## PM8xx/TP830 Processor Unit – General



The topic does not apply to PM891. See PM891 Processor Unit – General on page 40.

Physically the PM8xx/TP830 Processor Unit consists of two basic parts:

- Processor Unit (PM851/PM851A/PM856/PM856A/PM860/PM860A/PM861/PM861A/ PM864/PM864A/PM865/PM866) with processor and Power Supply boards.
- Baseplate (TP830), housing the unit termination board.

For the Functional Block Diagram, see Figure 4 on page 35 and Figure 5 on page 36. The CPU board contains the microprocessor and the RAMmemory, controllers for all built-in communication interfaces, real-time clock, LED indicators, INIT push button and a Compact Flash interface.

The main function of the power supply board is to generate isolated, circuit-proof +5 V and +3.3 V supplies to the CPU and I/O units. The board also contains optoisolated 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 Baseplate, is where the majority of the external connections terminates. The board is grounded to the DIN-rail through of the metallic components of the housing. The termination board is provided with screw terminals for power supply and redundant power supply monitoring, with RJ45 connectors for the control network and serial port, a connector for the service port, the electrical ModuleBus and the CEX-Bus.

The 24 V DC supply, connected to the TP830 Baseplate, powers all the units on the CEX-Bus and the electrical ModuleBus.

In single CPU configuration, it is possible to connect an S800 I/O cluster directly to the built-in electrical ModuleBus plug located on the right hand side of the TP830 Baseplate.

The processor unit has a communication expansion bus connector located on the left-hand side of the TP830 Baseplate. This CEX-Bus provides for extending the on-board communication ports with additional communication interfaces.

## PM891 Processor Unit – General

PM891 is a high performance controller, which is capable of handling applications with high requirements.

PM891 connects to the S800 I/O system through the optical Modulebus. It can act as a stand-alone Process Controller, or as a controller performing local control tasks in a control network.

Two PM891 controllers can function together as a redundant pair, with one PM891 acting as the primary controller and the other acting as the backup. The backup controller takes over the process controller tasks if any hardware error occurs in the primary controller.

The control network connectivity is obtained by two built in IEEE802.3 Ethernet channels on PM891.

PM891 also provides a communication expansion bus (CEX-Bus) to which a number of expansion modules can be connected. These modules offers connectivity to a wide range of field bus and I/O systems. In case of a redundant pair, both PM891s are connected to the same CEX-Bus and one of them can control the modules.

Physically, the PM891 Processor Unit consists of:

- Connector for power supply and status signals (L+, L-, SA, SB).
- DB25 connector for Electrical CEX-Bus.
- External battery connector.
- RJ45 connectors for the two Ethernet channels.
- One Com port.
- Optical Modulebus connector for connection to a maximum of seven clusters, with 12 non-redundant or six redundant modules (that is, 7x12 = 84 modules).
- Connectors for Redundancy Link.
- SD (Secure Digital) memory connector.
- LEDs.
- Pushbutton reset switch.