
Section 4 Hardware Components

PM8xx Processor Unit - Single Configuration



This topic does not apply to PM891. See [PM891 Processor Unit - Single Configuration](#) on page 58.

The processor unit consists of two parts:

- Processor unit
(PM851/PM851A/PM856/PM856A/PM858/PM860/PM860A/PM861/
PM861A/PM862/PM864/PM864A/PM865/PM866/PM866A/PM867) with
CPU and Power Supply boards
- Base plate (TP830), housing the unit termination board

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

The main function of the power supply board is to generate isolated, short circuit proof +5 V and +3.3 V supplies, for the CPU and I/O units. The board also contains opto-isolated RS-232C drivers / receivers for the service port, together with a back-up battery holder for memory / real time clock, (RTC).

The termination board, housed in the TP830 base plate, is where the majority of the external connections are attached. It is grounded to the DIN rail by means of the metallic components of the housing. The termination board is provided with: screw terminals for power supply (L+, L-); redundant power supply monitoring (supervision signals SA, SB); RJ45 connectors for the control network, serial port and service port; connectors for the electrical ModuleBus and the CEX-Bus. All units on the CEX-Bus and the electrical ModuleBus are powered by the 24 V d.c. connected to the base plate. The CN1 and CN2 ports are used for connection of

The processor unit has a communication expansion bus connector located on the left-hand side of the TP830 base plate. This CEX-Bus provides extension of the on-board communication ports with additional communication units.

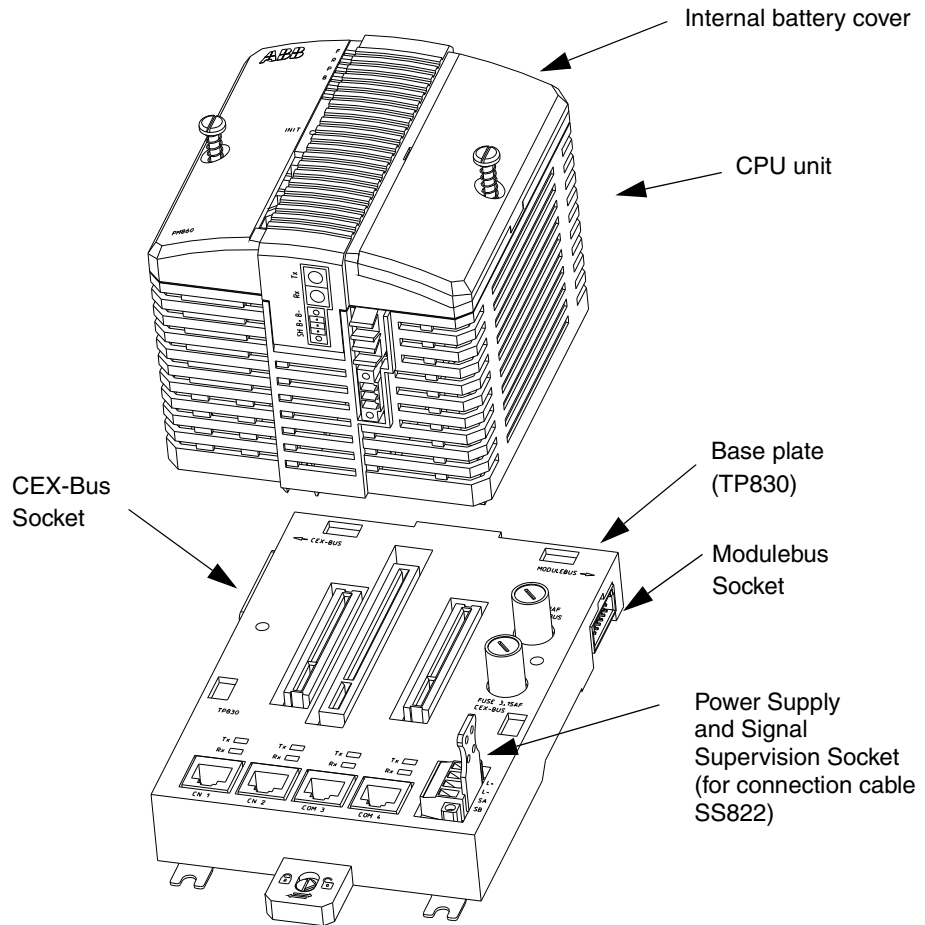


Figure 17. Processor Unit Assembly - General View (shown here with PM860 / TP830)

Section 6 Technical Data and Performance

General

Technical data or performance specification missing in this manual might be found in the System Guide Technical Data and Configuration Information (3BSE041434*).

Processor Unit - PM8xx and TP830

Performance Data for PM851/PM856 and PM860

The processor units PM851/PM856/PM860 differ only in performance when executing an application program.

Using the same application program in PM851/PM856 and PM860, the execution in PM860 is twice as fast as in PM851/PM856.

Performance Data for PM851A/PM856A and PM860A

The processor units PM851A/PM856A/PM860A differ in the available RAM and in the performance when executing an application program.

Using the same application program in PM851A/PM856A and PM860A, the execution in PM860A is twice as fast as in PM851A/PM856A.

Performance Data for PM858/PM861/PM862/PM864/PM865/PM866/PM867

The PM861 processor unit, in single configuration, has the same performance data as the PM860. In redundant configuration the execution performance is somewhat lower than in single configuration.

Table 4. Processor Unit - PM8xx and TP830

Item	Value
CPU	• PM851/PM851A/PM856/PM856A/PM860/PM860A/PM861 MPC860 Microprocessor running at 48 MHz. • PM864/PM865 MPC862 Microprocessor running at 96 MHz. • PM858/PM862/PM866/PM866A/PM867 MPC866 Microprocessor running at 133 MHz. • PM891 MPC8270 Microprocessor running at 450 MHz.
Memory	• PM851/PM856/PM860 2 MBytes flash PROM (firmware storage). 8 MBytes SDRAM • PM851A 2 MBytes flash PROM (firmware storage). 12 MBytes SDRAM • PM856A/PM860A 2 MBytes flash PROM (firmware storage). 16 MBytes SDRAM • PM858 4 MBytes flash PROM 16 MBytes SDRAM • PM861 2 MBytes flash PROM (firmware storage). 16 MBytes SDRAM • PM862 4 MBytes flash PROM 32 MBytes SDRAM • PM864 2 MBytes flash PROM (firmware storage). 32 MBytes SDRAM

Table 4. Processor Unit - PM8xx and TP830 (Continued)

Item	Value
Internal Battery	Lithium Battery 3.6 V, 950 mAh. Battery memory back up time is: • PM851/PM856/PM860 a minimum of 48 hours. • PM851A/PM856A/PM860A a minimum of two weeks. • PM858 a minimum of 158 hours • PM861/PM864 a minimum of 36 hours. • PM861A a minimum of 118 hours. • PM862 a minimum of 158 hours • PM864A/PM865 a minimum of 235 hours. • PM866/PM866A a minimum of 158 hours. • PM867 a minimum of 158 hours

Table 4. Processor Unit - PM8xx and TP830 (Continued)

Item	Value
External Battery Unit SB821	Lithium battery 3.6V 16Ah. Battery memory back-up time is: • PM851/PM856/PM860 a minimum of 4 weeks. • PM851A/PM856A/PM860A a minimum of 8 months. • PM861/PM864 a minimum of 3 weeks. • PM861A a minimum of 12 weeks • PM864A/PM865 a minimum of 24 weeks. • PM858/PM862/PM866/PM866A/PM867 a minimum of 15 weeks.
Rechargeable battery unit SB822	Lithium battery, 3.75 V 2.4 Ah. Battery memory back-up time, when fully charged is: • PM851/PM856/PM860 a minimum of 100 hours. • PM851A/PM856A/PM860A a minimum of 4 weeks. • PM861/PM864 a minimum of 85 hours. • PM861A a minimum of 285 hours. • PM864A/PM865 a minimum of 3 weeks. • PM858/PM862/PM866/PM866A/PM867 a minimum of 16 days. • PM891 a minimum of 33 hours

Table 4. Processor Unit - PM8xx and TP830 (Continued)

Item	Value
Unit Size and Weight	PM8xx (except PM891): Width (measured along DIN rail): 119 mm (4.7") (Note: When not mounted, CEX bus contact protrudes an additional 4 mm (0.16")) Depth (measured from wall): 135 mm (5.3") Height (measured vertically, inclusive of locking device): 186 mm (7.3") Weight: 1100 g (2.4 lb) (package PM851K01 and PM851AK01) 1100 g (2.4 lb) (package PM856K01 and PM856AK01) 1100 g (2.4 lb) (package PM860K01 and PM860AK01) 1200 g (2.6 lb) (package PM858K01, PM861K01, PM862K01, PM864K01, PM866K01, PM865K01 and PM867K01) 2800 g (6.1 lb) (package PM858K02, PM861K02, PM862K02, PM864K02, PM866K02, PM865K02 and PM867K02) All packages incl. TP830 and bus terminations PM891: Width (measured along DIN rail): 200 mm (7.9") Depth (measured from wall): 102 mm (4.0") Height (measured vertically, inclusive of locking device): 186 mm (7.3") Weight: 1.6 kg (1.9 kg with package)