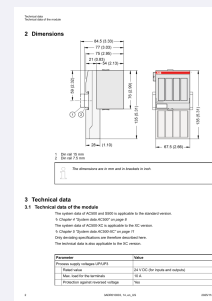


AMIKON TECHNICAL INTELLIGENCE

Product Data Sheet

ABB CI521-MODTCP

Modbus TCP I/O Interface



ANALOG INPUTS	ANALOG OUTPUTS	DIGITAL CHANNELS	PROTOCOL
4 AI	2 AO	8 DI + 8 DO	Modbus TCP

ABB CI521-MODTCP combines analog acquisition, analog commands and discrete field signals in a Modbus TCP remote I/O station. Four analog inputs and two analog outputs accompany eight digital inputs and eight transistor outputs, supporting mixed-signal equipment through one interface.

01 VERIFIED PRODUCT PARAMETERS

Integrated I/O allocation	4 analog inputs, 2 analog outputs, 8 digital inputs and 8 digital outputs
Ethernet hardware	10/100 Base-TX; internal switch with two RJ45 sockets
Process data structure	20 input bytes and 24 output bytes
Process supply	24 V DC at UP and UP3; -15% / +20% system tolerance
Normal UP current	0.20 A
UP3 current demand	0.06 A plus maximum 0.5 A per output
Internal power dissipation	Maximum 6 W
Analog input modes	0-10 V, +/-10 V, 0/4-20 mA, Pt100, Pt1000 and Ni1000
Analog conversion cycle	1 ms for 4 inputs and 2 outputs; 1 s with RTDs
Analog conversion resolution	Voltage/current: 12 bits; bipolar voltage includes sign; RTD: 0.1 deg C

Technical values were verified against ABB 3ADR010003 rev.14, 2025-11-28; CI521 connections and Modbus system technology.

02 ADDITIONAL TECHNICAL DATA

Analog input impedance	Voltage >100 kohm; current approximately 330 ohm
Analog output ranges	+/-10 V, 0-20 mA and 4-20 mA; individually configurable
Current-output load range	0-500 ohm
Digital input filtering	Typically 0.1 ms; configurable 0.1-32 ms
Digital output load capacity	500 mA per channel; 4 A total before installation derating

03 SYSTEM ROLE AND APPLICATIONS

Order number 1SAP222100R0001 identifies the standard CI521-MODTCP. Match the sensor ranges, output loads, terminal unit and register configuration to the installation. ABB lists this version as Active in datasheet 3ADR010003 revision 14; the separately ordered XC version has different environmental conditions.

- Temperature acquisition: read supported Pt100, Pt1000 or Ni1000 resistance sensors through the corresponding ABB input circuit.
- Transmitter measurement: receive documented active or passive current signals with appropriate loop supply and signal reference.
- Analog receiver commands: drive compatible voltage- or current-controlled loads using the selected analog output range.

04 OFFICIAL INSTALLATION FACTS

- Remove all supply and process voltages before mounting, disconnecting terminals or exchanging the interface.
- Seat CI521-MODTCP on TU507-ETH or TU508-ETH and preserve unobstructed natural convection.
- Provide SELV/PELV 24 V DC at UP terminals 1.8/2.8 and UP3 terminal 3.8; use ZP terminals 1.9/2.9/3.9 as documented.
- Follow ABB terminal drawings for each analog mode. Route analog cables with the documented shielding and equipotential bonding.

05 OFFICIAL DOCUMENTATION

[ABB 3ADR010003 rev.14, 2025-11-28; CI521 connections and Modbus system technology](#)

AMIKON PRODUCT SUPPORT

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