DATA SHEET

PM891K02
System 800xA hardware selector

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.

Package including:
2 pcs PM891K01 Processor Unit
1 pcs TK850V007 CEX-bus Extension Cable
1 pcs TK855 RCU Data Link Cable
1 pcs TK856 RCU Control Link Cable

Please note: The BC810K02 is not included in the PM891K02 Redundant Processor Unit kit. In order to make hot replacement of PM891 Processor Unit possible, the BC810K02 is required and has to be ordered separately.

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	3BSE053242R1 (PM891K02)
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
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 eletrical + 7 optical
I/O clusters on Modulebus with red. CPU	0 eletrical + 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
Real-time clock stability	50 ppm (approx 0.5h / year)
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

Environment 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
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
Altitude	2000 m (6562 ft) according to IEC/EN 61131-2
Emission & Immunity	EN 61000-6-4, EN 61000-6-2
Environmental conditions	Industrial
CE Mark	Yes
Electrical Safety	EN 50178, IEC 61131-2, UL 61010-1, UL 61010-2-201
Hazardous location	UL 60079-15, cULus Class 1, Zone 2, AEx nA IIC T4, ExnA IIC T4Gc X
Marine certificates	ABS, BV, DNV-GL, LR
TUV Approval	No
RoHS compliance	EN 50581:2012
WEEE compliance	DIRECTIVE/2012/19/EU

Dimensions	
Width	174 mm (6.85 in.)
Height	186 mm (7.32 in.)
Depth	94 mm (3.70 in.)
Weight (including base)	K01 1600 g (3.5 lbs) / K02 4000 g (8.8 lbs)

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