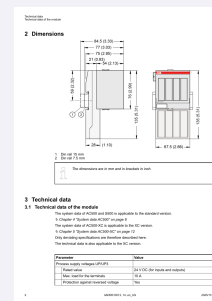


AMIKON TECHNICAL INTELLIGENCE

Product Data Sheet

ABB CI501-PNIO

PROFINET Communication Interface Module



ANALOG I/O	DIGITAL I/O	LOCAL EXPANSION	NETWORK
4 inputs / 2 outputs	8 inputs / 8 outputs	Up to 10 S500	PROFINET IO RT

ABB CI501-PNIO is a PROFINET IO RT device combining four analog inputs, two analog outputs, eight digital inputs and eight digital outputs. It connects a decentralized S500 station to the engineered PROFINET controller through the terminal unit Ethernet ports.

01 VERIFIED PRODUCT PARAMETERS

Onboard channel allocation	4 analog inputs, 2 analog outputs, 8 digital inputs and 8 digital outputs
Analog input selections	0 to 10 V, -10 to +10 V, 0 to 20 mA, 4 to 20 mA; Pt100, Pt1000 or Ni1000
Analog output selections	-10 to +10 V, 0 to 20 mA or 4 to 20 mA
Analog input conversion cycle	1 ms for 4 inputs plus 2 outputs; 1 s with Pt/Ni RTDs
Digital input delay	Typically 0.1 ms; configurable from 0.1 to 32 ms
Digital output current	500 mA per channel at 24 V; 4 A total before mounting derating
Fast-counter frequency	Modes 1-6: 200 kHz; mode 7: 50 kHz; mode 9: 35 kHz; mode 10: 20 kHz maximum
Ethernet connection	2 RJ45 ports on terminal unit; integrated switch; 10/100 Mbit/s full-duplex
Local I/O expansion	Maximum 10 S500 I/O modules
Cyclic process image	19 input bytes and 23 output bytes

Technical values were verified against ABB 3ADR010013 rev.14. 2025-11-28: CI501-PNIO connections.

02 ADDITIONAL TECHNICAL DATA

Minimum network cycle	1 ms PROFINET bus cycle
PROFINET conformance	CC B; RTC class 1; MRP client support
Process supply	24 V DC UP and UP3; 10 A fast protection fuse
Maximum internal dissipation	6 W
Vertical installation limit	Up to +40 deg C with output load reduced to 50% per group

03 SYSTEM ROLE AND APPLICATIONS

Order 1SAP220600R0001 identifies standard CI501-PNIO. Select the matching terminal unit, channel modes and station configuration; the separately ordered XC version has different environmental provisions. Network update time, analog conversion and field-load response must be assessed separately.

- Mixed remote station: combine sensor inputs and actuator outputs through the documented PROFINET IO device architecture.
- Pulse counting: allocate DI0 and DI1 plus DO0 to the documented fast-counter function and its operation-mode limits.
- Temperature acquisition: configure supported RTD channels while accounting for the longer Pt/Ni conversion cycle.

04 OFFICIAL INSTALLATION FACTS

- Isolate all supply and field voltages and secure the process before mounting or wiring.
- Fit CI501-PNIO to the documented TU507-ETH or TU508-ETH terminal unit; preserve free convection.
- Connect protected 24 V DC UP to 1.8/2.8 and UP3 to 3.8, with ZP returns on 1.9/2.9/3.9.
- Connect the engineered PROFINET network through the terminal-unit RJ45 ports and restore the device identity.

05 OFFICIAL DOCUMENTATION

[ABB 3ADR010013 rev.14, 2025-11-28; CI501-PNIO connections](#)

AMIKON PRODUCT SUPPORT

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