

SIMATIC DP, ELECTRONIC MODULE 2 AI | 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+	
<ul style="list-style-type: none"> <li>Rated value (DC)</li> </ul>	24 V
<ul style="list-style-type: none"> <li>Reverse polarity protection</li> </ul>	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	
<ul style="list-style-type: none"> <li>present</li> </ul>	Yes
<ul style="list-style-type: none"> <li>short-circuit proof</li> </ul>	Yes
Power loss	
Power loss, typ.	1.2 W
Address area	
Address space per module	
<ul style="list-style-type: none"> <li>Address space per module, max.</li> </ul>	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
<b>Input ranges</b>	
• Voltage	No
• Current	Yes
• Thermocouple	No
• Resistance thermometer	No
• Resistance	No
<b>Input ranges (rated values), currents</b>	
• -20 mA to +20 mA	Yes
• 4 mA to 20 mA	Yes
<b>Cable length</b>	
• shielded, max.	200 m
<b>Analog value generation for the inputs</b>	
Measurement principle	Sigma Delta
<b>Integration and conversion time/resolution per channel</b>	
• 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
<b>Smoothing of measured values</b>	
• 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
<b>Encoder</b>	
<b>Connection of signal encoders</b>	
• for current measurement as 2-wire transducer — Burden of 2-wire transmitter, max.	750 Ω
<b>Errors/accuracies</b>	
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 %
<b>Operational error limit in overall temperature range</b>	

• Current, relative to input range, (+/-)	0.1 %; 0.2% without interference frequency suppression
<b>Basic error limit (operational limit at 25 °C)</b>	
• Current, relative to input range, (+/-)	0.05 %; 0.1% without interference frequency suppression
<b>Interference voltage suppression for <math>f = n \times (f_1 \pm 1 \%)</math>, <math>f_1 =</math> interference frequency</b>	
• 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

<b>Isochronous mode</b>	
Isochronous operation (application synchronized up to terminal)	Yes

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

<b>Parameter</b>	
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

<b>Potential separation</b>	
<b>Potential separation analog inputs</b>	
• 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

<b>Dimensions</b>	
Width	15 mm
Height	81 mm
Depth	52 mm

<b>Weights</b>	
Weight, approx.	45 g
<b>last modified:</b>	03/06/2017