

**TFX 430 Precision Thermometer**  
Reference thermometer with  
exchangeable Pt 100 probe



TFX 430 without probe    TFX 430 + TPX 130    TFX 430 + TPX 230    TFX 430 + TPX 330



TFX 430 set

Various probes available  
(please see page 99).

- MIN/MAX and hold options
- Approximately 5 years battery life time

### Technical Data

Measurement range	-100 °C ... +500 °C (-148 °F ... +932 °F)
Measurement accuracy	0.05 °C (-50 °C ... +199.99 °C) ±0.2 ° for the remaining measurement range
Resolution	0.01 °C (-10.00 °C ... +199.99 °C) 0.1 °C for the remaining measurement range
Operating temperature	-20 °C ... +50 °C
Storage temperature	-30 °C ... +70 °C
Sensor	Pt 100
Sampling rate	1 sec to 15 sec
Battery	Lithium battery 3 V / 1 Ah, Type CR 2477
Battery lifetime	Approximately 5 years
Deactivation	Automatic after 2 hours, deactivatable
Dimensions (L x W x H)	109 x 54 x 22 mm
Housing material	ABS
Protection class	IP 67
Weight	Approximately 90 g

Type	Description	Part No.
TFX 430	Thermometer Pt 100 (without probe)	1340-5430
TFX 430 + TPX 130	Thermometer Pt 100 with probe (needle length = 200 mm, Ø 3 mm, blunt)	1340-5437
TFX 430 + TPX 230	Thermometer Pt 100 with probe (needle length = 200 mm, Ø 3 mm, pointed)	1340-5438
TFX 430 + TPX 330	Thermometer Pt 100 with probe (needle length = 190 mm, Ø 8 mm, glazed)	1340-5439
TFX 430 set	TFX set (Thermometer TFX 430, blunt probe TPX 130, extension cable AX 110, DAkkS calibration, Aluminum case AG130)	1340-5432

## Accessories for TFX devices



**AG 120** Artificial leather case



**AG 130** Small case



**AG 140** Protective cover for handheld devices, red



**AG 150** Plastic bracket, suitable for 10 mm and 12 mm lamus tripods



**AX 110** Extension cable for TFX 430 only



**AG 170** Battery exchange set

Type	Description	Part No.
AG 120	Plastic case	1341-0619
AG 130	Transport case	1341-3854
AG 140	Protective cover for handheld devices, red	1340-5005
AG 150	Plastic bracket	1340-5000
AX 110	Extension cable for TFX 430 (1m silicone)	1340-5020
AG 170	Battery-change set (incl. 3V lithium CR 2477 battery, needle, screws, tamping, O-ring, manual)	1100-0106

## Alternate probes for TFX 430

### *Pt 100, 4 conductors class A, Lemo size 1*

#### **TPX 130** blunt probe

(Needle length = 200 mm, Ø 3 mm, stainless steel needle, up to +400 °C)



#### **TPX 230** pointed probe

(Needle length = 200 mm, Ø 3 mm, stainless steel needle, up to +400 °C)



#### **TPX 330** blunt, glass coated probe

(Needle length = 190 mm, Ø 8 mm, stainless steel needle, up to +400 °C)



#### Technical Data

Accuracy Pt 100, 4 conductors class A, Lemo size 1

Type	Description	Part No.
TPX 130	Blunt probe, needle length = 200 mm, Ø 3 mm	1341-5437
TPX 230	Pointed probe, needle length = 200 mm, Ø 3 mm	1341-5438
TPX 330	Blunt, glass coated probe, blunt, needle length = 190 mm, Ø 8 mm	1341-5439

## TFX 422C Conformity Certified Laboratory Thermometer

with fixed Pt 1000 probe



The device has been certified together with the EB 4401 food inspection case (please see page 161).



Due to the new German calibration law which became effective on January 01 2015, we were forced to stop the sales of the TFX 422 Laboratory Thermometer with PTB certification. The so called certification of conformity replaces the calibration by the measurement office. Our new Conformity Certified Laboratory Thermometer TFX 422C is the equivalent successor: same properties, same quality.

### Technical Data

Measurement range	-50 °C ... +200 °C
Operating temperature	-25 °C ... +50 °C
Accuracy	± 0,3 °C
Sensor	Pt 1000, stainless steel, , Ø 3mm, L = 120mm, pointed probe
Cable	Silicone, L = 60 cm or 150cm, waterproof, oil resistant, food safe
Response time (t <sub>99</sub> )	Approximately 8 Sec. (moving water)
Resolution	0,1 °C
Storage Temperature	-30 °C ... +70 °C
Dimensions (L x W x H)	109 x 54 x 22 mm, without probe
Weight	90g
Housing material	ABS
Protection class	IP 67
Battery	Lithium battery (CR 2477), 3V
Battery life time	Up to 5 years, dependent pn the application

- MIN/MAX and hold options
- High precision
- Approximately 5 years battery life time
- Waterproof (IP 67)

Type	Description	Part No.
TFX 422C-60	Conformity Certified Thermometer, with 60cm cable	1340-5433
TFX 422C-150	Conformity Certified Thermometer, with 150cm cable	1340-5434

## TFX-410/420 Series Core Thermometers



TFX 410



TFX 410-1



TFX 420

### General Technical Specifications

Accuracy	±0.3 °C
Resolution	0.1 °C
Sensor	Pt 1000
Operating temperature	-25 °C ... +50 °C
Storage temperature	-30 °C ... +70 °C
Battery lifetime	Approximately 5 years
Housing material	ABS
Protection class	Waterproof (IP 67)
Weight	Approximately 90 g
Dimensions (L x W x H)	109 x 54 x 22 mm (without probe)
Deactivation	Automatic after 2 hours, deactivatable

### TFX 410 Core Thermometer with fixed Pt 1000 probe



- High precision
- Approximately 5 years battery life time
- Waterproof (IP 67)

#### Technical Data

Measurement range	-50 °C ... +300 °C (-58 °F ... +572 °F)
Battery	3.0 V lithium, user replaceable
Certificate	3-point factory calibration

Type	Description	Part No.
TFX 410	Thermometer with TPX 410 probe, pointed, 60 cm silicone cable	1340-5410
AG 190	Drill for frozen food (picture see page 115)	1341-3834

### TFX 410-1 Core Thermometer without Probe for various Pt 1000 probes



Various probes available  
(see page 103).

- High precision
- Approximately 5 years battery life time

#### Technical Data

Measurement range	-50 °C ... +300 °C (-58 °F ... +572 °F)
Sensor connection	Lemoso size 0
Battery	3.0 V Lithium, replaceable
Certificate	3-point factory calibration

Type	Description	Part No.
TFX 410-1	Thermometer without probe	1340-5415
AG 190	Drill for frozen food (picture see page 115)	1341-3834

### TFX 420 Core Thermometer without Probe with MIN/MAX and hold options



Various probes available  
(see page 103).

- High precision
- Approximately 5 years battery life time

#### Technical Data

Measurement range	-50 °C ... +400 °C (-58 °F ... +752 °F)
Sensor connection	Lemoso size 0
Battery	3.0 V Lithium, replaceable
Extra functions	Hold, MIN / MAX
Certificate	3-point factory calibration

Type	Description	Part No.
TFX 420	Thermometer without probe	1340-5425
AG 190	Drill for frozen food (picture see page 115)	1341-3834

## TFE 510-1 Core Thermometer without Probe with fast response time



TFE 510 TPE 400

- With replaceable probe
- Approximately 5 years battery life time

### Technical Data

Measurement range	-50 °C ... +300 °C (-58 °F ... +572 °F)
Accuracy	±0.5 °C (0.9 °F)
Resolution	0.1 °C (0.2 °F)
Measurement probe	Thermocouple, type T
Operating temperature	-25 °C ... +50 °C (-13 °F ... 122 °F)
Storage temperature	-30 °C ... +70 °C (-22 °F ... 158 °F)
Thermal constant ( $t_{99}$ )	3s
Battery	Lithium 3.0 V
Battery lifetime	Approximately 5 years
Dimensions (L x W x H)	109 x 54 x 22 mm
Housing material	ABS
Weight	Approximately 90g
Protection class	IP 67
Sampling rate	0.5 s to 15 s
Certificate	3-point factory calibration
Automativ shut off	After 2 hours, optional

Type	Description	Part No.
TFE 510-1	Thermometer without probe	1340-5510
TFE 510 + TPE 400	Thermometer with probe, with blue silicone cable, 0.6 m	1340-5516
TPE 400	Probe with blue silicone cable, 0.6 m, for TFE 510	1341-5516
AG 140	Protective cover for handheld devices, red	1340-5005
AG 190	Drill for frozen food (picture see page 115)	1341-3834

## Accessories for TFX- and TFE-Thermometers



**AG 130** Transport case



**AG 140** Protective cover for handheld devices, red



**AG 150** Plastic bracket suitable for 10 mm and 12 mm lamus tripods



**AG 160** Stainless steel bracket



**AG 170** Battery exchange set



**AX 100** Extension cable for TFX devices, 1m, Lemosa size 0



**AG 161** Stainless steel bracket for thermometers with protective cover AG 140

Type	Description	Part No.
AG 130	Transport case	1341-3854
AG 140	Protective cover for handheld devices, red	1340-5005
AG 150	Plastic bracket	1340-5000
AG 160	Stainless steel bracket	1340-0595
AG 161	Stainless steel bracket for TFX devices in protective cover AG 140 (AG 140 not included)	1340-0596
AG 170	Battery-change set (incl. 3V lithium CR 2477 battery, needle, screws, tamping, O-ring, manual)	1100-0106
AX 100	Extension cable 1m for TFX devices (Lemosa size 0)	1340-5015

## Probes for TFX 410-1 / TFX 420

### Pt 1000 Probe (with Lemosa size 0)

The probes of the TFX 410-1 and TFX 420 core thermometers are all changeable - and yet the devices have protection class IP 67, i.e. protection against immersion up to 1m. Even little mishaps like plummeting the device into a bucket of water won't have consequences. The various probes and cables allow for a use in many different applications, e.g. heating of food (PTFE) or in rough and humid environments (silicone).

**TPX 100** blunt probe  
(Needle length = 120 mm, Ø 3 mm, blunt, stainless steel needle, up to +400 °C)



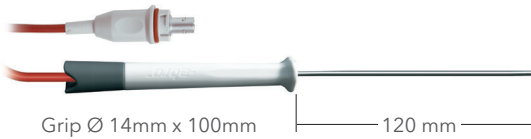
**TPX 200** pointed probe  
(Needle length = 120 mm, Ø 3 mm, pointed, stainless steel needle, up to +400 °C)



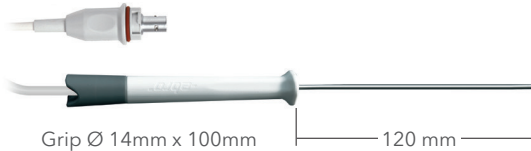
**TPX 300** glass-coated probe  
(Needle length = 190 mm, Ø 8 mm, glass-coated, stainless steel needle, up to +400 °C)



**TPX 400** pointed probe  
(Needle length = 120 mm, Ø 3 mm, pointed, with 60 cm silicone cable, stainless steel needle, up to +400 °C)



**TPX 440** pointed probe  
(Needle length = 120 mm, Ø 3 mm, with 150 cm PTFE cable, stainless steel needle, up to +400 °C)



#### Technical Data

Accuracy	Exceeds DIN IEC 584, class 1
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TF 410 - still working, thanks to IP 67

Type	Description	Part No.
TPX 100	Blunt probe, needle length = 120mm, Ø 3 mm, without cable	1341-5417
TPX 200	Pointed probe, needle length = 120 mm, Ø 3 mm, without cable	1341-5418
TPX 200-20	Pointed probe, needle length = 200 mm, Ø 3 mm, without cable	1341-4182
TPX 200-30	Pointed probe, needle length = 300 mm, Ø 3 mm, without cable	1341-4183
TPX 200-40	Pointed probe, needle length = 400 mm, Ø 3 mm, without cable	1341-4184
TPX 300	Glass-coated probe, needle length = 120 mm, Ø 8 mm, without cable	1341-5419
TPX 400	Pointed probe with 60 cm silicone cable (red) and grip, needle length = 120 mm, Ø 3 mm	1341-5416
TPX 400-40	Pointed probe with 40 cm silicone cable (red) and grip, needle length = 120 mm, Ø 3 mm	1341-4164
TPX 400-150	Pointed probe with 150 cm silicone cable (red) and grip, L = 120 mm, Ø 3 mm	1341-4168
TPX 440	Pointed probe with 150 cm PTFE cable (white) and grip, L = 120 mm, Ø 3mm	1341-4169