

SIMATIC DP, ELECTRONIC MODULE 2 AI U HIGH FEATURE FOR ET 200S, 15 MM WIDE, CYCLE TIME PER MODULE: 0.5MS, +/- 10V; 15 BI + SIGN, +/-5V;15BIT+SIGN, 1..5V; 15BIT, OPERATIONAL LIMITS +/-0.1% WITH LED SF (GROUP FAULT)



<b>Supply voltage</b>	
Load voltage L+	
• Rated value (DC)	24 V
• Reverse polarity protection	Yes
<b>Input current</b>	
from load voltage L+ (without load), max.	55 mA
from backplane bus 3.3 V DC, max.	10 mA
<b>Output voltage</b>	
Power supply to the transmitters	
• present	No
<b>Power loss</b>	
Power loss, typ.	0.85 W
<b>Address area</b>	
Address space per module	
• Address space per module, max.	4 byte
<b>Analog inputs</b>	
Number of analog inputs	2

permissible input voltage for voltage input (destruction limit), max.	35 V; 35 V continuous; 75 V for max. 1 ms
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	Yes
• Current	No
• Thermocouple	No
• Resistance thermometer	No
• Resistance	No
<b>Input ranges (rated values), voltages</b>	
• 1 V to 5 V	Yes
• Input resistance (1 V to 5 V)	800 k $\Omega$
• -10 V to +10 V	Yes
• Input resistance (-10 V to +10 V)	800 k $\Omega$
• -5 V to +5 V	Yes
• Input resistance (-5 V to +5 V)	800 k $\Omega$
<b>Cable length</b>	
• shielded, max.	200 m
<b>Analog value generation for the inputs</b>	
<b>Integration and conversion time/resolution per channel</b>	
• Resolution with overrange (bit including sign), max.	16 bit; 0 to 5 V: 15 bits, +/-10 V: 16 bits, +/-5 V: 16 bits
• Integration time, parameterizable	Yes
• 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 voltage measurement	Yes
<b>Errors/accuracies</b>	
Linearity error (relative to full-scale), (+/-)	0.01 %
Temperature error (relative to full-scale), (+/-)	0.003 %/K
Crosstalk between the inputs, min.	-100 dB

Repeat accuracy in steady state at 25 °C (relative to full-scale), (+/-)	0.01 %
<b>Operational error limit in overall temperature range</b>	
• Voltage, relative to full-scale, (+/-)	0.1 %; 0.2% without interference frequency suppression
<b>Basic error limit (operational limit at 25 °C)</b>	
• Voltage, relative to full-scale, (+/-)	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

### Isochronous mode

Isochronous operation (application synchronized up to terminal)	Yes
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### Interrupts/diagnostics/status information

<b>Alarms</b>	
• Hardware interrupt	Yes
<b>Diagnostic messages</b>	
• Wire-break	Yes; Measuring range 1 to 5 V only
• Group error	Yes
• Overflow/underflow	Yes
<b>Diagnostics indication LED</b>	
• Group error SF (red)	Yes

### Parameter

Remark	12 bytes, 4 bytes in compatibility mode
Measurement type/range	deactivated / +/-5 V / 1 to 5 V / +/-10 V
Group diagnostics	Disable / enable
Overflow/underflow	Disable / enable

### Potential separation

<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

### Permissible potential difference

between the inputs (UCM)	140 V DC/100 V AC
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### Isolation

Isolation tested with	500 V DC
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### Dimensions

Width	15 mm
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Height	81 mm
Depth	52 mm
<b>Weights</b>	
Weight, approx.	45 g
<b>last modified:</b>	14.05.2016