SIEMENS

Data sheet 6ES7134-4NB51-0AB0

SIMATIC DP, Electronics module ET 200S: 2AI RTD High Feature, 15 mm width, 15 bit+sign accuracy +/-0.1%, for 2-/3-/4-wire sensors, with internal compensation of the line resistance, with SF LED (group fault)

General information	
Product function	
● Isochronous mode	No
Supply voltage	
Load voltage L+	
● Rated value (DC)	24 V; From power module
● Reverse polarity protection	Yes
Input current	
from load voltage L+ (without load), max.	30 mA
from backplane bus 3.3 V DC, max.	10 mA
Power loss	
Power loss, typ.	0.6 W
Address area	
Address space per module	
● Address space per module, max.	4 byte
Analog inputs	
Number of analog inputs	2
permissible input voltage for voltage input (destruction limit), max.	9 V
Constant measurement current for resistance-type transmitter, typ.	1.25 mA
Cycle time (all channels) max.	Number of active channels per module x basic conversion time
Technical unit for temperature measurement adjustable	Yes
Input ranges (rated values), resistance thermometer	
● Cu 10	Yes
— Input resistance (Cu 10)	10 MΩ
● Ni 100	Yes
— Input resistance (Ni 100)	10 MΩ
● Ni 1000	Yes
— Input resistance (Ni 1000)	10 MΩ
● Ni 120	Yes
— Input resistance (Ni 120)	10 MΩ
● Ni 200	Yes
— Input resistance (Ni 200)	10 MΩ
● Ni 500	Yes
— Input resistance (Ni 500)	10 MΩ
● Pt 100	Yes
— Input resistance (Pt 100)	10 MΩ
● Pt 1000	Yes
— Input resistance (Pt 1000)	10 MΩ

● Pt 200	Yes
— Input resistance (Pt 200)	10 MΩ
● Pt 500	Yes
— Input resistance (Pt 500)	10 MΩ
Input ranges (rated values), resistors	
● 0 to 150 ohms	Yes
— Input resistance (0 to 150 ohms)	10 MΩ
● 0 to 300 ohms	Yes
— Input resistance (0 to 300 ohms)	10 MΩ
● 0 to 600 ohms	Yes
— Input resistance (0 to 600 ohms)	10 MΩ
● 0 to 3000 ohms	Yes
— Input resistance (0 to 3000 ohms)	10 MΩ
Thermocouple (TC)	
Temperature compensation	
— internal temperature compensation	Yes
Characteristic linearization	
● parameterizable	Yes; for Ptxxx, Nixxx
— for resistance thermometer	Ptxxx, Nixxx
Cable length	
● shielded, max.	200 m
Analog value generation for the inputs	
Measurement principle	integrating (Sigma-Delta)
Integration and conversion time/resolution per channel	
● Resolution with overrange (bit including sign), max.	16 bit; for Pt100, Ni100, Ni120, Pt200, Ni200, Pt500, Ni500, Pt1000, Ni1000, Cu10: 15 bit + sign; for 150, 300, 600, 3 000 ohms: 15 bit; for PTC: 1 bit
● Integration time (ms)	16,7 / 20 ms
● Interference voltage suppression for interference frequency f1 in Hz	50 / 60 Hz
● Conversion time (per channel)	Basic conversion time incl. integration time: 50 / 60 ms; additional conversion time for diagnostics of wire break test: 5 / 5 ms; additional conversion time for line compensation with 3-wire connection: 50 / 60 ms
Smoothing of measured values	
● parameterizable	Yes; In four stages by means of digital filtering
● Step: None	Yes; 1x cycle time
● Step: low	Yes; 4x cycle time
● Step: Medium	Yes; 32x cycle time
● Step: High	Yes; 64x cycle time
Encoder	
Connection of signal encoders	
● for resistance measurement with two-wire connection	Yes
● for resistance measurement with three-wire connection	Yes; internal compensation of the line resistances
● for resistance measurement with four-wire connection	Yes
Errors/accuracies	
Operational error limit in overall temperature range	
● Resistance thermometer, relative to input range, (+/-)	Resistance-type transmitter: ±0.1 %; Pt100, Pt200, Pt500, Pt1000 standard: ±1.0 K; Pt100, Pt200, Pt500, Pt1000 climate: ±0.25 K; Ni100, Ni120, Ni200, Ni500, Ni1000 standard and climate: ±0.4 K; Cu10 ±1.5 K
Basic error limit (operational limit at 25 °C)	
● Resistance thermometer, relative to input range, (+/-)	Resistance-type transmitter: ±0.05 %; Pt100, Pt200, Pt500, Pt1000 standard: ±0.6 K; Pt100, Pt200, Pt500, Pt1000 climate: ±0.13 K; Ni100, Ni120, Ni200, Ni500, Ni1000 standard and climate: ±0.2 K; Cu10 ±1 K
Interrupts/diagnostics/status information	
Diagnoses	
● Wire-break	Yes
● Group error	Yes
● Overflow/underflow	Yes
Diagnostics indication LED	
● Group error SF (red)	Yes
Parameter	
Remark	7 byte
Diagnostics wire break	Disable / enable
Group diagnostics	Disable / enable

Overflow/underflow	Disable / enable
Potential separation	
Potential separation analog inputs	
● between the channels	No
● between the channels and backplane bus	Yes
● Between the channels and load voltage L+	Yes
Isolation	
Isolation tested with	500 V DC
Dimensions	
Width	15 mm
Height	81 mm
Depth	52 mm
Weights	
Weight, approx.	40 g

last modified: 8/16/2023