

Technical Data

Calibration Function	Simulation Range	Resolution 30,000 digits (4¾ places)		Intrinsic Uncertainty	Overload
Direct voltage source			Minimum Load Resistance	±(% S + mV)	I _{max}
V	0...±300mV	0.01 mV	1 kΩ	0.05 + 0.02	18 mA
	0 ... 3 V	0.1 mV		0.05 + 0.2	
	0 ...10 V	1 mV		0.05 + 2	
	0 ...15 V	1 mV		0.05 + 2	
Frequency generator duty cycle (pulse-no-pulse ratio): 50%, Amplitude: 10 mV ... 15 V			Minimum Load Resistance	±(% S + Hz)	I _{max}
Hz	1 Hz ...1 kHz	0.1 ...1 Hz	1 kΩ	0.05 + 0.2	18 mA
Current source			Max. load	±(% S + μA)	
mA	4 ... 20 mA	1 μA	20 V	0.05 + 2	
	0 ... 20 mA				
	0 ... 24 mA				
Current Sink				±(% S + μA)	U _{max}
mA	4 ... 20 mA	1 μA	V _{in} = 4 ... 27 V	0.05 + 2	27 V
	0 ... 20 mA				
	0 ... 24 mA				
Resistance simulation			Sensor current [mA]	±(% S + Ω)	I _{max}
Ω	5...2000 Ω	0.1 Ω	0.05...0.1...4...5	0.05 + 0.2	5 mA

Simulator for Temperature Sensors (resolution: 0.1 K)

	Sensor Type	Simulation Range in $^{\circ}\text{C}$	Simulation Range in $^{\circ}\text{F}$	Intrinsic Uncertainty	Overload
$^{\circ}\text{C} / ^{\circ}\text{F}$	Resistance thermometers per IEC 751			$\pm(\% S + \text{K})$	I_{max}
	Pt100	-200 ... +850	-328...+1562	0.1 + 0.5	5 mA
	Pt1000	-200 ... +300	-328 ... +572	0.1 + 0.2	
	Resistance thermometers per DIN 43760			$\pm(\% S + \text{K})$	I_{max}
	Ni100	-60 ... +180	-76 ... +356	0.1 + 0.5	5 mA
	Ni1000	-60 ... +180	-76 ... +356	0.1 + 0.2	
	RTD sensor current: 0.05 ... <u>0.1</u> ... <u>4</u> ... 5 mA			*	
	Thermocouples per DIN and IEC 584-1			ΔU in mV *	I_{max}
	K (NiCr/Ni)	-250...+1372	-418...+2501	$\pm(0,05\% \cdot \text{Setting} + 0,02 \text{ mV})$	18 mA
	J (Fe/CuNi)	-210...+1200	-346...+2192		
	T (Cu/CuNi)	-270...+400	-454...+ 752		
	B (Pt30Rh/Pt6Rh)	+500...+1820	+932...+3308		
	E (NiCr/CuNi)	-270...+1000	-454...+1832		
	R (Pt13Rh/Pt)	-50...+1768	-58...+3214		
	N (NiCrSi-NiSi)	-270...+1300	-454...+2372		
	S (Pt10Rh/Pt)	-50...+1768	-58...+3214		
	L (Fe/CuNi)	-200...+900	-328...+1652		
	U (Cu/CuNi)	-200...+600	-328...+1112		

* Without internal reference junction;

Relative to fixed external reference temperature and thermovoltage of the thermocouple

Internal reference junction: 2 K intrinsic error, external reference junction: entry of -30 ... 60 $^{\circ}\text{C}$