JUMO GmbH & Co. KG
Delivery address: Mackenrodtstraße 14
36039 Fulda, Germany
Postal address: 36035 Fulda, Germany
Phone: +49 661 6003-0
Fax: +49 661 6003-607
Email: mail@jumo.net
Internet: www.jumo.net

JUMO Instrument Co. Ltd.
JUMO House
Temple Bank, Riverway
Harlow, Essex, CM20 2DY, UK
Phone: +44 1279 63 55 33
Fax: +44 1279 62 50 29
Email: sales@jumo.co.uk
Internet: www.jumo.co.uk

JUMO Process Control, Inc.
6733 Myers Road
East Syracuse, NY 13057, USA
Phone: +1 315 437 5866
Fax: +1 315 437 5860
Email: info.us@jumo.net
Internet: www.jumousa.com

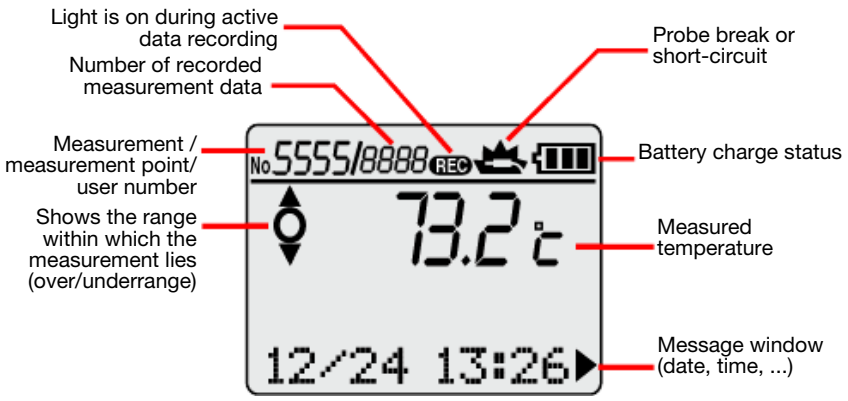
JUMO TDA-300 and JUMO TDA-3000 Handheld Thermometer with data logger

TDA-300 (Type 702540/...)
TDA-3000 (Type 702541/...)

Brief description

TDA-300 and TDA-3000 are handheld digital temperature indicators. They are used together with precision thermocouples or RTDs to measure temperatures on surfaces, in liquids, in melts, and in soft materials.
Interchangeable temperature probes allow rapid adaptation to different applications.
Both instruments feature a data logging function. On Type TDA-3000, the recorded measurement data can be read out via an USB interface. No special PC program is necessary for visualization, since the measurement data are available as ASCII files in CSV format (evaluation via spreadsheet programs).
The plastic housing is proof against shock and breakage and resistant to corrosive substances. Thermometers, temperature probes and accessories are all available for delivery from stock.

Displays



Comparison of models

	TDA-300	TDA-3000
Data logger	99 measurements	9999 measurements
TAG numbers (meas. point designation)	5 (11 characters each)	99 (11 characters each)
User	1	99 (11 characters each)
Interfaces	-	USB, type Mini-B
Enclosure protection	IP67	IP54

Key features

- Measurement input for Pt100, NiCr-Ni K, Fe-Con J and Cu-Con T
- DKD calibration certificate
- Data logger for 9999 measurements
- Simple readout via USB and evaluation of data from a PC (TDA-3000 only)
- Limit monitoring
- Peak/bottom value acquisition
- Battery AA, Mignon LR6, with a long service life

Technical data

Input

Measurement input	RTD Pt100 to EN 60751	Thermocouple NiCr-Ni K to EN 60584	Thermocouple Fe-Con J to EN 60584	Thermocouple Cu-Con T to EN 60584
Range limits - resolution 1 °C - resolution 0.1 °C	 -200 to +850 °C -199.9 to +850.0 °C	 -200 to +1372 °C -199.9 to +999.9 °C	 -200 to +1200 °C -199.9 to +999.9 °C	 -50 to +400 °C -50.0 to +400.0 °C
Measurement offset	-99.9 to +99.9 °C			
Sampling rate	0.5 seconds			
Input filter	1st order digital filter; filter constant adjustable from 0 — 100 seconds			
Unit	°C or °F			

Accuracy

Measurement accuracy of display at 23 °C ambient temperature	±(0.1 % + 1 digit) or ±0.3 °C; the larger value applies			
Accuracy of cold junction (thermocouple only)	-	±0.5 °C for 5 to 40 °C ±1 °C for -20 to +5 °C and for 40 to 50 °C	±0.5 °C for 5 to 40 °C ±1 °C for -20 to +5 °C and for 40 to 50 °C	±0.5 °C for 5 to 40 °C ±1 °C for -20 to +5 °C and for 40 to 50 °C
Accuracy class of temperature probes	Class A	Class 2	Class 2	Class 2

Measuring circuit monitoring

Probe short-circuit, probe/cable break, wrong connection	Symbol in display 

Electrical data

Supply	1 alkaline battery, type LR6 AA
Battery service life	400 hrs continuous operation at 23 °C ambient temperature
Power consumption	10 mW (average value)

Environmental influences

Device type	TDA-300	TDA-3000
Operating temperature range	-20 to +50 °C	
Temperature error	± 0.01 % of measuring span for 5 to 40 °C ambient temperature ± 0.02 % of measuring span for -20 to +5 °C and 40 to 50 °C ambient temperature	
Climatic conditions	rel. humidity ≤ 95 % annual average, no condensation	
Electromagnetic compatibility (EMC) - interference emission - immunity to interference	EN 61326-1 Class B[a] to general requirements	
IP enclosure protection	IP67	IP54

[a] The product is suitable for industrial use as well as for housholds and small businesses.

Housing

Dimensions (W x H x D)	57 x 152 x 46 mm
Weight	approx. 150 g including battery

Display screen

Screen type	FSTN LCD
Display of measured temperature	through 4 digits
Display of memory number	through 4 digits
Display of total number of measured temperatures	through 4 digits
Messages (date, time, ...)	11 characters (68 x 8 pixels)
Data logging info	through symbol; light is on during data recording, flashes when ready for automatic data recording

Probe break/short-circuit	through symbol; light is on when the sensor is not connected or in the event of a break or short-circuit.
Battery charge status	3-stage display
Temperature unit	°C or °F (12 x 8 pixels)

Data logging function

Device type	TDA-300	TDA-3000
Recording type	manual or automatic	
Recording interval	any (manually), 1 — 3600 seconds (automatically)	
Contents of data record	temperature, TAG No. (meas. point designation), user, limits, and date/time	
Recording capacity	99 measurements	9999 measurements
Data storage	in SRAM (volatile memory)	in EEPROM (non-volatile memory)
	Loss of data when battery is discharged or has to be replaced	Data are retained for about 10 years, memory can be rewritten about 100,000 times.

Limit monitoring

Limit monitoring	upper and lower limit can be set for each measurement point
Temperature within the limits	
Temperature above or below the limit	 

Measurement points

Device type	TDA-300	TDA-3000
Number of measurement points	5	99
TAG number (meas. point designation)	consisting of up to 11 characters (digits, letters, and symbols)	

User

Device type	TDA-300	TDA-3000
Number of users	1	99
User names	-	consisting of up to 11 characters (digits, letters, and symbols)

USB interface (Universal Serial Bus) - only for TDA-3000

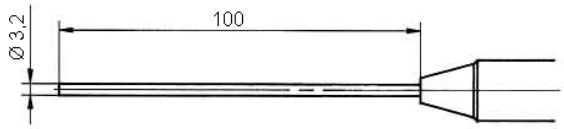
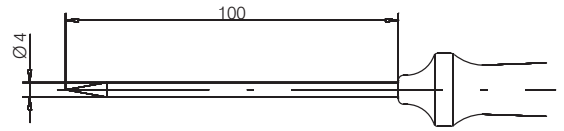
Speed	USB 2.0 (theoretically 12 Mbps max.)
Connection	Mini-B connector
Connecting cable	included in delivery
Supply	via PC
PC operating system	for Windows® 2000, XP, Vista, 7, 8.1, 10 (32-bit and 64-bit)

Additional functions

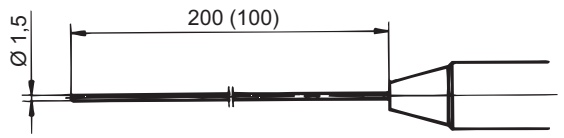
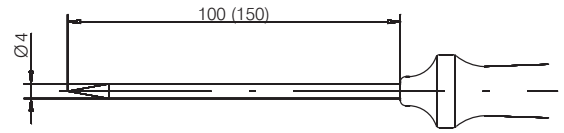
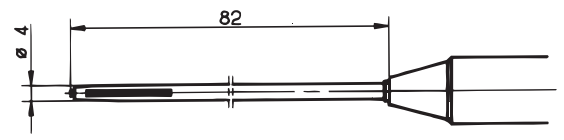
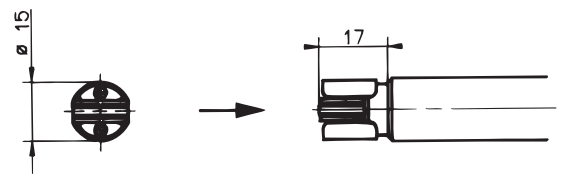
Functions	Peak/bottom value storage, real-time clock (date and time), function locking and self-diagnostics

Temperature probes and adapters

RTD Pt100 with handle and attached connecting cable

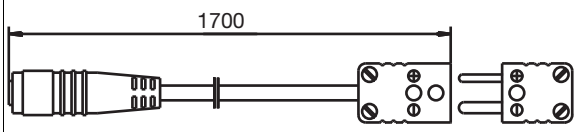
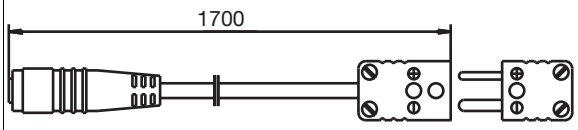
Type	Construction	Description
Immersion probe **702546/01-100**		The immersion probe with handle is particularly suitable for measuring temperatures in liquids. The temperature sensor is located in the probe tip, embedded in a heat transfer compound. The handle, which is provided with an anti-kink spring, is made from temperature-resistant plastic. Max. measurement temperature: 250 °C Max. temperature of handle: 100 °C Max. temperature of cable: 180 °C
Insertion probe **702546/02-100**		Thanks to its measurement tip, this probe is particularly suitable for measuring the core temperature in food and other soft materials. The silicone handle is covered by a protective sleeve and is resistant to corrosive media such as oil and fatty acids. Max. measurement temperature: 250 °C Max. temperature of handle: 180 °C Max. temperature of cable: 180 °C

Thermocouples NiCr-Ni K with handle and attached compensating cable

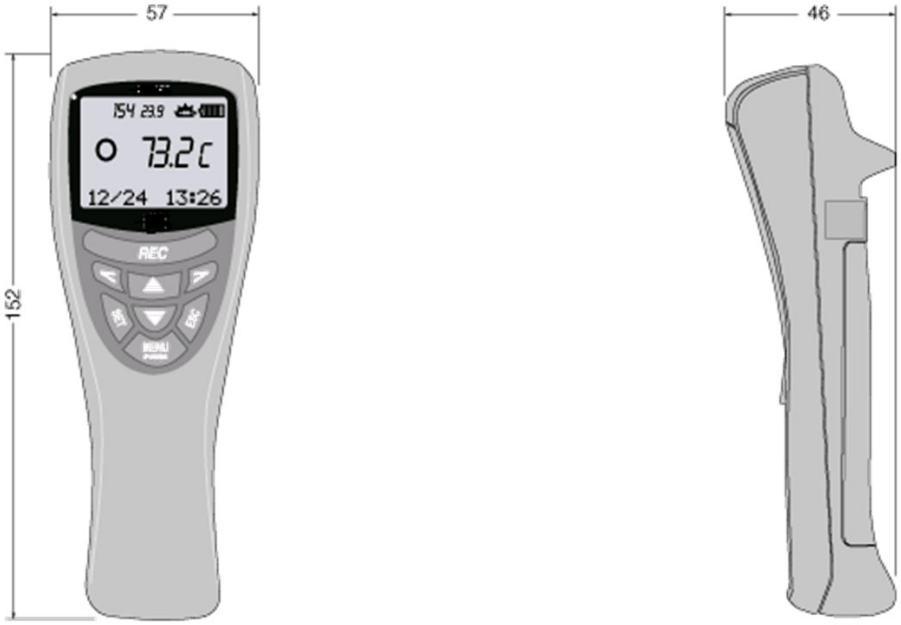
Type	Construction	Description
Flexible immersion probe (mineral-insulated thermocouple) **702545/01-...**		The immersion probe tip is suitable for measuring temperatures in liquids. Max. measurement temperature: 1150 °C Max. temperature of handle: 100 °C Max. temperature of cable: 180 °C
Insertion probe **702545/02-...**		Thanks to its measurement tip, this probe is particularly suitable for measuring the core temperature in food and other soft materials. The silicone handle is covered by a protective sleeve and is resistant to corrosive media such as oil and fatty acids. Max. measurement temperature: 250 °C Max. temperature of handle: 180 °C Max. temperature of cable: 180 °C
Surface probe **702545/03-004**		The surface probe is particularly suitable for measurement on very small and uneven objects with poor heat conduction, for instance electronic components, glass, ceramic. The thermocouple is mounted on a spring plate so that the probe can also be applied obliquely to the surface. Max. measurement temperature: 400 °C Max. temperature of handle: 100 °C Max. temperature of cable: 180 °C
Surface probe **702545/03-015**		This surface probe enables highly accurate and easily reproducible measurements on flat surfaces. Since the spring bands of the probe are transversely linked, the measurements are largely independent of the applied pressure and the contact angle. Max. measurement temperature: 500 °C Max. temperature of handle: 110 °C Max. temperature of cable: 180 °C

The cable length for all probes is about 1500 mm. The insertion probes are protected to IP67.
Probes with type J and T thermocouples on request.

Adapters for existing probes

Type	Diagram	Description
Adapter for RTD Pt100 **702546/04-000**		The adapter is 1700 mm long and can be used in ambient temperatures up to 100 °C. Existing RTDs can be connected up via a connector-coupling combination (type Mini-Flach) in copper.
Adapter for thermocouple type K **702545/04-000**		The adapter is 1700 mm long and can be used in ambient temperatures up to 100 °C. Existing thermocouples can be connected up via a thermal connector-coupling (type Mini-Flach).

Dimensions



Carrying case

Order details: Handheld thermometer with data logger

	(1) Basic version
702540/	TDA-300, Type 702540/88-000
702541/	TDA-3000, Type 702541/88-000

	(1)		(2)		(3)
Order code		/	88	-	000
Order example	702541	/	88	-	000

Order details: Temperature probe and adapter

			(1) Basic version
		702545/	Thermocouple K
		702546/	Pt100 RTD
			(2) Probe type
x	x	01	immersion probe
x	x	02	insertion probe
x		03	surface probe
x	x	04	adapter with 1500mm cable, for existing probes
			(3) probe diameter/length
x	x	000	with probe type 04 only
x		004	4 mm dia. (probe type 03 only)
x		015	15 mm dia. (probe type 03 only)
x	x	100	length: 100 mm (probe types 01 and 02 only)
x		150	length: 150 mm (probe type 02 only)
x		200	length: 200 mm (probe type 01 only)

	(1)		(2)		(3)
Order code		/		-	
Order example	702545	/	01	-	200

Standard accessories

- 1 Operating Manual
- 1 battery
- 1 carrying hook
- 1 USB connecting cable (TDA-3000 only)

Accessories

- Silicone heat transfer compound (20 ml tube, for temperature measurements up to 200 °C, part no. 94091460
- Carrying case for thermometer, two probes, heat transfer compound and accessories, part no. 00453912