative effects on the environment. For more information, please contact your local waste disposal service or Renishaw distributor.

Warranty

Unless you and Renishaw have agreed and signed a separate written agreement, the equipment and/or software are sold subject to the Renishaw Standard Terms and Conditions supplied with such equipment and/or software, or available on request from your local Renishaw office.

Renishaw warrants its equipment and software for a limited period (as set out in the Standard Terms and Conditions), provided that they are installed and used exactly as defined in associated Renishaw documentation. You should consult these Standard Terms and Conditions to find out the full details of your warranty.

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Care of equipment

Renishaw probes and associated systems are precision tools used for obtaining precise measurements and must therefore be treated with care.

Changes to Renishaw products

Renishaw reserves the right to improve, change or modify its hardware or software without incurring any obligations to make changes to Renishaw equipment previously sold.

Company registration details

Renishaw plc. Registered in England and Wales. Company no: 1106260. Registered office: New Mills, Wotton-under-Edge, Gloucestershire, GL12 8JR, UK.

Packaging

To aid end user recycling and disposal the materials used in the different components of the packaging are stated here:

Packaging component	Material	94/62/EC code	94/62/EC number
Outer box	Polypropylene	PP	5
Packing foam	Low density polyethylene	LDPE	4
Outer box	Corrugated fibreboard	PAP	20

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Product compliance

EU declaration of conformity

Contact Renishaw plc or visit www.renishaw.com/EUCMM for the full EU declaration.

UK declaration of conformity

Contact Renishaw plc or visit www.renishaw.com/UKCMM for the full UK declaration.

EMC conformity

This equipment must be installed and used in accordance with this installation guide. This product is intended for industrial use only and should not be used in a residential area or connected to a low voltage power supply network which supplies buildings used for residential purposes.

FCC (USA only)

Information to user (47 CFR 15.105)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense.

Information to user (47 CFR 15.21)

The user is cautioned that any changes or modifications not expressly approved by Renishaw plc or authorised representative could void the user's authority to operate the equipment.

Equipment label (47 CFR 15.19)

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
 2. This device must accept any interference received, including interference that may cause undesired operation.
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ICES-001 (Canada only)

This ISM device complies with Canadian ICES-001(A) / NMB-001(A).

Cet appareil ISM est conforme à la norme ICES-001(A) / NMB-001(A) du Canada.

REACH regulation

Information required by Article 33(1) of Regulation (EC) No. 1907/2006 ("REACH") relating to products containing substances of very high concern (SVHCs) is available at:

www.renishaw.com/REACH

China RoHS

Contact Renishaw plc or visit www.renishaw.com/ChinaRoHSCMM for the full China RoHS tabulation.



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Safety

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

There are no user serviceable parts inside the equipment.

Power is supplied to the UCC dynamic mapping tool electronics via the USB connection to the PC.

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Environmental conditions

The following environmental conditions comply with those defined in BS EN61010-1:2001:

Indoor use	IP40 (no protection against water)
Altitude	Up to 2000 m
Operating temperature	+5 °C to +55 °C
Storage temperature	-25 °C to +70 °C
Relative humidity	80 % maximum for temperatures up to +31 °C. Linear decrease to 50 % at +50 °C
Pollution degree	2

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Introduction

The UCC dynamic mapping tool (DMT) enables laser error mapping to be run dynamically on a CMM. This speeds up the process of data gathering and allows more data to be collected, ultimately giving a higher quality error map in a shorter time.

The DMT can only be used from UCCsuite 5.1 or later.

The DMT is compatible with the XL80 only.

Software setup

Error mapping is carried out through UCCassist-2 using the sequence player.

Prior to the error mapping runs, the XL80 is powered up and connected to the PC via its USB connection.

The DMT should be connected as per the instructions in this user guide prior to the first 'Run Configuration' stage of the error mapping sequence.

The software recognises that the DMT is connected and the 'Run Configuration' window displays an additional settings section called 'Trigger Lead Capture'. These control how the system behaves during data capture when using the DMT.

The setting options are 'Move speed', 'Acceleration' and 'Capture speed'. Suitable settings will depend on the type of machine. For example, acceleration may be reduced for heavy machines.

During data collection the machine will move continually and capture data in both the positive and negative direction.

The screenshot shows the 'Run configuration' window with the following sections:

- Sensor Offset (mm):** X: 0.0, Y: 0.0, Z: 0.0
- Origin (mm):** X: 0.0000, Y: 0.0000, Z: 0.0000, A: 0.0, B: 0.0. A 'Set To Current Position' button is located below these fields.
- Status:** Three red circular indicators are shown, each with the text 'Sensor offset confirmed.', 'Origin confirmed.', and 'Check sense confirmed.' respectively. A 'Check Sense' button is located to the right of the third indicator.
- Trigger Lead Capture:** Move Speed (mm/s): 50, Acceleration (mm/s/s): 100, Capture Speed (mm/s): 20.

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Kit contents



The UCC dynamic mapping kit contains:

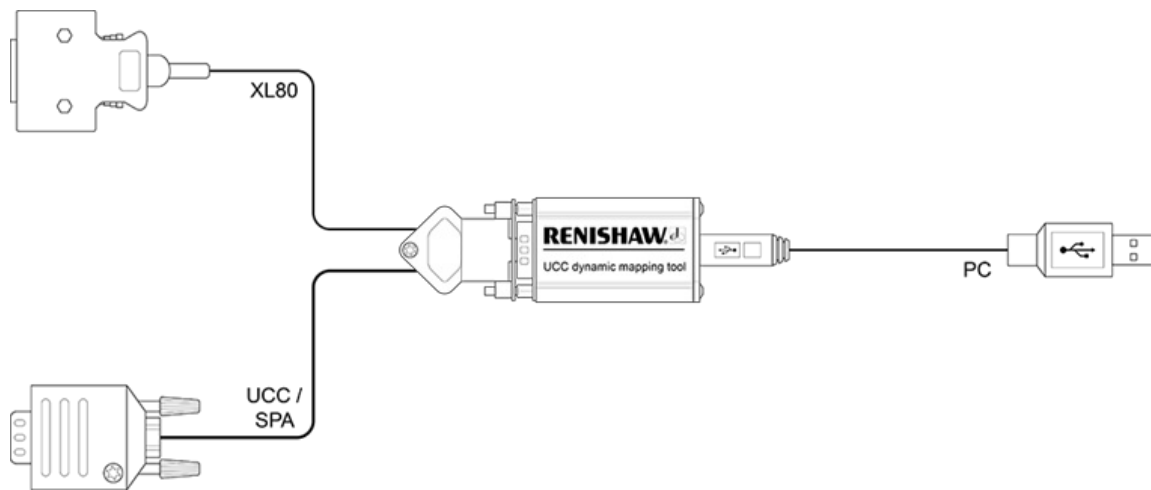
UCC dynamic mapping tool	'Y' adaptor cable	5 m USB cable
		

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UCC dynamic mapping tool connection and setup

'Y' adaptor and the micro USB cable connect to the DMT as below:



Interconnection diagrams

- UCC2-2 and SPA2-2 / SPA3
- UCC T5 / UCC S5 and SPA3
- UCC T3 PLUS / UCC S3 and SPA3
- UCC T3-2 and SPA3

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UCC2-2 and SPA2-2 / SPA3

The DMT 'Y' cable adaptor PICS connector must be connected to the PICS B connection on the UCC2-2.



i **NOTE:** For simplicity, only connectors relevant to the use of DMT are shown.

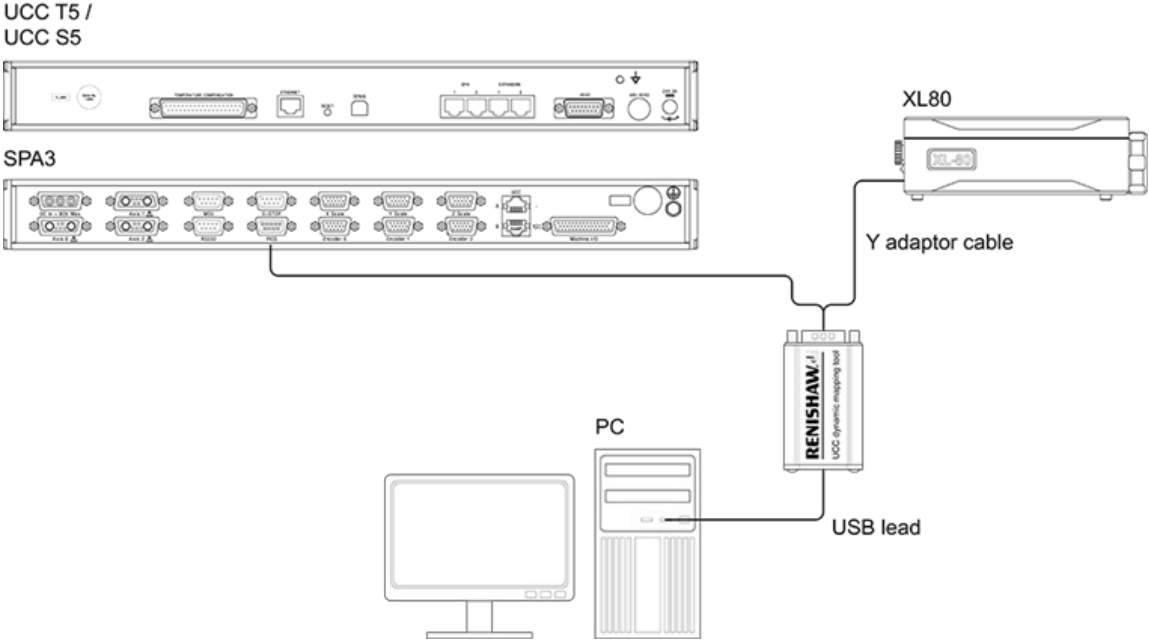
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UCC T5 / UCC S5 and SPA3

The DMT 'Y' adaptor cable PICS connector must be connected to the PICS connection on the SPA3.

CAUTION: If using a PH20, ensure the orange cable is unplugged (this does not apply to REVO).



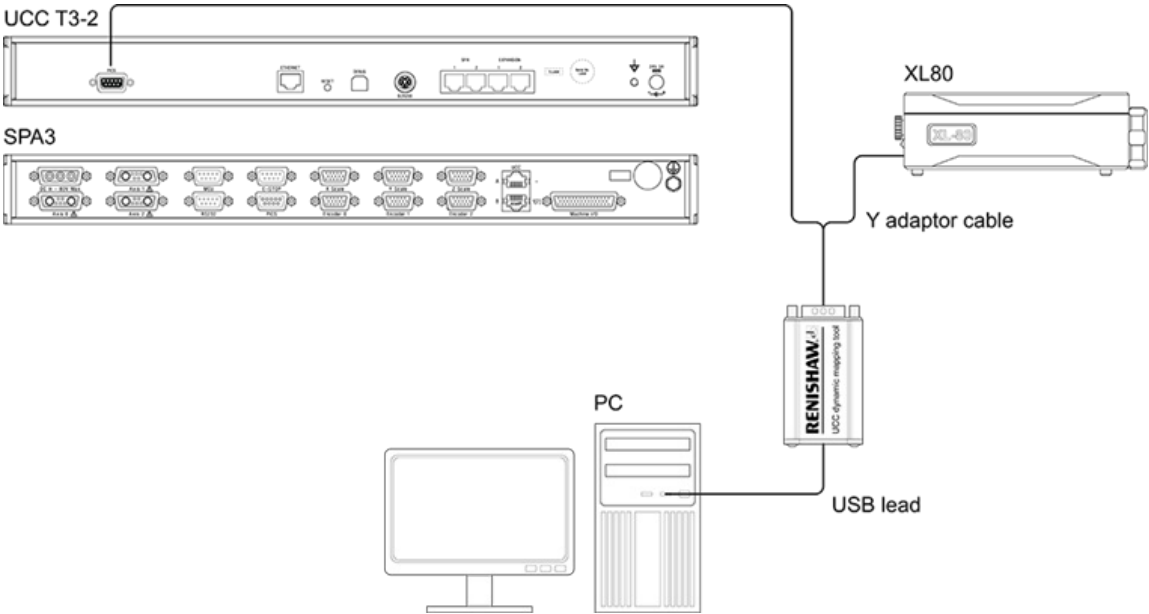
NOTE: For simplicity, only connectors relevant to the use of DMT are shown.

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UCC T3-2 and SPA3

The DMT 'Y' adaptor cable PICS connector must be connected to the PICS connection on the UCC T3-2.



i NOTE: For simplicity, only connectors relevant to the use of DMT are shown.

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Maintenance

- Check the security of mounting screws and USB connector
- Remove dust from the external surfaces with a proprietary cleaning cloth
- There are no user servicable parts within the UCC dynamic mapping tool

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