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 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
● 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

last modified: 12/19/2020