

	VIA MAESTRI DEL LAVORO,30 (ZONA INDUSTRIALE) 56021 CASCINA (PI) ITALY CAPITALE SOCIALE 100.000,00 € C.F. E P.I. 01252870504	 +39 050 711131  +39 050 711472  isacsrl@isacsrl.it  http://www.isacsrl.it/
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SWCNCCOST6

Costantino CNC

Reduced Data sheet

Version: 2

Date: 04.05.2026

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Overview



Costantino SoftCNC is the ISAC SoftCNC to be used as SoftPLC, Motion Controller, CNC and Robot Controller. The same kernel fits many different automation control applications.

Features to be used in applications can be activated by options as described in the Catalogue.

Costantino can use third-party Industrial PC or use ISAC Central Units.

Customers that purchase ISAC Central Units have already a license of Costantino included in the hardware purchase.

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Part Number

Codes

Code	Description
SWCNCCOST6	SoftCNC for cartesian and non-cartesian kinematics, motion control.

Alternative codes

This product is an evolution of previous CNC generations, with part-numbers:

- SWCNCCOST2
- SWCNCCOST1

Product status

Item	Value
Status	In production
In production since:	Jan 2024
In production at least since:	Jan 2028

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Requirements

Hardware

- Processors compatible with Intel 10th generation and above. In particular, tests covered those processors:
 - i5 10th generation
 - i3, i5, i7 12th generation
 - i3, i5, i7 13th generation
 - Intel Alder-Lake family processors such as N97
- At least 4GB RAM. Recommended 8GB RAM divided in 2 banks
- Solid State Drive with at least 400MB free
- At least 2 Ethernet ports connected in PCI or PCI express bus. Highly recommended to use Intel I210 Network Controller

Refer to TDU004 for a list of tested compatible hardware.

OS

Windows 11 IoT LTSC 24H2, 64 bit version

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Technical data summary

Features	CNC Costantino
No of axes per channel	128
Gantry	Yes
Management Independent axis	Yes
Management Tangent Axis	Yes
Management Virtual Axis	Yes
Management continuos unidirectional Axes	Yes
Management Rollover Axes	Yes
Number of Channels	Up to 8
Management of axes sharing among channels	Yes
Servo drive hardware Interface Supported	EtherCAT, Mechatrolink I & II, CANopen, Pulse / Direction , Analogic
N° I/O	Up to 32.000
PLC Programming	Language IEC 61131-3, Ansi C
CNC Programming	ISO + Parametric
Part Program max size	2 Gbyte
HMI Programmable	Yes
PLC / HMI SDK	Phoenix Contact Multiprog, Integrated part-program editor, advanced programming aid in SIMON. utilizzando OPPCSIMU06 PLCOPEN

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Features	CNC Costantino
DXF Converter	Yes
Number Origin	20 + 4 offset
PCS to MCS trasformation	Roto-traslation, stretch matrixes. Mirroring in any axis direction. All trasformations are compatibile with TCP of any kinematics
Work interruption and Resume	From saved stack, from any Auxiliary Function issued. Disambiguation of line using graphical tools. Path retrace
Min Interpolation time	250 µs
Look Ahead (movement blocks)	Up to 2048
Throughput 3 axes	20k blocks/secondo
Cycle Time PLC	≥1 ms
Tool Management	150 Tools (multi Cutting , family, wear , life , geometry) Radius and Length Compensation (fixed, statistical wearing during machining)
Features for Lathe and Mill machines	Yes, same product can do both
Jerk Control	For each Axis and in trajectory
Velocity Feed Forward	Yes
Torque Feed Forward	Yes

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Features	CNC Costantino
Anti-mechanics resonance Filters	Yes
Super finishing	Yes
RTCP	Rotative/ Birotative Head /Tilting and Rotating Table
Supported Robotic Kinematic	Scara/Delta/ Puma
Non Standard and custom Kinematic	Fully customizable by customer
Interpolator Type	Linear, circular, helicoidal, NURBS, Spline
Collision Control	Yes
Digital Twin	Yes (requires SIMON)
High Speed Machining	Yes
Rototraslation 3D	Yes
Motion Control	Yes – PLCOPEN – MC - Part 1
RTCP Autotuning	Yes
Volumetric Compensation	Yes
PLC multi-task real time	Yes
Package CNC + servo driver + Inverter + Cable	Yes
Advanced Diagnostic Tools	Yes
Remote Assistance	Yes
Integrate Functional Safety	FSOE
IIOT	OPC UA server
Cyber Security	Yes, ISO 62443 certification pending

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Features	CNC Costantino
PC-Based	Yes
Pc Compatibility	Yes, UEFI or Legacy BIOS. ≥2 cores required ≥2 Ethernet ports required
Operating System	Windows 10 IoT + RTOS Windows 11 IoT + RTOS

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Reference documents

Use manuals

TDU0011_SWCNCOST6 configuration manual

TDU0041_SWCNCOST6 logic analyzer

TDU0043_SWCNCOST6 FSoE support

TDU0015_SWCNCOST6 CNC manual

TDU004_PCs for Costantino Software

Programming manuals

TDP0020_Engineering Tools

TDP0023_CNC8.0 PLC interface

TDP0021_Panel Operator Development

TDP0012_Costantino and Traiano CNC programming