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Datasheet 6ES7134-4NB51-0AB0

SIMATIC DP, ELECTRONIC MODULE ET 200S: 2AI RTD HIGH FEATURE, 15 MM WIDTH, 15BIT + SIGN ACCURACY +/- 0.1%, FOR 2-/3-/-4- WIRE SENSORS, WITH INTERNAL COMPENSATION OF THE WIRE RESISTOR, WITH LED SF (GROUP FAULT)

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
Output voltage	
Power supply to the transmitters	
Encoder supply	
Output current	
Power losses	
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

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Technical unit for temperature measurement adjustable	Yes
Input ranges	
• Voltage	No
• Current	No
• Thermocouple	No
• Resistance thermometer	Yes
• Resistance	Yes
Input ranges (rated values), voltages	
Input ranges (rated values), currents	
Input ranges (rated values), thermoelements	
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 Ohm	Yes
• Input resistance (0 to 150 ohms)	10 MΩ
• 0 to 300 Ohm	Yes
• Input resistance (0 to 300 ohms)	10 MΩ
• 0 to 600 Ohm	Yes
• Input resistance (0 to 600 ohms)	10 MΩ
• 0 to 3000 Ohm	Yes
• Input resistance (0 to 3000 ohms)	10 MΩ
Thermocouple (TC)	

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Temperature compensation	
— internal temperature compensation	Yes
Characteristic linearization	
• Parameterizable	Yes; for Ptxxx, Nixxx
— for resistance thermometer	Ptxxx, Nixxx
Cable length	
• Cable length, shielded, max.	200 m

Analog value creation	
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, Pt 500, Ni 500, Pt1000, Ni1000, Cu10: 15 bits + sign; for 150, 300, 600, 3000 ohms: 15 bits; for PTC: 1 bits
• Integration time, ms	16,7 / 20 ms
• Interference voltage suppression for interference frequency f1 in Hz	60 / 50 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; 1 x cycle time
• Step: low	Yes; 4 x cycle time
• Step: Medium	Yes; 32 x cycle time
• Step: High	Yes; 64 x 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	
Linearity error (relative to input range), (+/-)	0.01 %
Temperature error (relative to input range), (+/-)	0.0009 %/K
Crosstalk between the inputs, min.	-50 dB
Repeat accuracy in steady state at 25 °C (relative to input area), (+/-)	0.05 %
Operational limit in overall temperature range	

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• Resistance thermometer, relative to input area, (+/-)	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 area, (+/-)	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
Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference frequency	
• Series mode interference (peak value of interference < rated value of input range), min.	70 dB
• common mode voltage (USS < 2.5 V) , min.	90 dB
Isochronous mode	
Isochronous operation (application synchronized up to terminal)	No
Interrupts/diagnostics/status information	
Alarms	
Diagnostic messages	
• Wire break	Yes
• Group error	Yes
• Overflow/underflow	Yes
Diagnostics indication LED	
• Group error SF (red)	Yes
Parameter	
Remark	7 byte
Diagnosis: wire break	Disable / enable
Measurement type/range	Deactivated/ 150 Ohm / 300 Ohm / 600 Ohm /Pt100/Pt200/Pt500/Pt1000 each standard or climate range / Ni100/Ni120/Ni200/Ni500/Ni1000 each standard or climate range / Cu10 each standard or climate range / PTC
Group diagnostics	Disable / enable
Overflow/underflow	Disable / enable
Galvanic isolation	
Galvanic isolation analog inputs	
• between the channels	No
• between the channels and the backplane bus	Yes
• between the channels and the load voltage L+	Yes
Permissible potential difference	
between MANA and M internally (UISO)	75 VDC / 60 VAC
Isolation	
Isolation checked with	500 V DC

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Ambient conditions	
Ambient temperature in operation	
Extended ambient conditions	
Relative humidity	
Resistance	

Connection method	
ET-Connection	

Dimensions	
Width	15 mm
Height	81 mm
Depth	52 mm

Weights	
Weight, approx.	40 g
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