SIEMENS

Data sheet 6ES7134-7SD51-0AB0

SIMATIC DP, ELECT. SUBMODULE FOR ET200ISP, 4 AI, RTD, FOR CONNECTION OF RESISTANCE THERMOMETER PT100/NI100

Figure similar

Input current	
from supply voltage L+, max.	22 mA
Power loss	
Power loss, typ.	0.4 W
Analog inputs	
Number of analog inputs	4
Cycle time (all channels) max.	320 ms; 66 ms basic conversion time x 4 channels with interference frequency suppression 60 Hz, 80 ms basic conversion time x 4 channels with interference frequency suppression 50 Hz
Technical unit for temperature measurement adjustable	Yes
Input ranges	
• Voltage	No
• Current	No
• Thermocouple	No
• Resistance thermometer	Yes

• Resistance	Yes
Input ranges (rated values), resistance thermometer	
• Ni 100	Yes
• Input resistance (Ni 100)	2 000 kΩ
• Pt 100	Yes
• Input resistance (Pt 100)	2 000 kΩ
Input ranges (rated values), resistors	
• 0 to 600 ohms	Yes; Also 1000 ohms
• Input resistance (0 to 600 ohms)	1 000 kΩ
Characteristic linearization	
• parameterizable	Yes
— for resistance thermometer	Yes
Cable length	
• shielded, max.	500 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
• Integration time, parameterizable	Yes
• Basic conversion time, including integration time (ms)	80 ms at 50 Hz; 66 ms at 60 Hz
— additional conversion time for wire-break monitoring	5 ms
• Interference voltage suppression for interference frequency f1 in Hz	50 / 60 Hz
Smoothing of measured values	
• parameterizable	Yes; in 4 stages
• 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
• for resistance measurement with four-wire connection	Yes

Errors/accuracies	
Linearity error (relative to input range), (+/-)	0.015 %

Temperature error (relative to input range), (+/-)	0.02 %/K
Crosstalk between the inputs, min.	-50 dB
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.01 %
Operational error limit in overall temperature range	
• Resistance thermometer, relative to input range, (+/-)	0.15 %; Applies to resistances standard ±0.8 K, climatic ±0.3 K
Basic error limit (operational limit at 25 °C)	
• Resistance thermometer, relative to input range, (+/-)	0.1 %; Applies to resistances standard ±0.5 K, climatic ±0.2 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 interference, min.	90 dB

Interrupts/diagnostics/status information

Alarms	
• Diagnostic alarm	Yes
• Limit value alarm	Yes
Diagnostic messages	
• Diagnostic information readable	Yes
• Wire-break	Yes
• Short-circuit	Yes
• Group error	Yes
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
• Between the channels and load voltage L+	Yes; Channels and power bus

Standards, approvals, certificates

CE mark	Yes
Highest safety class achievable in safety mode	
• Performance level according to ISO 13849-1	none
• SIL acc. to IEC 61508	No
Use in hazardous areas	
• Type of protection acc. to EN 50020 (CENELEC)	II2 G (1) GD Ex ib[ia] IIC T4 and I M2 Ex ib[ia] I
• Type of protection acc. to KEMA	04 ATEX 1247

Dimensions

Width	30 mm

Height	129 mm
Depth	136.5 mm

Weights	
Weight, approx.	230 g

last modified: 08/29/2017