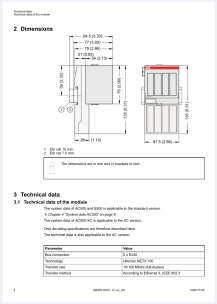
AMIKON TECHNICAL INTELLIGENCE

Product Data Sheet

ABB CI511-ETHCAT

EtherCAT Mixed I/O Interface



DIGITAL I/O	ANALOG I/O	CYCLIC DATA	CAM TRACKS
8 DI + 8 DO	**4 AI + 2 AO**	**18 B in / 18 B out**	**Up to 32**

ABB CI511-ETHCAT is an EtherCAT remote I/O interface combining eight digital inputs, eight transistor outputs, four analog inputs and two analog outputs. Its mixed-signal arrangement supports field measurements and commands alongside the documented electronic cam-switch functions.

01 VERIFIED PRODUCT PARAMETERS

Onboard signal allocation	8 digital inputs, 8 digital outputs, 4 analog inputs and 2 analog outputs
EtherCAT physical interface	Two RJ45 connections; 10/100 Mbit/s full-duplex
Cyclic process data	18 input bytes and 18 output bytes
S500 expansion condition	Up to 10 modules at device index C0 or above; unavailable below C0
Acyclic transfer service	SDO; maximum 1500 bytes
Process supply rating	24 V DC UP/UP3; 10 A fast protection fuse
Normal UP consumption	0.2 A
Maximum internal power dissipation	6 W
Digital output current	500 mA per channel at 24 V; 4 A total before derating
Analog input selections	0-10 V, +/-10 V, 0/4-20 mA, Pt100, Pt1000 and Ni1000

Technical values were verified against ABB 3ADR010007 rev.14, 2025-11-28; CI511 connections; 2CDC124092L0201.

02 ADDITIONAL TECHNICAL DATA

Analog conversion cycle	1 ms for 4 inputs and 2 outputs; 1 s with Pt/Ni RTDs
Analog input resolution	12 bits for voltage/current; bipolar range includes sign; RTD increment 0.1 deg C
Analog output ranges	+/-10 V, 0-20 mA or 4-20 mA; independently configurable
Analog output settling	Typically 5 ms for a full-range change into a resistive load
Cam assignment capacity	32 cam tracks assignable to digital outputs 0-7

03 SYSTEM ROLE AND APPLICATIONS

Order 1SAP220900R0001 identifies CI511-ETHCAT. Device index C0 and above supports S500 expansion and extended cam functions; earlier hardware must not be assumed to provide those capabilities. Preserve the installed EtherCAT configuration, analog ranges and cam assignments when selecting a replacement.

- Sheet-metal cut triggering: relate electronic switching events to material position using the documented decentralized cam-switch arrangement.
- Rotary-table assembly: assign cam actions to table angle for position-dependent operations at different assembly stations.
- Mixed-signal acquisition and command: use the documented analog input and output circuits to connect suitable sensors and receivers within an EtherCAT station.

04 OFFICIAL INSTALLATION FACTS

- Qualified personnel must switch off all supply and process voltages before mounting, replacing or disconnecting the module.
- Seat CI511-ETHCAT on TU507-ETH or TU508-ETH until locked; preserve natural convection and the permitted mounting orientation.
- Provide protected SELV/PELV 24 V DC at UP 1.8/2.8 and UP3 3.8, with ZP returns at 1.9/2.9/3.9.
- Match each analog circuit to its documented reference: AI- for voltage/RTD input, AO- for voltage output, and ZP for current circuits.

05 OFFICIAL DOCUMENTATION

ABB 3ADR010007 rev.14, 2025-11-28; CI511 connections; 2CDC124092L0201

AMIKON PRODUCT SUPPORT

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