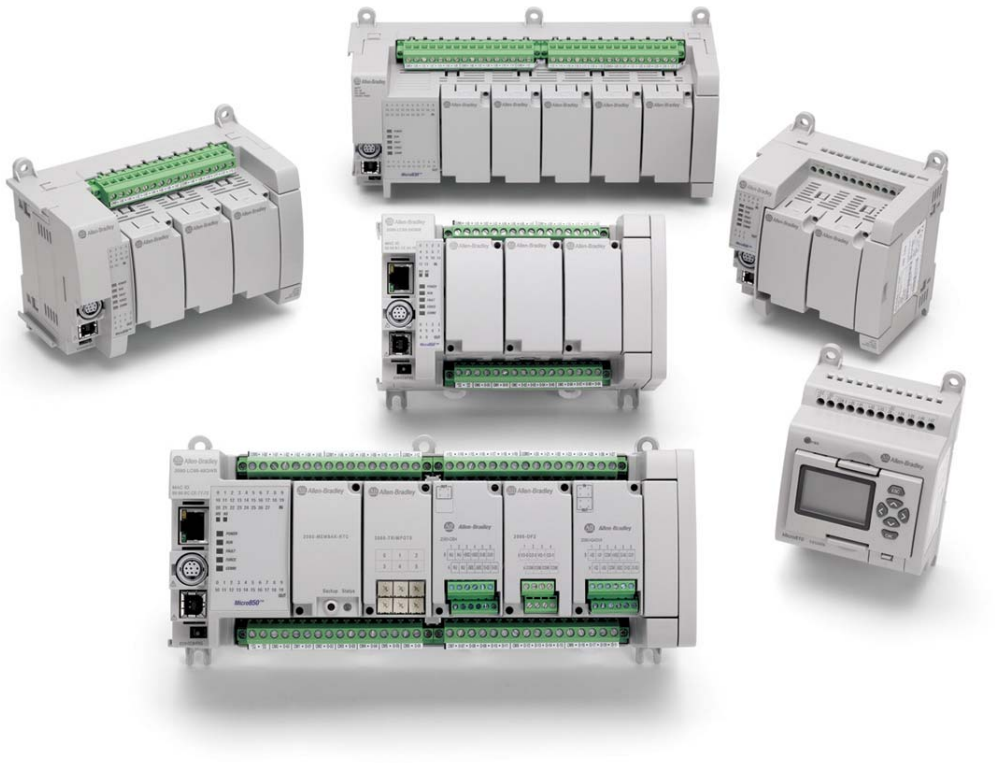
Select a Micro800 Controller



Micro800™ controllers are designed for low-cost, standalone machines. These economical small-size PLCs are available in different form factors based on the number of I/O points embedded in the base, with a range of features intended to address different requirements. The Micro800 family shares programming environment, accessories and plug-ins that allow machine builders to personalize the controller for specific capabilities.

Micro810™ controllers function as a smart relay with high current relay outputs, but with the programming capabilities of a micro PLC. The Micro810 controllers come in a 12-point form factor.

Micro820™ controllers are specifically designed for smaller standalone machines and remote automation projects. It has embedded Ethernet and serial ports and a microSD™ slot for datalogging and recipe management. These controllers come as 20-point form factors that can accommodate up to two plug-in modules. It also supports the Micro800 Remote LCD (2080-REMLCD) module to allow easier configuration of such settings as IP address and functions as a simple IP65 text display.

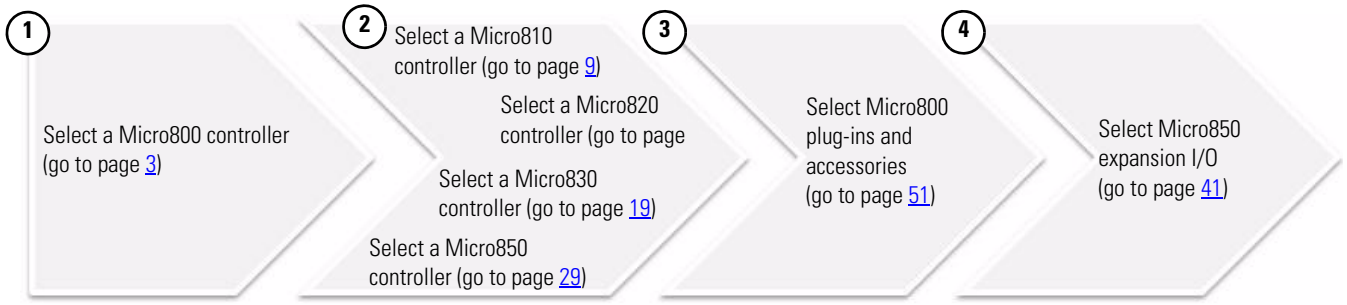
Micro830™ controllers are designed for standalone machine control applications. They have flexible communications and I/O capabilities with up to five plug-ins. They come as a 10-, 16-, 24-, or 48-point form factors.

Micro850™ expandable controllers are designed for applications that require more digital and analog I/O or higher performance analog I/O. They can support up to four expansion I/O. Micro850 controllers include additional communication connection options through an embedded 10/100 Base-T Ethernet port.

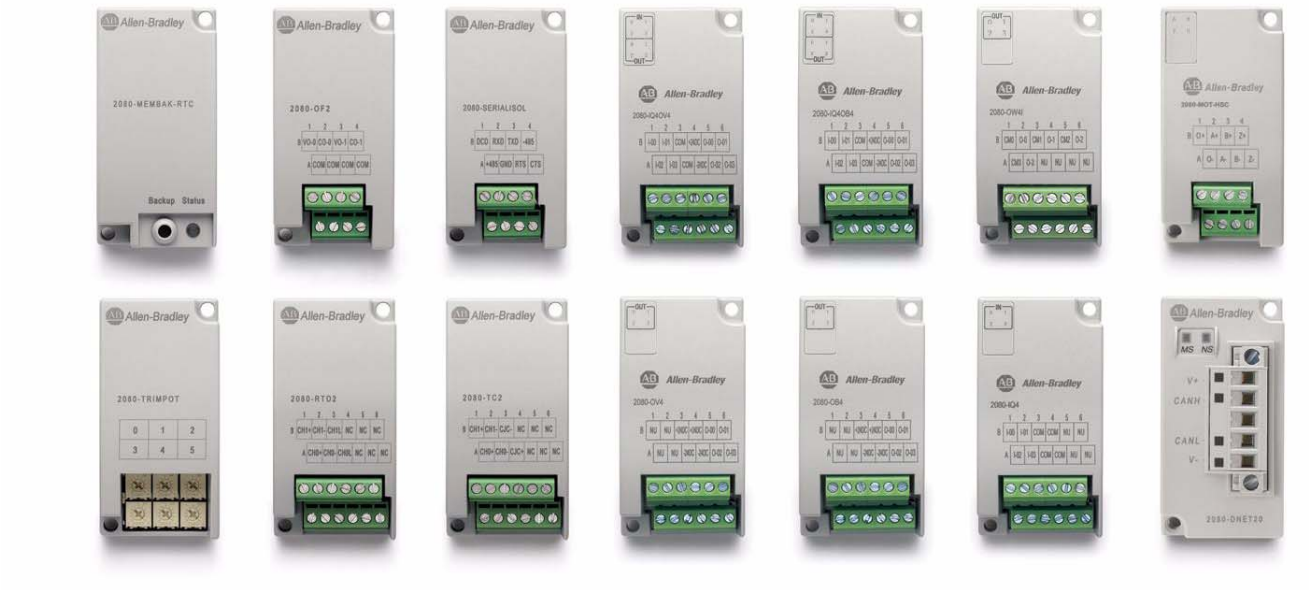
Several Micro830 and Micro850 controllers support basic positioning through embedded pulse train outputs (PTO). These controllers also allow you to configure up to six high speed counters (HSC), and choose from nine HSC operation modes. HSC is supported on all Micro830 and Micro850 catalogs, except on 2080-LCxx-xxAWB. PTO is only supported on Micro830 and Micro850 catalog numbers that end in BB or VB.

This selection guide serves to help you identify the right controller, plug-ins, expansion I/O, and accessories, based on your requirements.

Choose a Micro800 Controller



Select Micro800 Plug-in Modules and Accessories



Micro800 plug-in modules extend the functionality of embedded I/O without increasing the footprint of the controller. It improves performance by adding additional processing power or capabilities and adds additional communication functionality. Micro820, Micro830 and Micro850 controllers support plug-in modules.

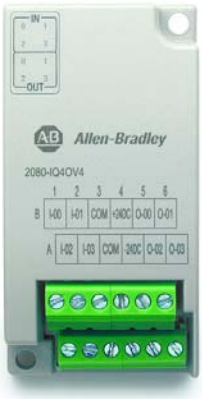
Micro800 accessories consist of a Remote LCD (compatible with Micro820 only), an LCD with keypad (compatible with Micro810 only), a USB adapter (compatible with Micro810 only), and an expansion power supply.

Micro800 Plug-in Modules and Accessories – Features and Compatibility

Plug-in / Accessory	Supported by Micro810	Supported by Micro820	Supported by Micro830/Micro850	Feature
1.5" LCD and Keypad 2080-LCD	Yes	No	No	• backup module for Micro810 controllers • configure Smart Relay Function Blocks
Micro810 USB Adapter 2080-USBADAPTER	Yes	No	No	USB programming access
External Power Supply 2080-PS120-240VAC	Yes	Yes	Yes	optional controller power supply
RS232/485 Isolated Serial Port 2080-SERIALISOL	No	Yes	Yes	• adds additional serial communications with Modbus RTU and ASCII protocols • isolated for increased noise immunity
Digital Input, Output, Relay, and Combination Modules 2080-IQ4, 2080-IQ4OB4, 2080-IQ4OV4, 2080-OB4, 2080-OV4, 2080-OW4I	No	Yes	Yes	• 4-channel inputs/outputs or combination modules • configurable as voltage and current inputs • sink or source output • 4-channel relay outputs
High Speed Counter 2080-MOT-HSC	No	Yes	Yes	• Up to a minimum of 250 KHz differential line driver for improved noise immunity and additional dedicated I/O • One Quadrature (ABZ) differential inputs alternately configurable for pulse internal, pulse with external direction, A-up and B-down input configurations, and quadrature mode • User-configurable minimum and maximum values, preset, and Z operation
DeviceNet Scanner 2080-DNET20	No	Yes	Yes	• Scanner mode – scan devices such as CompactBlock™ LDX, PowerFlex® drives, overloads and sensors
Remote LCD 2080-REMLCD	No	Yes	No	• Operator interface for configuring such settings as IP address on Micro820 controller • With RS232 and USB ports
Non-isolated Unipolar Analog Input/Output 2080-IF2, 2080-IF4, 2080-OF2	No	Yes	Yes	• adds up to 20 embedded analog I/O with 12-bit resolution (with 48-point controllers) • 2 channels for 2080-IF2, 2080-OF2 • 4 channels for 2080-IF4
Non-isolated Thermocouple 2080-TC2	No	Yes	Yes	• for temperature control, when used with PID • 2 channels for 2080-TC2 and 2080-RTD2
Non-isolated RTD 2080-RTD2	No	Yes	Yes	
Memory Module with RTC 2080-MEMBAK-RTC	No	No	Yes	• backup project data and application code • high accuracy real-time clock
6-Channel Trim Potentiometer Analog Input 2080-TRIMPOT6	No	Yes	Yes	adds six analog presets for speed, position and temperature control

Micro800 Plug-In Modules

Digital Input, Output, Relay, and Combination Plug-Ins



Specifications (2080-IQ4, 2080-IQ4OB4, 2080-IQ4OV4, 2080-OB4, 2080-OV4)

Catalog	Input / Output	On-state voltage	On-state current
2080-IQ4	4 inputs	**DC** 9.0V DC, min 30V DC, max **AC** 10.25V AC (rms), min 30V AC (rms), max	**DC** 2.0 mA @ 9V DC, min 3.0 mA @ 24V DC, nom 5.0 mA, max **AC** 2.0 mA @ 9V AC (rms), min 5.0 mA, max
2080-IQ4OB4	4 channel inputs/source outputs combination	**DC Input** 9.0V DC, min 30V DC, max **AC Input** 10.25V AC (rms), min 30V AC (rms), max **Output** 10V DC, min 24V DC, nom 30V DC, max	**DC Input** 2.0 mA @ 9V DC, min 3.0 mA @ 24V DC, nom 5.0 mA, max **AC Input** 2.0 mA @ 9V AC (rms), min 5.0 mA, max **Output** 5.0 mA @ 10V DC, min 0.5 A max, steady state 2 A surge, 2 s min
2080-IQ4OV4	4 channel inputs/sink outputs combination		
2080-OB4	4 source outputs	10V DC, min 24V DC, nom 30V DC, max	5.0 mA @ 10V DC, min 0.5 A max, steady state 2 A surge, 2 s min
2080-OV4	4 sink outputs		

Specifications (2080-IQ4, 2080-IQ4OB4, 2080-IQ4OV4, 2080-OB4, 2080-OV4)

Catalog	Off-state voltage	Off-state current	Power supply voltage	Mounting torque	Status indicators	North American temp code
2080-IQ4	**DC** 5V DC, max **AC** 3.5V AC (rms)	**DC** 1.5 mA, max		0.2 Nm (1.48 lb-in.)	4 yellow	T4
2080-IQ4OB4			10.8V DC, min 30V DC, max		8 yellow	
2080-IQ4OV4						
2080-OB4, 2080-OV4	–	–			4 yellow	

Catalog	Terminal base screw torque	Isolation voltage	Wire size
2080-IQ4	0.22…0.25 Nm (1.95…2.21 lb-in.) using a 2.5 mm (0.10 in.) flat-blade screwdriver	50V (continuous), Basic Insulation Type, Inputs to Backplane Type tested for 60 s @ 720V DC, Inputs to Backplane	0.2... 2.5 mm^2 (24...12 AWG) solid or stranded copper wire rated @ 90 °C (194 °F), or greater, insulation max
2080-IQ4OB4		50V (continuous), Basic Insulation Type, Inputs to Outputs, I/Os to Backplane Type tested for 60 s @ 720V DC, I/Os to Backplane	
2080-IQ4OV4			
2080-OB4			
2080-OV4			

Catalog	Operating temperature	Non-operating temperature	Surrounding air, max	Relative humidity	Vibration	Shock, operating	Shock, non-operating
2080-IQ4	-20...65 °C (-4…149 °F)	-40...85 °C (-40…185 °F)	65 °C (149 °F)	5…95% noncondensing	2 g @ 10…500 Hz	25 g	25 g
2080-IQ4OB4							
2080-IQ4OV4							
2080-OB4							
2080-OV4							

Specifications (2080-OW4I)

Catalog	Input/Output	Inrush current	Backplane power	Output current, resistive	Output current, inductive	Output power, resistive, max
2080-OW4I	4-channel relay output	<120 mA @ 3.3V <120 mA @ 24V	3.3 VDC, 38 mA	2 A @ 5…30V DC 0.5 A @ 48V DC 0.22 A @ 125V DC 2 A @ 125V AC 2 A @ 240V AC	1.0 A steady state @ 5…28V DC 0.93 A steady state @ 30V DC 0.5 A steady state @ 48V DC 0.22 A steady state @ 125V DC 2.0 A steady state, 15 A make @ 125V AC, PF – cos θ = 0.4 2.0 A steady state, 7.5 A make @ 240V AC, PF – cos θ = 0.4	250V A for 125V AC resistive loads 480V A for 240V AC resistive loads 60V A for 30V DC resistive loads 24V A for 48V DC resistive loads 27.5V A for 125V DC resistive loads