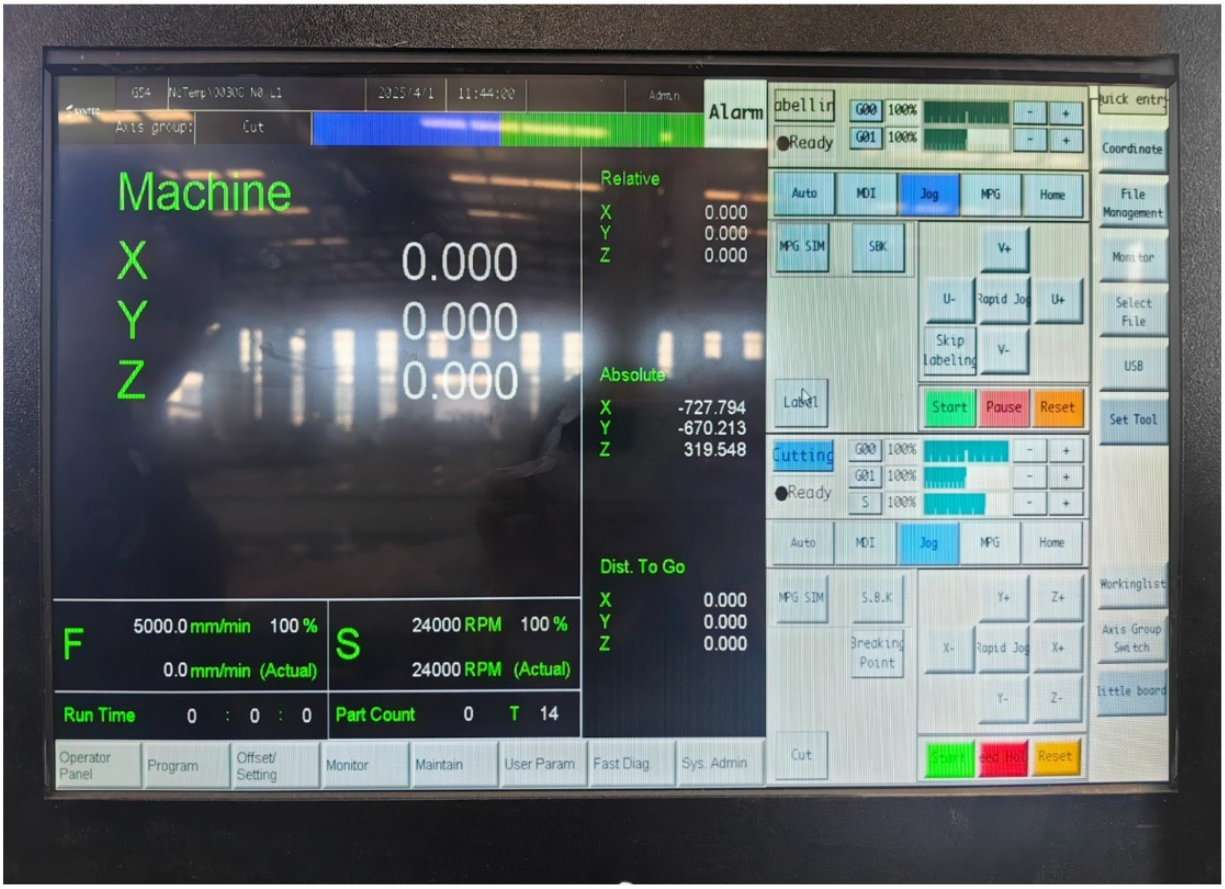
FIGTEK INDUSTRY
SYNTEC 60W-E CONTROLLER

INDUSTRIAL CNC ROUTER MOTION CONTROL SYSTEM



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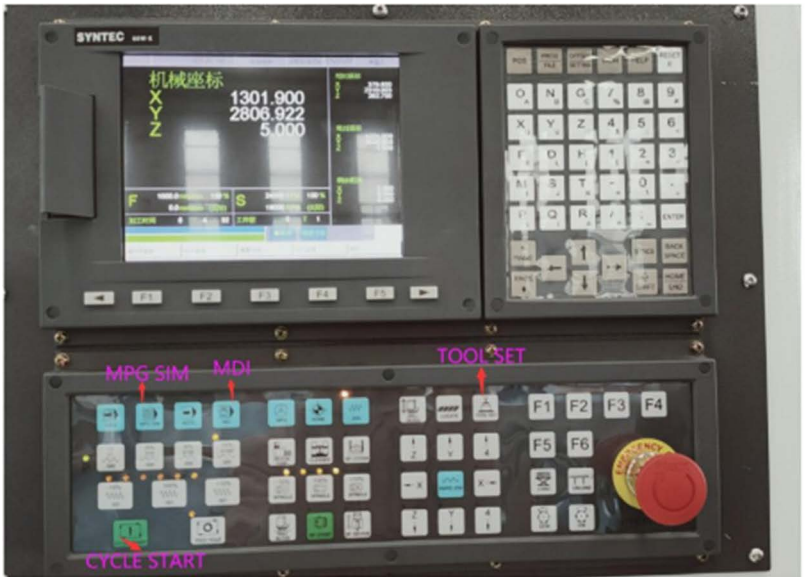
ABOUT THE SYNTEC 60W-E CONTROLLER

The Syntec 60W-E is a dedicated woodworking and milling CNC controller widely used on ATC CNC routers for cabinetmaking, panel processing, engraving, and nested-based machining. It supports up to 4 axes, auto tool change positioning, and modern fieldbus protocols such as Mechatrolink III and EtherCAT, with a software HMI designed for mouse and keyboard operation.



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KEY FEATURES OF THE SYNTEC 60W-E ON A CNC ROUTER

1.Dedicated Woodworking & Router Control

Optimised for router cutting, engraving and nested-based machining on timber, MDF, plywood, plastics and composite boards.

2.4-Axis CNC Control

Supports up to 4 axes for X/Y/Z plus a rotary or auxiliary axis, suitable for ATC routers and 3D carving applications.

3.ATC & Tool Change Positioning

Built-in support for automatic tool changers, tool change positions, and tool length compensation, reducing manual intervention and change-over time.

4. Modern Fieldbus Connectivity

Supports Mechatrolink III and EtherCAT communication, allowing high-speed, deterministic control of servo drives and I/O modules, and simplifying cabinet wiring.

5.Built-in CAD/CAM & Worklist Management

Working-list and label-list management, with built-in CAD/CAM functions for nesting and drilling patterns, supporting integration with MES/ERP and furniture production lines.

6.User-Friendly HMI

Standard, complete and intuitive interface, usable with mouse/keyboard. Operators familiar with Windows-style interfaces adapt quickly, reducing training time.

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KEY FEATURES OF THE SYNTEC 60W-E ON A CNC ROUTER

7. Flexible I/O & Modbus Integration

Easy-to-assemble I/O modules and Modbus inverter module; simplified parameter setup that can be reused across jobs; supports multiple VFD brands (Delta, Inovance, Fuling, etc.).

8. Network & USB File Transfer

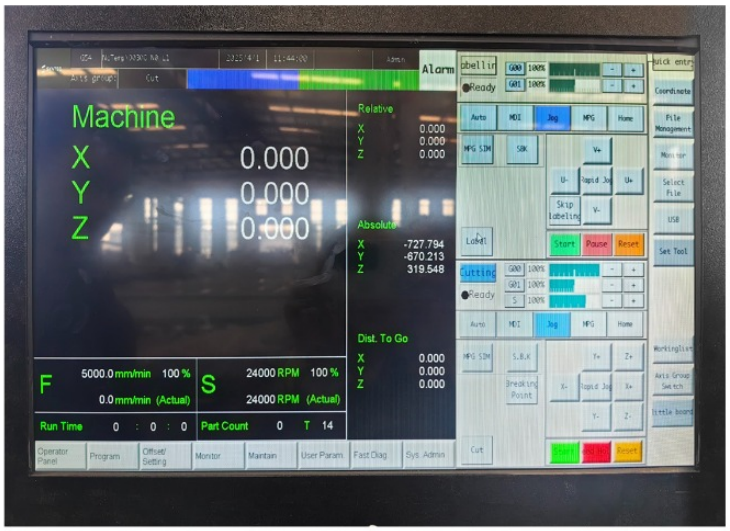
NC programs can be transferred via USB or network, supporting centralised program management and backup.

9. Diagnostics & Alarm Handling

Detailed alarm messages and monitoring screens to help technicians troubleshoot axis faults, spindle issues and I/O errors quickly.

10. Support Ecosystem

Backed by parameter manuals, operation manuals and alarm guides, which simplifies commissioning and ongoing service for local integrators and electricians.



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ADVANTAGES OF THE SYNTEC 60W-E FOR AUS/NZ-COMPLIANT CNC ROUTERS

1.Strong Platform for AS/NZS 4024 Compliance

The controller provides the logic layer for safety-related stop functions, interlocks and mode selection that can be implemented in line with AS/NZS 4024.1 and 4024.1603 (design of controls, interlocks and guards, prevention of unexpected start-up).

2.Stable, Proven Hardware & Software

Widely adopted in woodworking routers, noted in industry forums for stable long-term operation and low incidence of software bugs, which supports reliability requirements for industrial machinery.

3.Efficient Production for Nested-Based Manufacturing

CAD/CAM and worklist handling help support high-volume nested-based cutting (cabinets, wardrobes, kitchen carcasses), aligning with local demands for fast, repeatable production.

4. Reduced Wiring & Simpler Panel Design

Using EtherCAT/Mechatrolink and modular I/O reduces point-to-point wiring, helping panel builders design cleaner, more serviceable cabinets that are easier to inspect against AS/NZS 3000 wiring rules and site electrical safety requirements.

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ADVANTAGES OF THE SYNTEC 60W-E FOR AUS/NZ-COMPLIANT CNC ROUTERS

5.Integration with Factory Systems

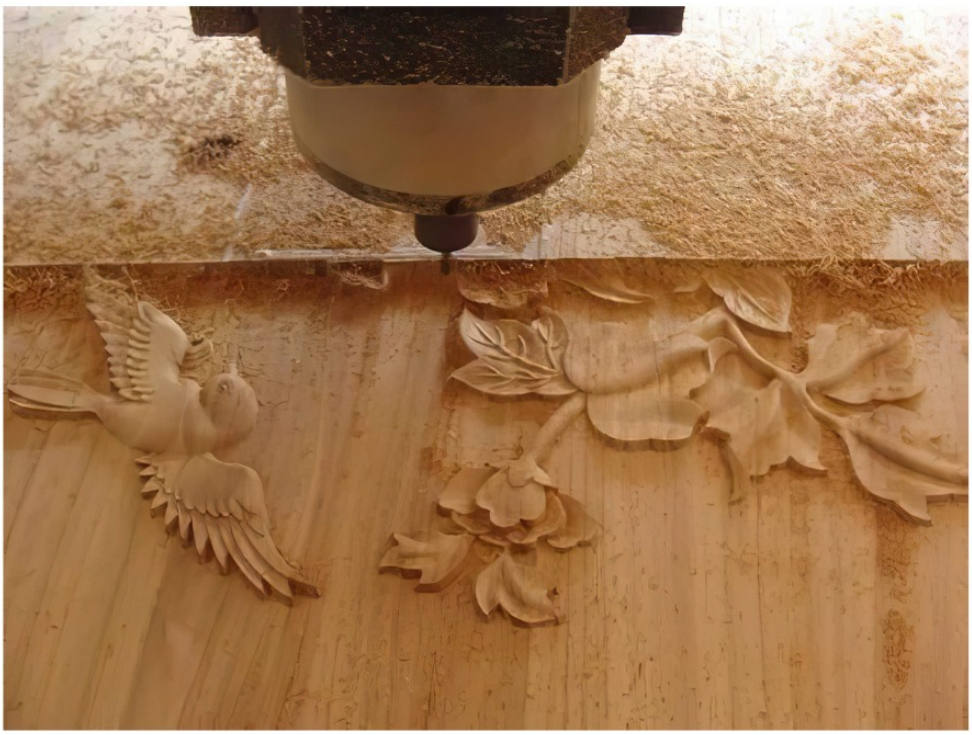
Working-list, label printing and MES/ERP integration capabilities support traceability, job tracking and labelling, which are often requested by Australian joinery and flat-pack manufacturers.

6.Flexibility for Retrofits

Ideal for retrofitting older CNC routers with modern fieldbus servo drives and updated safety architectures to bring legacy machines closer to current AS/NZS 4024 expectations.

7.Support for Advanced Applications

Suits 3D carving, signmaking, solid timber profiling and complex nested jobs where multi-tool ATC and reliable trajectory control are critical.



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KEY STRENGTHS

- **Flexibility & Modularity** — supports from 4 to 6 axes; modular I/O; works with various servo/inverter brands (e.g. Delta, Inovance, etc.) for broader hardware compatibility.
- **Automation-Ready** — built-in support for tool changes, label printing (via ZPL), working-list/job-queue management, nesting — reducing manual workload and boosting throughput.
- **Operator Convenience** — standard or touch-panel UI; supports mouse/keyboard; user-friendly interface for operators of varying skill levels.
- **Integration Capabilities** — communication protocols like EtherCAT or M3 allow synchronized servo control, easy connection to drives, spindles, inverters, and external devices (vacuum tables, printers, conveyors).
- **Support for Complex & Production Workflows** — nesting + job-queue + I/O + multiple axes + tool changes make it suitable for furniture lines, mass production, repeated jobs, and even production-line automation with CNC, drilling, labelling, etc.
- **Reliability & Stability** — from user feedback and product positioning: the system is regarded as stable and "works reliably" when properly configured.
- **Scalability** — because of optional features (extra axes, RTCP, rotary axis, label printing, built-in CAM) and support for multiple spindles and external devices, 60W-E can scale from simple routers to more complex CNC machining centers over time.

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USES OF A SYNTEC 60W-E CNC ROUTER

1.Cabinet & Furniture Manufacturing

Nested-based CNC machining of carcasses, doors, drawer fronts and panels in MDF, melamine, plywood and particleboard.

2.Joinery & Shopfitting

Custom joinery parts, reception desks, counters, wall panelling, feature ceilings and fit-out elements.

3.Signmaking & Engraving

2D and 3D engraving in ACM, acrylic, PVC foamboard, HDPE, hardwoods and softwoods; V-grooving and profile cutting for illuminated and architectural signage.

4. Solid Timber Processing

Profiling, routing, moulding and carving of solid timber components, furniture parts, decorative panels and stair elements.

5.Composite & Plastic Component Machining

Cutting and drilling of engineering plastics, composites, fibreglass sheets and lightweight panels for transport, caravan, RV and construction industries.

6.Aluminium & Non-ferrous Routing (Light Duty)

Panel routing, drilling and pocketing of aluminium and non-ferrous sheets for cladding, framing and fabrication where router-level tolerances are acceptable.

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USES OF THE LNC MW2200 CONTROLLER ON A CNC ROUTER MACHINE

1. Cabinet & Furniture Manufacturing

Manages high-volume nested-based manufacturing, cutting MDF, plywood, melamine, laminated boards, and timber components with precision.

2. Signmaking & Engraving

Ideal for routing ACM, acrylic, foam PVC, MDF lettering, 3D engravings, profile cutting, and panel work with smooth finishing.

3. Engineering & Industrial Component Machining

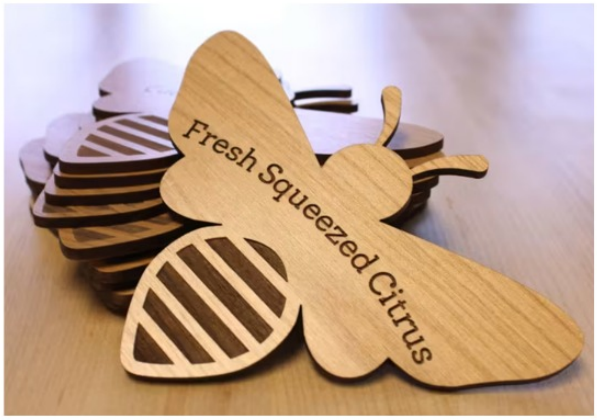
Handles aluminium profiles, jigs, fixtures, machine components, composite parts, and precision routing tasks that require consistent tolerances.

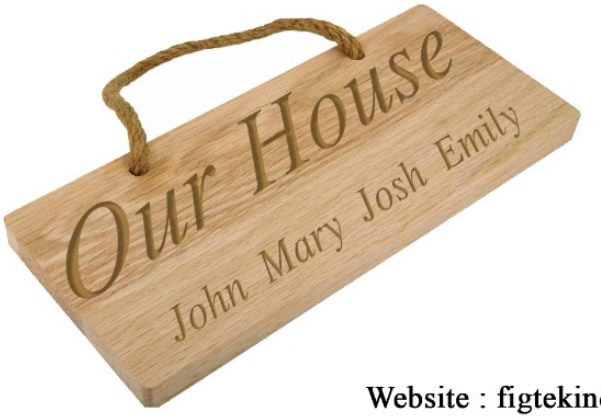
4. Composite Fabrication & Plastics Cutting

Used for machining plastics, carbon fiber, fiberglass sheets, engineering plastics and composite materials requiring precise toolpath control.

5. Solid Timber Processing

Controls high-speed motion needed for timber profiling, decorative routing, joinery components, and carving work.





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USES OF THE LNC MW2200 CONTROLLER ON A CNC ROUTER MACHINE

6. 3D Carving & Complex Geometry Work

Smooth motion algorithms allow detailed carving, mould making, artistic CNC patterns, and organic shape cutting.

7. Multi-Tool Workflow Automation

Used in ATC CNC routers to perform drilling, pocketing, profiling, bevelling, engraving and finishing operations in a single automated cycle.

8. High-Speed Mass Production

Supports long shifts and continuous duty cycles for businesses needing high throughput and dependable machine control.

9. Retrofit for CNC Router Upgrades

Commonly installed as a modern replacement controller on older CNC router frames to drastically improve speed, automation and reliability.

10. CNC Training & Education

A simplified, intuitive interface makes it ideal for training operators, apprentices, and new CNC users.