ABB PM585-ETH 1SAP140500R0271

Processor Module



Processor for an AC500 V2 system. ABB PM585-ETH 1SAP140500R0271 is the processor module at the center of an AC500 V2 modular control system. It runs the application's control program and exchanges data with the configured I/O and communication modules. Onboard Ethernet TCP/IP supports network communication, a web server and time synchronization, while its serial interfaces support programming and the applicable Modbus or CS31 connections. The integrated display and memory-card slot provide local system functions. This exact ETH version combines the AC500 processor role with built-in Ethernet capability for the control architecture defined in the project.

Technical Specifications

Product Identity	
Manufacturer / ordering code	ABB / PM585-ETH 1SAP140500R0271
Platform / function	AC500 V2 / processor module
Functional Configuration	
Processor	32-bit ARM; 400 MHz
Ethernet	10/100 Base-TX; one RJ45 on the compatible TB5x1-ETH terminal base
Ethernet functions	Web server, SNTP and IEC 60870-5-104
Serial interfaces	COM1 and COM2 configurable as RS-232 / RS-485
Serial functions	Modbus master/slave and serial ASCII; COM1 also supports CS31 master
Front controls	LCD status display, status LEDs and eight function keys
Program execution	Cyclic, time-controlled and multitasking
Programming languages	ST, IL, FBD, LD, SFC and CFC
Local I/O expansion	Up to 10 modules; earlier software/firmware configurations are limited to 7
Compatible terminal-base generation	TB5x1-ETH with matching R0270 ordering-code generation
Performance & Power	
Program memory	1024 kB flash EPROM and RAM
Integrated data memory	1536 kB, including 512 kB buffered
Memory expansion	No expandable internal memory; optional pluggable memory card
Supply voltage	24 V DC nominal; –15% / +20% tolerance
Environment	
Standard operating environment	0 to +60 °C horizontal; 0 to +40 °C vertical, with applicable I/O derating
Storage / humidity	–40 to +70 °C; maximum 95% RH without condensation
Protection	IP20 with all modules, terminals and required covers fitted

Selected original manufacturer material follows on page 3.

Compatibility & Selection Guide

Match the existing control application. The AC500 V2 processor supports cyclic, time-controlled and multitasking execution with ST, IL, FBD, LD, SFC and CFC programming languages. Review the existing project, processor firmware and configured communication interfaces before replacement; a shared AC500 name does not establish interchangeability with other CPU generations.

Wiring & Installation Reference

Check the base and connections

Terminal base · TB5x1-ETH, matching R0270 generation · Verify complete base ordering code

Supply · 24 V DC at the removable 5-pin terminal block · Use a suitable SELV/PELV supply

Ethernet · One RJ45 connection on the terminal base · Confirm existing IP/network configuration

Serial · COM1 and COM2, RS-232 / RS-485 · Match wiring, interface mode and protocol

Replace and recommission deliberately

1. Record the existing configuration Identify the complete CPU and base codes, project, firmware, I/O arrangement and communication settings.

2. Mount with power isolated Fit the CPU to the compatible base in a suitable control cabinet. Keep ventilation slots unobstructed and protect connectors against electrostatic discharge.

3. Verify before normal operation Restore the approved project and settings, check status indicators and communication, then test the machine application under its commissioning procedure.

Installation precautions

Use the standard temperature limits; this model is not an XC controller. Vertical installation requires the lower ambient limit and applicable output-load derating.

Use SELV/PELV power with safe separation, double or reinforced insulation as specified by ABB.

Use only the specified battery accessories. Primary lithium batteries must not be recharged, short-circuited or exposed to fire.

An I/O hot-swap capability under specific conditions does not permit live replacement of the processor.

Manufacturer reference 1

Part no.	Description	Product life cycle phase *)
1SAP 340 200 R0201	PM582-XC, processor module, memory 512 kB, 24 V DC, memory card slot, interfaces 2 RS-232/485 (programming, Modbus/CS31), 1 FBP, display, XC version	Classic
1SAP 140 300 R0271	PM583-ETH, processor module, memory 1024 kB, 24 V DC, memory card slot, interfaces 2 RS-232/485 (programming, Modbus/CS31), 1 FBP, display, onboard Ethernet TCP/IP with web server, SNTP, IEC60870-5-104 protocols	Classic
1SAP 340 300 R0271	PM583-ETH-XC, processor module, memory 1024 kB, 24 V DC, memory card slot, interfaces 2 RS-232/485 (programming, Modbus/CS31), 1 FBP, display, onboard Ethernet TCP/IP with web server, SNTP, IEC60870-5-104 protocols, XC version	Classic
1SAP 140 500 R0271	PM585-ETH, processor module, memory 1024 kB, 24 V DC, memory card slot, interfaces 2 RS-232/485 (programming, Modbus/CS31), 1 FBP, display, onboard Ethernet TCP/IP with web server, SNTP, IEC60870-5-104 protocols	Classic
1SAP 150 000 R0261	PM590-ARCNET, processor module, memory 2 MB, 24 V DC, memory card slot, interfaces 2 RS-232/485 (programming, Modbus/CS31), 1 FBP, display, integrated communication module ARCNET	Classic
1SAP 150 000 R0271	PM590-ETH, processor module, memory 2 MB, 24 V DC, memory card slot, interfaces 2 RS-232/485 (programming, Modbus/CS31), 1 FBP, display, onboard Ethernet TCP/IP with web server, SNTP, IEC60870-5-104 protocols	Classic
1SAP 150 100 R0271	PM591-ETH, processor module, memory 4 MB, 24 V DC, memory card slot, interfaces 2 RS-232/485 (programming, Modbus/CS31), 1 FBP, display, onboard Ethernet TCP/IP with web server, SNTP, IEC60870-5-104 protocols	Classic
1SAP 150 100 R0277	PM591-2ETH, processor module, memory 4 MB, 24 V DC, memory card slot, interfaces 1 RS-232/485 (programming, Modbus/CS31), display, 2 onboard Ethernet TCP/IP with web server, SNTP, IEC60870-5-104 protocols	Classic
1SAP 350 100 R0271	PM591-ETH-XC, processor module, memory 4 MB, 24 V DC, memory card slot, interfaces 2 RS-232/485 (programming, Modbus/CS31), 1 FBP, display, onboard Ethernet TCP/IP with web server, SNTP, IEC60870-5-104 protocols, XC version	Classic