



SIMATIC DP, ELECTRONIC MODULE 2 AI I HIGH FEATURE FOR ET 200S, 15 MM WIDE, CYCLE TIME PER MODULE: 0.5MS, +/- 20MA; 15 BIT + SIGN, 4 .. 20MA; 15 BIT, OPERATIONAL LIMITS +/- 0.1% WITH LED SF (GROUP FAULT)

Supply voltage

Load voltage L+

- Rated value (DC) 24 V
- Reverse polarity protection Yes

Input current

- from load voltage L+ (without load), max. 48 mA
- from backplane bus 3.3 V DC, max. 10 mA

Output voltage

Power supply to the transmitters

- present Yes
- short-circuit proof Yes

Power loss

- Power loss, typ. 1.2 W

Address area

Address space per module

- Address space per module, max. 4 byte

Analog inputs

Number of analog inputs	2
permissible input current for current input (destruction limit), max.	50 mA
Cycle time (all channels) max.	0.5 ms; 0.5 ms for 2 channels without noise suppression, 18 / 21 ms per channel with noise suppression
Input ranges	
• Voltage	No
• Current	Yes
• Thermocouple	No
• Resistance thermometer	No
• Resistance	No
Input ranges (rated values), currents	
• -20 mA to +20 mA	Yes
• 4 mA to 20 mA	Yes
Cable length	
• shielded, max.	200 m
Analog value generation for the inputs	
Measurement principle	Sigma Delta
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	16 bit
• Interference voltage suppression for interference frequency f1 in Hz	60 / 50 Hz / no
• Conversion time (per channel)	0.04 ms; Without noise suppression 17/20 ms per channel with error
Smoothing of measured values	
• parameterizable	Yes; In 4 stages: 1 x, 4 x, 16 x, 32 x cycle time
• Step: None	Yes; 1x
• Step: low	Yes; 4x
• Step: Medium	Yes; 16x
• Step: High	Yes; 32x
Encoder	
Connection of signal encoders	
• for current measurement as 2-wire transducer — Burden of 2-wire transmitter, max.	750 Ω
Errors/accuracies	
Linearity error (relative to input range), (+/-)	0.03 %
Temperature error (relative to input range), (+/-)	0.003 %/K
Crosstalk between the inputs, min.	-100 dB
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.01 %
Operational error limit in overall temperature range	

• Current, relative to input range, (+/-)	0.1 %; 0.2% without interference frequency suppression
Basic error limit (operational limit at 25 °C)	
• Current, relative to input range, (+/-)	0.05 %; 0.1% without interference frequency suppression
Interference voltage suppression for $f = n \times (f_1 \pm 1 \%)$, f_1 = interference frequency	
• Series mode interference (peak value of interference < rated value of input range), min.	90 dB
• Common mode interference (USS < 2.5 V), min.	100 dB

Isochronous mode	
Isochronous operation (application synchronized up to terminal)	Yes

Interrupts/diagnostics/status information	
Alarms	
• Hardware interrupt	Yes
Diagnostic messages	
• Wire-break	Yes; Measuring range 4 to 20 mA only
• Group error	Yes
• Overflow/underflow	Yes
Diagnostics indication LED	
• Group error SF (red)	Yes

Parameter	
Remark	12 bytes, 4 bytes in compatibility mode
Diagnostics wire break	Disable / enable
Measurement type/range	deactivated / +/-20 mA / 4 to 20 mA
Group diagnostics	Disable / enable
Overflow/underflow	Disable / enable

Potential separation	
Potential separation analog inputs	
• between the channels	No; however, increased permissible potential difference between the inputs.
• between the channels and backplane bus	Yes
• Between the channels and load voltage L+	Yes

Dimensions	
Width	15 mm
Height	81 mm
Depth	52 mm

Weights	
Weight, approx.	45 g
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