

ABB PM858K02 Manual

Brand	ABB
Product Series	ABB
Product Type	MPC866

Description

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 PM858 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.

(Only compatible with System 800xA 6.0.2, Compact Control Builder 6.0.0-1 and onwards. Please see product Update for more information.)

Package including:

- 2 pcs PM858, CPU
- 2 pcs TP830, Baseplate
- 2 pcs TB807, ModuleBus terminator
- 1 pcs TK850, CEX-bus expansion cable
- 1 pcs TK851, RCU-Link cable
- 2 pcs Battery for memory backup (4943013-6) one for each controller

(Only compatible with System 800xA 6.0.2, Compact Control Builder 6.0.0-1 and onwards. Please see Product Update for more information.)

Features and benefits

- ISA Secure certified - Read more
- 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 / BC820
- Hardware based on standards for optimum communication connectivity (Ethernet, PROFIBUS DP, etc.)
- Built-in redundant Ethernet Communication ports

General info

Article number 3BSE082896R1 (PM858K02)

Redundancy Yes

High Integrity No
 Clock Frequency 33 Mhz
 Performance, 1000 boolean operations 0.36 ms
 Performance 0.36 ms
 Memory 16 MB
 RAM available for application 7.147 MB
 Flash memory for storage Yes
 Detailed data
 Processor type MPC866
 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 4 MB
 Power supply 24 V DC (19.2-30 V DC)
 Power consumption +24 V typ/max 210 / 360 mA
 Power dissipation 5.1 W (8.6 W max)
 Redundant power supply status input Yes
 Built-in back-up battery Lithium, 3.6 V
 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, 175-143 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 7 optical
 I/O capacity on Modulebus Max 96 (single PM866) or 84 (red. PM866) 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 < br/>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
 Real-time clock stability 100 ppm (approx. 1 h/year)
 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
 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

Altitude 2000 m 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 cULus Class 1, Zone 2, AEx nA IIC T4, ExnA IIC T4Gc X

ISA Secure certified Yes

Marine certificates DNV-GL

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 (including base) K01 1200 g (2.6 lbs) / K02 2700 g (5.95 lbs)

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