



ISO US, allows a complete management of NG Series systems, transforming them in immediate way in powerful numerical controls. Simple and intuitive, it introduces a familiar graphical interface. All the functions are very detailed and comprehensible and can be used both mouse and keyboard, as TOUCH SCREEN systems. Thanks to 3D preview, it's possible to see the working before it's running, anticipating in this way eventual programming errors.

High speed in micro-segments working renders **ISO US** particularly apt to work irregular complex profiles generated by CAD/ CAM systems. There is no limitation to the program memory (using the PC RAM) and to the available number of programs (using the PC hard disk).

Extended programming with cycles LOOP, IF, mathematical functions, limitless management of variable, jumps to label, call of subprograms stored in hard disk, complex M functions ISO US calculates the profile optimal speed, always guaranteeing the better timing to optimize the working cycle, reducing the speed in the critical points.

ISO US is available for PC x86

ISO US is a product made in Promax and is released with Open Source license

IsoUs – IsoNs Ce Features		
Axes	IsoUs	9 Axes for 8 Processes
Interpolated	IsoNs Ce	5 Axes for 1 Process
Interpolation type		Linear,Circular,Helicoidal,Fast Linear, 3D
Axes	IsoUs	9
Rotative	IsoNs Ce	5
Axes Resolution		Programmable up to 0.000001 mm
Axes Feed		Programmable up to 0.001 mm/min
M Functions		On PC in Gcode or on CN in VTB
Subroutines		With LABEL or line Number
Variables		Type DOUBLE Max 32767
Mathematical		Extended with Sqrt,log,sin,cos,asin,acos,tan etc.
Conditional Cycles		IF-ELSE-ENDIF Without limit
Loop		LOOP-ENDLOOP Without limit
Gcode Length		Without limit
PLC		Base I/O from Gcode – RealTime from VTB
AFC (Adaptive Feed Control)		Automatic Feed reduction on curves
Tool Offset		Diameter and Length
Work Origins		256 from Gcode and Interface
Offset Origins		256 from Gcode and Interface
Tools		256
BackLash		For all Axes
Axis Mapping Error		Axis mapping mechanical error (It is sampled by external system, and inserted in the CNC memory)
Tangential Axis		Yes with special INTERPOLATION
Gantry		For all Axes
3D Interpolation		With automatic calculation edge threshold
Filters		N.U.R.B.S. Non Uniform Rational BSpline
		NOISE Noise reduction
		RLS Min length segment remove
		SMOOTHING
GO from Line	IsoUs	From line Number also with Graphical support
	IsoNsCe	From line Number without Graphical support
Retrace	IsoUs	From line Number also with Graphical support and JOG mode
	IsoNsCe	From line Number without Graphical support and with JOG mode
Preview Gcode	IsoUs	Preview 3D with outside ALARM Axes ZOOM, PAN
	IsoNsCe	Preview 3D with outside ALARM Axes ZOOM, PAN
Editor Gcode	IsoUs	Editor INTELLISENSE with HELP on line and immediate SYNTAX error displayed
	IsoNsCe	Editor standard
Work Plane Rotattion		Managed from Gcode
Work Plane Setting		Settable on any Axes pair
Pause Managed		PAUSE Gcode in ADVANCED mode with JOG AXES and automatic restart from interruption point
CNC Link		RS232 – ETHERNET
O.S.		Windows XP® Windows 7® Windows 8® Windows CE® with Compact FRAMEWORK
Plug In		PLUG IN .NET
Open Source		License RESTRICTED to purchase CNC PROMAX



Promax Srl – Via Newton, 5G – 50051 Castelfiorentino (FI) ITALY
 Tel: +39 0571684620 Fax: +39 0571 658720
 Email: info@promax.it Http: www.promax.it





NG Quark

NGQUARK CNC is the entry level of Promax. The performances are ideal for small 3-axes machines driven by drives STEP / DIR.
 This uses ISOUS or ISONS CE for GCODE PC application.
 The CPU integrates **11 Digital Inputs** 24Vdc PNP, **8 Digital Outputs** up to 1 A, **2 RS232** serial ports (1 - 485), **1 CanOpen** , **1 Analog Input** 12-Bit configurable and **2 Analog outputs** +/-10V.
 The PC connection is via RS232 serial line to 115,200 baud. There is no memory limit with regard to the Part Program, since this uses the PC's RAM.
 Thanks to the I/O board is able to manage **NGQUARK** cycles of tool change of any type. Economic and versatile also adapts to the machines entry level



NGM Evo

NGM EVO CNC is the middle level of Promax. The performances are ideal for professional machines.
 This uses ISOUS or ISONS CE for GCODE PC application.
 The CPU integrates: **16 Digital Inputs** 24Vdc PNP, **14 Digital Outputs** up to 1 A, **2 RS232** serial ports (1 - RS485), **1 CanOpen** , **8 Analog Inputs** 12-Bit configurable and **1 Analog output** 0-10 V.
 The PC connection is via RS232 serial line to 115,200 baud or **ETHERNET** 100 Mb. There is no memory limit with regard to the Part Program, since this uses the PC's RAM.
 NGM EVO can insert the NGMx Expansion with STEP/DIR axes at 500 KHz clock



NG WARP

NG WARP is the high-end CNC Promax. The performances are ideal for high-level professional machines. The type of controlled axes allows a wide choice of engines, with the possibility of being able to use mixed solutions.
 This uses ISOUS or ISONS CE for GCODE PC application.
 The CPU integrates 1 **ETHERNET** 10/100 Mb, 1 **ETHERCAT** CoE, 2 **RS232** serial ports (1 - 485), 2 **CanOpen**, 8 **Analog Inputs** 12 Bit. With appropriate expansions, you can integrate up to 128 digital inputs, 114 outputs, 16 analog outputs and 16 channels of 1 MHz encoder.
 The PC connection is via **ETHERNET** up to 100 Mb. There is no memory limit with regard to the Part Program, since this uses the PC's RAM.

Digital Inputs	11 Pnp 24 Vdc
Digital Outputs	8 Pnp 24 Vdc
Analog Inputs	1 12 Bit 5-10-12-24 Vdc or 4-20 Ma
Analog Outputs	2 +/- 10V
RS232/RS485	2 RS232 1 /RS485
CanOpen	1 Master up to 1 Mb
Ethernet	Not Available
Encoder Channels	Not Available
Axes	Interpolated 3 up to 30 KHz clock
Step/Dir	Positioned 1 up to 125 KHz clock
Axes	Interpolated Not Available
CanOpen	Positioned 4
Axes	Interpolated Not Available
+/- 10V	Positioned Not Available
Axes	Interpolated Not Available
Ethercat	Positioned Not Available
Nr. Blocchi/Sec	180 for 2 Assi – 150 for 3 Assi
Interpolation Type	All managed by IsoNs/IsoNsCe
Look Ahead	Second Level 16 Blocks
Spindle Management	ModBus +/- 10V CanOpen
Link PC	RS232 up to 115.200 Baud
Tool Change	All types
Override	Virtual or from Analog Input
PLC Cycle	Limited on I/O
HandWheel	Not Available
On Board Expansions	Not Available
CanOpen Expansions	Not Available

Digital Inputs	16 Pnp 24 Vdc up to 128 NGMIO-CanOpen
Digital Outputs	14 Pnp 24 Vdc up to 112 NGMIO-CanOpen
Analog Inputs	8 12 Bit 5-10-12-24 Vdc or 4-20 Ma
Analog Outputs	1 0-10V 6 on NGMsX +/- 10V
RS232/RS485	2 RS232 1 /RS485
CanOpen	1 Master up to 1 Mb
Ethernet	1 10/100 Mb
Encoder Channels	6 Line Drive 500 KHz
Axes	Interpolated 6 up to 125 KHz Clock - 500 KHz on NGMsX
Step/Dir	Positioned 6 up to 400/500 KHz clock
Axes	Interpolated 6
CanOpen	Positioned 32
Axes	Interpolated Not Available
+/- 10V	Positioned Not Available
Axes	Interpolated Not Available
Ethercat	Positioned Not Available
Nr. Blocchi/Sec	500 on Ethernet
Interpolation Type	All managed by IsoNs/IsoNsCe
Look Ahead	Second Level 128 Blocks
Spindle Management	ModBus +/- 10V CanOpen
Link PC	RS232 up to 115.200 Baud or ETHERNET 100 Mb
Tool Change	All types
Override	Virtual or from Analog Input
PLC Cycle	Without limit
HandWheel	On NGMsX or on CanOpen NGQx
On Board Expansions	7 x NGMIO 3 x NGMsX (for a total 7 expansions)
CanOpen Expansions	All type

Digital Inputs	128 on NGIO-NGPP-CanOpen
Digital Outputs	112 on NGIO-NGPP-CanOpen
Analog Inputs	8 12 Bit 5-10-12-24 Vdc or 4-20 Ma
Analog Outputs	16 +/-10V on NGIO-NGPP
RS232/RS485	2 RS232 1 /RS485
CanOpen	2 Master/Slave up to 1 Mb
Ethernet	1 10/100 Mb
Ethercat	1 Coe
Encoder Channels	16 Line Drive 1 MHz on NGIO
Axes	Interpolated 32 up to 25 MHz clock on NGPP
Step/Dir	Positioned 32 up to 25 MHz on NGPP
Axes	Interpolated 64
CanOpen	Positioned 64
Axes	Interpolated 16 on NGIO
+/- 10V	Positioned 16 on NGIO
Axes	Interpolated 64
Ethercat	Positioned 64
Nr. Blocchi/Sec	500/1500 on Ethernet
Interpolation Type	All managed by IsoUs/IsoNsCe
Look Ahead	Second Level 4096 Blocks
Spindle Management	ModBus +/- 10V CanOpen
Link PC	RS232 up to 115.200 Baud or ETHERNET 100 Mb
Tool Change	All types
Override	Virtual or from Analog Input
PLC Cycle	Without limit
HandWheel	On NGIO or su on CanOpen NGQx
On Board Expansions	8 x NGIO-NGPP
CanOpen Expansions	All type