Test instrument

Simulator KA 7531



Simulator for Pt100, thermocouples, mV, V, mA, Hz **Option PC interface**

Technical features

- Universal manual simulator for simulating temperature sensors and process variables when testing measuring instruments, regulators, and other equipment
- Pt100 simulation with 5 fixed resistors in 4-conductor technology Voltage and thermocouples simulation with 15-bit D/A converter Current simulation with 15-bit D/A converter Frequency and pulse generator with quartz-crystal oscillator • Modern, compact housing - also suitable for DIN top-hat rail Continuity check with settable threshold
- All signals are available at the same time.
- Signals can be set either manually or automatically, in step or ramp form.
- · All signals and all the programming can be shown on the

- illuminated graphics display.
- Connection of peripherals via ALMEMO® clamp connectors, cable with anti-kink protective sleeve and strain relief
- Power supply via battery, mains unit, USB cable ZA 1919-DKUV or connection to RS422 network distributor with connector ZA5099-FSV
- Option of PC-controlled operation via all ALMEMO® data cables.

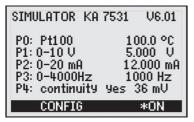
Technical data

Signal Pt100	5 discrete resistance values in 4-conductor technology	
	0 / 50 / 100 / 200 / 300 °C	
Accuracy	±0.1°C	
Temperature drift	0.01°C / K	
Signal voltage	15-bit DAC electr. isolated	
-10 to +60.000 mV	load > 1 M Ω	
-3 to 10.000 V	load $> 100 \text{ k}\Omega$	
Accuracy	$\pm 0.05\% \pm 0.05\%$ of final value	
Temperature drift	20 ppm / K	
Time constant	100 μs	
Thermocouples	type K, N, T, J (ITS90)	
-	resolution: 0.1K	
	type S, R, B (ITS90)	
	resolution: 1K	
Accuracy:	$\pm~0.05\% \pm 0.05\%$ final value	
CJ - temperature:	-30100°C	
Signal current	15-bit DAC electr. isolated	
0 to 20.0 mA	$load < 500 \Omega$	
Accuracy	$\pm~0.05\% \pm 0.05\%$ of final value	
Temperature drift	20 ppm / K	
Time constant	100 μs	

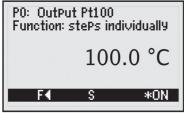
signal frequency	14000Hz, 0.0110.00kHz, 0.140.0kHz, 1100kHz	
Pulse width	1 to 99 %	
Accuracy	corresponds to the resolution	
Pulse range	•	
Period	2μs99.999 ms, 2ms99.999 s	
Pulse	1μs99.998 ms, 1ms99.998 s	
Accuracy	0.01 %	
Continuity	current approx. 1 mA	
Threshold	0 to 1000 mV	
Power supply:	1012V DC	
Battery:	3 Mignon Alcaline	
Current consumption	(Battery): approx. 30 mA	
Voltage and Current output:	approx. 80mA + 4 x IOUT,	
with illumination:	approx. 40mA additional	
Display	graphics 128 x 64 (55 x 30 mm)	
Illumination	2 white LEDs	
Keypad	7 silicone keys (4 soft-keys)	
Housing	(LxWxH) 127 x 83 x 42 mm	
	ABS (-10 to +70 °C), 290 g	
Operating range:		
Operating temperature:	-10 +50 °C	
(Storage temperature:	-20 +60 °C)	
Ambient humidity:	10 90 % rH (noncondensing)	

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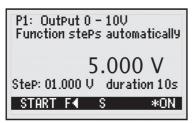
Displays (examples)



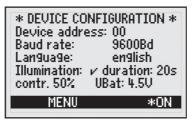
Main menu



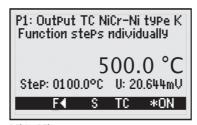
Pt100 resistance values



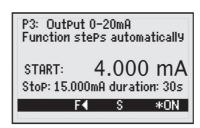
0 to 10 V step generator



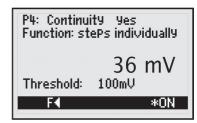
Device configuration



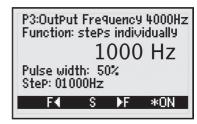
NiCr-Ni step generator



0 to 20 mA ramp generator



Continuity tester



Frequency pulse generator

Accessories	Order no.
ALMEMO® clamp connector (for Pt100 or universal use)	ZA1000TS
ALMEMO® connecting cable with 2 banana plugs and 2 test probes	ZA1000TK
Mains adapter 12 V / 2 A	ZA1312NA10
USB data cable, electrically isolated	ZA1919DKU
As above but with 9 V supply, not electr. isol.	ZA1919DKUV
V24 data cable, electrically isolated	ZA1909DK5
Fixture for top-hat rail mounting	ZB2490HS
Rubber guard, gray	ZB2490GS2

Options Order no.

Factory calibration certificate for Simulator KA7531:

Electrical Calibration compared reference standards that are traceable to national standards.

Calibration in 6 ranges: Pt100 (5 points), and (3 points each) voltage 10 V, voltage 50 mV, current 20 mA, thermocouple type K, frequency Hz, KE9006W Pakkage Offer **OA7531I**

addressable PC interface

Included as standard

Order no.

Simulator, 5 sockets for Pt100, thermocouples or -4 to 10 V, 0 to 20 mA, frequency, continuity tester, Graphics display and keypad, sockets DC, A1, batteries, including manufacturer's test certificate,

1 ALMEMO® clamp connector (for Pt100) and ALMEMO® and ALMEMO® connecting cable with 2 banana plugs and 2 test probes

KA75311