

# Humidity/temperature measuring instrument

## testo 635 – Measurement technology for humidity measurement



---

Connection of 2 plug-in probes and 3 wireless probes

---

Measurement of temperature, air humidity, material equilibrium moisture, pressure dewpoint, absolute pressure and U-value

---

Display of dewpoint distance, min., max. and mean values

---

Illuminated display

---

Protection class IP 54

---

Instrument store for 10000 measurement values (testo 635-2 only)

---

PC software for archiving and documenting measurement data (testo 635-2)

---

The testo 635 offers the possibility of testing and analyzing air humidity, material moisture, U-value and the dewpoint in compressed air systems.

In addition to measurement with classical probes, a wireless measurement over up to 20 m distance is also possible with the testo 635. This eliminates damage to the cable or difficulties in handling. The wireless probes are available for the measurement parameters temperature and humidity, up to three wireless probes can be recorded and displayed by the testo 635. The optional plug-in radio module can be retrofitted at any time.

The testo 635 stands out thanks to its intuitive operation

at different measurement sites, the testo 635-2 provides the advantage that the measurement values can be allocated to the respective measurement site. For long-term measurements and material moisture measurements, the instrument can be switched between different user profiles. The testo 635 is available in two versions. The version testo 635-2 has extended instrument functions such as an instrument store, PC software, direct display of material humidity and the possibility of connecting a U-value probe

## Technical data

### testo 635-1

testo 635-1 thermohygrometer incl. battery and calibration protocol

Part no. 0560 6351



### testo 635-2

testo 635-2 humidity/temperature measuring instrument with measurement value store, PC software and USB-cable incl. battery and calibration protocol

Part no. 0563 6352

#### General technical data

|                       |                                   |
|-----------------------|-----------------------------------|
| Operating temperature | -20 to +50 °C                     |
| Storage temperature   | -30 to +70 °C                     |
| Battery type          | Alkali manganese, mignon, Type AA |
| Battery life          | 200 h                             |
| Dimensions            | 220 x 74 x 46 mm                  |
| Weight                | 428 g                             |
| Housing material      | ABS/TPE/Metal                     |
| Warranty              | 2 years                           |

#### Sensor types

|                      | Type K (NiCr-Ni)   | NTC (humidity probe)   | Testo humid. sensor, cap. | Absolute pressure probe |
|----------------------|--|--|---------------------------|-------------------------|
| Measuring range      | -200 to +1370 °C   | -40 to +150 °C   | 0 to +100 %RH             | 0 to 2000 hPa           |
| Accuracy<br>±1 digit | ±0.3 °C (-60 to +60 °C)<br>±(0.2 °C + 0.3% of mv)<br>(remaining range) | ±0.2 °C (-25 to +74.9 °C)<br>±0.4 °C (-40 to -25.1 °C)<br>±0.4 °C (+75 to +99.9 °C)<br>±0.5% of mv (remaining range) | See probe data            | See probe data          |
| Resolution           | 0.1 °C   | 0.1 °C   | 0.1 %RH                   | 0.1 hPa                 |

## Common advantages

- Connection of 3 radio probes
- Measurement of air humidity, material equilibrium moisture and pressure dew point in compressed air systems
- Display of dew point difference, min, max and mean values
- Print data on Testo printer (optional)
- Backlit display
- Protection type IP 54

## Advantage testo 635-1

- Cyclic printing of readings on testo printer, e.g. once per minute









## Advantages testo 635-2

- Instrument store for 10000 readings
- PC software for filing and documenting measurement data
- Direct display of material moisture due to storable characteristics curves (Basis: material equilibrium moisture)
- U-value probe connection possible
- Storage of single measurements or measurement series by measurement site
- Quick access to the most important functions via user profiles

# Accessories

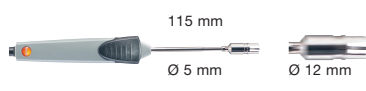

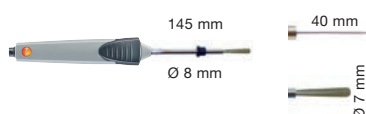

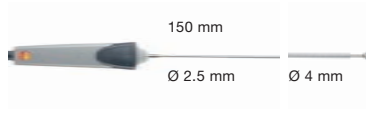
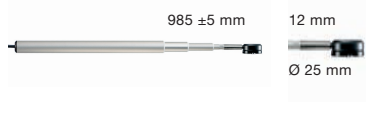


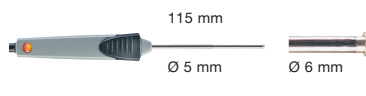
| <b>Transport and Protection</b>  | <b>Part no.</b> |  |
|--|-----------------|--|
| Service case for basic equipment of measuring instrument and probes, dimensions: 400 x 310 x 96 mm   | 0516 0035       |  |
| Service case for measuring instrument, probe and accessories, dimensions 520 x 380 x 120 mm  | 0516 0435       |  |
| <b>Additional accessories and spare parts</b>  |                 |  |
| Control and adjustment set for Testo humidity probes, salt solution with 11.3% RH and 75.3% RH, incl. adapter for Testo humidity probes  | 0554 0660       |  |
| Sintered PTFE filter, Ø 12 mm, for corrosive media<br>High humidity range (long-term measurements), high flow velocities.  | 0554 0756       |  |
| Stainless steel sintered filter, pore size 100 µm, probe protection in dusty atmospheres or higher flow velocities   | 0554 0641       |  |
| Cap for bore holes, for humidity probe Ø 12 mm<br>Measures equilibrium moisture in bore holes  | 0554 2140       |  |
| Plug-in mains adapter, 5 VDC 500 mA with European adapter, 100-250 VAC, 50-60 Hz   | 0554 0447       |  |
| Lithium battery button cell, CR2032 AA batteries for radio handle  | 0515 0028       |  |
| Adhesive material for fixing and sealing   | 0554 0761       |  |
| <b>Printer and Accessories</b>   |                 |  |
| 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   | 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       |  |
| <b>Calibration Certificates</b>  |                 |  |
| ISO calibration certificate humidity, Calibration points 11.3 %RH and 75.3 %RH at +25 °C   | 0520 0006       |  |
| ISO calibration certificate/temperature, meas. instr. with surface probe; calibration points +60°C; +120°C; +180°C   | 0520 0071       |  |
| ISO calibration certificate dewpoint, two adjustment points -10/-40 °Ctd at 6 bar  | 0520 0136       |  |
| ISO calibration certificate/absolute pressure, 3 meas. points distributed over meas. range<br>Absolute pressure; accuracy 0.1 to 0.6; 3 points distributed over meas. range (0 to 70 bar)  | 0520 0185       |  |
| ISO calibration certificate/humidity<br>cal. points freely selectable from 5 to 95%RH at +15 to +35°C or at -18 to +80°C   | 0520 0106       |  |
| ISO calibration certificate/humidity, saturated saline solutions: calibration point 11.3%RH  | 0520 0013       |  |
| ISO calibration certificate/humidity, saturated saline solutions, calibration point 75.3%RH  | 0520 0083       |  |
| DAkkS calibration certificate/humidity, electronic hygrometers; calibration points 11.3%RH and 75.3%RH at +25°C  | 0520 0206       |  |
| DAkkS calibration certificate/humidity, saturated saline solutions; calibration point 11.3%RH  | 0520 0213       |  |
| DAkkS calibration certificate/humidity, saturated saline solutions; calibration point 75.3%RH  | 0520 0283       |  |
| ISO calibration certificate/U-value probe  | 0520 0481       |  |
| DAkkS calibration certificate/U-value probe  | 0520 0981       |  |

# Probes

| Probe type  | Dimensions<br>Probe shaft/probe shaft tip  | Measuring<br>range  | Accuracy   | t <sub>99</sub> | Part no.  |
|---|--|---|--|-----------------|-----------|
| <b>Humidity probes</b>  |  |   |  |                 |           |
| Humidity/temperature probe  |  Ø 12 mm            | 0 to +100 %RH<br>-20 to +70 °C  | ±2 %RH (+2 to +98 %RH)<br>±0.3 °C  |                 | 0636 9735 |
| Robust humidity probe for meas. up to +125 °C, short-term up to +140 °C, Ø 12 mm, e.g. exhaust ducts, and for meas. of material equilibrium moisture, e.g. bulk goods |  300 mm<br>Ø 12 mm  | 0 to +100 %RH<br>-20 to +125 °C   | ±2 %RH (+2 to +98 %RH)<br>±0.2 °C  |                 | 0636 2161 |
| Thin humidity probe with built-in electronics, incl. 4 attachable PTFE protection caps for material moisture equilibrium measurement                                  |  60 mm<br>Ø 4 mm    | 0 to +100 %RH<br>0 to +40 °C  | ±2 %RH (+2 to +98 %RH)<br>±0.2 °C  |                 | 0636 2135 |
| Scatter field probe for fast and damage-free material moisture measurement, with probe cable 1.2 m  |                    | Woods: <math>\leq 50\%</math><br>Building materials: <math>\leq 20\%</math> |  |                 | 0636 6160 |
| <b>Pressure dewpoint probes</b>   |  |   |  |                 |           |
| Pressure dewpoint probe for measurements in compressed air systems, Fixed cable   |  300 mm           | 0 to +100 %RH<br>-30 ... +50 °C<br>tpd                                      | ±0.9 °C tpd (+0.1 to +50 °C tpd)<br>±1 °C tpd (-4.9 to 0 °C tpd)<br>±2 °C tpd (-9.9 to -5 °C tpd)<br>±3 °C tpd (-19.9 to -10 °C tpd)<br>±4 °C tpd (-30 to -20 °C tpd)    | 300 s           | 0636 9835 |
| Precision pressure dewpoint probe for measurements in compressed air systems, including certificate with test point -40°C tpd, Fixed cable                            |  300 mm           | 0 to +100 %RH<br>-60 to +50 °C<br>tpd                                       | ±0.8 °C tpd (-4.9 to +50 °C tpd)<br>±1 °C tpd (-9.9 to -5 °C tpd)<br>±2 °C tpd (-19.9 to -10 °C tpd)<br>±3 °C tpd (-29.9 to -20 °C tpd)<br>±4 °C tpd (-40 to -30 °C tpd) | 300 s           | 0636 9836 |
| <b>Absolute pressure probes</b>   |  |   |  |                 |           |
| Absolute pressure probe 2000 hPa  |                   | 0 to +2000 hPa  | ±5 hPa   |                 | 0638 1835 |
| <b>Air probes</b>   |  |   |  |                 |           |
| Robust air probe, T/C Type K, Fixed cable   |  115 mm<br>Ø 4 mm | -60 to +400 °C  | Class 2 <sup>1)</sup>  | 25 s            | 0602 1793 |






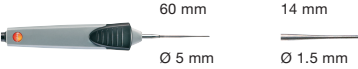

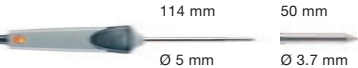
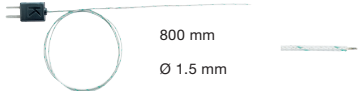
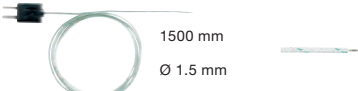
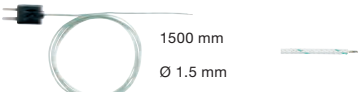
1) According to standard EN 60584-2, the accuracy of Class 1 refers to -40 to +1000 °C (Type K), Class 2 to -40 to +1200 °C (Type K), Class 3 to -200 to +40 °C (Type K).

# Probes

| Probe type  | Dimensions<br>Probe shaft/probe shaft tip   | Measuring range | Accuracy   | t <sub>99</sub> | Part no.  |
|---|---|-----------------|--|-----------------|-----------|
| <b>Surface probes</b>   |   |                 |  |                 |           |
| 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 <sup>1)</sup>                              | 3 s             | 0602 0393 |
| Temperature probe to determine U-value, triple sensor system for measuring wall temperature, modelling clay included  |    | -20 to +70 °C   | Class 1 <sup>1)</sup><br>U-value: ±0.1 ±2% of fsv* |                 | 0614 1635 |
| An additional probe for measuring outer temperatures is required when determining the U-value e.g. 0602 1793 or 0613 1001 or 0613 1002.<br>*when used with an NTC or wireless humidity probe for measuring outside temperature and 20 K difference between the air inside and outside |   |                 |  |                 |           |
| 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 <sup>1)</sup>                              | 5 s             | 0602 0193 |
| 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 1.2 m  |  | -60 to +300 °C  | Class 2 <sup>1)</sup>                              | 3 s             | 0602 0993 |
| Efficient, waterproof surface probe with small measurement head for flat surfaces, TC Type K, Fixed cable 1.2 m   |  | -60 to +1000 °C | Class 1 <sup>1)</sup>                              | 20 s            | 0602 0693 |
| 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 <sup>1)</sup>                              | 3 s             | 0602 2394 |
| Magnetic probe, adhesive force approx. 20 N, with magnets, for measurements on metal surfaces, TC Type K, Fixed cable 1.6 m   |  | -50 to +170 °C  | Class 2 <sup>1)</sup>                              | 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 <sup>1)</sup>                              |                 | 0602 4892 |
| Waterproof surface probe with widened measurement tip for flat surfaces, T/C Type K, Fixed cable 1.2 m  |  | -60 to +400 °C  | Class 2 <sup>1)</sup>                              | 30 s            | 0602 1993 |

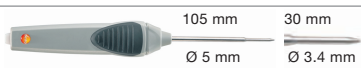
1) According to standard EN 60584-2, the accuracy of Class 1 refers to -40 to +1000 °C (Type K), Class 2 to -40 to +1200 °C (Type K), Class 3 to -200 to +40 °C (Type K).

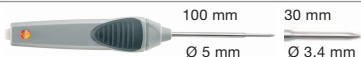
# Probes

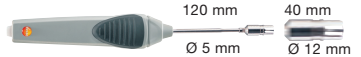
| Probe type  | Dimensions<br>Probe shaft/probe shaft tip   | Measuring range  | Accuracy              | t <sub>99</sub> | Part no.  |
|---|---|------------------|-----------------------|-----------------|-----------|
| <b>Surface probes</b>   |   |                  |                       |                 |           |
| 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 <sup>1)</sup> | 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 <sup>1)</sup> | 5 s             | 0602 4592 |
| Spare meas. head for pipe wrap probe, TC Type K   |    | -60 to +130 °C   | Class 2 <sup>1)</sup> | 5 s             | 0602 0092 |
| Clamp probe for measurements on pipes, pipe diameter 15 to 25 mm (max. 1 <sup>1)</sup> ), meas. range short-term up to +130°C, TC Type K, Fixed cable |   | -50 to +100 °C   | Class 2 <sup>1)</sup> | 5 s             | 0602 4692 |
| <b>Immers./penetr. probes</b>   |   |                  |                       |                 |           |
| Efficient and fast-action immersion probe, waterproof, TC Type K, Fixed cable 1.2 m   |  | -60 to +1000 °C  | Class 1 <sup>1)</sup> | 2 s             | 0602 0593 |
| Fast-action, waterproof immersion/penetration probe, TC Type K, Fixed cable 1.2 m   |  | -60 to +800 °C   | Class 1 <sup>1)</sup> | 3 s             | 0602 2693 |
| Immersion tip, flexible, TC Type K  |  | -200 to +1000 °C | Class 1 <sup>1)</sup> | 5 s             | 0602 5792 |
| Waterproof immersion/penetration probe, TC Type K, Fixed cable 1.2 m  |  | -60 to +400 °C   | Class 2 <sup>1)</sup> | 7 s             | 0602 1293 |
| <b>Thermocouples</b>  |   |                  |                       |                 |           |
| Thermocouple with TC adapter, flexible, 800 mm long, fibre glass, TC Type K   |  | -50 to +400 °C   | Class 2 <sup>1)</sup> | 5 s             | 0602 0644 |
| Thermocouple with TC adapter, flexible, length 1500 mm, fibreglass, TC Type K   |  | -50 to +400 °C   | Class 2 <sup>1)</sup> | 5 s             | 0602 0645 |
| Thermocouple with TC adapter, flexible, 1500 mm long, PTFE, TC Type K   |  | -50 to +250 °C   | Class 2 <sup>1)</sup> | 5 s             | 0602 0646 |


1) 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).


# 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 |
| Dimensions<br>Probe shaft/probe shaft tip  | Measuring range | Accuracy  | Resolution | t <sub>99</sub>                    |           |
|  105 mm 30 mm<br>Ø 5 mm Ø 3.4 mm  | -50 to +275 °C  | ±0.5 °C (-20 to +80 °C)<br>±0.8 °C (-50 to -20.1 °C)<br>±0.8 °C (+80.1 to +200 °C)<br>±1.5 °C (remaining range) | 0.1 °C     | t <sub>99</sub> (in water)<br>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<br>Probe shaft/probe shaft tip   | Measuring range                         | Accuracy  | Resolution  | t <sub>99</sub>                    |           |
|  100 mm 30 mm<br>Ø 5 mm Ø 3,4 mm   | -50 to +350 °C<br>Short-term to +500 °C | Radio handle:<br>±(0.5 °C +0.3% of m.v.) (-40 to +500 °C)<br>±(0.7 °C +0.5% of m.v.) (remaining range)<br>T/C probe head: Class 2 | 0.1 °C (-50 to +199.9 °C)<br>1.0 °C (remaining range) | t <sub>99</sub> (in water)<br>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<br>Probe shaft/probe shaft tip   | Measuring range                         | Accuracy  | Resolution  | t <sub>99</sub> |           |
|  120 mm 40 mm<br>Ø 5 mm Ø 12 mm  | -50 to +350 °C<br>Short-term to +500 °C | Radio handle:<br>±(0.5 °C +0.3% of m.v.) (-40 to +500 °C)<br>±(0.7 °C +0.5% of m.v.) (remaining range)<br>T/C probe head: Class 2 | 0.1 °C (-50 to +199.9 °C)<br>1.0 °C (remaining range) | 5 s             |           |

| Radio probes incl. humidity probe head  |                                |                                   |                   |  | 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 |
| Humidity probe head   |                                |                                   |                   |  | 0636 9736 |
| Radio handle for plug-in probe heads, incl. T/C adapter, approval for USA, CA, CL; Radio freq. 915.00 MHz FSK   |                                |                                   |                   |  | 0554 0191 |
| Humidity probe head   |                                |                                   |                   |  | 0636 9736 |
| Dimensions<br>Probe shaft/probe shaft tip   | Measuring range                | Accuracy                          | Resolution        |  |           |
|    | 0 to +100 %RH<br>-20 to +70 °C | ±2 %RH (+2 to +98 %RH)<br>±0.3 °C | 0.1 %RH<br>0.1 °C |  |           |

| 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)<br>±(0.9 °C +0.5% of m.v.) (remaining range) | 0.1 °C (-50 to +199.9 °C)<br>1.0 °C (remaining range) |  |           |

# Radio probes

## Accessories Radio probes

## Part no.

|   |           |  |
|---|-----------|--|
| 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 |  |

## 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)<br>2 months (meas. rate 10 s) |

### Radio handle

|              |  |
|--------------|--|
| Battery type | 2 AAA micro batteries                                  |
| Battery life | 215 h (meas. rate 0.5 s)<br>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                       |
| Protection class      | IP54                                |