Fold-Back Thermometers

On the next pages you will find various fold-back thermometers with and without infrared measurement technology. The penetration probe is foldable for a secure and convenient storage of the measurement device. The new radio thermometers allow for efficient collection and management of measurement data.

Applications

- Incoming goods inspections
- Control of refrigeration units and cooling rooms
- Core temperature measurement
- Surface temperature measurement with infrared
- HACCP compliant control and documentation of temperature events

Find your perfect fold-back thermometer:

Fold-Back Thermometers	Measurement range	High accuracy	Probe type	Channels		Fast response time	Waterproof housing	Wireless communication	Detection of users and locations
TLC 1598 Precision Fold-Back Thermometer	-50 °C … +200 °C	✗	Pt 1000	1					
TLC 700 Basic Fold-Back Thermometer	-30 °C … +220 °C		NTC	1			✗		
TLC 750 Dual Infrared/Fold-Back Thermometer	-50 °C ... +250 °C		Infrared and thermocouple type T	2	✗ (Infrared)		✗		
TLC 750 BT Dual Radio-Thermometer	-50 °C … +250 °C		Infrared and thermocouple type T	2	✗ (Infrared)		✗	✗	
TLC 750 NFC Dual HACCP-Thermometer	-50 °C … +250 °C		Infrared and thermocouple type T	2	✗ (Infrared)		✗	✗	✗

TLC 750 NFC Dual HACCP-Thermometer
for HACCP compliant control and documentation

Technical Data

Measurement range	-50 °C ... +250 °C (-58 °F ... +482 °F)
Accuracy infrared	±4 °C at -50 °C ... -30.1 °C (±7.2 °F at -58 °F ... -22 °F) ±2.5 °C at -30 °C ... -18.1 °C (±4.5 °F at -22 °F ... -0.4 °F) ±1.5 °C at -18 °C ... -0.1 °C (±2.7 °F at -0.4 °F ... +32 °F) ±1.0 °C at 0 °C ... +65 °C (±1.8 °F at 32 °F ... +149 °F) ±2.0 °C or 2 % at +65 °C ... +250 °C (±3.6 °F at +149 °F ... +482 °F)
Accuracy penetration probe	±0.5 °C at -30 °C ... +99.9 °C (±0.9 °F at -22 °F ... +212 °F) ±1 °C (±2 °F) or 1 % for the remaining measurement range (whichever is larger)
Resolution	0.1 °C / 0.2 °F
Distance : Spot ratio	8:1
Sensor	Thermocouple type T
Operating temperature	-20 °C ... +50 °C (-13 °F ... +122 °F)
Storage temperature	-30 °C ... +70 °C (-40 °F ... +158 °F)
Battery	Recharchable lithium polymer battery 3.7 V
Battery lifetime	Approximately 8 h of continuous use
Battery charging	Wireless or via USB C port, 500 mA
Dimensions (L x W x H)	169.5 x 44 x 23 mm (without probe), needle length = 100 mm
Housing material	ABS
Weight	Approximately 140 g
Protection class	IP65
Automatic deactivation	Automatically after 15 seconds, deactivatable
Certificate	Factory calibration certificate (-18 °C and 0°C)
Memory capacity	200 measurement values
Interfaces	NFC, BLE, USB-C

- Wireless data transmission via Bluetooth Low Energy
- Detection of locations and users via NFC reader
- Wireless recharchable battery
- Display with backlight for reading in dark environments
- Display can be upside down for reading from both sides

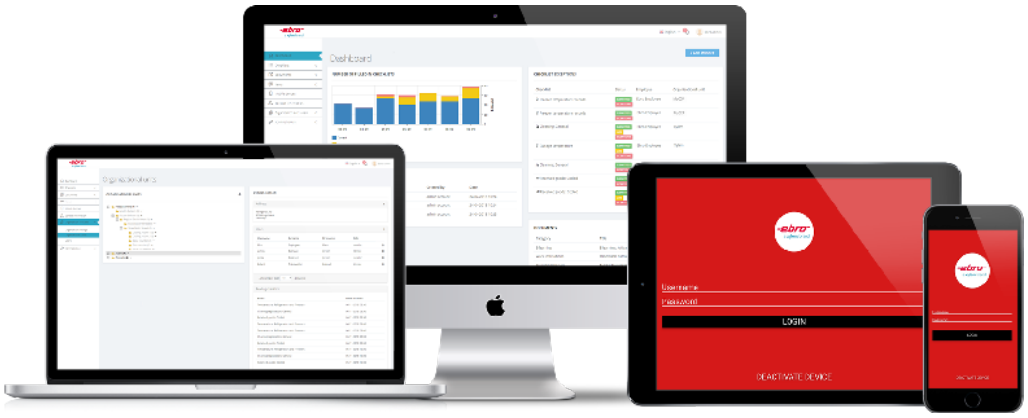
The **TLC 750 NFC** has an infrared sensor for **surface temperature measurement** and a penetration probe for **core temperature measurement**. The **display with backlight** can be read from both sides. This combination of features is ideal for **incoming goods inspections** and **storage monitoring**.

But it can do much more than that. The TLC 750 NFC has a memory for up to 200 measurements. With one walkabout, all measurement locations can be handled. The measurements will be saved and can be transferred to the PC at once – **no manual notes required any more**!

On top of that, it can read NFC tags, which can identify measurement locations and the users of the TLC 750 NFC. Hence the device brings together all relevant data **automatically** and **without risk of failure: what has been measured by whom, where, and when** – because the device also knows date and time.

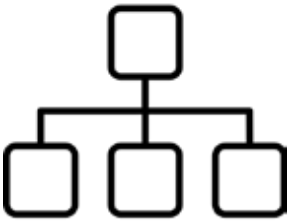
Thanks to the Bluetooth interface, the data can be transferred to the PC wirelessly via the IF 750 or the MyCCP-App on a mobile device.

HACCP-Software MyCCP



MyCCP is a Digital Food Safety Management System that allows for defining, managing, scheduling and controlling Food Safety processes 24/7. With MyCCP it is possible to transform paper-based checklists into digital checklists to gain real-time insight and drive Food Safety process optimization.

Flexible and scalable



Build your own organizational structure and add users to one or more organizational unit(s) to make sure users only see what they need to see (e.g. location, region and headquarters). An unlimited number of locations, users (co-workers) and checklists can be added to MyCCP.

Create, plan and fill in a checklist

Every paper-based checklist can be digitalized using MyCCP (HACCP tasks , temperature measurements, cleaning registration etc.). Plan and assign the checklists to one or more organizational units and their users. The digital checklists can easily be completed using the MyCCP app. The app also allows for taking pictures, receiving news and checking documents (e.g. working instruction, manuals).

Real-time reporting and dashboards

The responsible (quality) manager can follow the tasks that have been completed and with what result, or which tasks still needs to be completed. MyCCP offers sample or routine reporting in a convenient and clear manner – for single measurement locations or all sites.

Cloud based application

MyCCP is a cloud-based solution (all data is safely stored), meaning that it can be accessed from all over the world. The MyCCP app can be downloaded for free on the AppStore (iOS) or the Google PlayStore (Android).

The evaluation software Easy Data Collector

The evaluation software EDC (Easy Data Collector) is a self-contained, windows-based application software. It offers the collection, evaluation and storage of measurement data gathered with the TLC 750 NFC, especially to customers who don´t need the MyCCP software. EDC focusses entirely on the measurement data, similar to the Winlog.basic.

The evaluation software EDC will be shipped together with the IF 750.

IF 750

The **IF 750** has a BLE interface, so that you can communicate with the TLC 750 NFC even without mobile device. Additionaly, it has both a USB and an ethernet interface, allowing it to talk to a PC. Therefore it establishes the **connection between MyCCP software and measurement device**.

It also serves as **charging station** for the TLC 750 NFC. Charging is done wirelessly, avoiding electric contacts and their common problems, like corrosion and wear.

The **NFC interface** of the IF 750 offers reading NFC tags into the software while setting up the measurement system. There the tag information can be assigned to locations and users.

UT 750

The IF 750 is also there to **store** the TLC 750 NFC. It can be laid on a flat surface, or used as a wall mount.

The **CS 750** is a combination of charging station and wall mount, and the **WM 750** is a wall mount only. Those two items are supplements to the system, in case several TLC 750 NFC devices are used. They have the same shape as an IF 750 and can be connected to it physically, so that the entire measurement system is **situated in a compact manner**.

LT 750

The user NFC tags **UT 750** can be assigned to users of the TLC 750 NFC. Similar to a time card, the user will be identified by the tag. This way the TLC 750 NFC will know who is using it. That information will then be linked to the measurement data. **Later on you can follow who measured**.

The location NFC tags **LT 750** work in a similar way. They identify the measurement locations, e. g. a rack in a cooling room, or a fridge. **This way you can follow where it has been measured**.

Type	Description	Part No.
TLC 750 NFC	Dual HACCP-Thermometer	1340-5741A
SI 750	Set: Interface IF 750 incl. charging station and evaluation software EDC*	1340-5750
CS 750	Charging station for the TLC 750 BT and TLC 750 NFC	1341-5750
SH 750 NFC	Set: TLC 750 NFC, Interface IF 750 incl. charging station, evaluation software EDC*, 5 User-Tags, 5 Location-Tags	1340-5752A
UT 750	Set: 5 User-Tags for TLC 750 NFC	1341-5751
LT 750	Set: 5 Location-Tags for TLC 750 NFC	1341-5752
WM 750	Wall mount for TLC 750 BT and TLC 750 NFC	1341-5753
MyCCP	Subscription for the HACCP software MyCCP	Available upon request

** The evaluation software EDC will be available approximately from end of Q1 2020*

Applications

Collecting data with TLC 750 BT and EDC
The thermometer TLC 750 BT is ideal for regular round walks to check the temperature e.g. of cooling rooms or during incoming goods inspections. The temperature and time data will be stored in the device and then transferred to the ebro® EDC software on a PC. There it can be supplemented with additional data, e.g. personnel and locations, if required. Reports and other evaluations can be made at any time.

This application of the ebro® HACCP system is ideal if it´s all about controlling the temperature and storing the data.

HACCP with TLC 750 BT and MyCCP
You can define the various HACCP tasks in MyCCP, whereupon the MyCCP app informs the responsible personnel. If it´s cleaning the floor, washing the cutlery or the workwear – all can be entered, fulfilled and later checked. One of those tasks can be temperature control, and for that the TLC 750 BT is ideal. The thermometer sends the measurement data to the app, which forwards it to the cloud.

This application of the ebro® HACCP system is ideal if it´s about the computer aided implementation of an HACCP concept, which includes temperature control, among other things.

Collecting data with TLC 750 NFC and EDC
The thermometer TLC 750 NFC can do anything the TLC 750 BT can do, and in addition communicates with NFC tags. These allow for a higher degree of automation and control, since the measurement locations and personnel do not need to be entered manually. The EDC software receives complete data sets.

This application of the ebro® HACCP system is ideal if it´s about controlling the temperature and storing the data, with optimized processes and a high certain degree of control.

HACCP with TLC 750 NFC and MyCCP
This application comprises all options of TLC 750 BT with MyCCP. In addition, measurement locations and personnel can be identified via NFC tags. During the definition of the measurement task, who shall measure where and when has already been determined. Usually it is hard to follow if indeed this has been done as intended, though. The tags are there as an additional verification and increase the degree of control.

This application of the ebro® HACCP system is ideal if it´s about the computer aided implementation of an HACCP concept, which includes temperature control, among other things, and requires the highest degree of control.

TLC 750 BT Dual Radio Thermometer
for the efficient collection and documentation of measurement data

- Wireless data transmission via Bluetooth Low Energy
- Wireless rechargeable battery
- Display with backlight for reading in dark environments
- Display can be upside down for reading from both sides

Technical Data

Like the TLC 750 NFC, with the following exception

Interfaces	BLE, USB-C

The TLC 750 BT supplements the TLC 750 HACCP measurement system. It has the same features as the TLC 750 NFC, except for the NFC interface. All other parts of the measurement system – IF 750, CS 750, HACCP software – also work with the TLC 750 BT. Therefore it is a cost-efficient alternative for customers who don´t need the NFC functionality.

Type	Description	Part No.
TLC 750 BT	Dual radio thermometer	1340-5740A
SI 750	Set: Interface IF 750 incl. charging station and evaluation software EDC*	1340-5750
CS 750	Charging station for the TLC 750 BT and TLC 750 NFC	1341-5750
SH 750 BT	Set: TLC 750 BT, Interface IF 750 incl. charging station, evaluation software EDC*	1340-5751A
WM 750	Wall mount for the TLC 750 BT and TLC 750 NFC	1341-5753
MyCCP	Subscription for the HACCP software MyCCP	Available upon request

** The evaluation software EDC will be available approximately from end of Q1 2020*

Digital temperature control at one glance

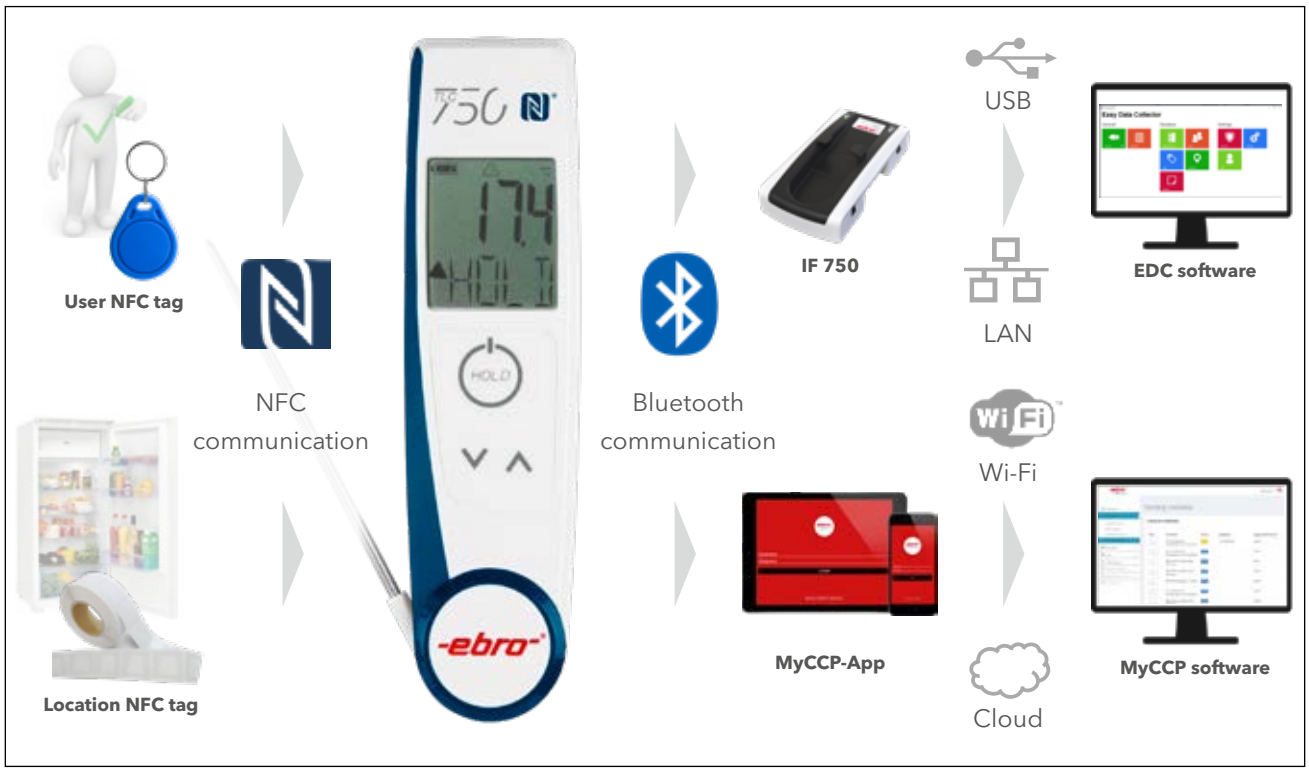


Fig. Complying to the hygiene requirements with the ebro® HACCP system

TLC 750i Dual Infrared/Fold-Back Thermometer
with foldable penetration probe and infrared sensor

Technical Data

Measurement range	-50 °C ... +250 °C (-58 °F ... +482 °F)
Accuracy infrared	±4 °C at -50 °C ... -30.1 °C (±7.2 °F at -58 °F ... -22 °F) ±2.5 °C at -30 °C ... -18.1 °C (±4.5 °F at -22 °F ... -0.4 °F) ±1.5 °C at -18 °C ... -0.1 °C (±2.7 °F at -0.4 °F ... +32 °F) ±1.0 °C at 0 °C ... +65 °C (±1.8 °F at +32 °F ... +149 °F) ±2.0 °C or 2 % at +65 °C ... +250 °C (±3.6 °F at +149 °F ... +482 °F)
Accuracy penetration probe	±0.5 °C at -30 °C ... +99.9 °C (±0.9 °F at -22 °F ... +212 °F) ±1 °C (±2 °F) or 1 % for the remaining measurement range (whichever is larger)
Resolution	0.1 °C / 0.2 °F
Distance : Spot ratio	8:1
Sensor	Thermocouple type T
Operating temperature	-25 °C ... +50 °C (-13 °F ... +122 °F)
Storage temperature	-30 °C ... +70 °C (-40 °F ... +158 °F)
Battery	2 x AAA (Micro), user replaceable
Battery lifetime	Approximately 10 h of continuous use
Dimensions (L x W x H)	169.5 x 44 x 23 mm (without probe), needle length = 100 mm
Housing material	ABS
Weight	Approximately 140 g
Protection class	IP65
Automatic deactivation	Automatically after 15 seconds, deactivatable
Certificate	Factory calibration certificate (-18 °C ... 0 °C)

Surface temperature measurement

Core temperature measurement

The new TLC 750i is the successor of our top selling product: the TLC 730. Improvements were made mostly at the usability. On the one hand the new display with backlight allows for reading of the measurement in dark environments. On the other hand the display can be upside down: depending on how you hold the device, you can read it from the one or the other side. This is particularly handy when using the penetration probe – no contorted movements while reading any more!

- Display with backlight for reading in dark environments
- Display can be upside down for reading from both sides
- Double laser pointer

Type	Description	Part No.
TLC 750i	Dual Infrared / Fold-Back Thermometer	1340-5736A

TLC 1598 Precision Fold-Back Thermometer
with foldable Pt 1000 penetration probe and high accuracy

- High accuracy of ±0.3 °C
- Short response time
- Approximately 4 years battery life time

Technical Data

Measurement range	-50 °C ... +200 °C (-58 °F ... +392 °F)
Accuracy	±0.3 °C (±0.5 °F)
Resolution	0.1 °C (0.2 °F)
Sensor	Pt 1000
Response time (t_{99})	8 s (water)
Operating temperature	0 °C ... +50 °C (+32 °F ... +122 °F)
Storage temperature	-10 °C ... +60 °C (+14 °F ... +140 °F)
Display	LCD 9 mm
Battery	3.6 V lithium
Battery lifetime	Approximately 4 years
Dimensions (L x W x H)	44 x 18 x 158 mm, L = 105 mm
Housing material	ABS
Weight	Approximately 70 g
Protection class	IP54
Certificate	3-point factory calibration (-20 °C, 0 °C and +120 °C)

Type	Description	Part No.
TLC 1598	Precision Fold-Back Thermometer	1340-1620A
AG 121	Nylon bag for TLC 1598	1341-0624

TLC 700 Basic Fold-Back Thermometer
with foldable penetration probe

- Small size easily fits in a pocket
- Waterproof housing (IP65)
- Color ring can be changed in order to assign the device to a person, department or application

Technical Data

Temperature measurement range	-30 °C … +220 °C (-22 °F ... +428 °F)
Accuracy	±0.5 °C (at -30 °C … +100 °C), ±1.0 % for the remaining measurement range
Resolution	0.1 °C
Operating temperature	-25 °C ... +50 °C (-13 °F ... +122 °F)
Battery	Lithium button cell (CR 2032)
Dimensions (L x W x H)	118 x 33 x 15 mm, needle length = 70 mm
Certificate	Factory calibration certificate (-20 °C and 0 °C)

Type	Description	Part No.
TLC 700	Folding Thermometer	1340-5735A
AG 700	Color ring change set for TLC 700	1341-5735