



SIMATIC DP, Electronic module for ET 200 PRO 4 AI I High Feature, ± 20 mA; 0...20 mA; 4-20mA; Channel diagnostics; incl. bus module, Connection module IO 6ES7194-4..00-0AA0 order separately

Supply voltage	
Rated value (DC)	24 V
Reverse polarity protection	Yes; against destruction
Input current	
from supply voltage 1L+, max.	40 mA; Typical
from backplane bus 3.3 V DC, max.	12 mA; Typical
Encoder supply	
Number of outputs	4
Short-circuit protection	Yes; per module, electronic to frame
Output current	
• up to 55 °C, max.	1 A
Power loss	
Power loss, typ.	1.1 W
Address area	
Address space per module	
• Address space per module, max.	8 byte
Analog inputs	
Number of analog inputs	4
permissible input current for current input (destruction limit), max.	40 mA
Cycle time (all channels) max.	10 ms
Input ranges (rated values), currents	
• 0 to 20 mA	Yes
— Input resistance (0 to 20 mA)	50 Ω
• -20 mA to +20 mA	Yes
— Input resistance (-20 mA to +20 mA)	50 Ω
• 4 mA to 20 mA	Yes
— Input resistance (4 mA to 20 mA)	50 Ω
Cable length	
• shielded, max.	30 m
Analog value generation for the inputs	
Measurement principle	integrating
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	15 bit; 15 bit + sign at ± 10 V, at ± 5 V; 15 bit at 0 V to 10 V, at 1 V to 5 V
• Integration time (ms)	0,3 / 16,7 / 20 / 60
• Interference voltage suppression for interference frequency f1 in Hz	16,67 / 50 / 60 / 3 600
• Conversion time (per channel)	1.1 ms
Smoothing of measured values	
• parameterizable	Yes
• Step: None	Yes; 1x cycle time

<ul style="list-style-type: none"> • Step: low • Step: Medium • Step: High 	Yes; 4x cycle time Yes; 16x cycle time Yes; 64x cycle time
Encoder	
Connection of signal encoders	
<ul style="list-style-type: none"> • for current measurement as 2-wire transducer • for current measurement as 4-wire transducer 	Yes Yes
Errors/accuracies	
Linearity error (relative to input range), (+/-)	0.0075 %
Temperature error (relative to input range), (+/-)	0.00075 %/K
Crosstalk between the inputs, min.	-70 dB
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.004 %
Operational error limit in overall temperature range	
<ul style="list-style-type: none"> • Current, relative to input range, (+/-) 	0.1 %
Basic error limit (operational limit at 25 °C)	
<ul style="list-style-type: none"> • Current, relative to input range, (+/-) 	0.075 %
Interference voltage suppression for $f = n \times (f_1 \pm 0.5 \%)$, f_1 = interference frequency	
<ul style="list-style-type: none"> • Series mode interference (peak value of interference < rated value of input range), min. • Common mode interference (USS < 2.5 V), min. 	60 dB 80 dB; Interference voltage < 5 V
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
<ul style="list-style-type: none"> • Diagnostic alarm • Hardware interrupt 	Yes; Parameterizable Yes; (limit value alarm), can be parameterized for channel 0
Diagnoses	
<ul style="list-style-type: none"> • Diagnostic information readable • Wire-break • Short-circuit 	Yes Yes; at 4 to 20 mA Yes; at 4 to 20 mA
Diagnostics indication LED	
<ul style="list-style-type: none"> • Group error SF (red) 	Yes
Potential separation	
Potential separation analog inputs	
<ul style="list-style-type: none"> • between the channels • between the channels and backplane bus 	No Yes
Permissible potential difference	
Between the inputs and MANA (UCM)	5 Vpp AC
Isolation	
Isolation tested with	707 V DC (type test)
Dimensions	
Width	45 mm
Height	130 mm
Depth	35 mm
Weights	
Weight, approx.	150 g
last modified:	12/19/2020 