DATA SHEET

PM861AK01 Classic
System 800xA hardware selector

The CPU board contains the microprocessor and RAM memory, a real-time clock, LED indicators, INIT push button, and a CompactFlash interface.

The base plate of the PM861A controller has two RJ45 Ethernet ports (CN1, CN2) for connection to the Control Network, and two RJ45 serial ports (COM3, COM4). One of the serial ports (COM3) is an RS-232C port with modem control signals, whereas the other port (COM4) is isolated and used for the connection of a configuration tool. The controller supports CPU redundancy for higher availability (CPU, CEX-Bus, communication interfaces and S800 I/O).

Simple DIN rail attachment / detachment procedures, using the unique slide & lock mechanism. All base plates are provided with a unique Ethernet address which provides every CPU with a hardware identity. The address can be found on the Ethernet address label attached to the TP830 base plate.

Features and benefits

- Reliability and simple fault diagnosis procedures
- Modularity, allowing for step-by-step expansion
- IP20 Class protection without the requirement for enclosures
- The controller can be configured with 800xA control builder
- The controller has full EMC certification
- Sectioned CEX-Bus using a pair of BC810
- Hardware based on standards for optimum communication connectivity (Ethernet, PROFIBUS DP, etc.)
- Built-in redundant Ethernet Communication ports

General info	
Article number	3BSE018157R1 (PM861AK01)
Life cycle status	Classic
Redundancy	Yes
High Integrity	No
Clock Frequency	48 MHz
Performance, 1000 boolean operations	0.23 ms
Performance	0.23 ms
Memory	16 MB
RAM available for application	7.155 MB
Flash memory for storage	Yes

Detailed data	
Processor type	MPC860
Switch over time in red. conf.	max 10 ms
No. of applications per controller	32
No. of programs per application	64
No. of diagrams per application	128
No. of tasks per controller	32
Number of different cycle times	32
Cycle time per application programs	Down to 1 ms
Flash PROM for firmware storage	2 MB
Power supply	24 V DC (19.2-30 V DC)
Power consumption +24 V typ/max	250/430 mA
Power dissipation typ.	6.0 W (10.3 W max)
Redundant power supply status input	Yes
Built-in back-up battery	Lithium, 3.6 V
Real-time clock stability	100 ppm (approx. 1 h/year)
Clock synchronization	1 ms between AC 800M controllers by CNCP protocol
Event queue in controller per OPC client	Up to 3000 events
AC 800M transm. speed to OPC server	36-86 events/sec ,113-143 data messages/sec
Comm. modules on CEX bus	12
Supply current on CEX bus	Max 2.4 A
I/O clusters on Modulebus with non-red. CPU	1 electrical + 7 optical
I/O clusters on Modulebus with red. CPU	0 electrical + 7 optical
I/O capacity on Modulebus	max 96 (single PM861A) or 84 (red. PM861A) I/O modules
Modulebus scan rate	0 - 100 ms (actual time depending on number of I/O modules)
Supply current on Electrical Modulebus	24 V : max 1.0 A 5 V : max 1.5 A
Ethernet channels	2
Ethernet interface	Ethernet (IEEE 802.3), 10 Mbit/s, RJ-45, female (8-pole)
Control Network protocol	MMS (Manufacturing Message Service) and IAC (Inter Application Communication)
Recommended Control Network backbone	100 Mbit/s switched Ethernet
RS-232C interface	2 (one general, 1 for service tool)
RS-232C interface (COM3) (non red. only)	RS-232C, 75-19 200 baud, RJ-45 female (8-pole), not opto isolated, full RTS-CTS support
RS-232C interface (COM4) (non red. only)	RS-232C, 9 600 baud, RJ-45 female (8-pole), opto isolated, no RTS-CTS support

Environmental and certification	
Temperature, Operating	+5 to +55 °C (+41 to +131 °F)
Temperature, Storage	-40 to +70 °C (-40 to +158 °F)
Temperature changes	3 °C/minutes according to IEC/EN 61131-2
Altitude	2000 m according to IEC/EN 61131-2
Pollution degree	Degree 2 according to IEC/EN 61131-2
Corrosion protection	G3 compliant to ISA 71.04
Relative humidity	5 to 95 %, non-condensing
Emitted noise	< 55 dB
Vibration	10 < f < 50 Hz: 0.0375 mm amplitude, 50 < f < 150 Hz: 0.5 g acceleration, 5 < f < 500 Hz: 0.2 g acceleration
Rated Isolation Voltage	500 V a.c.
Dielectric test voltage	50 V
Protection class	IP20 according to EN 60529, IEC 529
Emission & Immunity	EN 61000-6-4, EN 61000-6-2
Environmental conditions	Industrial
CE- marking	Yes
Electrical Safety	EN 50178, IEC 61131-2, UL 508
Hazardous location	UOL 60079-15
Marine certificates	ABS,BV,DNV-GL,LR,RS,CCS (PM861AK01, PM861AK02)
TUV Approval	No
RoHS compliance	-
WEEE compliance	DIRECTIVE/2012/19/EU

Dimensions	
Width	196 mm (7.3 in.)
Height	119 mm (4.7 in.)
Depth	135 mm (5.3 in.)
Weight	1200 g (2.6 lbs)

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