

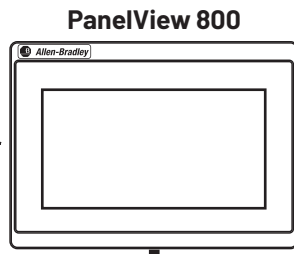
Micro870 [®] Overview	2080-LC70-240xB
Embedded communication	USB, ASCII, DF1, Modbus RTU, EtherNet/IP™, Modbus TCP, TCP/UDP Sockets
Embedded 24V DC I/O	14 inputs/10 outputs (relay or 24V DC sourcing)
Number of plug-in slots	3
Maximum number of expansion I/O modules	8
Maximum number of discrete I/O	304
PTO motion axes	2 (QBB only)
Memory size	up to 128 KB retentive user data and up to 20,000 programming steps
Programming languages	Ladder diagram, structured text, function block diagram

- Micro870 Capacity**
- Maximum plug-in modules: 3 Maximum expansion I/O modules: 8 (more than 4 requires a 2085-EP24DC)
 - Maximum discrete I/O points - embedded + plug-ins + expansion modules: 304
 - Maximum analog I/O channels - plug-ins + expansion modules: 76 (140 via 3rd party)
 - Maximum serial ports - embedded + plug-ins: 4
 - Maximum motion axes: 2
 - Memory size: up to 128 KB retentive user data and up to 20,000 programming steps
 - Note: Some maximums are mutually exclusive.

- Micro870 Configuration**
- Programming languages include ladder diagram, structured text and function block diagram using Connected Components Workbench™ software
 - Embedded discrete I/O: 14 Inputs/10 Outputs
 - Embedded communication ports: USB, non-isolated serial RS-232/485 and Ethernet
 - Optional plug-in modules offer additional discrete I/O, analog I/O, memory backup/RTC, 250 kHz HSC, isolated RS-232/485 serial ports, DeviceNet® scanner, BACnet comms (via 3rd party)
 - Optional expansion I/O modules offer additional discrete and analog I/O

- Micro870 Performance**
- Designed for larger standalone machine applications that require more I/O and/or program memory
 - Up to 8 Event Input Interrupts (EIs) - sub-millisecond response
 - Up to 4 Selectable Timed Interrupts (STIs) - 1 millisecond resolution
 - Up to 4 embedded High Speed Counters (HSCs) - 100 kHz. maximum
 - Up to 6 plug-in module High Speed Counters (HSCs) - 250 kHz. maximum
 - Up to 2 Pulse Train Outputs (PTOs) - 100 kHz. maximum

- PanelView[™] 800 Performance**
- 800 MHz CPU processor with 256MB memory
 - Individual tag update rates of 50 milliseconds to 6 minutes



- PanelView 800 Configuration**
- Graphic terminal applications developed and transferred using Connected Components Workbench software
 - 4.3-inch, 7-inch and 10.4-inch color TFT touchscreen displays
 - Portrait or landscape orientation
 - Embedded Ethernet port and RS-232/485 serial port
 - USB port and microSD slot for file storage and transfer
 - Connects to Micro800, MicroLogix™ and CompactLogix 5370 L1, L2 and L3 controllers

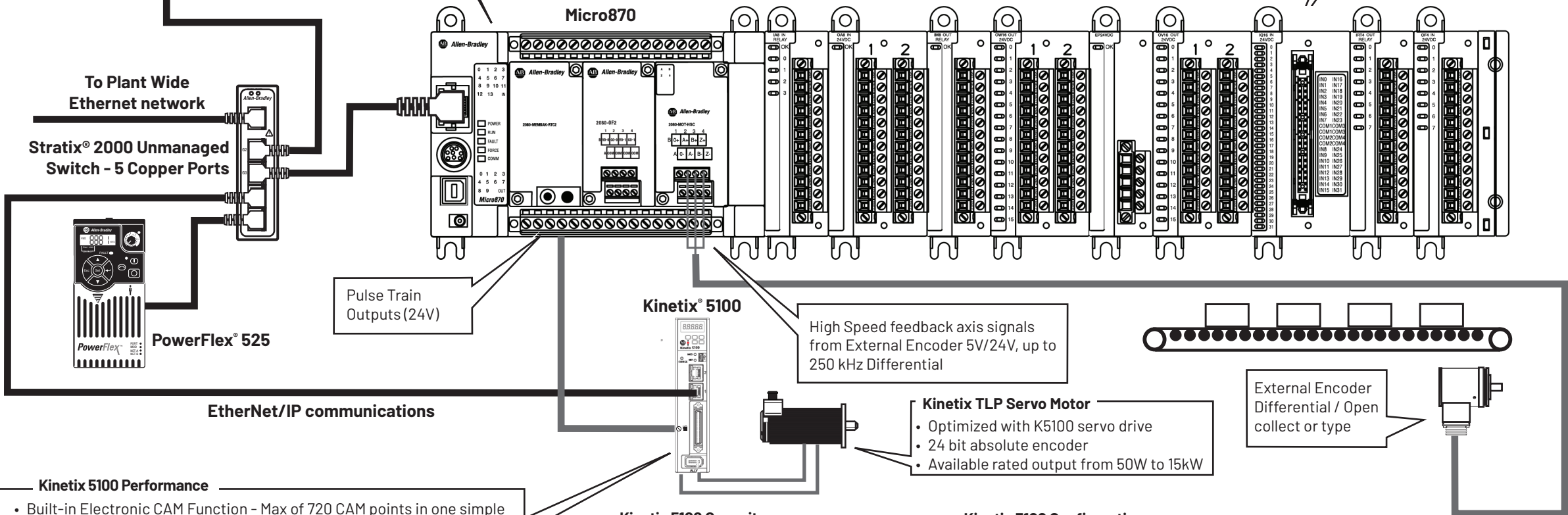
- PanelView 800 Capacity**
- For optimal performance, it is recommended to connect to two controllers (of same controller type and protocol)
 - Maximum of 99 screens per application
 - Maximum of 50 recipe files

- External 24V DC Power Requirements**
- It is recommended to power both the Micro870 controller and 2085-EP24VDC expansion power supply with the same 24V DC power supply.
 - This Class 2 SELV or LVLC power supply must have a ride through time of more than 10millisec at maximum load.

- Micro800[™] Expansion I/O Performance**
- 14-bit analog voltage/current input resolution
 - 12-bit analog voltage/current output resolution
 - 16-bit analog RTD/ Thermocouple input resolution

- Micro800 Expansion I/O Configuration**
- Provides additional digital and analog I/O for Micro850[®] and Micro870 controllers
 - Snap mounts to the right of the controller
 - Requires an end cap module for termination
 - Offers removable terminal blocks for ease of installation, maintenance and wiring
 - Expansion Power Supply required between 4th and 5th modules

- Micro800 Expansion I/O Capacity**
- Maximum of 4 modules for Micro850 and 8 modules for Micro870
 - Up to 32 points per digital module
 - Up to 8 channels (16 via 3rd party) per analog module



- Kinetix 5100 Performance**
- Built-in Electronic CAM Function - Max of 720 CAM points in one simple cam profile
 - Indexing Function - 99 sophisticated motion commands and segments
 - Gearing function (Master and Follower) with 2 drive or 1 drive with Auxiliary encoder as master
 - PTO & Analog Control (Speed, Torque or Position)
 - Auto-Tuning- Optimize machine performance with less tuning effort
 - Vibration Suppression Function with notch filters
 - Control Mode changes (e.g.: Speed to Torque; Position to Speed) on the fly without the need in stopping the system while in operation

- Kinetix 5100 Capacity**
- Supports power range from 50W to 2kW at 100V & 200V class and 3kW to 15kW at 200V class
 - 10 Digital Input & 5 Digital Output
 - 2 Analog Input & 2 Analog Output
 - 2 Fast Digital Input

- Kinetix 5100 Configuration**
- An Auxiliary feedback port to support 1/2 axis feedback or for Dual Loop control applications
 - Dual Ethernet ports to support DLR (Device Level Ring) functionality
 - Kinetix TLP and MP-Series servo motor support

Note: Performance is what was tested, not the maximum capacity



Micro870[®] Controller Popular Configuration Drawing

Bill of Materials

Qty	Catalog #	Description
System: Controller Hardware		
1	2080-LC70-24QBB	Micro870 Controller, 14-24V DC Inputs, 10-24V DC Source Outputs
1	2080-MEMBAK-RTC2	Memory Backup and High Accuracy RTC Plug-in Module
1	2080-OF2	2080 Micro800 System, 2-ch V/I Analog Output Unipolar 0-10V/0-20mA (non-isolated)
1	2080-MOT-HSC	250KHz High Speed Counter Plug-in Module
1	2085-IA8	8-point, 120V AC Expansion Input Module
1	2085-OA8	8-point, 120/240V AC Triac Expansion Output Module
1	2085-IM8	8-point, 240V AC Expansion Input Module
1	2085-OW16	16-point, AC/DC Relay Expansion Output Module
1	2085-EP24VDC	24V DC Expansion Power Supply Module
1	2085-OV16	16-point, 12/24V DC Sink Transistor Expansion Output Module
1	2085-IF8	8-channel, 14-bit Analog Voltage/Current Expansion Input Module
1	2085-IRT4	4-channel, 16-bit RTD and Thermocouple Expansion Input Module
1	2085-OF4	4-channel, 12-bit Analog Voltage/Current Expansion Output Module
1	2085-ECR	Expansion I/O End Cap/Bus Terminator
HMI Hardware		
1	2711R-T4T	PanelView 800, 4.3 inch HMI Terminal
Motion and AC Drive Hardware		
1	2198-E1004-ERS	Kinetix 5100 Servo Drive, 400W
1	TLP-A046-010-DJA32S	Kinetix TLP Servo Motor, 100W
1	2090-CTPW-MADF-18A03	Cable, Power 3M
1	2090-CTPW-MADD-DFA03	Cable, Feedback, 3M
1	2198-USBC (Mini USB Cable) 2198-USBF (Mini USB Filter)	Kinetix 5100 USB Communication Cable for KNX5100C Configuration Software
1	25B-A4P8N114	PowerFlex 525 AC Drive, 240 VAC, 1 Phase, 1.0 HP, 0.75 kW Normal Duty, Frame A, IP20 NEMA / Open Type, Filter
System: Communication Hardware		
1	1783-US5T	Stratix 2000 , 5 port Unmanaged Switch
3	1585J-M8TBJM-1M9	Male RJ45 to Male RJ45 Patchcord, Unshielded Twisted Pair, Teal TPE Cable, 1.9 m
Control Power		
1	1606-XLE80E	Essential Power Supply, 24-28V DC, 80 W, 120/240V AC Input Voltage
Programming Software		
1	9328-CCWDEVENE	Connected Components Workbench Software, Micro800, Developer Edition, English, DVD, Concurrent

About this Configuration

As the latest expandable and powerful controller within the Micro800™ family, the new Micro870® controller offers machine builders and end users 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 programming and use of more 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 with devices on various networks such as EtherNet/IP™, Serial and USB.

A key advantage of this architecture is the ability to use Connected Components Workbench™ software in a common integrated environment for programming, configuring, commissioning, monitoring, and troubleshooting the Kinetix® 5100 servo drive, the PowerFlex® 525 variable frequency drive, the PanelView™ 800 graphic terminal and the Micro870 programmable logic controller.

About the Products

Kinetix 5100 Servo Drives

- Offer a more comprehensive power range than comparable solutions (50W to 2kW at 120V to 230V & 3kW to 15kW at 230V)
- Indexing function (with 99 segments) provides more motion commands than other products without the need for a separate control system
- Easily integrate into Logix applications with specially designed AOl's. Plus, this drive features flexible connectivity with Micro 800 or Logix control
- Optimized machine performance with less manual tuning effort, reduces vibration without slowing down system response time
- Features 10 freely assignable digital inputs (2 can be used as Fast Input functions) and 5 freely assignable digital outputs
- Hardwire Safe Torque Off comes standard so the safety features comes without any additional parts or labor
- Allows for control mode changes (i.e. Speed to Torque) on the fly
- Compatible with Kinetix TLP servo motor for optimal system performance

PowerFlex 525 Variable Frequency Drives

- Power ratings of 0.4...22 kW / 0.5...30 Hp in global voltages from 100...600V
- Features a modular design with an innovative, removable control core that allows simultaneous installation and software configuration
- Offers a wide range of motor control, including volts per hertz, sensorless vector control, and closed loop velocity vector control
- Supports seamless integration into the Logix environment and EtherNet/IP networks with built-in EtherNet/IP
- Operates in high ambient temperatures up to 70 °C (158 °F) with current derating and a control module fan kit
- Offers compact footprint relative to its power range and Zero-Stacking™ Drive mounting with 50 mm airflow gap
- Provides permanent magnet motor control to help improve energy efficiency and reduce related costs
- Features Safe Torque-Off which is certified at PLd/SIL 2 Cat 3. Removes rotational power to the motor without removing power from the drive for faster start-up after a demand on the safety system.

Stratix® 2000 Unmanaged Ethernet Switches

- Various combinations of copper and fiber solutions from 5 to 18 ports using SFP for increased network flexibility
- 100 MB and 1 GB port speeds to meet network performance requirements
- Extended temperature range from -40 °C to 75 °C in select versions to meet a wide variety of applications
- Compact design for maximized cabinet space
- "Plug-and-Play" operation for easier installation and integration
- Broadcast storm protection against unwanted network traffic
- Rugged metal housing and IP30 rating for industrial applications
- Dual power inputs to help maximize uptime in harsh environments

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