Control^{IT} AC 800PEC Control System

The modular controller for high-speed performance

ABB

The AC 800PEC hardware

The AC 800PEC system incorporates equipment that meets the most challenging – and also contradictory – requirements in process control. It includes a wide range of I/O modules to cover all power electronics control requirements.

The different I/O modules can be connected to the AC 800PEC controller to cover most automation requirements in:

- Process industry
- Power generation and distribution
- Transportation and traction.

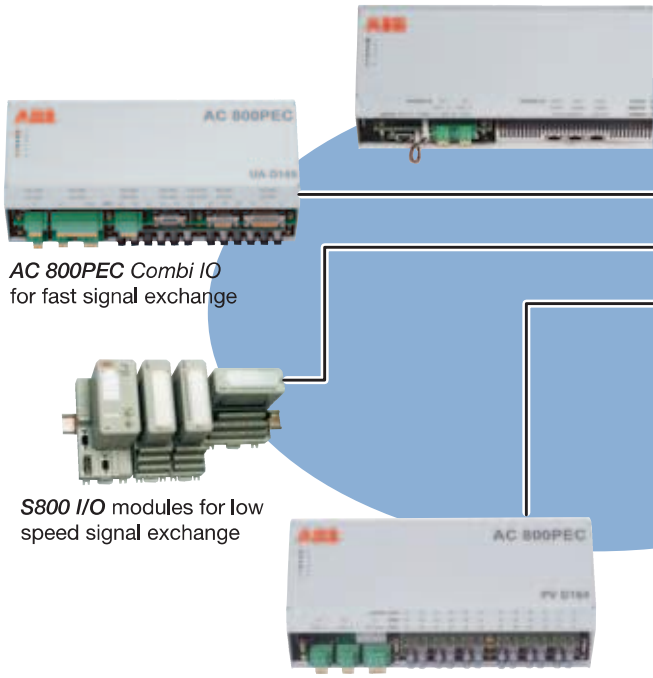
The modular, energy-efficient design of the AC 800PEC allows operation without forced cooling.

The modules are mounted on standard DIN rails and can easily be installed in distributed processes.

The number of directly connectable I/O systems is limited only by the maximum available fiber-optic links to the processor (36 bidirectional links).

Depending on the required performance, single, multiple or redundant bidirectional links are used between modules.

Each module comprises a mechanical carrier, a base module and a configurable set of submodules which provide the required I/O terminals or communication interfaces.



AC 800PEC Combi IO for fast signal exchange

S800 I/O modules for low speed signal exchange

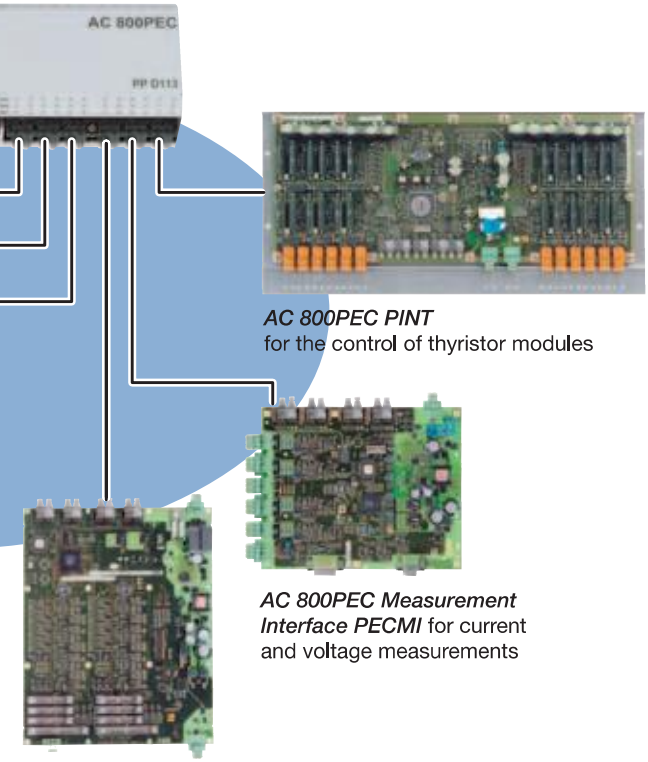
AC 800PEC INT interface system for direct IGCT converter contol

AC 800PEC Controller PP D113

The controller comprises a low power circuit with high reliability. The hardware can be configured freely, depending on the process requirements and the selected communication with the upper control.

The AC 800PEC controller module contains the processor, the optical interfaces to the peripheral I/O, the fieldbus, and interfaces to the upper control:

- **Base unit AC 800PEC BP** (backplane with slots for mounting the processor, the power supply, and the optical and communication modules)
- **Processor module AC 800PEC CPU** mounted on the AC 800PEC BP. The CPU is a fully-featured 600 MHz RISC processor with a 64-bit IEEE Floating-Point-Unit (FPU). It is optimized for applications with very fast control cycles
- Two **AnyIO interfaces,** each consisting of
  – an AnyBus®-S slot
  – an additional AnyIO extension slot for an AC 800PEC CEX interface or special applications
- Up to 6 **AC 800PEC optical modules** for fiber-optic links to various I/O modules.

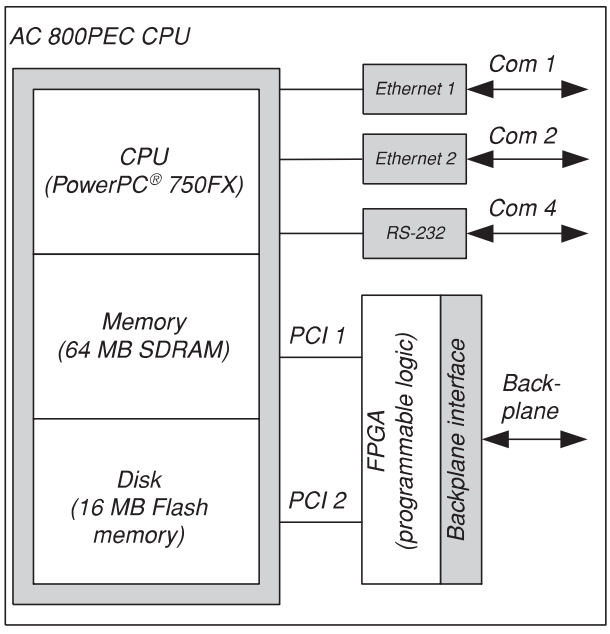


AC 800PEC PINT
for the control of thyristor modules

AC 800PEC Measurement Interface PECMI for current and voltage measurements

AC 800PEC PEBB
Interface board for direct IGBT converter control

Programs and data are stored in a robust solid-state 16 MB Flash memory, which is formatted as a file disk. Active programs are operating out of the cached 64 MB SDRAM.



Communication modules

Communication with external systems (i.e. the upper control via fieldbus) is via CEX or AnyBus®-S fieldbus interface module, or via Ethernet ports on the processor module.

The CEX interface provides optimum connectivity with the complete ABB AC 800 CEX program, such as:

- MB300
- Profibus master
- Ethernet

The supported AnyBus®-S fieldbus types are:

- Profibus slave
- Lon Works slave
- Modbus slave
- CANopen slave
- Interbus slave
- etc.