

RENISHAW H-4114-8520-01-A NC4 Separate Non-Contact Tool Setting System User Guide

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RENISHAW H-4114-8520-01-A NC4 Separate Non-Contact Tool Setting System



Publications for this product are available by scanning the barcode or visiting www.renishaw.com/ncsupport



Safety

Information to the user

In all applications involving the use of machine tools or CMMs, eye protection is recommended.

Information for the machine supplier/installer

It is the machine supplier's responsibility to ensure that the user is made aware of any hazards involved during operation, including those mentioned in Renishaw product literature, and to ensure that adequate guards and safety interlocks are provided.

Under certain circumstances, the probe signal may falsely indicate beam not blocked. Do not rely on probe signals to halt the movement of the machine.

Information to the equipment installer

All Renishaw equipment is designed to comply with the relevant EU and FCC regulatory requirements. It is the responsibility of the equipment installer to ensure that the following guidelines are adhered to, in order for the product to function in accordance with these regulations:

- any interface **MUST** be installed in a position away from any potential sources of electrical noise (for example, power transformers, servo drives);
- all 0 V/ground connections should be connected to the machine "star point" (the "star point" is a single point return for all equipment ground and screen cables). This is very important and failure to adhere to this can cause a potential difference between grounds;

- all screens must be connected as outlined in the user instructions;
- cables must not be routed alongside high current sources (for example, motor power supply cables), or be near high-speed data lines;
- cable lengths should always be kept to a minimum.

Equipment operation

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

Warnings

Use of controls or adjustments or performance of procedures other than those specified within this publication may result in hazardous radiation exposure.

Switch off the power supply before carrying out maintenance on the NC4 system.

When using the NC4 system, basic safety precautions must always be followed to reduce the risk of fire, electric shock and personal injury, including the following:

- Read all instructions before operating this product.
- The device must only be installed and used by competent, trained personnel.
- Use eye protection to protect against mechanical hazards, coolant and swarf.
- Avoid inhalation of coolant vapour from the machine tool.
- Do not block the air exiting from the transmitter, receiver or air blast apertures.
- The sound power emitted by the air blast equipment can range from 70.3 dB at 3.0 bar (43.51 psi) to 78.2 dB at 6.0 bar (87.02 psi). It is the responsibility of the integrator to ensure a suitable noise assessment is performed when the equipment is put into use.
- Prevent direct exposure of the eyes to the laser beam. Ensure that the beam is not reflected into the eyes via any reflective surface.

Software and user information

For available software, see the Probe software for machine tools – programs and features data sheet (Renishaw part no. H-2000-2298). For more information, see www.renishaw.com.

Machine tool apps

Smartphone apps provide information at a user's fingertips in a simple, convenient format. Available globally in a wide range of languages, our free-of-charge apps give users the following information:

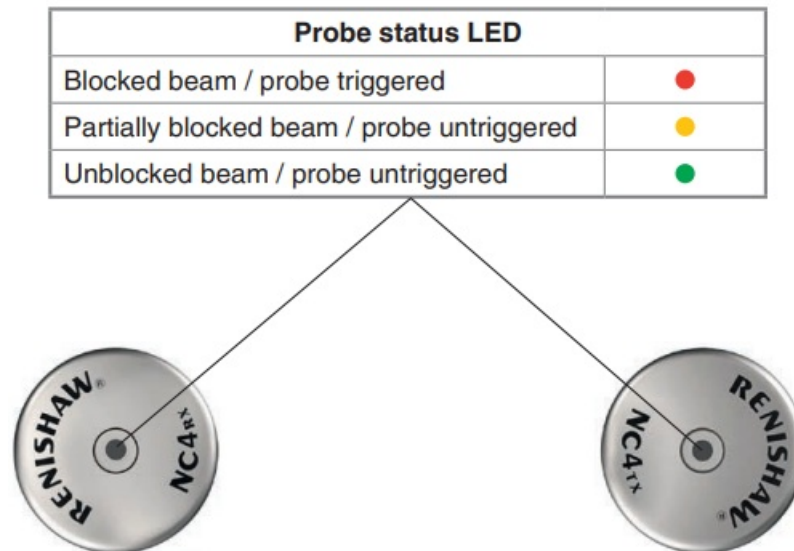
- **NC4 app:** Configuration (including wiring), maintenance, troubleshooting of NC4 systems.
- **GoProbe app** Programming of Renishaw probing systems (including NC4).



On-machine apps can be seamlessly integrated with a wide range of CNC controllers. Apps are installed onto a Microsoft® Windows®-based CNC controller or a Windows tablet connected to the controller via Ethernet. With touch interaction and intuitive design, smartphone and on-machine apps provide significant benefits to machine tool probe users.

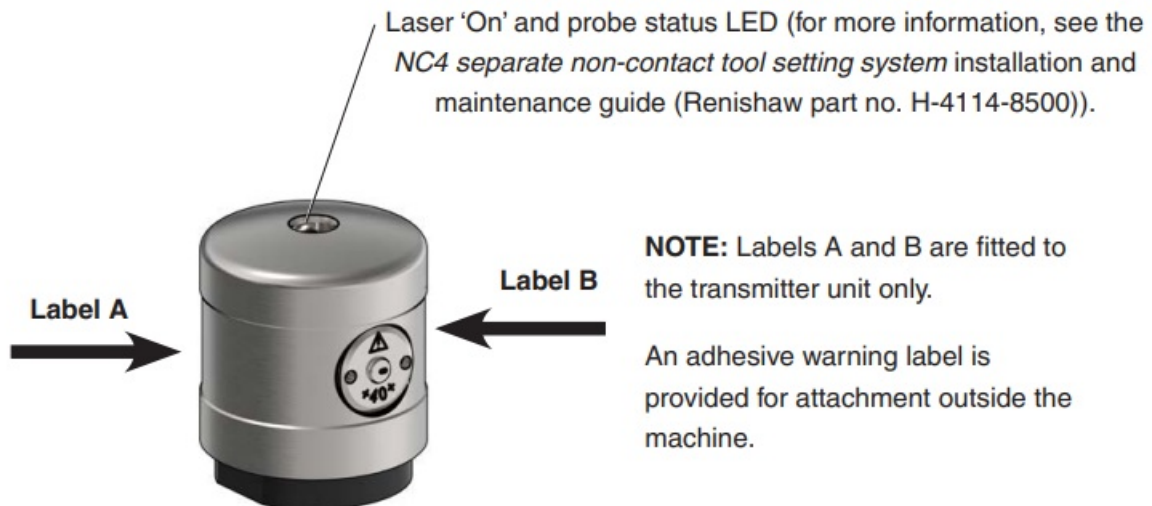
For more information, visit www.renishaw.com/machinetoolapps

Probe status LED function

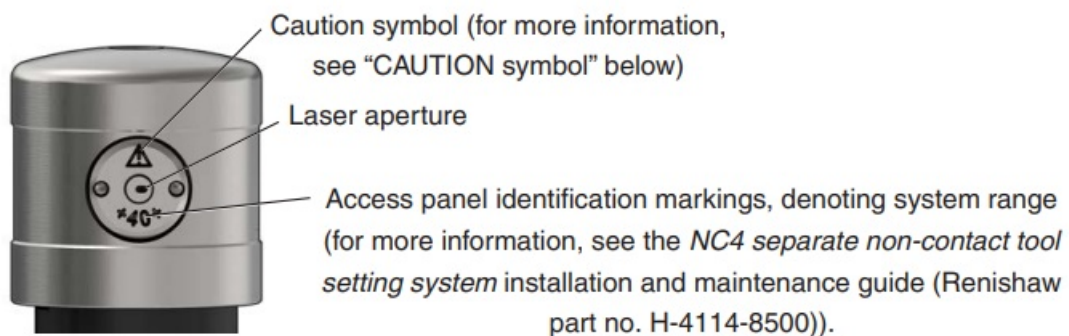


For more information on these LED sequences and modes of operation, see the NC4 separate non-contact tool setting system installation and maintenance guide (Renishaw part no. H-4114-8500).

Laser safety and warning labels



Location of the laser aperture



CAUTION – Laser safety

The access panel is to be removed for service purposes only, using the special tool supplied.
Before removing the panel, switch off electrical power to the transmitter unit to avoid exposure to the laser beam.

CAUTION symbol

The caution symbol on the access panel denotes the following:

CAUTION – Class 3R Laser radiation when open. Avoid direct eye exposure.

This text is not included on the access panel due to the limited space available.

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Google Play and the Google Play logo are trademarks of Google LLC.

Apple and the Apple logo are trademarks of Apple Inc., registered in the U.S. and other countries. App Store is a service mark of Apple Inc., registered in the U.S. and other countries.

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.

Equipment and/or software purchased by you from a third-party supplier is subject to separate terms and conditions supplied with such equipment and/or software. You should contact your third-party supplier for details.

China RoHS

For more information, on China RoHS visit: www.renishaw.com/mtpchinarohs

EU declaration of conformity

Renishaw plc declares under its sole responsibility that the NC4 separate non-contact tool setting system is in conformity with all relevant Union legislation.

The full text of the EU declaration of conformity is available at: www.renishaw.com/mtpdoc

WEEE directive

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.

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

FCC Information to user (USA only)

47 CFR Section 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, and
2. This device must accept any interference received, including interference that may cause undesired operation.

47 CFR Section 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.

Patents

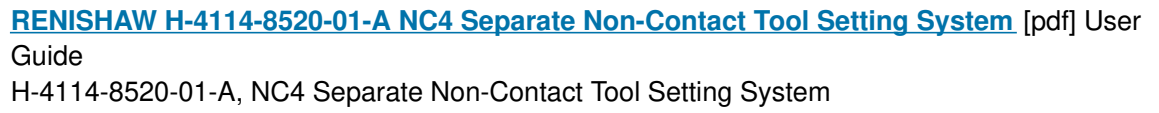
Features of the NC4 separate non-contact tool setting system and features of similar products are the subject of one or more of the following patents and/or patent applications:

- CN 100394139: US 6635894
- EP 1502699: US 6878953
- JP 4520240: US 7053392
- JP 4695808: US 7312433

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For worldwide contact details, visit www.renishaw.com/contact

Documents / Resources



- [!\[\]\(2c0365d2295666b8188660e6beabb6ce_img.jpg\) Renishaw: enhancing efficiency in manufacturing and healthcare](#)
- [!\[\]\(d5a410a83df36dd3d3aba1fdeada89e1_img.jpg\) NC support](#)
- [!\[\]\(190aad21a8b14ca4f3d2a68493ebc049_img.jpg\) Renishaw: enhancing efficiency in manufacturing and healthcare](#)
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- [!\[\]\(c924bd67237bd2a9fabad2000d8e39fa_img.jpg\) Contact us](#)
- [!\[\]\(247fdf5713f6b7eefc797e83d421177a_img.jpg\) Machine tool apps](#)
- [!\[\]\(f6538251c3e0b08aafa702b6d8b8fbf0_img.jpg\) China RoHS - Machine tool probing systems](#)
- [!\[\]\(9df4c2b5f60a543a91e68fcf09d57818_img.jpg\) Product compliance - Machine tool probing systems](#)
- [!\[\]\(69996349243ee44e3379b815c9098644_img.jpg\) NC support](#)
- [!\[\]\(58c7b522f80459fd1ae4ba9a8184ef5f_img.jpg\) Product Environmental Compliance](#)
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- [!\[\]\(6419ad9bdd2005f1a849f92a0427c3b5_img.jpg\) NC support](#)
- [!\[\]\(e3aef6037101edf45af01bc8d708fd86_img.jpg\) NC support](#)