

Autochange system installation and programmer's guide

www.renishaw.com

Autochange system installation and programmer's guide

Documentation part number H-1000-6012-05-B



Autochange system installation and programmer's guide

www.renishaw.com

ACR1 general information

© 1999 - 2025 Renishaw plc. All rights reserved.

 ORIGINAL LANGUAGE VERSION

This document may not be copied or reproduced in whole or in part, or transferred to any other media or language by any means, without the prior written permission of Renishaw.

Disclaimer

WHILE CONSIDERABLE EFFORT WAS MADE TO VERIFY THE ACCURACY OF THIS DOCUMENT AT PUBLICATION, ALL WARRANTIES, CONDITIONS, REPRESENTATIONS AND LIABILITY, HOWSOEVER ARISING, ARE EXCLUDED TO THE EXTENT PERMITTED BY LAW.

RENISHAW RESERVES THE RIGHT TO MAKE CHANGES TO THIS DOCUMENT AND TO THE EQUIPMENT, AND/OR SOFTWARE AND THE SPECIFICATION DESCRIBED HEREIN WITHOUT OBLIGATION TO PROVIDE NOTICE OF SUCH CHANGES.

Trade marks

RENISHAW®, the probe symbol and REVO® are registered trade marks of Renishaw plc.

Renishaw product names, designations and the mark 'apply innovation' are trade marks of Renishaw plc or its subsidiaries.

Other brand, product or company names are trade marks of their respective owners.

WEEE



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.

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.

Autochange system installation and programmer's guide

www.renishaw.com

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	Corrugated fibreboard	PAP	20
Packaging insert	Corrugated fibreboard	PAP	20
Bag	Low density polyethylene	LDPE	4

Autochange system installation and programmer's guide

www.renishaw.com

ACR1 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.
-

ICES-001 (Canada only)

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

Autochange system installation and programmer's guide

www.renishaw.com

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

Autochange system installation and programmer's guide

www.renishaw.com

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.



Autochange system installation and programmer's guide

www.renishaw.com

ACR1 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.

The ACC2-3 head controller is to be used with the provided PSU - XP POWER VEC40US24. See manufacturer's datasheet at www.xppower.com.

PSU electrical ratings	
Supply voltage	90 V - 246 Vac
Frequency range	47 Hz to 63 Hz
Power consumption	45 W max
Transient voltages	Class II

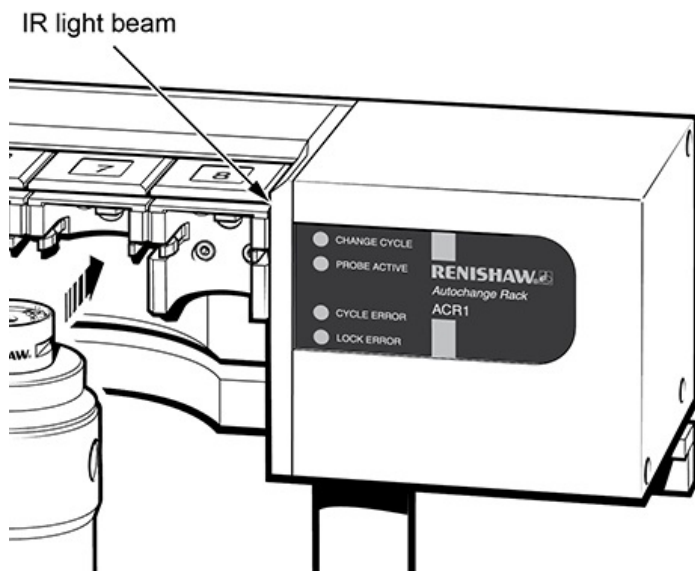
ACC2-3 is isolated from ac power by disconnection of the IEC mains connector from the supplied PSU. If any additional means of isolation is required, it must be specified and fitted by the machine manufacturer or installer of the product. The isolator / disconnection device must be sited within easy reach of the operator and comply with any applicable national wiring regulations for the country of installation.

Infra red light emission

CLASS 1 LED PRODUCT



CAUTION: This product uses infra red sensing beams. The axis in the front of IR light beam is located in line with the slots in the fronts of the port lids. Although direct viewing of the beam is safe, the user is advised to avoid placing an eye in line with the beam axis or close to the LED source located at the right hand side of the port 8 lid.



Autochange system installation and programmer's guide

www.renishaw.com

ACR1 warnings

Pinch hazards exist between moving parts and between moving and static parts. Do not hold the probe head during movements, or during manual probe changes.

Beware of unexpected movement. The user should remain outside of the full working envelope of probe head/extension/probe combinations.

Handle and dispose of batteries according to the manufacturer's recommendations. Use only the recommended batteries. Do not allow the battery terminals to contact other metallic objects.

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

There are no user serviceable parts inside Renishaw mains powered units. Return defective units to an authorised Renishaw Customer Service Centre.

Replace blown fuses with new components of the same type. Refer to the SAFETY section of the relevant product documentation.

For instructions regarding the safe cleaning of Renishaw products, refer to the Maintenance section of the relevant product documentation.

Remove power before performing any maintenance operations.

Refer to the machine supplier's operating instructions.

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

Under certain circumstances the probe signal may falsely indicate a probe seated condition. Do not rely on probe signals to stop machine movement.

ACC2-3 is isolated from ac power by means of the mains switch on the rear panel. If any additional means of isolation is required, it must be specified and fitted by the machine manufacturer or the installer of the product. The isolator must be sited within easy reach of the CMM operator and comply with IEC61010 and any applicable national wiring regulations for the country of installation.

Autochange system installation and programmer's guide

www.renishaw.com

ACR1 international safety instructions

BG - ПРЕДУПРЕЖДЕНИЕ

Моля, обърнете на приложение 1 и прочетете инструкциите за безопасност на вашия собствен език, преди за разопаковате и монтирате този продукт.

CS - VÝSTRAHA

Před rozbalením a instalací tohoto výrobku si přečtěte bezpečnostní pokyny ve vlastním jazyce uvedené v příloze 1.

DA - ADVARSEL

Læs sikkerhedsinstrukserne i Appendix 1 FØR udpakning og installation af dette produkt.

DE - WARNHINWEIS

Bevor Sie dieses Produkt auspacken und installieren, konsultieren Sie bitte Anhang 1 und lesen Sie die Sicherheitshinweise in Ihrer Sprache.

EL - ΠΡΟΕΙΔΟΠΟΙΗΣΗ

Γυρίστε στο Κεφάλαιο 1 και διαβάστε τις οδηγίες ασφαλείας στη δική σας γλώσσα προτού ανοίξετε αυτό το προϊόν για να το εγκαταστήσετε.

EN - WARNING

Before unpacking and installing this product, please consult Appendix 1 and read the safety instructions in your language.

ES - ADVERTENCIA

Consulte el apéndice 1 y lea las instrucciones de seguridad en su idioma antes de desempaquetar e instalar este producto.

ET - HOIATUS

Palun vaadake 1. lisa ning lugege enne selle toote lahtipakkimist ja paigaldamist ohutusjuhend läbi.

FI - VAROITUKSIA

Lue liitteessä 1 olevat omalla kielelläsi kirjoitetut turvaohjeet ennen tämän tuotteen pakkauksen avaamista ja asentamista.

FR - AVERTISSEMENT

Consulter l'annexe 1 et les instructions de sécurité dans votre propre langue avant de débiller et d'installer ce produit.

Autochange system installation and programmer's guide

www.renishaw.com

GA - RABHADH

Téigh chuig aguisín 1 agus déan na treoracha sábháilteachta a léamh i do theanga féin le do thoil sula ndéantar an táirge seo a dhíphacáil agus a shuiteáil.

HR - NAPOMENA

Prije nego što proizvod izvadite iz ambalaže i ugradite ga, otvorite Prilog 1 i pročitate sigurnosne upute na svom jeziku.

HU – FIGYELMEZTETÉS

A termék kicsomagolása és telepítése előtt olvassa el az 1. számú függelékben található, az Ön anyanyelvén hozzáférhető biztonsági utasításokat.

IT - AVVISO

Prima di aprire ed installare questo prodotto, leggere le istruzioni di sicurezza nella vostra lingua riportate nell'Appendice 1.

JA - 警告

この製品を箱から取り出し設置する前に、付録 1 に記載された安全性に関する注意書きをお読みください。

LT – ĮSPĖJIMAS

Prieš išpakuodami ir įdiegdami produktą, turite grįžti prie 1 priedo ir perskaityti nurodymus dėl saugos savo kalba.

LV – BRĪDINĀJUMS

Pirms šī izstrādājuma izsaiņošanas un uzstādīšanas izskatiet 1. pielikumā sniegtās drošības instrukcijas savā valodā.

MT - TWISSIJA

Jekk jogħġbok mur f'appendiċi 1 u aqra l-istruzzjonijiet tas-sigurtà fil-lingwa tiegħek qabel ma toħroġ dan il-prodott mill-ippakkjar u tinstallah.

NL - WAARSCHUWING

Ga naar appendix 1 en lees de veiligheidsinstructies in uw eigen taal, voordat u dit product uitpakt en installeert.

PL - OSTRZEŻENIE

Przed rozpakowaniem i zainstalowaniem tego produktu prosimy o zapoznanie się z Dodatkiem 1 i przeczytanie zaleceń dotyczących bezpieczeństwa w danym języku.

PT - ADVERTÊNCIA

Você deve retornar ao Anexo 1 e ler as instruções de segurança em seu idioma antes de desembalar e instalar este produto.

Autochange system installation and programmer's guide

www.renishaw.com

RO - AVERTISMENT

Înainte de a desface ambalajul și a instala acest produs, vă rugăm să căutați Anexa 1 și să citiți cu atenție instrucțiunile de siguranță, în limba română.

SK - VÝSTRAHA

Pred rozbalením a inštaláciou tohto produktu si pozrite prílohu 1 a prečítajte si bezpečnostné pokyny vo vašom jazyku.

SL - OPOZORILO

Preden izdelek vzamete iz embalaže in ga vgradite, odprite Prilogo 1 in preberite varnostna navodila v svojem jeziku.

SV - VARNING

Gå till bilaga 1 och läs säkerhetsinstruktionerna på ditt eget språk innan du packar upp och installerar denna produkt.

ZH-TW - 警告

在拆開和安裝本產品之前，請翻頁至附錄 1 閱讀母語的安全指示。

ZH - 警告

在拆包和安裝本產品之前，請翻到附录1，阅读中文版安全说明。

Autochange system installation and programmer's guide

www.renishaw.com

ACR1 environmental conditions

The following environmental conditions comply with (or exceed) BS EN 61010-1:1993.

Indoor use	IP30 (no protection against water)
Altitude	Up to 2000 m
Operating temperature - ACR1	+10 °C to +40 °C
Operating temperature - ACC2-3	0 °C to +50 °C
Storage temperature	-10 °C to +70 °C
Relative humidity - ACR1	80% maximum for temperatures up to +31 °C Linear decrease to 50% at +40 °C
Relative humidity - ACC2-3	80% maximum for temperatures up to +31 °C Linear decrease to 50% at +40 °C
Transient voltages	Installation category 2
Pollution degrees	2

Autochange system installation and programmer's guide

www.renishaw.com

ACR1 introduction

The autochange system documentation is covered by two guides:

- A user's guide (Renishaw part number H-1000-5090) which gives a simple explanation of the equipment, details of alignment procedures and fault-finding information
- This installation and programmer's guide (Renishaw part number H-1000-6012) which describes system functions, installation and datuming together with software and programming information

It is intended that the user's guide is the main reference document for the working CMM installation and that the installation and programmer's guide is the reference document for the CMM manufacturer.

Autochange system installation and programmer's guide

www.renishaw.com

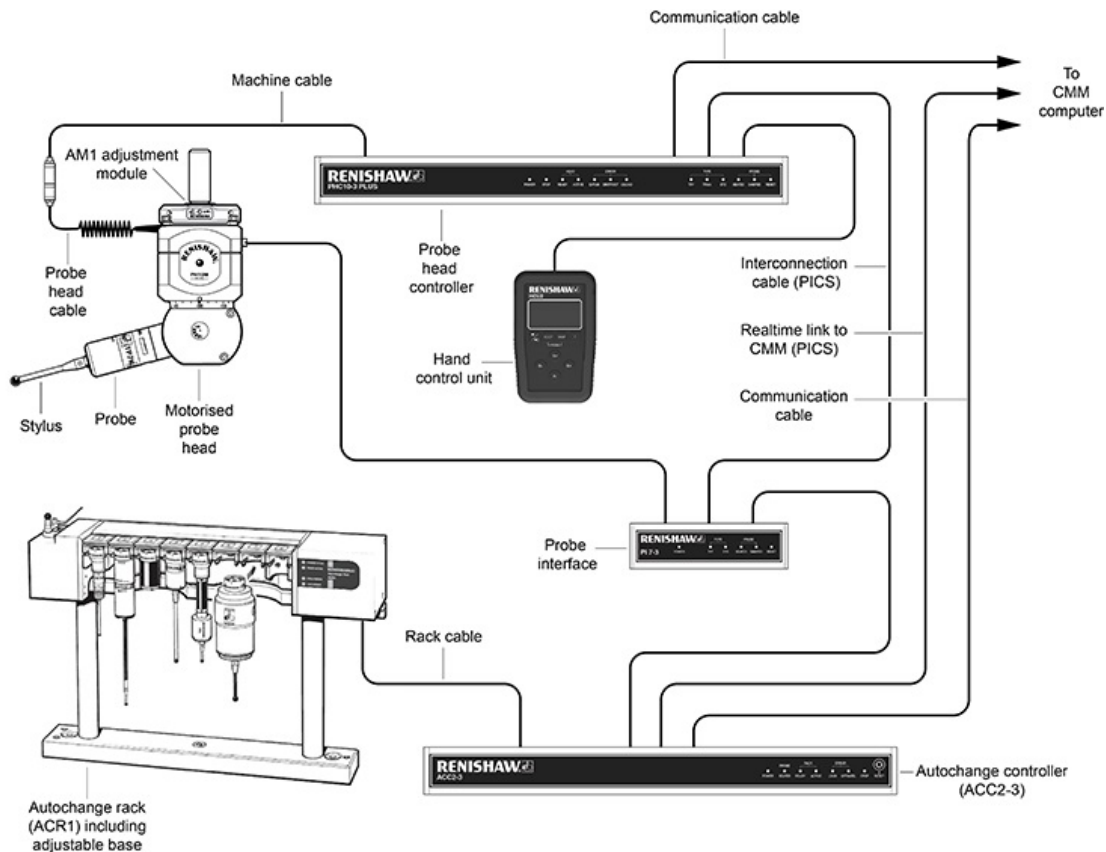
The system

General description

Renishaw's ACR1 is a fully integrated 8 port probe exchange system. Mounted within the CMM's working envelope, the autochange system facilitates fast, automatic probe exchange without the need for re-qualification of the probe assembly.

Fast probe exchange cycles are achieved by the probe head docking the original probe and selecting a new one. The high repeatability of the autojoint removes the need to re-qualify between moves.

The autochange system consists of an autochange rack, an autochange controller and an autochange head which, together with a mounting kit and cables, form a complete kit.



The ACC2-3 autochange controller

Description

The ACC2-3 autochange controller is the intelligent part of the system. It handles the communications to and from the CMM controller, controls the ACR1 autochange rack, and multiplexes and interfaces the head and datum probe signals.

The ACC2-3 has been designed for simple installation. It is functionally compatible with any ACC1 or ACC2 installation but incorporates several new features and a new specification.

Control of the autochange system can be carried out in two different ways:

1. RS232 (serial) communications from the CMM controller (see 'Stand-alone mode' section).
2. Stand-alone: no communications are required as the system works on a series of time-outs after detected events (see 'Interfaces' section).

Autochange system installation and programmer's guide

www.renishaw.com

Front panel

The following figure shows the arrangement of the ACC2-3 front panel. Descriptions of the functions of the switch and LEDs follow.



1 POWER ON LED (green)

Powered from an internal power rail, this LED indicates that the unit is switched on.

2 PROBE SEATED LED (yellow)

Indicates the status of the selected probe. When the probe interface circuit is active, this LED will be ON. In this condition the LED will be OFF when the stylus is deflected.



NOTE: This LED is only operational when the internal probe interface is selected.

3 RACK READY LED (yellow)

Indicates the status of the rack. The LED is OFF when the rack is active. A flashing LED indicates that the system is in datum mode 1 (see 'Operating modes' section, mode 6).

4 RACK ACTIVE LED (yellow) *

Indicates that the rack is performing a lock or unlock procedure. A flashing LED indicates that the system is in datum mode 2 (see 'Operating modes' section).

5 LOCK ERROR LED (red) *

Indicates that a fault has occurred during a lock or unlock procedure.

6 OVERTRAVEL ERROR LED (red) *

Indicates that the rack has been overtravelled or an excessive entry speed condition has been detected.

7 STOP LED (red)

Indicates that the ACC2-3 has asserted the PICS STOP signal following a critical failure.

* Various combinations of these LEDs are used to indicate other fault conditions (see 'Operating modes' section, 'Mode 4 - Error mode').

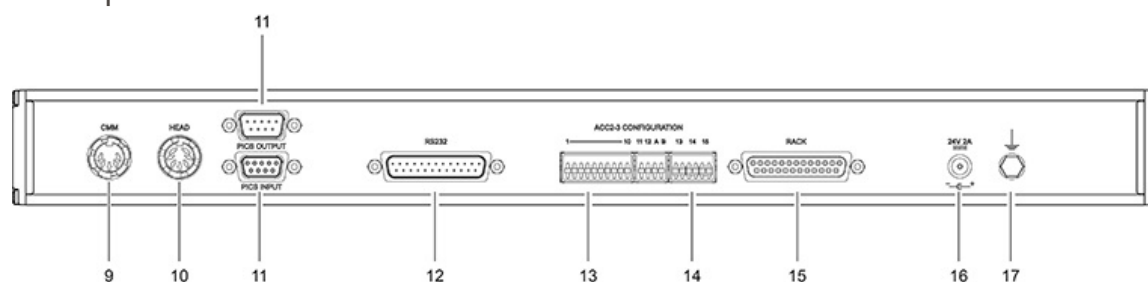
8 RESET

The RESET switch initiates a complete software restart. It is used for resetting the system after a collision, or for putting the system into or out of datum mode 1 (mode 6). To take effect, the button must be pressed for at least 100 ms.

Autochange system installation and programmer's guide

www.renishaw.com

Rear panel



9 CMM output connector (5-pin 180° DIN socket)

This is the conventional (non-PICS) output socket. The pin numbers and associated signals are given in the table below.

CMM output pin numbers:

Pin number	Signal	Comment
1	Probe output * (normally high)	High or open circuit for a seated probe
2	0 V digital	This signal is the ground reference for the other signals of this interface. It must not be connected to the cable screen (the cable screen must be connected to the body of the connector).
3	Probe output * (normally low)	Low or short circuit for a seated probe.
4	Not used	-
5	External reset	This input signal produced a software restart when asserted for 100 ms (or more) during any mode except a lock or unlock routine. When the signal is pulled LOW, restart is requested.
Chassis	Screen	The body of the connector is connected to the ACC2-3 chassis earth. The output cable screens can be connected to this point if required.

* TTL and OCT outputs must be taken from pins 1 or 3 with reference to 0 V (pin 2).

SSR output is between pins 1 and 3 and these outputs are isolated from 0 V.

Autochange system installation and programmer's guide

www.renishaw.com

10 Head input connector (7-pin DIN socket)

This is the conventional (non-PICS) probe input connector. It may be used to connect the ACC2-3 to the probe head controller (PHC10-3 PLUS).

The pin numbers and associated signals are given in the table below.

Head input pin numbers:

Pin number	Signal	Comments
1	LED cathode	This output controls the probe LED. When this output is LO the LED will be ON.
2	Screen	Cable screen: this is the connection between the cable screen and ACC2-3 chassis ground.
3	LED anode	This is the power output to drive the probe LED. This output will supply around 10 mA to the probe LED when ON.
4	Touch probe return (0 V)	These are the input signals from the the probe contacts. Closed contacts indicate a seated probe - open contacts indicate an unseated probe.
5	Touch probe signal (HI)	These are the input signals from the the probe contacts. Closed contacts indicate a seated probe - open contacts indicate an unseated probe.
6	Inhibit return (0 V)	Inhibit and return: this input pair controls the inhibition of the probe interface circuit. When INHIBIT (HI) is connected to 0 VA (LO) the probe interface circuits is inhibited.
7	Inhibit signal (HI)	Inhibit and return: this input pair controls the inhibition of the probe interface circuit. When INHIBIT (HI) is connected to 0 VA (LO) the probe interface circuits is inhibited.
Chassis	-	This is the body of the connector which is connected to the ACC2-3 chassis.

Autochange system installation and programmer's guide

www.renishaw.com

11 PICS input and output connectors

PICS (Renishaw's product interconnection system) is used for real time two-way communication of status and command signals between Renishaw units and the CMM controller.

Input and output of the PICS signals is via 9-way D-type connectors. PICS is sensitive to the order in which Renishaw units are connected (i.e. input must come from another Renishaw interface, and output must be directly to the CMM controller).

The following table describes the pin numbers and signal functions.

PICS pin numbers and signal terminations:

Pin number	Signal
1	STOP (in / out)
2	PROBE POWER OFF (PPOF) (in / out)
3	0 V
4	Reserved for Renishaw use
5	SYNC output (probe trigger)
6	HALT output
7	PROBE DAMPing (PDAMP) (in)
8	LED OFF (in)
9	-
Body	Screen

For a full description see the product interconnection system guide (Renishaw part number H-1000-5000).

Autochange system installation and programmer's guide

www.renishaw.com

12 RS232 interface connector (25-way D-type plug)

This is the serial input / output communications link to the CMM controller. The pin designations and signal names are given in the table below.

RS232 pin numbers and signals:

Pin number	Signal
1	Screen
2	Transmitted data to measuring machine controller (MMC)
3	Received data from measuring machine controller (MMC)
4	RTS (request to send) to MMC
5	CTS (clear to send) from MMC, connect pin 4 to pin 5 if CTS is not output from MMC
7	Signal ground (common)
10	DTR (data terminal ready) to MMC

For a detailed description of RS232 operation see 'RS232 communications' section.

13 Configuration switches (1 to 12)

These are used to set the communication parameters and are described in the 'RS232 communications' and 'Interfaces' sections.

Autochange system installation and programmer's guide

www.renishaw.com

14 Output switches

The conventional (non-PICS) probe output can be configured using these three switches.

The available outputs are SSR (solid state relay), OCT (open collector transistor) or TTL (transistor-transistor logic) with both true and complement outputs selectable for each output.

The following table shows the output options.

Output switches:

Switch 13	Switch 14	Switch 15	Output format and SK3 pins
X	Down	Down	SSR normally closed on pins 3 and 1
X	Down	Up	SSR normally open on pins 3 and 1
Down	Up	X	OCT normally LO on pin 3
Down	Up	X	OCT normally HI on pin 1
Up	Up	X	TTL normally LO on pin 3
Up	Up	X	TTL normally HI on pin 1

X = switch may be up or down

The two TTL compatible outputs are generated using current limited (30 mA approximately) open collector drives, with 2K7 pull-up resistors to +5 V.

The two OCT outputs are generated using current limited open collector drives. The maximum sink current is 30 mA. The maximum collector voltage is +30 V (dc or ac).

The specification of the SSR output is as follows.

SSR output specification:

Contact ratings	+50 V max, ±30 mA max (ac or dc)
Contact ON resistance	5 (maximum)
OFF state leakage current @ 25 V	0.006 µA
OFF state leakage current @ 50 V	60 µA
Turn ON time (with VL = 20 V, RL = 1K0)	10 µs max
Turn OFF time (with VL = 20 V, RL = 1K0)	15 µs max

Both contacts isolated from ACC2-3 0 V.

Autochange system installation and programmer's guide

www.renishaw.com

15 Rack connector (25-way D-type socket)

This is the only connection between the ACC2-3 and the ACR1, and carries all the necessary power and signal lines. The pin numbers, signal designations and descriptions are given in the table below.

Rack connector pin numbers and functions:

Pin number	Designation	Description
1	RACK MOT	Supply to ACR1 motor
2	RACK MOTRET	0 V return for ACR1 motor
3	CABLE SENSE	Rack cable sense return
4	POT F/B	ACR1 screwdriver' position feedback
5	R.DETECT	ACR1 rear lightbeam signal
6	R.PROBE CONTACT 2	Rack probe contact 2
7	RACK REF	Precision reference voltage for ACR1 position potentiometer
8	IND 4	ACR1 'Lock Error' indicator
9	0 V RACK	ACR1 0 V
10	IND 0	ACR1 'Change Cycle' indicator
11	RESERVED	Future expansion
12	RESERVED	Future expansion
13	-	-
14	RACK MOT	Supply to ACR1 motor
15	RACK MOTRET	0 V return for ACR1 motor
16	CABLE SENSE	Rack cable sense output
17	F.DETECT	ACR1 front lightbeam signal
18	R.PROBE CONTACT 1	Rack probe contact 1
19	O/T 1	ACR1 overtravel signal
20	IND 1	ACR1 'Probe Active' indicator
21	IND 3	ACR1 'Cycle Error' indicator
22	+15 V	Supply to ACR1 circuits
23	GND SENSE	Ground sense
24	RESERVED	Future expansion
25	RESERVED	Future expansion

16 DC power jack

17 Equipment bond point

Autochange system installation and programmer's guide

www.renishaw.com

RS232 communications

SETTING UP

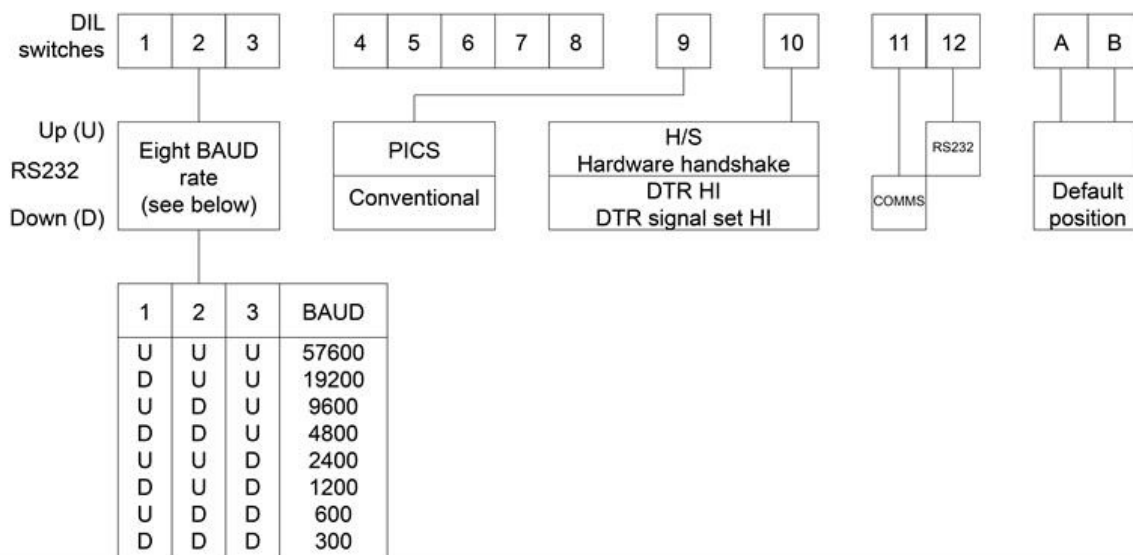
RS232 communications are selected by setting switch 11 ON (down) and switch 12 OFF (UP). These switches are on the rear panel.

The baud rate is controlled by switches 1 to 3 and the range available is given in the table below.

Selection of the internal (conventional) interface or PICS operation is performed by switch 9, UP for PICS, DOWN for conventional interface.

Switches A and B are reserved for Renishaw use. To enable normal operation of the ACC2-3, they must both be set in the DOWN position.

The following table defines the switch positions for RS232 operation.



NOTE: These switches are only read on power up or after a software reset. If any settings are changed, the ACC2-3 must be switched OFF, then ON, or the RESET switch operated to act on these changes.

Autochange system installation and programmer's guide

www.renishaw.com

Operation

The data format is:

"7 + 1 E"

one start bit

seven data bits

one parity bit

one stop bit for transmitted and received data

No parity checks are performed on receive.

The parity bit is set to Even Parity on transmit.

All communications are full duplex.

The software is capable of receiving data terminated with a carriage return (CR) or with a CR and a line feed (LF). In the latter case the LF is ignored.

All transmissions are terminated by a CR and LF.

The request to send (RTS) active high output is used to indicate that a message is ready for transmission.

RTS will be cleared after the LF of the last message has been transmitted.

The clear to send (CTS) active high input is checked before transmitting each byte to ensure that the CMM is ready to receive. If the active signal is not received within 10 seconds of asserting RTS, STOP will be applied. The STOP signal will be released when CTS becomes active.

Communication of data is possible if RTS has been connected to CTS by a user.

If the hardware handshake option is selected (switch 10), data terminal ready (DTR) will be set when the ACC2-3 is ready to receive a command.

Receipt of an X OFF (control S, 13 hex) command will halt the transmission of data. Transmission will be resumed upon receipt of an X ON (control Q, 11 hex) command. These commands do not affect any process other than transmission of data (e.g. time-outs are unaffected).

Any commands received before the completion of the previous command will be ignored. This situation will be reported as below:

CNA (command not accepted): Present status 5 (CR) (LF)

e.g. Y5 - CMM control mode, last command ignored

The interface is configured such that the product is a 'data terminal equipment' according to the EIA RS232 definition.

Autochange system installation and programmer's guide

www.renishaw.com

The pin functions of the RS232 connector are shown in the following table:

RS232 pin numbers and functions

Pin number	Function
3	Receive (input)
2	Transmit (output)
20	DTR (output)
5	CTS (input)
4	RTS (output)
7	SIGNAL GND
1	PROTECTIVE GND

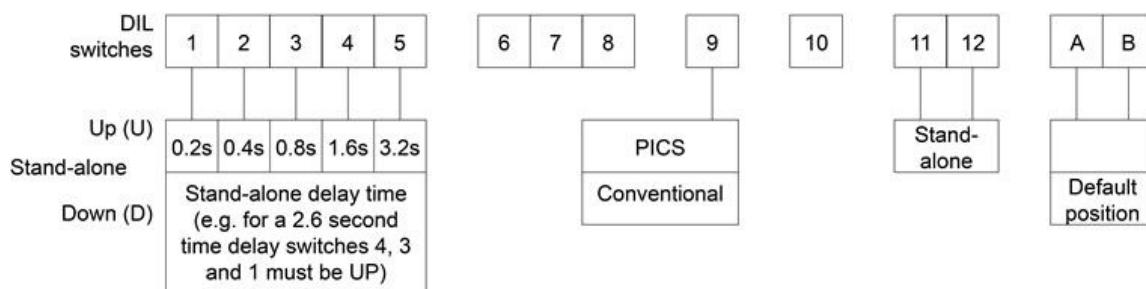


NOTE: The cable screen must be connected to pin 1 and the cable shell. The signal 0 V must be connected to pin 7. The cable screen must not be connected to pin 7.

Stand-alone mode

Stand-alone mode is selected by setting switch 11 and switch 12 (on the rear panel) OFF (UP) (see table below).

Switches A and B are reserved for Renishaw use. To enable normal operation of the ACC2-3, they must both be set in the DOWN position.



In stand-alone mode the system can be used with no intervention or communication from the CMM controller. This can be an advantage when retrofitting an autochange system to an existing CMM or if there are no spare communication ports on the CMM controller.

The system functions by using the ability of the ACR1 to detect whether a pick-up or put-down operation is required, and after a selectable time delay locks or unlocks the autojoint.

Autochange system installation and programmer's guide

www.renishaw.com

The sequence of operations is as follows:

a) When the lid of the port starts to open, one of two infra-red beams is broken. Which one is broken first depends on whether an empty autojoint, or one loaded with a probe, is entering the port.

Having detected what is entering the port, the ACC2-3 disables the probe interface and ensures that the 'screwdrivers' are set correctly to receive the autojoint.

b) When the second beam is broken, a time delay is started after which the screwdrivers are driven to their other position. The period of this delay is selectable between 0 and 6.2 seconds by means of DIL switches 1 - 5.

c) The ACC2-3 now waits for the autojoint to leave the ACR1 and detects whether it has picked up a probe by the order in which the beams are made. If a probe has been picked up, the interface is enabled by the making of the second beam, but if an empty autojoint is leaving the ACR1 the interface remains disabled.

If any fault or problem occurs during the change cycle the ACC2-3 will communicate this to the CMM by signalling a probe triggered state and illuminating the appropriate LEDs on the ACC2-3 and ACR1.

Although no communications are necessary for stand-alone operation, the communication interface defaults to 9600 baud RS232 operations. If required for software development or fault finding purposes, system operation can be monitored.

It is also possible to send commands in this state, but note that the G command is not operative.

Selection of the internal (conventional) interface or PICS operation is performed by switch 9 UP for PICS, DOWN for conventional interface.

The system can be reset by either manual operation of the front panel switch or by operation of the external reset line (pull low pin 5 of the CMM output connector).



NOTE: In this mode it is not possible to pick up a probe extension (eg PEM), unless it is already connected to a probe, because the interface cannot be inhibited via the communications link.

Autochange system installation and programmer's guide

www.renishaw.com

Interfaces

Interfacing the probe signal from the CMM can be implemented in one of two ways:

- by the ACC2-3's internal (conventional) probe interface - see 'Internal interface' below
- by PICS connection to an external interface - see 'PICS' below

The internal interface is suitable only for the autochanging of conventional two-wire touch-trigger probes. However, for new designs and more complex probing systems, it is strongly recommended that PICS is used.

An advantage of PICS is that it is a real-time, two-way, standardised communication system.

PICS requires only one output from the CMM controller to control and monitor Renishaw equipment. This is possible because not only does the CMM controller send and receive information from Renishaw equipment, but also the individual controllers communicate with each other (eg the 'probe power OFF' (PPOFF) command can be initiated by both a PHC10 or PHC10-2 probe head controller and the ACC2-3 as well as the CMM controller). This considerably simplifies the control software, leaving the CMM controller free to perform other tasks.

Internal interface

This is a conventional touch-trigger probe interface housed inside the ACC2-3. The signal from the probe is connected to the ACC2-3 via the 7-pin DIN 'HEAD' connector on the rear panel (see section '15 Head input connector (7-pin DIN socket)') and the interfaced signal is connected to the CMM controller via the 5-pin DIN 'CMM' connector (see section '14 CMM output connector (5-pin 180° DIN socket)').

The interface is inside the ACC2-3, because the probe signal must be switched with the datum probe signal when the system is in datum mode 2 (mode 6).

The various output formats are defined in section '13 Output switches'.



NOTE: It is possible to use the ACC2-3 just as a two-wire probe interface, with no ACR1 connected, by linking pins 9 to 23 on the 25-way D-type rack connector.

Autochange system installation and programmer's guide

www.renishaw.com

PICS

Using this method the CMM probe signal is connected to an external PICS-compatible interface (e.g. PI 7-3 or PI 200-3) and the output is connected to the

ACC2-3 via the ACC2-3 PICS input connector (see section '9 PICS input and output connector'). The CMM probe signal passes straight through to the CMM controller unless the ACC2-3 is in datum mode 2 (mode 6, see section 'Mode 6 - Datum mode').

In datum mode 2 the ACC2-3 applies PPOFF (probe power OFF) to inhibit the external interface, connects the datum probe output to the SYNC line and directly controls the head LED during a change cycle.

During a change cycle any externally applied damping (PDAMP) signal, is overridden by the ACC2-3, to prevent the interface probe selection from being inhibited.

The ACC2-3 passes on all necessary received PICS signals to the other products in the system.

The only PICS signals asserted by the ACC2-3 are SYNC, probe power OFF (PPOFF), LED OFF and STOP. The use of these signals is limited to those operations defined in this document.

If STOP is asserted by another Renishaw product or the CMM, any motion of the screwdriver blades will be inhibited (except for lock and unlock routines whilst in error mode - mode 4). If the STOP signal is applied during a blade move, the blades will be commanded to the unlock position. If STOP is subsequently released the ACC2-3 will continue to function normally.

Any other process is not affected by the assertion of an externally generated STOP signal.

The information given in this section is specific to ACC2-3. A more general definition of PICS, its connectors and signals is given in the PICS installation guide (Renishaw part number H-1000-5000).

Autochange system installation and programmer's guide

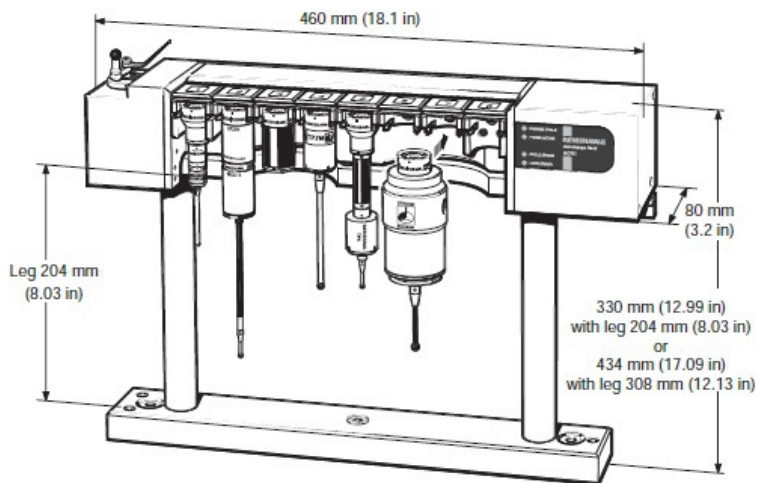
www.renishaw.com

The ACR1 autochange rack

Description

The autochange rack or ACR1 is the part of the system which is located within the CMM working volume. It is powered and controlled by the ACC2-3 via a rack cable which can be up to 30 metres (98 ft) long.

The ACR1 can store up to eight probe and extension bar combinations which can be exchanged automatically by the CMM.

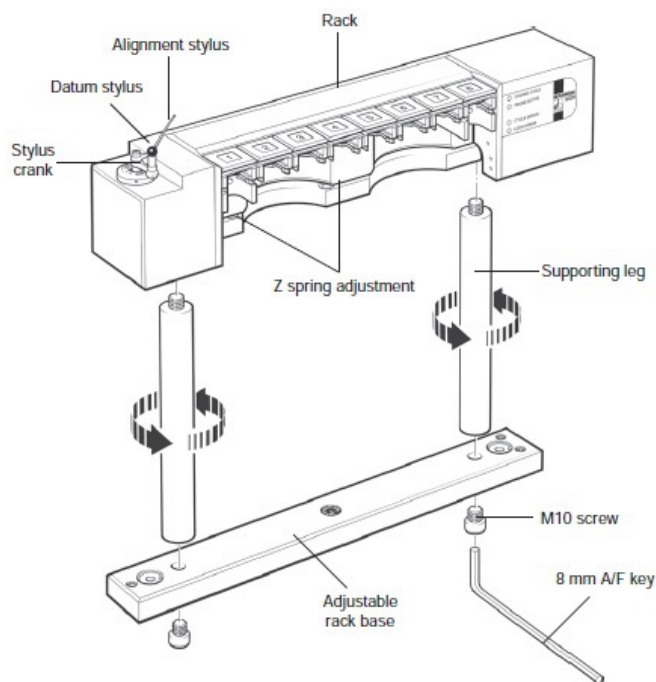


Autochange system installation and programmer's guide

www.renishaw.com

ACR1 assembly

The ACR1 is fixed to the CMM using a mounting kit. This consists of an adjustable rack base and supporting legs for horizontal mounting (see section 'Rack assembly - horizontal mounting') with a support plate and pins for vertical mounting (see section 'Rack assembly - vertical mounting').



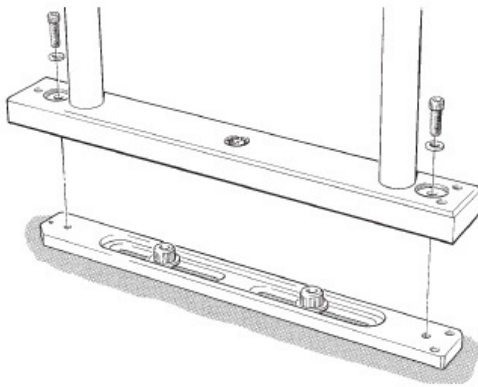
NOTE: ACR1 should not be left standing without fully fitting it to the bed of the machine as it is top heavy and likely to fall over.

Autochange system installation and programmer's guide

www.renishaw.com

Rack assembly - horizontal mounting

1. Separate the rack base into cover and base by removing the two screws shown.
2. Mount base to bed of machine.
3. Fit the datum stylus on to the stylus crank.
4. Secure the stylus crank and alignment stylus to the datum probe using the screw provided, and align the assembly.
5. Two Z spring adjusters are provided. When mounting the rack horizontally, ensure that the centre adjuster is in the upper position and that the left hand adjuster is in the lower position.

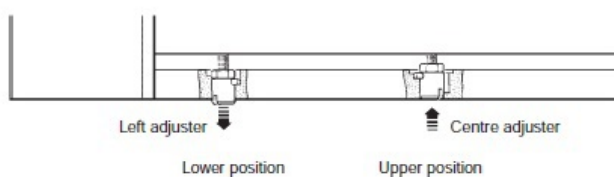


To move the adjuster from the upper to lower position or from the lower to upper position:

- a) Insert the joint key into the required adjuster at the bottom of the rack subframe.
- b) Push the key towards the rack.
- c) Turn the key anti-clockwise through 90° and release.

6. Screw the selected legs (104 mm [4.09 in] or 204 mm [8.03 in]) into the stubs on the underside of the rack. Additional legs can be screwed together to increase the height of the rack if necessary.

7. Tighten the legs by hand.



8. Attach the rack base cover to legs using the 10 mm screws and 8 mm Allen key provided.

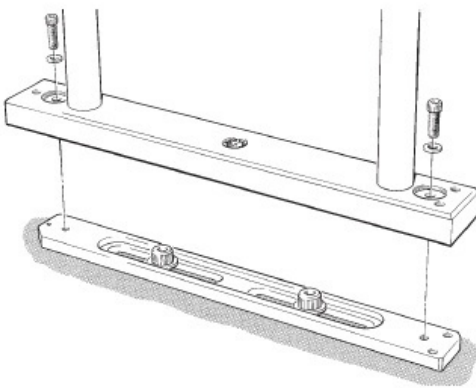
9. Fit the completed assembly to the CMM table.

Autochange system installation and programmer's guide

www.renishaw.com

Rack assembly - vertical mounting

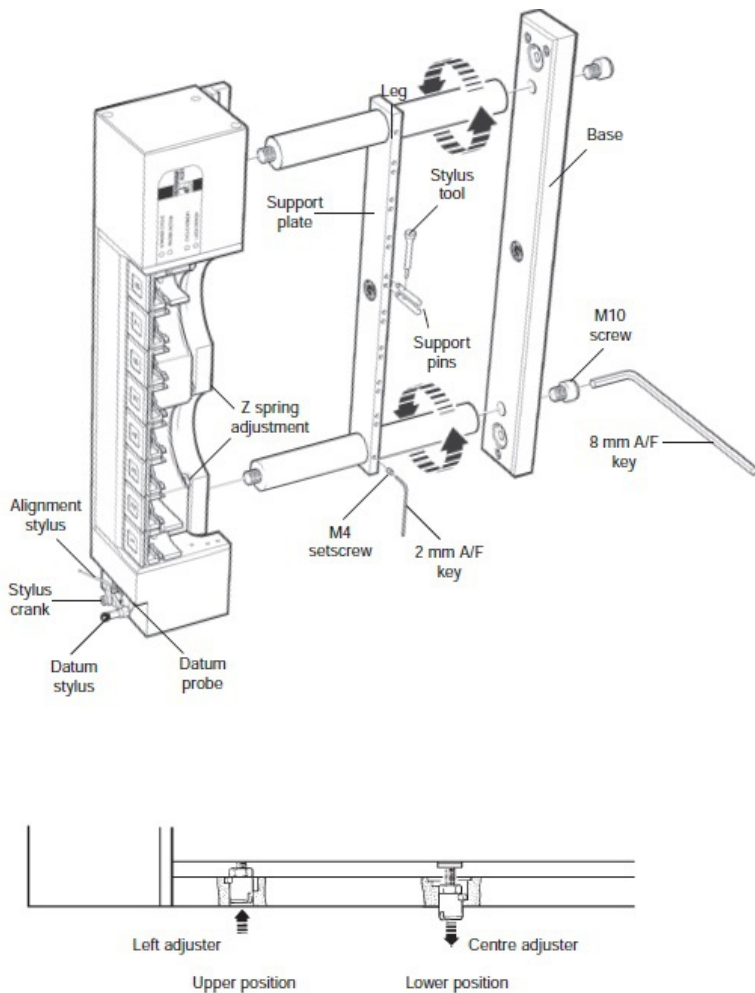
1. Separate the rack base into cover and base removing the two screws shown.



2. Mount base to pillar on machine.
3. Fit the datum stylus on to the crank.
4. Secure the crank and alignment stylus to the datum probe using the screw provided, and align the assembly as shown.
5. Two Z spring adjusters are provided. When mounting the ACR1 vertically, ensure that the centre adjuster is in the lower position and the left hand adjuster is in the upper position.
To move the adjuster from the upper to lower position or from the lower to upper position:
 - a) Insert the joint key into the required adjuster at the bottom of the rack subframe.
 - b) Push the key towards the rack.
 - c) Turn the key anti-clockwise through 90° and release.
6. Screw the selected legs into the stubs on the underside of the rack. Additional legs can be screwed together to increase the height of the rack if necessary.
7. Tighten the legs by hand.
8. Slide the support plate over the legs, ensuring that the label is aligned as shown. When the support plate is in a suitable position, tighten the two M4 set screws using a 2 mm A/F hexagonal key.
9. Fit the support pins using the stylus tool. When the rack is used in the vertical position, support for long extensions is recommended. Fit a support pin to the top or bottom support pin hole depending on the diameter of the extension to be used and its port location. Fit to the top support pin hole for extensions with a 13 mm diameter (PAA2, PAA3). Fit to the bottom support pin hole for extensions with a diameter of 25 mm (SP25M, PEM3).
10. Attach the rack base cover to the legs using the 10 mm screws and 8 mm Allen key provided.
11. Fit the completed assembly.

Autochange system installation and programmer's guide

www.renishaw.com



Rack mounting kit

The rack mounting kits contain the necessary components to mount the ACR1 on to a CMM:

1. The basic kit contains the parts necessary for horizontal mounting. The components are as follows:

- Adjustable rack base × 1
- 204 mm (8.03 in) legs × 2
- M10 × 16 mm socket head screws × 2
- Hexagonal keys

2. The vertical kit contains the parts necessary for vertical mounting. The components are as follows:

- Support plate × 1
- Support pins × 8
- Hexagonal keys

Also available separately are additional 100 mm and 200 mm legs.

Autochange system installation and programmer's guide

www.renishaw.com

Adjustable base

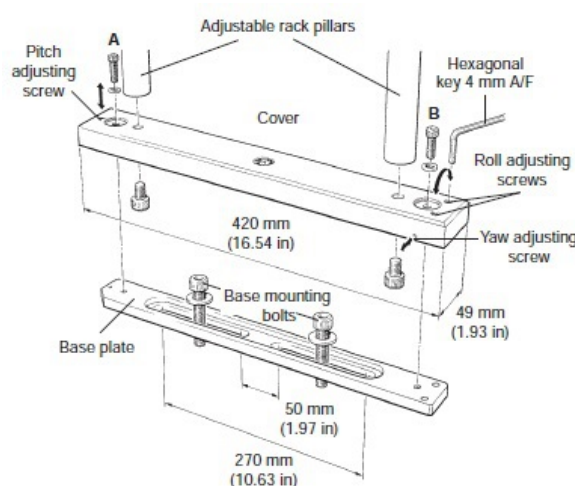
For smooth wear-free running of the system, correct alignment of the ACR1 to the CMM axes is essential.

The rack base enables the ACR1 to be aligned quickly and precisely with the axes of the CMM.

Three independent adjusters are used to align the rack in roll, pitch and yaw.

It is designed to cause no damage to the CMM table.

Adjustable base - mounting and adjustment



1. Unscrew the roll, pitch and yaw adjusting screws so that they are near the end of their travel.
2. Mount the cover onto the base plate. It is recommended that the ACR1 is supported before screws A and B are fitted.
3. Hand tighten screws A and B until resistance is felt.
4. Use the hexagonal key to tighten down the roll and pitch adjusting screws until resistance is felt. Tighten them down another 3/4 of a turn. The base is now set at the mid position of the adjusting range. Fine adjustment can now be carried out as required.
5. When adjustment is complete, tighten down screws A and B firmly. Maximum torque is 8 N/m (5.9 lbf/ft).

For full adjustment and fitting instructions, please refer to the autochange system user's guide (Renishaw part number H-1000-5090).

Adjustable base - specification

Yaw adjustment range about the nominal centre position	1 mm (0.039 in)
Pitch adjustment range nominal limit	1 mm (0.139 in)
Roll adjustment range nominal limit	1 mm (0.039 in)
Overall base height when assembled	26 mm (1.02 in)

Mounting bolts up to 10 mm (0.39 in) diameter can be used.

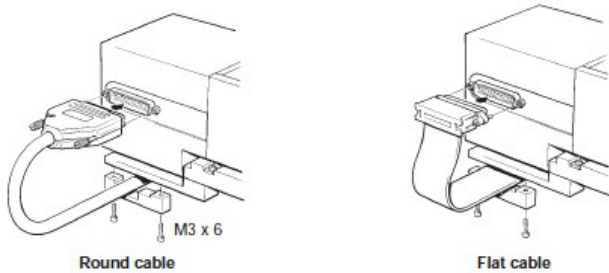
Autochange system installation and programmer's guide

www.renishaw.com

Cable fitting

To fit a cable to the ACR1, you need to carry out the following procedure:

1. Remove the two M3 x 6 mm securing screws as shown below and remove the cable fixing bracket from the ACR1.



2. Locate the cable into the position where the cable fixing bracket was fitted to the ACR1.
3. Place the cable fixing bracket over the cable into its correct mounting position on the ACR1, ensuring the cable is not pinched.
4. Replace the two M3 x 6mm securing screws into the ACR1.



NOTE: Two different types of cable have been used to connect the ACC2-3 to the ACR1. These cables differ in construction: one is a flat cable, one is a round cable. If it is necessary to replace a flat cable with a round cable, you will probably require a new cable fixing bracket. This is available from your local Renishaw office.

AM1 adjustment module

The AM1 adjustment module is designed to provide quick and accurate angular alignment of either the PH10T PLUS or the PH10M PLUS motorised probe heads with the axes of the CMM and / or the ACR1.

In addition, the quick release mechanism allows the probe head to be removed for storage and replaced without further alignment.

Inbuilt overtravel protection decreases the risk of probe head damage.



Autochange system installation and programmer's guide

www.renishaw.com

AM1 specification

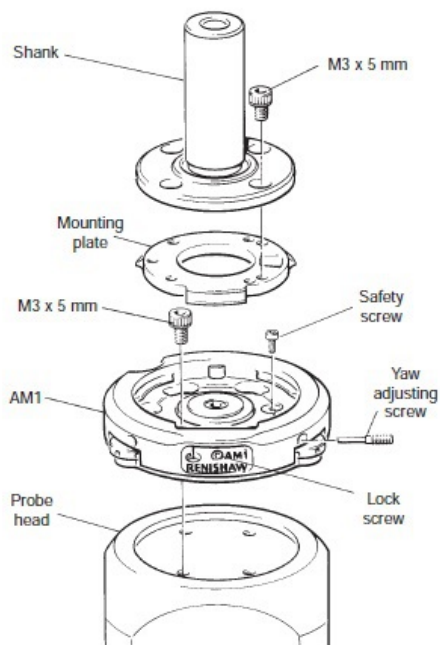
Size	60 mm × 15.5 mm (nominal)
Adjustment	±2 in pitch and roll (recommended) * ±4.5 in yaw
Overtravel	±3.5° in pitch and roll
Mounting	The AM1 mounts to the quill of the CMM via the shank or can be fitted direct to the user's mounting.

The AM1 is compatible with the MIH, PH6M and most motorised probe heads (i.e. PH10T PLUS and PH10M PLUS).

* Up to 5.5° adjustment is possible in pitch and roll but at the expense of overtravel

AM1 installation

The AM1 installation procedure is as follows:

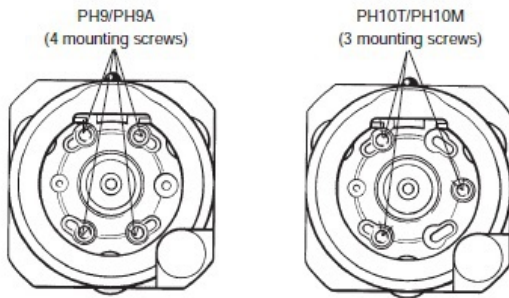


1. Remove the safety screw. Release the lock screw on the front of the AM1. Unscrew fully ONE yaw adjusting screw. Rotate the mounting plate through 60° and remove.

2. Locate the AM1 body to the probe head and secure with 3 × M3 × 5 mm screws.

Autochange system installation and programmer's guide

www.renishaw.com



3. Refit the mounting plate to the AM1 and locate by rotating through 60°.

NOTE: If the shank / mounting plate assembly is to be permanently attached to the head, the retaining screw must be replaced before assembling the shank to the plate. If quick release is required, the retaining screw should not be fitted.

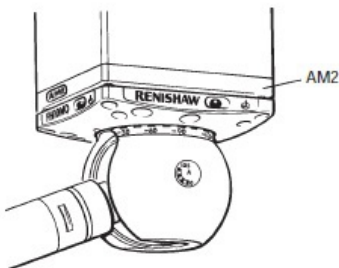
Screw the yaw adjusting screw against the lug.

4. Secure the shank to the mounting plate with the three or four M3 × 5 mm screws provided.

CAUTION: Using longer screws will cause damage to the motorised head.

AM2 adjustment module

The AM2 adjustment module is designed to provide quick and accurate angular alignment of the PH10MQ PLUS motorised probe head with the axes of the CMM and / or the ACR1.



The AM2 consists of an adjuster plate, which is attached to the quill of the CMM, and a set of adjusters fitted to the flange of the head. The head is fixed to the adjuster plate by a pair of captive screws.

The AM2 provides a highly repeatable mounting, allowing a head to be removed without the need for further adjustment. Because all adjustable parts remain with the head on removal, more than one head can be set up for use on the same machine, the time taken to exchange heads being minimal.

NOTE: The AM2 does not provide overtravel protection.

Autochange system installation and programmer's guide

www.renishaw.com

AM2 installation

The AM2 can be supplied already assembled to the head. Installation requires a 2.5 mm hexagon key and four M3 × 5 mm cap screws to attach the adjuster plate to the quill of the CMM.

1. Unscrew the two securing screws to release the adjuster plate from the head. Attach the plate to the CMM quill using four cap screws, ensuring correct orientation. Tighten screws.
2. Offer the head up to quill and plug in the head and multi-wire cables as appropriate. While ensuring that the balls of the AM2 adjusters engage the seatings in the plate, tighten the securing screws.



NOTE: The springs under the heads of the screws allow a controlled load to be applied.

Autochange system installation and programmer's guide

www.renishaw.com

Installing the system

Electrical requirements

See the 'Safety' section (page 7 of this document).

The ACC2-3 controller

It is recommended that the ACC2-3 is mounted to give a clear view of the front panel LEDs and to give easy access to the RESET button.


The weight of the ACC2-3 controller is 1.8 kg.


The ACC2-3 controller can be used in a 19-inch rack system or as a stand-alone unit.


Stand-alone

Four self adhesive feet are supplied with the unit for stand-alone use.

Mounting alone in a 19-inch rack

 **WARNING:** In all installations ensure the ACC2-3 is disconnected from the mains supply during installation.

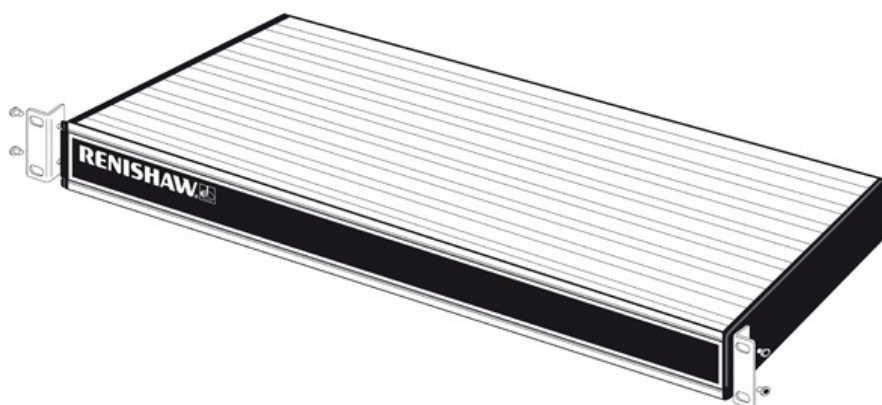
 **WARNING:** Take care not to exceed the operation ambient of 50 °C around the unit. Do not install near sources of heat. Forced cooling may be required in final installation.

 **NOTE:** In all installations use mounting screws supplied with this equipment. Do not replace with longer screws as damage could occur.

Autochange system installation and programmer's guide

www.renishaw.com

The following figure shows the ACC2-3 ready for mounting to a 19-inch rack:



The rack mount bracket kit is part no. A-1018-0124.

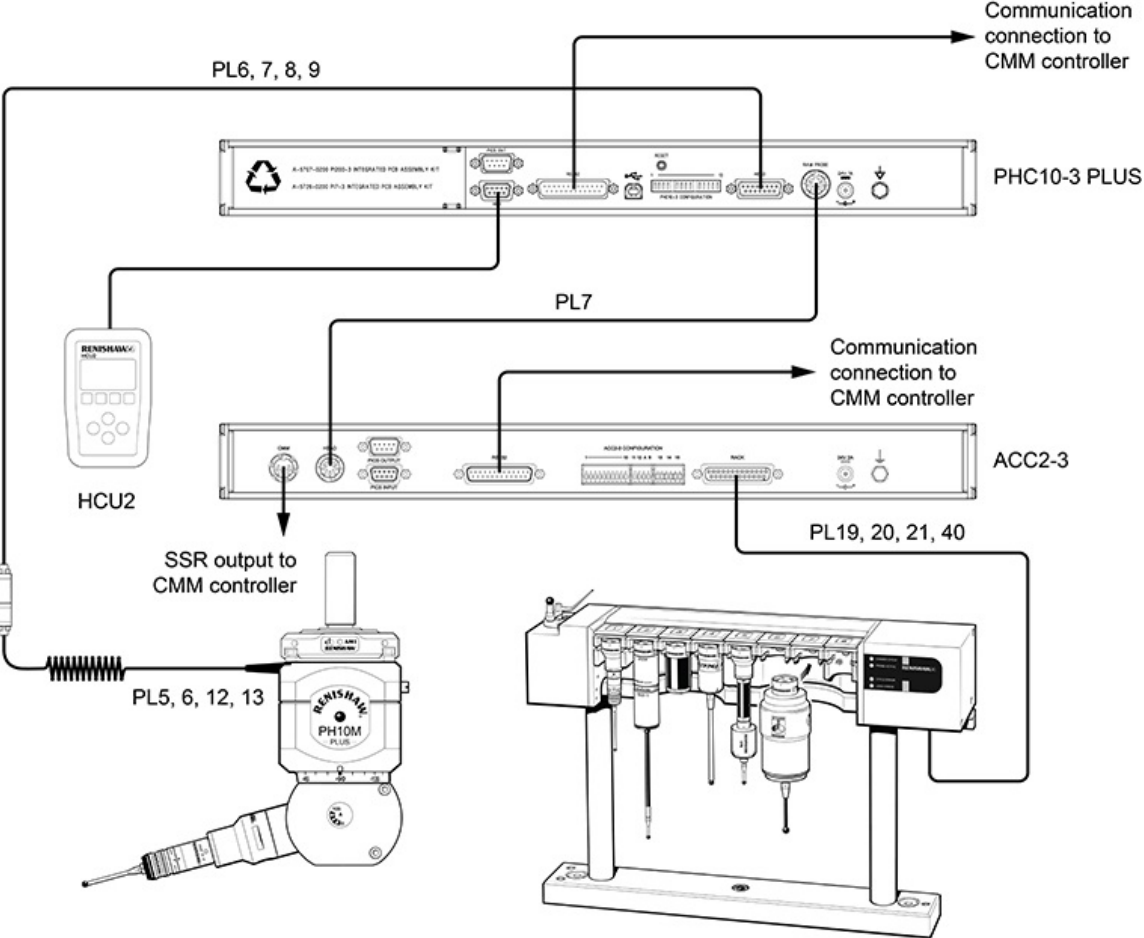
Autochange system installation and programmer's guide

www.renishaw.com

System interconnection diagrams

The following figures show the main components of a Renishaw autochange system should be connected.:

ACC2-3 with PH10M PLUS and TP20



Switch settings for this arrangement:

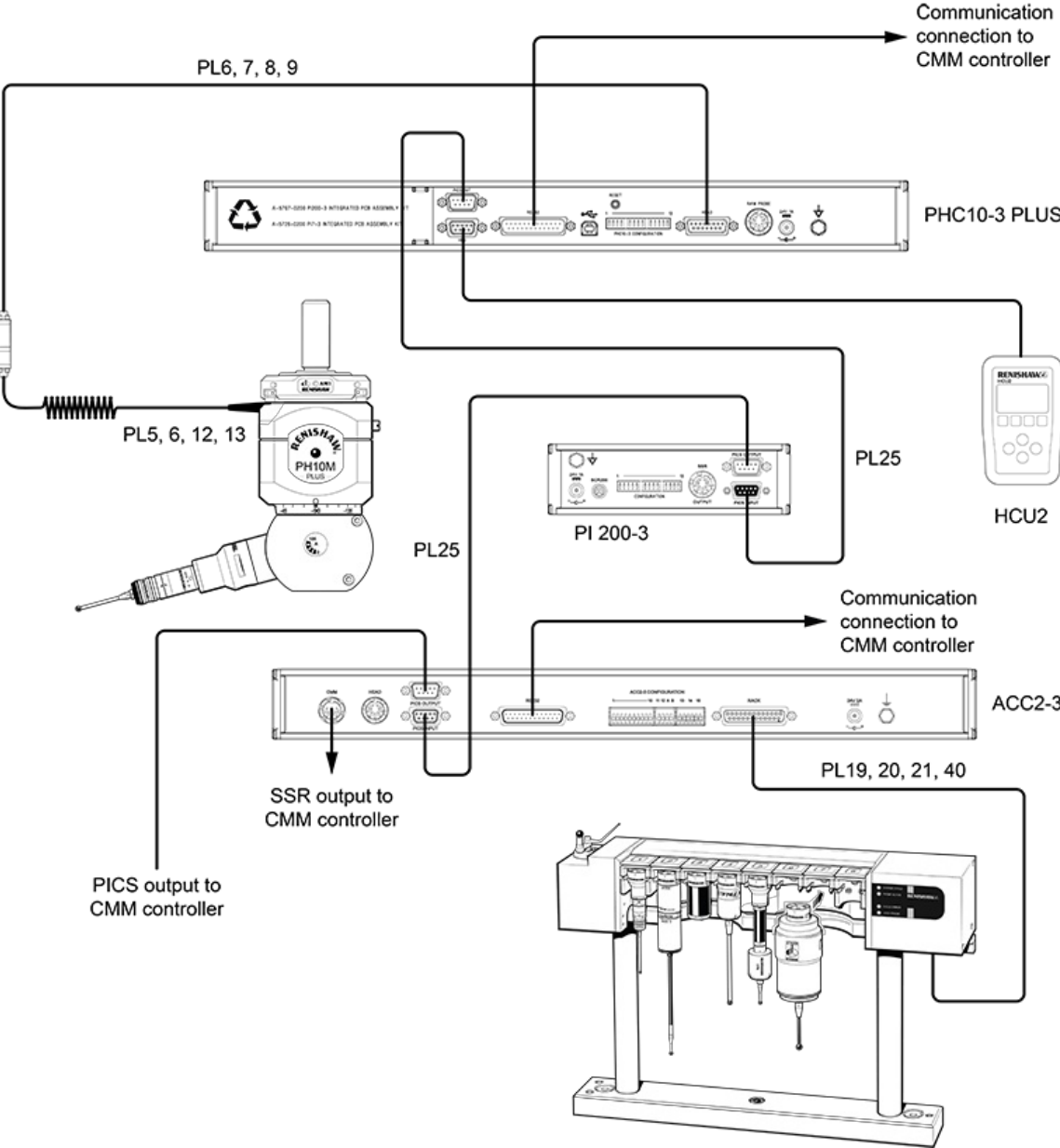
Switch settings used with this arrangement are detailed in the following table. Switches that are not specified are configured by the CMM machine supplier.

	SSR configuration Up	SSR configuration Down
PHC10-3 PLUS	-	15, 16, 17, 18
ACC2-3	9	-

Autochange system installation and programmer's guide

www.renishaw.com

ACC2-3 with PH10M PLUS and TP20 or TP200



Autochange system installation and programmer's guide

www.renishaw.com

Switch settings for this arrangement:

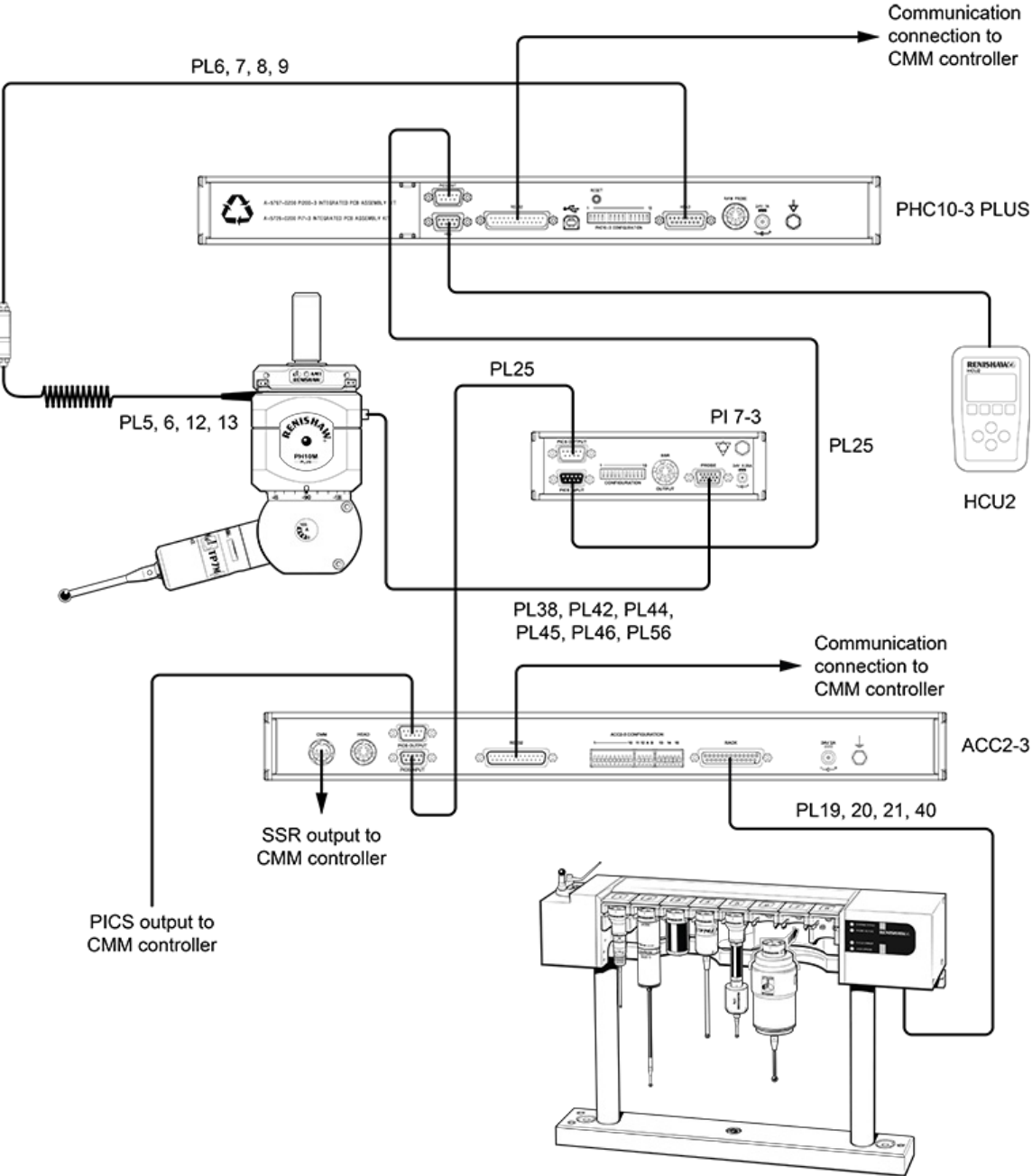
Switch settings used with this arrangement are detailed in the following table. Switches that are not specified are configured by the CMM machine supplier.

	PICS configuration Up	PICS configuration Down	SSR configuration Up	SSR configuration Down
PHC10-3 PLUS	11, 15, 16, 17, 18	-	11, 15, 16, 17, 18	-
ACC2-3	9	-	-	9
PI 200-3 (V9+)	-	-	-	-
PI 4-2	-	-	-	-

Autochange system installation and programmer's guide

www.renishaw.com

ACC2-3 with PH10M PLUS and TP7M



Autochange system installation and programmer's guide

www.renishaw.com

Switch settings for this arrangement:

Switch settings used with this arrangement are detailed in the following table. Switches that are not specified are configured by the CMM machine supplier.

	PICS configuration Up	PICS configuration Down	SSR configuration Up	SSR configuration Down
PHC10-3 PLUS	11, 15, 16, 17, 18	-	11, 15, 16, 17, 18	-
ACC2-3	9	-	-	9
PI 7-3	3	-	3	-

Autochange system installation and programmer's guide

www.renishaw.com

Datuming the rack

i **NOTE:** The ACR1 must be mechanically aligned prior to datuming the rack. Please refer to the autochange system user's guide (Renishaw part number H-1000-5090) for details.

Suggested datuming method

This is a suggested datuming method for the ACR1. You may find more suitable techniques depending upon your CMM and software.

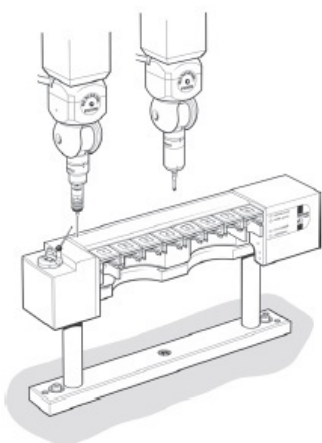
To datum the rack you must take three sets of measurements:

- Set the rack datum probe as the origin
- Determine the port centrelines and heights
- Determine the probe head centreline and base height

The methods for these three procedures are given below.

Set the rack datum probe as the origin.

1. Fit a 2 mm diameter stylus (minimum length 20 mm) to a touch-trigger probe. If the probe has an M8 thread, screw the probe into an autojoint adaptor (PAA) and tighten.
2. Lock the autojoint on to the probe head using the joint key.
3. Gauge the 8 mm datum stylus in four positions to define its centre point.



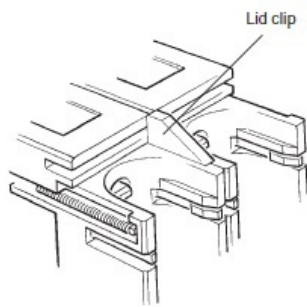
4. Assign this centre point as the origin for all further measurements.

Autochange system installation and programmer's guide

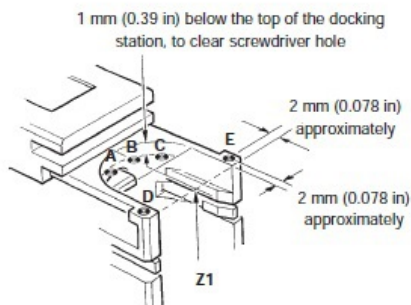
www.renishaw.com

Determine port centrelines and heights

1. Ensure that all the ports are empty.
2. Insert the four lid clips at the joints of ports 1 and 2, 3 and 4, 5 and 6, and 7 and 8.



3. Select datum mode (see section 'Mode 6 - Datum mode').
4. Find the port centre by gauging points A, B and C on a semi-circular portion of port 1.



NOTE: If possible, four or five points should be used to find the port centre. If three points are used, probing close to the centre of the semi-circle should be avoided, as slight distortions can occur near the screwdriver hole. Ignore the Z co-ordinates.

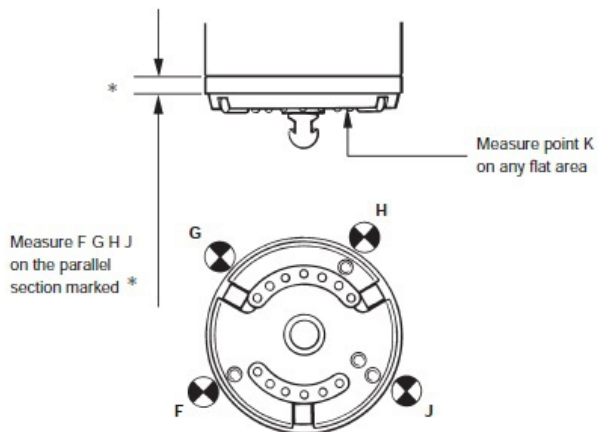
5. To find the average port top surface height (Z1) gauge points D and E.
6. Repeat the centre line and surface height measurements for ports 2 to 8.

Autochange system installation and programmer's guide

www.renishaw.com

Determine head centreline and base height

1. Unlock and remove the autojoint adaptor from the probe head.
2. Remove all lid retaining clips.
3. Select datum mode (see 'Mode 6 - Datum mode').
4. To find the probe head centreline, gauge points F, G, H, and J on the outside diameter of the probe head, using the datum stylus on the datum probe.




Autochange system installation and programmer's guide

www.renishaw.com

Calculating docking height

The docking height (DH) is the height at which the probe head enters and exits a port when carrying a probe:

 **WARNING:** The following calculations assume a stylus ball diameter of 2 mm.

$$DH = - (Z1 + Z2 + 6.65) \text{ mm}$$

where:

the minus sign shows that the height DH is below the level of the origin (the datum probe stylus ball)

Z1 = average port height $((D+E) / 2)$

Z2 = height to probe head base (point K)

6.65 = compensation value (see WARNING above) which ensures that the correct height is reached, derived by use of the following formula:

datum probe stylus ball radius + head / joint overlap + TP2 stylus ball radius

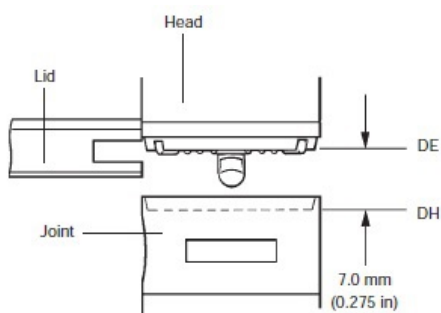
(if not already compensated for by the software)

Example: = 4 + 1.65 + 1

When entering and leaving a port without a probe, the head is set to a height (DE) which is 7 mm higher than DH to avoid collision:

$$DE = DH + 7 \text{ mm}$$

Height DE ensures that the probe head pushes back the port lids by their upper surface.



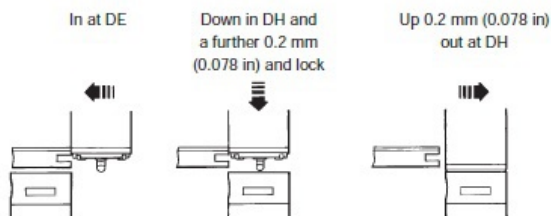
Autochange system installation and programmer's guide

www.renishaw.com

Loading procedure

1. Enter the port at 90° to the ACR1 at height DE, and push back the lid until the probe head centreline matches the port centreline.
2. Lower the head to the docking height DH, and then by a further 0.2 mm (0.078 in). The ACR1 locks the joint when instructed by the CMM.
3. Raise the probe head by 0.2 mm (0.078 in) then exit the port at height DH in the same plane as step 1.

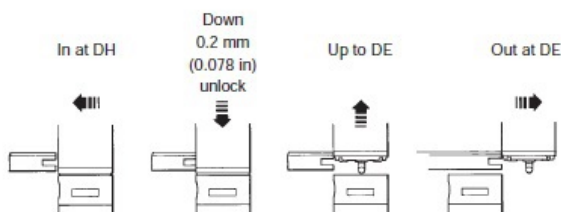
WARNING: Due to the forces exerted by the autochange operation on the head, it is strongly recommended that the head is unlocked and re-locked immediately after picking up a probe, in order to maintain repeatability.



Unloading procedure

1. Enter the port at 90° to the ACR1 at height DH and push back the lid until the head centreline matches the port centreline.
2. Lower the head by 0.2 mm (0.078 in) and unlock the joint. The rack unlocks the joint when instructed by CMM.
3. Lift the head to height DE.
4. Exit the port at height DE in the same plane as step 1.

CAUTION: If a probe or extension bar is manually locked (using a joint key), it is advisable to lock it fully to the cam end stop, then back the screwdriver slot off by approximately 5. If this is not done, it is unlikely that the probe will dock satisfactorily into the ACR1. Should the motorised head overload whilst the rack screwdriver is turning, instruct the head controller to re-lock the head before continuing. This can be done manually, or under program control by the measuring machine computer.



Autochange system installation and programmer's guide

www.renishaw.com

Docking parameters

Speed

Entry speed depends upon the screwdriver position. If you can be certain that the screwdriver is positioned correctly, a speed of up to 60 mm/sec (2.36 in/sec) can be used. Otherwise the recommended maximum speed is 5 mm/sec (0.19 in/sec), to allow the screwdrivers to be corrected before they are engaged.

If the system is being used only to change probes, the screwdriver blades will naturally be in the correct position, but if PEMs are being used the screwdriver blade position may need to be corrected. This can be achieved by a slow rack entry speed of less than 5 mm/sec (0.19 in/sec), or by a separate instruction before entering a change cycle.

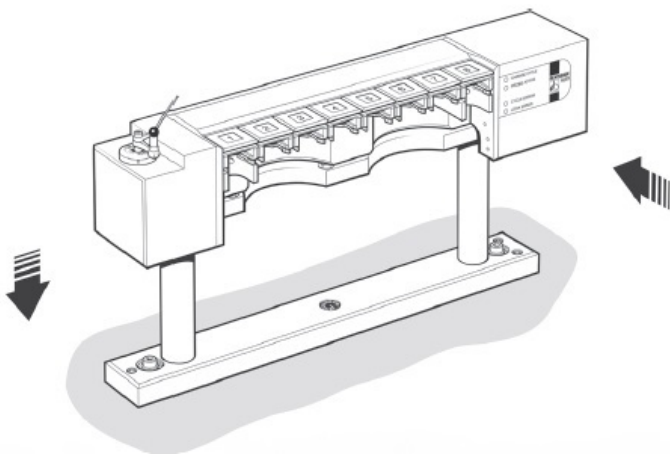
Overtravel

The ACR1 is restrained in the Y-axis but is free to move in the +X and -Z axes. There is a crash protection of 7 mm (0.27 in) in both axes. An opto switch tells the CMM to stop after 0.5 mm to 1.5 mm (0.019 in to 0.06 in) of overtravel. The remainder of the movement is for safety.

Tolerances

The CMM must position the head / autojoint to within $\pm 50 \mu\text{m}$ (0.002 in), in all three axes, of the true park position. The CMM quill/shank mounting face must be within 0.1° of the true position relative to the machine axes. This is achieved by the alignment procedure.

The ACR1 is pre-loaded to approximately 10 N (2.25 lbf) to ensure that it repeatably returns to its 'at rest' position. This means that the CMM must exert a force greater than 10 N (2.25 lbf) to overtravel the rack. When set for horizontal operation an additional 10 N (2.25 lbf) pre-load is added to compensate for the weight of the docked probes and extension bars.



Autochange system installation and programmer's guide

www.renishaw.com

Autochange software

Commands and responses

Code	As a command to ACC2-3	As a response from ACC2-3
A	Change cycle enable	Possible responses to rack status request
B	-	Possible responses to rack status request
C	Rack status request	Possible responses to rack status request
D	Datum mode select	Possible responses to rack status request
E	-	Possible responses to rack status request
F	-	Possible responses to rack status request
G	Mechanism lock / unlock	Lock / unlock complete
H	Probe inhibit (1)	-
I	Probe inhibit (2)	-
J	Probe enable	-
K	Reset	Datum mode 1
L	-	Datum mode 2
M	Change cycle disable	Change cycle disabled
N	-	Change cycle and probe disabled
O	-	-
P	-	Parked state
Q	-	Change cycle started
R	Self test	Rack disconnected
S	Autochange status request	Stand-alone mode probe enabled
T	-	Stand-alone mode disabled
U	-	-
V	Version request 1	-
W	Version request 2	-
X	-	Rack overtravelled
Y	Mechanism lock	Probe enabled
Z	Mechanism unlock	Probe disabled

Autochange system installation and programmer's guide

www.renishaw.com

Commands to ACC2-3

Command A: Change cycle enable

This command will re-enable the change cycle detect function following an M' command.

Command B

Not used.

Command C: Rack status request

This command requests the status of the ACR1. The response will be a string of four ASCII characters as shown below:

(l)	(ii)	CR	LF
-----	------	----	----

(i) and (ii) will be HEX code in ASCII format. The HEX codes will be determined as specified in the following table:

Hex codes:

Hex	Binary	Hex	Binary
0	0000	8	1000
1	0001	9	1001
2	0010	A	1010
3	0011	B	1011
4	0100	C	1100
5	0101	D	1101
6	0110	E	1110
7	0111	F	1111

(i) This command specifies the state of the infra-red beams, rack overtravel and rack connected flags in the following formats (high for significance).

Rack status flags:

Flag number	7	6	5	4
Meaning	Not over-travelled	Front beam made	Rear beam made	Rack connected

(ii) This command specifies the position of the motor-driven screwdrivers (high for significance).

Autochange system installation and programmer's guide

www.renishaw.com

Rack status flags:

Flag number	3	2	1	0
Meaning	Locked	Backed off	Intermediate	Unlocked

e.g. F4 = Rack ready, screwdrivers locked and backed off ready to receive a head and probe combination.


F1 = Rack ready, screwdrivers in unlocked position ready to receive an unloaded head

Command D: Datum mode (mode 6) select

This command causes the system to enter a datum mode as follows:

Datum mode 1 if a port lid is open

Datum mode 2 if all the port lids are all closed

 **NOTE:** When datum mode has been entered, the system will switch freely between mode 1 and mode 2 by operating the port lids.

Datum mode can be cancelled by:

- K - Reset command
- Operation of the front panel reset switch
- Operation of the external reset line

Command E


Not used.

Command F

Not used.

Command G: Mechanism lock / unlock

This command changes the lock state of the ACR1 during a change cycle. The procedure is specified in the change cycle mode (See section mode 3, see section 8.3).

 **NOTE:** This command is not available as stand-alone.

Autochange system installation and programmer's guide

www.renishaw.com

Command H: Inhibit touch probe interface (1)

This command inhibits the probe interface. When the internal (ACC2-3) probe interface is selected, this command forces the interface to indicate a seated probe irrespective of the state of the CMM probe.

When PICS operation is selected this command causes the ACC2-3 to assert PPOFF (probe power OFF) and to override any PDAMP (probe DAMPing) signal from the CMM. This in turn causes the PICS interface to force the probe seated state and allows automatic probe type selection.

This inhibited state can be cancelled by:

- J - Enable interface command
- K - Reset command
- Operation of front panel reset switch
- Operation of the external reset line

The only difference between an H command and an I command is the automatic cancelling of an I inhibit.

Command I: Inhibit touch probe interface (2)

This command inhibits the touch probe interface. When the internal (ACC2-3) probe interface is selected, this command forces the interface to indicate a seated probe irrespective of the state of the CMM probe.

When PICS operation is selected this command causes the ACC2-3 to assert PPOFF (probe power OFF) and to override any PDAMP (probe DAMPing) signal from the CMM, this in turn causes the PICS interface to force the probe seated state and allows the automatic probe type selection.

This inhibited state is cancelled by:

- Completion of a probe pick-up operation (automatically)
- J - Enable interface command
- K - Reset command
- Operation of front panel reset switch
- Operation of the external reset line

This inhibit procedure is automatically applied when a change cycle is started. The advantage of being able to apply it before a change cycle is that a very sensitive probe could be triggered when the autojoint contacts the port lid.

Command J: Enable probe interface

This command re-enables the internal touch probe interface following an H or I command. For PICS operation the PPOFF (probe power OFF) and probe DAMPing override signals are released.

Command K: Reset autochange

This command causes a software restart of the system.

Command L

Not used.

Autochange system installation and programmer's guide

www.renishaw.com

Command M: Change cycle disable

This command disables the change cycle detect function. Following this command the detection of a lid beam break will be ignored.

This condition will be reported with an MO or NO if the probe interface is disabled or PPOFF is applied. The status will remain as MO or NO until the change cycle detect function is re-enabled.

NOTE: In this condition only the following commands will be available:



- Front panel reset
- External reset
- A, C, H, I, J, K, M, S, V, and W commands

Change cycle is re-enabled by:

- A - Change cycle enabled command
- K - Reset command
- Operation of front panel reset switch
- Operation of the external reset line

Command N

Not used.

Command O

Not used.

Command P

Not used.

Command Q

Not used.

Autochange system installation and programmer's guide

www.renishaw.com

Command R: Self test request

This command initiates the following tests:

- Memory test
- Rack and controller LED test
- Mechanism test

and is completed by a software reset.

If an error or a reset request is detected during the LED test, the mechanism test will not be performed.

At the start of testing the following report will be transmitted:

MESSAGE 1 : SELF TEST IN PROGRESS

Following each test, the messages below will be transmitted:

MESSAGE 2 : MEMORY TEST COMPLETE

MESSAGE 3 : SELF TEST COMPLETE

The self test will be completed by a software reset routine which will report the current status of the unit.

Command S: System status

This command causes the ACC2-3 to send details of its present status. This command is available in all modes. The ACC2-3 automatically sends its status details when its status changes, but the S command allows the CMM to request status information when it requires it.

Command T

Not used.

Command U

Not used.

Command V: Version

This command causes the ACC2-3 to send its version number.

The format is as follows:

Bxx.yy	Where:	B denotes ACC2-3
		xx is the enhancement level number
		yy is the release level number

Autochange system installation and programmer's guide

www.renishaw.com

Command W: Extended version

This command causes the ACC2-3 to send its extended version number.

The format is as follows :

Line 1 - (C) Renishaw Metrology Year

Line 2 - Part No. Date

This message may be modified or extended to include additional information. The 'W' command must not be used within a standard operational programme.

Command X

Not used.

Command Y: Mechanism lock

This command instructs the ACR1 to move the screwdriver blades to the lock position. The main use of the Y command is to correct the screwdriver blade position when loading or unloading autojoint extension bars.

Command Z: Mechanism unlock

This command instructs the ACR1 to move the screwdriver blades to the unlocked position. The main uses of the Z code are the correction of the screwdriver blade position when loading or unloading autojoint extension bars, and setting the screwdriver blades for easy loading of probes into the ACR1 (this is best carried out in the unlocked position).

Autochange system installation and programmer's guide

www.renishaw.com

Responses from ACC2-3

Responses from the ACC2-3 fall into three categories:

- Normal status messages
- Error state messages
- Rack status messages

These responses are automatically transmitted when the system status has changed (e.g. at the start of a change cycle, after an instruction from the CMM has been implemented). The current system status can also be requested using the S command.

Normal status messages:

Status	Message
Datum mode 1	K0
Datum mode 2	L0
Change cycle started	Q0
Parked state	P0
Cycle lock / unlock complete	G0
Change cycle disabled	M0
Change cycle and probe disabled	N0
CMM control probe enabled	Y0
CMM control probe disabled	Z0
Stand-alone mode probe enabled	S0
Stand-alone probe disabled	T0

For a detailed explanation of these messages see 'Operating modes'.



NOTE: The 0 after the first character indicates no errors.

Autochange system installation and programmer's guide

www.renishaw.com

Error status messages:

These are automatically transmitted when an error is detected. As the system remains in error mode until a reset is received, the reply to a subsequent S command is the error state.

State	Message
Lock mechanism error	Q1
Lid time-out error	Q3
G message not received	Q4
Command not acceptable	Y5 *
Excessive entry speed	Q6
Invalid command	Y7 *
Rack overtravel	X8
Rack not connected	R9
Lock operation aborted	YA *
Change cycle operation aborted	YB *

The first character is the state in which the error occurred, the second character is the error code.

° These errors do not cause the system to remain in error mode, they are reported and the system returns to the previous mode.

* These error messages can have a different status byte (eg Q5, ZB).

Rack status messages:

These status messages are only transmitted in response to a C command. They detail the functional status of the ACR1.

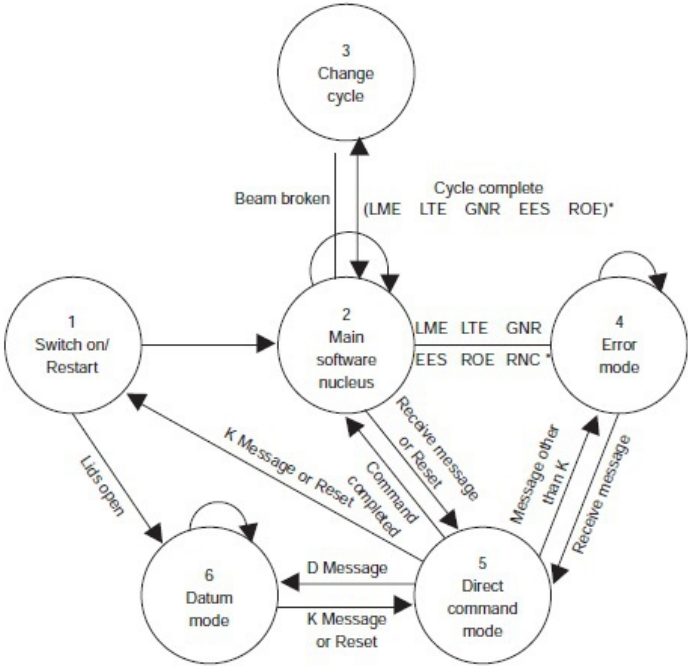
Operating modes

The software structure of the six operating modes is shown in the following figure. Full details of each mode are given in the 'Operating modes' section.

Mode 1	Switch on / restart
Mode 2	Main software nucleus
Mode 3	Change cycle
Mode 4	Error mode
Mode 5	Direct command mode
Mode 6	Datum mode

Autochange system installation and programmer's guide

www.renishaw.com



*	LME	Lock mechanism error
	LTE	Lid timeout error
	GNR	G (Go) not received
	EES	Excessive entry speed
	ROE	Rack overtravel error
	RNC	Rack not connected

Autochange system installation and programmer's guide

www.renishaw.com

Operating modes

Mode 1 - Switch on / restart mode

When the ACC2-3 is switched on the start up sequence is as follows:

1. A one-second delay while the power supply rails stabilise. During this time the STOP signal is applied.
2. After STOP is released the internal interface will be inhibited.
3. The configuration switches on the back panel will be read and the necessary internal setups made.
4. The rack connection is tested.
5. The port lids will be checked and if an open lid is detected and datum mode is selected.
6. Dependent on the result of step 5, either mode 2 or mode 6 will be entered.

When a K reset command, reset switch or external reset is applied, the sequence is the same except that it starts from step 2.

Mode 1 is a transitional state.

Mode 2 - Main software nucleus mode

This is the normal operating mode of the software.

In mode 2 the ACC2-3 can accept input in the form of a direct command, an error signal, or a port lid movement.

Depending on the type of input, the appropriate operating mode is selected: direct command (mode 5), error (mode 4) or change cycle (mode 3)).

Mode 3 - Change cycle mode

Change cycle (mode 3) is entered from mode 2 whenever a rack infra-red beam is broken. Depending upon which beam is broken first, the ACC2-3 decides whether to perform a pick-up or put-down.

The sequence of operation is as follows (error conditions are given in italics):

1. ACC2-3 waits for a beam to be broken.
2. An infra-red beam is detected.
Q (CR)(LF) is sent indicating that the first beam has been broken
ACC2-3 decides whether to pick up or put down

3. The infra-red beam detection is debounced.

Q6 Excessive Entry Speed

Cycle Error LED is ON

Entry speeds greater than 60 mm/sec (2.36 in/sec) are not permissible

Autochange system installation and programmer's guide

www.renishaw.com

4. Within 100 µs of the first beam being broken

Touch probe is inhibited (conventional) PPOFF and PDAMP override applied (PICS)

Change cycle LED is ON

Probe Active LED is OFF

5. Depending upon screwdriver position, ACC2-3 decides whether it is necessary to move the screwdriver to mate with the incoming head

Motor reverse takes 0.95 seconds maximum, and the quill has 11.9 mm (0.46 in) left to travel. Entry speed must be restricted to 5 mm/sec (0.196 in/sec) if reversal is necessary.

If the operator is confident that the screwdriver will ALWAYS be in the correct position, the entry speed can be as high as 60 mm/sec (2.36 in/sec), provided the touch probe does not trigger when its body contacts the lid.

6. Both beams are broken within 10 seconds

Q3 Lid Time-out

Cycle Error LED is ON

Both beams not broken within 10 seconds

7. ACC2-3 sends P0(CR)(LF) indicating that the probe is parked and the screwdriver is in the correct position

8. ACC2-3 waits for a G message or starts the preset time delay for stand-alone operation. Its internal status is P0.

Q4 G Not Received Error

Cycle Error LED is ON

The 'G' was not received within 10 seconds

9. G is received or time delay complete

10. Lock / unlock is performed within 3.25 seconds

Q1 Lock Mechanism Error

Lock Error LED is ON

Mechanism is not in the required position. The ACC2-3 has assumed that the mechanism is jammed and aborts the move.

11. G0 is sent indicating that lock / unlock has been successfully completed

12. Both beams are made within 10 seconds

Q3 Lid Time-out Error

Cycle Error LED is ON

Both beams not made within 10 seconds

Autochange system installation and programmer's guide

www.renishaw.com

13a. If a successful pick-up was performed:

Touch probe is enabled after a 1.5 second delay (conventional) PPOFF and PDAMP override released (PICS)

Probe Active LED is ON (conventional)

Sends Y0

13b. If a successful put-down was performed:

Touch probe left disabled (conventional) PPOFF and PDAMP override applied (PICS)

All rack LEDs are OFF

Sends Z0

14. Software return to main software nucleus (mode 2)

Additional errors

a) If ACR1 overtravel is detected at a time during this procedure the change cycle is abandoned and error mode (mode 4) is entered.

b) If a stop command is applied (from another unit) during a change cycle, then the cycle will be aborted. If this happens during a blade move, the blades will return to the unlocked position before error mode (mode 4) is entered.

Mode 4 - Error mode

This mode is entered if:

- an error occurs in the change cycle
- the system is switched on without the rack being connected
- an overtravel error occurs
- an invalid command is received
- a command is received while the system is busy
- an external STOP is received

Autochange system installation and programmer's guide

www.renishaw.com

Error mode messages

Error messages sent are as follows:

Error	Abbreviation	Message
Lock mechanism error	(LME)	Q1 (CR) (LF)
Lid time-out error	(LTE)	Q3 (CR) (LF)
G message not received	(GNR)	Q4 (CR) (LF)
Command not accepted	(CNA)	Y5 (CR) (LF) *
Excessive entry speed	(EES)	Q6 (CR) (LF)
Invalid command	(INC)	Y7 (CR) (LF) *
Rack overtravel error	(ROE)	X8 (CR) (LF)
Rack not connected	(RNC)	R9 (CR) (LF)
Lock operation aborted	(LOA)	YA (CR) (LF) *
Change cycle aborted	(CCA)	YB (CR) (LF) *

* The first character of these messages indicates the state of the system before the error occurred. Other responses are possible such as Q5, ZB etc.

In the case of CNA (Command Not Accepted) or INC (Invalid Command), the appropriate reply –5 or –7 is given, and the system returns to what it was doing.

In the case of LCA (Lock Cycle Aborted) the screwdriver blades will be returned to unlocked positions its status reported –0 and the system returns to the main software nucleus (mode 2).

The CNA reply is given in response to a valid command, received when the system is performing another task (ie the system is busy). The INC response is given in reply to a command that is not recognised by the system.

For all remaining errors the following actions occur:

- Rack motor is stopped
- Change cycle disabled
- Datum mode (mode 6) disabled
- Touch probe overridden to look like open probe (conventional) stop applied (PICS)

To recover from an error:

1. Remove the problem.
2. Ensure ACR1 is not overtravelled.
3. Move the quill from the ACR1.
4. Ensure no lids are open.
5. Press RESET button / apply external reset 'Direct command mode' (mode 5) can be entered on receipt of a CMM message. However, unless this is a K message, error mode (mode 4) will be re-entered after processing this command.

Autochange system installation and programmer's guide

www.renishaw.com

LED errors

The type of error is also visually displayed using the ACC2-3 and ACR1 LEDs as shown in the following table:

	LED	LME	LTE	GNR	EES	ROE	RNC	CCA	RS232 CTS timeout	RS232 CTS timeout (in datum mode 1)	RS232 CTS timeout (in datum mode 2)
Error code		‡1	‡3	‡4	‡6	‡8	R9	‡B			
ACR1	Change cycle	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	●	⊖
ACR1	Probe active	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖ or ●	●	⊖
ACR1	Cycle error	⊖	●	●	●	●	⊖	●	⊖	⊖	●
ACR1	Lock error	●	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	●
ACC2-3	Rack ready	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖ or ●	⊖ or ●	⊖ or ●
ACC2-3	Rack active	⊖	⊖	●*	●*	⊖	⊖	⊖	⊖ or ●	⊖ or ●	⊖ or ●
ACC2-3	Lock error	●	⊖	⊖	⊖	⊖	●	⊖	⊖	⊖	⊖
ACC2-3	Overtravel error	⊖	⊖	⊖	●	●	●	⊖	⊖	⊖	⊖
ACC2-3	Stop	●	●	●	●	●	●	●	●	●	●

* These LEDs are ON so that a unique display is given for each error.

‡ Present mode or status (G, P, etc.)

There is no display for CNA, INC or LOA because these errors do not cause the unit to stay in error mode.

During error mode only the following commands are available:

- Front panel reset
- External reset
- C, H, J, K, R, S, V, W, Y, and Z commands

Autochange system installation and programmer's guide

www.renishaw.com

Mode 5 - Direct command mode

There are 15 commands which the CMM can send to directly command system actions.

The ACC2-3 can receive commands and reply to them while it is in any operating mode except switch on / restart (mode 1). When the command has been processed, the ACC2-3 returns to the mode it was in before the command was received unless that command was a K, in which case a restart is performed.

Mode 5 is a transitional state.

There are two main operating modes of the system: main software nucleus mode (mode 2) and datum mode (mode 6).

Mode 6 - Datum mode

Datum mode is used for the alignment and datuming of the ACR1. It is necessary because the datum probe must be active for part of the procedure and the port lids must be held open without causing the Change cycle to start. Neither of these actions is allowable in mode 2.

Datum mode can be selected and de-selected in two ways:

- By using the direct commands D (select datum mode) and K (reset)
- Manually by pressing the RESET switch (or applying the external reset) while a port lid is held open, or closed to reset

Datum mode is subdivided into datum mode 1 and datum mode 2.

Datum mode 1 is selected by opening any or all of the port lids while the system is in datum mode. In datum mode 1 the CMM probe is active and the change cycle inhibited, this allows the port positions to be probed.

Datum mode 2 is selected when all the port lids are closed and while the system is in datum mode. In datum mode 2 the datum probe is enabled and the CMM probe disabled, this allows the probe head autojoint to be aligned and its position to be determined.

The system status characters are:

K0 (CR) (LF) for datum mode 1













L0 (CR) (LF) for datum mode 2

Autochange system installation and programmer's guide

www.renishaw.com

System status

The system status can also be determined from the LEDs on the ACC2-3 and the ACR1 (see following table):

LED	Datum mode 1	Datum mode 2
Change cycle		
Probe active		
Cycle error		
Lock error		
Rack ready		
Rack active		

Autochange system installation and programmer's guide

www.renishaw.com

Useful information

The following information is supplied elsewhere in this user's guide but is repeated here as a quick reference aid. Each section is headed by the appropriate section number indicating where the original information can be found.

Commands and responses

Code	As a command to ACC2-3	As a response from ACC2-3
A	Change cycle enable	Possible responses to rack status request
B	-	Possible responses to rack status request
C	Rack status request	Possible responses to rack status request
D	Datum mode select	Possible responses to rack status request
E	-	Possible responses to rack status request
F	-	Possible responses to rack status request
G	Mechanism lock / unlock	Lock / unlock complete
H	Probe inhibit (1)	-
I	Probe inhibit (2)	-
J	Probe enable	-
K	Reset	Datum mode 1
L	-	Datum mode 2
M	Change cycle disable	Change cycle disabled
N	-	Change cycle and probe disabled
O	-	-
P	-	Parked state
Q	-	Change cycle started
R	Self test	Rack disconnected
S	Autochange status request	Stand-alone mode probe enabled
T	-	Stand-alone mode disabled
U	-	-
V	Version request 1	-
W	Version request 2	-
X	-	Rack overtravelled
Y	Mechanism lock	Probe enabled
Z	Mechanism unlock	Probe disabled

Autochange system installation and programmer's guide

www.renishaw.com

Command C: Rack status request

This command requests the status of the ACR1. The response will be a string of four ASCII characters as shown below:

(i)	(ii)	CR	LF
-----	------	----	----

(i) and (ii) will be HEX code in ASCII format.

Hex codes

Hex	Binary	Hex	Binary
0	0000	8	1000
1	0001	9	1001
2	0010	A	1010
3	0011	B	1011
4	0100	C	1100
5	0101	D	1101
6	0110	E	1110
7	0111	F	1111

(i) This command specifies the state of the infra-red beams, rack overtravel and rack connected flags in the following formats (high for significance).

Rack status flags

Flag number	7	6	5	4
Meaning	Not over-travelled	Front beam made	Rear beam made	Rack connected

(ii) This command specifies the position of the motor-driven screwdrivers (high for significance).

Rack status flags

Flag number	3	2	1	0
Meaning	Locked	Backed off	Intermediate	Unlocked

e.g.	F4 = Rack ready, screwdrivers locked and backed off ready to receive a head and probe combination.
	F1 = Rack ready, screwdrivers in unlocked position ready to receive an unloaded head.

Autochange system installation and programmer's guide

www.renishaw.com

Responses from ACC2-3

Normal status messages

Status	Message
Datum mode 1	K0
Datum mode 2	L0
Change cycle started	Q0
Parked state	P0
Cycle lock/unlock complete	G0
Change cycle disabled	M0
Change cycle and probe disabled	N0
CMM control probe enabled	Y0
CMM control probe disabled	Z0
Stand-alone mode probe enabled	S0
Stand-alone probe disabled	T0

Error status messages

State	Message
Lock mechanism error	Q1
Lid time-out error	Q3
G message not received	Q4
Command not acceptable	Y5 *
Excessive entry speed	Q6
Invalid command	Y7 *
Rack overtravel	X8
Rack not connected	R9
Lock operation aborted	YA *
Change cycle operation aborted	YB *

The first character is the state in which the error occurred, the second character is the error code.

° These errors do not cause the system to remain in error mode, they are reported and the system returns to the previous mode.

* These error messages can have a different status byte (eg Q5, ZB).

Autochange system installation and programmer's guide

www.renishaw.com

Mode 4 - Error mode

LED errors

	LED	LME	LTE	GNR	EES	ROE	RNC	CCA
Error code		-1	-3	-4	-6	-8	R9	-B
ACR1	Change cycle	⊖	⊖	⊖	⊖	⊖	⊖	⊖
ACR1	Probe active	⊖	⊖	⊖	⊖	⊖	⊖	⊖
ACR1	Cycle error	⊖	●	●	●	●	⊖	●
ACR1	Lock error	●	⊖	⊖	⊖	⊖	⊖	⊖
ACC2-3	Rack ready	⊖	⊖	⊖	⊖	⊖	⊖	⊖
ACC2-3	Rack active	⊖	⊖	●*	●*	⊖	⊖	⊖
ACC2-3	Lock error	●	⊖	⊖	⊖	⊖	●	⊖
ACC2-3	Overtravel error	⊖	⊖	⊖	●	●	●	⊖
ACC2-3	Stop	●	●	●	●	●	●	●













* These LEDs are ON so that a unique display is given for each error.

— Present mode or status.

Autochange system installation and programmer's guide

www.renishaw.com

System status

LED	Datum mode 1	Datum mode 2
Change cycle		
Probe active		
Cycle error		
Lock error		
Rack ready		
Rack active		

Autochange system installation and programmer's guide

www.renishaw.com

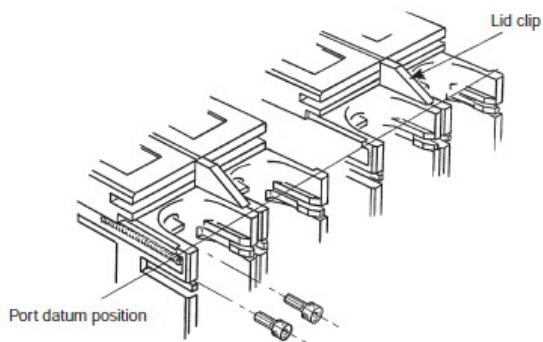
ACR1 port replace



CAUTION: Disconnect power from the ACR1 before replacing ports.

Port replacement is carried out using the following procedure:

1. Remove the two M3 × 6 mm securing screws as shown in the figure below, and remove the port(s) to be replaced.



NOTE: On some racks the ports may have four holes however only two will be used.

2. Loosen the securing screws on the remaining ports in preparation for final alignment.
3. Position the replacement port(s) onto the rack and loosely screw in place. It is very important that the ports are correctly aligned.
4. Wedge open all the port lids using the lid clips supplied with the ACR1.
5. Place a rigid straight edge along the port datum position as shown in the figure above and tighten all securing screws to 0.6 Nm / 0.7 Nm.
6. Remove straight edge and lid clips.
7. Check that the run-out across individual ports does not exceed 100 µm.
8. Re-datum the rack.

ACR1 maintenance

Cleaning

Clean the ACR1 and ACC2-3 with a dry cloth. The units are not sealed against water.

Autochange system installation and programmer's guide

www.renishaw.com

Abbreviations

ACC2-3	Autochange controller
ACR1	Autochange rack
CCA	Change cycle aborted (error condition)
CMM	Coordinate measuring machine
CNA	Command not accepted (error report)
CR	Carriage return (communication instruction)
CTS	Clear to send (RS232 communication instruction)
DIL	Dual-in-line (common abbreviation for small configuration switch)
DTR	Data terminal ready (RS232 communication instruction)
EES	Excessive entry speed (error condition)
GNR	G instruction not received (error condition)
INC	Incorrect command (error condition)
LED OFF	Light emitting diode off (PICS signal)
LF	Line feed (communication instruction)
LME	Lock mechanism error (error condition)
LOA	Lock operation aborted (error condition)
LTE	Lid time-out error (error condition)
MMC	Measuring machine controller
PAA	Probe adaptor autochange
PDAMP	Probe DAMPped (PICS instruction)
PEM	Probe extension multiwire
PI 7-3	Probe interface (for TP7 probe)
PI 200-3	Probe interface (for TP200 probe)
PICS	Product interconnection system
PPOFF	Probe power off (PICS instruction)
RNC	Rack not connected (error condition)
ROE	Rack overtravel error (error condition)
RTS	Request to send (RS232 communication instruction)
Rx	Received data (RS232 communication instruction)
Stand-alone mode	A mode of operation of the ACC2-3 in which no communications are required
STOP	Stop (PICS signal)
SYNC	Synchronisation (PICS signal)
Tx	Transmitted data (RS232 communication signal)

Appendix 1 - ACR1 international safety recommendations

Autochange system installation and programmer's guide

www.renishaw.com

BG - Безопасност

Ако оборудването се използва по начин, който не е указан от производителя, това може да се отрази неблагоприятно на осигуряваната от оборудването защита. В оборудването няма части, подлежащи на сервизно обслужване от страна на потребителя.

Контролерът за глава ACC2-3 трябва да се използва с предоставеното захранващо устройство - XP POWER VEC40US24. Вижте информационния лист на производителя на адрес www.xppower.com.

Електрически номинални данни за захранващото устройство	
Захранващо напрежение	90 V - 246 V AC
Честотен диапазон	47 Hz до 63 Hz
Консумирана мощност	45 W макс.
Преходни напрежения	Клас II

ACC2-3 се изключва от променливотоковото захранване чрез отключване на захранващия IEC съединител от предоставеното захранващо устройство. Ако се изисква допълнително средство за изолиране, то трябва да бъде указано и монтирано от производителя на машината или монтажника на продукта. Изолаторът (устройството за изключване) трябва да е разположен така, че операторът да има лесен достъп до него, и да отговаря на всички нормативни разпоредби за опроводяване, приложими за страната на монтажа.

Autochange system installation and programmer's guide

www.renishaw.com

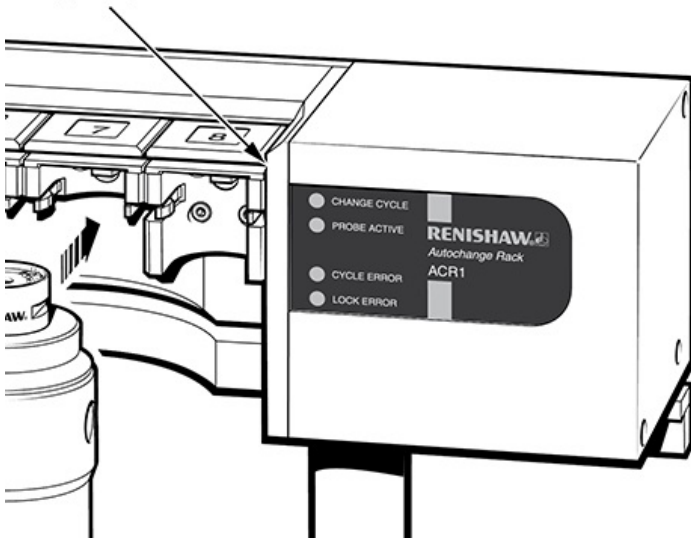
Излъчване на инфрачервена светлина

LED ПРОДУКТ КЛАС 1



ВНИМАНИЕ: Този продукт използва инфрачервени сензорни лъчи. Оста в предната част на инфрачервения лъч е разположена в съответствие с прорезите в предната част на портовите капаци. Макар че прякото наблюдение на лъча е безопасно, на потребителя се препоръчва да избягва положение, при което окото е успоредно с оста на лъча или близо до LED източника, разположен от дясната страна на капака на порт 8.

Инфрачервен светлинен лъч



Autochange system installation and programmer's guide

www.renishaw.com

Предупреждения

Съществуват рискове от притискане между движещи се части и между движещи се и неподвижни части. а не се държи главата на пробника по време на движения, или при ръчна смяна на пробника.

Пазете се от неочаквано движение. Потребителят трябва да остава извън пълния работен обсег на комбинациите глава на пробника / удължител / пробник.

Работете със и изхвърляйте батериите в съответствие с препоръките на производителя. Използвайте само препоръчаните батерии. Не позволявайте на батериите да допират други метални части.

Препоръчва се защита на очите във всички приложения, включващи използване на машини или СММ.

В приборите Renishaw с мрежово захранване няма части, които да се обслужват от потребителя. Дефектиралите прибори да се връщат в сервизния център за обслужване на клиенти на Renishaw.

Заменяйте изгорелите предпазители с нови от същия тип. Вж. раздел БЕЗОПАСНОСТ в съответната документация за продукта.

За инструкции по отношение безопасното почистване на продуктите Renishaw вж. раздел „Поддръжка“ в съответната документация на продукта.

Преди извършване на всякакви операции по поддръжката да се изключва захранването.

Вж. инструкциите за работа на доставчика на машината.

Отговорност на доставчика на машината е да гарантира, че на потребителя са обяснени всякакви рискове по време на работа, включително онези, упоменати в продуктовата документация на Renishaw, и да гарантира осигуряване на съответни предпазители и обезопасителни блокировки.

При определени обстоятелства сигналът от пробника може да посочва фалшиво състояние на опрян пробник. Да не се разчита на сигналите от пробника за спиране движението на машината.

АСС2-3 се изолира от променливотоковото захранване с помощта на превключвател на задния панел. Ако се изисква допълнително средство за изолация, то трябва да бъде посочено и монтирано от производителя на машината или монтажника на продукта.

Изолаторът трябва да е разположен с лесен достъп до него от оператора на СММ и да отговаря на IEC61010 и всяка приложима нормативна уредба за опроводяване в страната на монтажа.

Autochange system installation and programmer's guide

www.renishaw.com

CS - Bezpečnost

Pokud je zařízení používáno způsobem, který není specifikován výrobcem, může dojít ke snížení ochrany poskytované zařízením. Uvnitř zařízení nejsou žádné části, jejichž servis by mohl provádět uživatel.

Řídicí jednotka hlavy ACC2-3 se musí používat s napájecím zdrojem XP POWER VEC40US24. Viz datový list výrobce na adrese www.xppower.com.

Elektrotechnické hodnoty napájecího zdroje	
Napájecí napětí	90 V – 246 V AC
Frekvenční rozsah	47 Hz až 63 Hz
Příkon	max. 45 W
Přechodná napětí	Třída II

Zařízení ACC2-3 se odpojuje od střídavého napětí odpojením IEC síťového konektoru na dodaném napájecím zdroji. Je-li zapotřebí další prostředek pro odpojení, musí být specifikován a instalován výrobcem stroje nebo tím, kdo produkt instaluje. Rozpojovač / odpojovací zařízení musí být umístěno ve snadném dosahu obsluhy a musí splňovat všechny příslušné státní předpisy pro zapojení platné v zemi instalace.

Vyzařování infračerveného světla

VÝROBEK LED 1. TŘÍDY



UPOZORNĚNÍ: Tento výrobek používá infračervené snímací paprsky. Osa v přední části infračerveného světelného paprsku leží v rovině s otvory v přední části víka portu. I když je přímý pohled do paprsku bezpečný, uživatelům se doporučuje vyhnout se pohledu do osy paprsku nebo v blízkosti zdroje LED v pravé části víka s 8 porty.

Infračervený světelný paprsek



Autochange system installation and programmer's guide

www.renishaw.com

Upozornění

Mezi pohyblivými součástmi a mezi pohyblivými a statickými součástmi hrozí nebezpečí přiskřípnutí. Při přesunování nebo ručním nastavování nedržte snímací hlavici.

Dejte pozor na nečekaný pohyb stroje. Uživatel by se měl zdržovat mimo pracovní rozsah stroje, zejména mimo místa pohybu snímací hlavy, prodloužení (nástavce) a sondy.

Při manipulaci s bateriemi a při jejich likvidaci dodržujte doporučení výrobce. Používejte pouze doporučené baterie. Zabraňte kontaktu vývodů baterie s jinými kovovými předměty.

Při jakékoli práci s obráběcími stroji nebo souřadnicovými měřicími stroji (CMM) je doporučeno používat ochranu očí.

Sítově napájené produkty Renishaw neobsahují žádné části opravitelné uživatelem. Vadné jednotky zašlete do centra autorizovaného servisu společnosti Renishaw.

Spálené pojistky nahradte novými pojistkami stejného typu. Příslušnou dokumentaci k produktu naleznete v části BEZPEČNOSTNÍ OPATŘENÍ.

Pokyny týkající se bezpečného čištění produktů společnosti Renishaw naleznete v části Údržba v dokumentaci k příslušnému produktu.

Před započítím jakékoliv údržby zařízení odpojte napájení.

Přečtěte si provozní pokyny dodavatele příslušného stroje.

Povinností dodavatele stroje je informovat uživatele o nebezpečích spojených s provozem i o nebezpečích zmiňovaných v dokumentaci k produktům společnosti Renishaw a zajistit dostatečné ochranné a bezpečnostní systémy.

Za určitých okolností může signál sondy nesprávně označovat klidový stav sondy. Nevyužívejte signály sondy jako hlavní impuls pro zastavování stroje.

Zařízení ACC2-3 se odpojuje od napájení střídavým napětím pomocí síťového vypínače na zadním panelu. Další požadované prostředky pro odpojení přívodu musí specifikovat a připojovat výrobce zařízení nebo ten, kdo zařízení instaluje. Odpojovací prvek musí být umístěn ve snadném dosahu obsluhy souřadnicového měřicího stroje a splňovat normu IEC61010 a všechny příslušné státní předpisy pro zapojení platné v zemi instalace.

Autochange system installation and programmer's guide

www.renishaw.com

DA - Sikkerhed

Hvis udstyret anvendes på en måde, som ikke er specificeret af producenten, kan udstyrets beskyttelse blive påvirket. Der er ingen dele inde i udstyret, der kan efterses eller repareres af brugeren.

ACC2-3 hovedstyringen skal anvendes sammen med den leverede PSU - XP POWER VEC40US24. Se producentens dataark på www.xppower.com.

PSU elektrisk effekt	
Forsyningsspænding	90 V - 246 V vekselstrøm
Frekvensområde	47 Hz til 63 Hz
Effektforbrug	45 W maks.
Transiente spændinger	Klasse II

Vekselstrømsforsyningen til ACC2-3 afbrydes ved frakobling af IEC strømforsyningsstikket fra den leverede PSU. Hvis der kræves yderligere måder at afbryde strømforsyningen på, skal de være specificeret og monteret af maskinproducenten eller installatøren af produktet. Afbryderen/frakoblingsenheden skal være placeret, så operatøren nemt kan nå den, og den skal overholde alle relevante nationale regulativer for ledningsføring i det land, hvor installationen foretages.

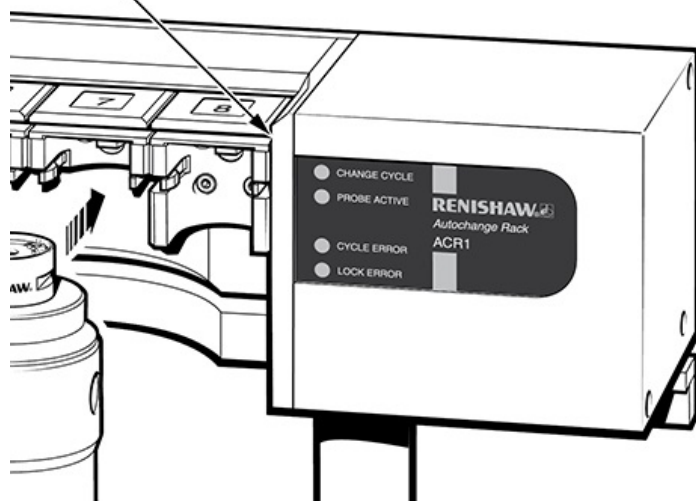
Infrarøde lysstråler

KLASSE 1 LED-PRODUKT



FORSIGTIG! Dette produkt bruger infrarøde følestråler. Aksen foran den infrarøde lysstråle er på linje med sprækken på forsiden af portlågene. Selvom det er sikkert at kikke direkte på strålen, anbefales brugeren ikke at sætte øjet på linje med stråleaksen eller tæt på LED-kilden der sidder i højre side af port 8-låget.

Infrarød lysstråle



Autochange system installation and programmer's guide

www.renishaw.com

Advarsler

Der er risiko for at blive klemt mellem bevægelige dele og mellem bevægelige og statiske dele. Hold ikke på sondehovedet under bevægelse eller ved manuelle sondeskift.

Pas på uventede bevægelser. Brugeren bør holde sig uden for hele probehovedets/forlængerens/probekombinationernes arbejdsområde.

Håndter og bortskaf batterier i henhold til producentens anbefalinger. Anvend kun de anbefalede batterier. Lad ikke batteriterminalerne komme i kontakt med andre genstande af metal.

I alle tilfælde, hvor der anvendes værktøjs- og koordinatmålemaskiner, anbefales det at bære beskyttelsesbriller.

Der er ingen dele inde i Renishawenhederne, som sluttes til lysnettet, der kan efterses eller repareres af brugeren. Send alle defekte enheder til Renishaws kundeservicecenter.

Udskift sikringer, der er sprunget, med nye komponenter af samme type. Se i afsnittet SIKKERHED (SAFETY) i produktdokumentationen.

Se afsnittet MAINTENANCE (VEDLIGEHOLDELSE) i produktdokumentationen for at få instruktioner til sikker rengøring af Renishawprodukter.

Afbryd strømforsyningen, før der foretages vedligeholdelse.

Se maskinleverandørens brugervejledning.

Det er maskinleverandørens ansvar at sikre, at brugeren er bekendt med eventuelle risici i forbindelse med driften, herunder de risici, som er nævnt i Renishaws produktdokumentation, og at sikre, at der er tilstrækkelig afskærmning af sikkerhedsblokeringer.

Under visse omstændigheder kan probesignalet ved en fejl angive, at proben står stille. Stol ikke på, at probesignaler vil stoppe maskinens bevægelse.

ACC2-3 kan afbrydes fra vekselstrømmen ved hjælp af hovedafbryderen på bagpanelet. Hvis der kræves yderligere måder at afbryde strømforsyningen på, skal de være specificeret og monteret af maskinproducenten eller installatøren af produktet. Afbryderen skal være placeret, så CMM-operatøren nemt kan nå den, og den skal overholde IEC61010 og eventuelle andre relevante nationale regulativer for ledningsføring i det land, hvor installationen foretages.

Autochange system installation and programmer's guide

www.renishaw.com

DE - Sicherheitshinweise

Wird das Gerät für einen nicht vom Hersteller spezifizierten Zweck benutzt, kann dies zu einer Beeinträchtigung des vom Gerät bereitgestellten Schutzes führen. Es befinden sich keine zu wartenden Bauteile im System.

Die Kopfsteuerung ACC2-3 ist für eine Verwendung mit der PSU - XP POWER VEC40US24 bestimmt. Siehe hierzu das Herstellerdatenblatt auf www.xppower.com.

Nennwerte des Netzteils	
Versorgungsspannung	90 V - 246 V AC
Frequenzbereich	47 Hz bis 63 Hz
Stromverbrauch	max. 45 W
Kurzzeitige Überspannungen	Klasse II

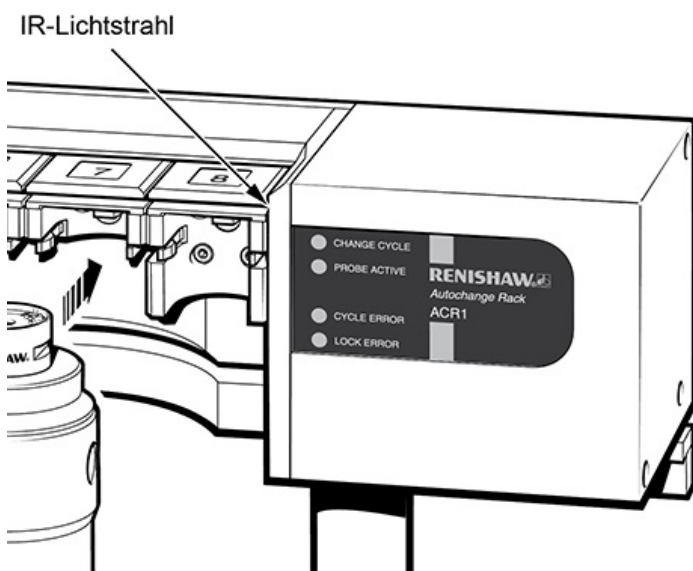
Die ACC2-3 wird über einen IEC-Netzstecker von der Spannungsversorgung des mitgelieferten Netzteils getrennt. Wird eine weitere Abschaltmöglichkeit benötigt, ist diese zu spezifizieren und vom Maschinenhersteller oder Installationstechniker für das Produkt einzubauen. Der Trennschalter / die Abschaltvorrichtung muss für den Bediener leicht erreichbar sein und allen einschlägigen nationalen Verdrahtungsvorschriften im Installationsland erfüllen.

Emission von Infrarotlicht

LED-PRODUKT DER KLASSE 1



ACHTUNG: Dieses Produkt setzt Infrarotstrahlen ein. Die Position der Achse vor dem IR-Strahl entspricht den Schlitzen in der Vorderseite der Anschlussabdeckungen. Obwohl ein Direktblick auf den Strahl ungefährlich ist, raten wir Anwendern, nicht direkt auf die Strahlachse oder in die Nähe der LED-Quelle rechts neben der Abdeckung von Anschluss 8 zu blicken.



Autochange system installation and programmer's guide

www.renishaw.com

Warnhinweise

Zwischen zwei beweglichen und zwischen beweglichen und statischen Teilen besteht Einklemmgefahr. Der Messtasterkopf darf während des Betriebs oder eines manuellen Messtasterwechsels nicht festgehalten werden.

Auf unerwartete Bewegungen achten. Der Anwender darf sich nur außerhalb des Messtaster-Arbeitsbereichs aufhalten.

Batterien gemäß den Anleitungen des Herstellers verwenden und entsorgen. Nur die empfohlenen Batterien verwenden. Die Batterieklemmen nicht in Kontakt mit metallischen Gegenständen bringen.

Bei Arbeiten an Koordinatenmessgeräten und Werkzeugmaschinen wird ein Augenschutz empfohlen.

In mit Netzstrom versorgten Systemen von Renishaw befinden sich keine zu wartenden Bauteile. Senden Sie defekte Geräte an Ihren Renishaw Kundendienst zurück.

Durchgebrannte Sicherungen dürfen nur mit gleichwertigen ersetzt werden. Beachten Sie den Abschnitt SICHERHEIT der zugehörigen Produktdokumentation.

Anleitungen zur sicheren Reinigung von Renishaw Produkten sind im Kapitel WARTUNG in der Produktdokumentation enthalten.

Bevor Wartungsarbeiten begonnen werden, muss die Stromversorgung getrennt werden.

Beachten Sie die Bedienungsanleitungen des Maschinenherstellers.

Es obliegt dem Maschinenlieferanten, den Anwender über alle Gefahren, die sich aus dem Betrieb der Ausrüstung, einschließlich der, die in der Renishaw Produktdokumentation erwähnt sind, zu unterrichten und sicherzustellen, dass ausreichende Schutzvorrichtungen und Sicherheitsverriegelungen eingebaut sind.

Es kann passieren, dass der Messtaster fälschlicherweise eine Ruhestellung des Messtasters signalisiert. Verlassen Sie sich nicht alleine auf das Messtastersignal, um Maschinenbewegungen zu stoppen.

ACC2-3 wird über den Netzschalter an der Rückplatte von der Stromversorgung getrennt. Wird eine weitere Abschaltmöglichkeit benötigt, ist diese zu spezifizieren und vom Maschinenhersteller oder Installationstechniker für das Produkt einzubauen. Der Trennschalter muss für den CMM-Bediener leicht erreichbar sein und IEC61010-Bestimmungen, wie auch alle anderen gültigen nationalen Verdrahtungsvorschriften im Installationsland erfüllen.

Autochange system installation and programmer's guide

www.renishaw.com

ΕΛ - Ασφάλεια

Εάν ο εξοπλισμός χρησιμοποιείται με τρόπο μη προδιαγεγραμμένο από τον κατασκευαστή, η παρεχόμενη προστασία του εξοπλισμού πιθανώς να παρεμποδίζεται. Στο εσωτερικό του εξοπλισμού δεν υπάρχουν εξαρτήματα που μπορούν να επισκευαστούν από το χρήστη.

Ο ελεγκτής κεφαλής ACC2-3 πρέπει να χρησιμοποιείται με το παρεχόμενο PSU - XP POWER VEC40US24. Δείτε το φυλλάδιο δεδομένων του κατασκευαστή στην ιστοσελίδα www.xppower.com.

Κατηγορίες ηλεκτρικών PSU	
Τάση παροχής	90 V - 246 Vac
Εύρος συχνότητας	47 Hz έως 63 Hz
Κατανάλωση ισχύος	45 W μέγ
Μεταβατικές τάσεις	Κατηγορία II

Το ACC2-3 απομονώνεται από την ισχύ εναλλασσόμενου ρεύματος μέσω αποσύνδεσης της υποδοχής ηλεκτρικού ρεύματος IEC από το παρεχόμενο PSU. Εάν απαιτούνται οποιαδήποτε συμπληρωματικά μέσα απομόνωσης, πρέπει αυτά να καθοριστούν και να τοποθετηθούν από τον κατασκευαστή της μηχανής ή από τον εγκαταστάτη του προϊόντος. Ο απομονωτής / η συσκευή αποσύνδεσης πρέπει να βρίσκονται σε σημείο εύκολα προσβάσιμο από το χειριστή και να συμμορφώνονται με οποιουδήποτε εφαρμοζόμενους εθνικούς κανονισμούς καλωδιώσεων για τη χώρα εγκατάστασης.

Autochange system installation and programmer's guide

www.renishaw.com

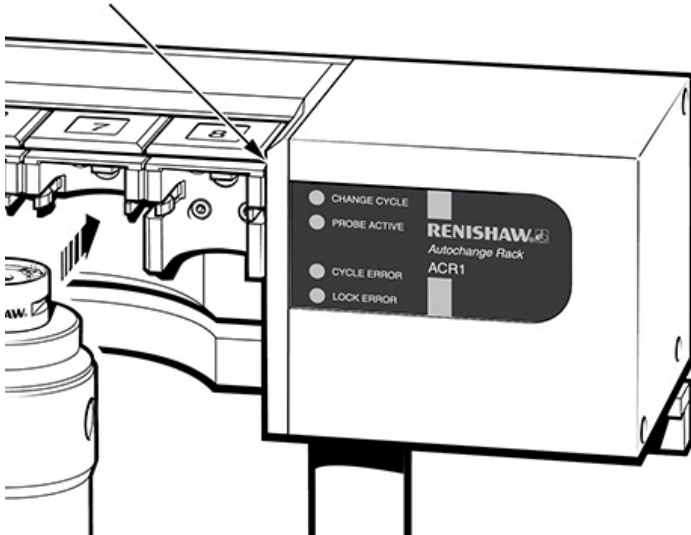
Εκπομπή υπερύθρου φωτός

ΠΡΟΙΟΝ ΤΑΞΗΣ 1 ΜΕ ΦΩΤΟΔΙΟΔΟΥΣ LED



ΠΡΟΣΟΧΗ: Το προϊόν αυτό χρησιμοποιεί δέσμες ανίχνευσης υπερύθρου φωτός. Ο άξονας στο μπροστινό μέρος της δέσμης υπερύθρου φωτός είναι ευθυγραμμισμένος με τις υποδοχές στα μπροστινά μέρη των καλυμμάτων των θυρών. Αν και η απευθείας θέαση της δέσμης είναι ασφαλής, ο χρήστης ενημερώνεται να αποφεύγει να κοιτάζει σε ευθυγράμμιση με τον άξονα της δέσμης ή κοντά στην πηγή LED που βρίσκεται στη δεξιά πλευρά του καλύμματος της θύρας 8.

Δέσμη υπερύθρου φωτός



Autochange system installation and programmer's guide

www.renishaw.com

Προειδοποιήσεις

Υπάρχει κίνδυνος συμπίεσης μεταξύ κινούμενων μερών καθώς και μεταξύ κινούμενων και στατικών μερών. Δεν πρέπει να κρατάτε την κεφαλή του ανιχνευτή κατά την κίνηση ούτε κατά τη διάρκεια χειροκίνητων αλλαγών του ανιχνευτή.

Προσέξτε τις ξαφνικές κινήσεις. Ο χρήστης πρέπει να παραμένει εκτός του χώρου που επηρεάζεται από όλους τους συνδυασμούς λειτουργίας της κεφαλής του αισθητήρα, της προέκτασης και του αισθητήρα.

Να χρησιμοποιείτε και να διαθέτετε τις μπαταρίες σύμφωνα με τις συστάσεις του κατασκευαστή. Να χρησιμοποιείτε μόνο τις προτεινόμενες μπαταρίες. Μην αφήσετε να έλθουν σε επαφή οι πόλοι της μπαταρίας με άλλα μεταλλικά αντικείμενα.

Σε όλες τις εφαρμογές που συνεπάγονται τη χρήση εργαλείων μηχανημάτων και εξαρτημάτων CMM, συνιστάται η χρήση συσκευής προστασίας των ματιών.

Στο εσωτερικό μονάδων της Renishaw που συνδέονται με το κεντρικό ηλεκτρικό ρεύμα δεν υπάρχουν εξαρτήματα που μπορούν να επισκευαστούν από το χρήστη. Επιστρέψτε τις ελαττωματικές μονάδες σε εξουσιοδοτημένο κέντρο εξυπηρέτησης πελατών της Renishaw.

Αντικαταστήστε τις καμένες ασφάλειες με νέες ασφάλειες του ίδιου τύπου. Ανατρέξτε στο κεφάλαιο ΑΣΦΑΛΕΙΑ στο σχετικό εγχειρίδιο προϊόντος.

Για οδηγίες σχετικά με τον ασφαλή καθαρισμό των προϊόντων Renishaw, ανατρέξτε στην ενότητα Συντήρηση του έντυπου συνοδευτικού υλικού του αντίστοιχου προϊόντος.

Αποσυνδέστε το μηχάνημα από το ηλεκτρικό ρεύμα πριν επιχειρήσετε οποιοσδήποτε εργασίες συντήρησης.

Ανατρέξτε στις οδηγίες λειτουργίας του προμηθευτή του μηχανήματος.

Αποτελεί ευθύνη του προμηθευτή του μηχανήματος να εξασφαλίσει ότι ο χρήστης είναι ενήμερος για τυχόν κινδύνους που συνεπάγεται η λειτουργία, συμπεριλαμβανομένων όσων αναφέρονται στα εγχειρίδια του προϊόντος της Renishaw και ότι υπάρχουν τα απαιτούμενα προστατευτικά καλύμματα και οι συνδέσεις ασφαλείας.

Υπό ορισμένες συνθήκες μπορεί το σήμα ανιχνευτή να δώσει εσφαλμένη ένδειξη θέσης του ανιχνευτή. Μη βασίζεστε στα σήματα ανιχνευτή για τη διακοπή της κίνησης του μηχανήματος.

Το ACC2-3 απομονώνεται από την παροχή εναλλασσόμενου ρεύματος μέσω του διακόπτη παροχής στον πίσω πίνακα. Εάν απαιτούνται οποιαδήποτε συμπληρωματικά μέσα απομόνωσης, πρέπει αυτά να καθοριστούν και να τοποθετηθούν από τον κατασκευαστή της μηχανής ή από τον εγκαταστάτη του προϊόντος. Ο απομονωτής πρέπει να βρίσκεται σε σημείο εύκολα προσβάσιμο από το χειριστή του CMM και να συμμορφώνεται με το πρότυπο IEC61010 και με οποιοσδήποτε εφαρμοζόμενος εθνικούς κανονισμούς καλωδιώσεων για τη χώρα εγκατάστασης.

Autochange system installation and programmer's guide

www.renishaw.com

EN - 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.

The ACC2-3 head controller is to be used with the provided PSU - XP POWER VEC40US24. See manufacturer's datasheet at www.xppower.com.

PSU electrical ratings	
Supply voltage	90 V - 246 Vac
Frequency range	47 Hz to 63 Hz
Power consumption	45 W max
Transient voltages	Class II

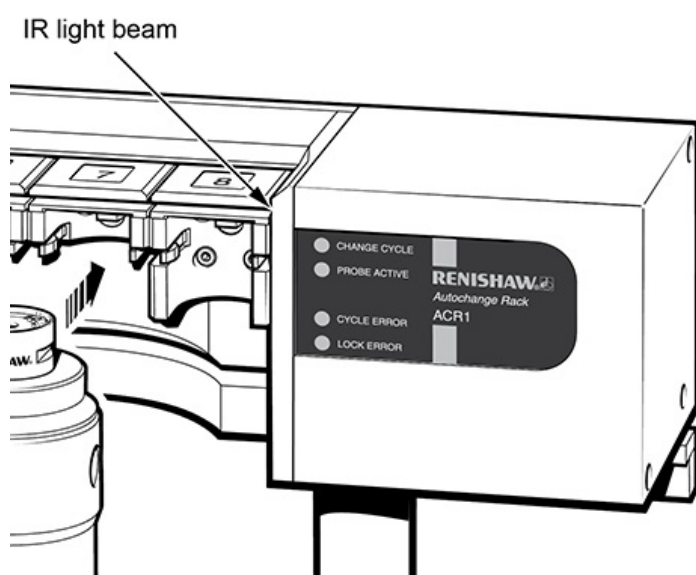
ACC2-3 is isolated from ac power by disconnection of the IEC mains connector from the supplied PSU. If any additional means of isolation is required, it must be specified and fitted by the machine manufacturer or installer of the product. The isolator / disconnection device must be sited within easy reach of the operator and comply with any applicable national wiring regulations for the country of installation.

Infra red light emission

CLASS 1 LED PRODUCT



CAUTION: This product uses infra red sensing beams. The axis in the front of IR light beam is located in line with the slots in the fronts of the port lids. Although direct viewing of the beam is safe, the user is advised to avoid placing an eye in line with the beam axis or close to the LED source located at the right hand side of the port 8 lid.



Autochange system installation and programmer's guide

www.renishaw.com

Warnings

Pinch hazards exist between moving parts and between moving and static parts. Do not hold the probe head during movements, or during manual probe changes.

Beware of unexpected movement. The user should remain outside of the full working envelope of probe head/extension/probe combinations.

Handle and dispose of batteries according to the manufacturer's recommendations. Use only the recommended batteries. Do not allow the battery terminals to contact other metallic objects.

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

There are no user serviceable parts inside Renishaw mains powered units. Return defective units to an authorised Renishaw Customer Service Centre.

Replace blown fuses with new components of the same type. Refer to the SAFETY section of the relevant product documentation.

For instructions regarding the safe cleaning of Renishaw products, refer to the Maintenance section of the relevant product documentation.

Remove power before performing any maintenance operations.

Refer to the machine supplier's operating instructions.

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

Under certain circumstances the probe signal may falsely indicate a probe seated condition. Do not rely on probe signals to stop machine movement.

ACC2-3 is isolated from ac power by means of the mains switch on the rear panel. If any additional means of isolation is required, it must be specified and fitted by the machine manufacturer or the installer of the product. The isolator must be sited within easy reach of the CMM operator and comply with IEC61010 and any applicable national wiring regulations for the country of installation.

Autochange system installation and programmer's guide

www.renishaw.com

ES - Seguridad

Si no se cumplen las indicaciones especificadas por el fabricante para la utilización del equipo, la protección de este puede resultar inutilizada. El equipo no tiene en su interior piezas que pueda reparar el usuario.

El controlador principal ACC2-3 tiene que usarse con la PSU - XP POWER VEC40US24 proporcionada. Consulte la hoja de datos del fabricante en www.xppower.com.

Especificaciones eléctricas de la PSU	
Tensión de suministro	90 V - 246 Vca
Rango de frecuencias	47 Hz a 63 Hz
Consumo de potencia	45 W máx.
Voltaje de sobretensión	Clase II

SPA3-3 se aísla de la tensión de CA desconectando el conector de red IEC de la fuente de alimentación suministrada. Si es necesario algún otro método de aislamiento adicional, debe especificarse e instalarse por el fabricante de la máquina o el instalador del producto. El aislante/dispositivo de desconexión se colocará en un punto de fácil acceso para el operario y debe cumplir las regulaciones de cableado correspondientes al país de la instalación.

Emisión de luz infrarroja

PRODUCTO LED CLASE 1



PRECAUCIÓN: Este producto utiliza haces de detección de luz infrarroja. El eje delante del haz de luz IR está situado en línea con las ranuras de las partes frontales de las tapas de los puertos. Aunque la visión directa del haz es segura, se recomienda al usuario evitar colocar un ojo en línea con el eje del haz o cerca de la fuente LED ubicada en el lado derecho de la tapa del puerto 8.

Haz de luz IR



Autochange system installation and programmer's guide

www.renishaw.com

Advertencias

Existe el peligro de atraparse los dedos entre las distintas partes móviles y entre partes móviles e inmóviles. No agarre el cabezal de la sonda durante los movimientos ni durante los cambios manuales de la sonda.

Tenga cuidado con los movimientos inesperados. El usuario debe permanecer fuera del área total de trabajo de las combinaciones de cabezal de sonda/extensión/sonda.

Las baterías deben ser manejadas y tiradas según las recomendaciones del fabricante. Use sólo las baterías recomendadas. No permita que los terminales de las mismas entren en contacto con otros objetos metálicos.

Se recomienda usar gafas de protección en todas las aplicaciones que implican el uso de Máquinas-Herramienta y máquinas de medición de coordenadas.

Las unidades de Renishaw que se alimentan de la red eléctrica no contienen piezas que puedan ser reparadas o reemplazadas por el usuario. Las unidades defectuosas deben ser devueltas a uno de los Centros de Servicio al Cliente en Renishaw.

Sustituya los fusibles fundidos con componentes nuevos del mismo tipo. Consulte la sección de SEGURIDAD de la documentación del producto correspondiente.

Para obtener instrucciones relacionadas con la limpieza segura de los productos de Renishaw, consulte la sección de Mantenimiento de la documentación del producto correspondiente.

Quite la corriente antes de realizar cualquier operación de mantenimiento.

Remítase a las instrucciones de manejo del proveedor de la máquina.

Es responsabilidad del proveedor de la máquina asegurar que el usuario sea informado sobre los peligros relacionados con el funcionamiento, incluidos los peligros mencionados en la documentación de los productos Renishaw, y asegurar que se suministran los dispositivos de protección y seguridad adecuados.

Bajo determinadas circunstancias la señal de la sonda puede indicar erróneamente que la sonda está asentada. No confíe en las señales de la sonda para detener la máquina.

ACC2-3 se aísla de la alimentación eléctrica de CA a través del interruptor de red del panel posterior. Si es necesario algún otro método de aislamiento adicional, debe especificarse e instalarse por el fabricante de la máquina o el instalador del producto. El aislante se colocará en un punto de fácil acceso para el operario de la MMC, y debe cumplir la norma IEC61010 y las regulaciones de cableado correspondientes al país de la instalación.

Autochange system installation and programmer's guide

www.renishaw.com

ET - Ohutus

Kui seadet kasutatakse viisil, mida tootja ei ole ette näinud, võib seadme pakutav kaitse väheneda. Seadmestiku sees ei ole ühtegi kasutaja hooldatavat komponenti.

Põhikontrollerit ACC2-3 tuleb kasutada koos kaasasoleva toiteplokiuga XP POWER VEC40US24. Vaadake tootjapoolset andmelehte, mis on saadaval veebilehel www.xppower.com.

Toiteploki elektrilised nimiaandmed	
Toitepinge	90 V - 246 Vac
Sagedusala	47 Hz – 63 Hz
Võimsustarve	Maksimaalselt 45 W
Siirdepinged	Klass II

ACC2-3 isoleeritakse vahelduvvoolutoitest, ühendades Rahvusvahelise Elektrotehnikakomisjoni (IEC) võrgukonnektori tarnekomplektis sisalduvast toiteplokiist lahti. Kui esineb vajadus täiendavate isoleerimisviiside järele, tuleb need määratleda ja paigaldada masina tootjal või toote paigaldajal. Isolaator/katkestusvahend peab asuma kasutajale hõlpsalt ligipääsetavas kohas ning vastama kõigile kohalduvatele riiklikele juhtmestikke käsitlevatele regulatsioonidele, mis kehtivad riigis, kuhu seade on paigaldatud.

Infrapunavalguse emissioon

KLASSI 1 LED-TOODE



ETTEVAATUST! Tootes kasutatakse infrapuna tajukiiri. Infrapunakiire ees olev telg asub pordi kaane esiosal olevate avadega ühel joonel. Kuigi kiire sisse vaatamine on ohutu, ei soovitata kasutajal siiski silma kiire teljega samale joonele ega pordi 8 kaanest paremal asuva LED-allika lähedale panna.

Infrapunavalguse kiir



Autochange system installation and programmer's guide

www.renishaw.com

Hoiatused

Muljumisoht eksisteerib masina liikuvate ning liikuvate ja liikumatute osade vahel. Ärge hoidke masina liikumise ajal või sondi käsitsi vahetamise ajal sondipeast kinni.

Olge ettevaatlik ootamatute liikumiste suhtes. Kasutaja peab jääma väljapoole kogu sondi pea/laienduse/sondi kombinatsiooni tööpiirkonda.

Akude käitlemine ja utiliseerimine peab toimuma vastavalt tootja poolt antud soovitudele. Kasutage ainult tootja poolt soovitatud akusid. Vältige akupesade kokkupuudet muude metallobjektidega.

Kõikide rakenduste puhul, mis kasutavad tööpinke või koordinaatmõõtemasinaid, on soovitatav kasutada kaitseprille.

Vooluvõrgus töötavates Renishaw' masinates ei ole selliseid osi, mida kasutaja peaks ise hooldama. Tagastage vigased seadmed volitatud Renishaw' klienditeeninduskeskusesse.

Asendage läbipõlenud kaitsmed uute sama tüüpi kaitsmetega. Lugege asjaomase toote dokumentatsiooni jaotist OHUTUS.

Renishaw' toodete ohutu puhastamise juhised on toodud vastava toote dokumentatsioonis jaotises „Hooldus“.

Enne hooldustööde tegemist ühendage seade toiteallikast lahti.

Täpsemad juhised leiate masina tarnija poolt antud kasutusjuhendist.

Masina tarnija vastutuseks on tagada, et kasutajat teavitatakse masina tööga kaasnevatest ohtudest, kaasa arvatud need ohud, mida on mainitud Renishaw toote dokumentides, ning samuti tagada, et masinaga oleks kaasas korrektsed kaitsepiirded ja turvalukud.

Teatud tingimustel võib sondi signaal viidata valesti sondiga seotud olukorrale. Ärge lootke masina liikumise peatamiseks sondi signaalile.

ACC2-3 isoleeritakse vahelduvvoolust tagapaneelil asuva aku peatoitelüliti abil. Kui esineb vajadus lisaisoleerimisviiside järele, tuleb need määratleda ja paigaldada masina tootjal või toote paigaldajal. Isolaator peab asuma koordinaatmõõtemasina operaatorile kergelt ligipääsetavas kohas ja olema kooskõlas standardiga IEC61010 ning teiste juhtmestikke puudutavate kohalduvate riiklike eeskirjadega.

Autochange system installation and programmer's guide

www.renishaw.com

FI - Turvallisuus

Jos laitetta käytetään valmistajan ohjeista poikkeavalla tavalla, sen suojavaikutus voi olla puutteellinen. Laitteen sisällä ei ole huollettavia osia.

ACC2-3-pääohjainta käytetään yhdessä laitteen PSU - XP POWER VEC40US24 kanssa. Katso valmistajan tiedotetta osoitteessa www.xppower.com.

PSU-sähköluokitukset	
Syöttöjännite	90 V – 246 V AC
Taajuusalue	47–63 Hz
Virrankulutus	45 W enintään
Siirtojännitteet	Luokka II

ACC2-3 eristetään vaihtovirtalähteestä irrottamalla IEC-virtajohdin laitteen mukana toimitetusta PSU-yksiköstä. Jos muita eristämistapoja tarvitaan, ne tulee määritellä ja asentaa koneen valmistajan tai tuotteen asentajan toimesta. Eristyskytkin/katkaisija on sijoitettava asennuspaikalla voimassa olevien sähkötekniisten asennusohjeiden mukaisesti sellaiseen paikkaan, jossa se on helposti käyttäjän ulottuvilla.

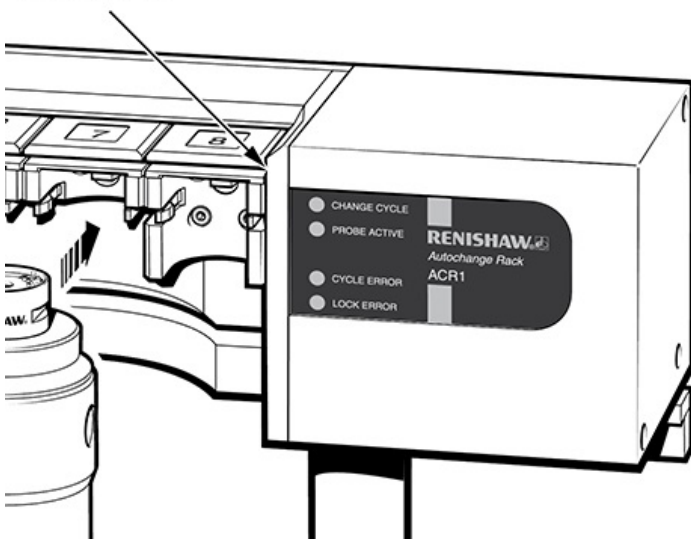
Lähetää infrapunavaloa

LUOKAN 1 LED-TUOTE



VAROITUS: Tämä tuote käyttää infrapunavaloa (IR) -pohjaisia tunnistusvalokeiloja. IR-valokeilan etuakseli sijaitsee samassa linjassa portin kansion edessä olevien aukkojen kanssa. Vaikka valokeilaan voi katsoa suoraan turvallisesti, on suositeltavaa välttää asettamasta silmiä samaan linjaan valokeilan akselin kanssa tai portin 8 kannen oikealla puolella olevan LED-lähteen lähelle.

IR-valonsäde



Autochange system installation and programmer's guide

www.renishaw.com

Varoitukset

Liikkuvien osien ja staattisten osien välillä on litistymisvaara. Älä pidä kiinni mittapästä sen liikkussa tai vaihtaessasi anturia käsin.

Varo odottamatonta liikettä. Käyttäjien on pysyteltävä mittapään, jatkeen ja anturin yhdistelmän toiminta-alueen ulkopuolella.

Käytä ja hävitä paristot niiden valmistajien ohjeiden mukaisesti. Käytä ainoastaan suositeltuja paristoja. Älä anna pariston napojen koskettaa muita metalliesineitä.

Silmänsuojainten käyttö on suositeltavaa kaikkia työstökoneita ja koordinoituja mittauskoneita (CMM) käytettäessä.

Sähköverkkoon kytkettävät Renishaw-tuotteet eivät sisällä käyttäjän huollettavia osia. Vialliset osat tulee palauttaa valtuutetulle Renishaw-asiakaspalvelukeskukselle.

Korvaa palaneet sulakkeet samantyyppisillä uusilla sulakkeilla. Lue tuotedokumentaation Safety (Turvallisuus) -kohta.

Renishaw-tuotteiden turvalliset puhdistusohjeet löytyvät tuotedokumentaation Maintenance (Huolto) -kohdasta.

Katkaise virta ennen huoltotoimenpiteiden suorittamista.

Tutustu koneen toimittajan käyttöohjeisiin.

Koneen toimittajan vastuulla on että käyttäjä on saanut tiedon mahdollisista käyttöön liittyvistä vaaroista, mukaan lukien Renishaw'n tuoteselosteessa mainitut vaarat. Konetoimittajan tulee myös varmistaa, että suojukset ja turvalukitukset ovat riittävät.

Tietyissä olosuhteissa anturin signaali saattaa virheellisesti ilmaista anturin kytkeytynyttä tilaa. Älä luota siihen, että anturin signaalit pysäyttävät varmuudella koneen liikkumisen.

ACC2-3 eristetään vaihtovirtalähteestä takapaneelissa olevan pääkatkaisijan avulla. Jos ylimääräisiä eristyskeinoja tarvitaan, tämä täytyy määritellä ja mahdolliset laitteet kiinnittää koneeseen tuotteen valmistajan tai asentajan toimesta. Eristyskytkin on sijoitettava IEC61010 -standardin ja asennuspaikalla voimassa olevien sähkötekniisten asennusohjeiden mukaisesti sellaiseen paikkaan, jossa se on helposti CMM-käyttäjän ulottuvilla.

Autochange system installation and programmer's guide

www.renishaw.com

FR - Sécurité

Si l'équipement est utilisé d'une façon contre-indiquée par le fabricant, la protection fournie par le matériel peut être compromise. L'équipement ne contient aucune pièce réparable par l'utilisateur.

Il faut utiliser le contrôleur principal ACC2-3 en conjonction avec le bloc d'alimentation fourni PSU - XP POWER VEC40US24. Consultez la fiche technique du fabricant sur le site www.xppower.com.

Caractéristiques électriques du bloc d'alimentation	
Tension d'alimentation	90 V - 246 V c.a.
Plage de fréquence	47 Hz à 63 Hz
Consommation électrique	45 W max.
Tensions transitoires	Catégorie II

Pour isoler l'ACC2-3 de l'alimentation c.a., débranchez le connecteur secteur IEC du bloc d'alimentation fourni. Si un moyen d'isolement complémentaire est nécessaire, il doit être spécifié et installé par le constructeur de la machine ou l'installateur du produit. Ce dispositif d'isolement / déconnexion doit être facilement accessible à l'opérateur, et conforme à toutes les réglementations nationales de câblage applicables dans le pays d'installation.

Rayonnement infrarouge

PRODUIT LED DE CLASSE 1



AVERTISSEMENT : Ce produit fait usage de faisceaux de détection à infrarouges. L'axe à l'avant du faisceau à infrarouges est aligné avec les fentes situées à l'avant des couvercles des ports. Bien que la visualisation directe du faisceau ne présente pas de risque, il est conseillé à l'utilisateur d'éviter d'aligner un œil dans l'axe du faisceau ou à proximité de la source LED située du côté droit du couvercle du port 8.

Faisceau à infrarouges



Autochange system installation and programmer's guide

www.renishaw.com

Avertissements

L'effet de pincement dû au mouvement des pièces mobiles entre elles ou avec des pièces fixes présente des dangers. Ne pas tenir la tête du palpeur lorsqu'elle se déplace ou lors du chargement manuel du palpeur.

Attention aux mouvements imprévisibles. L'utilisateur doit toujours rester en dehors de toute la zone de travail des installations multiples tête/allonge/palpeur.

Suivre les conseils du fabricant pour manipuler et jeter les piles. Utiliser uniquement les piles recommandées. Veiller à ce que les pôles de la pile n'entrent pas en contact avec d'autres objets métalliques.

Le port de lunettes de protection est recommandé pour toute application sur machine-outil ou MMT.

Aucun produit Renishaw avec une alimentation secteur ne peut être réparé par l'utilisateur. Renvoyer tout matériel défectueux à un Centre Après-Vente Renishaw agréé.

Remplacer les fusibles grillés par des composants neufs de même type. Consulter les consignes de sécurité de votre documentation.

Les conseils de nettoyage en toute sécurité des produits Renishaw figurent dans les consignes de maintenance de votre documentation.

Mettre la machine hors tension avant d'entreprendre toute opération de maintenance.

Consulter le mode d'emploi du fournisseur de la machine.

Il incombe au fournisseur de la machine de s'assurer que l'utilisateur a pris connaissance des dangers d'utilisation, y compris ceux décrits dans la documentation du produit Renishaw, et de s'assurer que des protections et verrouillages de sûreté adéquats sont prévus.

Dans certains cas, il est possible que le signal du palpeur indique à tort un état « repos » du palpeur. Il ne faut pas se fier aux signaux venant du palpeur car ils ne garantissent pas toujours l'arrêt de la machine.

L'ACC2-3 peut être isolé de l'alimentation de c.a. par l'interrupteur secteur situé sur son panneau arrière. Si un moyen complémentaire de sectionnement est nécessaire, celui-ci devra être spécifié et installé par le constructeur de la machine ou l'installateur du produit. Ce sectionneur doit être facilement accessible par l'opérateur de la MMT et conforme à la norme IEC61010, ainsi qu'à toute réglementation de câblage applicable dans le pays d'installation.

Autochange system installation and programmer's guide

www.renishaw.com

GA - Sábháilteacht

Má úsáidtear an trealamh ar bhealach nach bhfuil mionsonraithe ag an déantúsóir, d'fhéadfadh an chosaint sa trealamh bheith lagaithe. Níl aon pháirteanna inúsáidte ag an úsáideoir laistigh den trealamh.

Tá an rialaitheoir cinn ACC2-3 le húsáid leis an PSU - XP POWER VEC40US24 atá soláthraithe. Féach bileog sonraí an déantúsóra ag www.xppower.com.

Rátálacha Leictreacha PSU	
Voltas Soláthair	90 V - 246 Vac
Raon minicíochta	47 Hz go 63 Hz
Ídiú cumhachta	45 W uasmhéid
Voltais dhíomuana	Aicme II

Tá an ACC2-3 aonraithe ó chumhacht SA trí dhínascadh den nascóir príomhlíne IEC ón PSU soláthraithe. Má tá aon mhodhanna aonraithe breise riachtanach, ní mór do dhéantúsóir an mheaisín nó suiteálaí an táirge é a mhionsonrú agus a shuiteáil. Ní mór an gléas aonraithe/dínasctha a bheith suite taobh istigh de shroicheadh éasca an oibreora agus é i gcomhlíonadh le haon rialacháin náisiúnta sreangaithe infheidhmithe don tír ina suiteáiltear é.

Astú solais infridheirg

CLATÁIRGE LED D'AICME 1



AIRE: Baineann an táirge seo leas as gathanna braite infridheirga. Tá an ais ag tosach an gha solais IR ar aon líne leis na slótáin ag tosach chlaibíní na bport. Cé nach bhfuil sé dainséarach féachaint ar an nga go díreach, moltar don úsáideoir gan a shúile a chur ar aon líne le hais an gha ná in aice leis an bhfoinse LED atá suite ar thaobh na láimhe deise de chlaibíní port 8.

Ga solais IR



Autochange system installation and programmer's guide

www.renishaw.com

Rabhaidh

Tá guaiseacha cúngúcháin ann idir páirteanna atá ag gluaiseacht agus idir páirteanna atá ag gluaiseacht agus páirteanna statacha. Ná coinnigh greim ar cheann an tóireadóra le linn gluaiseachtaí, nó nuair a bhíonn tóireadóir á athrú de láimh.

Fainic an chorraíl gan choinne. Ba chóir don oibreoir fanacht glan amach ó réimse iomlán oibre cheann an tóireadóra / an tsínte/ chumaisc an tóireadóra.

Láimhsítear agus diúscraítear cadhnaí de réir mholtaí an déantúsóra. Ná bain leas ach as na cadhnaí molta. Ná lig do na teirminéil chadhna dul i dtadhaill le hoibiachtaí miotalacha eile.

Moltar cosaint do na súile i ngach aon fheidhmiú lena mbaineann úsáid uirlisí meaisín nó CMM.

Níl aon pháirteanna inseirbhíse úsáideora laistigh de phríomhaonaid chumhachta Renishaw. Seol aonaid fhabhtacha ar ais chuig Ionad údaraithe Renishaw um Sheirbhís do Chustaiméirí.

Déan fiúsanna séidte a athsholáthar le comhpháirteanna den chineál céanna. Tagair don rannóg SÁBHÁILTEACHT i gcáipéisíocht ábhartha an táirge.

Do threoracha maidir le glantóireacht shábháilte na dtáirgí Renishaw, tagair do rannóg Cothabhála i gcáipéisíocht ábhartha an táirge.

Bain an chumhacht de sula ndéantar aon oibríochtaí cothabhála.

Déan tagairt do threoracha oibríúcháin sholáthraí an mheaisín féin.

Is í freagracht sholáthraí an mheaisín í chun a chinntiú go gcuirtear an t-úsáideoir ar an eolas i leith aon ghuaiseacha a bhaineann leis an oibríúchán, lena n-áirítear iad siúd a luaitear i gcáipéisíocht táirge Renishaw, agus chun a chinntiú go soláthraítear sciatha cosanta agus idirghlais sábháilteachta leordhóthanacha.

D'fhéadfadh an tóireadóir comhartha a thabhairt, ar chúinsí áirithe, go raibh rud éigin cearr leis go bréagach. Ná bí ag brath ar chomharthaí tóireadóra le gluaiseacht an mheaisín a stopadh.

Is féidir ACC2-2 a aonrú ón gcumhacht AC tríd an lasc príomhchumhachta ar an gcúlphainéal a úsáid. Má tá aon mhodhanna aonraithe breise riachtanach, ní mór do dhéantúsóir an mheaisín nó suiteálaí an táirge é a mhionsonrú agus a shuiteáil. Ní mór an t-aonraitheoir a shuiteáil cóngarach don oibritheoir CMM agus é i gcomhlíonadh le IEC61010 agus le haon rialacháin náisiúnta sreangaithe infheidhmithe don tír inar suiteáiltear é.

Autochange system installation and programmer's guide

www.renishaw.com

HR - Sigurnost

Ako se oprema koristi na način koji se razlikuje od onoga koji navodi proizvođač, zaštita opreme se može narušiti. Unutar opreme nema dijelova koje korisnik može sam servisirati.

ACC2-3 kontroler u glavi treba upotrebljavati s priloženim PSU-om - XP POWER VEC40US24. Vidjeti podatke proizvođača na www.xppower.com.

PSU vrijednosti električne energije	
Napon napajanja	90 V - 246 Vac
Raspon frekvencije	47 Hz do 63 Hz
Potrošnja energije	45 W maks.
Prijelazni napon	Klasa II

ACC2-3 se odvaja od izmjenične struje isključivanjem IEC priključka glavnog napajanja iz dostavljenog PSU-a. Ako je potrebna neka dodatna izolacija, mora je navesti i izvesti proizvođač stroja ili instalater proizvoda. Izolator/uređaj za isključivanje mora biti smješten tako da bude lako dostupan operateru i usklađen sa svim primjenjivim nacionalnim regulativama za ožičenje u državi u kojoj se instalira.

Emisija infracrvene svjetlosti

KLASA 1 LED PROIZVOD



OPREZ: Ovaj proizvod koristi infracrvene zrake. Os ispred infracrvene zrake se nalazi u razini s utorima na prednjim stranama poklopca ulaza. Iako je izravno gledanje u zraku sigurno, korisniku se preporučuje da izbjegava prilaziti okom u razinu osi zrake ili blizu LED izvora koji se nalazi na desnoj strani poklopca ulaza 8.

Infracrvena zraka



Autochange system installation and programmer's guide

www.renishaw.com

Upozorenja

Između dijelova u pokretu i između pokretnih i statičkih dijelova postoji opasnost od uklještenja. Tijekom pomicanja ili ručnih zamjena sondi, nemojte držati glavu sonde.

Budite oprezni zbog mogućnosti neočekivanog pomicanja. Korisnik treba ostati izvan punog radnog dometa kombinacija glave sonde/produžetka/sonde.

Za rukovanje i zbrinjavanje baterija slijedite preporuke proizvođača. Upotrebjavajte isključivo preporučene baterije. Pripazite da priključni polovi baterije ne dodiruju druge metalne predmete.

Kod svih primjena koje uključuju upotrebu alatnih strojeva ili CMM-ova preporučuje se zaštita očiju.

Unutar električnih uređaja Renishaw nema dijelova koje korisnik može sam servisirati. Uređaje u kvaru vratite u ovlašteni korisnički servisni centar tvrtke Renishaw.

Pregorjele osigurače zamijenite novima iste vrste. Pogledajte odlomak SIGURNOST u odgovarajućoj dokumentaciji proizvoda.

Za upute o sigurnom čišćenju proizvoda Renishaw proučite odlomak o održavanju u odgovarajućoj dokumentaciji proizvoda.

Isključite napajanje prije provođenja bilo kakvih radova održavanja.

Proučite upute za rad dobavljača stroja.

Dobavljač stroja dužan je osigurati da korisnik bude upozoren na sve opasnosti tijekom rada, uključujući one navedene u dokumentaciji proizvoda Renishaw, te mora osigurati odgovarajuće zaštite i sigurnosne blokade.

Pod određenim okolnostima signal sonde može pogrešno pokazivati stanje položaja sonde. Nemojte se pouzdati da će signali sonde zaustaviti kretanje stroja.

ACC2-3 se odvaja od izmjenične struje pomoću mrežnog prekidača na stražnjoj ploči. Ako je potrebna neka dodatna izolacija, mora je navesti i izvesti proizvođač stroja ili instalater proizvoda. Izolator mora biti smješten tako da bude lako dostupan CMM operateru i usklađen s IEC61010 te svim primjenjivim nacionalnim regulativama za ožičenje u državi u kojoj se instalira.

Autochange system installation and programmer's guide

www.renishaw.com

HU - Biztonság

Ha az eszközt a gyártó által előírt módtól eltérő módon használják, a felszerelés által nyújtott védelem érvénytelenné válik. A berendezés nem tartalmaz a felhasználó által szervizelhető elemeket.

Az ACC2-3 fejvezérlőt a mellékelt PSU - XP POWER VEC40US24 egységgel kell együtt használni. Lásd a gyártó adatlapját a www.xppower.com oldalon.

A tápegység elektromos besorolása	
Tápfeszültség	90 V és 246 V váltóáram között
Frekvenciatartomány	47 Hz és 63 Hz között
Fogyasztás	45 W max.
Áthaladó feszültség	II. osztály

Az ACC2-3 készülék az IEC főkapcsolónak a mellékelt tápegységből való lecsatlakoztatásával izolálható a váltóáramtól. Ha további kapcsoló is szükséges, azt a gyártónak vagy a terméket beszerelő vállalatnak kell jeleznie és felszerelnie a gépre. A kapcsolót / lecsatlakoztató eszközt úgy kell elhelyezni, hogy azt a kezelő könnyen elérhesse, ugyanakkor meg kell felelnie az adott országban érvényes elektromos hálózatkialakítási szabályok előírásainak.

Infravörös fénysugarak kibocsátása

CLASS 1 BESOROLÁSÚ LED TERMÉK



VIGYÁZAT: A termék infravörös érzékelősugarakat használ. Az infravörös fénysugár tengelye a portfedelek elülső részén lévő horonyokkal egy vonalban található. Ugyan a sugárba való közvetlen tekintés nem jelent veszélyt, azt javasoljuk, hogy a felhasználó ne helyezze szemét a sugártengely vonalába vagy a LED-fényforráshoz közel, amely a 8-as portfedél jobb oldalán található.

Infravörös fénysugár



Autochange system installation and programmer's guide

www.renishaw.com

Figyelmeztetések

A mozgó alkatrészek, illetve a mozgó és álló alkatrészek között becsípődés veszélye áll fenn. A tapintófejet ne fogja meg mozgás vagy a tapintófej manuális cseréje közben.

Legyen óvatos a nem várt mozgások tekintetében. Tartózkodjon a tapintófej / hosszabbító / tapintó kombináció teljes mozgáskörzetén kívül!

A telepek és akkumulátorok kezelését és kicserélését a gyártói javaslatoknak megfelelően végezze. Kizárólag az ajánlott típusú telepeket és akkumulátorokat szabad használni. Vigyázzon, hogy a telep, illetve akkumulátor érintkezői ne érintkezzenek más fémtárgyakkal.

Szerszámgépek és koordináta-mérőgépek használata során mindig javasolt a szemvédő viselése.

A Renishaw hálózati tápellátású egységek nem tartalmazzak a felhasználó által szervizelhető alkatrészeket. A meghibásodott egységeket juttassa el egy hivatalos Renishaw Vevőszolgálati Központhoz.

A kioldott biztosítékokat azonos típusúakra cserélje. Olvassa el a megfelelő termékdokumentációban található BIZTONSÁG fejezetet.

A Renishaw szerszámgépek biztonságos tisztítására vonatkozó előírásokat megtalálja a megfelelő termékismertető Karbantartás című fejezetében.

Karbantartási munkák előtt mindig áramtalanítsa a gépet.

Ezzel kapcsolatban tekintse át a gép gyártója által kiadott kezelési utasítást.

A gép gyártójának kötelessége felhívni a felhasználó figyelmét a berendezés használata során fennálló valamennyi veszélyre, beleértve a Renishaw termékeihez tartozó dokumentációban említett kockázatokat is; emellett az ő felelőssége a megfelelő védőelemek és biztonsági megszakító berendezések biztosítása is.

Bizonyos körülmények között a tapintó jele tévesen arról tájékoztathat, hogy a tapintó még nem tért ki. Ne hagyatkozzon a tapintó jelére, ha meg kell állítani a gépet.

Az ACC2-3 egy, a hátsó panelen található főkapcsoló segítségével csatlakoztatható a váltóáramú tápforráshoz. Ha egyéb leválasztásra lenne szükség, akkor azt a berendezés gyártójának vagy a termék beszerelőjének kell meghatározni és beszerelnie. A leválasztónak a CMM üzemeltető számára könnyen hozzáférhető helyen kell lennie, és meg kell felelnie az IEC61010 szabványnak, illetve a területileg érvényes villamos bekötési szabályoknak.

Autochange system installation and programmer's guide

www.renishaw.com

IT - Sicurezza

Il grado di protezione normalmente fornito sui dispositivi potrebbe essere reso meno efficace in caso di utilizzo non conforme a quanto specificato dal produttore. All'interno del dispositivo non vi sono componenti idonei alla manutenzione da parte dell'utente.

Il controllo per teste ACC2-3 deve essere utilizzato con l'alimentatore XP POWER VEC40US24 in dotazione. Vedere la scheda tecnica del produttore nel sito www.xppower.com.

Caratteristiche elettriche dell'alimentatore	
Tensione di alimentazione	90 V - 246 Vac
Frequenza	Da 47 Hz a 63 Hz
Consumo energetico	45 W max
Oscillazioni di tensione	Classe II

Per isolare ACC2-3 dal sistema di alimentazione elettrica, scollegare il connettore IEC dall'alimentatore. Nel caso in cui fossero necessari ulteriori dispositivi di isolamento, sarà necessario specificare tale esigenza e richiedere al produttore della macchina o all'installatore di provvedere in tale senso. Il dispositivo di isolamento/disconnessione dovrà essere posizionato in un punto facilmente accessibile all'operatore e dovrà risultare conforme a tutte le normative nazionali sui cablaggi in vigore nel paese di installazione.

Emissione di luce a infrarossi

PRODOTTO LED DI CLASSE 1



AVVERTENZA: Questo prodotto usa raggi di rilevazione a infrarossi. L'asse di fronte al raggio di luce IR è in linea con le fessure anteriori degli sportelli. Sebbene la vista diretta del raggio non sia pericolosa, si consiglia all'utilizzatore di evitare di mettere gli occhi sulla linea dell'asse del raggio o vicino al LED di emissione situato sulla parte destra dello sportello 8.

Raggio a infrarossi



Autochange system installation and programmer's guide

www.renishaw.com

Avvertenze

Esiste pericolo di danno da schiacciamento tra le parti in moto o tra le parti in moto e quelle ferme. Evitare di afferrare la testina della sonda quando è in moto, o durante le sostituzioni manuali della sonda.

Fare attenzione ai movimenti improvvisi. Si raccomanda all'utente di tenersi al di fuori dello spazio operativo della testa della sonda, delle prolunghe e di altri accessori della sonda.

Trattare e smaltire le batterie in conformità alle istruzioni del fabbricante. Usare solo batterie del tipo consigliato. Evitare il contatto tra i terminali delle batterie e oggetti metallici.

Si raccomanda di indossare occhiali protettivi in applicazioni che comportano l'utilizzo di macchine utensili e macchine di misura a coordinate.

All'interno delle unità collegate all'impianto di alimentazione centrale di Renishaw non vi sono componenti idonei alla manutenzione da parte dell'utente. In caso di guasto, restituire l'apparecchio a uno dei Centri di Assistenza Renishaw.

I fusibili bruciati dovranno essere sostituiti con altri dello stesso tipo. Consultare la sezione SICUREZZA della documentazione del prodotto.

Per le istruzioni relative alla pulizia dei prodotti Renishaw, fare riferimento alla sezione Manutenzione della documentazione del prodotto.

Prima di effettuare qualsiasi intervento di manutenzione, togliere la rete di alimentazione.

Consultare le istruzioni d'uso fornite dal fabbricante della macchina.

Il fornitore della macchina ha la responsabilità di avvertire l'utente dei pericoli inerenti al funzionamento della stessa, compresi quelli riportati nelle istruzioni di Renishaw, e di fornire dispositivi di sicurezza e interblocchi di sicurezza adeguati.

È possibile, in certe situazioni, che la sonda emetta erroneamente un segnale di sonda a riposo. Non fare affidamento sui segnali di stato sonda per arrestare il movimento della macchina.

L'unità ACC2-3 viene isolata dall'alimentazione in CA tramite uno switch posto sul pannello posteriore. Nel caso in cui fossero necessari ulteriori dispositivi di isolamento, sarà necessario specificare tale esigenza e richiedere al produttore della macchina o all'installatore di provvedere in tale senso. Il dispositivo di isolamento dovrà essere posizionato in un punto facilmente accessibile all'operatore della macchina CMM e dovrà risultare conforme allo standard IEC61010 e a tutte le normative nazionali sui cablaggi in vigore nel paese di installazione.

Autochange system installation and programmer's guide

www.renishaw.com

JA - 安全について

本製品をメーカーが指定する方法以外で使用した場合、本製品の保護性能・機能が低下することがあります。製品には、ユーザーがメンテナンスできるような部品はありません。

ACC2-3 ヘッドコントローラは、付属の PSU - XP POWER VEC40US24 と共に使用してください。 www.xppower.com でメーカーのデータシートをご確認ください。

PSU 定格電源	
供給電圧	AC 90V~246V
周波数範囲	47 Hz~63 Hz
電力消費	最大 45 W
過渡電圧	クラス II

ACC2-3 は、付属の PSU から IEC 主電源コネクタを外すことで AC 電源供給を停止することができます。別途、電源供給の切断が必要な場合は、機械メーカーまたは取付け業者が実施してください。遮断装置 / 切断装置は、操作員が簡単にアクセスできる場所に設置し、それぞれの国で決められている配線に関する規則に則り設置してください。

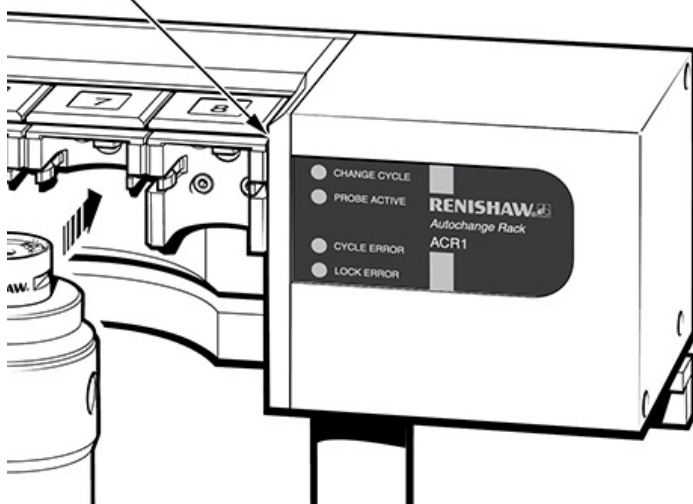
赤外線照射

クラス 1 LED 製品



注意：本製品は赤外線検出ビームを使用しています。赤外線ビームの軸は、ポートの蓋の手前にあるスロットに沿った方向になっています。ビームを直視しても安全性に問題はありませんが、ビームの軸方向に向かって見たり、ポート 8 の蓋の右側にある LED 光源の近くに目を近づけないようにしてください。

赤外線ビーム



Autochange system installation and programmer's guide

www.renishaw.com

警告

可動部の間または可動部と固定部の間に指などが挟まれる危険があります。移動中または手動プローブ交換中は、プローブヘッドを手で持たないようにしてください。

予想外の動作に注意してください。プローブシステムの可動範囲内に入らないでください。

メーカーの推奨する方法に従って電池を取り扱い、処分してください。電池は推奨品を必ずご使用ください。電池の電極には他の金属部品が触れないようにご注意ください。

工作機械や三次元測定機を使用する場合は、保護眼鏡の着用を推奨します。

機械本体から電源供給を受けて動作するレニショーユニットには、ユーザー自身で修理可能な部品は含まれていません。不具合のある製品は機械メーカーまたはレニショー認定のカスタマーサービスセンターにご返却ください。

ヒューズを交換する際には、同一規格のものと交換してください。関連する製品の説明書の安全に関するセクションも併せて参照してください。

レニショー製品を清掃する場合は、関連する製品の説明書のメンテナンスに関するセクションを参照してください。

メンテナンス作業を行う前には必ず、電源を切ってください。

機械メーカーの操作説明書を参照してください。

レニショーの製品説明書に記載されている内容も含め、操作に伴うあらゆる危険性をユーザーへ周知してください。また、適切な保護機構とインターロックシステムの設置は、各工作機械メーカーの責任で行なってください。

特定の状況下では、プローブ信号が正しく出力されない場合があります。プローブ信号のみに頼って機械を停止させないようにしてください。

ACC2-3 は、リアパネルの主電源スイッチを使用して AC 電源供給を停止することができます。別途、電源供給の切断が必要な場合は、機械メーカーまたは取付け業者が実施してください。ブレーカーは、CMM オペレーターが簡単にアクセスできる場所に設置し、IEC61010 および各国で定められている配線に関する規則に則り設置してください。

Autochange system installation and programmer's guide

www.renishaw.com

LT - Sauga

Jei įranga naudojama ne taip, kaip nurodo gamintojas, gali sumažėti įrangos teikiama apsauga. Įrangos viduje nėra jokių detalių, kurių techninę priežiūrą galėtų atlikti pats naudotojas. ACC2-3 galvos valdiklis turi būti naudojamas kartu su tiekiamu maitinimo bloku (PSU) – XP POWER VEC40US24. Žr. gamintojo duomenų lapą adresu www.xppower.com.

Maitinimo bloko (PSU) elektriniai parametrai	
Maitinimo įtampa	90–246 V KS
Dažnio diapazonas	47–63 Hz
Energijos sąnaudos	maks. 45 W
Pereinamoji įtampa	II klasė

Atjungus IEC maitinimo tinklo jungtį nuo tiekiamo maitinimo bloko, ACC2-3 yra atskirtas nuo kintamosios srovės. Jei reikia papildomų izoliavimo priemonių, jas turi nurodyti ir sumontuoti įrenginio gamintojas arba produkto montuotojas. Izoliatorius / atjungimo įrenginys turi būti įrengtas lengvai operatoriui pasiekiamoje vietoje bei atitikti bet kokius taikomus nacionalinius jungimo reikalavimus, galiojančius šalyje, kurioje montuojama.

Infraraudonosios šviesos spinduliuotė

1 KLASĖS ŠVIESOS DIODŲ GAMINYS



ATSARGIAI! Šiame gaminyje naudojami infraraudonieji aptikimo spinduliai. Priešais infraraudonosios šviesos spindulį esanti akis yra lygiagrečiai angoms, esančioms jungties dangteliuose. Nors yra saugu tiesiogiai žiūrėti į spindulį, naudotojui rekomenduojama vengti žiūrėti lygiagrečiai spindulio ašiai arba arti prie šviesos diodo šaltinio, esančio 8 jungties dangtelio dešinėje pusėje.

Infraraudonosios šviesos spindulys



Autochange system installation and programmer's guide

www.renishaw.com

Įspėjimai

Tarp judančių detalių bei tarp judančių ir statišku detalių pakliuvę objektai gali būti suspausti. Nelaikykite zondo galvutės judant įrenginiui ar keisdami zondą rankiniu būdu.

Saugokitės netikėtų judesių. Naudotojui nerekomenduojama atidaryti veikiančios zondo galvutės / ilgintuvo / zondų junginio gaubto.

Akumuliatorius naudokite ir juos utilizuokite pagal gamintojo rekomendacijas. Naudokite tik rekomenduotus akumuliatorius. Saugokite, kad prie akumuliatoriaus gnybtų nesiliestų jokie kiti metaliniai objektai.

Atliekant visus darbus, kai naudojami įrenginio įrankiai, įrenginys valomas ir prižiūrimas, rekomenduojama užsidėti apsauginius akinius.

„Renishaw“ prietaisuose, maitinamuose iš elektros tinklo, nėra detalių, kurias galėtų remontuoti pats naudotojas. Gražinkite sugedusius prietaisus įgaliotajam „Renishaw“ klientų aptarnavimo centrui.

Pakeiskite perdegusius saugiklius to paties tipo saugikliais. Žr. atitinkamo gaminio dokumentacijoje skyrių SAUGA.

„Renishaw“ gaminių saugaus valymo instrukcijas rasite atitinkamo gaminio dokumentuose „Priežiūros“ skyriuje.

Prieš atlikdami techninę priežiūrą, išjunkite elektros srovės tiekimą.

Laikykites įrenginio tiekėjo naudojimo nurodymų.

Įrenginio tiekėjas atsako už tai, kad naudotojas būtų įspėtas apie pavojus, susijusius su įrenginio naudojimu, taip pat apie pavojus, minimus „Renishaw“ prietaiso techninėje dokumentacijoje, ir kad būtų sumontuoti atitinkami apsauginiai įrenginiai bei blokatoriai.

Susiklosčius tam tikroms aplinkybėms, zondo signalas gali neteisingai nurodyti, kad jo reikšmės atstatytos į pradinę būseną. Nepasikliaukite zondo signalais ir iš karto nestabdykite įrenginio.

ACC2-3 izoliuojama nuo kintamosios srovės naudojant maitinimo tinklo jungiklį, esantį galiniame skyde. Jei reikia papildomų atskyrimo priemonių, jas turi nurodyti ir sumontuoti įrenginio gamintojas arba gaminio montuotojas. Skyriklis turi būti lengvai pasiekiamas koordinatinės matavimo mašinos operatoriui ir turi atitikti IEC61010 bei kitas valstybės, kurioje montuojama mašina, elektros laidų instaliacijos taisykles.

Autochange system installation and programmer's guide

www.renishaw.com

LV - Drošība

Ja iekārtu lieto neatbilstīgi ražotāja norādēm, tās nodrošinātā aizsardzība var mazināties. Iekārtā nav detaļu, kuru apkopi var veikt lietotājs.

Dalītājgalvas kontroleris ACC2-3 ir jāizmanto tikai kopā ar komplektā ietverto barošanas bloku XP POWER VEC40US24. Skatiet ražotāja datu lapu vietnē www.xppower.com.

Barošanas bloka elektrisko parametru prasības	
Barošanas spriegums	90–246 V maiņstrāva
Frekvenču diapazons	47–63 Hz
Enerģijas patēriņš	Ne vairāk par 45 W
Nestacionārais spriegums	II klase

Maiņstrāvas padevi ACC2-3 var pārtraukt, atvienojot IEC standarta elektrotīkla savienotāju no komplektā ietvertā barošanas bloka. Ja vajadzīgi papildu atvienošanas līdzekļi, tie ir jānorāda un jānodrošina ierīces ražotājam vai izstrādājuma uzstādītājam. Izolatoram / atvienošanas ierīcei jāatrodas operatoram viegli aizsniēdamā vietā un jāatbilst visiem elektroinstalācijas noteikumiem, kas ir piemērojami valstī, kurā uzstādīta ierīce.

Infrasarkanais starojums

1. KLASES LED IZSTRĀDĀJUMS



UZMANĪBU! Šis izstrādājums izmanto infrasarkano staru jutīgumu. Infrasarkanās gaismas staru kūļa priekšējā ass atrodas vienā līmenī ar spraugām pieslēgvietu vāku priekšējās daļās. Lai gan tieša skatīšanās staru kūlī ir droša, lietotājam ieteicams izvairīties no acu atrašanās vienā līmenī ar staru kūļa asi vai tuvu LED avotam, kas atrodas 8. pieslēgvietas vāka labajā pusē.

Infrasarkanās gaismas staru kūlis



Autochange system installation and programmer's guide

www.renishaw.com

Brīdinājumi

Pastāv risks tikt saspiestam starp kustīgajām daļām, kā arī starp kustīgajām un nekustīgajām daļām. Neturiet zondes galviņu kustības laikā vai veicot zondes nomaīņu manuāli.

Uzmanieties no nejaušām kustībām. Lietotājam jāpaliek ārpus kontaktmērgalviņas/uzgaļa/zondes pilna darbības rādiusa.

Lietojiet un atbrīvojieties no baterijas saskaņā ar ražotāja ieteikumiem. Izmantojiet tikai ieteicamās baterijas. Neļaujiet bateriju spailēm saskarties ar citiem metāla objektiem.

Izmantojot darba iekārtas vai koordinātu mērīšanas ierīces, ieteicams izmantot acu aizsarglīdzekļus.

Strāvai pievienotajās „Renishaw” ierīcēs nav daļu, kuru apkopi var veikt lietotājs. Bojātas ierīces nosūtiet atpakaļ uz tuvāko „Renishaw” klientu apkalpošanas centru.

Aizvietojiet izdegušus drošinātājus ar tā paša tipa jauniem komponentiem. Skatiet attiecīgā izstrādājuma dokumentācijas DROŠĪBAS sadaļu.

Lai uzzinātu par drošu „Renishaw” izstrādājumu tīrīšanu, attiecīgā izstrādājuma dokumentācijā izlasiet apkopes sadaļu.

Atvienojiet izstrādājumu no strāvas pirms jebkuru apkopes darbu veikšanas.

Skatiet iekārtas piegādātāja ekspluatācijas instrukcijas.

Iekārtas piegādātājs atbild par to, lai lietotājs tiktu iepazīstināts ar jebkuriem draudiem, kas saistīti ar tās darbību (ieskaitot tos, kas minēti „Renishaw” izstrādājuma dokumentācijā), un lai būtu nodrošinātas atbilstošas aizsargierīces un aizsargbloķētāji.

Noteiktos apstākļos zondes signāls var nepareizi norādīt zondes stāvokli. Nepaļaujieties uz zondes signāliem, lai apturētu iekārtas kustību.

ACC2-3 no maiņstrāvas var atslēgt ar galveno slēdzi, kas atrodas uz aizmugurējā paneļa. Ja nepieciešami papildu atvienošanas līdzekļi, tie ir jānorāda un jānodrošina iekārtas ražotājam vai izstrādājuma uzstādītājam. Izolatoram jābūt novietotam tā, lai tas būtu viegli pieejams koordinēto mērīšanas mašīnu operatoram un atbilstu IEC61010 un jebkuriem saistītajiem uzstādīšanas valsts elektrotehniskajiem noteikumiem.

Autochange system installation and programmer's guide

www.renishaw.com

MT - Sigurtà

Jekk it-tagħmir jintuza b'mod li ma jkunx specifikat mill-manifattur, il-protezzjoni pprovduta mit-tagħmir tista' titnaqqas. M'hemm l-ebda partijiet fit-tagħmir li jistgħu jissewew mill-utent.

L-ACC2-3 head controller qiegħed biex jintuza mal-PSU - XP POWER VEC40US24 ipprovdut. Ara d-datasheet tal-manifattur fuq www.xppower.com.

Ratings elettrici tal-PSU	
Vultaġġ tal-provvista tad-dawl	90 V - 246 Vac
Medda tal-frekwenza	47 Hz sa 63 Hz
Konsum ta' dawl	45 W massimu
Vultaġġi temporanji	Klassi II

L-ACC2-3 hu iżolat mill-provvista tad-dawl AC permezz tal-iskonnettjar tal-IEC mains connector minn mal-PSU pprovdut. Jekk ikun hemm bżonn ta' mezz addizzjonali ta' iżolament, dawn iridu jiġu specifikati u jiġu mmuntati mill-manifattur tal-magna jew mill-installatur tal-prodott. L-iżolatur/it-tagħmir tal-iskonnettjar għandhom jitpoġġew fejn ikunu jistgħu jintlaħqu faċilment mill-operatur u jkunu konformi ma' kwalunkwe regolamenti nazzjonali applikabbli dwar il-wiring għall-pajjiż fejn issir l-installazzjoni.

Emissjoni ta' dawl aħmar infra red

PRODOTT LED TA' KLASI 1



ATTENZJONI: Dan il-prodott juża raġġi TAT-TIP infra red sensing. L-axis fuq in-naħa ta' quddiem tar-raġġ ta' dawl IR tinsab bi dritt is-slots fuq in-naħa ta' quddiem tal-port lids. Għalkemm li tħares b'mod dirett lejn ir-raġġ ta' dawl mhux ta' periklu, hu rakkomandat li l-utent ma jpoġġix għajnejn bi dritt mal-axis tar-raġġ ta' dawl jew qrib is-sors tal-LED li tinsab fuq in-naħa tal-lemin tal-port 8 lid.

Raġġ ta' dawl IR



Autochange system installation and programmer's guide

www.renishaw.com

Twissijiet

Jeżistu perikli li persuna tinqaras bejn il-partijiet li jkunu jiċċaqilqu u l-partijiet statiči. Iżzommx ir-ras tas-sonda waqt il-movimenti, jew waqt li tkun qed tibdel is-sonda manwalment.

Oqgħod attent għal moviment mhux mistenni. L-utent għandu jibqa' barra ż-żona kollha tal-operat tal-kombinazzjonijiet tar-ras tas-sonda/estensjoni/sonda.

Immaniġġja u armi l-batteriji skond ir-rakkommandazzjonijiet tal-manufattur. Uża biss batteriji rakkommandati. Thallix it-terminali tal-batterija jiġu f'kuntatt ma' oġġetti metalliċi oħra.

Fix-xogħol kollu li jinvolvi l-użu ta' għodda tal-magni jew CMMs, il-protezzjoni tal-għajnejn hi rakkommandata.

Normalment m'hemm l-ebda partijiet li tista' tingħatalhom manutenzjoni mill-utent ġol-units ta' Renishaw li jaħdmu bl-elettriku. Irritorna units difettużi lil Ċentru għas-Servizz tal-Klijenti ta' Renishaw awtorizzat.

Ibdel f'usijiet li taru b'komponenti ġodda ta' l-istess tip. Irreferi għall-informazzjoni tas-SIGURTÀ fid-dokumentazzjoni rilevanti tal-prodott.

Għal istruzzjonijiet dwar it-tindif bla periklu tal-prodotti Renishaw, irreferi għall-informazzjoni dwar il-Manutenzjoni fid-dokumentazzjoni tal-prodott rilevanti.

Itfi d-dawl qabel tibda tagħmel xi xogħol ta' manutenzjoni.

Irreferi għall-istruzzjonijiet tal-operat tal-fornitur tal-magna.

Hi r-responsabbiltà tal-fornitur tal-magna li jiżgura li l-utent ikun konxju dwar kwalunkwe perikli involuti fit-tħaddim, inklużi dawk imsemmija fid-dokumentazzjoni tal-prodotti Renishaw, u li jiżgura li jkun hemm protezzjoni u interlocks tas-sigurtà adegwati pprovduti.

Taħt ċerti ċirkustanzi, is-sinjali tas-sonda jista' jindika b'mod falz kundizzjoni probe seated. Tiddependix fuq is-sinjali tas-sonda biex twaqqaf il-moviment tal-magna.

L-ACC2-3 jiġi iżolat mill-provvista tad-dawl AC permezz tal-mains switch fuq il-panel ta' wara. Jekk kwalunkwe mezz addizzjonali ta' iżolament ikunu meħtieġa, dan irid jiġi speċifikat u installat mill-manifattur tal-magna jew mill-installatur tal-prodott. L-iżolatur irid jitpoġġa fejn ikun jista' jintlaħaq faċilment mill-operatur tas-CMM u jrid ikun konformi ma' IEC61010 u ma' kwalunkwe regolamenti nazzjonali applikabbli dwar il-wiring għall-pajjiż fejn ikun qed jiġi installat.

Autochange system installation and programmer's guide

www.renishaw.com

NL - Veiligheid

Gebruik van deze apparatuur op een manier die de fabrikant niet voorgeschreven heeft, kan de bescherming door de apparatuur beperken. In de apparatuur bevinden zich geen onderdelen die de gebruiker zelf kan repareren.

Gebruik voor de ACC2-3 meetkopbesturing de bijgeleverde voedingseenheid van XP POWER VEC40US24. Zie het datablad van de fabrikant op www.xppower.com.

Elektrische gegevens voedingseenheid	
Voedingsspanning	90 V - 246 Vac
Frequentiebereik	47 Hz tot 63 Hz
Stroomverbruik	Maximaal 45 W
Piekspanningen	Klasse II

De ACC2-3 wordt van de wisselstroom afgesloten door de IEC voedingsspanningconnector los te koppelen van de geleverde voedingseenheid. Als nog een extra manier van ontkoppelen gevraagd wordt, dan moet die gespecificeerd en geplaatst worden door de machinefabrikant of monteur van het product. De ontkoppelvvoorziening moet ruim binnen het bereik van de operator aangebracht worden en voldoen aan alle elektrische regels die gelden in het land van plaatsing.

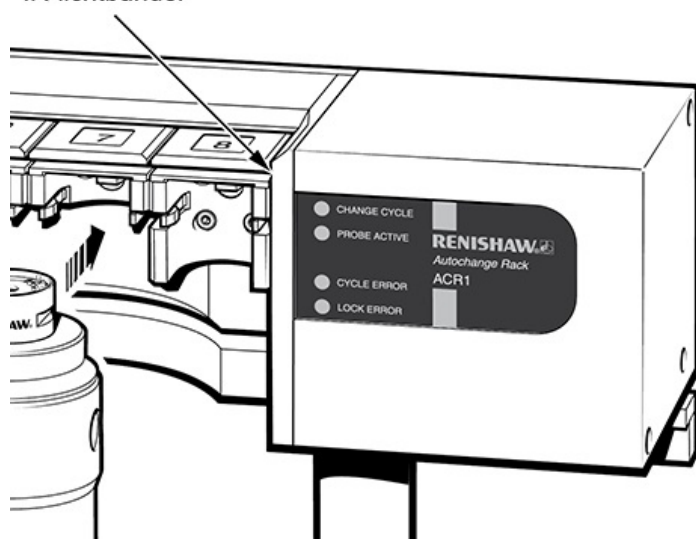
Infraroodlichtemissie

KLASSE 1 LED-PRODUCT



WAARSCHUWING: Dit product maakt gebruik van infrarode detectiestralen. De as aan de voorkant van de IR-lichtbundel bevindt zich in lijn met de sleuven in de voorkant van de poortdeksels. Hoewel het rechtstreeks bekijken van de straal veilig is, wordt de gebruiker geadviseerd om te voorkomen dat het oog in lijn komt met de straal of dicht bij de LED-bron aan de rechterkant van het deksel van poort 8.

IR-lichtbundel



Autochange system installation and programmer's guide

www.renishaw.com

Waarschuwingen

Er is risico op inklemming tussen de bewegende onderdelen onderling en tussen bewegende en niet bewegende onderdelen. Houd de tasterkop niet vast als de machine in werking is of bij het handmatig verwisselen van een taster.

Pas op voor onverwachte bewegingen. De gebruiker dient buiten het werkbereik van de combinatie tasterkop/verlengstuk/meettaster te blijven.

Behandel de batterijen volgens de aanwijzingen van de fabrikant en verwijder ze volgens de voorschriften. Gebruik uitsluitend de aanbevolen batterijen. Zorg ervoor dat de poolklemmen niet in contact komen met andere metalen voorwerpen.

Voor alle toepassingen waarbij bewerkingsmachines of CMM's worden gebruikt, wordt het dragen van een veiligheidsbril aanbevolen.

De onderdelen van netspanning gevoede Renishaw-units kunnen niet door de gebruiker worden onderhouden. Stuur defecte units terug naar een van de klantenservicecentra van Renishaw.

Vervang doorgebrande zekeringen door nieuwe van hetzelfde type. Lees het hoofdstuk VEILIGHEID in de bijbehorende productdocumentatie.

Voor het veilig reinigen van Renishaw producten wordt verwezen naar het hoofdstuk Onderhoud in de bijbehorende productdocumentatie.

Schakel de stroom uit, voordat u onderhoudwerkzaamheden verricht.

Raadpleeg de bedieningshandleiding van de machineleverancier.

De leverancier van de machine dient te zorgen dat de gebruiker op de hoogte is van de risico's die zijn verbonden aan het gebruik van de machine, met inbegrip van de risico's vermeld in de productdocumentatie van Renishaw, en dat de machine is voorzien van voldoende beveiligingen en veiligheidsvergrendelingen.

Onder bepaalde omstandigheden kan het tastersignaal een onjuiste tastertoestand aangeven. Vertrouw niet op de tastersignalen voor het stoppen van de machinebeweging.

De ACC2-3 afsluiten van de wisselspanning gebeurt met de netschakelaar op het achterpaneel. Als nog een extra manier van afsluiten gevraagd wordt, dan moet die gespecificeerd en geplaatst worden door de machinefabrikant of de monteur van het product. De afsluitvoorziening moet ruim binnen het bereik van de CMM-operator aangebracht worden en voldoen aan IEC61010 en de andere elektrische regels die gelden in het land van plaatsing.

Autochange system installation and programmer's guide

www.renishaw.com

PL - Bezpieczeństwo

Jeżeli wyposażenie jest użytkowane w inny sposób, niż określił to producent, zabezpieczenie zapewniane przez to wyposażenie może być osłabione. Wewnątrz wyposażenia nie ma żadnych części, których obsługę mógłby wykonać użytkownik.

Głównego sterownika ACC2-3 należy używać z załączonym zasilaczem – XP POWER VEC40US24. Patrz karta danych producenta na stronie www.xppower.com.

Elektryczne parametry znamionowe	
Napięcie zasilania	90–246 V AC
Zakres częstotliwości	47–63 Hz
Pobór mocy	Maks. 45 W
Stopień ochrony przeciwprzepięciowej	Klasa II

Sterownik ACC2-3 jest odłączany od zasilania poprzez odłączenie złącza IEC od dostarczonego zasilacza. Jeśli wymagane są jakiegokolwiek dodatkowe środki izolacyjne, ich dane techniczne muszą być określone i muszą one być zainstalowane przez producenta maszyny lub instalatora produktu. Odłącznik musi być umieszczony w taki sposób, aby zapewniać operatorowi łatwy dostęp do niego oraz musi spełniać wymagania wszelkich przepisów dotyczących okablowania, jakie obowiązują w kraju instalacji.

Emisja światła podczerwonego

PRODUKT LED KLASY 1



PRZESTROGA: Ten produkt wykorzystuje wiązki podczerwieni do wykrywania. Oś z przodu wiązki światła podczerwonego znajduje się w linii ze szczelinami w przednich częściach pokrywek portów. Chociaż bezpośrednie patrzenie na wiązkę jest bezpieczne, użytkownik powinien unikać patrzenia w jednej linii z osią wiązki lub w pobliżu źródła LED, znajdującego się po prawej stronie pokrywki portu 8.

Wiązka promieni podczerwieni



Autochange system installation and programmer's guide

www.renishaw.com

Ostrzeżenia

Występuje niebezpieczeństwo zakleszczenia pomiędzy częściami ruchomymi oraz częściami ruchomymi i nieruchomymi. Nie wolno trzymać głowicy sondy podczas ruchów i między częściami ruchomymi i nieruchomymi.

Należy uważać na niespodziewane ruchy maszyny. Użytkownik powinien pozostawać poza pełną strefą roboczą kombinacji głowicy sondy/przedłużacza/sondy.

Obsługę baterii i ich usuwanie należy przeprowadzać zgodnie z zaleceniami producenta. Używać zalecanego typu baterii. Nie dopuszczać do kontaktu zacisków baterii z innymi przedmiotami metalowymi.

Podczas obsługi obrabiarek lub maszyn współrzędnościowych zaleca się używanie osłon na oczy.

W zasilanych z sieci urządzeniach firmy Renishaw nie ma części, które mogą być serwisowane przez użytkownika. Niesprawne zespoły należy przekazywać do autoryzowanego centrum serwisowego firmy Renishaw.

Spalone bezpieczniki topikowe zastępować nowymi elementami tego samego typu. Zobacz część BEZPIECZEŃSTWO dokumentacji danego produktu.

Instrukcje dotyczące bezpiecznego czyszczenia produktów Renishaw znajdują się w części Konserwacja, w dokumentacji danego produktu.

Przed przystąpieniem do jakichkolwiek czynności konserwacyjnych należy odłączyć zasilanie energią elektryczną.

Zapoznać się z instrukcjami obsługi dostarczonymi przez dostawcę urządzeń.

Na dostawcy maszyny spoczywa odpowiedzialność za uprzedzenie użytkownika o wszelkich zagrożeniach związanych z eksploatacją łącznie z tymi, o jakich wspomina się w dokumentacji produktu Renishaw oraz za zapewnienie stosownych osłon i blokad zabezpieczających.

W pewnych okolicznościach sygnał sondy może fałszywie wskazywać stan gotowości sondy. Nie należy zatrzymywać pracy maszyny polegając wyłącznie na sygnale z sondy.

Sterownik ACC2-3 jest izolowany od zasilania przełącznikiem sieciowym, znajdującym się na tylnym panelu. Gdy wymagane są jakiegokolwiek dodatkowe środki ochrony, ich dane techniczne muszą być określone i muszą one być zainstalowane przez producenta maszyny lub instalatora produktu. Odłącznik musi być umieszczony w taki sposób, aby zapewniać operatorowi maszyny współrzędnościowej łatwy dostęp do niego oraz musi spełniać wymagania IEC61010 i wszelkich przepisów dotyczących okablowania, jakie obowiązują w kraju instalacji.

Autochange system installation and programmer's guide

www.renishaw.com

PT - Segurança

Se o equipamento for utilizado de modo não especificado pelo fabricante, a proteção oferecida poderá ser prejudicada. O equipamento não contém peças que possam ser reparadas pelo usuário.

O comando do cabeçote ACC2 deve ser utilizado com a unidade de alimentação XP POWER VEC40US24 fornecida. Consulte a ficha de dados do fabricante em www.xppower.com.

Dados elétricos da unidade de alimentação	
Tensão de alimentação	90 V - 246 Vac
Limites de frequência	47 Hz a 63 Hz
Consumo de energia	45 W máx.
Tensões transientes	Classe II

ACC2-3 é isolado da alimentação ac desconectando-se o conector de rede elétrica IEC da unidade de alimentação fornecida. Se qualquer outro meio de isolamento for necessário, o mesmo deverá ser especificado e preparado pelo fabricante da máquina ou instalador do produto. O isolador / dispositivo de desconexão deve ser de fácil acesso para o operador e atender as regulamentações elétricas nacionais aplicáveis para o país onde estiver instalado.

Emissão de radiação de infravermelhos

PRODUTO LED DE CLASSE 1



CUIDADO: Este produto utiliza feixes de detecção de infravermelhos. O eixo na parte da frente do feixe da radiação de infravermelhos está orientado com as ranhuras na parte da frente das tampas da porta. Embora seja seguro olhar para o feixe, recomenda-se que o utilizador evite olhar diretamente para o eixo do feixe ou junto à fonte de LED localizada no lado direito da tampa da porta 8.

Feixe da radiação de infravermelhos



Autochange system installation and programmer's guide

www.renishaw.com

Avisos

Risco de beliscadura entre as peças em movimento e entre estas e as estáticas. Não segure a cabeça da sonda durante movimentos nem mudanças manuais sonda.

Tomar cuidado com os movimentos inesperados. O utilizador tem de permanecer afastado das combinações cabeça da sonda/extensão/sonda que estão em pleno funcionamento.

Manuseie e elimine as baterias de acordo com as recomendações do fabricante. Utilize apenas as baterias recomendadas. Evite que os terminais da bateria entrem em contacto com outros objetos metálicos.

Em todas as aplicações que envolvam a utilização de máquinas-ferramenta e CMMs, é recomendada a utilização de proteção para os olhos.

Não existem peças operacionais para o utilizador no interior das unidades alimentadas pela rede elétrica da Renishaw. Devolva as unidades com defeito a um centro de assistência ao cliente autorizado Renishaw.

Substitua os fusíveis fundidos por componentes novos do mesmo tipo. Consulte a seção SEGURANÇA da documentação relevante do produto.

Para obter instruções relativamente à limpeza segura dos produtos Renishaw, consulte a secção Manutenção da documentação relevante do produto.

Desligue a alimentação antes de realizar quaisquer operações de manutenção.

Consultar as instruções de operação do fornecedor da máquina.

É da responsabilidade do fornecedor da máquina assegurar que o utilizador tem conhecimento de quaisquer perigos envolvidos no funcionamento, incluindo os mencionados na documentação do produto da Renishaw, e garantir que são fornecidas proteções e bloqueios de segurança.

Sob certas circunstâncias, o sinal do apalpador pode falsamente indicar uma condição de não contato do apalpador. Não confie nos sinais da sonda para parar o movimento da máquina.

O ACC2-3 é afastado da alimentação ac pelo interruptor da rede elétrica no painel traseiro. Se qualquer outro meio de isolamento for necessário, o mesmo deverá ser especificado e preparado pelo fabricante da máquina ou instalador do produto. O isolador deve ser de fácil acesso para o operador da MMC e atender à norma IEC61010 e todas as demais regulamentações elétricas nacionais do país onde estiver instalado.

Autochange system installation and programmer's guide

www.renishaw.com

RO - Instrucțiuni de siguranță

Dacă echipamentul este folosit în alte condiții decât cele specificate de producător, gradul de siguranță oferit de acesta poate fi diminuat. Nu există părți reparabile în interiorul echipamentului.

Controller-ul ACC2-3 trebuie folosit numai cu sursa de alimentare PSU - XP POWER VEC40US24 furnizată. Vezi fișa tehnică a producătorului la www.xppower.com.

Specificații sursă de alimentare	
Tensiune de alimentare	90 V - 246 Vac
Gama de frecvențe	47 Hz până la 63 Hz
Puterea consumată	45 W max
Tensiuni tranzitorii	Categoria II

Controller-ul ACC2-3 se poate izola de la rețeaua de alimentare cu energie electrică prin deconectarea cablului de rețea IEC de la sursa de alimentare furnizată. În cazul în care este necesară izolarea suplimentară, aceasta trebuie proiectată și realizată de către producătorul mașinii sau instalatorul produsului. Echipamentul de izolare/deconectare trebuie poziționat la îndemâna operatorului și trebuie să fie în concordanță cu regulamentele în vigoare în țara de instalare.

Emisie lumină infraroșie

ATENȚIONARE PRODUS LED DE CLASĂ 1



ATENȚIE: Acest produs folosește fascicule sensibile la infraroșii. Axa din fața fasciculului de lumină IR este situată în linie cu canelurile din fața capacelor portului. Deși este sigur să se privească fasciculul în mod direct, se recomandă utilizatorului să evite să privească de-a lungul axei fasciculului sau în apropierea sursei LED situate în partea dreaptă a capacului 8 al portului.

fascicul de lumină IR



Autochange system installation and programmer's guide

www.renishaw.com

Avertismente

Există riscul prinderii pielii atât între piesele în mișcare cât și între piesele în mișcare și cele fixe. Nu țineți de capul palpatorului în timpul deplasării acestuia sau în timpul schimbării manuale a palpatorului propriu-zis.

Atenție la deplasările neașteptate. Operatorul trebuie să rămână complet în afara zonei de acțiune a ansamblului cap palpator/prelungitor/palpator propriu-zis.

Manipulați și aruncați bateriile în conformitate cu instrucțiunile fabricantului. Utilizați numai bateriile recomandate. Nu permiteți terminalelor bateriei să intre în contact cu alte obiecte metalice.

În toate aplicațiile care presupun utilizarea mașinilor unelte sau a MMC, se recomandă protejarea ochilor.

Nu există elemente care pot fi reparate de utilizator în interiorul surselor de alimentare Renishaw. Sursele defecte trebuie transmise Centrului de Service Renishaw pentru Clienți.

Înlocuiți siguranțele arse numai cu componente noi de aceeași valoare. Vezi capitolul SIGURANȚĂ al documentației fiecărui produs implicat.

Pentru instrucțiuni referitoare la curățirea în siguranță a produselor Renishaw, vezi capitolul Întreținere al documentației fiecărui produs implicat.

Înainte de executarea oricăror operații de întreținere, scoateți echipamentul de sub tensiune.

Consultați instrucțiunile de operare livrate de furnizorul mașinii.

Furnizorul mașinii este responsabil să asigure că utilizatorul cunoaște pericolele pe care le presupune operarea mașinii, inclusiv cele menționate în documentația produsului Renishaw, și să asigure că sunt furnizate dispozitivele de blocare și de protecție corespunzătoare.

În anumite circumstanțe, semnalul palpatorului poate indica în mod eronat poziția așezată a acestuia. Nu vă bazați pe semnalele primite de la palpator pentru a opri deplasarea mașinii.

ACC2-3 este izolat de rețeaua de curent alternativ prin intermediul întrerupătorului de rețea de pe panoul posterior. Dacă sunt necesare mijloace suplimentare de izolare, acestea trebuie specificate și montate de către producătorul sau instalatorul produsului. Comanda izolației trebuie poziționată la îndemâna operatorului și trebuie să fie conformă cu IEC61010 și cu normele naționale aplicabile în țara de instalare.

Autochange system installation and programmer's guide

www.renishaw.com

SK - Bezpečnosť

Ak sa zariadenie používa spôsobom, ktorý nešpecifikoval výrobca, môže to negatívne ovplyvniť ochranu poskytovanú zariadením. V zariadení nie sú žiadne diely, ktoré by mohol opraviť používateľ.

Ovládač hlavice ACC2-3 je určený na použitie s dodaným napájacím zdrojom XP POWER VEC40US24. Pozrite si dokumentáciu od výrobcu na adrese www.xppower.com.

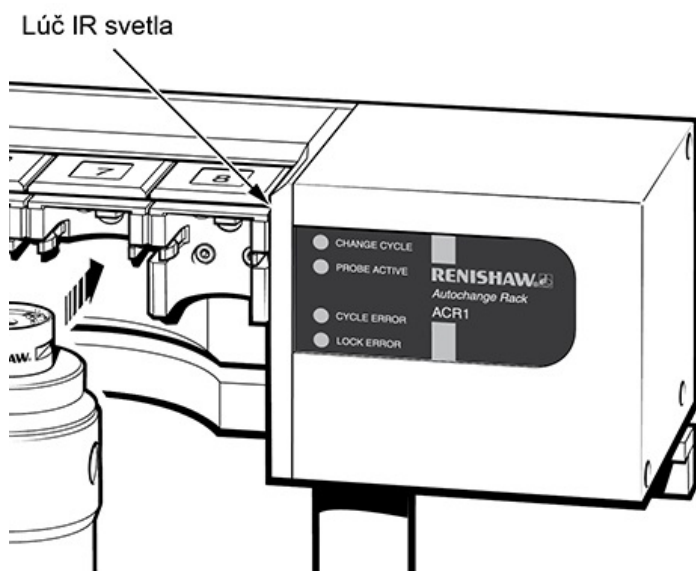
Elektrické parametre napájacieho zdroja	
Napájacie napätie	90 V - 246 V stried.
Frekvenčný rozsah	47 Hz až 63 Hz
Príkion	max. 45 W
Prechodné napätia	Trieda II

Zariadenie ACC2-3 možno izolovať od sieťového napájania odpojením sieťového napájacieho konektora IEC od dodaného napájacieho zdroja. Ak sa vyžadujú ľubovoľné ďalšie spôsoby izolácie, musí ich špecifikovať a nainštalovať výrobca prístroja alebo firma vykonávajúca inštaláciu výrobu. Izolačné/odpájacie zariadenie musí byť umiestnené tak, aby bolo ľahko dostupné pre obsluhujúci personál a musí spĺňať všetky príslušné národné predpisy týkajúce sa elektroinštalácie platné v krajine inštalácie.

Žiarenie infračerveného svetla

LED PRODUKT TRIEDY 1

UPOZORNENIE: Tento produkt používa infračervené snímacie lúče. Os predného IR svetelného lúča sa nachádza v línii s otvormi v prednej časti príklopov na portoch. Aj keď je priamo pozerieť do lúča bezpečné, mal by sa používateľ vyhýbať tomu, aby mal oko zároveň s osou lúča alebo v blízkosti LED zdroja umiestneného po pravej ruke príklopu na porte 8.



Autochange system installation and programmer's guide

www.renishaw.com

Upozornenia

Medzi pohyblivými časťami a medzi pohyblivými a statickými časťami vzniká riziko pomliaždenia. V priebehu pohybu či manuálnej výmeny sondy nedržte hlavicu sondy.

Dávajte pozor na neočakávaný pohyb. Používateľ by mal zostávať mimo plne funkčnej schránky hlavice sondy / prídavnej časti / kombinácií sondy.

S batériami zaobchádzajte a likvidujte ich v súlade s odporúčaniami výrobcu. Používajte iba odporúčané batérie. Nedovoľte, aby koncovky batérií prišli do kontaktu s inými kovovými predmetmi.

Vo všetkých aplikáciách zahŕňajúcich používanie obrábacích strojov alebo súradnicových meracích prístrojov sa odporúča ochrana očí.

Vo vnútri zariadenia Renishaw napájaného zo siete sa nenachádzajú žiadne diely, ktoré by mohol opravovať používateľ. Chybné zariadenia vráťte do autorizovaného zákaznickeho servisného centra spoločnosti Renishaw.

Vymeňte vyhovené poistky za nové diely tohto istého typu. Pozrite si časť BEZPEČNOSŤ v dokumentácii príslušného produktu.

Pokyny ohľadom bezpečného čistenia produktov Renishaw nájdete v dokumentácii príslušného produktu v časti Údržba

Pred každým vykonávaním údržby odpojte napájanie.

Pozrite si prevádzkové pokyny dodávateľa stroja.

Zodpovednosťou dodávateľa stroja je zaručiť oboznámenie používateľa so všetkými rizikami súvisiacimi s prevádzkou vrátane tých, ktoré sú uvedené v dokumentácii k výrobku spoločnosti Renishaw, a zaručiť poskytnutie adekvátnych zábran a bezpečnostných blokovacích poistiek.

Za určitých podmienok môže signál sondy nesprávne indikovať stav usadenej sondy. Pri zastavovaní pohybov stroja sa nespoliehajte na signály sondy.

Prístroj ACC2-3 je izolovaný od napájania prostredníctvom sieťového vypínača na zadnom paneli. Aj sú nutné akékoľvek dodatočné izolujúce zariadenia, musí ich stanoviť a dodať výrobca prístroja alebo montér tohto produktu. Izolátor musí byť umiestnený tak, aby bol ľahko dostupný pre pracovníka obsluhujúceho súradnicový merací prístroj (CMM) a musí spĺňať normu IEC61010 a všetky príslušné národné predpisy týkajúce sa káblových rozvodov platné v krajine inštalácie.

Autochange system installation and programmer's guide

www.renishaw.com

SL - Varnost

Drugačna uporaba opreme, kot jo je predpisal proizvajalec, lahko povzroči izpad zaščitnih funkcij opreme. V opremi ni delov, ki bi jih uporabnik lahko popravil sam.

Krmilnik glave ACC2-3 uporabljajte s priloženim napajalnikom XP POWER VEC40US24. Glejte podatkovni list proizvajalca na naslovu www.xppower.com.

Especificações elétricas da PSU	
Dovodna napetost	90 V do 246 VAC
Frekvenčno območje	47 Hz do 63 Hz
Poraba moči	maks. 45 W
Prehodne napetosti	Razred II

ACC2-3 z vira napajanja ločite z odklopom napajalnega priključka IEC s priloženega napajalnika. Če so potrebna dodatna sredstva za ločevanje, jih mora določiti in vgraditi proizvajalec stroja oz. monter izdelka. Ločilno sredstvo / odklopna naprava mora biti nameščena v dosegu operaterja in mora biti skladna z vsemi veljavnimi nacionalnimi predpisi o električnih napeljavah v državi inštalacije.

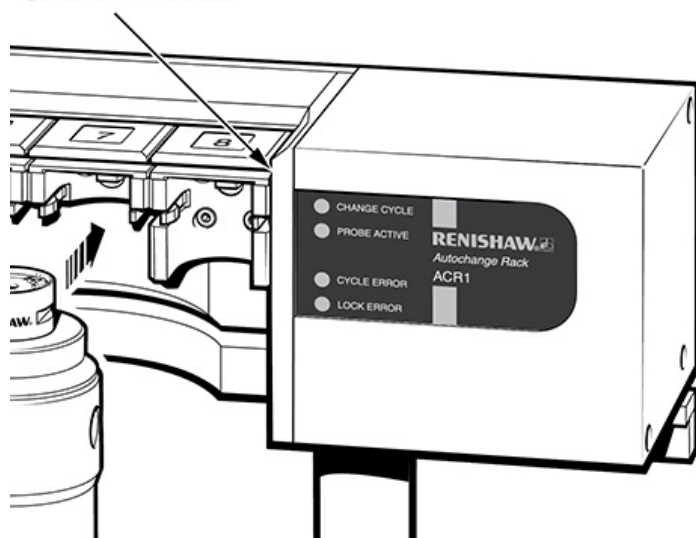
Emisija infrardeče svetlobe

LED IZDELEK RAZREDA 1



POZOR: Ta izdelek uporablja infrardeče zaznavalne žarke. Os pred svetlobnim žarkom IR je poravnana z režami pred pokrovi odprtin. Čeprav lahko varno gledate naravnost v žarek, uporabniku se priporoča postavljanje očesa v linijo osi žarka ali v bližino vira LED, ki se nahaja na desni strani pokrova odprtine 8.

Svetlobni žarek IR



Autochange system installation and programmer's guide

www.renishaw.com

Opozorila

Nevarnost stiska med premikajočimi se deli oziroma med premikajočimi se in statičnimi deli. Ne držite merilne glave med premiki ali ko ročno menjavate glavo.

Bodite pozorni na nepričakovane premike. Zadržujte se zunaj delovnega območja sonde/podaljška/merilne glave.

Z baterijami ravnajte in jih zavržite v skladu s priporočili proizvajalca. Uporabljajte samo priporočene baterije. Pazite, da se priključki baterije ne dotaknejo drugih kovinskih predmetov.

Pri vsaki uporabi obdelovalnih strojev ali koordinatnih merilnih strojev priporočamo uporabo zaščitnih očal.

Znotraj enot podjetja Renishaw z zunanjim napajanjem ni delov, ki bi jih uporabnik lahko popravil sam. Pokvarjene enote vrnite v pooblaščen servisni center Renishaw.

Pregorele varovalke zamenjajte z novimi istega tipa. Glejte razdelek VARNOST v ustrezni produktni dokumentaciji.

O varnem čiščenju izdelkov Renishaw si preberite razdelek vzdrževanja v pripadajoči dokumentaciji.

Pred začetkom vzdrževanja stroj izklopite iz električnega omrežja.

Držite se navodil dobavitelja stroja.

Odgovornost dobavitelja stroja je, da uporabnika opozori na vse nevarnosti pri delovanju, tudi na tiste, ki so navedene v dokumentaciji Renishaw, in da zagotovi vsa potrebna varovala in varnostne zapore.

V določenih pogojih lahko signal glave lažno nakazuje, da je glava spravljena. Ne zanašajte se na signale glave za ustavitev gibanja stroja.

ACC2-3 ima na zadnji plošči stikalo, s katerim ga lahko izolirate od izmeničnega toka. Če so potrebni dodatni ukrepi za ločevanje, jih mora zasnovati in vgraditi proizvajalec stroja ali inštalater izdelka. Ločilno sredstvo mora biti nameščeno v dosegu operaterja KMS in mora biti skladno s standardom IEC61010 ter z vsemi veljavnimi državnimi predpisi o električnih napeljavah v državi inštalacije.

Autochange system installation and programmer's guide

www.renishaw.com

SV - Säkerhetsföreskrifter

Om utrustningen används på ett sätt som inte tillverkaren har avsett kanske skyddet fungerar sämre. Utrustningen innehåller inga delar som du själv kan laga.

Huvudstyrenheten ACC2-3 är avsedd för användning tillsammans med den medföljande nätenheten – XP POWER VEC40US24. Se tillverkarens datablad på www.xppower.com.

Elektriska värden för nätenheten	
Matningsspänning	90 V–246 V AC
Frekvensområde	47 Hz till 63 Hz
Effektförbrukning	45 W maximalt
Transientspänningar	Klass II

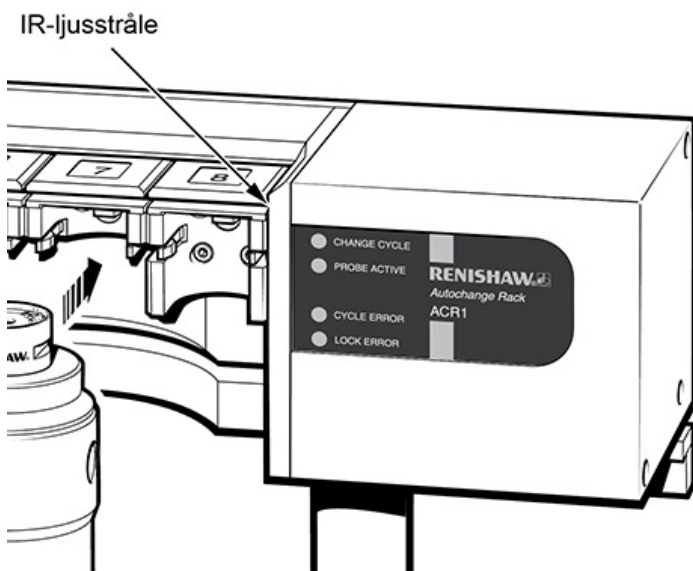
Du isolerar ACC2-3 från växelströmsmatningen genom att stänga av IEC-huvudbrytaren på den medföljande nätenheten. Om andra isoleringsmetoder behövs måste maskintillverkaren eller installatören specificera och montera dessa. Brytaren måste placeras så att operatören lätt kan nå den. Brytaren måste även uppfylla kraven i alla gällande nationella anslutningsföreskrifter som gäller på installationsplatsen.

Infrarött ljus

LED-PRODUKT KLASS 1



OBSERVERA: Den här produkten använder röda avkänningsstrålar. Axeln framför IR-ljusstrålen sitter i linje med spåren på portlocken. Titta aldrig in i strålen och inte heller mot LED-ljuskällan som sitter på höger sida av portlocket 8.



Autochange system installation and programmer's guide

www.renishaw.com

Varningar

Det finns risk för klämning mellan rörliga delar och mellan rörliga och stillastående delar. Håll ej i sondens huvud under rörelse eller under manuella sondbyten.

Se upp för plötsliga rörelser. Användaren måste befinna sig utanför arbetsområdet för alla kombinationer av sondhuvud/förlängning/sond.

Hantera och kassera batterier i enlighet med tillverkarens rekommendationer. Använd bara rekommenderade batterier. Låt inte batteripolerna komma i kontakt med andra metallföremål.

Ögonskydd rekommenderas för alla tillämpningar, där verktygsmaskiner eller koordinatmätmaskiner används.

Det finns inga delar som användaren kan utföra underhåll på inuti Renishaws nätströmsdrivna enheter. Returnera defekta delar till ett auktoriserat Renishaw kundcenter.

Byt trasiga säkringar mot nya av samma typ. Se avsnittet SÄKERHET (SAFETY) i produktdokumentationen

För instruktioner angående säker rengöring av Renishaws produkter, se avsnittet MAINTENANCE (UNDERHÅLL) i produktdokumentationen.

Koppla bort strömmen innan underhåll utförs.

Se maskintillverkarens bruksanvisning.

Maskinleverantören ansvarar för att användaren informeras om de risker som drift innebär, inklusive de som nämns i Renishaws produktdokumentation, samt att tillräckliga skydd och säkerhetsföreglingar tillhandahålls.

Under vissa omständigheter kan sondens signal falskt ange att en sond är monterad. Lita inte på sondsignaler för att stoppa maskinens rörelse.

ACC2-3 är isolerad från växelströmkällan genom huvudbrytaren på bakpanelen. Om andra metoder behövs för att bryta strömmen måste maskintillverkaren eller installatören specificera och montera dessa. Brytaren måste sitta så att CMM-operatören enkelt kan komma åt den. Den ska följa IEC61010 och andra tillämpliga regler för elinstallation i det land där installationen sker.

Autochange system installation and programmer's guide

www.renishaw.com

ZH-TW - 安全

如果裝置使用方式與製造商要求的方式不符，則裝置提供的保護功能可能會減弱。裝置內沒有使用者可維護的部件。

ACC2-3測座控制器與所提供的PSU - XP POWER VEC40US24結合使用。請參見 www.xppower.com 上的製造商規格手冊。

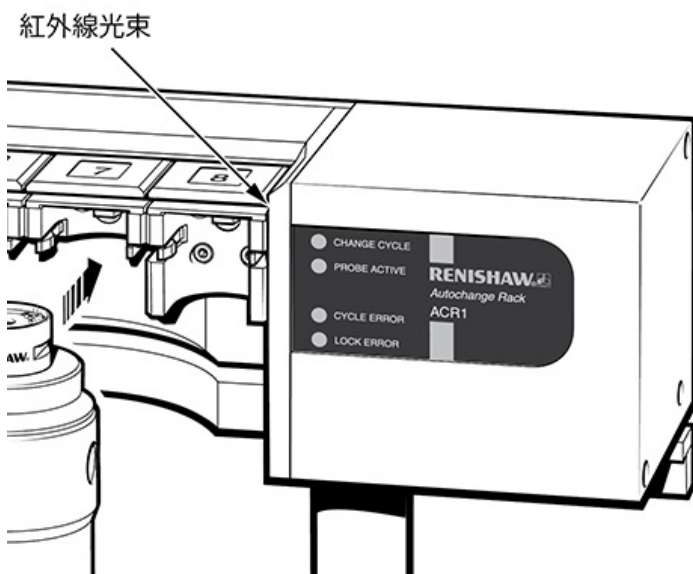
PSU電氣額定值	
供應電壓	90 V - 246 Vac
頻率範圍	47 Hz 至 63 Hz
電力功率	最大45 W
瞬態電壓	II 類

透過將IEC電源連接器從所提供的PSU上斷開，可使ACC2-3與交流電源隔離。如果需要任何形式的隔離措施，則必須由裝置製造商或產品安裝人員指定並安裝。隔離器/斷開裝置必須位於操作員易於操作的位置，並且符合裝置安裝所在國適用的國家佈線標準規定。

紅外線發光

1 類 LED 產品

警告： 本產品使用紅外線感應光束。紅外線光束前的軸與埠蓋前的凹槽成一條直線。雖然直視光束是安全的，但是建議使用者避免使眼睛處於光束軸上或靠近位於連接埠 8 蓋子右側的 LED 光源。



Autochange system installation and programmer's guide

www.renishaw.com

警告

行走移動零件之間以及行走移動零件與靜止零件之間存在夾傷的危險。在移動時或手工更換測頭座時，切勿握住測頭。

謹防意外移動。使用者位置應保持在測頭座／延長桿／測頭組合件的整個工作包覆面以外。

請依照製造商的建議處理和處置電池。請僅使用建議的電池。切勿讓電池終端與其他金屬物體接觸。

在所有涉及使用工具機或三次元量床的應用中，建議要有眼睛保護措施。

Renishaw 由電源供電的裝置內不含可由使用者自行修理的部件。將有缺陷故障的裝置送回 Renishaw 授權客戶服務中心。

使用同類型的新保險絲更換燒斷的保險絲。請參閱相關產品說明書的「安全」章節。

有關 Renishaw 公司產品的安全清潔指示，請參閱相關產品說明書的「維護」章節。

執行任何維修工作前，請先關閉總電源。

請參閱機器供應商的操作指南。

機器供應商有責任確保使用者瞭解操作機器所存在的任何危險，包括 Renishaw 產品說明書中提及之情況，並保證提供充分的安全防護罩和安全聯鎖裝置。

在某些情況下，測頭訊號可能會錯誤指示測頭已就位之情況。切勿單憑測頭訊號來停止機器的行程移動。

ACC2-3 可以透過後面板上的電源開關與交流電源隔離。如果需要其他隔離措施，必須由裝置製造商或產品安裝人員指定及安裝。隔離物必須設置在 CMM 操作員可及之處，並符合 IEC61010 標準與適用的國家線路法規安裝規範。

Autochange system installation and programmer's guide

www.renishaw.com

ZH - 安全性

如果设备使用方式与制造商要求的方式不符，则设备提供的保护功能可能会减弱。本设备不含用户可自行维护的部件。

ACC2-3测座控制器与所提供的PSU - XP POWER VEC40US24结合使用。请参见 www.xppower.com 上的制造商规格手册。

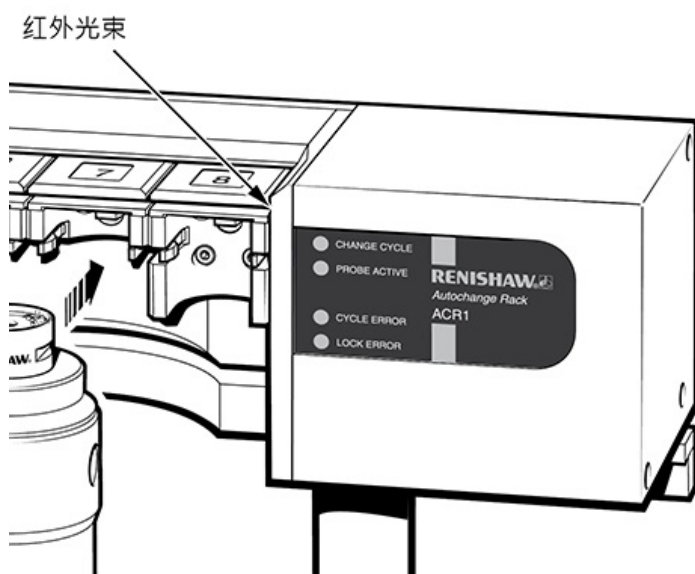
PSU电气额定值	
电源电压	90 V - 246 Vac
频率范围	47 Hz至63 Hz
功耗	最大45 W
瞬态电压	II类

通过将IEC电源连接器从所提供的PSU上断开，可使ACC2-3与交流电源隔离。如果需要任何形式的额外绝缘隔离措施，则必须由设备制造商或产品安装人员指定并安装。隔离器/断开装置必须位于操作员易于操作的位置，并且符合设备安装所在国适用的国家布线标准规定。

红外线发光

1类LED产品

小心：本产品使用红外线感应光束。红外光束前的轴与端口盖前的凹槽成一条直线。虽然直视光束是安全的，但是建议用户避免使眼睛处于光束轴上或靠近位于端口8盖子右侧的LED光源。



Autochange system installation and programmer's guide

www.renishaw.com

警告

运动部件之间以及运动部件与静止部件之间存在夹伤危险。在移动时或手工更换测头座时，切勿握住测头。

谨防意外移动。用户应该保持在测头座/加长杆/测头组合件的整个工作包络面以外。

请按照制造商的建议处理和处置电池。请只使用推荐的电池。请勿让电池端子与其它金属物体接触。

在所有涉及使用机床或坐标测量机 (CMM) 的应用中，建议采取保护眼睛的措施。

雷尼绍公司由电源供电的装置内不含可由用户自行修理的部件。请将有缺陷故障的装置送回雷尼绍公司授权客户服务中心。

使用同类型的新保险丝更换已熔断保险丝。请参阅相关产品说明书的‘安全’章节。

有关雷尼绍公司产品的安全清洁的指示，请参阅相关产品说明书的“维护”章节。

在执行任何维护作业之前，请先断开电源。

请参阅机床供应商的操作说明书。

机床制造商有责任确保用户了解操作中存在的任何危险(包括雷尼绍产品说明书中提到的危险)，并确保提供充分的防护装置和安全联锁装置。

在某些情况下，测头信号可能错误指示测头已复位状态。切勿单凭测头信号来停止机床运动。

ACC2-3 可以通过后面板上的电源开关与交流电源隔离。如果需要任何形式的额外绝缘隔离措施，必须由设备制造商或产品安装人员指定并安装。隔离器必须位于坐标测量机操作人员易于操作的位置，并且符合IEC61010和设备安装所在国适用的国家布线标准规定。

Renishaw plc
New Mills, Wotton-under-Edge
Gloucestershire, GL12 8JR
United Kingdom

T +44 (0)1453 524524
F +44 (0)1453 524901
www.renishaw.com/cmmsupport



**For worldwide contact details,
please visit our main website at
www.renishaw.com/contact**