

AMIKON TECHNICAL INTELLIGENCE

Product Data Sheet

Siemens 6ES7288-5AQ01-0AA0

SB AQ01 Analog Output Board

[illegible]

OUTPUT	VOLTAGE	CURRENT	POWER
1	+/-10 V	0-20 mA	1.5 W

Siemens 6ES7288-5AQ01-0AA0 is the SIMATIC S7-200 SMART SB AQ01 signal board. It adds one analog output to a supported CPU, selectable as a bipolar voltage signal from -10 to +10 V or a current signal from 0 to 20 mA. These are alternative operating modes of one channel, not two independent outputs.

01 VERIFIED PRODUCT PARAMETERS

Voltage output range	-10 to +10 V
Current output range	0 to 20 mA
Output resolution	Voltage: 11 bits plus sign; current: 11 bits
Output accuracy	+/-0.5% at 25 degrees C; +/-1% at -20 to +60 degrees C
Voltage settling time	95%: 300 us resistive; 750 us at 1 uF
Current settling time	95%: 600 us at 1 mH; 2 ms at 10 mH
Voltage load impedance	At least 1000 Ohm
Current load impedance	600 Ohm maximum
STOP output behavior	Last value or substitute value; default substitute 0
Field-to-logic isolation	None

02 ADDITIONAL TECHNICAL DATA

Signal cable limit	10 m maximum; twisted and shielded
Power dissipation	1.5 W
5 V DC consumption	15 mA
24 V DC consumption	40 mA at no load
Diagnostics	Range faults; voltage short-to-ground; current wire break

03 SYSTEM ROLE AND APPLICATIONS

The official manual specifies voltage resolution of 11 bits plus sign and current resolution of 11 bits. Configure the output scaling and STOP response, and check the receiving load before connection. The board has no field-to-logic isolation; the installation must follow the system grounding and signal-wiring requirements.

- Set a compatible drive speed demand: Use the configured analog output to issue a speed reference to a drive accepting the selected voltage or current range. Siemens V20 guidance documents this input function. Set both ends to matching scaling and validate direction, limits and the separate run-enable arrangement.
- Issue a configured drive torque reference: Where the drive application supports an analog torque demand, transmit the required reference through the selected SB AQ01 mode. Siemens V20 guidance lists torque-reference use. Confirm the receiving drive parameters and mechanical limits; an analog connection alone does not configure torque control.
- Transfer a continuous regulator command: Use the SMART PID output configuration to scale a calculated regulator demand into an analog output word. Match unipolar, bipolar or offset scaling to the receiving circuit and configured signal mode. Verify the controlled response and STOP substitute before enabling automatic regulation.

04 OFFICIAL INSTALLATION FACTS

- Disconnect the CPU and all connected SMART equipment from electrical power before fitting the board.
- Follow the official top-mounted signal-board procedure and verify the CPU supports this board.
- Wire X19 pin5 AQ0, pin6 AQ0M and pin4 functional earth; leave pins1 through3 unconnected.
- Use twisted shielded cable within 10 m and respect the different voltage/current load limits.

05 OFFICIAL DOCUMENTATION

Siemens S7-200 SMART V2.8, A5E03822230-AL, 08/2023

AMIKON PRODUCT SUPPORT

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