

Temperature measuring instrument (3-channel)

testo 735 - Highest accuracy thanks to system adjustment



Highest precision over the entire measuring range thanks to system adjustment

System accuracy up to 0.05 °C

Display, storage and print-out of Delta T, min., max. and mean values

Audible alarm (adjustable limit values)

Cyclic printing of measurement values, e.g. once per minute

Protection class IP65

Certified according to EN 13485



The robust and compact measuring instrument testo 735 is universally applicable and is available in two versions:

testo 735-1: Precise temperature measuring instrument without measurement value store

testo 735-2: Precise temperature measuring instrument with measurement value store (10,000 values) PC software and USB data transfer cable

The instrument has a probe input for highly accurate Pt100 probes and two inputs for fast thermocouple probes. The measurement values from up to three further temperature probes can be shown in the clear measuring instrument

display wirelessly, i. e. using measurement data transfer by radio. A system accuracy of 0.05 °C at a resolution of 0.001 °C is achieved using the highly accurate plug-in Pt100 immersion/penetration probe.

The measurement system is thus ideal for use as a working standard. Selectable user profiles, i.e. programming of the buttons adapted to the application, enable intuitive and fast operation.

Technical data

testo 735-1

testo 735-1, 3 channel temperature measuring instrument T/C Type K/T/J/S/Pt100, audible alarm, connection for max. 3 optional radio probes, incl. battery and calibration protocol

Part no. 0560 7351



General technical data

| | |
|-----------------------|-----------------------------------|
| Operating temperature | -20 to +50 °C |
| Storage temperature | -30 to +70 °C |
| Battery type | Alkali manganese, mignon, Type AA |
| Protection class | IP65 |
| Dimensions | 220 x 74 x 46 mm |
| Weight | 428 g |
| Housing material | ABS/TPE/Metal |
| Warranty | 2 years |
| Standard | EN 13485 |

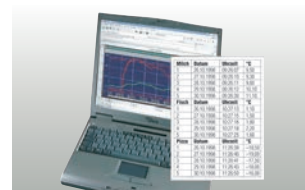
testo 735-2

testo 735-2, 3 channel temp. meas. instr. T/C Type K/T/J/S/Pt100, audible alarm, connection for max. 3 optional radio probes, with readings memory, PC software and USB data transmission cable, with battery and calibration protocol

Part no. 0563 7352



Wireless measurement with radio probes for air/immersion/penetration measurement



Analyze and document measurement values by measurement site with PC software (included in delivery of testo 735-2)

| Sensor type | Measuring range | Accuracy ± 1 digit | Resolution | Battery life |
|----------------------------|------------------|---|--|---------------|
| Pt100 with probe 0614 0235 | -40 to +300 °C | See probe data | 0.001 °C (-40 to +199.999 °C) 0.01 °C (remaining range) | Approx. 60 h |
| Pt100 | -200 to +800 °C | ± 0.2 °C (-100 to +199.9 °C) $\pm 0.2\%$ of mv (remaining range) | 0.05 °C | Approx. 250 h |
| Type K (NiCr-Ni) | -200 to +1370 °C | ± 0.3 °C (-60 to +60 °C) $\pm (0.2$ °C + 0.3% of mv) (remaining range) | 0.1 °C | Approx. 300 h |
| Type T (Cu-CuNi) | -200 to +400 °C | ± 0.3 °C (-60 to +60 °C) $\pm (0.2$ °C + 0.3% of mv) (remaining range) | 0.1 °C | Approx. 300 h |
| Type J (Fe-CuNi) | -200 to +1000 °C | ± 0.3 °C (-60 to +60 °C) $\pm (0.2$ °C + 0.3% of mv) (remaining range) | 0.1 °C | Approx. 300 h |
| Type S (Pt10Rh-Pt) | 0 to +1760 °C | ± 1 °C (0 to +1760 °C) | 1 °C | Approx. 300 h |

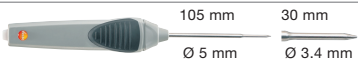
Accessories

| Accessories for measuring instrument | Part no. |
|--|-----------|
| Plug-in mains adapter, 5 VDC 500 mA with European adapter, 100-250 VAC, 50-60 Hz | 0554 0447 |
| Radio module for upgrading measuring instrument with radio option | |
| Radio module for measuring instrument, 869.85 MHz, approval for the countries: DE, FR, UK, BE, NL, ES, IT, SE, AT, DK, FI, HU, CZ, PL, GR, CH, PT, SI, MT, CY, SK, LU, EE, LT, IE, LV, NO | 0554 0188 |
| Radio module for measuring instrument, 915.00 MHz FSK, approval for USA, CA, CL | 0554 0190 |
| Printer and Accessories | |
| Testo fast printer IRDA with wireless infrared interface; 1 roll thermal paper; 4 AA batteries | 0554 0549 |
| Spare thermal paper for printer (6 rolls), permanent ink measurement data documentation legible for up to 10 years | 0554 0568 |
| 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 | 0554 0610 |
| Transport and Protection | |
| Service case for basic equipment of measuring instrument and probes, dimensions: 400 x 310 x 96 mm | 0516 0035 |
| Other features | |
| Handle for attachable measurement tips, applicable for all Testo probes with miniature thermocouple plugs | 0409 1092 |
| Extension cable, 5m, for thermocouple probe Type K | 0554 0592 |
| Silicone heat paste (14g), Tmax = +260°C, improves heat transfer in surface probes | 0554 0004 |
| Calibration Certificates | |
| ISO calibration certificate/temperature for air/immersion probes, calibration points -18°C; 0°C; +60°C | 0520 0001 |
| ISO calibration certificate/temperature meas. instr. with air/immersion probe; cal. points 0°C; +150°C; +300°C | 0520 0021 |
| ISO calibration certificate/temperature meas. instr. with surface probe; calibration points +60°C; +120°C; +180°C | 0520 0071 |
| DAkkS calibration certificate/temperature meas. instr. with air/immersion probe; calibration points -20 °C; 0 °C; +60 °C | 0520 0211 |
| DAkkS calibration certificate/temperature contact surface temperature probes; calibration points +100°C; +200°C; +300°C | 0520 0271 |
| 4-point adjustment incl. ISO calibration certificate , calibration points freely selectable for probe 0614 0235 | 0520 0142 |
| 4-point adjustment incl. DAkkS calibration certificate, calibration points freely selectable for probe 0614 0235 | 0520 0241 |
| Calibration certificates incl. adjustment for testo 735-2 | |
| 2-point adjustment incl. ISO calibration certificate, calibration points freely selectable | 0520 0178 |
| 4-point adjustment incl. ISO calibration certificate , calibration points freely selectable | 0520 0142 |
| 2-point adjustment incl. DAkkS calibration certificate, calibration points freely selectable | 0520 0278 |
| 4-point adjustment incl. DAkkS calibration certificate, calibration points freely selectable | 0520 0241 |

Radio probes

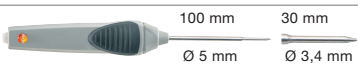
Radio probes for immersion/penetration measurements

Part no.

| Radio immersion/penetration probe, NTC, approval for the countries: DE, FR, UK, BE, NL, ES, IT, SE, AT, DK, FI, HU, CZ, PL, GR, CH, PT, SI, MT, CY, SK, LU, EE, LT, IE, LV, NO; Radio freq. 869.85 MHz FSK | | | | | 0613 1001 | |
|--|-----------------|---|------------|------------------------------------|-----------|--|
| Radio immersion/penetration probe, NTC, approval for USA, CA, CL; Radio freq. 915.00 MHz FSK | | | | | 0613 1002 | |
| Dimensions Probe shaft/probe shaft tip | Measuring range | Accuracy | Resolution | t ₉₉ | | |
|  | -50 to +275 °C | ±0.5 °C (-20 to +80 °C) ±0.8 °C (-50 to -20.1 °C) ±0.8 °C (+80.1 to +200 °C) ±1.5 °C (remaining range) | 0.1 °C | t ₉₉ (in water) 12 s | | |

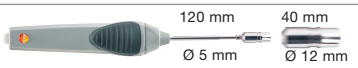
Radio handles with probe head for air-/ immersion-penetration-meas.

Part no.

| Radio handle for plug-in probe heads, incl. T/C adapter, approval for the countries: DE, FR, UK, BE, NL, ES, IT, SE, AT, DK, FI, HU, CZ, PL, GR, CH, PT, SI, MT, CY, SK, LU, EE, LT, IE, LV, NO; Radio freq. 869.85 MHz FSK | | | | | 0554 0189 | |
|---|---|---|---|------------------------------------|-----------|--|
| T/C probe head for air/immersion/penetration measurement (T/C Type K) | | | | | 0602 0293 | |
| Radio handle for plug-in probe heads, incl. T/C adapter, approval for USA, CA, CL; Radio freq. 915.00 MHz FSK | | | | | 0554 0191 | |
| T/C probe head for air/immersion/penetration measurement (T/C Type K) | | | | | 0602 0293 | |
| Dimensions Probe shaft/probe shaft tip | Measuring range | Accuracy | Resolution | t ₉₉ | | |
|  | -50 to +350 °C Short-term to +500 °C | Radio handle: ±(0.5 °C +0.3% of m.v.) (-40 to +500 °C) ±(0.7 °C +0.5% of m.v.) (remaining range) T/C probe head: Class 2 | 0.1 °C (-50 to +199.9 °C) 1.0 °C (remaining range) | t ₉₉ (in water) 10 s | | |


Radio handles with probe head for surface measurement

Part no.

| Radio handle for plug-in probe heads, incl. T/C adapter, approval for the countries: DE, FR, UK, BE, NL, ES, IT, SE, AT, DK, FI, HU, CZ, PL, GR, CH, PT, SI, MT, CY, SK, LU, EE, LT, IE, LV, NO; Radio freq. 869.85 MHz FSK | | | | | 0554 0189 | |
|---|---|---|---|-----------------|-----------|--|
| T/C probe head for surface measurement (T/C Type K) | | | | | 0602 0394 | |
| Radio handle for plug-in probe heads, incl. T/C adapter, approval for USA, CA, CL; Radio freq. 915.00 MHz FSK | | | | | 0554 0191 | |
| T/C probe head for surface measurement (T/C Type K) | | | | | 0602 0394 | |
| Dimensions Probe shaft/probe shaft tip | Measuring range | Accuracy | Resolution | t ₉₉ | | |
|  | -50 to +350 °C Short-term to +500 °C | Radio handle: ±(0.5 °C +0.3% of m.v.) (-40 to +500 °C) ±(0.7 °C +0.5% of m.v.) (remaining range) T/C probe head: Class 2 | 0.1 °C (-50 to +199.9 °C) 1.0 °C (remaining range) | 5 s | | |

Radio handles for attachable T/C probes

Part no.

| Radio handle for plug-in probe heads, incl. T/C adapter, approval for the countries: DE, FR, UK, BE, NL, ES, IT, SE, AT, DK, FI, HU, CZ, PL, GR, CH, PT, SI, MT, CY, SK, LU, EE, LT, IE, LV, NO ; Radio freq. 869.85 MHz FSK | | | | | 0554 0189 | |
|--|-----------------|---|---|--|-----------|--|
| Radio handle for plug-in probe heads, incl. T/C adapter, approval for USA, CA, CL; Radio freq. 915.00 MHz FSK | | | | | 0554 0191 | |
| Illustration | Measuring range | Accuracy | Resolution | | | |
|  | -50 to +1000 °C | ±(0.7 °C +0.3% of m.v.) (-40 to +900 °C) ±(0.9 °C +0.5% of m.v.) (remaining range) | 0.1 °C (-50 to +199.9 °C) 1.0 °C (remaining range) | | | |

Technical data Radio probes

Radio immersion/penetration probe, NTC

| | |
|--------------|--|
| Battery type | 2 x 3V button cell (CR 2032) |
| Battery life | 150 h (meas. rate 0.5 s) 2 months (meas. rate 10 s) |

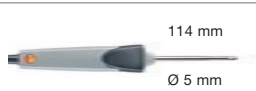

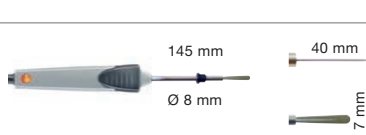

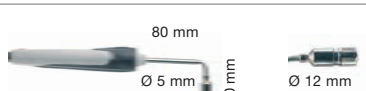
Radio handle

| | |
|--------------|--|
| Battery type | 2 AAA micro batteries |
| Battery life | 215 h (meas. rate 0.5 s) 6 months (meas. rate 10 s) |

Common Technical Data

| | |
|-----------------------|-------------------------------------|
| Measuring rate | 0.5 s or 10 s, adjustable on handle |
| Radio coverage | Up to 20 m (without obstructions) |
| Radio transmission | Unidirectional |
| Operating temperature | -20 to +50 °C |
| Storage temperature | -40 to +70 °C |





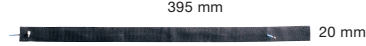

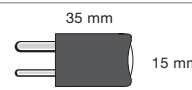


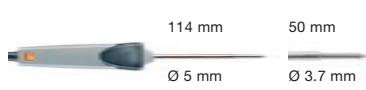
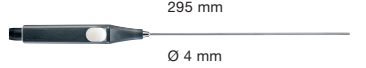
Probes

| Probe type | Dimensions Probe shaft/probe shaft tip | Measuring range | Accuracy | t ₉₉ | Part no. |
|--|---|-----------------|--|--|-----------|
| Laboratory probes | | | | | |
| Laboratory probe Pt100, glass-coated, exchangeable glass pipe (Duran 50), resistant to corrosive substances, Fixed cable |  | -50 to +400 °C | Class A (-50 to +300 °C), Class B (remaining range) ¹⁾ | 45 s 12 s Without protective glass | 0609 7072 |
| Air probes | | | | | |
| Robust air probe, T/C Type K, Fixed cable |  | -60 to +400 °C | Class 2 ²⁾ | 25 s | 0602 1793 |
| Efficient, robust air probe, Pt100, Fixed cable |  | -50 to +400 °C | Class A (-50 to +300 °C), Class B (remaining range) ¹⁾ | 70 s | 0609 1773 |
| Robust, affordable air probe, T/C Type T, Fixed cable 1.2 m |  | -50 to +350 °C | ±0.2 °C (-20 to +70 °C) Class 1 (remaining range) ²⁾ | 25 s | 0603 1793 |
| Surface probes | | | | | |
| Robust, waterproof surface temperature probe, Pt100, Fixed cable |  | -50 to +400 °C | Class B ¹⁾ | 40 s | 0609 1973 |
| Fast-action surface probe with sprung thermocouple strip, also for uneven surfaces, measurement range short-term to +500°C, TC Type K, Fixed cable |  | -60 to +300 °C | Class 2 ²⁾ | 3 s | 0602 0393 |
| Fast-reaction paddle surface probe, for measurements in inaccessible places, e.g. narrow apertures and slots, TC Type K, Fixed cable |  | 0 to +300 °C | Class 2 ²⁾ | 5 s | 0602 0193 |
| Efficient, waterproof surface probe with small measurement head for flat surfaces, TC Type K, Fixed cable |  | -60 to +1000 °C | Class 1 ²⁾ | 20 s | 0602 0693 |
| Fast-action surface probe with sprung thermocouple strip, bent, also for uneven surfaces, measurement range short-term to +500°C, TC Type K, Fixed cable |  | -60 to +300 °C | Class 2 ²⁾ | 3 s | 0602 0993 |

1) According to standard 60751, the accuracies of Class A and B refer to -200 to +600 °C (Pt100)

2) According to standard EN 60584-2, the accuracy of Class 1 refers to -40 to +1000 °C (Type K), Class 2 to -40 to +1200 °C (Type K), Class 3 to -200 to +40 °C (Type K). A probe always corresponds to only **one** accuracy class.

Probes

| Probe type | Dimensions Probe shaft/probe shaft tip | Measuring range | Accuracy | t ₉₉ | Part no. |
|--|---|--------------------|---|-----------------|-----------|
| Surface probes | | | | | |
| Flat head surface probe with telescopic handle max. 680 mm for measurements at hard-to-access points, TC Type K, Fixed cable 1.6 m (correspondingly shorter when telescope extended) |  | -50 to +250 °C | Class 2 ²⁾ | 3 s | 0602 2394 |
| Magnetic probe, adhesive force approx. 20 N, with magnets, for measurements on metal surfaces, TC Type K, Fixed cable |  | -50 to +170 °C | Class 2 ²⁾ | 150 s | 0602 4792 |
| Magnetic probe, adhesive force approx. 10 N, with magnets, for higher temp., for measurements on metal surfaces, TC Type K, Fixed cable |  | -50 to +400 °C | Class 2 ²⁾ | | 0602 4892 |
| Waterproof surface probe with widened measurement tip for flat surfaces, T/C Type K, Fixed cable |  | -60 to +400 °C | Class 2 ²⁾ | 30 s | 0602 1993 |
| Pipe wrap probe with velcro strip; for temperature measurement on pipes with diameter up to max. 120 mm; Tmax. +120 °C; TC Type K, Fixed cable |  | -50 to +120 °C | Class 1 ²⁾ | 90 s | 0628 0020 |
| Pipe wrap probe for pipe diameter 5 to 65 mm, with exchangeable measuring head. Meas. range short-term up to +280°C, TC Type K, Fixed cable |  | -60 to +130 °C | Class 2 ²⁾ | 5 s | 0602 4592 |
| Spare meas. head for pipe wrap probe, TC Type K |  | -60 to +130 °C | Class 2 ²⁾ | 5 s | 0602 0092 |
| Clamp probe for measurements on pipes, pipe diameter 15 to 25 mm (max. 1"), meas. range short-term up to +130°C, TC Type K, Fixed cable |  | -50 to +100 °C | Class 2 ²⁾ | 5 s | 0602 4692 |
| Waterproof surface probe with widened measurement tip for flat surfaces, T/C Type T, Fixed cable 1.2 m |  | -50 to +350 °C | ±0.2 °C (-20 to +70 °C) Class 1 (remaining range) ²⁾ | 30 s | 0603 1993 |
| Immers./penetr. probes | | | | | |
| Robust, waterproof Pt100 immersion/penetration probe, Fixed cable |  | -50 to +400 °C | Class A (-50 to +300 °C), Class B (remaining range) ¹⁾ | 12 s | 0609 1273 |
| Highly accurate Pt100 immersion/penetration probe incl. calibration protocol (test points 0 °C and +157 °C), Fixed cable |  | -40 to +300 °C | ±0.05 °C (0 to +100 °C) ±(0.05 °C +0.05% of mv) (remaining range) | 60 s | 0614 0235 |


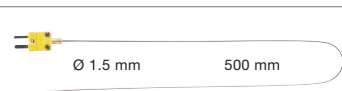


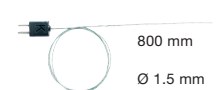
1) According to standard 60751, the accuracies of Class A and B refer to -200 to +600 °C (Pt100)

2) According to standard EN 60584-2, the accuracy of Class 1 refers to -40 to +1000 °C (Type K), Class 2 to -40 to +1200 °C (Type K), Class 3 to -200 to +40 °C (Type K). A probe always corresponds to only **one** accuracy class.

Information on surface measurement:






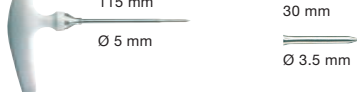
- The response times t₉₉ stated are measured on ground steel or aluminium plates at +60 °C.
- The stated accuracies are sensor accuracies.
- The accuracy in your application is dependent on the surface structure (roughness), material of the measurement object (heat capacity and heat transfer), as well as sensor accuracy. Testo creates a corresponding calibration certificate for the deviations of your measurement system in your application. For this purpose, Testo uses a surface test bench developed in cooperation with the PTB (Physikalisch Technische Bundesanstalt).

Probes

| Probe type | Dimensions Probe shaft/probe shaft tip | Measuring range | Accuracy | t ₉₉ | Part no. |
|--|---|------------------|-----------------------|-----------------|-----------|
| Immers./penetr. probes | | | | | |
| Efficient and fast-action immersion probe, waterproof, TC Type K, Fixed cable |  | -60 to +1000 °C | Class 1 ²⁾ | 2 s | 0602 0593 |
| Fast-action, waterproof immersion/penetration probe, TC Type K, Fixed cable |  | -60 to +800 °C | Class 1 ²⁾ | 3 s | 0602 2693 |
| Immersion tip, flexible, TC Type K |  | -200 to +1000 °C | Class 1 ²⁾ | 5 s | 0602 5792 |
| Immersion tip, flexible, TC Type K |  | -200 to +40 °C | Class 3 ²⁾ | 5 s | 0602 5793 |
| Immersion measurement tip, flexible, for measurements in air/exhaust gases (not suitable for measurements in smelters), TC Type K |  | -200 to +1300 °C | Class 1 ²⁾ | 4 s | 0602 5693 |
| Waterproof immersion/penetration probe, TC Type K, Fixed cable |  | -60 to +400 °C | Class 2 ²⁾ | 7 s | 0602 1293 |
| Flexible, low-mass immersion measurement tip, ideal for measurements in small volumes such as petri dishes, or for surface measurements (e.g. attached with adhesive tape), TC Type K, 2 m, FEP insulated thermal wire, temperature proof up to 200 °C, oval wire with dimensions: 2.2 mm x 1.4 mm |  | -200 to +1000 °C | Class 1 ²⁾ | 1 s | 0602 0493 |
| Thermocouples | | | | | |
| Thermocouple with TC adapter, flexible, 800mm long, fibre glass, TC Type K |  | -50 to +400 °C | Class 2 ²⁾ | 5 s | 0602 0644 |
| Thermocouple with TC adapter, flexible, 1500mm long, fibre glass, TC Type K |  | -50 to +400 °C | Class 2 ²⁾ | 5 s | 0602 0645 |
| Thermocouple with TC adapter, flexible, 1500mm long, PTFE, TC Type K |  | -50 to +250 °C | Class 2 ²⁾ | 5 s | 0602 0646 |

²⁾ According to standard EN 60584-2, the accuracy of Class 1 refers to -40 to +1000 °C (Type K), Class 2 to -40 to +1200 °C (Type K), Class 3 to -200 to +40 °C (Type K). A probe always corresponds to only **one** accuracy class.

Probes

| Probe type | Dimensions Probe shaft/probe shaft tip | Measuring range | Accuracy | t ₉₉ | Part no. |
|--|---|-----------------|--|-----------------|-----------|
| Food probes | | | | | |
| Robust, Pt100 stainless steel food probe (IP65), Fixed cable |  125 mm 15 mm Ø 4 mm Ø 3 mm | -50 to +400 °C | Class A (-50 to +300 °C), Class B (remaining range) ¹⁾ | 10 s | 0609 2272 |
| Waterproof food probe made of stainless steel (IP65), TC Type K, Fixed cable |  125 mm 30 mm Ø 4 mm Ø 3.2 mm | -60 to +400 °C | Class 2 ²⁾ | 7 s | 0602 2292 |
| Waterproof super-fast needle probe, highly accurate measurements without visible penetration hole. Specially for food, ideal for hamburgers, steaks, pizza, eggs etc., T/C Type K, Fixed cable |  150 mm 15 mm Ø 1.4 mm Ø 1 mm | -60 to +250 °C | Class 1 ²⁾ | 1s | 0628 0026 |
| Waterproof robust immersion/penetration probe with metal protection hose Tmax +230 °C, e.g. for monitoring temp. in cooking oil, T/C Type K, Fixed cable |  240 mm Ø 4 mm | -50 to +230 °C | Class 1 ²⁾ | 15 s | 0628 1292 |
| Stable, robust surface probe with PTFE standing area and metal protection hose Tmax +230 °C for cooking surfaces, heating and baking trays, T/C Type K, Fixed cable |  120 mm Ø 60 mm | -50 to +230 °C | Class 2 ²⁾ | 45 s | 0628 9992 |
| Robust food penetration probe with special handle, reinforced cable (PVC), T/C Type T, Fixed cable |  115 mm 30 mm Ø 5 mm Ø 3.5 mm | -50 to +350 °C | ±0.2 °C (-20 to +70 °C) Class 1 (remaining range) ²⁾ | 6 s | 0603 2492 |

1) According to standard 60751, the accuracies of Class A and B refer to -200 to +600 °C (Pt100)
 2) According to standard EN 60584-2, the accuracy of Class 1 refers to -40 to +1000 °C (Type K), Class 2 to -40 to +1200 °C (Type K), Class 3 to -200 to +40 °C (Type K).
 A probe always corresponds to only **one** accuracy class.

0981 9354/msp/A/01.2014

Subject to change without notice.

