MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

ABB

PM860AK01 3BSE066495R1

AC 800M PROCESSOR UNIT

Used with the applicable ABB AC 800M configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: ABB System 800xA Hardware Selector PM860AK01 Data Sheet, 13 October 2021

DATA SHEET

PM860AK01
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 PM860A 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.

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
- Hardware based on standards for optimum communication connectivity (Ethernet, PROFIBUS DP, etc.)

General info	
Article number	3BSE066495R1 (PM860AK01)
Redundancy	No
High Integrity	No
Clock Frequency	48 MHz
Performance, 1000 boolean operations	0.23 ms
Performance	0.23 ms
Memory	16 MB (from 800xA 5.1 FP4)
RAM available for application	10.346 (from 800xA 5.1 FP4)
Flash memory for storage	Yes

Detailed data	
Processor type	MPC860
Switch over time in red. conf.	NA
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	180 / 300 mA
Power dissipation typ.	4.32 W (7.2 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 single CEX bus modules
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	NA
I/O capacity on Modulebus	Max 96 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

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
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 (A)
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 61010-1, UL 61010-2-201
Hazardous location	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	119 mm (4.7 in.)
Height	186 mm (7.3 in.)
Depth	135 mm (5.3 in.)
Weight	1100 g (2.4 lbs)

—

solutions.abb/800xA
solutions.abb/controlsystems

—

800xA is a registered or pending trademark of ABB. All rights to other trademarks reside with their respective owners.

We reserve the right to make technical changes to the products or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not assume any responsibility for any errors or incomplete information in this document.

We reserve all rights to this document and the items and images it contains. The reproduction, disclosure to third parties or the use of the content of this document – including parts thereof – are prohibited without ABB's prior written permission.

Copyright© 2021 ABB All rights reserved