AI, 12 Bit, I

AI 4x I, 0/4-20 mA, ±20 mA, 12 Bit

- Measuring ranges 0 ... 20 mA, 4 ... 20 mA, ±20 mA, individually configurable for each channel
- Measurement resolution: 11 bit + sign
- Suitable for 2- and 4-wire transmitters
- Diagnostic messages
- Wire break detection (for 4 ... 20 mA)
- Limit value alarms for each channel
- A bi-color LED (blue/red) indicates the module operating status and any malfunctions
- 4 analog inputs for measuring current, electrically isolated from the backplane bus
- 4 process input words

Parameters for the module

Diagnostic alarm: On | Off

Overflow / underflow diagnosis: On | Off

Representation values: SIMATIC* S7 | SIMATIC* S5

Parameters for each channel

Wire break detection (only for 4 ... 20 mA): On | Off

Interference frequency suppression: None | 10 Hz | 50 Hz | 60 Hz | 400 Hz

Measuring ranges: Deactivated | 0 ... 20 mA | 4 ... 20 mA | ±20 mA

Limit value alarms enabled: On | Off

Upper/lower limit: 16 bit analog value (±27648)

Technical specifications

General information	
Order number	600-250-4AD01
Article name	AI 4x I, 0/4...20 mA, ±20 mA, 12-bit
Scope of delivery	AI 4x I, 0/4...20 mA, ±20 mA, 12-bit
Dimensions (DxWxH)	110 x 14 x 73 mm
Weight	Approx. 70 g
Number of inputs	4
Electrical isolation	
from the backplane bus	Yes
Between the channels	No
Current draw	
External	Not needed
Internal	Max. 95 mA
Power dissipation	Max. 0.7 W
Measuring ranges / load resistance	0 ... 20 mA / 50 ohms, 4 ... 20 mA / 50 ohms, ±20 mA / 50 ohms
Measuring method	Integration

Measurement resolution	11 bit + sign
Values presentation	SIMATIC* S7 | SIMATIC* S5 | INT16
Interference frequency suppression	None | 10 Hz | 50 Hz | 60 Hz | 400 Hz
Refresh rate / conversion rate	Number of active channels x conversion time + 16 ms for wire break detection when activated. The conversion time will depend on the interference frequency suppression: None: 8 ms 400 Hz: 45 ms 60 Hz: 109 ms 50 Hz: 128 ms 10 Hz: 342 ms
Diagnoses	Upper measuring range limit exceeded (overflow), lower measuring range limit fallen below (underflow), wire break (for 4 ... 20 mA only), parameter assignment error
Process alarms	Upper and lower limit per channel
Error limits	
Operational error limit in the entire temperature range	±0.5 % relative to the nominal range
Basic error limit at 25 °C	±0.3 % relative to the nominal range
Temperature error	±0.005 %/K relative to the nominal range
Linearity error	±0.05 %/K relative to the nominal range
Repeating accuracy in steady state at 25 °C	±0.05 %/K relative to the nominal range
Parameter configuration length	22 bytes
General error indicator	Red LED
Hot-swap capable	Yes
Ambient conditions	
Ambient temperature	0 °C … +60 °C
Transport and storage temperature	-20 °C … +80 °C
Relative air humidity	95 % r H without condensation
Protection rating	IP 20
Certifications	CE, UL
UL	
Surrounding Air Temperature	0 °C … +60°C
Pollution degree	2
CE	
Noise immunity	DIN EN 61000-6-2 “EMC Immunity”
Interference emission	DIN EN 61000-6-4 “EMC Emission”
Vibration and shock resistance	DIN EN 60068-2-6:2008 „Vibration“, DIN EN 60068-2-27:2010 „Shock"
RoHS	Yes
REACH	Yes