Specification

Milling Machine Control System Series

○Yes --No △Option

Product SPEC.

	Model No.	Milling Machine Controller: M Series									AL. Processing: MA Series			
		2800A	2800D	2850D	3300A	5800A	5850D	6200A	6800D	6850D	2600A 2700A	2600D 2700D	6200A	7200D
HW	Display	--	--	--	7" Touch	8.4"	--	10.4" Touch	10.4"	10.4"	--	--	10.4" Touch	15" Touch
	Video Output	VGA	VGA	VGA	build-in 7"	build-in 8.4"	VGA	build-in 10.4"		build-in 10.4"	VGA	VGA	build-in 10.4"	build-in 15"
	Axis	4 / 6	2	2	4	4	2	4	2	2	4	2	4	2
	Servo Protocol	--	MII /MIII/ RTEX / EtherCAT	MII /MIII/ RTEX / EtherCAT	--	--	MII /MIII/ RTEX / EtherCAT	--	MII / RTEX / EtherCAT	MII / RTEX / EtherCAT	--	MII / RTEX / EtherCAT	--	MII / RTEX / EtherCAT
	D/A Output	2	2	2	2	2	2	2	2	2	2	2	2	2
	MPG	1	1	1	1	1	1	1	1	1	1	1	1	1
	Fast I	2	2	2	2	2	2	2	2	2	2	2	2	2
	Input Point	User 40 Comm.128	Comm.128	Comm.128	128	32	128	User 40 Comm.128	128	128	128	128	User 40 Comm.128	128
	Output Point	User 32 Comm.128	Comm.128	Comm.128	128	32	128	User 32 Comm.128	128	128	128	128	User 32 Comm.128	128
	Front USB	0	0	0	1	1	1	1	1	1	--	--	1&1	1
	Rear USB	2	2	2	1	1	2	1	2	2	3	3	1&1	2
	Front LAN Port	0	0	0	0	1	1	1	1	1	--	--	--	1
	Rear LAN Port	1	1	1	1	1	1	1	1	1	1	1	1	1
	LED Tool Indicator	--	--	--	--	--	--	--	△	△	--	--	--	--
Control	Control Path	1	1	6	1	1	6	1	1	6	1	1	1	2
	HW Axis	7	32	32	5	7	32	7	32	32	7	7	7	8
	Sync. Axis	5	6	6	3	3	6	5	6	6	4	4	5	5

SPEC.(Peripherals)

Model No.	REL2840	REL7816D	SIOA1860R	SIOA1760R	SIOA1700	REL1805
I/O Type	User I/O	User I/O	Communication I/O (CIO)	Communication I/O (CIO)	Communication I/O (CIO)	Expansion
Support Controller	Pulse	Pulse	Digital	Digital	Digital	--
Input	20	20	16	16	22	--
Output	16	16	16	16	16	5
Input Spec.	DC 24V±10%	DC 24V±10%	DC 24V±10%	DC 24V±10%	DC 24V±10%	--
Output Spec.	AC 250V / 6A DC 24V / 3A	DC 24V / 2A	AC 250V / 6A DC 24V / 3A	AC 250V / 6A DC 24V / 3A	DC 24V / 2A	AC 250V / 5A DC 24V / 1.5A
Output Type	Relay	Crystal/ Low Level Output	Relay	Relay	Crystal/ Low Level Output	Relay

Model Naming Rule

M — Application Type
- M: Milling Machine
- MA: AL. Processing

2800 — Main Model No.
- 2__0: Without Display (Suppory KB/Mouse)
- 3__0: w/ 7" LCD
- 5__0: w/ 8.4" LCD
- 6__0: w/ 10.4" LCD
- 7__0: w/ 15" LCD

D3 — Servo Protocol Type
- D1: MII
- D2: RTEX
- D3: EtherCAT
- D7: MIII
- A: Pulse

S1 — Channel
- S1: Single
- S2: Dual

V04 — Axis
- V03: 3
- V04: 4
- V06: 6

P01 — Spindle
- P01: Max. 1
- P03: Max. 2

Intelligent Machines Information & Intelligence

Comprehensive Upgrade of Smart Machinery

Besides of the hard core technology of precision and processing speed, the developing trend of the modern machinery is to integrate smart functions to upgrade machine to intelligent machinery. The key technologies include integration of sensors, intelligent accessories and IoT. LNC Technology provides powerful product integration control capabilities to bring modern smart machinery and more efficient manufacturing process come true.

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LNC
Enable intelligent machines

LNC Technology Co., Ltd
Controller Business Group

Milling Machine Controller

MILLING MACHINE CONTROLLER

High Speed High Precision | Multi-axis ; Multi-path
5-axis Function | Intelligent Sensor

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LNC Milling Machine Controller

The LNC Series are fast PC-based CNC controllers which were developed through strict quality control. Its strong & durable fanless design has great heat dissipation function and its oil/dust-proof designs are particular suitable for harsh environment. Milling control systems are user-friendly controllers which provide high stability, high speed and precision cutting ability to compete with worldwide controllers.

High-efficiency Motion Control
- High precision processing: perform the best execution and display all details of processing program.
- Real time PLC -Stable and accurate peripherals control.

Customization Development Tools
- PLC : Supports Ladder
- Marco
- Open HMI : QUI-Designer

Other Functions
- Know-how Protection
- Online Help Function
- G/M code on-demand Search

Product Series

Milling Controller Series

M2800
- Customized screen and operating panel
- Support operator panel software

M5800 Horizontal Type
- 8.4" LCD
- Membrane MDI/ Operating panel

M6200
- 10.4" Touch Panel
- Suitable for turret milling machine

M6800 Horizontal Type
- 10.4" LCD
- High-quality surface design
- Chiclet/ Membrane MDI/Operating Panel

M3300A
- 7" Touch Panel
- Open HMI
- Provide software OP

M5800 Chiclet-Vertical Type
- 8.4" LCD
- Membrane MDI/ Operating panel

M6800 Membrane-Vertical Type
- 10.4" Panel
- Membrane MDI

M6800 Chiclet-Vertical Type
- 10.4" LCD
- High-quality surface design
- Chiclet/ Membrane MDI/Operating Panel

Aluminum Processing Machine Series

MA2600/2700
- Supports Pulse/EtherCAT
- Connection of external display
- Application: Aluminum dialog processing

MA7200 Plastic Frame

MA7300 Metal Frame
- 15 "LCD
- Supports protocols: M II (D1) / EtherCAT (D3)
- Application: Aluminum dialog processing

Application

Application

▶ **Macine Center**

▶ **Tapping Machine**

▶ **Engraving-Milling Machine**

▶ **Engraving Machine/ Glass Edging Machine**

Development Tools

Developing Tools: PLC/Marco/HMI

Macro-supports High-level Languages
- Supports VB-like language
- Build-in Libraries
- Generate special curve processing paths through mathematical operations, such as gear or tool processing, etc.
- Providing interface of connections of external devices ex: CCD

PLC Editing/Simulation/Waveform Debug
- Support PLC Ladder
- Real time PLC : control the accessories more precisly and stable

HMI: Tool: QUI Designer
- Drag and drop design interface, what you see is what you get
- In addition to standard methods, it can also communicate with Motion programs through QUI-Macro

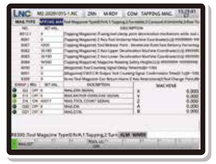
Software

Software

Processing Path Quick Preview
- Preview process path in advance, to avoid the actual processing error.

Automatic Tool Length Measurement
- Support HMI interface to input the measurement information of tool length.

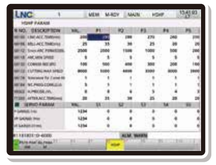
Friendly Tool Magazine Adjustment Page
- Support standard tool magazine function and the exclusive adjustment page.



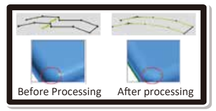
Parameter Displayed by Itemize
- Change the display mode for a group of itemize, described in detail.
- Bit-type parameter shown separate, easy to set-up, enter data without additional calculation.

Macro Protect Function
- Support Macro encryption, unable to decode the protected macro.

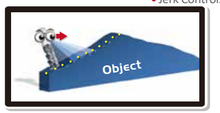
Intelligent Cutting Function
- Provide Macro for instant modifications of levels of high speed and precision. Users are able to select by themselves or set by program.

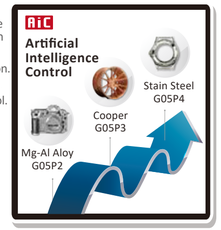


Smoothing of CAD/CAM Generating Program
- Pre-processing of path smoothing: reduce the bias caused by the CAD/ CAM file conversion and improve the processing speed and precision.



VHSP, High Speed, High Precision Cutting
- Perform the best execution and display all details of processing program.
- Meets the demands of fine engraving applications.
- Pre-acceleration/ deceleration mechanism.
- Optimization of the difference between axis.
- Look-ahead function.
- Multi-node cluster.
- Curve speed control.
- Jerk Control.





Aluminum Processing

Main Function Pages of AL-processing Control

CNC Standard Mode
- Suitable for Complicated processing
- Program design can be exported from CAD/CAM
- Support CNC standard processing

GUI-Graphic User Interface
- Suitable for on-site programming
- Not necessary to export program from CAD/CAM
- For simple graphic /processing

GUI Mode: 5 Working Methods

General, Wedge, Layer, Handle, Hinge

Software

Featured Functions

Processing Methods Selection
- Authorized to open or hide the craft graphics by requirements.

Boards and Gaskets Settings
- Set the height of datum edge gasket, height of lifting knife according to operating habits

Set the Compensation according to Z Value
- When the X-direction jig is very long and tilt phenomenon occurs, resulting in unequal height processing in Z-direction, the tilt ratio compensation can be set

Automatic/Manual Tool Setting
- Provide quick manual tool setting function when there is no tool setting instruments assist

Support 4-axis Processing
- It can do the turn-over processing automatically, when there is rotation axis

Set Graphics Processing Parameters according to the Processing
- The processing sequence can be set according to the process graphics

Application

Applications

The aluminum processing application has its unique characteristics, including the machine structures and technical parameters are very different from regular machine tools. In order to meet the characteristics of aluminum processing machines, LNC has developed a dedicated controller for aluminum processing methods and common needs: milling, drilling, tapping... etc., and has built-in a large number of common process styles and various convenient functions. And adopt graphical dialogue mode operation, which is convenient for users to learn and operate, and they can get started in a short time.