

# PiCPro – The Key to Successful Motion Control Applications

## PiCPro – A Single-Point Programming Solution for Total Machine Control

PiCPro offers the most flexible toolset for motion application programming available. Motion instructions are as simple to use as ladder logic counters and timers. Sophisticated functions like multi-tasking provide the headroom to solve the toughest applications.

### PiCPro Offers:

- Single-point programming for logic, motion, process, data management and communications
- Complete ladder logic instruction set to make machine control easy
- Drive setup and optimized tuning, integrated with application programming
- Structured text programming for higher level operations
- Powerful and robust motion instruction set including positioning, indexing, gearing, cam profiling and linear/circular interpolation
- User-developed instructions (UDFBs) to create programs that can be reused in application after application
- Powerful diagnostic functions including logic monitoring, data viewing, data forcing, servo tuning, and oscilloscope for quick start-up and maintenance
- On-line edit of logic and motion to speed application development and troubleshooting
- Real-time preemptive multi-tasking to solve high performance applications
- Ethernet TCP/IP support for plant integration and remote application programming and debugging over the internet.

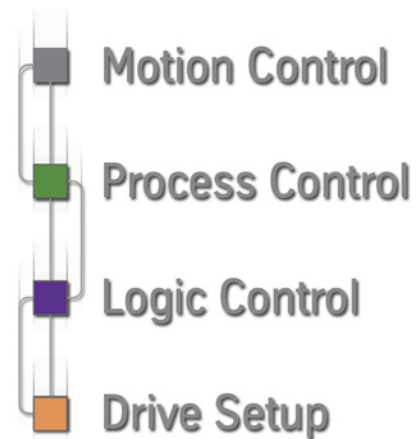
### PiCPro Works!

PiCPro is a proven motion programming tool that keeps on getting better. Fifteen major feature releases with 100% upward compatibility confirm our commitment to improving our products while preserving your software investment.

Experience the balance between flexibility, simplicity and power delivered by PiCPro to solve your application.

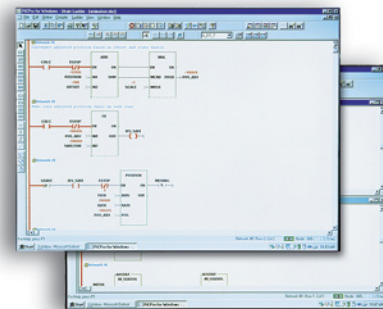
### Single-Point Solution

PiCPro provides a fully-integrated programming environment for your entire application.



### IEC 61131 Application Programming

PiCPro provides ladder logic programming for machine logic control, function block programming for motion control and structured text programming for high level operations, all in a fully-integrated environment. Based on the IEC 61131 standard for programming languages, PiCPro provides a rich standard instruction set with all the tools you'll need to solve your entire machine and motion control application.



Powerful tools for the application engineer include over 200 standard functions, the ability to develop your own functions as well as time-tick, event-driven and servo-synchronous tasks.

Tools for maintenance include program logic animation, on-line edit of motion and logic instructions, variable forcing, and view lists. Servo tuning and view are built into the PiCPro environment to simplify start-up and maintenance.

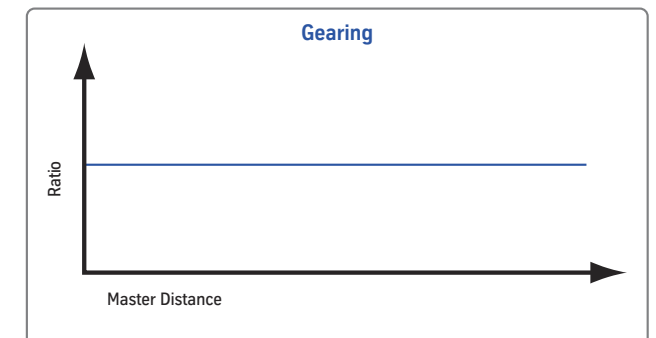
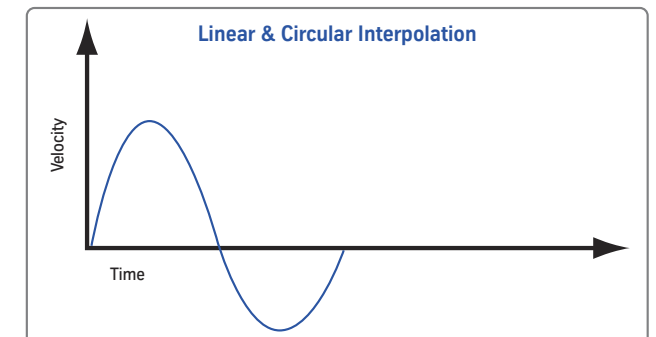
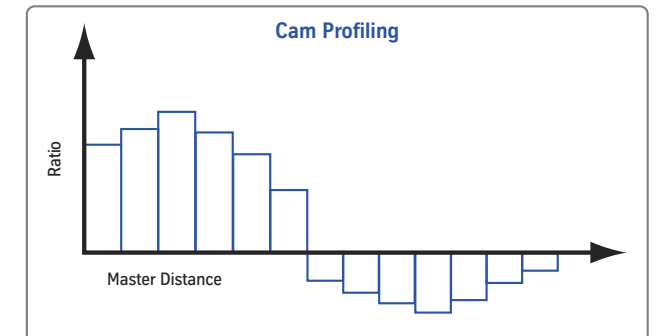
Using universally understood ladder logic for machine control complemented by powerful function block programming for motion control, PiCPro provides the simplest yet most powerful tool for solving your motion application.

## Motion Capabilities To Handle Any Application Challenge

PiCPro's motion control capabilities include positioning, indexing, gearing, cam profiling, and interpolation.

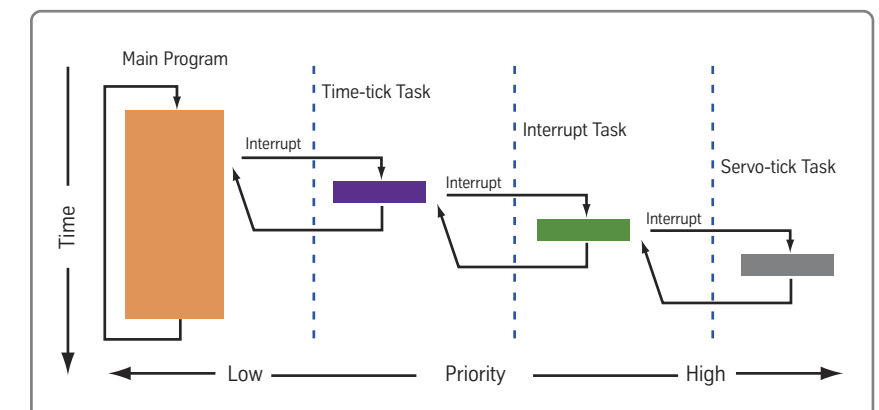
Solve applications such as printing, packaging and converting using the complete master/slave motion instruction set. Sophisticated continuous registration algorithms will adjust your motion profiles providing quality production at all machine speeds. For metal-cutting, welding, pick-and-place and glue-laying, use the interpolated motion instructions.

With up to 32 axes of digital or analog-interfaced, SERCOS or microstepper motion control, PiCPro has the capabilities to solve your application.



## Real-Time Multi-Tasking To Solve Your Most Difficult Applications

PiCPro application programs are structured to keep simple applications simple while offering the performance to solve the most challenging problems. True preemptive multi-tasking lets you focus the control's processing power on your application's highest priority process. User logic can execute in real-time synchronously with the servo update loop.



## Specifications

Programming Package	Description
PiCPro - Professional Edition	Programming tool for MMC, MMC for PC and PiC controls
PiCPro - Limited Edition	Programming tool for Drive-Resident Digital MMC and stand-alone MMC controls
PiCPro - Monitor Edition	Maintenance (no editing) for MMC, MMC for PC and PiC controls

Standard Instruction Set	
Category	Description
Logic Instructions	Ladder logic instruction set including contacts, coils, one-shots, latches
Arithmetic	Support for 8 to 32-bit integer arithmetic. Arithmetic and trigonometric support for 32 and 64-bit floating point values
Binary	Support for all logical operations (and, or, xor, not ...)
Counters	Count-up, Count-down and Count up/down instructions
Datatype	Type conversion between all IEC 61131 data types
Evaluate	Support for all comparison operators (=, <, >, >= ...)
Fieldbus Interface	Name-based integration of DeviceNet™ or Profibus slaves
Filter	Data transfer, limit, selection
I/O	I/O and file device support, including RS232/RS485 serial communications, Ethernet TCP/IP network support, analog input, analog output, thermocouple and RTD input, RAM disk file support (open, read, write, close, delete), PID
Motion	Over 80 motion control functions ranging from position to cam profile used to implement digital and analog-interfaced, SERCOS-interfaced or microstepping stepper motion control applications
String	Character string manipulation instructions (concatenate, mid, right, left ...)
Timers	Time on, Time off, Time pulse machine control instructions
Clock	Real-time clock support instructions

### Applications software (included with PiCPro for Windows)

Includes General and Motion Application Specific Function Block (ASFB) Libraries and Application Examples

Support Libraries	Description
General ASFB	General purpose ASFBs to accelerate the efforts of the beginning programmer
Motion ASFB	Motion control ASFBs for jogging, referencing, and other motion control functions
Ethernet ASFB	Functions to support Ethernet file and data transfer
SERCOS ASFB	Functions to support SERCOS applications

### Support Software Packages

Category	Description
OPC Server	OPC (Ole for Process Control) server installs on a personal computer and allows tag name based data transfer to any OPC Client over Ethernet TCP/IP
A-B Data Highway Interface	A-B DFI protocol support software for RS232/RS485 connection
Modbus™ Interface	Modbus Protocol support for RS232 or Ethernet TCP/IP



G&L Motion Control Inc.  
672 S. Military Road, P.O. Box 1960  
Fond du Lac, WI 54936-1960, USA  
Phone: 920 921 7100 Fax: 920 906 7669  
www.glcontrols.com



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PiCPro – PROGRAMMING SOFTWARE



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