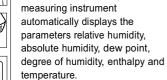


### testo 645, thermohygrometer



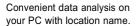
#### testo 645

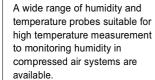




The testo 645 humidity







- Channel 1: Temperature probe Type K/J/S, NTC
- Channel 2: Combi-probe humidity/temperature or temperature probe Pt100
- Highly accurate humidity meas. to ±1%RH
- Internal data memory
- · Convenient data analysis
- TopSafe for tough applications



testo 645, humidity/temperature measuring instrument, with TopSafe, battery and calibration protocol

Part no. 0563 6450



Humidity measurement up to +180 °C in drying systems













umidity probes	Illustration	Meas. range	Accuracy		t <sub>99</sub>	Part no.
Standard ambient air probe up to +70°C	Ø 12 mm	0 to +100 %RH -20 to +70 °C	±2 %RH (+2 to +98 %RH)	$\pm 0.4~^{\circ}\text{C}$ (-10 to +50 $^{\circ}\text{C})$ $\pm 0.5~^{\circ}\text{C}$ (remaining range)	12 s	0636 9740 Conn.: Plug-in head. connection cable 0430 01 or 0430 0145 required
Duct humidity/temperature probe, can be connected to telescopic handle 0430 9715	180 mm Ø 12 mm	0 to +100 %RH -20 to +70 °C	±2 %RH (+2 to +98 %RH)	±0.4 °C (-10 to +50 °C) ±0.5 °C (remaining range)	12 s	0636 9715 Conn.: Fixed cable, 1.5 m
Thin humidity probe incl. 4 attachable protection caps for ambient air measurements, measurements in exhaust air ducts and equilibrium moisture measurements	250 mm Ø 4 mm	0 to +100 %RH -20 to +70 °C	±2 %RH (+2 to +98 %RH)	±0.4 °C (-10 to +50 °C) ±0.5 °C (-20 to -10.1 °C) ±0.5 °C (+50.1 to +70 °C)	15 s	0636 2130 Conn.: Plug-in head. connection cable 0430 01 or 0430 0145 required
Highly accurate reference humidity/temp. probe incl. cal. cert.	Ø 21 mm	0 to +100 %RH -20 to +70 °C	±1 %RH (+10 to +90 %RH)* ±2 %RH (remaining range)	±0.2 °C (+10 to +40 °C) ±0.4 °C (remaining range)	12 s	0636 9741 Conn.: Plug-in head. connection cable 0430 01 or 0430 0145 required
Flexible humidity probe with mini module for meas. e.g. on material testing rigs, module cable length 1500mm, probe tip 50x19x7mm		0 to +100 %RH -20 to +125 °C	±2 %RH (+2 to +98 %RH)	±0.4 °C (-10 to +50 °C) ±0.5 °C (remaining range)	20 s	0628 0013 Conn.: Plug-in head. connection cable 0430 01 or 0430 0145 required
Sword probe for measuring humidity and temperature in stacked material	320 mm 18 mm x 5 mm	0 to +100 %RH -20 to +70 °C	±2 %RH (+2 to +98 %RH)	±0.4 °C (-10 to +50 °C) ±0.5 °C (-20 to -10.1 °C) ±0.5 °C (+50.1 to +70 °C)	12 s	0636 0340 Conn.: Plug-in head. connection cable 0430 0 or 0430 0145 required
High humidity level probe w/ heated sensor element, no humidity on sensor	300 mm Ø 12 mm	0 to +100 %RH -20 to +100 °C	±2.5 %RH (0 to +100 %RH)	±0.4 °C (-10 to +50 °C) ±0.5 °C (-20 to -10.1 °C) ±0.5 °C (+50.1 to +100 °C)	30 s	0636 2142 Conn.: Plug-in head. connection cable 0430 0 or 0430 0145 required
Robust high temperature/humidity probe up to +180°C	300 mm Ø 12 mm	0 to +100 %RH -20 to +180 °C	±2 %RH (+2 to +98 %RH)	±0.4 °C (+0.1 to +50 °C) ±0.5 °C (remaining range)	30 s	0628 0021 Conn.: Plug-in head. connection cable 0430 0 or 0430 0145 required
Flexible humidity probe (does not retain shape) for measurements in inaccessible places	1500 mm Ø 12 mm	0 to +100 %RH -20 to +180 °C	±2 %RH (+2 to +98 %RH)	±0.4 °C (+0.1 to +50 °C) ±0.5 °C (-20 to 0 °C) ±0.5 °C (+50.1 to +180 °C)	30 s	0628 0022 Conn.: Plug-in head. connection cable 0430 0 or 0430 0145 required
Standard pressure dew point probe for measurements in compressed air systems	300 mm	0 to +100 %RH -30 to +50 °C tpd		±0.9 °C tpd (+0.1 to +50 °C tpd) ±1 °C tpd (-4.9 to 0 °C tpd) ±2 °C tpd (-9.9 to -5 °C tpd) ±3 °C tpd (-19.9 to -10 °C tpd) ±4 °C tpd (-30 to -20 °C tpd)	300 s	Conn.: Plug-in head. connection cable 0430 0 or 0430 0145 required
Precision pressure dew point probe for measurements in compressed air systems incl. cert. with test point -40°C tpd	300 mm	0 to +100 %RH -60 to +50 °C tpd		±0.8 °C tpd (-4.9 to +50 °C tpd) ±1 °C tpd (-9.9 to -5 °C tpd) ±2 °C tpd (-19.9 to -10 °C tpd) ±3 °C tpd (-29.9 to -20 °C tpd) ±4 °C tpd (-40 to -30 °C tpd)	300 s	Conn.: Plug-in head. connection cable 0430 0 or 0430 0145 required
Flexible humidity probe (retains shape) for measurements at inaccessible points	450 mm	0 to +100 %RH -20 to +125 °C	±2 %RH (+2 to +98 %RH)	±0.4 °C (-10 to +50 °C) ±0.5 °C (-20 to -10.1 °C) ±0.5 °C (+50.1 to +125 °C)	30 s	0628 0014 Conn.: Plug-in head. connection cable 0430 0 or 0430 0145 required

Further probes see testo 650 (humidity) and testo 950 (temperature)



#### Sets, practical accessories and technical data, testo 645

# Ordering suggestion: The set for industrial humidity measurement

testo 645, humidity/temperature measuring instrument, with TopSafe, battery and calibration protocol Robust humidity probe e.g. for measuring equilibrium moisture or for measurements in exhaust ducts to +120°C

Fast-action surface probe with sprung thermocouple strip, also for uneven surfaces, measurement range short-term to +500°C, TC Type K

Cable, 1.5 m long, connects probe with plug-in head to meas. instrument

Cable, 1.5 m long, connects probe with plug-in head to meas. instrument

Transport case (plastic) for measuring instrument, probes and accessories

Part no. 0563 6452

## Ordering suggestion: Precision set ( $\pm$ 1% RH) up to $\pm$ 0.23 °C

 $testo\ 645, humidity/temperature\ measuring\ instrument, with\ TopSafe,\ battery\ and\ calibration\ protocol$ 

Highly accurate reference humidity/temp. probe incl. cal. cert.

Precision air probe

Cable, 1.5 m long, connects probe with plug-in head to meas. instrument

Cable, 1.5 m long, connects probe with plug-in head to meas. instrument

Transport case (plastic) for measuring instrument, probes and accessories

Part no. 0563 6453

## Ordering suggestion: The set for monitoring humidity in compressed air systems

testo 645, humidity/temperature measuring instrument, with TopSafe, battery and calibration protocol Standard pressure dew point probe for measurements in compressed air systems

Quick-action surface probe with sprung thermocouple strip, measuring range short-term to  $+500^{\circ}\text{C}$ 

Cable, 1.5 m long, connects probe with plug-in head to meas. instrument  $% \left( 1.5\right) =1.00$ 

Cable, 1.5 m long, connects probe with plug-in head to meas. instrument

Transport case (plastic) for measuring instrument, probes and accessories

Part no. 0563 6454

Technical data		
Probe type	Testo humid. sensor, cap.	NTC
Meas. range Temperature	0 to +100 %RH	-50 to +150 °C
Accuracy ±1 digit	See probe data	
Resolution	0.1 %RH (0 to +100 %RH)	0.1 °C (-50 to +150 °C)
Probe type	Pt100	Type K (NiCr-Ni)
Meas. range Temperature	-200 to +800 °C	-200 to +1370 °C
Accuracy ±1 digit at +22 °C	±0.1% of mv (+200.1 to +800 °C) ±0.2 °C (-200 to +200 °C)	±0.5% of mv (+60 to +1370 °C) ±0.3 °C (-200 to +59.9 °C)
Resolution	0.1 °C (-200 to +800 °C)	0.1 °C (-200 to +1370 °C)
Probe type	Type S (Pt10Rh-Pt)	Type J (Fe-CuNi)
Meas. range Temperature	-50 to +1700 °C	-40 to +750 °C

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Accessories Transport and protection	Part no.
Transport case (plastic) for measuring instrument, probes and accessories – now larger for safe and orderly storage	0516 0445
Further accessories and spare parts	Part no.
Desk-top power supply with international connection options	0554 1143
9V rech. battery for instrument instead of battery	0515 0025
Cable, 1.5 m long, connects probe with plug-in head to meas. instrument PUR coating material	0430 0143
Extension cable, 5 m long, between plug-in head cable and instrument PUR coating material	0409 0063
Telescopic handle, 340 - 800 mm long, for 0636 9715 probe	0430 9715
Adapter for surface humidity measurement, for humidity probes Ø 12mm locates damp spots on walls, for example	0628 0012
Cap for bore holes, for humidity probe Ø 12 mm Measures equilibrium moisture in bore holes	0554 2140
testo saline pots for control and humidity adjustment of humidity probes, 11.3 %RH/75.3 %RH with adapter for humidity probes	0554 0660
Teflon sintered filter, Ø 12 mm, for corrosive substances high humidity range (long-term measurements), high velocities	0554 0756
Stainless steel sintered cap, Ø 12 mm, is screwed onto humidity probe for measurements at high flow velocities or in contaminated air	0554 0647
Printer and Accessories	Part no.
	0554 0547
thermal paper and 4 AA batteries Fast testo 575 printer, incl. 1 roll of thermal paper and batteries	0554 0547 0554 1775
thermal paper and 4 AA batteries  Fast testo 575 printer, incl. 1 roll of thermal paper and batteries infrared thermal line printer with graphics function  External fast charger for 1-4 AA rech. batteries, incl. 4 Ni-MH rech. batteries with individual cell charging and charge control display, incl. impulse trickle charging, intecrated discharge function, with	0554 1775
thermal paper and 4 AA batteries  Fast testo 575 printer, incl. 1 roll of thermal paper and batteries infrared thermal line printer with graphics function  External fast charger for 1-4 AA rech. batteries, ind. 4 Ni-MH rech. batteries with individual cell charging and charge control display, incl. impulse trickle charging, integrated discharge function, with built-in international mains plug, 100-240 V, 300 mA, 50/60 Hz	0554 1775
thermal paper and 4 AA batteries  Fast testo 575 printer, incl. 1 noll of thermal paper and batteries  infrared thermal line printer with graphics function  External fast charger for 1-4 AA rech. batteries, incl. 4 Ni-MH rech.  batteries with individual cell charging and charge control display,  incl. impulse trickle charging, integrated discharge function, with  built-in international mains plug, 100-240 V, 300 mA, 50/60 Hz  Spare thermal paper for printer (6 rolls)  Spare thermal paper for printer (6 rolls), measurement data	0554 1775
thermal paper and 4 AA batteries  Fast testo 575 printer, incl. 1 roll of thermal paper and batteries infrared thermal line printer with graphics function  External fast charger for 1-4 AA rech. batteries, incl. 4 Ni-MH rech. batteries with individual cell charging and charge control display, incl. impulse trickle charging, integrated discharge function, with built-in international mains plug, 100-240 V, 300 mA, 50/60 Hz  Spare thermal paper for printer (6 rolls)  Spare thermal paper for printer (7 rolls), measurement data documentation legible for up to 10 years  Label thermal paper (Testo patent) for testo 575 printer (6 rolls),	0554 1775 0554 0610 0554 0569
thermal paper and 4 AA batteries  Fast testo 575 printer, incl. 1 roll of thermal paper and batteries infrared thermal line printer with graphics function  External fast charger for 1-4 AA rech. batteries, incl. 4 Ni-MH rech. batteries with individual cell charging and charge control display, incl. impulse trickle charging, integrated discharge function, with built-in international mains plug, 100-240 V, 300 mA, 50/60 Hz  Spare thermal paper for printer (6 rolls), measurement data documentation legible for up to 10 years  Label thermal paper (Testo patent) for testo 575 printer (6 rolls), can be applied directly	0554 1775 0554 0610 0554 0569 0554 0568
thermal paper and 4 AA batteries  Fast testo 575 printer, incl. 1 roll of thermal paper and batteries infrared thermal line printer with graphics function  External fast charger for 1-4 AA rech. batteries, incl. 4 Ni-MH rech. batteries with individual cell charging and charge control display, incl. impulse trickle charging, integrated discharge function, with built-in international mains plug, 100-240 V, 300 mA, 50/60 Hz  Spare thermal paper for printer (6 rolls), measurement data documentation legible for up to 10 years  Label thermal paper (Testo patent) for testo 575 printer (6 rolls), can be applied directly  Software and Accessories  ComSoft 3 - Professional with data management incl. database,	0554 1775 0554 0610 0554 0569 0554 0568 0554 0561
thermal paper and 4 AA batteries  Fast testo 575 printer, incl. 1 roll of thermal paper and batteries infrared thermal line printer with graphics function  External fast charger for 1-4 AA rech. batteries, ind. 4 Ni-MH rech. batteries with individual cell charging and charge control display, incl. impulse trickle charging, integrated discharge function, with built-in international mains plug, 100-240 V, 300 mA, 50/60 Hz  Spare thermal paper for printer (6 rolls)  Spare thermal paper for printer (6 rolls), measurement data documentation legible for up to 10 years  Label thermal paper (Testo patent) for testo 575 printer (6 rolls), can be applied directly  Software and Accessories  ComSoft 3 - Professional with data management incl. database, analysis and graphics function, data analysis, trend curve	0554 1775 0554 0610 0554 0569 0554 0568 0554 0561 Part no.
thermal paper and 4 AA batteries  Fast testo 575 printer, incl. 1 roll of thermal paper and batteries infrared thermal line printer with graphics function  External fast charger for 1-4 AA rech. batteries, ind. 4 Ni-MH rech. batteries with individual cell charging and charge control display, incl. impulse trickle charging, integrated discharge function, with built-in international mains plug, 100-240 V, 300 mA, 50/60 Hz  Spare thermal paper for printer (6 rolls)  Spare thermal paper for printer (6 rolls), measurement data documentation legible for up to 10 years  Label thermal paper (Testo patent) for testo 575 printer (6 rolls), can be applied directly  Software and Accessories  ComSoft 3 - Professional with data management incl. database, analysis and graphics function, data analysis, trend curve  RS232 cable, connects instrument to PC (1.8 m) for data transfer	0554 1775 0554 0610 0554 0669 0554 0568 0554 0561 Part no.
Testo printer with wireless IRDA and infrared interface, 1 roll of thermal paper and 4 AA batteries  Fast testo 575 printer, incl. 1 roll of thermal paper and batteries infrared thermal line printer with graphics function  External fast charger for 1-4 AA rech. batteries, ind. 4 Ni-MH rech. batteries with individual cell charging and charge control display, incl. impulse trickle charging, integrated discharge function, with built-in international mains plug, 100-240 V, 300 mA, 50/60 Hz  Spare thermal paper for printer (6 rolls)  Spare thermal paper for printer (6 rolls), measurement data documentation legible for up to 10 years  Label thermal paper (Testo patent) for testo 575 printer (6 rolls), can be applied directly  Software and Accessories  ComSoft 3 - Professional with data management incl. database, analysis and graphics function, data analysis, trend curve  RS232 cable, connects instrument to PC (1.8 m) for data transfer  Calibration Certificates  ISO calibration certificate humidity: electronic hygrometers; calibration points 11.3 %RH and 75.3 %RH at +25°C	0554 1775 0554 0610 0554 0669 0554 0568 0554 0561 Part no. 0554 0830

Technical data			
Oper. temp.	0 to +50 °C	Weight	255 g
Storage temp.	-20 to +70 °C	Dimensions	215 x 68 x 47 mm
Display	LCD, 4 lines	Material/Housing	ABS
Battery type	Alkali manganese	Warranty	2 years
Battery life	45 h		

Typical battery life: 9 V block (Al-Mn) 20-45 h
With 9 V rech.battery, the number or hours is reduced by a factor of 5
Calculated humidity parameters: td, td, g/m³, g/kg, J/g (pressure compensated)
Mains connection and battery charging in instrument