

SIMATIC DP, Electronics module ET 200S 4AI standard I-2-wire, 4-20 mA; 13 bit, 15 mm width, for 2-wire transducer Cycle time 40 ms/module with SF LED (group fault)



Supply voltage	
Load voltage L+	
<ul style="list-style-type: none"> Rated value (DC) Reverse polarity protection 	<p>24 V; From power module</p> <p>Yes</p>
Input current	
from load voltage L+ (without load), max.	125 mA
from backplane bus 3.3 V DC, max.	10 mA
Output voltage	
Power supply to the transmitters	
<ul style="list-style-type: none"> present short-circuit proof 	<p>Yes</p> <p>Yes; approx. 200 mA for module</p>
Power loss	
Power loss, typ.	0.6 W
Address area	
Address space per module	
<ul style="list-style-type: none"> Address space per module, max. 	8 byte
Analog inputs	

Number of analog inputs	4
permissible input current for current input (destruction limit), max.	30 mA; limited electronically
Cycle time (all channels) max.	40 ms; 33 to 40 ms
Input ranges (rated values), currents	
<ul style="list-style-type: none"> • 4 mA to 20 mA 	Yes; Into 25 Ohm
Cable length	
<ul style="list-style-type: none"> • shielded, max. 	200 m

Analog value generation for the inputs

Measurement principle	integrating
Integration and conversion time/resolution per channel	
<ul style="list-style-type: none"> • Resolution with overrange (bit including sign), max. 	13 bit; 4 to 20 mA: 13 bit
<ul style="list-style-type: none"> • Integration time, parameterizable 	Yes
<ul style="list-style-type: none"> • Integration time (ms) 	16,67 / 20 ms
<ul style="list-style-type: none"> • Interference voltage suppression for interference frequency f1 in Hz 	50 / 60 Hz
Smoothing of measured values	
<ul style="list-style-type: none"> • parameterizable 	Yes; in 4 stages
<ul style="list-style-type: none"> • Step: None 	Yes; 1x cycle time
<ul style="list-style-type: none"> • Step: low 	Yes; 4x cycle time
<ul style="list-style-type: none"> • Step: Medium 	Yes; 16x cycle time
<ul style="list-style-type: none"> • Step: High 	Yes; 32x cycle time

Encoder

Connection of signal encoders	
<ul style="list-style-type: none"> • for current measurement as 2-wire transducer — Burden of 2-wire transmitter, max. 	750 Ω

Errors/accuracies

Linearity error (relative to input range), (+/-)	0.01 %
Temperature error (relative to input range), (+/-)	0.003 %/K
Crosstalk between the inputs, min.	-50 dB
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.05 %
Operational error limit in overall temperature range	
<ul style="list-style-type: none"> • Current, relative to input range, (+/-) 	0.4 %
Basic error limit (operational limit at 25 °C)	
<ul style="list-style-type: none"> • Current, relative to input range, (+/-) 	0.3 %
Interference voltage suppression for $f = n \times (f1 \pm 1 \%)$, $f1 =$ interference frequency	
<ul style="list-style-type: none"> • Series mode interference (peak value of interference < rated value of input range), min. 	70 dB

Isochronous mode

Isochronous operation (application synchronized up to terminal)	No
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Interrupts/diagnostics/status information

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

Parameter

Remark	7 byte
Diagnostics wire break	1
Measurement type/range	1
Group diagnostics	1
Overflow/underflow	1

Potential separation

Potential separation analog inputs	
• between the channels	No
• between the channels and backplane bus	Yes
• Between the channels and load voltage L+	No

Isolation

Isolation tested with	500 V DC
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Dimensions

Width	15 mm
Height	81 mm
Depth	52 mm

Weights

Weight, approx.	40 g
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last modified: 05/09/2019