Micro800 Power Requirements(1)

Controller/Module	Power Requirement
Micro810 12-point (with or without LCD)	3 W (5V A for AC module)
Micro820 20-point(2) (without plug-ins, max)	5.62 W
Micro830 and Micro850 (without plug-in/expansion I/O) 10/16-point 24-point 48-point	 5 W 8 W 11 W
Plug-in modules, each	1.44 W
Expansion I/O (system bus power consumption)	2085-IQ16 – 0.85 W 2085-IQ32T – 0.95 W 2085-IA8 – 0.75 W 2085-IM8 – 0.75 W 2085-OA8 – 0.90 W 2085-OB16 – 1.00 W 2085-OV16 – 1.00 W 2085-OW8 – 1.80 W 2085-OW16 – 3.20 W 2085-IF4 – 1.70 W 2085-IF8 – 1.75 W 2085-OF4 – 3.70 W 2085-IRT4 – 2.00 W

(1) When setting up a Micro800 system, verify that total power consumption of the controller, plug-in and expansion I/O does not exceed the output power capacity of the power supply used. See External Power Supply (2080-PS120-240VAC) on page 59 for power supply specifications.

(2) Micro820 controllers require a maximum of 8.5 W with plug-ins.

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	

2085-IQ16 and 2085-IQ32T DC Sink/Source Input Modules(1)

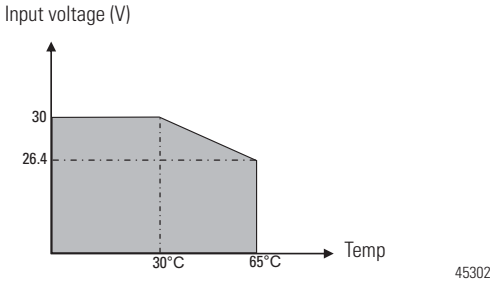
Attribute	2085-IQ16	2085-IQ32T
Off-state current, max	1.5 mA	1.2 mA
On-state current, min	1.8 mA @ 10V DC	
On-state current, nom	6.0 mA @ 24V DC	5.2 mA @ 24V DC
On-state current, max	8.0 mA @ 30V DC	7.0 mA @ 30V DC
Input impedance, max	3.9 kΩ	4.6 kΩ
IEC input compatibility	Type 3	Type 1

(1) Meets IEC Type 1 24V DC Input Specifications.

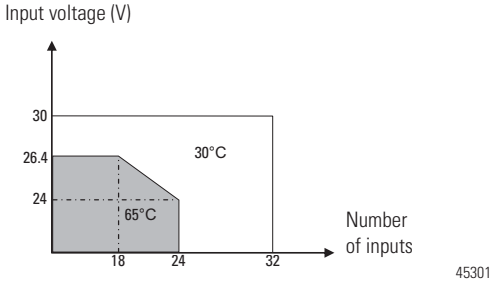
(2) Use this Conductor Category information for planning conductor routing. Refer to Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

(3) RTB hold down screws should be tightened by hand. They should not be tightened using a power tool.

Derating Curve for 2085-IQ16



Derating Curve for 2085-IQ32T



2085-OV16 Sink and 2085-OB16 Source DC Output Module

Attribute	2085-OV16	2085-OB16
Number of outputs	16 sinking	16 sourcing
Operating voltage range	10…30V DC	
On-state voltage, min	10V DC	
On-state voltage, nom	24V DC	
On-state voltage, max	30V DC	
On-state current, max	0.5 A @ 30V DC, per output 8 A, per module	
Dimensions, HxWxD	44.5 x 90 x 87 mm (1.75 x 3.54 x 3.42 in.)	