

SIMATIC DP, Electronics module ET 200S: 2AI RTD High Feature, 15 mm width, 15 bit+sign accuracy $\pm 0.1\%$, for 2-/3-/4-wire sensors, with internal compensation of the line resistance, with SF LED (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
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
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
Cable length	
• shielded, max.	200 m
Analog value generation for the inputs	
Integration and conversion time/resolution per channel	

- Resolution with overrange (bit including sign), max.
- Integration time (ms)
- Interference voltage suppression for interference frequency f1 in Hz
- Conversion time (per channel)

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

16,7 / 20 ms

50 / 60 Hz

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

Encoder

Connection of signal encoders

- for resistance measurement with two-wire connection
- for resistance measurement with three-wire connection
- for resistance measurement with four-wire connection

Yes

Yes; internal compensation of the line resistances

Yes

Errors/accuracies

Operational error limit in overall temperature range

- Resistance thermometer, relative to input range, (+/-)

Resistance-type transmitter: $\pm 0.1\%$; Pt100, Pt200, Pt500, Pt1000 standard: $\pm 1.0\text{ K}$; Pt100, Pt200, Pt500, Pt1000 climate: $\pm 0.25\text{ K}$; Ni100, Ni120, Ni200, Ni500, Ni1000 standard and climate: $\pm 0.4\text{ K}$; Cu10 $\pm 1.5\text{ K}$

Basic error limit (operational limit at 25 °C)

- Resistance thermometer, relative to input range, (+/-)

Resistance-type transmitter: $\pm 0.05\%$; Pt100, Pt200, Pt500, Pt1000 standard: $\pm 0.6\text{ K}$; Pt100, Pt200, Pt500, Pt1000 climate: $\pm 0.13\text{ K}$; Ni100, Ni120, Ni200, Ni500, Ni1000 standard and climate: $\pm 0.2\text{ K}$; Cu10 $\pm 1\text{ K}$

Interrupts/diagnostics/status information

Diagnostic messages

- Wire-break
- Group error
- Overflow/underflow

Yes

Yes

Yes

Diagnostics indication LED

- Group error SF (red)

Yes

Parameter

Remark

7 byte

Diagnostics 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
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
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