

MANUFACTURER DOCUMENT PACKAGE

# Manufacturer's Manual

Selected official specification and wiring pages

SIEMENS SIMATIC

## 6ES7288-5AE01-0AA0

S7-200 SMART SB AE01 ANALOG INPUT SIGNAL BOARD

The following original Siemens pages contain the model-specific specifications, interface details, and wiring information with original pagination retained.

REFERENCE PACKAGE

SIMATIC S7-200 SMART System Manual V2.8, 08/2023

OFFICIAL DOCUMENT

[A5E03822230-AL](#)

## SIMATIC

### S7 S7-200 SMART

#### System Manual

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Table A-140 Wiring diagram for the SB DT04 2 Digital Input/2 Digital Output (6ES7288-5DT04-0AA0)

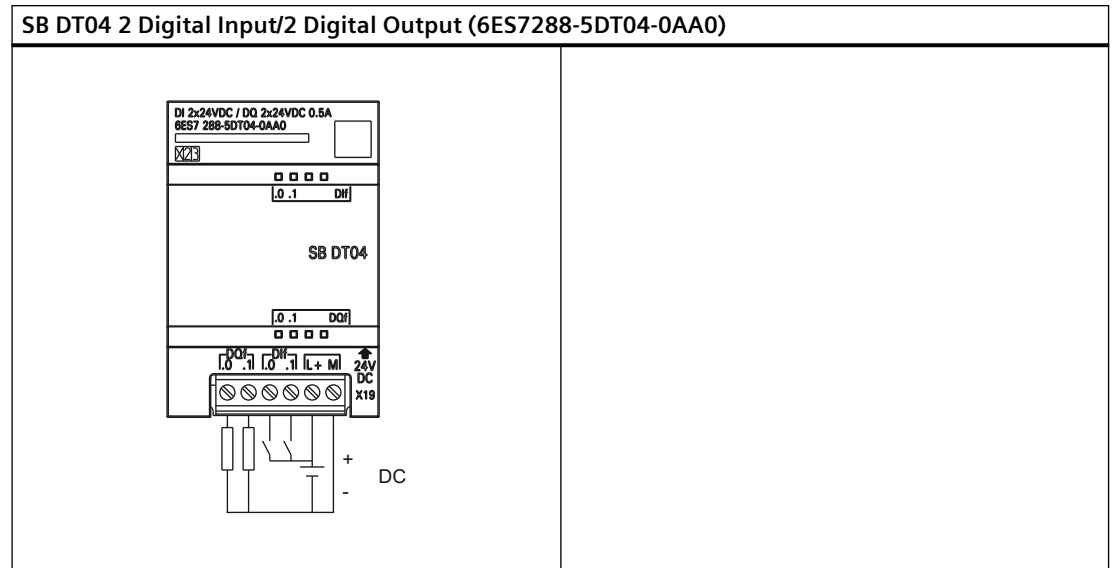


Table A-141 Connector pin locations for SB DT04 2 Digital Input/2 Digital Output (6ES7288-5DT04-0AA0)

| Pin | X19          |
|-----|--------------|
| 1   | DQ f.0       |
| 2   | DQ f.1       |
| 3   | DI f.0       |
| 4   | DI f.1       |
| 5   | L+ / 24 V DC |
| 6   | M / 24 V DC  |

## A.7 Analog signal boards

### A.7.1 SB AE01 analog input specifications

Table A-142 General specifications

| Technical data                | SB Analog 1 x Input (SB AE01) |
|-------------------------------|-------------------------------|
| Article number                | 6ES7288-5AE01-0AA0            |
| Dimensions W x H x D (mm)     | 35 x 52.2 x 16                |
| Weight                        | 20 grams                      |
| Power dissipation             | 0.4 W                         |
| Current consumption (5 V DC)  | 50 mA (5 V and 3.3 combined)  |
| Current consumption (24 V DC) | None                          |

A.7 Analog signal boards

Table A-143 Analog inputs

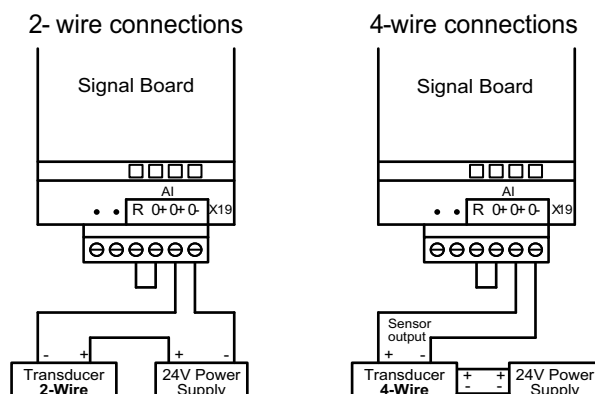
| Technical data                                             |                   | SB Analog 1 x input (SB AE01)                                                                                                                                                                              |
|------------------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number of inputs                                           |                   | 1                                                                                                                                                                                                          |
| Type                                                       |                   | Voltage or current (differential)                                                                                                                                                                          |
| Range                                                      |                   | $\pm 10$ V, $\pm 5$ V, $\pm 2.5$ V, or 0 to 20 mA                                                                                                                                                          |
| Resolution                                                 |                   | 11 bits + sign bit (voltage mode)<br>11 bits (current mode)                                                                                                                                                |
| Full scale range (data word)                               |                   | -27,648 to 27,648                                                                                                                                                                                          |
| Accuracy (25 °C / -20 to 60 °C)                            |                   | Voltage mode: $\pm 0.3$ % / $\pm 0.6$ % of full scale<br>Current mode: $\pm 0.3$ % / $\pm 0.6$ % of full scale                                                                                             |
| Overshoot/undershoot range (data word)                     |                   | Voltage: 27,649 to 32,511 / -27,649 to -32,512<br>Current: 27,649 to 32,511 / -4864 to 0 (Refer to Analog input representation for voltage and Analog input representation for current (Page 911).)        |
| Overflow/underflow (data word)                             |                   | Voltage: 32,512 to 32,767 / -32,513 to -32,768<br>Current: 32,512 to 32,767 / -4,865 to -32,768 (Refer to Analog input representation for voltage and Analog input representation for current (Page 911).) |
| Maximum withstand voltage / current                        |                   | $\pm 35$ V / $\pm 40$ mA                                                                                                                                                                                   |
| Smoothing                                                  |                   | None, weak, medium, or strong (Refer to Analog input response times for step response time (Page 910).)                                                                                                    |
| Noise rejection                                            |                   | 400, 60, 50, or 10 Hz                                                                                                                                                                                      |
| Measuring principle common mode rejection                  |                   | 40 dB, DC to 60 Hz rejection                                                                                                                                                                               |
| Operational signal range (signal plus common mode voltage) |                   | Signal plus common mode voltage must be less than +35 V and greater than -35 V                                                                                                                             |
| Input impedance                                            |                   |                                                                                                                                                                                                            |
|                                                            | Differential mode | 220 K $\Omega$ (voltage) / 250 $\Omega$ (current)                                                                                                                                                          |
|                                                            | Common mode       | 55 K $\Omega$ (voltage) / 55 $\Omega$ (current)                                                                                                                                                            |
| Isolation (field side to logic)                            |                   | None                                                                                                                                                                                                       |
| Cable length (meters)                                      |                   | 100 m twisted and shielded                                                                                                                                                                                 |

Table A-144 Diagnostics

| Model               |  | SB Analog 1 x input (SB AE01) |
|---------------------|--|-------------------------------|
| Overflow/underflow  |  | Yes                           |
| 24 V DC low voltage |  | None                          |

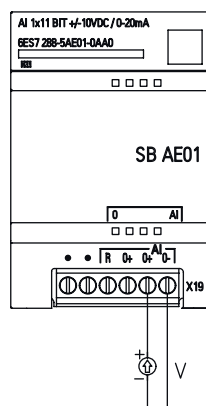
## SB AE01 wiring current transducers

Wiring current transducers are available as 2-wire transducers and 4-wire transducers as shown below.



## SB AE01 wiring voltage transducers

Wiring voltage transducers is shown below.



**Note:** Connectors must be gold. See Appendix F, Spare parts and other hardware for article number.

Table A-145 Connector pin locations for SB AE01 Analog Input 1 x Input (6ES7288-5AE01-0AA0)

| Pin | X19           |
|-----|---------------|
| 1   | No connection |
| 2   | No connection |
| 3   | AI R          |
| 4   | AI 0+         |
| 5   | AI 0+         |
| 6   | AI 0-         |