



Portable measuring device for ultrasonic material thickness testing in Echo-Echo principle

Features

- **External sensor**
- **Data interface RS-232**, standard
- **Delivered in a robust carrying case**
- **Scan mode** (10 measurements per sec.) or single point measuring mode possible
- **Internal memory** for up to 20 files (with up to 100 values per file)
- **Selectable measuring units:** mm, inch
- Two measuring modes to determine material thickness:
 - Pulse-echo mode
 - Echo-echo mode
- Echo-echo measuring: Determining the actual thickness of materials irrespective of any coating which might be present. In this way, the wall thickness of pipes, for example, can be determined in a non-destructive manner, without having to remove the coating and the measurement can be shown on the display, with the adjustment for the coating thickness already taken into account
- Echo-echo measurements are only possible with the measuring head included as part of the delivery (ATU-US12, see accessory)

Technical data

- Precision: 0,5 % of [Max] ± 0,04 mm
- Dimensions W×D×H 74×32×150 mm
- Battery operation, batteries standard 2× 1.5V AA, AUTO-OFF function to preserve batteries
- Net weight approx. 245 g
- Maximum thickness of coating (paints, lacquers or similar coatings which shall be eliminated): 3 mm

Accessories
































- **Plug-In for data transfer of measuring data** from the measuring instrument and transfer to a PC, e.g. in Microsoft Excel®, SAUTER AFI-1.0
- **External sensor**, 5 MHz, Ø 12 mm, for echo-echo measuring, SAUTER ATU-US12
- **Ultrasound contact gel**, standard, can be reordered, approx. 60 ml, SAUTER ATB-US03
- **RS-232/USB adapter**, SAUTER AFH 12
- **Note:** All following Pulse-Echo sensors can only be used in Pulse-Echo mode, not in Echo-Echo mode
- **External sensor (Pulse-Echo)**, 2,5 MHz, Ø 14 mm, for thick samples, in particular cast iron with rough upper surfaces: Measuring range 3–300 mm (steel), SAUTER ATU-US01
- **External sensor (Pulse-Echo)**, 7 MHz, Ø 6 mm, for thin test materials: Measuring range 0,75–80 mm (steel), SAUTER ATU-US02
- **External sensor (Pulse-Echo)**, 5 MHz, Ø 10 mm, SAUTER ATU-US09
- **External sensor (Pulse-Echo)**, 5 MHz, Ø 10 mm, transducer at an angle of 90°, SAUTER ATU-US10

STANDARD						OPTION	

Model	Measuring range Echo-echo	Measuring range Plus-Echo	Readout [d] mm	Sensor	Sound velocity m/sec		Option Factory calibration certificates	
							KERN	
SAUTER	mm	mm						
TN 30-0.01EE	3-30	0,65-600	0,01	5 MHz Ø 12 mm	1000-9999		961-113	
TN 60-0.01EE	3-60	0,65-600	0,01	5 MHz Ø 12 mm	1000-9999		961-113	

Price reduction

Datasheet_TN-EE_V1

	Adjusting program (CAL): For quick setting of the balance's accuracy. External adjusting weight required.		Control outputs (optocoupler, digital I/O): to connect relays, signal lamps, valves, etc.		Rechargeable battery pack: rechargeable set.
	Calibration block: standard for adjusting or correcting the measuring device.		Analogue interface: to connect a suitable peripheral device for analogue processing of the measurements.		Mains adapter: 230V/50Hz in standard version for EU. On request GB, AUS or USA version available.
	Peak hold function: capturing a peak value within a measuring process.		Statistics: using the saved values, the device calculates statistical data, such as average value, standard deviation etc.		Power supply: Integrated, 230V/50Hz in EU. More standards e.g. GB, AUS or USA on request.
	Scan mode: continuous capture and display of measurements.		PC Software: to transfer the measurements from the device to a PC.		Motorised drive: The mechanical movement is carried out by an electric motor.
	Push and Pull: the measuring device can capture tension and compression forces.		Printer: a printer can be connected to the device to print out the measurements.		Motorised drive: The mechanical movement is carried out by a synchronous motor (stepper).
	Length measurement: captures the geometric dimensions of a test object or the movement during a test process.		GLP/ISO record keeping: of measurements with date, time and serial number. Only with SAUTER printers.		Fast-Move: the total length of travel can be covered by a single lever movement.
	Focus function: increases the measuring accuracy of a device within a defined measuring range.		Measuring units: Weighing units can be switched to e.g. non-metric at the touch of a key. Please refer to website for more details.		DAkkS calibration possible: The time required for DAkkS calibration is shown in days in the pictogram.
	Internal memory: to save measurements in the device memory.		Measuring with tolerance range (limit-setting function): Upper and lower limiting can be programmed individually. The process is supported by an audible or visual signal, see the relevant model		Factory calibration: The time required for factory calibration is specified in the pictogram.
	Data interface RS-232: bidirectional, for connection of printer and PC.		ZERO: Resets the display to "0".		Package shipment: The time required for internal shipping preparations is shown in days in the pictogram.
	Data interface USB: To connect the balance to a printer, PC or other peripheral devices.		Battery operation: Ready for battery operation. The battery type is specified for each device.		Pallet shipment: The time required for internal shipping preparations is shown in days in the pictogram.
	Data interface Infrared: To transfer data from the balance to a printer, PC or other peripheral devices.				

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