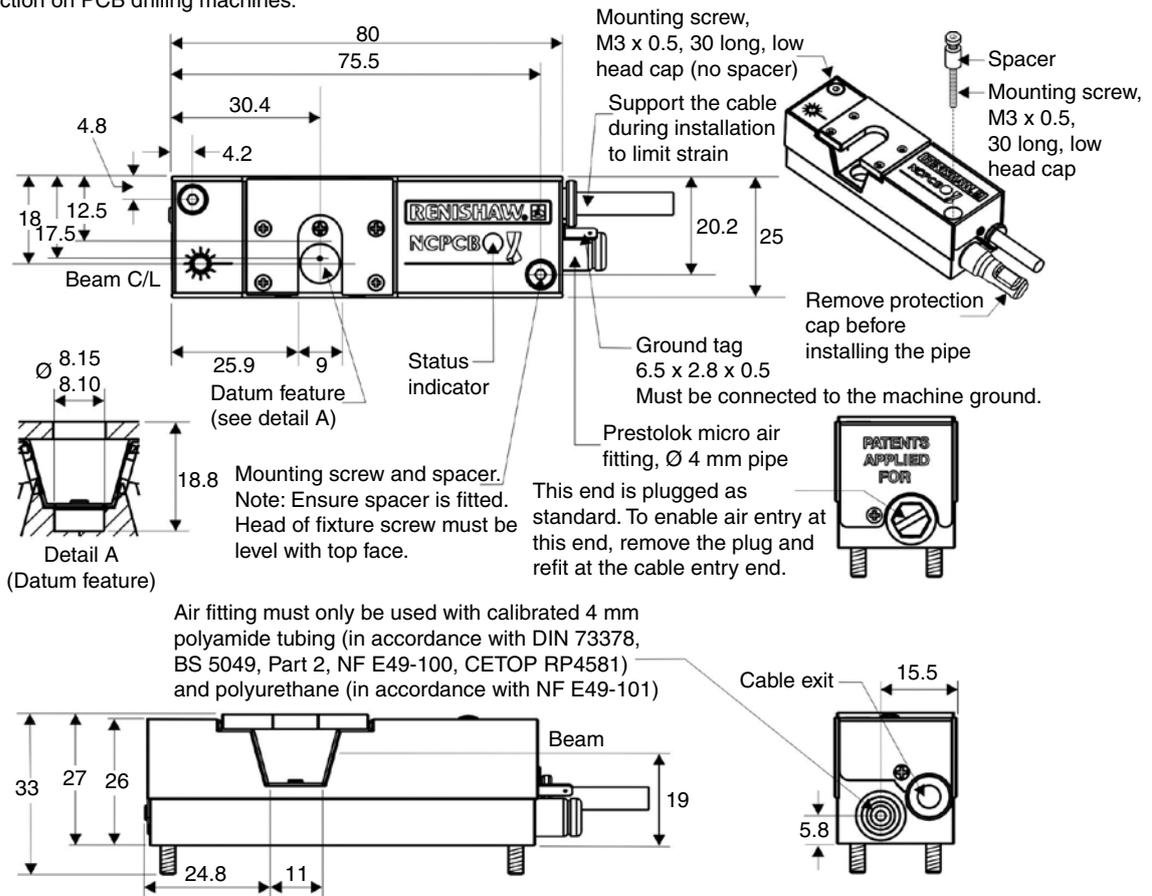


NCPCB tool setting device

www.renishaw.com/ncpcb

The NCPCB tool setting device is used for rapid tool setting, tool wear monitoring, run out checking, and tool breakage detection on PCB drilling machines.

It is specifically designed to work with SIEB & MEYER 44.20.020, 44.20.020A, and 44.20.0120 laser cards.



Connection

Wire	Colour	Requirements
Select	Grey	5 V off, 0 V on
Reference voltage	Yellow	0 V to 5 V (2.5 V nominal) input impedance 10 kOhms
Signal (output)	Green	Beam broken: 0 V sink, 12 mA Not broken: 5 V source, 12 mA HCMOS. Rise time 1 µs
Ground	White	0 V
Power	Brown	5 V ± 0.1 V, 60 mA
Shield	Black	Must be connected to machine's chassis

Operation

Select (grey) wire	Beam condition	Signal (output) (green wire)	LED
0 V	Broken	0 V	Off
0 V	Not broken	5 V	On
5 V	Off	0 V	Off
Not connected	Off	0 V	Off

Reference voltage (yellow) wire	Effect
5 V	Increases measured Ø
↑	
2.5 V	Factory setting
↓	
0 V	Reduces measured Ø

NOTE: When power is applied to the unit, light from the beam will be visible. Applying 0 V to the select (grey) wire will switch on the unit, the status LED will light, and the beam intensity will increase.

Specification

Operating temperature	10 °C to 40 °C
Storage temperature	-10 °C to 70 °C
IP rating	IP50
Repeatability	0.5 µm 2σ
Life	> 1 million on/off cycles
Min. tool Ø	0.10 mm tool setting 0.08 mm breakage
Pneumatic supply	Via 4 mm push-fit connector, 0.5 bar min., 3 bar max. ISO 8573-1: Air quality of class 1.7.2
Cable	5-core plus screen cable. Each core 18/0.1 insulated. Ø4.85. Length either 0.8 m or 2 m
Weight	130 g
Mounting	Mounting screws, M3 x 0.5, 30 long, low head cap (2 off) and spacer (1 off), as detailed on the previous page

IMPORTANT: Do not remove the cover-securing screws as this will affect beam alignment. Removal of the screws will also invalidate the warranty.

Air connection

A continuous supply of clean dry air ensures maintenance-free operation of the unit. Under clean and dust-free conditions the air supply may be omitted.

Purge the air lines before connecting. The air supply is connected via a 4 mm push-fit connector situated adjacent to the cable exit. The supply must be continuous, clean, and dry (to ISO 8573-1: air quality of class 1.7.2) at a minimum pressure of 0.5 bar (7 psi). The pressure can be adjusted up to 3 bar (43.5 psi) maximum for tool cleaning.

Failure to maintain air quality will result in performance degradation or product failure. If contamination is suspected, return the product for repair.



EC DECLARATION OF CONFORMITY

Renishaw plc declares that the NCPCB complies with the applicable standards and regulations. A copy of the EC Declaration of Conformity is available on request.

For worldwide contact details, please visit our main web site at www.renishaw.com/contact

Care of equipment

Keep system components clean and treat the NCPCB as a precision tool.

Changes to Renishaw products

Renishaw reserves the right to change equipment specifications without notice.

Warranty

Equipment requiring attention under warranty must be returned to your equipment supplier. No claims will be considered where Renishaw equipment has been misused, or where repairs or adjustments have been attempted by unauthorised persons. Prior consent must be obtained in instances where Renishaw equipment is to be substituted or omitted. Failure to comply with this requirement will invalidate the warranty.

Patents

Features of the NCPCB, and related products, are subject to patent applications:

Safety

It is the responsibility of the machine supplier to ensure that the user is made aware of any hazards involved in the operation of their machine, including those mentioned in Renishaw product documentation, and to ensure that adequate guards and safety interlocks are provided. Under certain circumstances the device signal output may falsely indicate the status of the beam. Do not rely on the device signals to stop machine movement.

Parts list

Please quote the part number when ordering equipment.

Type	Part No.	Description
NCPCB	A-4111-0001	NCPCB unit, two mounting screws, 0.8 m cable
NCPCB	A-4196-1000	NCPCB unit, two mounting screws, 2 m cable

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