# Micro870 Programmable Logic Controller

Customizable and expandable for your application

As the latest expandable and powerful controller within the Micro800™ family, the new Micro870® controller offers machine builders and end users with a higher level of scalability, flexibility, and customization. Designed for large standalone machine applications, the Micro870 controller comes with great memory capacity to enable more modular program and use of user-defined function blocks. The embedded motion capabilities support up to two axes of motion with TouchProbe instruction that registers the position of an axis more precisely than using interrupts. Furthermore, the Micro870 controller is capable of communicating on various networks and with devices through Ethernet, Serial and USB ports.

Programming the Micro870 controller is simple with the Connected Components Workbench™ software, which provides controller programming, device configuration and data sharing with the Human Machine Interface (HMI) editor for PanelView™ 800 graphic terminals. The software also supports Ladder Diagram, Function Block Diagram and Structured Text, and allows copy and paste of ladder codes and instruction sets from RSLogix 500® and Studio 5000 Logix Designer® software. For enhanced security, controller password protection is supported as with all Micro800 controllers.

Plus, the Micro870 controller can be further customized with space-saving plug-in modules which support application code backup/restore, datalogging and recipe management.
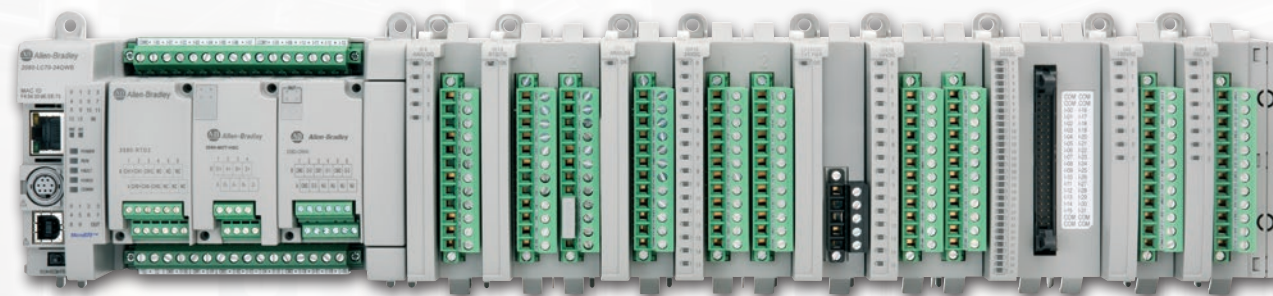
Advantages

- Meet operational needs by scaling machine with support for up to eight expansion I/O modules and 304 digital I/O points
- Program devices and connect to HMI effortlessly through EtherNet/IP™
- Control drives and communicate to other controllers with ease using symbolic addressing with client messaging
- Shorten machine development time with up to 280 KB memory size and support for up to 20,000 programming steps
- Reduce wiring time with removable terminal blocks

Enabling The Connected Enterprise

Bringing people, processes and technology together

It's about reshaping the future through leverage and convergence.

The Connected Enterprise leverages technology to better gather, analyze data and transform it into actionable, real-time information. It also capitalizes on operational, business and transactional data, to improve enterprise, operations and supply chain performance, converging information technology (IT) and operations technology (OT) into a single, unified architecture.

- **Improve Productivity with better asset utilization and system performance**
- **Promote Globalization with easy access to actionable, plant-wide information**
- **Support Sustainability with extended product lifecycles and better asset utilization**
- **Cultivate Innovation with increased system flexibility and technical risk mitigation**

Faster time to market
Design productivity, faster commissioning time with intelligent devices, quicker startup of Greenfields, proven technology around risk mitigation for operations and IT, and the agility to respond to customer trends more quickly.

Lower total cost of ownership
Better life-cycle management, enabling more effective operations, improved energy management, and easier technology migration.
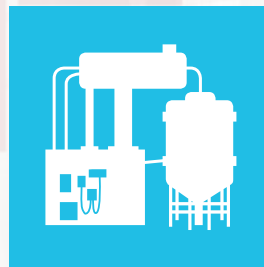
Improved asset utilization and optimization
Improved reliability and quality, as well as predictive maintenance driven by operational intelligence tools.

Enterprise risk management
Protection of intellectual property and brand image with a safe and secure operating environment, reduced exposure due to poor product quality and internal and external threats.

Delivering The Connected Enterprise

The result of converging and leveraging The Connected Enterprise, IoT and the Integrated Architecture® technologies

A Connected Enterprise is where seamless collaboration and integration enable you to use the power of real-time data to make better and more profitable business decisions. Enhanced performance, optimized operations and increased profitability throughout your entire enterprise provide you with the ability to meet the growing automation demands of customers around the world.
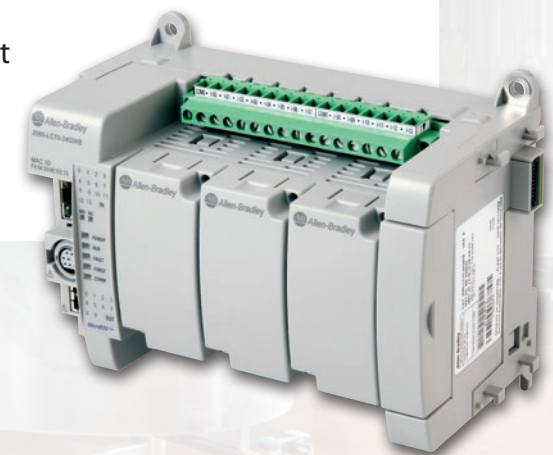
Micro870 Controller

Catalog number	Inputs		Outputs		Motion axis#	High-speed counter (HSC)*
	12/24V^	120V AC	Relay	24V Source		
2080-LC70-24AWB	-	14	10	-	-	-
2080-LC70-24QWB	14	-	10	-	-	4
2080-LC70-24QBB	14	-	-	10	2 PTO	4

Base unit	
Power supply	Base unit has embedded 24V DC power supply
Base programming port	Embedded USB 2.0 (non-isolated). Any standard USB printer cable will work
Base Ethernet port	EtherNet/IP Class 3, Modbus TCP (10/100Mbps)
Base plug-in slots	3
Base 100 kHz HSC* max	4

I/O	
Digital I/O (in/out)	24 (14/10)
Analog I/O channels	Via plug-in modules or with expansion I/O modules
Expansion I/O modules	Up to 8 modules
Maximum digital I/O (via plug-in and expansion I/O modules)	304

Environmentals	
Certifications	c-UL-us Class I Div. 2, CE, RCM, KC
Temperature range	-20˚C to +65˚C (-4˚F to +149˚F)
Dimensions (HxWxD, mm)	90 x 145 x 80

^ 12/24V DC and 24V AC supported.

Each PTO axis is shared with 2 HSC inputs. If maximum number of PTO is configured then number of HSC is zero.

* 2-wire HSC shown, divide by 2 to get number of 4-wire HSCs.

Programming	
Software	Connected Components Workbench™ Software Version 11+ or later
Program steps (or instructions)	20,000 steps
Data (bytes)	Up to 128 KB memory space
IEC 61131-3 languages	Ladder diagram, function block, structured text
User-defined function blocks	Yes
Motion instructions	Yes
Floating point math	32-bit and 64-bit
PID loop control	Yes
Embedded Serial port protocols	RS232/485, Modbus RTU Master/Slave, ASCII, CIP™

+ 2080-LC70-24AWB works with Version 12 or later.

PLCopen
motion
control
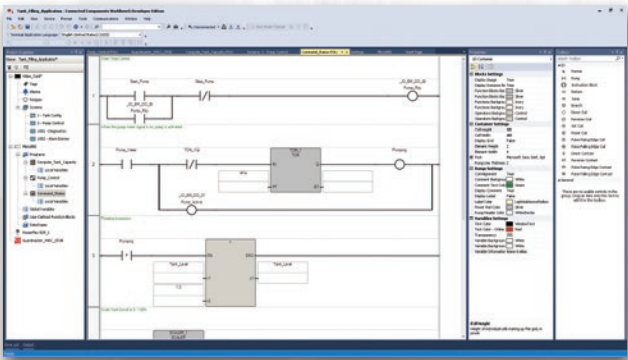
Catalog number	Description
Plug-in modules	
2080-IQ4	4-pt digital input, 12/24V DC, sink/source, Type3
2080-OB4	4-pt digital output, 12/24V DC, source
2080-OV4	4-pt digital output, 12/24V DC, sink
2080-OW4I	4-pt relay output, individually isolated, 2A
2080-IQ4OB4	8-pt combo: 4-pt digital input, 12/24V DC, sink/source, Type3, and 4-pt digital output, 12/24V DC, source
2080-IQ4OV4	8-pt combo: 4-pt digital input, 12/24V DC, sink/source, Type3, and 4-pt digital output, 12/24V DC, sink
2080-IF2, 2080-IF4	2/4-ch analog input, 0-20 mA, 0-10V, non-isolated 12-bit
2080-OF2	2-ch analog output 0-20 mA, 0-10V, non-isolated 12-bit
2080-SERIALISOL	RS232/485 isolated Serial port
2080-TRIMPOT6	6-ch Trimpot analog input
2080-RTD2	2-ch RTD, non-isolated, ±1.0 °C
2080-TC2	2-ch TC, non-isolated, ±1.0 °C
2080-MEMBAK-RTC2	Memory backup and high accuracy RTC
2080-MOT-HSC	High-speed counter, 250 kHz, differential line receiver, 1 digital output
2080-DNET20	DeviceNet® scanner, 20 nodes

Catalog number	Description
Expansion I/O modules	
2085-IQ16, 2085-IQ32T	16/32-pt digital input, 12/24V DC, sink/source
2085-OV16	16-pt digital output, 12/24V DC, sink
2085-OB16	16-pt digital output, 12/24V DC, source
2085-OW8, 2085-OW16	8/16-pt relay output, 2A
2085-IA8	8-pt 120 V AC input
2085-IM8	8-pt 240V AC input
2085-OA8	8-pt 120/240V AC output
2085-IF4, 2085-IF8	4/8-ch analog input, 0 ~ 20 mA, -10V ~ +10V, isolated, 14-bit
2085-OF4	4-ch analog output, 0 ~ 20 mA, -10V ~ +10V, isolated, 12-bit
2085-IRT4	4-ch RTD and TC, isolated, ±0.5 °C
2085-EP24VDC	Expansion power supply module
2085-ECR	End cap terminator
Accessories	
2080-PS120-240VAC	External 120/240V AC power supply
2080-SD-2GB	2 GB microSD™ card

www.rockwellautomation.com