

Renishaw CMM and Gauging Products Division

Product bulletin number: PBCG- 02791

Title:	SPA3 replacement - SPA3-2		
Product:	SPA3-2	Issue Date:	16/03/2021
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Reviewer:	Andy Holding	A Holding	
Confidentiality:	Open	Type:	Product Information
Summary:			
<p>The SPA3-2 servo power amplifier will be introduced during April 2021.</p> <p>SPA3-2 is a drop-in replacement for the SPA3 and expands the capabilities of the Renishaw range of CMM controllers.</p>			
Distribution – Select at least one			
<input checked="" type="checkbox"/> Subsidiaries <input checked="" type="checkbox"/> Customers <input checked="" type="checkbox"/> Service centres <input checked="" type="checkbox"/> OEMs, Agents & Distributors			

Detail:



The SPA3-2 is the latest development in the Renishaw CMM power amplifier product range. This new compact unit has been developed as a high performance 3-axis digital amplifier. When compared to the current SPA3, it has the following additional capability:

- Support for Renishaw absolute scales (BiSS format)
- Additional configurable I/O
- Additional scale input.
- Configurable read head voltages

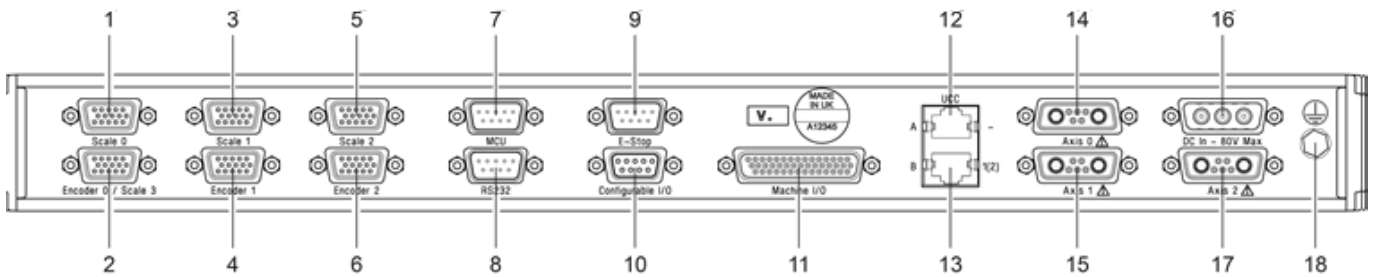
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The SPA3-2 has been designed as a drop-in replacement for the SPA3 so is compatible with all of the current UCC controllers (UCC T3-2, UCC MT5, UCC T5, UCC T3 PLUS, UCC S3 and UCC S5). As with the SPA3 it can operate between 24 V and 80 V with an output up to 10 A.

SPA3-2 is a drop-in replacement for the SPA3 but when used with UCCsuite 5.6.2 or newer, also provides configurable I/O, an additional scale input, provides the ability to alter the read head voltages and compatibility with Renishaw absolute scales (BiSS format).

As with the SPA3, the SPA3-2 utilises an external power supply (PSU) which can be sourced locally. Alternatively, a 48 V – 58 V unit can be purchased from Renishaw. The use of an external PSU allows the power requirements of the CMM and motors to be matched, providing the most economical solution. We recommend that the PSU output voltage is similar to the CMM motor voltage.

Rear view of SPA3-2



Key	Description
1	Scale 0 interface (15W HDD socket)
2	Encoder 0 / Scale 3 interface (15W HDD socket)
3	Scale 1 interface (15W HDD socket)
4	Encoder 1 interface (15W HDD socket)
5	Scale 2 interface (15W HDD socket)
6	Encoder 2 interface (15W HDD socket)
7	MCU (9W D plug)
8	RS232 (9W D plug)
9	E-STOP (9W D plug)
10	Configurable I/O (9W D socket)
11	Machine I/O (44W HDD socket)
12	UCC - A (RJ45 socket)
13	UCC - B (RJ45 socket)
14	Axis 0 (7W2 D socket)
15	Axis 1 (7W2 D socket)
16	DC in - 80 V max (3W3 D plug)
17	Axis 2 (7W2 D socket)
18	Protective conductor terminal (M5)

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SPA3-2 specification

Principal application	Motion control of all sizes of 3-axis CMMs
Dimensions – width, depth, height	440 mm (17.3 in), 180 mm (7.1 in), 44 mm (1.75 in)
Weight	3 kg (6 lb 6 oz)
IP rating	IP30 (BS EN60529:1992)
Operating temperature	+5 °C to +50 °C
Storage temperature	-25 °C to +70 °C
Relative humidity operating range	80% maximum (non-condensing) for temperatures up to +31 °C, linear decrease to 50% at +40 °C
Maximum internal power consumption	30 W
E-stop category	Category 2, PL-b
Transient voltages	Installation category II
Servo tuning method	Digital (via UCCassist-2)
Power supply	24 V – 80 V
Peak current per axis	9.7 A max. continuous current per axis 5.7 A
Connection to controller	RJ45 cable(s)
Motor voltages	12 V - 80 V
General purpose I/O	6 input, 7 output + 6 configurable input or output I/O, current 1 A maximum total
DC motor support	Yes
Analogue tacho support	Yes
Motor tacho support	Yes
Digital scale support	Yes
Absolute scale support	Renishaw BiSS
Linear motor support	No
Setup and configuration method	Renishaw UCCassist-2

PSU specification

The power supply must be single fault tolerant, approved to EN60950-1. It must be connected to a supply incorporating a protective earth conductor. Earthing provisions and residual fault protection for the complete installation is the responsibility of the OEM or installer.

Software versions

UCCsuite software version 4.6 is required to support SPA3 or SPA3-2. However, the new SPA3-2 capability is only made available when used with UCCsuite 5.6.2 or newer. This new capability includes configurable I/O, an additional scale input and compatibility with Renishaw absolute scales (BiSS format).

UCCsuite versions can be downloaded from the Software downloads area of the [CMM support site](#).

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Installation commissioning must be performed using Renishaw software (UCCassist-2). Failure to commission via UCCassist-2 may result in unexpected machine movement.

Documentation

The latest information and documentation, including the SPA3-2 installation guide (H-1000-5364), can be found in the CMM controllers section of [Renishaw.com](https://www.renishaw.com).

Part numbers affected:

The SPA3-2 will be supplied using the same part number with expected deliveries starting in April 2021

Pricing

There are no changes to the pricing. The SPA3-2 will be the same price and subject to the same discounts as the SPA3.

Warranty: SPA3-2 will be supplied with a 24-month end-user warranty (27 months for OEMs).

Support

A 5-year software support period for SPA3 will start from 1st April 2021 finishing 31st March 2026. After this 5-year period, it is not guaranteed that subsequent versions of UCCsuite software will support SPA3. The SPA3 product is being supported through the obsolescence period with the SPA3-2.

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