SIEMENS

Data sheet

6ES7431-7QH00-0AB0



SIMATIC S7-400, analog input SM 431, isolated 16 Al; resolution 16 bit, U/I/Resistor/Thermocouple/Pt100 , alarm, diagnostics

Figure similar	
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Supply voltage	
Load voltage L+	
Rated value (DC)	24 V; Only required for supplying 2-wire transmitters
Reverse polarity protection	Yes
Input current	
from load voltage L+ (without load), max.	400 mA; for 16 connected, fully controlled 2-wire transmitters
from backplane bus 5 V DC, max.	700 mA
Power loss	
Power loss, typ.	4.5 W
Analog inputs	
Number of analog inputs	16
 For voltage/current measurement 	16
 For resistance measurement 	8
permissible input voltage for voltage input (destruction limit), max.	18 V; 18 V continuous, 75 V for 1 ms (mark to space ratio 1:20)
permissible input current for current input (destruction limit), max.	40 mA
Constant measurement current for resistance-type transmitter, typ.	1.67 mA
Input ranges	
Voltage	Yes
Current	Yes
Thermocouple	Yes
Resistance thermometer	Yes
Resistance	Yes
Input ranges (rated values), voltages	
• 1 V to 5 V	Yes
— Input resistance (1 V to 5 V)	1 MΩ
• -1 V to +1 V	Yes
 Input resistance (-1 V to +1 V) 	1 ΜΩ
• -10 V to +10 V	Yes
 Input resistance (-10 V to +10 V) 	1 ΜΩ
• -2.5 V to +2.5 V	Yes
- Input resistance (-2.5 V to +2.5 V)	1 ΜΩ
• -25 mV to +25 mV	Yes
- Input resistance (-25 mV to +25 mV)	1 ΜΩ
• -250 mV to +250 mV	Yes
- Input resistance (-250 mV to +250 mV)	1 ΜΩ
• -5 V to +5 V	Yes
— Input resistance (-5 V to +5 V)	1 ΜΩ

• binN to #30 mV Vel - input resistance (40 mV to 400 mV) 1 MQ • 60 mV to 400 mV Vel - input resistance (40 mV to 400 mV) 1 MQ • 00 mV to 400 mV Vel - input resistance (10 mV to 400 mV) 1 MQ • 00 mQ to 400 mV Vel - input resistance (10 mV to 400 mV) 0 D • 00 mQ to 400 mV Vel • 10 mQ to 800 mV Vel		
• • • 500 mV is • 500 mV Yes - Input resistance (40 mV is + 80 mV) Yes - Input resistance (50 mV is + 80 mV) Yes • 10 50 mA Yes - Input resistance (10 mX is + 80 mV) 50 0 • 10 mA is + 10 mA Yes - Input resistance (10 mX is + 10 mA) 50 0 • 0 mA is + 20 mA Yes - Input resistance (10 mX is + 10 mA) 50 0 • 0 mA is + 20 mA Yes - Input resistance (10 mX is + 10 mA) 50 0 • Input resistance (10 mX is + 10 mA) 50 0 • Input resistance (10 mX is + 20 mA) 50 0 • Input resistance (10 mX is + 50 mA) 50 0 • Input resistance (10 mX is + 50 mA) 50 0 • Input resistance (10 mX is + 50 mA) 50 0 • Input resistance (10 mX is + 50 mA) 50 0 • Input resistance (10 mX is + 50 mA) Yes • Input resistance (10 mX is + 50 mA) Yes • Input resistance (10 mX is + 50 mA) Yes • Input resistance (10 mX is + 50 mA) Yes • Input resistance (10 mX is + 50 mA) Yes • Input resistance (10	• -50 mV to +50 mV	Yes
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- Imput residence (40 mV 16 +80 mV) 1MD imput residence (40 mX 10 mX) 50 D - Imput residence (10 mX 10 mX)		
Input registion (status) surgers Ves • 0 to 20 mA Ves - input registione (10 mA to +10 mA) S0 D • 0 to A to +10 mA Yes - input registione (10 mA to +20 mA) S0 D • 0 to 20 mA Yes - input registione (20 mA to +20 mA) S0 D • 0 to 20 mA Yes - input registione (3 mA to +20 mA) S0 D • 0 to 20 mA Yes - input registione (4 mA to 20 mA) S0 D • mA to +5 mA Yes - input registione (4 mA to 20 mA) S0 D • Input registione (5 mA to +5 mA) Yes - input registione (Type B) 1 MD • Type E Yes - input registione (Type B) 1 MD • Type K Yes - input registione (Type K) 1 MD • Type K Yes - input registione (Type K) 1 MD • Type K Yes - input registione (Type K) 1 MD • Type K Yes - input registione (Type K) 1 MD • T		
• (b 20 mA Yes Input resistance (10 mA to +10 mA) 50 0 • • 10 mA to +10 mA Yes Input resistance (10 mA to +10 mA) 50 0 • 20 mA Yes Input resistance (20 mA to +20 mA) 50 0 • 4 mA to 20 mA Yes Input resistance (20 mA to +20 mA) 50 0 • 4 mA to 20 mA Yes Input resistance (20 mA to +5 mA) 50 0 • 6 mA to +5 mA Yes Input resistance (7 yes B) 1 MD • 1/yes B Yes Input resistance (7 yes B) 1 MD • 1/ype I Yes Input resistance (7 yes K) 1 MD • 1/ype I Yes Input resistance (7 yes K) 1 MD • 1/ype I Yes Input resistance (7 yes K) 1 MD • 1/ype I Yes Input resistance (7 yes K) 1 MD • 1/ype I Yes Input resistance (7 yes K) 1 MD • 1/ype I Yes Input resistance (7 yes K)		1 ΜΩ
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- 20 m/s b +20 m/s Yes - Input resistance (20 m/s b +20 m/s) 50 Ω Input resistance (4 m/s b 20 m/s) 50 Ω Input resistance (4 m/s b 20 m/s) 50 Ω Input resistance (5 m/s to +5 m/s) 50 Ω Input resistance (Type B) Yes Input resistance (Type B) Yes Input resistance (Type B) Yes Input resistance (Type F) Yes Input resistance (Type K) Yes Input resistance (Ye K) Yes <t< td=""><td></td><td></td></t<>		
• 4 mA to 20 mA Yes - hop to resistance (4 mA to 20 mA) 50 Ω • - mout resistance (5 mA to +5 mA) 50 Ω • Input resistance (5 mA to +5 mA) 50 Ω • Input resistance (Type B) 1 MΩ • Type B Yes - Input resistance (Type D) 1 MΩ • Type K Yes - Input resistance (Type D) Yes - Input resistance (Type L) 1 MΩ • Type K Yes - Input resistance (Type L) 1 MΩ • Type K Yes - Input resistance (Type L) 1 MΩ • Type K Yes - Input resistance (Type L) 1 MΩ • Type R Yes - Input resistance (Type N) 1 MΩ • Type R Yes - Input resistance (Type N) 1 MΩ • Type T Yes - Input resistance (Type N) 1 MΩ • Type T Yes - Input resistance (Type N) 1 MΩ • Type T Yes - Input resistance (Type N) 1 MΩ <td></td> <td></td>		
5 mA to -5 mA Yes Input resistance (5 mA to +5 mA) 50 U Fight resistance (Type B) Yes Input resistance (Type B) 1MQ •.Type E Yes Input resistance (Type D) 1MQ •.Type E Yes Input resistance (Type D) 1MQ •.Type K Yes Input resistance (Type K) 1MQ •.Type K Yes Input resistance (Type K) 1MQ •.Type K Yes Input resistance (Type K) 1MQ •.Type N Yes Input resistance (Type K) 1MQ •.Type N Yes Input resistance (Type K) 1MQ •.Type S Yes Input resistance (Type R) Yes Input resistance (Type T) 1MQ •.Type U Yes Input resistance (Type T) Yes Input resistance (Type T) Yes Input resistance (Type U) Yes Input resistance (N1000) Yes		
Input ranges (rated values), thermocouples • Type B Yes - Input resistance (Type B) 1 MΩ • Type E Yes - Input resistance (Type B) 1 MΩ • Type J Yes - Input resistance (Type K) 1 MΩ • Type K Yes - Input resistance (Type K) 1 MΩ • Type K Yes - Input resistance (Type K) 1 MΩ • Type R Yes - Input resistance (Type N) 1 MΩ • Type R Yes - Input resistance (Type N) 1 MΩ • Type R Yes - Input resistance (Type N) 1 MΩ • Type S Yes - Input resistance (Type N) 1 MΩ • Type S Yes - Input resistance (Type T) 1 MΩ • Type U Yes - Input resistance (Type U) Yes - Input resistance (Type U) 1 MΩ • Input resistance (Ni 100) 1 MΩ • Ni 100 Yes - Input resistance (Ni 100)		
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• Type E Yes — Input resistance (Type E) 1 MΩ • Type J Yes — Input resistance (type J) 1 MΩ • Type K Yes — Input resistance (Type K) 1 MΩ • Type L Yes — Input resistance (Type K) 1 MΩ • Type R Yes — Input resistance (Type R) 1 MΩ • Type R Yes — Input resistance (Type R) 1 MΩ • Type R Yes — Input resistance (Type R) 1 MΩ • Type T Yes — Input resistance (Type S) 1 MΩ • Type T Yes — Input resistance (Type S) 1 MΩ • Type U Yes — Input resistance (Type U) 1 MΩ • Ni 100 Yes — Input resistance (Ni 100) 1 MΩ • Ni 100 Yes — Input resistance (Ni 100) 1 MΩ • Ni 100 Yes — Input resistance (PI 100) 1 MΩ • PI 100 Yes — Input resistance (PI 100) 1 MΩ <t< td=""><td></td><td></td></t<>		
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- I MΩ • Type R Yes - Input resistance (Type R) I MΩ • Type S Yes - Input resistance (Type S) I MΩ • Type T Yes - Input resistance (Type T) I MΩ • Type U Yes - Input resistance (Type U) I MΩ • Type U Yes - Input resistance (Type U) I MΩ • Ni 100 Yes - Input resistance (Type U) I MΩ • Ni 100 Yes - Input resistance (Type U) I MΩ • Ni 100 Yes - Input resistance (Ni 100) I MΩ • Ni 100 Yes - Input resistance (Ni 100) I MΩ • Ni 100 Yes - Input resistance (Ni 100) I MΩ • Pit 100 Yes - Input resistance (Pt 100) I MΩ • Pit 100 Yes - Input resistance (Pt 200) I MΩ • Pit 500 Yes - Input resistance (Pt 500) Yes - Input resistance (0 to 48 ohms) Yes - Input resistance (0 to 150 ohms)	— Input resistance (Type L)	
• Type R Yes - Input resistance (Type R) 1 MΩ • Type S Yes - Input resistance (Type S) 1 MΩ • Type T Yes - Input resistance (Type T) 1 MΩ • Type I Yes - Input resistance (Type T) 1 MΩ • Type (U) Yes - Input resistance (Type U) 1 MΩ • Ni too Yes - Input resistance (thermometer - • Ni 100 Yes - Input resistance (Ni 100) 1 MΩ • Ni 100 Yes - Input resistance (Ni 100) 1 MΩ • Ni 100 Yes - Input resistance (Ni 100) 1 MΩ • Pt 100 Yes - Input resistance (Pt 100) 1 MΩ • Pt 200 Yes - Input resistance (Pt 200) 1 MΩ • Pt 500 Yes - Input resistance (Pt 500) 1 MΩ • Dib 48 ohms Yes - Input resistance (0 to 48 ohms) 1 MΩ • 0 to 6 300 ohms Yes - Input resistance (0 to 48 ohms) 1 MΩ <td></td> <td></td>		
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• Type SYes- Input resistance (Type S)1 MΩ• Type TYes- Input resistance (Type T)1 MΩ• Type UYes- Input resistance (Type U)1 MΩInput ranges (rated values), resistance thermometer1 MΩ• Ni 100Yes- Input resistance (Ni 100)1 MΩ• Ni 100Yes- Input resistance (Ni 100)1 MΩ• Ni 100Yes- Input resistance (Ni 100)1 MΩ• Pt 100Yes- Input resistance (Pt 100)1 MΩ• Pt 100Yes- Input resistance (Pt 100)1 MΩ• Pt 100Yes- Input resistance (Pt 100)1 MΩ• Pt 500Yes- Input resistance (Pt 200)1 MΩ• Pt 500Yes- Input resistance (Pt 200)1 MΩ• Pt 500Yes- Input resistance (Pt 200)1 MΩ• Input resistance (Pt 200)1 MΩ• Dt 48 ohmsYes- Input resistance (Dt 0 48 ohms)1 MΩ• 0 to 48 ohmsYes- Input resistance (D to 50 ohms)1 MΩ• 0 to 50 ohmsYes- Input resistance (D to 50 ohms)1 MΩ• 0 to 50 ohmsYes- Input resistance (D to 50 ohms)1 MΩ• 0 to 500 ohmsYes- Input resistance (D to 500 ohms)1 MΩ• 0 to 600 ohmsYes- Input resistance (D to 500 ohms)1 MΩ• 0 to 600 ohmsYes- Input resistance (D to 600 ohms) <td< td=""><td></td><td></td></td<>		
- I MΩ • Type T Yes - Input resistance (Type T) I MΩ • Type U Yes - Input resistance (Type U) I MΩ • Input resistance (Type U) I MΩ • Input resistance (type U) I MΩ • Input resistance (Ni 100) I MΩ • Ni 100 Yes - Input resistance (Ni 100) • Ni 100 Yes - Input resistance (Ni 100) • Ni 100 Yes - Input resistance (Ni 100) • Ni 100 Yes - Input resistance (Ni 100) • Pt 100 Yes - Input resistance (Pi 100) • Pt 100 Yes - Input resistance (Pi 100) • Pt 200 Yes - Input resistance (Pi 200) • Pt 200 Yes - Input resistance (Pi 500) • Not resistance (Pi 500) 1 MΩ • O to 48 ohms Yes - Input resistance (0 to 48 ohms) • O to 50 ohms Yes		
• Type TYes- Input resistance (Type T)1 MΩ• Type UYes- Input resistance (Type U)1 MΩInput resistance (Type U)• Ni 100Yes- Input resistance (Ni 100)1 MΩ• Ni 100Yes- Input resistance (Ni 100)1 MΩ• Pit 100Yes- Input resistance (Ni 100)1 MΩ• Pit 100Yes- Input resistance (Ni 100)1 MΩ• Pit 100Yes- Input resistance (Pt 100)1 MΩ• Pit 200Yes- Input resistance (Pt 100)1 MΩ• Pit 200Yes- Input resistance (Pt 500)1 MΩ• Pit 500Yes- Input resistance (Pt 500)1 MΩ• Pit 500Yes- Input resistance (Pt 500)1 MΩ• Input resistance (Pt 500)1 MΩ• Pit 500Yes- Input resistance (Pt 500)1 MΩ• Input resistance (Dt 0 48 ohms)1 MΩ• 0 to 150 ohmsYes- Input resistance (0 to 150 ohms)1 MΩ• 0 to 150 ohmsYes- Input resistance (0 to 150 ohms)1 MΩ• 0 to 500 ohmsYes- Input resistance (0 to 150 ohms)1 MΩ• 0 to 600 ohmsYes- Input resistance (0 to 300 ohms)Yes- Input resistance (0 to 600 ohms)Yes <td></td> <td></td>		
	— Input resistance (Type S)	
• Type U Yes - Input resistance (Type U) 1 MΩ Input ranges (rated values), resistance thermometer - • Ni 100 Yes - Input resistance (Ni 100) 1 MΩ • Ni 100 Yes - Input resistance (Ni 100) 1 MΩ • Pi 100 Yes - Input resistance (PI 100) 1 MΩ • Pi 100 Yes - Input resistance (PI 100) 1 MΩ • Pi 100 Yes - Input resistance (PI 100) 1 MΩ • Pi 100 Yes - Input resistance (PI 1000) 1 MΩ • Pi 500 Yes - Input resistance (PI 500) 1 MΩ • Pi 500 Yes - Input resistance (P5 500) 1 MΩ • Pi 500 Yes - Input resistance (0 to 48 ohms) 1 MΩ • O to 48 ohms Yes - Input resistance (0 to 150 ohms) 1 MΩ • O to 150 ohms Yes - Input resistance (0 to 150 ohms) 1 MΩ • O to 600 ohms Yes <		
- Input resistance (Type U) 1 MΩ Input ranges (rated values), resistance thermometer Ni 100 Yes - Input resistance (Ni 100) 1 MΩ • Ni 1000 Yes - Input resistance (Ni 100) 1 MΩ • Pi 100 Yes - Input resistance (Ni 100) 1 MΩ • Pi 100 Yes - Input resistance (Pt 100) 1 MΩ • Pt 1000 Yes - Input resistance (Pt 100) 1 MΩ • Pt 200 Yes - Input resistance (Pt 200) 1 MΩ • Pt 500 Yes - Input resistance (Pt 200) 1 MΩ • Pt 500 Yes - Input resistance (Pt 500) 1 MΩ • Pt 500 Yes - Input resistance (0 to 48 ohms) 1 MΩ • 0 to 48 ohms Yes - Input resistance (0 to 150 ohms) 1 MΩ • 0 to 500 ohms Yes - Input resistance (0 to 150 ohms) 1 MΩ • 0 to 600 ohms Yes - Input resistance (0 to 300 ohms) Yes		
Input ranges (rated values), resistance thermometer • Ni 100 Yes - Input resistance (Ni 100) 1 MΩ • Ni 100 Yes - Input resistance (Ni 1000) 1 MΩ • Pt 100 Yes - Input resistance (Pt 100) 1 MΩ • Pt 100 Yes - Input resistance (Pt 100) 1 MΩ • Pt 1000 Yes - Input resistance (Pt 1000) 1 MΩ • Pt 200 Yes - Input resistance (Pt 200) 1 MΩ • Pt 500 Yes - Input resistance (Pt 200) 1 MΩ • Pt 500 Yes - Input resistance (Pt 500) 1 MΩ Input resistance (Pt 500) 1 MΩ Input resistance (0 to 48 ohms) 1 MΩ • 0 to 48 ohms Yes - Input resistance (0 to 150 ohms) 1 MΩ • 0 to 150 ohms Yes - Input resistance (0 to 300 ohms) Yes - Input resistance (0 to 300 ohms) Yes - Input resistance (0 to 600 ohms) 1 MΩ • 0 to 600 ohms		
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- Input resistance (Ni 100) 1 MΩ - Input resistance (Ni 1000) 1 MΩ - Pt 100 Yes - Input resistance (Pt 100) 1 MΩ - Pt 100 Yes - Input resistance (Pt 100) 1 MΩ - Pt 100 Yes - Input resistance (Pt 100) 1 MΩ - Pt 200 Yes - Input resistance (Pt 200) 1 MΩ - Pt 500 Yes - Input resistance (Pt 200) 1 MΩ - Pt 500 Yes - Input resistance (Pt 200) 1 MΩ - Input resistance (Pt 500) Yes - Input resistance (0 to 48 ohms) 1 MΩ 0 to 48 ohms Yes - Input resistance (0 to 150 ohms) 1 MΩ 0 to 150 ohms Yes - Input resistance (0 to 300 ohms) 1 MΩ 0 to 600 ohms Yes - Input resistance (0 to 600 ohms) Yes - Input resista		
• Ni 1000 Yes — Input resistance (Ni 1000) 1 MΩ • Pt 100 Yes — Input resistance (Pt 100) 1 MΩ • Pt 1000 Yes — Input resistance (Pt 1000) 1 MΩ • Pt 200 Yes — Input resistance (Pt 1000) 1 MΩ • Pt 200 Yes — Input resistance (Pt 200) 1 MΩ • Pt 500 Yes — Input resistance (Pt 500) 1 MΩ • Pt 500 Yes — Input resistance (Pt 500) 1 MΩ • Pt 500 Yes — Input resistance (Pt 500) 1 MΩ • Do to 48 ohms Yes — Input resistance (0 to 48 ohms) 1 MΩ • 0 to 48 ohms Yes — Input resistance (0 to 150 ohms) 1 MΩ • 0 to 500 ohms Yes — Input resistance (0 to 150 ohms) 1 MΩ • 0 to 300 ohms Yes — Input resistance (0 to 300 ohms) 1 MΩ • 0 to 600 ohms Yes — Input resistance (0 to 600 ohms) Yes <		
- Input resistance (Ni 1000) 1 MΩ • Pt 100 Yes - Input resistance (Pt 100) 1 MΩ • Pt 1000 Yes - Input resistance (Pt 1000) 1 MΩ • Pt 200 Yes - Input resistance (Pt 200) 1 MΩ • Pt 500 Yes - Input resistance (Pt 200) 1 MΩ • Pt 500 Yes - Input resistance (Pt 500) 1 MΩ • Pt 500 Yes - Input resistance (Pt 500) 1 MΩ • Dto 48 ohms Yes - Input resistance (0 to 48 ohms) 1 MΩ • 0 to 50 ohms Yes - Input resistance (0 to 150 ohms) 1 MΩ • 0 to 500 ohms Yes - Input resistance (0 to 150 ohms) 1 MΩ • 0 to 600 ohms Yes - Input resistance (0 to 300 ohms) 1 MΩ • 0 to 600 ohms Yes - Input resistance (0 to 300 ohms) 1 MΩ • 0 to 600 ohms Yes - Input resistance (0 to 600 ohms) 1 MΩ		
• Pt 100 Yes - Input resistance (Pt 100) 1 MΩ • Pt 1000 Yes - Input resistance (Pt 1000) 1 MΩ • Pt 200 Yes - Input resistance (Pt 200) 1 MΩ • Pt 500 Yes - Input resistance (Pt 200) 1 MΩ • Pt 500 Yes - Input resistance (Pt 500) 1 MΩ • Pt 500 Yes - Input resistance (Pt 500) 1 MΩ • Dto 48 ohms Yes - Input resistance (0 to 48 ohms) 1 MΩ • 0 to 150 ohms Yes - Input resistance (0 to 500 ohms) 1 MΩ • 0 to 300 ohms Yes - Input resistance (0 to 150 ohms) 1 MΩ • 0 to 300 ohms Yes - Input resistance (0 to 300 ohms) 1 MΩ • 0 to 600 ohms Yes - Input resistance (0 to 600 ohms) 1 MΩ		
- Input resistance (Pt 100)1 MΩ• Pt 1000Yes- Input resistance (Pt 1000)1 MΩ• Pt 200Yes- Input resistance (Pt 200)1 MΩ• Pt 500Yes- Input resistance (Pt 500)1 MΩInput resistance (Pt 500)1 MΩInput ranges (rated values), resistorsYes- Input resistance (0 to 48 ohms)Yes- Input resistance (0 to 48 ohms)1 MΩ• 0 to 48 ohmsYes- Input resistance (0 to 150 ohms)1 MΩ• 0 to 300 ohmsYes- Input resistance (0 to 150 ohms)1 MΩ• 0 to 500 ohmsYes- Input resistance (0 to 300 ohms)1 MΩ• 0 to 600 ohmsYes- Input resistance (0 to 300 ohms)1 MΩ• 0 to 600 ohmsYes- Input resistance (0 to 600 ohms)1 MΩ		
• Pt 1000 Yes - Input resistance (Pt 1000) 1 MΩ • Pt 200 Yes - Input resistance (Pt 200) 1 MΩ • Pt 500 Yes - Input resistance (Pt 500) 1 MΩ • Pt 500 Yes - Input resistance (Pt 500) 1 MΩ • Dt 048 ohms Yes • 0 to 48 ohms Yes - Input resistance (0 to 48 ohms) 1 MΩ • 0 to 150 ohms Yes - Input resistance (0 to 300 ohms) 1 MΩ • 0 to 300 ohms Yes - Input resistance (0 to 300 ohms) 1 MΩ • 0 to 600 ohms Yes - Input resistance (0 to 300 ohms) 1 MΩ • 0 to 600 ohms Yes - Input resistance (0 to 300 ohms) 1 MΩ		
- Input resistance (Pt 1000) 1 MΩ • Pt 200 Yes - Input resistance (Pt 200) 1 MΩ • Pt 500 Yes - Input resistance (Pt 500) 1 MΩ Input resistance (Pt 500) 1 MΩ Input resistance (Pt 500) 1 MΩ - Input resistance (Pt 500) 1 MΩ Input resistance (Pt 500) Yes - Input resistance (0 to 48 ohms) 1 MΩ - Input resistance (0 to 48 ohms) 1 MΩ - Input resistance (0 to 150 ohms) Yes - Input resistance (0 to 150 ohms) Yes - Input resistance (0 to 300 ohms) Yes - Input resistance (0 to 300 ohms) Yes - Input resistance (0 to 300 ohms) 1 MΩ - O to 600 ohms Yes - Input resistance (0 to 600 ohms) 1 MΩ		
• Pt 200 Yes - Input resistance (Pt 200) 1 MΩ • Pt 500 Yes - Input resistance (Pt 500) 1 MΩ Input resistance (Pt 500) • O to 48 ohms Yes - Input resistance (0 to 48 ohms) 1 MΩ - Input resistance (0 to 48 ohms) 1 MΩ - Input resistance (0 to 48 ohms) Yes - Input resistance (0 to 150 ohms) 1 MΩ - Input resistance (0 to 150 ohms) Yes - Input resistance (0 to 150 ohms) 1 MΩ - Input resistance (0 to 300 ohms) Yes - Input resistance (0 to 300 ohms) Yes - Input resistance (0 to 600 ohms) Yes - Input resistance (0 to 600 ohms) Yes		
Input resistance (Pt 200) 1 MΩ • Pt 500 Yes Input resistance (Pt 500) 1 MΩ Input resistance (Pt 500) 1 MΩ Input resistance (Pt 500) 1 MΩ Input resistance (0 to 48 ohms) Yes Input resistance (0 to 48 ohms) 1 MΩ Input resistance (0 to 48 ohms) Yes Input resistance (0 to 150 ohms) 1 MΩ Input resistance (0 to 150 ohms) 1 MΩ Input resistance (0 to 150 ohms) 1 MΩ Input resistance (0 to 300 ohms) Yes Input resistance (0 to 300 ohms) Yes Input resistance (0 to 300 ohms) 1 MΩ Input resistance (0 to 300 ohms) 1 MΩ Input resistance (0 to 300 ohms) 1 MΩ		
• Pt 500Yes- Input resistance (Pt 500)1 MΩInput ranges (rated values), resistorsYes• 0 to 48 ohmsYes- Input resistance (0 to 48 ohms)1 MΩ• 0 to 150 ohmsYes- Input resistance (0 to 150 ohms)1 MΩ• 0 to 300 ohmsYes- Input resistance (0 to 150 ohms)1 MΩ• 0 to 300 ohmsYes- Input resistance (0 to 300 ohms)Yes- Input resistance (0 to 300 ohms)1 MΩ• 0 to 600 ohmsYes- Input resistance (0 to 300 ohms)1 MΩ• 0 to 600 ohmsYes- Input resistance (0 to 600 ohms)1 MΩ		
Input resistance (Pt 500) 1 MΩ Input ranges (rated values), resistors Yes - 0 to 48 ohms Yes Input resistance (0 to 48 ohms) 1 MΩ - 0 to 150 ohms Yes Input resistance (0 to 48 ohms) 1 MΩ 0 to 150 ohms Yes 0 to 300 ohms Yes 0 to 300 ohms Yes 0 to 300 ohms Yes 0 to 500 ohms Yes 0 to 500 ohms Yes 0 to 500 ohms Yes 0 to 600 ohms Yes 0 to 600 ohms Yes 0 to 500 ohms Yes 0 to 600 ohms Yes		
Input ranges (rated values), resistors • 0 to 48 ohms Yes - Input resistance (0 to 48 ohms) 1 MΩ • 0 to 150 ohms Yes - Input resistance (0 to 150 ohms) 1 MΩ • 0 to 300 ohms Yes - Input resistance (0 to 150 ohms) 1 MΩ • 0 to 300 ohms Yes - Input resistance (0 to 300 ohms) 1 MΩ • 0 to 600 ohms Yes - Input resistance (0 to 300 ohms) 1 MΩ • 0 to 600 ohms Yes - Input resistance (0 to 300 ohms) 1 MΩ		
• 0 to 48 ohms Yes — Input resistance (0 to 48 ohms) 1 MΩ • 0 to 150 ohms Yes — Input resistance (0 to 150 ohms) 1 MΩ • 0 to 300 ohms Yes — Input resistance (0 to 150 ohms) 1 MΩ • 0 to 300 ohms Yes — Input resistance (0 to 300 ohms) 1 MΩ • 0 to 600 ohms Yes — Input resistance (0 to 300 ohms) 1 MΩ • 0 to 600 ohms Yes — Input resistance (0 to 600 ohms) 1 MΩ		1 ΜΩ
- Input resistance (0 to 48 ohms) 1 MΩ • 0 to 150 ohms Yes - Input resistance (0 to 150 ohms) 1 MΩ • 0 to 300 ohms Yes - Input resistance (0 to 300 ohms) 1 MΩ • 0 to 600 ohms Yes - Input resistance (0 to 300 ohms) 1 MΩ • 0 to 600 ohms Yes - Input resistance (0 to 300 ohms) 1 MΩ		
• 0 to 150 ohms Yes - Input resistance (0 to 150 ohms) 1 MΩ • 0 to 300 ohms Yes - Input resistance (0 to 300 ohms) 1 MΩ • 0 to 600 ohms Yes - Input resistance (0 to 300 ohms) 1 MΩ • 0 to 600 ohms Yes - Input resistance (0 to 600 ohms) 1 MΩ		
- Input resistance (0 to 150 ohms) 1 MΩ • 0 to 300 ohms Yes - Input resistance (0 to 300 ohms) 1 MΩ • 0 to 600 ohms Yes - Input resistance (0 to 600 ohms) 1 MΩ • 0 to 600 ohms Yes - Input resistance (0 to 600 ohms) 1 MΩ		
• 0 to 300 ohms Yes — Input resistance (0 to 300 ohms) 1 MΩ • 0 to 600 ohms Yes — Input resistance (0 to 600 ohms) 1 MΩ		Yes
- Input resistance (0 to 300 ohms) 1 MΩ • 0 to 600 ohms Yes - Input resistance (0 to 600 ohms) 1 MΩ	— Input resistance (0 to 150 ohms)	1 ΜΩ
• 0 to 600 ohms Yes — Input resistance (0 to 600 ohms) 1 MΩ	• 0 to 300 ohms	Yes
— Input resistance (0 to 600 ohms) 1 MΩ	— Input resistance (0 to 300 ohms)	1 ΜΩ
	• 0 to 600 ohms	Yes
0 to 6000 ohms Yes; Usable up to 5000 Ohm	— Input resistance (0 to 600 ohms)	1 ΜΩ
	• 0 to 6000 ohms	Yes; Usable up to 5000 Ohm

Thermonocular (1970) Time Temperature comparation	— Input resistance (0 to 6000 ohms)	1 ΜΩ
Temperature compensation Yes - external temperature compensation with PP100 Yes - external temperature compensation with PP100 Yes - organizations compensation with PP100 Yes - organization compensation with remonder Pr000, Pr200, Pr		1 10152
		Ves
compensations acked compensations defermed temperature value Parameterizatio compensations defermed temperature value Parameterizatio compensations defermed temperature value compensations defermed temperature compensations d		
Characteristic lineatizable Yes - for treasitance thermonoples Proto, PE300, PE300, PE300, PE300, PE300, NE00, NE000 - for resistance thermonopler PE100, PE300, PE300, PE300, PE300, NE00, NE000, NE000 - for resistance thermonopler 200 m; 50 m with thermocouples and input ranges ± 80 mV - for resistance thermonopler PE300, PE300, PE300, PE300, NE00, NE000, NE00, NE000, NE00, NE000, NE00, NE000, NE00, NE000, NE000	· · ·	
Parameterizable Parameterizable Profession description Parameterizable Profession description Profession P	 — dynamic reference temperature value 	Yes
- In thermocouples Type B, E, J, K, L, N, R, S, T, U - for resistance thermometer PH00, PE20, PE50, PE100, N100, N100 Cable length 200 m; 50 m with thermocouples and input ranges 580 mV Analog value generation for the lipute Integration and conversion time/esselution part channel - Recolution with overrange (of lipuding sign), max. 1 bit, 16 / 16 / 10 - Integration inter, parameterizable Yes - Integration inter, institution inter, finition inter, finitin inter, finition inter, finition inter, finitin inter, finitin	Characteristic linearization	
	parameterizable	Yes
Cable length 200 m: 50 m with thermocouples and input ranges ≤ 80 mV Analog value generation for the inputs 200 m: 50 m with thermocouples and input ranges ≤ 80 mV Analog value generation for the inputs 16 bit 16 / 16 / 16 / 10 • Resolution with overrange (thin louding sign), max. 16 bit 16 / 16 / 10 • Integration time, parameterizable Yes • Integration time (ms) 6 / 20 / 123.5 ms • Integration time (ms) 6 / 16 / 720 ms • Integration fine (ms) 6 / 16 / 720 ms • Integration fine (ms) 6 / 16 / 720 ms • Integration measurement as 2-wire transdocer Yes • for current measurement as 2-wire transdocer Yes • for resistance measurement as 2-wire transdocer Yes • for resistance measurement with three-wire connection Yes • for resistance measurement with three-wire connection Yes • Votage, relative to input range, (+/-) 0.03 %; 20 3 % at 20 mV, 500 mV, 51 V, 25 V, 51 V, 10 S V, 10 V, 10 V, 10 V, 10 J • Votage, relative to input range, (+/-) 0.3 %; 20 3 % at 20 mV, 500 mV, 11 V, 22 S V, 55 V, 10 V, 10 V, 10 V, 10 N (0 - 00 M) • Votage, relative to input range, (+/-) 0.3 %; 20 3 % at 20 mV, 10 3 S % at 22 mV • Votage, relative to input range, (+/-) 0.3 %; 20 3 %	— for thermocouples	Type B, E, J, K, L, N, R, S, T, U
Analog value generation for the protection part of the dring sign, max. Integration and conversion the researching sign, max. Integration and conversion time researching sign, max. Integration for time, parameterizable Yes Basic conversion from (ms) Integration and supersion for interference Section (Section 1997) Section 1997) Section (Section 1997) Section 1997) Section (Section 1997) Section (Section 1997) Section (Section 1997) Section 19	— for resistance thermometer	Pt100, Pt200, Pt500, Pt1000, Ni100, Ni1000
Analog value generation for the inputs Integration and conversion time/resolution per channel • Resolution with overrange (bincluding sign), max. • Integration time, parameterizable • Basic conversion time (ms) • Integration time, parameterizable • Integration time, max • Integration time, max • Integration time, max • Integration time (ms) • Integration time assumement • for voltage measurement • for current measurement as 4-wire transducer • for resistance measurement with hour-wire connection • for resistance measurement with hour-wire connection • for resistance measurement with hour-wire connection • Voltage, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • Ourer, relative to input range, (+/-) • Thermoscupic, relative to input range, (+/-) •	Cable length	
Integration and conversion time/resolution per channel 16 bit; 16 / 16 / 16 • Resolution with overrange (bit incluing sign), max. 16 bit; 16 / 16 / 16 • Resolution time, parameterizable Yes • Lindgration file, parameterizable 6 / 20, 1 / 23, 5 ms • Interference voltage suppression for interference 6 / 20, 1 / 23, 5 ms • Interference voltage suppression for interference 7 (20, 1 / 23, 5 ms 6 / 16 / 16 • Interference voltage suppression for interference 7 (20, 1 / 23, 5 ms 6 / 20, 1 / 23, 5 ms 6 / 7 (20, 1 / 23, 5 ms 16 / 16 ms 17 / 16 / 16 ms 16 / 16 ms 16 / 16 ms 16 / 16 ms 16 / 16 / 16 ms	,	200 m; 50 m with thermocouples and input ranges \leq 80 mV
• Resolution with overrange (bit including sign), max. 16 bit: 16 / 16 / 16 • Integration time, parameterizable Yes • Basic conversion time (ms) 6, 20 / 123,5 ms • Interference voltage suppression for interference 400 / 60 / 50 / 50 Hz • Condertion diagnal encoders 400 / 60 / 50 Hz • for voltage measurement as 2-wire transducer Yes • for current measurement as 4-wire transducer Yes • for current measurement as 4-wire transducer Yes • for resistance measurement with two-wire connection Yes • for resistance measurement with two-wire connection Yes • for resistance measurement with three-wire connection Yes • for resistance measurement with two-wire connection Yes • for resistance measurement with three-wire connection Yes • Voltage, relative to input range, (+/-) 0.004 %iK Operational enrol inskin exercal temperature arrage 0.3 %; ±0.3 % at ±20 mV; ±0.30 mX; ±0.30 mX ±0.20 mX • Voltage, relative to input range, (+/-) 0.3 %; ±0.3 % at ±20 mV; ±0.30 mX; ±0.30 mA ±0.20 mA • Voltage, relative to input range, (+/-) 0.3 %; ±0.1 20 mA, ±5.00 mV; ±1 V; ±2.5 V; ±5 V, 1 to 5 V, ±10 V; ±0.31 % ±1.80 mV; ±0.32 % ±1.80 mV; ±0.30 mA • Voltage, relative to input range, (+/-)	Analog value generation for the inputs	
 Integration time, parameterizable Integration time (ms) Selve conversion t	Integration and conversion time/resolution per channel	
Basic conversion time (ms) 6 / 20.1 / 23.5 ms 2.6 / 16,7 / 20 ms 400 / 60 / 50 / 50 Hz 720 ms 400 / 60 / 50 Hz 720 / 70 Hz 72	 Resolution with overrange (bit including sign), max. 	16 bit; 16 / 16 / 16
Integration time (ms) Interference voltage suppression for interference Interference voltage suppression for interference Add / 60 / 50 Hz Add / 50 Hz	 Integration time, parameterizable 	Yes
• Interference voltage suppression for interference frequency fin in the second of signal encoders 400 / 60 / 50 Hz Encoder Connection of signal encoders for voltage measurement for ourrent measurement as 4-wire transducer for ourrent measurement with towner connection for resistance measurement with thore-wire connection for resistance measurement with towner connection Voltage, relative to input range, (+/-) Outlage, relative to input range, (+/-) Outlage, relative to input range, (+/-) Signal at 250 mV, ±03 2% at ±250 mV, ±03 2% at ±25 mV, ±00 Chm (4-conductor measurement), 0 to 500 Chm (4-cond		
Encoder Connection of signal encoders • for voltage measurement is 4-wire transducer • for current measurement as 4-wire transducer • for resistance measurement with two-wire connection • Yes • Comparison emeasurement with two-wire connection • Yes • Conrective terms the input range, (+-) • Voltage, relative to input range, (+-) • Current, relative to input range, (+-) • Resistance, relative to input range, (+-) • Thermocouple, relative to input range, (+-) • Thermocouple, relative to input range, (+-) • Voltage, relative to input range, (+-) • Voltage, relative to input range, (+-) • Current, relative to input range, (+-) • Contactor measurement), 0 to 5000 Ohm (4-conductor measurement), 0 to 500 Ohm (4-conductor measurement), 0 to 500 Ohm (4-conductor measurement), 0 to 500 Ohm (3-conductor measurement), 0 to 500 Ohm (3-conductor measurement), 0 to 500 Ohm (4-conductor measurement), 0 to 500 Ohm (4-conductor measurement), 0 to 500 Ohm (4-conductor measurement), 0 to 500 Ohm (4-conductor measurement), 0 to 500 Ohm (4-conductor measurement), 0 t		
Encoder Connection of signal encoders • for voltage measurement Yes: possible • for current measurement as 4-wire transducer Yes • for resistance measurement with two-wire connection Yes • for voltage, relative to input range, (+/-) 0.044 %/K • Querent, relative to input range, (+/-) 0.3 %; at 250 mV, ±00 mV, ±10 m, 420 mA, 40 02 mA • Current, relative to input range, (+/-) 0.3 %; at 0 to 80 0 hm (4-conductor measurement), 0 to 500 0 hm (4-conductor m		400 / 60 / 50 Hz
Connection of signal encoders for voltage measurement for voltage measurement as 2-wire transducer for current measurement as 4-wire transducer for resistance measurement with two-wire connection for resistance relative to input range, (+/-) Current, relative to input range, (+/-) for some couple, relative to input range, (+/-) for some couple, relative to input range, (+/-) for two some couple, relative to input range, (+/-) for two some couple, relative to input range, (+/-) for the some couple, relative to input range, (+/-) for the some couple, relative to input range, (+/-) for type B (±1.5 K), TC Type B (±4.2 K), TC Type F (±5.2 K		
• for voltage measurement Yes; possible • for current measurement as 2-wire transducer Yes • for resistance measurement with two-wire connection Yes; Line resistance are also measured • for resistance measurement with three-wire connection Yes • for resistance measurement with three-wire connection Yes • for resistance measurement with four-wire connection Yes • for resistance measurement with four-wire connection Yes • for resistance measurement with four-wire connection Yes • for resistance measurement, with four-wire connection Yes • Voltage, relative to input range, (+/-) 0.3 %; ±0.3 % at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 to 5 V, ±10 Y; ±0.3 % • Voltage, relative to input range, (+/-) 0.3 %; ±0.3 % at ±250 mV, ±00 mV, ±1 V, ±2.5 V, ±5 V, 1 to 5 V, ±10 Y; ±0.3 % • Current, relative to input range, (+/-) 0.3 %; ±0.3 % at ±250 mV, ±00 mV, ±1 V, ±2.5 V, ±5 V, 1 to 5 V, ±10 Y, ±0.3 % • Resistance, relative to input range, (+/-) 0.3 %; ±0.3 % at ±250 mV, ±0.2 mA, ±10 mA, ±00 mA, 4 to 20 mA, ±0 mA, ±00 mA, ±00 mA, ±0 mA, ±00 mA, ±0 mA, ±00 mA, ±0 mA, ±00 mA, ±0 mA, ±00 mA,		
for current measurement as 2-wire transducer Yes for resistance measurement as 4-wire transducer Yes for resistance measurement with theo-wire connection Yes for resistance measurement with thee-wire connection Yes Foresistance measurement with thee-wire connection Yes Current, relative to input range, (+/-) 0.03 %; ±0.3% at ±250 mV; ±0.25 V, ±5 V, 1 to 5 V, ±10 V; ±0.31 % at ±260 mV; ±0.32 % at ±20 mV; ±0.32 % at ±20 mV; ±0.35 % at ±25 mV Current, relative to input range, (+/-) 0.3 %; ±0.3% at 0 to 20 Mn (4-conductor measurement), 0 to 500 Ohm (4-conductor measurement), 0 to 500 Ohm (4-conductor measurement), 0 to 500 Ohm (4-conductor measurement), 0 to 600 Ohm; 4-conductor measurement), 0 to 500 Ohm (4-conductor measurement), 0 to 600 Ohm; 4-conductor measurement), 0 to 500 Ohm (4-conductor measurement), 0 to 500 Ohm (4-conductor measurement), 0 to 500 Ohm; 4-conductor measurement), 0 to 5		Yes: possible
• for current measurement as 4-wire transducer • for resistance measurement with two-wire connection • for resistance measurement with three-wire connection • for resistance measurement with three-wire connection • for resistance measurement with fur-wire connection • for resistance measurement with four-wire connection • for transducer and • for current, relative to input range, (+/-) • 0.3 %; at0 3% at 250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 to 5 V, ±10 V; ±0.31 % at ±80 mV; ±0.32 % at ±50 mV; ±0.35 % at ±250 mA • Current, relative to input range, (+/-) • 0.3 %; at0 to 20 mA, ±5 mA, ±10 mA, ±02 mA • 10 to 500 Ohm (4-conductor measurement), 0 to 500 Ohm (3-conductor measurement), 0 to 500 Ohm (4-conductor measurement), 0 to 500 Ohm (3-conductor measurement), 0 to 500 Ohm (3-conductor measurement), 0 to 500 Ohm (3-conductor measurement), 0 to 500 Ohm (4-conductor measur	-	
• for resistance measurement with two-wire connection Yes; Line resistances are also measured • for resistance measurement with four-wire connection Yes • for resistance measurement with four-wire connection Yes Errors/accuracies 0.004 %/K Operational error limit in overall temperature range 0.03 %; ±0.3 % at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 to 5 V, ±10 V; ±0.31 % at ±260 mV; ±0.35 % at ±25 mV • Voltage, relative to input range, (+/-) 0.3 %; ±0.3 % at ±20 mV; ±0.30 % at ±25 mV • Current, relative to input range, (+/-) 0.3 %; ±0.3 % at 10 to 20 mA, ±50 mA, ±10 mA, ±20 mA, 4 to 20 mA • Resistance, relative to input range, (+/-) 0.3 %; ±0.3 % at 0 to 48 Ohm (4-conductor measurement), 0 to 500 Ohm (4-conductor measurement), 0 to 500 Ohm (4-conductor measurement), 0 to 500 Ohm (3-conductor measurement), 0 to 500 Ohm (3-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 500 Ohm (3-conductor measuremen		
• for resistance measurement with four-wire connection FrorsAuccuracles Temperature error (relative to input range), (+/-) O.004 %/K Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) O.3 %; ±0.3 % at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 to 5 V, ±10 V; ±0.31 % at ±80 mV; ±0.32 % at ±25 mV, ±0.35 % at ±22 mV O.3 %; ±0.3 % at 0 to 20 mA, ±5 mA, ±10 mA, ±20 mA, 4 to 20 mA • Resistance, relative to input range, (+/-) O.3 %; ±0.3 % at 0 to 20 mA, ±5 mA, ±10 mA, ±20 mA, 4 to 20 mA • Resistance thermometer, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • Resistance, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • Resistance, relative to input range, (+/-) • To Type B (±1.5 K), TC Type B (±3.2 K), TC Type S (±3.3 K), TC Type T (±7.5 %; ±0.10 K) ±10 K), ±0.20 mA, ±0.20 mA, ±0.20 mA, ±0.20 mA • Resistance, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • To Type B (±1.5 K), TC Type L (±4.2 K), TC Type K (±5.2 K), TC Type K, ±5.7 V, 1 V to 5 V, ±10 V; ±0.17% at ±20 mV, ±0.300 mN; (±-0.404cof measurement), 0 to 5000 ohms; (±-0.404 M) • Resistance, relative to input range, (+/-) • To Type B (±7.6 K), TC Type K (±0.2 K), TC Type K (±5.2 K), TC Type K		Yes; Line resistances are also measured
Errors/accuracies Temperature error (relative to input range), (+/-) 0.004 %/K Operational error limit in overall temperature range Voltage, relative to input range, (+/-) Current, relative to input range, (+/-) Resistance, relative to input range, (+/-) Resistance, relative to input range, (+/-) Resistance, relative to input range, (+/-) Resistance thermometer, relative to input range, (+/-) Resistance thermometer, relative to input range, (+/-) Thermocouple, relative to input range, (+/-) Thermocouple, relative to input range, (+/-) Thermocouple, relative to input range, (+/-) Resistance thermometer, relative to input range, (+/-) To thermocouple, relative to input range, (+/-) To thermocouple, relative to input range, (+/-) To type B (±11.5 K), TC Type R (±7.3 K), TC Type S (±3.3 K), TC Type T (±1.7 K), TC Type B (±1.5 K), TC Type B (±1.5 K), TC Type S (±3.4 K), TC Type T (±1.7 K), TC Type B (±1.5 K), TC Type B (±1.2 K), TC Type K (±2.2 K), TC Type K (±2.4 K), TC T		
Temperature error (relative to input range), (+/-) 0.004 %/K Operational error limit in overall temperature range 0.3 %; ±0.3 % at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 to 5 V, ±10 V; ±0.31 % at ±26 mV; ±0.32 % at ±50 mV; ±0.35 % at ±25 mV • Current, relative to input range, (+/-) 0.3 %; ±0.3 % at ±250 mV; ±0.35 % at ±25 mV • Resistance, relative to input range, (+/-) 0.3 %; ±0.3 % at ±25 mA, ±10 mA, ±20 mA, 4 to 20 mA • Resistance, relative to input range, (+/-) 0.3 %; ±0.3 % at 0 to 20 mA, ±5 mA, ±10 mA, ±20 mA, 4 to 20 mA • Resistance, relative to input range, (+/-) 0.3 %; ±0.3 % at 0 to 48 Ohn (4-conductor measurement), 0 to 150 Ohm (4-conductor measurement), 0 to 5000 Ohm; 14.2 % X), TC Type K (±3.8 X), TC Type T (±1.7 K), TC Type E (±3.2 K), TC Type I (±2.8 K), TC Type I (±3.2 K), TC Type I (±3.4 K) • Voltage, relative to input range, (+/-) 0.15 %; ±0.15 % at ±500 mV, ±00 mX, ±10 N; ±0.17 % at ±50 mV, ±0.3 % at ±50 mV, ±0.17 % at ±50 mV, ±0.0 mA, ±5 mX ±0.0 mA, ±5 mX ±0.0 mA, ±5 mX ±0.0 mA, ±5 mX ±0.0 mA, ±0 m	 for resistance measurement with four-wire connection 	Yes
Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) • Current, relative to input range, (+/-) • Resistance, relative to input range, (+/-) • Resistance, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Thermocouple, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • Thermocouple, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • Current, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • To Type B (±11.5 K), TC Type R (±7.3 K), TC Type S (±8.3 K), TC Type U (±2.8 K), TC Type I (±4.3 K), TC Type I (±2.4 K), TC Type I (±2.5 V, ±5 V, 1 V to 5 V, ±10 V; ±0.17% at ±20 mV, ±0.03 m, ±25 mV • Voltage, relative to input range, (+/-) 0.15 %; ±0.15 % at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 V to 5 V, ±10 V; ±0.17% at ±30 mV, ±0.19% at ±50 mV, ±0.23% at ±25 mV • Current, relative to input range, (+/-) 0.15 %; ±0.15 % at 0 to 20 mA, ±25		
 Voltage, relative to input range, (+/-) 0.3 %; ±0.3 % at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 to 5 V, ±10 V; ±0.31 % at ±30 mV; ±0.35 % at ±25 mV Current, relative to input range, (+/-) Resistance, relative to input range, (+/-) 0.3 %; at 0 to 20 mA, ±5 mA, ±10 mA, ±20 mA, 4 to 20 mA S, ±0.35 % at 0 to 20 MA, ±5 mA, ±10 mA, ±20 mA S, ±0.35 % at 0 to 20 MA, ±5 mA, ±10 mA, ±20 mA S, ±0.35 % at 0 to 20 Ohm (4-conductor measurement), to 150 Ohm (4-conductor measurement), to 500 Ohm (4-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 500 Ohm (4-conductor measurement), 0 to 500 Ohm (4-conductor measurement), 0 to 500 Ohm (4-conductor measurement), 0 to 500 Ohm (3-conductor mea	Errors/accuracies	
 Current, relative to input range, (+/-) Current, relative to input range, (+/-) Resistance, relative to input range, (+/-) Carbon V: ±0.32 % at ±50 mV; ±0.35 % at ±25 mV Current, relative to input range, (+/-) Signature to input range, (+/-) Signature to input range, (+/-) Carbon V: ±0.32 % at ±50 mV; ±0.35 % at ±25 mV Signature to input range, (+/-) Carbon V: ±0.35 % at ±20 mA, 4 to 20 mA Signature to input range, (+/-) Carbon V: ±0.35 % at ±25 mV Carbon V: ±0.35 % at ±25 mV Carbon V: ±0.35 % at ±25 mV Carbon V: ±0.37 % at ±25 mV Current, relative to input range, (+/-) Carbon V: ±0.37 % at ±25 mV, ±50 mV; ±0.38 % at ±25 mV Current, relative to input range, (+/-) Carbon V: ±0.37 % at ±25 mV; ±0.15 % at ±25 mV; ±0.23 % at ±25 mV Current, relative to input range, (+/-) Carbon V: ±0.37 % at ±25 mV; ±0.23 % at ±25 mV Current, relative to input range, (+/-) Carbon V: ±0.37 % at ±25 mV; ±0.23 % at ±25 mV Current, relative to input range, (+/-) Carbon V: ±0.37 % at ±25 mV; ±0.15 % at ±25 mV; ±0.23 % at ±25 mV Current, relative to input range, (+/-) Carbon V: ±0.37 % at ±25 mV; ±0.23 % at ±25 mV; ±0.38 % at ±25 mV Current, relative to input range, (+/-) Carbon V: ±0.27 % at ±25 mV; ±0.27 % at ±25 mV; ±0.15 % at ±25 mV; ±0.23 % at ±25 mV Current, relative to input range, (+/-) Carbon V: ±0.23 % at ±25 mV; ±0.23 % at ±25 mV; ±0.15 % at 0 to 20 mA, ±50 mO; ±0.23 % at ±25 mV Current, relative to input range, (+/-) Carbon V: ±0.23 % at ±25 mV		0.004 %/K
• Resistance, relative to input range, (+/-) 0.3 %; ±0.3% at 0 to 48 Ohm (4-conductor measurement), 0 to 500 Ohm (3-conductor measurement), 0 to 500 Ohm (3-cond	Temperature error (relative to input range), (+/-)	0.004 %/K
conductor measurement), 0 to 300 Ohm (4-conductor measurement), 0 to 600 Ohm (4-conductor measurement), 0 to 5000 Ohm (4-conductor measurement), in range of 6000 Ohm); 4.4% at 0 to 300 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 5000 Ohm); • Resistance thermometer, relative to input range, (+/-) 0.4 % • Thermocouple, relative to input range, (+/-) 0.4 % • U (±2.8 K), TC Type B (±1.5 K), TC Type R (±7.3 K), TC Type S (±8.3 K), TC Type T (±1.7 K), TC Type B (±1.5 K), TC Type J (±4.3 K), TC Type K (±6.2 K), TC Type U (±2.4 K), TC Type I (±4.2 K), TC Typ	Temperature error (relative to input range), (+/-) Operational error limit in overall temperature range	0.3 %; ±0.3 % at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 to 5 V, ±10 V; ±0.31
 Thermocouple, relative to input range, (+/-) TC Type B (±11.5 K), TC Type R (±7.3 K), TC Type S (±8.3 K), TC Type T (±1.7 K), TC Type E (±3.2 K), TC Type J (±4.3 K), TC Type K (±6.2 K), TC Type U (±2.8 K), TC Type L (±4.2 K), TC Type N (±4.4 K) Basic error limit (operational limit at 25 °C) Voltage, relative to input range, (+/-) Current, relative to input range, (+/-) Current, relative to input range, (+/-) Resistance, relative to input range, (+/-) Resistance, relative to input range, (+/-) Solo ohms (4-conductor measurement), 0 to 150 ohms (4-conductor measurement), 0 to 300 ohms (4-conductor measurement), 0 to 500 ohms (3-conductor measurement), 0 to 500 ohms (3-conductor measurement), 0 to 500 ohms (3-conductor measurement), 0 to 5000 ohms). Resistance thermometer, relative to input range, (+/-) TC Type B (±7.6 K), TC Type R (±4.8 K) TC Type S (±5.4 K), TC Type T (±1.1 K), TC Type E (±1.8 K), TC Type N (±2.3 K), TC Type U (±1.7 K), TC Type L (±2.3 K), TC Type N (±2.6 K) Interrupts/diagnostics/status information Diagnostic alarm Limit value alarm Yes; Parameterizable Yes; Parameterizable 	Temperature error (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) • Current, relative to input range, (+/-)	0.3 %; ±0.3 % at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 to 5 V, ±10 V; ±0.31 % at ±80 mV; ±0.32 % at ±50 mV; ±0.35 % at ±25 mV 0.3 %; at 0 to 20 mA, ±5 mA, ±10 mA, ±20 mA, 4 to 20 mA
(±1.7 k), TC Type E (±3.2 k), TC Type J (±4.3 k), TC Type K (±6.2 k), TC Type U (±2.8 k), TC Type L (±4.2 k), TC Type N (±4.4 k) Basic error limit (operational limit at 25 °C) • Voltage, relative to input range, (+/-) 0.15 %; ±0.15% at ±250 mV, ±500 mV, ±10, ±2.5 V, ±5 V, 1 V to 5 V, ±10 V; ±0.17% at ±80 mV; ±0.19% at ±25 mV • Current, relative to input range, (+/-) • Resistance, relative to input range, (+/-) 0.15 %; ±0.15 % at 0 to 20 mA, ±5 mA, ±10 mA, ±20 mA, 4 to 20 mA • Resistance, relative to input range, (+/-) 0.15 %; ±0.15 % at 0 to 48 ohms (4-conductor measurement), 0 to 150 ohms (4-conductor measurement), 0 to 5000 ohms (4-conductor measurement), 0 to 5000 ohms (4-conductor measurement), 0 to 5000 ohms (3-conductor measurement), 0 to 500 ohms (3-conductor meas	Temperature error (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) • Current, relative to input range, (+/-)	0.3 %; ±0.3 % at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 to 5 V, ±10 V; ±0.31 % at ±80 mV; ±0.32 % at ±50 mV; ±0.35 % at ±25 mV 0.3 %; at 0 to 20 mA, ±5 mA, ±10 mA, ±20 mA, 4 to 20 mA 0.3 %; ±0.3% at 0 to 48 Ohm (4-conductor measurement), 0 to 150 Ohm (4- conductor measurement), 0 to 300 Ohm (4-conductor measurement), 0 to 600 Ohm (4-conductor measurement), 0 to 5000 Ohm (4-conductor measurement), 10 to 600 Ohm (4-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor
 Voltage, relative to input range, (+/-) Voltage, relative to input range, (+/-) Current, relative to input range, (+/-) Current, relative to input range, (+/-) Resistance, relative to input range, (+/-) Resistance, relative to input range, (+/-) Status information Current, relative to input range, (+/-) To Type B (±7.6 K), TC Type R (±4.8 K) TC Type S (±5.4 K), TC Type I (±1.1 K), TC Type B (±1.8 K), TC Type I (±2.3 K), TC Type K (±3.4 K), TC Type I (±1.1 K), TC Type I (±2.3 K), TC Type I (±2.3 K), TC Type I (±2.3 K), TC Type I (±1.4 K), TC Type I (±2.3 K), TC Type I (±2.4 K), TC Type I (±1.4 K), TC Type I (±2.3 K), TC Type I (±2.4 K), TC Type I (±1.4 K), TC Type I (±2.3 K), TC Type I (±2.4 K), TC Type I (±1.4 K), TC Type I (±2.3 K), TC Type I (±2.4 K), TC Type I (±1.4 K), TC Type I (±2.3 K), TC Type I (±2.4 K), TC Type I (±1.4 K), TC Type I (±2.3 K), TC Type I (±2.4 K), TC Type I (±1.4 K), TC Type I (±2.3 K), TC Type I (±2.4 K), TC Type I (±1.4 K), TC Type I (±2.3 K), TC Type I (±2.4 K), TC Type I (±1.4 K), TC Type I (±2.3 K), TC Type I (±2.4 K), TC Type I (±1.4 K), TC Type I (±2.3 K), TC Type I (±2.4 K), TC Type I (±1.4 K), TC Type I (±2.3 K), TC Type I (±2.4 K), TC Type I (±1.4 K), TC Type I (±2.3 K), TC Type I (±2.4 K), TC Type I (±1.4 K), TC Type I (±2.3 K), TC Type I (±2.4 K), TC Type I (±1.4 K), TC Type I (±2.3 K), TC Type I (±2.4 K), TC Type I (±1.4 K), TC Type I (±2.3 K), TC Type I (±2.4 K), TC Type I (±1.4 K), TC Type I (±2.4 K), TC Type I (±1.4 K), TC Type I (±2.3 K), TC Type I (±2.4 K), TC Type I (±2.4 K), TC Type I (±1.4 K), TC Ty	Temperature error (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) • Current, relative to input range, (+/-) • Resistance, relative to input range, (+/-)	0.3 %; ±0.3 % at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 to 5 V, ±10 V; ±0.31 % at ±80 mV; ±0.32 % at ±50 mV; ±0.35 % at ±25 mV 0.3 %; at 0 to 20 mA, ±5 mA, ±10 mA, ±20 mA, 4 to 20 mA 0.3 %; ±0.3% at 0 to 48 Ohm (4-conductor measurement), 0 to 150 Ohm (4- conductor measurement), 0 to 300 Ohm (4-conductor measurement), 0 to 600 Ohm (4-conductor measurement), 0 to 5000 Ohm (4-conductor measurement, in range of 6000 Ohm); ±0.4% at 0 to 300 Ohm (3-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement, in range of 6000 Ohm);
±0.17% at ±80 mV; ±0.19% at ±50 mV; ±0.23% at ±25 mV• Current, relative to input range, (+/-)0.15 %; at 0 to 20 mA, ±5 mA, ±10 mA, ±20 mA, 4 to 20 mA• Resistance, relative to input range, (+/-)0.15 %; at 0 to 20 mA, ±5 mA, ±10 mA, ±20 mA, 4 to 20 mA• Resistance, relative to input range, (+/-)0.15 %; ±0.15 % at 0 to 48 ohms (4-conductor measurement), 0 to 150 ohms (4-conductor measurement), 0 to 300 ohms (4-conductor measurement), 0 to 300 ohms (3-conductor measurement), 0 to 5000 ohms); ±0.3 % at 0 to 300 ohms (3-conductor measurement, in range of 6000 ohms) • Thermocouple, relative to input range, (+/-)0.3 %• Thermocouple, relative to input range, (+/-)TC Type B (±7.6 K), TC Type R (±4.8 K) TC Type S (±5.4 K), TC Type T (±1.1 K), TC Type E (±1.8 K), TC Type J (±2.3 K), TC Type K (±3.4 K), TC Type U (±1.7 K), TC Type L (±2.3 K), TC Type N (±2.6 K)Interrupts/diagnostics/status informationYes; Parameterizable• Diagnostic alarm • Limit value alarmYes; ParameterizableYes; ParameterizableYes; Parameterizable	Temperature error (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) • Current, relative to input range, (+/-) • Resistance, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-)	 0.3 %; ±0.3 % at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 to 5 V, ±10 V; ±0.31 % at ±80 mV; ±0.32 % at ±50 mV; ±0.35 % at ±25 mV 0.3 %; at 0 to 20 mA, ±5 mA, ±10 mA, ±20 mA, 4 to 20 mA 0.3 %; ±0.3% at 0 to 48 Ohm (4-conductor measurement), 0 to 150 Ohm (4-conductor measurement), 0 to 300 Ohm (4-conductor measurement), 0 to 600 Ohm (4-conductor measurement), 0 to 5000 Ohm (4-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-cond
 Resistance, relative to input range, (+/-) 0.15 %; ±0.15 % at 0 to 48 ohms (4-conductor measurement), 0 to 150 ohms (4-conductor measurement), 0 to 300 ohms (4-conductor measurement), 0 to 5000 ohms (3-conductor measurement), 0 to 5000 ohms) Resistance thermometer, relative to input range, (+/-) Thermocouple, relative to input range, (+/-) TC Type B (±7.6 K), TC Type R (±4.8 K) TC Type S (±5.4 K), TC Type U (±1.7 K), TC Type E (±1.8 K), TC Type N (±2.6 K) Interrupts/diagnostics/status information Interrupts/diagnostics function Yes; Parameterizable Alarms Diagnostic alarm Limit value alarm Yes; Parameterizable Yes; Parameterizable 	Temperature error (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) • Current, relative to input range, (+/-) • Resistance, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Thermocouple, relative to input range, (+/-)	 0.3 %; ±0.3 % at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 to 5 V, ±10 V; ±0.31 % at ±80 mV; ±0.32 % at ±50 mV; ±0.35 % at ±25 mV 0.3 %; at 0 to 20 mA, ±5 mA, ±10 mA, ±20 mA, 4 to 20 mA 0.3 %; ±0.3% at 0 to 48 Ohm (4-conductor measurement), 0 to 150 Ohm (4-conductor measurement), 0 to 300 Ohm (4-conductor measurement), 0 to 600 Ohm (4-conductor measurement), 0 to 5000 Ohm (4-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-cond
(4-conductor measurement), 0 to 300 ohms (4-conductor measurement), 0 to 5000 ohms (4-conductor measurement, in range of 6000 ohms); ±0.3 % at 0 to 300 ohms (3-conductor measurement), 0 to 600 ohms); ±0.3 % at 0 to 300 ohms (3-conductor measurement), 0 to 5000 ohms (3-conductor measurement), 0 to 600 ohms); ±0.3 % • Resistance thermometer, relative to input range, (+/-) 0.3 % • Thermocouple, relative to input range, (+/-) TC Type B (±7.6 K), TC Type R (±4.8 K) TC Type S (±5.4 K), TC Type T (±1.1 K), TC Type E (±1.8 K), TC Type J (±2.3 K), TC Type K (±3.4 K), TC Type U (±1.7 K), TC Type L (±2.3 K), TC Type K (±3.4 K), TC Type U (±1.7 K), TC Type L (±2.3 K), TC Type N (±2.6 K) Interrupts/diagnostics/status information Yes; Parameterizable Alarms Yes; Parameterizable • Diagnostic alarm Yes; Parameterizable • Limit value alarm Yes; Parameterizable	Temperature error (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) • Current, relative to input range, (+/-) • Resistance, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Thermocouple, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to input range, (+/-)	 0.3 %; ±0.3 % at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 to 5 V, ±10 V; ±0.31 % at ±80 mV; ±0.32 % at ±50 mV; ±0.35 % at ±25 mV 0.3 %; at 0 to 20 mA, ±5 mA, ±10 mA, ±20 mA, 4 to 20 mA 0.3 %; ±0.3% at 0 to 48 Ohm (4-conductor measurement), 0 to 150 Ohm (4-conductor measurement), 0 to 300 Ohm (4-conductor measurement), 0 to 600 Ohm (4-conductor measurement), 0 to 5000 Ohm (4-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0.4 % TC Type B (±11.5 K), TC Type R (±7.3 K), TC Type S (±8.3 K), TC Type T (±1.7 K), TC Type E (±3.2 K), TC Type J (±4.3 K), TC Type K (±6.2 K), TC Type U (±2.8 K), TC Type L (±4.2 K), TC Type N (±4.4 K) 0.15 %; ±0.15% at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 V to 5 V, ±10 V; ±0.17% at ±80 mV; ±0.19% at ±50 mV; ±0.23% at ±25 mV
K), TC Type E (±1.8 K), TC Type J (±2.3 K), TC Type K (±3.4 K), TC Type U (±1.7 K), TC Type L (±2.3 K), TC Type N (±2.6 K) Interrupts/diagnostics/status information Diagnostics function Yes; Parameterizable Alarms • Diagnostic alarm Yes; Parameterizable • Limit value alarm Yes; Parameterizable	Temperature error (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) • Current, relative to input range, (+/-) • Resistance, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Thermocouple, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to input range, (+/-) • Current, relative to input range, (+/-)	 0.3 %; ±0.3 % at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 to 5 V, ±10 V; ±0.31 % at ±80 mV; ±0.32 % at ±50 mV; ±0.35 % at ±25 mV 0.3 %; at 0 to 20 mA, ±5 mA, ±10 mA, ±20 mA, 4 to 20 mA 0.3 %; ±0.3% at 0 to 48 Ohm (4-conductor measurement), 0 to 150 Ohm (4-conductor measurement), 0 to 300 Ohm (4-conductor measurement), 0 to 600 Ohm (4-conductor measurement), 0 to 5000 Ohm (4-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 500 Ohm (3-conductor measurement), 0 to 500 Ohm (3-conducto
Diagnostics function Yes; Parameterizable Alarms • Diagnostic alarm Yes; Parameterizable • Limit value alarm Yes; Parameterizable	Temperature error (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) • Current, relative to input range, (+/-) • Resistance, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Thermocouple, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to input range, (+/-) • Current, relative to input range, (+/-) • Resistance, relative to input range, (+/-)	0.3 %; ±0.3 % at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 to 5 V, ±10 V; ±0.31 % at ±80 mV; ±0.32 % at ±50 mV; ±0.35 % at ±25 mV 0.3 %; at 0 to 20 mA, ±5 mA, ±10 mA, ±20 mA, 4 to 20 mA 0.3 %; ±0.3% at 0 to 48 Ohm (4-conductor measurement), 0 to 150 Ohm (4- conductor measurement), 0 to 300 Ohm (4-conductor measurement), 0 to 600 Ohm (4-conductor measurement), 0 to 5000 Ohm (4-conductor measurement, in range of 6000 Ohm); ±0.4% at 0 to 300 Ohm (3-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement, in range of 6000 Ohm); 0.4 % TC Type B (±11.5 K), TC Type R (±7.3 K), TC Type S (±8.3 K), TC Type T (±1.7 K), TC Type E (±3.2 K), TC Type J (±4.3 K), TC Type K (±6.2 K), TC Type U (±2.8 K), TC Type L (±4.2 K), TC Type N (±4.4 K) 0.15 %; ±0.15% at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 V to 5 V, ±10 V; ±0.17% at ±80 mV; ±0.19% at ±50 mV; ±0.23% at ±25 mV 0.15 %; ±0.15 % at 0 to 48 ohms (4-conductor measurement), 0 to 150 ohms (4-conductor measurement), 0 to 300 ohms (4-conductor measurement), 0 to 5000 ohms (4-conductor measurement), 0 to 6000 ohms); ±0.3 % at 0 to 300 ohms (3-conductor measurement), 0 to 6000 ohms); ±0.3 % at 0 to 300 ohms (3-conductor measurement), 0 to 6000 ohms); ±0.3 % at 0 to 300 ohms (3-conductor measurement), 0 to 6000 ohms); ±0.3 % at 0 to 300 ohms (3-conductor measurement), 0 to 6000 ohms); ±0.3 % at 0 to 300 ohms (3-conductor measurement), 0 to 6000 ohms); ±0.3 % at 0 to 300 ohms (3-conductor measurement), 0 to 6000 ohms); ±0.3 % at 0 to 300 ohms (3-conductor measurement), 0 to 6000 ohms (3-conductor measurement), 0 to 5000 ohms
Alarms Yes; Parameterizable • Limit value alarm Yes; Parameterizable	Temperature error (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) • Current, relative to input range, (+/-) • Resistance, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Thermocouple, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to input range, (+/-) • Current, relative to input range, (+/-) • Resistance, relative to input range, (+/-) • Resistance, relative to input range, (+/-)	0.3 %; ±0.3 % at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 to 5 V, ±10 V; ±0.31 % at ±80 mV; ±0.32 % at ±50 mV; ±0.35 % at ±25 mV 0.3 %; at 0 to 20 mA, ±5 mA, ±10 mA, ±20 mA, 4 to 20 mA 0.3 %; ±0.3% at 0 to 48 Ohm (4-conductor measurement), 0 to 150 Ohm (4- conductor measurement), 0 to 5000 Ohm (4-conductor measurement), 0 to 600 Ohm (4-conductor measurement), 0 to 5000 Ohm (4-conductor measurement, in range of 6000 Ohm); ±0.4% at 0 to 300 Ohm (3-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement, in range of 6000 Ohm); 0.4 % TC Type B (±11.5 K), TC Type R (±7.3 K), TC Type S (±8.3 K), TC Type T (±1.7 K), TC Type E (±3.2 K), TC Type J (±4.3 K), TC Type K (±6.2 K), TC Type U (±2.8 K), TC Type L (±4.2 K), TC Type N (±4.4 K) 0.15 %; ±0.15% at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 V to 5 V, ±10 V; ±0.17% at ±80 mV; ±0.19% at ±50 mV; ±0.23% at ±25 mV 0.15 %; ±0.15 % at 0 to 48 ohms (4-conductor measurement), 0 to 150 ohms (4-conductor measurement), 0 to 300 ohms (4-conductor measurement), 0 to 5000 ohms (3-conductor measurement), 0 to 6000 ohms); ±0.3 % at 0 to 300 ohms (3-conductor measurement), 0 to 600 ohms (3-conductor measurement), 0 to 5000 ohms (3-conductor measurement), 0 t
Diagnostic alarm Yes; Parameterizable Limit value alarm Yes; Parameterizable	 Temperature error (relative to input range), (+/-) Operational error limit in overall temperature range Voltage, relative to input range, (+/-) Current, relative to input range, (+/-) Resistance, relative to input range, (+/-) Resistance thermometer, relative to input range, (+/-) Thermocouple, relative to input range, (+/-) Voltage, relative to input range, (+/-) Current, relative to input range, (+/-) Current, relative to input range, (+/-) Resistance, relative to input range, (+/-) Resistance thermometer, relative to input range, (+/-) 	0.3 %; ±0.3 % at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 to 5 V, ±10 V; ±0.31 % at ±80 mV; ±0.32 % at ±50 mV; ±0.35 % at ±25 mV 0.3 %; at 0 to 20 mA, ±5 mA, ±10 mA, ±20 mA, 4 to 20 mA 0.3 %; ±0.3% at 0 to 48 Ohm (4-conductor measurement), 0 to 150 Ohm (4- conductor measurement), 0 to 5000 Ohm (4-conductor measurement), 0 to 600 Ohm (4-conductor measurement), 0 to 5000 Ohm (4-conductor measurement, in range of 6000 Ohm); ±0.4% at 0 to 300 Ohm (3-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement, in range of 6000 Ohm); 0.4 % TC Type B (±11.5 K), TC Type R (±7.3 K), TC Type S (±8.3 K), TC Type T (±1.7 K), TC Type E (±3.2 K), TC Type J (±4.3 K), TC Type K (±6.2 K), TC Type U (±2.8 K), TC Type L (±4.2 K), TC Type N (±4.4 K) 0.15 %; ±0.15% at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 V to 5 V, ±10 V; ±0.17% at ±80 mV; ±0.19% at ±50 mV; ±0.23% at ±25 mV 0.15 %; ±0.15 % at 0 to 48 ohms (4-conductor measurement), 0 to 150 ohms (4-conductor measurement), 0 to 300 ohms (4-conductor measurement), 0 to 5000 ohms (3-conductor measurement), 0 to 6000 ohms); ±0.3 % at 0 to 300 ohms (3-conductor measurement), 0 to 600 ohms (3-conductor measurement), 0 to 5000 ohms (3-conductor measurement), 0 t
Limit value alarm Yes; Parameterizable	Temperature error (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) • Current, relative to input range, (+/-) • Resistance, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Thermocouple, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Thermocouple, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • Current, relative to input range, (+/-) • Current, relative to input range, (+/-) • Resistance, relative to input range, (+/-) • Resistance, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Thermocouple, relative to input range, (+/-) • Thermocouple, relative to input range, (+/-)	0.3 %; ±0.3 % at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 to 5 V, ±10 V; ±0.31 % at ±80 mV; ±0.32 % at ±50 mV; ±0.35 % at ±25 mV 0.3 %; at 0 to 20 mA, ±5 mA, ±10 mA, ±20 mA, 4 to 20 mA 0.3 %; ±0.3% at 0 to 48 Ohm (4-conductor measurement), 0 to 150 Ohm (4-conductor measurement), 0 to 300 Ohm (4-conductor measurement), 0 to 600 Ohm (4-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 5000 Ohm); 0.4 % TC Type B (±11.5 K), TC Type R (±7.3 K), TC Type S (±8.3 K), TC Type T (±1.7 K), TC Type E (±3.2 K), TC Type J (±4.3 K), TC Type S (±6.2 K), TC Type U (±2.8 K), TC Type E (±3.2 K), TC Type J (±4.3 K), TC Type K (±6.2 K), TC Type U (±2.8 K), TC Type L (±4.2 K), TC Type N (±4.4 K) 0.15 %; ±0.15% at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 V to 5 V, ±10 V; ±0.17% at ±80 mV; ±0.19% at ±50 mV; ±0.23% at ±25 mV 0.15 %; ±0.15% at 0 to 20 mA, ±5 mA, ±10 mA, ±20 mA, 4 to 20 mA 0.15 %; ±0.15 % at 0 to 48 ohms (4-conductor measurement), 0 to 150 ohms (4-conductor measurement), 0 to 300 ohms (4-conductor measurement), 0 to 5000 ohms (3-conductor measurement), 0 to 5000 ohms (3-conductor measurement), 0 to 600 ohms (3-conductor measurement), 0 to 5000 ohms (3-con
	Temperature error (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) • Current, relative to input range, (+/-) • Resistance, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Thermocouple, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • Current, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Resistance, relative to input range, (+/-) • Resistance, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Thermocouple, relative to input range, (+/-)	0.3 %; ±0.3 % at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 to 5 V, ±10 V; ±0.31 % at ±80 mV; ±0.32 % at ±50 mV; ±0.35 % at ±25 mV 0.3 %; at 0 to 20 mA, ±5 mA, ±10 mA, ±20 mA, 4 to 20 mA 0.3 %; ±0.3% at 0 to 48 Ohm (4-conductor measurement), 0 to 150 Ohm (4-conductor measurement), 0 to 300 Ohm (4-conductor measurement), 0 to 600 Ohm (4-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 5000 Ohm); 0.4 % TC Type B (±11.5 K), TC Type R (±7.3 K), TC Type S (±8.3 K), TC Type T (±1.7 K), TC Type E (±3.2 K), TC Type J (±4.3 K), TC Type S (±6.2 K), TC Type U (±2.8 K), TC Type E (±3.2 K), TC Type J (±4.3 K), TC Type K (±6.2 K), TC Type U (±2.8 K), TC Type L (±4.2 K), TC Type N (±4.4 K) 0.15 %; ±0.15% at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 V to 5 V, ±10 V; ±0.17% at ±80 mV; ±0.19% at ±50 mV; ±0.23% at ±25 mV 0.15 %; ±0.15% at 0 to 20 mA, ±5 mA, ±10 mA, ±20 mA, 4 to 20 mA 0.15 %; ±0.15 % at 0 to 48 ohms (4-conductor measurement), 0 to 150 ohms (4-conductor measurement), 0 to 300 ohms (4-conductor measurement), 0 to 5000 ohms (3-conductor measurement), 0 to 5000 ohms (3-conductor measurement), 0 to 600 ohms (3-conductor measurement), 0 to 5000 ohms (3-con
Hardware interrupt Yes; Parameterizable	Temperature error (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) • Current, relative to input range, (+/-) • Resistance, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Thermocouple, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • Resistance, relative to input range, (+/-) • Resistance, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Thermocouple, relative to input range, (+/-) • Thermocouple, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Thermocouple, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Thermocouple, relative to input range, (+/-)	 0.3 %; ±0.3 % at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 to 5 V, ±10 V; ±0.31 % at ±80 mV; ±0.32 % at ±50 mV; ±0.35 % at ±25 mV 0.3 %; at 0 to 20 mA, ±5 mA, ±10 mA, ±20 mA, 4 to 20 mA 0.3 %; ±0.3% at 0 to 48 Ohm (4-conductor measurement), 0 to 150 Ohm (4-conductor measurement), 0 to 5000 Ohm (4-conductor measurement), 0 to 600 Ohm (4-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 500 Ohms (3-conductor measurement), 0 to 5000 Ohms (3-conductor measurement), 0 to 600 Ohms); 0.3 % TC Type B (±7.6 K), TC Type R (±4.8 K) TC Type S (±5.4 K), TC Type T (±1.1 K), TC Type E (±1.8 K), TC Type I (±2.3 K), TC Type K (±3.4 K), TC Type U (±1.7 K), TC Type L (±2.3 K), TC Type N (±2.6 K) Yes; Parameterizable
	Temperature error (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) • Current, relative to input range, (+/-) • Resistance, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Thermocouple, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • Voltage, relative to input range, (+/-) • Current, relative to input range, (+/-) • Current, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-) • Thermocouple, relative to input range, (+/-) • Thermocouple, relative to input range, (+/-) • Diagnostics function Alarms • Diagnostic alarm	 0.3 %; ±0.3 % at ±250 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, 1 to 5 V, ±10 V; ±0.31 % at ±80 mV; ±0.32 % at ±50 mV; ±0.35 % at ±25 mV 0.3 %; at 0 to 20 mA, ±5 mA, ±10 mA, ±20 mA, 4 to 20 mA 0.3 %; ±0.3% at 0 to 48 Ohm (4-conductor measurement), 0 to 150 Ohm (4-conductor measurement), 0 to 5000 Ohm (4-conductor measurement), 0 to 5000 Ohm (4-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 600 Ohm (3-conductor measurement), 0 to 5000 Ohm (3-conductor measurement), 0 to 500 Ohms (3-conductor measurement), 0 to 5000 oh

Diagnoses	
Diagnostic information readable	Yes
Diagnostics indication LED	
 internal fault INTF (red) 	Yes
 external fault EXTF (red) 	Yes
Potential separation	
Potential separation analog inputs	
 Potential separation analog inputs 	Yes; internal/external
 between the channels 	No
 between the channels and backplane bus 	Yes
 Between the channels and load voltage L+ 	Yes
Isolation	
Isolation tested with	2 120 V DC between bus and L+/M; 2 120 V DC between bus and analog section; 500 V DC between bus and local ground; 500 V DC between analog section and L+/M; 2 120 V DC between analog section and local ground; 2 120 V DC between L+/M and local ground
Dimensions	
Width	25 mm
Height	290 mm
Depth	210 mm
Weights	
Weight, approx.	500 g

last modified:

8/7/2023 🖸