

Ultrasonic thickness gauges SAUTER TN-EE





Hand-held measuring device for ultrasonic material thickness testing in Echo-Echo principle

Features

- · External sensor
- · Data interface USB, standard
- 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)
- 11 Delivered in a robust carrying case

Technical data

- Measuring precision: 0,5 % of [Max] \pm 0,04 mm
- Dimensions W×D×H 74×32×150 mm
- Battery operation, batteries standard 2× 1.5 V 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

- Data transfer software, USB interface cable included, SAUTER ATU-04
- External sensor, 5 MHz, Ø 10 mm, for echo-echo measuring, SAUTER ATU-US12
- Ultrasound contact gel, standard, can be reordered, approx. 60 ml, SAUTER ATB-US03 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,
 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















Model	Measuring range Echo-Echo	Measuring range Pulse-Echo	Readout	Sensor	Sound velocity	Option Factory calibration certificates	
			[d]				
SAUTER	mm	mm	mm		m/sec	KERN	
TN 30-0.01EE	3-30	0,65-600	0,01	5 MHz Ø 10 mm	1000-9999	961-113	
TN 60-0.01EE	3-60	0,65-600	0,01	5 MHz Ø 10 mm	1000-9999	961-113	

SAUTER CATALOGUE 2021



Pictograms



Adjusting program (CAL):

For quick setting of the instrument's accuracy. External adjusting weight required



Calibration block:

Standard for adjusting or correcting the measuring device



Peak hold function:

Capturing a peak value within a measuring process



Scan mode:

Continuous capture and display of measurements



Push and Pull:

The measuring device can capture tension and compression forces



Length measurement:

Captures the geometric dimensions of a test object or the movement during a test process



Focus function:

Increases the measuring accuracy of a device within a defined measuring range



Internal memory:

To save measurements in the device memory



Data interface RS-232:

Bidirectional, for connection of printer and PC



Profibus:

For transmitting data, e.g. between scales, measuring cells, controllers and peripheral devices over long distances. Suitable for safe, fast, fault-tolerant data transmission. Less susceptible to magnetic interference.



Profinet:

Enables efficient data exchange between decentralised peripheral devices (balances, measuring cells, measuring instruments etc.) and a control unit (controller). Especially advantageous when exchanging complex measured values, device, diagnostic and process information. Savings potential through shorter commissioning times and device integration possible



Data interface USB:

To connect the measuring instrument to a printer, PC or other peripheral devices



Bluetooth* data interface:

To transfer data from the balance/measuring instrument to a printer, PC or other peripherals



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IR

SWITCH

ANALOG

STATISTIC

KCP

valves, etc.

Analogue interface:

Analog output:

4 mA - 20 mA) Statistics:

PC Software:

Printer:

WLAN data interface:

Data interface Infrared:

To connect relays, signal lamps,

To transfer data from the balance/measuring instrument to a printer, PC or other peripherals

To transfer data from the measuring instrument

to a printer, PC or other peripheral devices

Control outputs (optocoupler, digital I/O):

To connect a suitable peripheral device for

analogue processing of the measurements

For output of an electrical signal depending

Using the saved values, the device

calculates statistical data, such as

To transfer the measurement data

to print out the measurement data

from the device to a PC

Network interface:

to an Ethernet network

digital systems

Measuring units:

GLP/ISO record keeping:

average value, standard deviation etc.

A printer can be connected to the device

For connecting the scale/measuring instrument

It is a standardized interface command set for

KERN balances and other instruments, which

parameters and functions of the device. KERN

devices featuring KCP are thus easily integrated

with computers, industrial controllers and other

allows retrieving and controlling all relevant

Of measurement data with date, time and

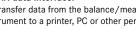
serial number. Only with SAUTER printers

Weighing units can be switched to e.g.

non-metric at the touch of a key. Please

KERN Communication Protocol (KCP):

on the load (e.g. voltage 0 V - 10 V or current





Protection against dust and water

splashes IPxx:

The type of protection is shown in the pictogram.



Resets the display to "0"



Battery operation:

Ready for battery operation. The battery type is specified for each device



Rechargeable battery pack:

Rechargeable set



Mains adapter:

230V/50Hz in standard version for EU. On request GB, AUS or USA version available



Power supply:

Integrated, 230V/50Hz in EU. More standards e.g. GB, AUS or USA on request



Motorised drive:

The mechanical movement is carried out by a electric motor



Motorised drive:

The mechanical movement is carried out by a synchronous motor (stepper)



Fast-Move:

The total length of travel can be covered by a single lever movement



Verification possible:

The time required for verification is specified in the pictogram



DAkkS calibration possible:

The time required for DAkkS calibration is shown in days in the pictogram



Factory calibration: The time required for factory calibration is specified in the pictogram



Package shipment:

The time required for internal shipping preparations is shown in days in the pictogram



Pallet shipment:

The time required for internal shipping preparations is shown in days in the pictogram



PRINTER

refer to website for more details 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

Your KERN specialist dealer:

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