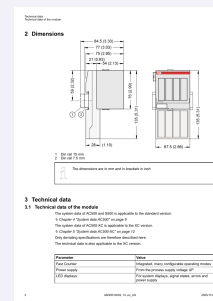


AMIKON TECHNICAL INTELLIGENCE

Product Data Sheet

ABB DA501

Mixed Digital Analog Module



DIGITAL INPUTS	CONFIGURABLE	ANALOG INPUTS	ANALOG OUTPUTS
16 DI	8 DC	4 AI	2 AO

ABB DA501 combines sixteen digital inputs, eight configurable digital input/output channels, four analog inputs and two analog outputs in one S500 module. It supports mixed field signals on a TU515 or TU516 terminal unit within an engineered AC500 installation.

01 VERIFIED PRODUCT PARAMETERS

Channel allocation	16 digital inputs, 8 configurable digital I/O, 4 analog inputs and 2 analog outputs
Required terminal unit	TU515 or TU516
Process supply rating	24 V DC; -15% / +20% system tolerance; maximum 5% ripple
UP current consumption	0.07 A plus maximum 0.5 A per digital output
Internal power dissipation	Maximum 6 W with outputs unloaded
Isolation arrangement	Channels isolated from I/O bus; no isolation between channels or from process supply
Digital input characteristic	IEC 61131-2 Type 1; typical 5 mA at 24 V
Digital input filter	0.1-32 ms configurable; typically 0.1 ms
Digital output capacity	500 mA per channel at 24 V; maximum 4 A across eight channels before derating
Fast-counter terminal assignment	DC16/DC17 inputs and DC18 output; maximum 50 kHz

Technical values were verified against ABB 3ADR010039 rev.14, 2025-11-28, DA501 original instructions.

02 ADDITIONAL TECHNICAL DATA

Analog input ranges	0-10 V, -10 to +10 V, 0-20 mA, 4-20 mA, Pt100, Pt1000 or Ni1000
Analog conversion resolution	12-bit electrical inputs; bipolar range includes sign; RTD resolution 0.1 C
Analog output ranges	-10 to +10 V, 0-20 mA or 4-20 mA; individually configurable
Analog output load limits	Current output: 0-500 ohm; voltage output: maximum +/-10 mA
Normal-range conversion error	Analog inputs and outputs: typically 0.5%, maximum 1%

03 SYSTEM ROLE AND APPLICATIONS

Order 1SAP250700R0001 identifies the standard DA501. The analog inputs support voltage, current and specified resistance-temperature sensors, while the outputs provide voltage or current commands. Verify every terminal reference, signal range and controller configuration before connecting field equipment.

- Mixed process instrumentation: acquire voltage, current and RTD measurements together with discrete field states.
- Analog command generation: send configured voltage or current commands to compatible receiving equipment.
- Pulse-related sequencing: use the integrated 50 kHz counter with compatible host arrangements and assigned digital terminals.

04 OFFICIAL INSTALLATION FACTS

- Isolate process and supply voltages before wiring or replacing the module.
- Install the standard DA501 on the specified TU515 or TU516 terminal unit with unobstructed natural convection.
- Connect protected 24 V DC UP and ZP supplies at the documented terminal positions; ABB specifies a 10 A fast UP fuse.
- Distinguish AI- and AO- voltage references from ZP current references before connecting analog circuits.

05 OFFICIAL DOCUMENTATION

[ABB 3ADR010039 rev.14, 2025-11-28, DA501 original instructions](#)

AMIKON PRODUCT SUPPORT

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