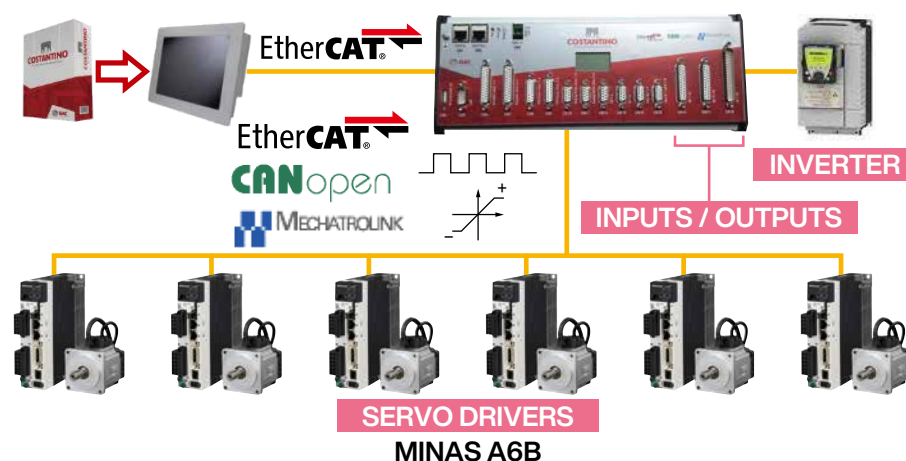


## Software CNC

### COSTANTINO CNC



### System Configuration

- Software CNC Costantino
- Panel PC or Industrial PC
- EtherCAT Bridge for connecting servodrivs and I/Os

### Features

Costantino is a **SoftCNC** that can be completely customized by OEM customer to create their own CNC solution, using proven and robust components.

Costantino **runs on any** IPC so you can choose your favorite brand that can guarantee international support on hardware components. It runs completely independent on Windows using its dedicated CPU processors in a multicore environment using its dedicated memory amount and its Ethernet controller.

Costantino connects with servo and IO devices of any brand using its integrated **EtherCAT master and configurator**. If customer wishes to use different fieldbus such as **Mechatrolink or CANopen**, Costantino can interface an ISAC-provided EtherCAT slave device that provides compatibility with all of these interfaces, and more. In addition to the natively supported fieldbuses, OEM customers can add support to any other fieldbus using an SDK that allow to easily develop by themselves or using ISAC engineering help.

Costantino comes with a PLC environment that is compatible **IEC61131-3**, so you can program it with any of the languages that are part of the standard: ST, IL, LD, FBD, SCD. In addition, you can create FBs in C language and thus reuse components written for different hardware solutions.

Costantino CNC interprets **G-codes** (ISO6983) with some features that are important in many application; with 25000 blocks/sec and more than 250 blocks of look ahead, it is one of the fastest CNC in the market.

- All movements are under **Jerk** control for tooltip and joints, this guarantees the best mechanics lifetime and performance;
- It runs up to 8 different interpolation programs at the same time, and handle auxiliary axes for clams, loaders and unloaders, or tool change, for a total of 128 axes;
- It supports **High Speed Machining**, that keeps cutting feedrate constant, reduces machining timing, and reduces machine vibrations;
- It comes with high accurate vibration suppression algorithms, following error compensation, velocity feed forward and many other tools to achieve the best cutting results;
- It compensates **tool length and radius**;
- It can handle online tool measures, tool wearing and life, and complex tool change procedure;
- It includes **5 axis machining interpolator** to program tool tip in machines equipped with bi-rotative heads, tilting tables, and even robots.
- It comes with a powerful **simulation engine** capable of showing results on the material before machining takes part.

### Application Sample

- Stone Cutting
- Metal Milling
- Thermal Cutting (Plasma, Laser, Oxi)
- Waterjet
- Glass Cutting
- Glass Engraving
- Wood Working
- Dental Applications

## Programmable Automation Control

### PAC ILIUM

### Features

Ilium is a newly developed PAC (Programmable Automation Controller) based on more than 10 years of ISAC experience in the field. It includes all main functionalities needed to build an Industrial Automation application, all in one device: **PLC Logic Execution + Motion Control + Communication and integration with other software components + HMI**.

Those functionalities **do not interfere between each other**, as it is possible to use more than one core of the processor; all of the tasks are executed with **high precision** and with **defined execution times**. Ilium interfaces with other devices through an Ethernet port that supports **EtherCAT** or **Powerlink**. Using the ISAC Bridge, Ilium supports many other fieldbuses (**CANopen**, **Mechatrolink**, **Analog interface** with position reading through **Encoder**, **SSI** or **ENDAT**, **Pulse/Direction** or **Stepper** interface). Ilium offers complete diagnostic tools for faults and anomalies detected on the I/Os peripherals and on the servo drivers. All of the errors are stored, allowing to analyze them at a later time, even in the case of unattended operation. Ilium is available in **two formats**: the application is **portable** between different formats, the development tools are the same, as well as the application libraries.

**Ilium Embedded** is a compact device, powerful enough to drive **up to 11 EtherCAT axes**. It is available with **touch screen**, it supports **USB**, **COM** ports, external **HDMI** video, one **Ethernet** port for programming and Web interfaces.

It does not contain moving parts, all of the components are non-removable, few Watts are enough to allow it to run.

**Ilium soft-Motion** is a **real-time software** that runs on an IPC; it uses exclusively **a part of the hardware resources**: one or more cores of the CPU, a portion of RAM, one Ethernet port; communication and HMI is managed by Windows. **You can choose the PC**: choose the ISAC model that suits your needs, or your preferred IPC supplier.

Ilium soft-Motion comes with no performance compromises, and offers the flexibility and the power of the PC to realize a customized user interface, using ISAC tools or alternative ones.

Ilium offers powerful and integrated development tools in order to make easier the PLC logic development and its debug, the start-up of the machine or of the plant, and its maintenance. You can develop the application in the IEC61131 standard languages (ST, IL, LD, FBD, SCD). Program the PLC logic with Multiprog, from Phoenix Contact Software. You can also use ANSI C, and compile in native code, in order to obtain the maximum performance and reliability, to create whole tasks with this language, or to create FBs to be used inside Multiprog. Ilium supports PLCopen MC part 1 and 2, version 2.0. The supplied FBs includes Cams (programmable from PLC logic or to be created from sampling), Gears, Electric Shafts, Phasing, Slave Synchronous Movement (referred on more Masters), all movements based on space or speed control, with speed, acceleration and Jerk control to assure fluid movements and the dampening of the resonances. The servo drivers can be tuned using the integrated diagnostic tools, as the oscilloscope, and all of the parameters will be stored and sent to the servo drivers by Ilium itself, making the replacing of servo drivers very easy.

ISAC ILIUM: TRY TO STOP IT!

### Application Sample

- Packaging
- Material Handling
- Printing machines
- Building Automation
- Textile machines
- Paper processing machines

### Sales area

- EU
- China
- United States of America
- Korea

### Language

- English
- Chinese
- Italian
- Portuguese
- Turkish

### For more information

URL : [www.costantinocnc.com](http://www.costantinocnc.com)



URL : [www.isacsrl.it](http://www.isacsrl.it)



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