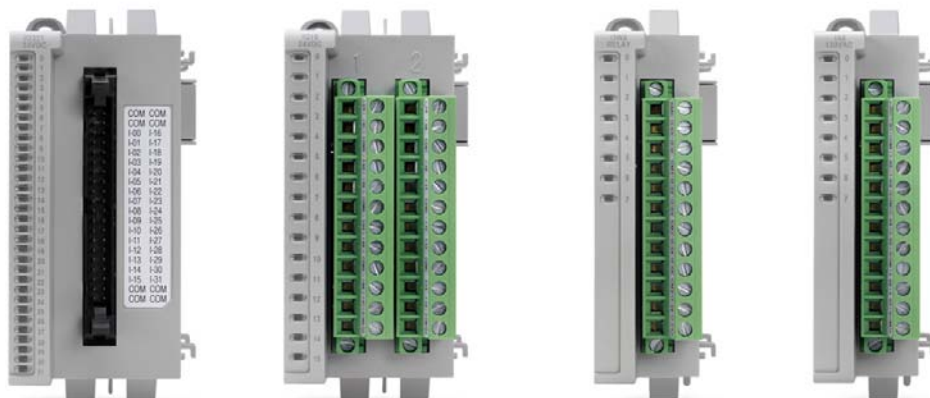# Select Micro850 Expansion I/O

The 2085 I/O expansion modules provide superior functionality in a small-sized low-cost package. A variety of digital and analog modules complement and extend the capabilities of Micro850 controllers by maximizing the flexibility of I/O count and type.

Micro850 expansion I/O modules include high density discrete and analog I/O modules, including a high accuracy RTD and Thermocouple module.

There are available solid state output modules which are recommended to reduce switching noise and for applications which require more switching cycles, than relays. Triac outputs are available for AC loads. Sink and source transistor outputs are available for DC loads.

The following section provides the list of available Micro850 expansion I/O modules and their specifications.

Micro850 Expansion I/O Modules

Catalog Number	Type	Description
2085-IA8	Discrete	8-point, 120V AC input
2085-IM8	Discrete	8-point, 240V AC input
2085-OA8	Discrete	8-point, 120/240V AC Triac Output
2085-IQ16	Discrete	16-point, 12/24V DC Sink/Source Input
2085-IQ32T	Discrete	32-point, 12/24V DC Sink/Source Input
2085-OV16	Discrete	16-point, 12/24V DC Sink Transistor Output
2085-OB16	Discrete	16-point, 12/24V DC Source Transistor Output
2085-OW8	Discrete	8-point, AC/DC Relay Output
2085-OW16	Discrete	16-point, AC/DC Relay Output

Micro850 Expansion I/O Modules

Catalog Number	Type	Description
2085-IF4	Analog	4-channel, 14-bit isolated[2] voltage/current input
2085-IF8	Analog	8-channel, 14-bit isolated[2] voltage/current input
2085-OF4	Analog	4-channel, 12-bit isolated[2] voltage/current output
2085-IRT4	Specialty	4-channel, 16-bit RTD and TC isolated[2] input module
2085-ECR[1]	Terminator	2085 bus terminator

(1) The 2085-ECR bus terminator should always be the last module on the system, if any expansion I/O module is attached to the system.

(2) Refers to isolation from field side wiring to controller, **not** channel-to-channel isolation.

Discrete Expansion I/O

2085-IQ16 and 2085-IQ32T DC Sink/Source Input Modules[1]

Attribute	2085-IQ16	2085-IQ32T
Number of inputs	16 sink/source	32 sink/source
Dimensions, HxWxD	44.5 x 90 x 87 mm (1.75 x 3.54 x 3.42 in.)	
Shipping weight, approx.	220 g (7.76 oz)	
Bus current draw, max	170 mA @ 5V DC	190 mA @ 5V DC
Wire size	0.25... 2.5 mm^2 (22...14 AWG) solid or stranded copper wire rated @ 75 °C (167 °F), or greater, 1.2 mm (3/64 in.) insulation max	
Wiring category[2]	2 – on signal ports	
Terminal screw torque, max	0.5…0.6 Nm (4.4…5.3 lb-in.)[3]	
Input circuit type	24V AC/DC sink/source	
Power dissipation, total	4.5 W	7 W
Power supply	24V DC	
Status indicators	16 yellow indicators	32 yellow indicators
Isolation voltage	50V (continuous), Reinforced Insulation Type, channel to system Type tested @ 720V DC for 60 s	
Enclosure type rating	Meets IP20	
North American temp code	T4	
Operating voltage range	10…30V DC, Class 2 21.6…26.4V AC, Class 2 See Derating Curve for 2085-IQ16 and Derating Curve for 2085-IQ32T on page 43	
Off-state voltage, max	5V DC	

Select a Micro850 Controller

A Micro850 controller with a power supply, plug-in modules, and four expansion I/O modules attached

Micro850 controllers are suitable for applications that require more digital and analog I/O or higher performance analog I/O. These controllers can support up to four expansion I/O. It comes in a 24-point and 48-point form factor with an embedded Ethernet port.

Micro850 controllers include:

- Expansion I/O support
- up to six embedded High-Speed Counter inputs (HSC)[1]
- 100 kHz speed HSC available on 24V DC models
- up to three embedded Pulse Train Outputs (PTO)[2] for basic positioning
- High speed input interrupts
- Modbus RTU protocol (serial port)
- Modbus/TCP support
- EtherNet/IP support
- CIP Serial support
- Embedded USB programming and serial port (RS232/485)
- Embedded 10/100 Base-T Ethernet port (RJ45)
- Plug-in slots to customize according to needs

To help you select a Micro850 controller, see the following specifications.

(1) Embedded HSC is supported on all Micro850 catalog numbers, except on 2080-LC50-xxAWB.

(2) PTO is supported on Micro850 catalog numbers ending in BB or VB.