

Flexible Automation
History and future



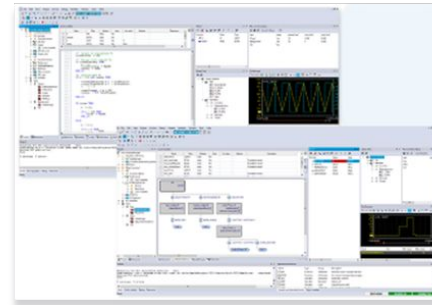
Technical features

OPENcontrol 100% customizable

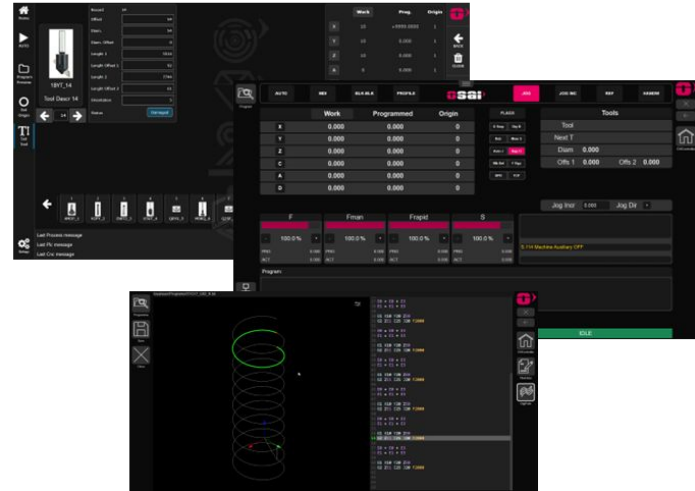


- Machine Logic
- HMI
- ISO programming
- Communication

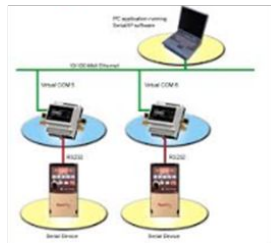
Integrated SoftPLC



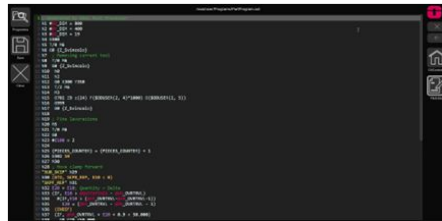
OSAI HMI



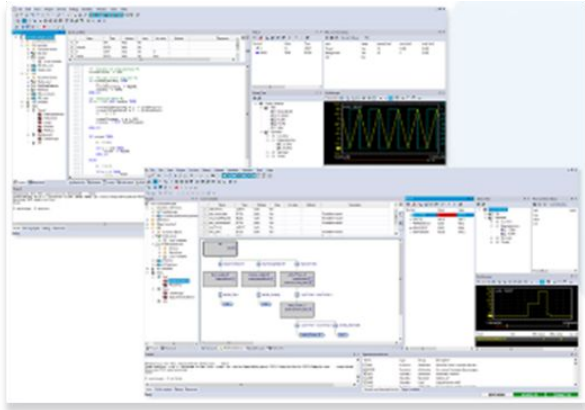
Communication library & OPC server



Programming ISO Code

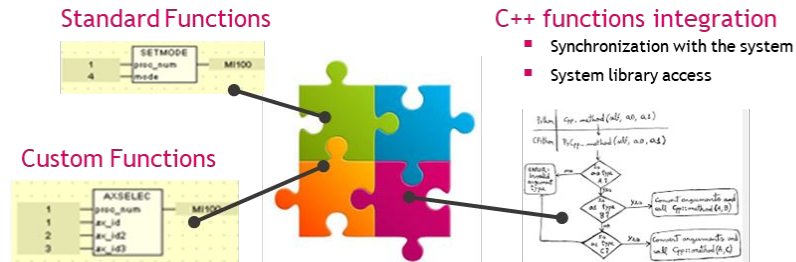


WinPLUS Integrated SoftPLC



- Development environment based on IEC 61131-3
- IL, LD, ST, FB, SFC programming languages
- Integrated machine logic environment
- Multi-tasking real-time execution
- Up to 250 tasks, 10 priority levels
- Cyclic task with min. scheduling of 250 µSec.
- User event-driven tasks
- Event tasks associated to M, S, T functions
- On-line debugging (tracing, breakpoint etc.)

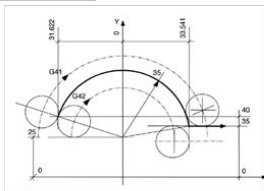
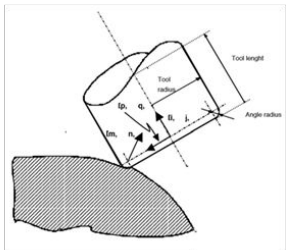
- Programming environment for full system customization
- Powerful development environment
- Over 1000 functions available
 - HMI data exchange
 - ISO program data exchange and synchronization
 - Axes motion and interpolation
 - File access
 - Media and fieldbus access
 - Data Table access
 - Part Program management
 - Drive parameters access
 - Several base functions



SW Key features

Axes Management

- Coordinated, Auxiliary, Pseudo and Spindle axes
- Linear and Rotary Axes
- Rollover Axes
- Diameter Axes
- Multi (up to 8) gantry axes (Split)
- Dual Axes (UDA, SDA)
- Master/Slave axes (XDA)
- Dynamic follower axes (AXF)



Axes Motion

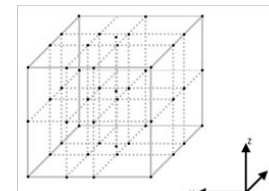
- Linear, Circular, Helical and Spline Interpolation
- Dynamic selection of acceleration/deceleration ramps
- Independent acceleration/deceleration parameters for
 - Linear Ramp
 - S Ramp
 - Trapezoidal Ramp
 - S Ramp with Jerk limitation
- Point to Point and various Continuous Mode
- Parallel asynchronous process axes motion
- Look Ahead
- Axis motion filters programming
- Velocity and Acceleration Feed Forward (VFF and AFF)
- Constant or Variable Pitch, Multi-start Threading (G33)
- Tool radius Compensation
- Spindle management
- Spindle as "C" interpolate axis

Motion Features

- Axis Migration and Sharing
- Multi Block Retrace
- Memory Block Search (Program restart)
- Active Reset
- Protected Areas
- Working Cycles for Turning Systems
- Part Program Execution Time Estimation
- Multi-spindle synchronization

Special Features

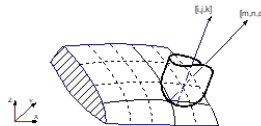
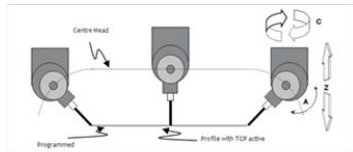
- Zero Shift
- Multi-Axis Electronic Cam
- Bidirectional axis calibration
- Volumetric and Cross Compensation, Axis Calibration



SW Key features

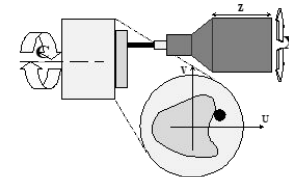
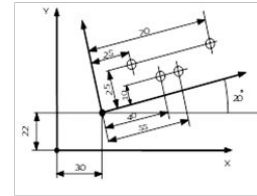
3D Axes Motion

- Circular 3D interpolation
- Automatic orientation of cutting tools along the profile (AXT - Tangential axis control)
- Tool Centre Point (TCP)
 - TCP for machines with Double Twist and Prismatic Heads
 - TCP for non-standard kinematics
 - TCP with tool direction axis and relevant rotated plane
 - TCP with Spline (High Speed Machine)
 - Tool Direction axis movement
 - TCP on rotated planes
 - Selection by program of active kinematics
 - Predictive TCP Dynamics (advanced TCP real time pre-interpolation enhancing surface finishing and reducing the machining time)
 - Real Time compensation of the tool dimensions variation



Virtualization

- Programming on Rotated Plane
- Polar Coordinates
- Cylindrical Coordinates
- Non-orthogonal axes management



Various

- Industry 4.0 ready
- SCARA robots algorithms
- Unit of measure change
- Parametric language (macro)
- Machining canned cycles
- Probing cycles
- Part-program subroutines
- Powerful G code MACRO programs
- XML macro interpreter
- Various measuring cycles

