SIEMENS

Data sheet

6ES7144-4GF01-0AB0



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	40 mA	
limit), max.		
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
Step: low	Yes; 4x cycle time
Step: Medium	Yes; 16x cycle time
• Step: High	Yes; 64x cycle time
Encoder	
Connection of signal encoders	
 for current measurement as 2-wire transducer 	Yes
 for current measurement as 4-wire transducer 	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	
 Current, relative to input range, (+/-) 	0.1 %
Basic error limit (operational limit at 25 °C)	
 Current, relative to input range, (+/-) 	0.075 %
Interference voltage suppression for f = n x (f1 +/- 0.5 %), f1 = interference frequency	
 Series mode interference (peak value of interference < rated value of input range), min. 	60 dB
 Common mode interference (USS < 2.5 V), min. 	80 dB; Interference voltage < 5 V
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
Diagnostic alarm	Yes; Parameterizable
Hardware interrupt	Yes; (limit value alarm), can be parameterized for channel 0
Diagnoses	
 Diagnostic information readable 	Yes
• Wire-break	Yes; at 4 to 20 mA
Short-circuit	Yes; at 4 to 20 mA
Diagnostics indication LED	
Group error SF (red)	Yes
Potential separation	
Potential separation analog inputs	
 between the channels 	No
 between the channels and backplane bus 	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
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