

SIMATIC S7-200 SMART, Analog input SM AR02 RTD, 2x AI RTD modules



General information

Product type designation SM AR02, AI RTD 2x16 bit

CiR – Configuration in RUN

Reparameterization possible in RUN No

Supply voltage

Rated value (DC)
 • 24 V DC Yes; -15 / +20 %

Input current

Current consumption, typ. 40 mA
 from backplane bus 5 V DC, typ. 80 mA

Power loss

Power loss, typ. 1.5 W

Analog inputs

Number of analog inputs 2; Resistance thermometer
 permissible input voltage for voltage input (destruction limit), max. 30 V

Technical unit for temperature measurement adjustable	Yes; Degrees Celsius/degrees Fahrenheit
Input ranges	
• Voltage	No
• Current	No
• Thermocouple	No
• Resistance thermometer	Yes; Resistance-type transmitter: Pt10, Pt50, Pt100, Pt200, Pt500, Pt1000, Ni100, Ni120, Ni200, Ni500, Ni1000, Cu10, Cu50, Cu100, LG-Ni1000
• Resistance	Yes; 48 Ω, 150 Ω, 300 Ω, 600 Ω, 3 000 Ω,
Input ranges (rated values), resistance thermometer	
• Cu 10	Yes
— Input resistance (Cu 10)	10 Ω
• Ni 100	Yes
— Input resistance (Ni 100)	100 Ω
• Ni 1000	Yes
— Input resistance (Ni 1000)	1 000 Ω
• LG-Ni 1000	Yes
— Input resistance (LG-Ni 1000)	1 000 Ω
• Ni 120	Yes
— Input resistance (Ni 120)	120 Ω
• Ni 200	Yes
— Input resistance (Ni 200)	200 Ω
• Ni 500	Yes
— Input resistance (Ni 500)	500 Ω
• Pt 100	Yes
— Input resistance (Pt 100)	100 Ω
• Pt 1000	Yes
— Input resistance (Pt 1000)	1 000 Ω
• Pt 200	Yes
— Input resistance (Pt 200)	200 Ω
• Pt 500	Yes
— Input resistance (Pt 500)	500 Ω
Input ranges (rated values), resistors	
• 0 to 48 ohms	Yes
• 0 to 150 ohms	Yes
• 0 to 300 ohms	Yes
• 0 to 600 ohms	Yes
• 0 to 3000 ohms	Yes
Analog outputs	
Number of analog outputs	0

Analog value generation for the inputs	
Measurement principle	Sigma Delta
Integration and conversion time/resolution per channel	
<ul style="list-style-type: none"> • Resolution (incl. overrange) 	15 bit + sign
<ul style="list-style-type: none"> • Resolution with overrange (bit including sign), max. 	15 bit; at 150, 300, 600 und 3000 ohms; otherwise 15 bits + sign
<ul style="list-style-type: none"> • Integration time, parameterizable 	Yes; 10/ 16.67/ 20/ 100 ms
<ul style="list-style-type: none"> • Interference voltage suppression for interference frequency f1 in Hz 	10 / 50 / 60 / 400 Hz
Smoothing of measured values	
<ul style="list-style-type: none"> • parameterizable 	Yes; In four stages by means of digital filtering
<ul style="list-style-type: none"> • Step: None 	Yes; 1x
<ul style="list-style-type: none"> • Step: low 	Yes; 4x
<ul style="list-style-type: none"> • Step: Medium 	Yes; 16x
<ul style="list-style-type: none"> • Step: High 	Yes; 32x
Degree and class of protection	
Degree of protection acc. to EN 60529	
<ul style="list-style-type: none"> • IP20 	Yes
Standards, approvals, certificates	
CE mark	Yes
Dimensions	
Width	45 mm
Height	100 mm
Depth	81 mm
Weights	
Weight, approx.	148.7 g
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