

Controller requirements: Productivity+™ Scanning Suite

Fanuc Series 30i / 31i / 32i

The information within this document provides the minimum recommended controller requirements to enable the use of the Productivity+™ Scanning Suite on a machining centre – including those produced by DMG Mori (Celos with Fanuc MAPPS) and Makino (Pro 5/6) – with a Fanuc Series 30i, 31i or 32i controller.

NOTE: Part numbers and descriptions within this document relating to items provided by organisations other than Renishaw are provided for information only. Whilst every effort has been made to ensure these are accurate, contact the machine tool builder, controller OEM or distributor for confirmation before purchasing.



CNC plug-in installations

MODEL A controllers: use of firmware version Gxx4 78.1 or later is recommended ¹

MODEL B controllers: use of firmware version Gxx1 61.2 or later is recommended ¹

Controller option	Option number
High-speed serial bus (HSSB) extended driver library option	A02B-0207-J900 ^{2 3}
Continuous positional data output function	A02B-03xx-J989 ³
Interrupt type custom macro (UINT)	A02B-03xx-J874 ³
High-speed skip (2 × minimum)	A02B-03xx-J848 ³
Multi-step skip	A02B-03xx-J849 ³
'Macro B' user macro option	³
Additional custom macro common variables	A02B-03xx-J887 ³
Three pairs of M-codes	

Application-dependent options	For use with	Option number
Part program memory 512 KB		A02B-03xx-J946 ³
Number of program expansion 1		A02B-03xx-J953 ³
Three dimensional co-ordinate system conversion (G68)	Multi-axis prismatic measurement	A02B-03xx-J713 ³
Titled Working Plane (TWP) (G68.2/G68.4)	Productivity+™ Blade Toolkit	02B-03xx-S676 ³ (MODEL A: not 32)
		A02B-03xx-R522 ³ (MODEL B)
Tool centrepoint control (TCP) (G43.4)	Productivity+™ Machine Health Check	A02B-03xx-xxxx ³ (MODEL A)
		A02B-03xx-S677 ³ (MODEL B)

¹ For earlier firmware versions, contact Renishaw.

² A HSSB card is not required with this software option.

³ Contact Fanuc for further information and the appropriate option number.

In addition to the Productivity+ CNC plug-in, a series of optional toolkits are available providing enhanced functionality.

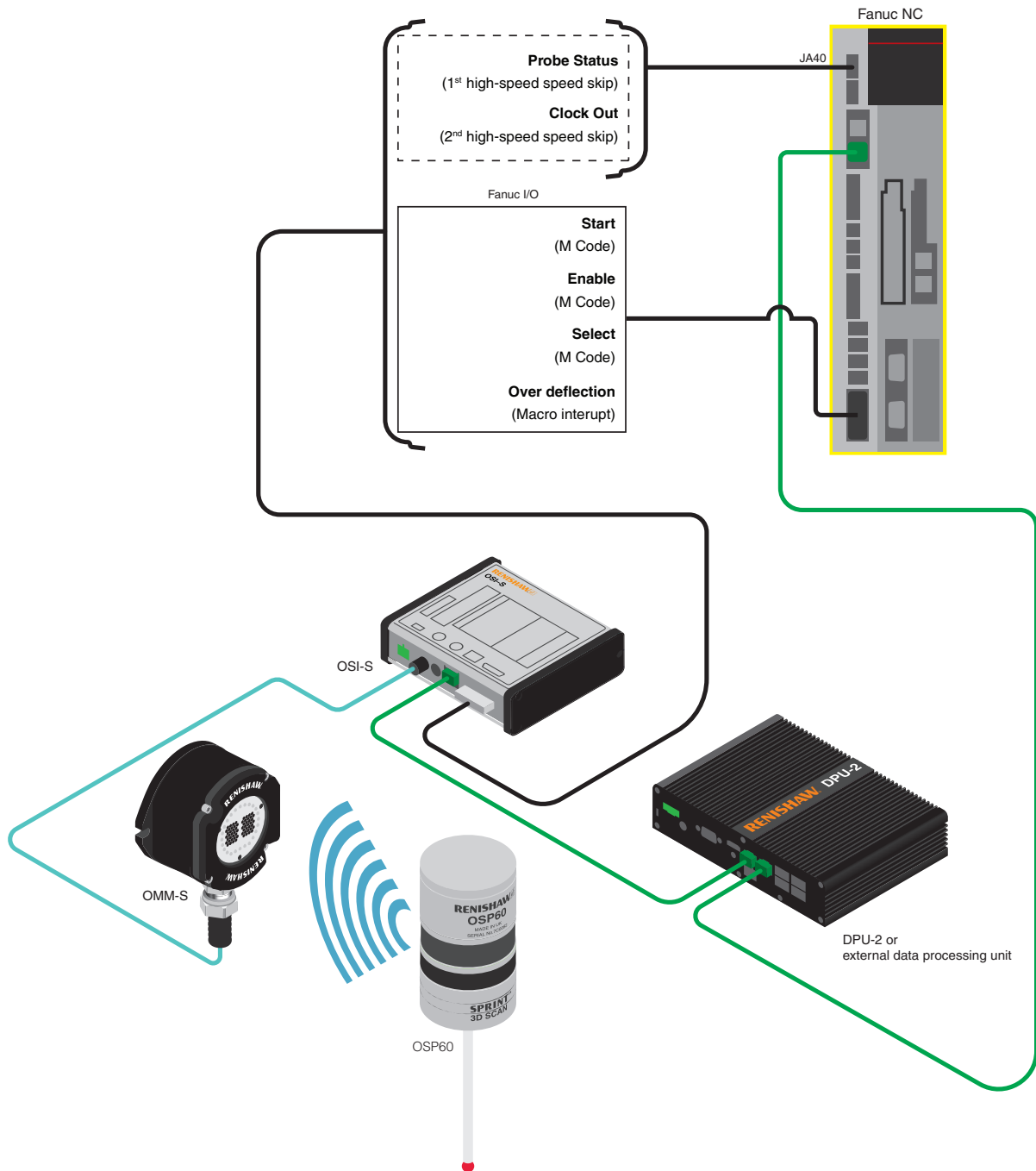
Typically, run-time elements of the Productivity+ Scanning Suite are installed on an external data processor. Use of a Renishaw DPU-2 (Renishaw part no. A-5465-4002) is recommended.

The minimum recommended specification for any alternative external data processor (PC) is:

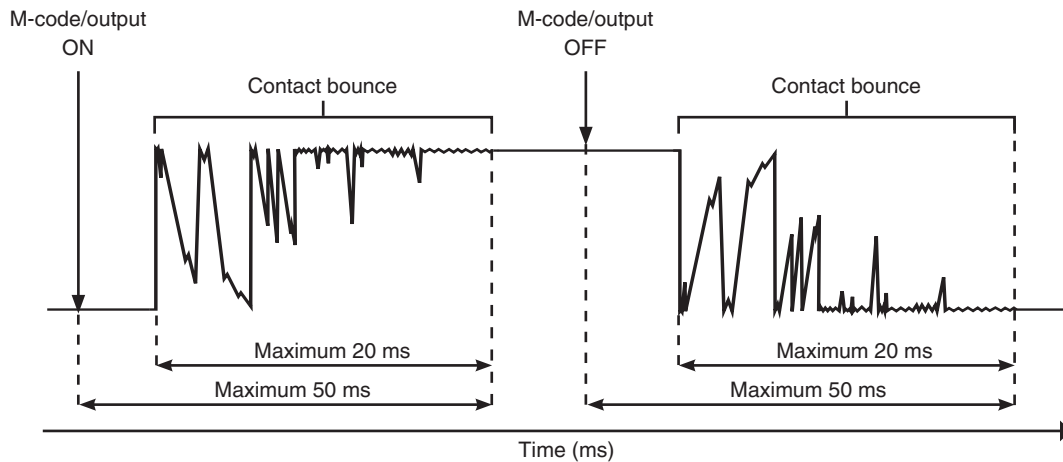
- Microsoft® Windows® 10 (Enterprise or Professional)
- Intel Core i3-5010U
- 2.1 GHz, 2 cores, 4 threads
- 4 GB RAM
- 64 GB solid state drive
- Two 100/1000Base-T Ethernet connections (dedicated to Productivity+). If a customer specific network connection is required, an additional Ethernet connection is required

NOTE: It is possible to install onto an external data processor with a lower specification, however this is the minimum recommended specification based on the data processing requirements of Productivity+ software applications.

Connection schematic



Output signal requirements



Any increase in these values will impact negatively on cycle times and may prevent the system working reliably.

The 3 × pairs of latched M-codes (high-speed digital outputs) should be reset when Reset is pressed on the CNC machine tool.

The output/input signal level change must be from 0 V to between 5 V and 30 V.

Use of solid-state relays is recommended as issues can arise from noise on mechanical relay contacts (contact debounce time of 20 ms maximum).

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