



Figure similar

SIMATIC S7-400, analog input SM 431, 8 AI, resolution 16 bit, resistor/PT100/Ni100 isolated, diagnostics alarm, 20 ms conversion time

Input current	
from backplane bus 5 V DC, max.	650 mA
Power loss	
Power loss, typ.	3.3 W
Analog inputs	
Number of analog inputs	8
• For resistance measurement	8
permissible input voltage for voltage input (destruction limit), max.	35 V; 35 V continuous, 75 V for max. 1 s (mark to space ratio 1:20)
Constant measurement current for resistance-type transmitter, typ.	1 mA
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)	> 10 000 ohms
• Ni 1000	Yes; Different characteristics selectable: Europe/U.S.
— Input resistance (Ni 1000)	> 10 000 ohms
• Pt 100	Yes
— Input resistance (Pt 100)	> 10 000 ohms
• Pt 1000	Yes
— Input resistance (Pt 1000)	> 10 000 ohms
• Pt 200	Yes
— Input resistance (Pt 200)	> 10 000 ohms
• Pt 500	Yes
— Input resistance (Pt 500)	> 10 000 ohms
Characteristic linearization	
• parameterizable	Yes
— for resistance thermometer	Pt100, Pt200, Pt500, Pt1000, Ni100, Ni1000; different characteristics selectable (Europe/U.S.)
Cable length	
• shielded, max.	200 m; 50 m with thermocouples and input ranges ± 80 mV
Analog value generation for the inputs	

Integration and conversion time/resolution per channel	
<ul style="list-style-type: none"> Resolution with overrange (bit including sign), max. Integration time, parameterizable Integration time (ms) Interference voltage suppression for interference frequency f1 in Hz 	16 bit Yes 20 ms at 50 Hz (entire module incl. wire break) none/ 60 / 50 Hz
Encoder	
Connection of signal encoders	
<ul style="list-style-type: none"> for resistance measurement with three-wire connection for resistance measurement with four-wire connection 	Yes Yes
Interrupts/diagnostics/status information	
Diagnostics function	Yes; Parameterizable
Alarms	
<ul style="list-style-type: none"> Diagnostic alarm Limit value alarm Hardware interrupt 	Yes; Parameterizable Yes Yes; Parameterizable
Diagnoses	
<ul style="list-style-type: none"> Diagnostic information readable 	Yes; possible
Potential separation	
Potential separation analog inputs	
<ul style="list-style-type: none"> Potential separation analog inputs between the channels between the channels and backplane bus 	Yes; internal/external No Yes
Isolation	
Isolation tested with	500 V DC
Dimensions	
Width	25 mm
Height	290 mm
Depth	210 mm
Weights	
Weight, approx.	650 g
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