

PM891

System 800xA Hardware

The PM891 processor is a monolithic unit equipped with power supply, CPU-boards and unit termination. The unit contains microprocessor and RAM memory, a real-time clock, LED indicators, INIT push button and a Secure Digital interface. The PM891 does not contain any internal battery. The PM891 has two RJ45 Ethernet ports (CN1, CN2) for connection to the Control Network, and one RJ45 serial port (COM4). The COM4 port is isolated and used for a configuration tool. The PM891 supports CPU redundancy for higher availability (CPU, CEX-Bus, communication interfaces and S800 I/O).

The communication expansion bus (CEX-Bus) is mounted on the unit. The CEX-Bus is used for extending the on-board communication ports with communication interface units. It is possible to use redundant communication interfaces on the CEX-Bus. The CEX-Bus Interconnection unit BC810 is used to increase the availability on the CEX-Bus by dividing it into separate segments. The optical Modulebus of the unit can be used for connecting seven clusters of S800 I/O units (each comprising up to 12 units). Each PM891 is provided with a unique Ethernet address which provides hardware identity to the unit.



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 has full EMC certification
- High performance and large application memory
- Sectioned CEX-Bus using a pair of BC810
- Built-in redundant Ethernet Communication ports

General info			
Article number	3BSE053241R1 (PM891K01)	Redundancy	Yes
High Integrity	No	Clock Frequency	450 MHz
Performance, 1000 boolean operations	0.043 ms	Performance	0.043 ms
Memory	256 MB	RAM available for application	208.985 MB
Flash memory for storage	Yes		

Detailed data			
Processor type	MPC8270	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	16 MB	Power supply	24 V DC (19.2-30 V DC)
Power consumption +24 V typ/max	660/750 mA	Power dissipation typ.	15.8 W (18 W max)
Redundant power supply status input	Yes	Built-in back-up battery	No
Real-time clock stability	50 ppm (approx 0.5h / year)	Clock synchronization	1 ms between AC800M 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	0 electrical + 7 optical	I/O clusters on Modulebus with red. CPU	0 electrical + 7 optical
I/O capacity on Modulebus	Max 84 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	10/100 Mbit/s	Control Network protocol	MMS (Manufacturing Message Service) and IAC (Inter Application Communication)
Recommended Control Network backbone	100 Mbit/s switched Ethernet	RS-232C interface	1 for service tool (COM 4)
RS-232C interface (COM3) (non red. only)	Not supported	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 (6562 ft) 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	-
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	50 V
Dielectric test voltage	500 V a.c.	Protection class	IP 20 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
Marine certificates	ABS, BV, DNV-GL, LR, RS	TUV Approval	No
RoHS compliance	EN 50581:2012		

Dimensions			
Width	174 mm (6.85 in.)	Height	186 mm (7.32 in.)
Depth	94 mm (3.70 in.)	Weight	1600 g (3.5 lbs)

Contact us

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