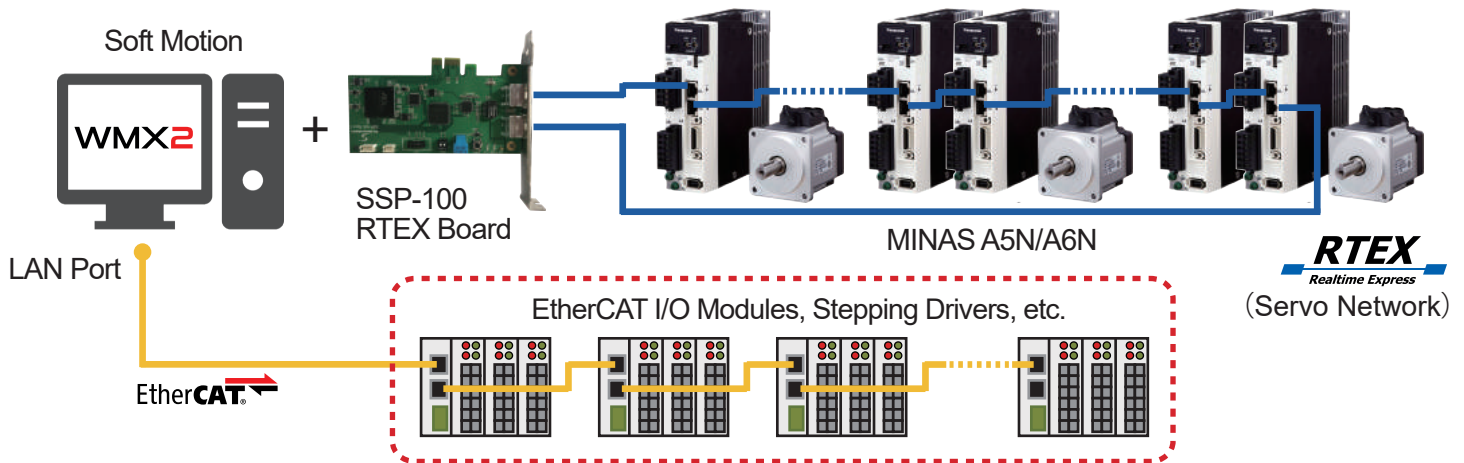


“Hybrid” Network Soft Motion Controller

Synchronous communication: **RTEX** Realtime Express and EtherCAT®
Reduce cost with abundant and inexpensive EtherCAT I/O modules!



These Troubles...

- ✓ Not enough I/O points
- ✓ Trade-off between **node count** and **communication cycle time**
- ✓ High costs for I/O modules
- ✓ Limited selection of I/O modules

Solved with Hybrid Network!!

- RTEX network for highly synchronous servo axis control
- EtherCAT network for abundant and inexpensive I/O modules
- Synchronized control of servo and I/O networks with Soft Motion

Solved!

RTEX
Realtime Express

Uses Soft Servo's original SSP-100 (PCI Express board)
Can be installed on any PC with a PCI-e slot
Up to 64-axis high performance motion control by Soft Motion

EtherCAT®

Original EtherCAT master stack attached with no additional cost
Cycle time 1ms, 1500 bytes each for input and output
Real-time control with no special hardware using onboard LAN port

※ Realtime Express is a high speed synchronous motion network developed by Panasonic Corporation.

※ EtherCAT® is registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.

Stand-Alone All in One Package

EtherCAT Master	Real Time OS	Motion Control API	Robot Control API
Network API	Simple GUI	Network Configurator	IEC61131-3 Language

•Standard Specifications

Interface Board (SSP-100)	Low Profile PCI Express, Supports 32-Axis RTEX (64 Axes with 2 boards)
Max. Number of Axes	64 axes (CP, PTP, Using 2 SSP-100 boards)
Command Cycle Time	0.25ms (16 axes), 0.5ms (32 axes), 1ms (64 axes with 2 boards)
I/O Points	1.5KB each for input and output
Motion Functions	Jog, Homing, List Motion, API Buffer, Event Driven, Trajectory Control (line and arc, spline), Electronic Cam, Position Synchronous Output, Constant Surface Speed Control
Interpolation Functions	Linear (maximum 32 axes), Circular arc (2D and 3D), Helical
Acceleration / Deceleration Profiles	Trapezoidal, S-Curve, Jerk (Jerk-limited or Jerk ratio), Time-Based, Sinusoidal, Parabolic, Acceleration and deceleration can be different Other Profiles : Two-Velocity, PVT
Homing Functions	19 types, gantry axes supported, custom homing routines supported
Override Functions	Dynamically change target position, profile shape and profile parameters during motion
Synchronization Control	Simple synchronization, perfect synchronization (sync displacement correction function for gantry)
Command Modes	Position, Velocity, Torque
Compensation Functions	Pitch error (1D and 2D), Backlash, Straightness correction
Number of Threads	Concurrent function calls from 256 threads and processes
API Languages	C / C++ (native) , .NET compatible languages (C#, VB, etc.) .NET Framework : 4.0 or later
Development Environment	Visual Studio 2008, 2010, 2012, 2013, 2015 C++ Builder XE7 LabView (32bit)
Recommended Operating Environment	OS : Windows 7, Windows 10 CPU : Min.ATOM 2GHz (E3845, etc.) 2 cores or more Memory : 4GB or more

•Optional Packages

- **PLC Package** : IEC61131-3 standard programming languages (LD, FBD, ST, IL, SFC) are available. Not only various motion functions of the PLCopen standard but also a wide variety of unique motion functions of WMX2 are offered as FB. Also included is an HMI creation tool based on Microsoft Visual Studio. It also integrates with the API library of WMX2, enabling flexible and powerful programming with C/C++, .NET/C#, and PLC languages.
- **Robot Control Package** : 6-axis vertical articulated robot, forward and inverse kinematics of various industrial robots such as SCARA robot and delta robot are implemented. Multiple industrial robots and auxiliary axes can be controlled simultaneously and synchronously. Simple programming with the original robot language "RBC". Teaching pendants are also available as options.

•Abundant mass production equipment recruitment record

Semiconductor Equipment

- Coater/Developer
- Etching Machine
- Flip Chip Bonder
- Handler/Die Bonder
- Image Inspection Equipment

FPD Manufacturing Equipment

- FPD Exposure Apparatus
- LCD Inspection Equipment
- Mask Defect Repair System

Industrial Robots · Processing Machines

- Wafer Transfer Robot
- Pipe Bender
- Smartphone automated Equipment
- Battery automated Equipment