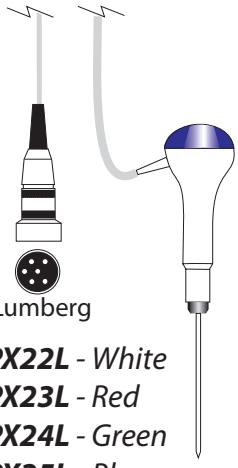
Temperature Measurement Kit
MINIKIT Series

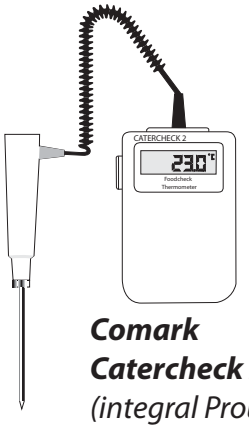
ECEFast
Electro Chemical Engineering Pty Ltd A.B.N. 42 004 182 772

Raytek FoodPro
Optional model
FoodPro Plus
with contact probe
incorporated

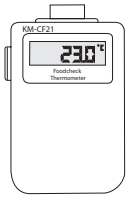


Lumberg

PX22L *- White*
PX23L *- Red*
PX24L *- Green*
PX25L *- Blue*



Comark
Catercheck 2
(integral Probe)



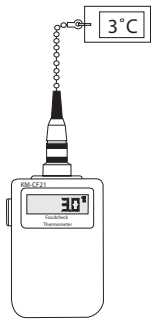
Comark
KM-CF21
(separate probe)

Phone 1800 811 818 for ECEFast Sales
or 1800 180 977 for ECEFast Service

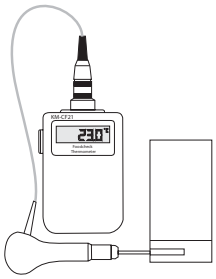
Item	Part Number	Description	Function	Part Number: CH-TMINIKIT-1-4	Part Number: CH-TMINIKIT-2-4
1	RY-FOODPRO	Infrared thermometer with led sight	Surface temperature measurement -30 to 205˚C	√	√
2	KM-CF21 *	Digital thermometer with separate probe	Accurate contact or immersion temperature -40 to 110˚C		√
3	KM-PX22L **	Insertion probe white end cap	Use with KM-CF21		√
4	KM-TX24L ***	Test cap 3˚C	Accurate 3˚C output to test KM-CF21		√
5	KM-CATERCHECK2	Digital thermometer with attached probe	Accurate contact or immersion temperature -40 to 110˚c	√	
6	RY-STPRO-CHECKR	Temperature comparator	Cross check contact & IR thermometers	√	√
7	AN-INSTCASE	Hard carry case	To carry all instruments	√	√

* Extended range version designated KM-26 from -200 to 400˚C with type "T" sensors
** Probes with colour codes RED, BLUE, and GREEN are available
*** Test caps for -18˚C and 63˚C are available

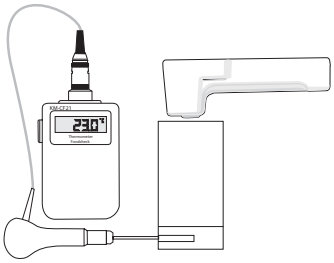
Accuracy Test Procedure



Step 1
Fix test cap to KM-CF21 only compare temperature (acceptable error 0.5˚C)



Step 2
Fit probe to KM-CF21 & probe of either KM-CF21 or Catercheck1 into temp. comparator



Step 3
Point IR at base of comparator & note variation (acceptable error 2.5˚C)

Principles of Use For HACCP

The MINIKIT is a low cost kit for smaller businesses. We recommend the TEMPKIT Series in cases where more dependence must be placed on infra-red readings, or where more contact probe varieties are required - e.g. air temperature probe, between pack probe. The FoodPro allows you to check many products very quickly. It's accuracy between 0 - 60˚C is 1˚C and generally conforms to HACCP requirements. However if you are within 2 ˚C of your controlled temperature please always check it with KM-CF21 or Catercheck 2.

When Should I Use the Infrared or Contact Thermometers?

The **infra-red, non-contact thermometer** , measures the surface temperature of the product. They are used when the product is in thermal equilibrium - that is when it has been exposed to a set of conditions for an extended period of time Thus it is appropriate to use for chilled or frozen display cases, freezers and cold storage rooms, cooking and hot food holding where the product has been in place long enough to stabilise in temperature.

- It is fast, enabling you to take many readings in a short time rather than a few 'samples
- It is non contact so it does not contaminate food, (not requiring sterilising procedures or scrapping of samples.)

Readings are of the surface only - you can not measure core temperatures. Readings are not absolute and in some cases are affected by the surface being measured - example shiny metals or metalised shiny packaging. The FoodPro is rated at 1˚C accuracy under ideal conditions only, so always verify suspect readings with a contact thermometer.

The **KM-CF21/Catercheck 2** contact thermometer measures a temperature along approximately 10mm of the probe tip. The reading is absolute - that means it will be correct in all cases where the probe temperature equals the product temperature. It is very difficult to measure surface temperature with this probe. The probe should be inserted at least 30mm into the product.

- Use to verify a product rejection or to qualify a particular storage problem - make final check with contact probe if infra-red indicates a problem.
- Use to measure core temperature (example - to check core temperature of roast meat to verify it is cooked completely as required.)
- Use between pack probe, air probe or other special probes for non insertion measurements.

Tips for the efficient use of the FoodPro

When using the infra-red thermometer, make sure that the product being measured fills the entire "field of view". Where possible hold the front of the thermometer approximately 150mm from the surface being measured. This will give you a target area of approximately 25mm diameter. The FoodPro is generally used from 25 to 250mm from the target. (The further you are from the product being measured, the greater the field of view. See the side of the thermometer for "field of view" information).

When measuring packaged products, measure the packaging that is ***in contact with the product*** No air gap! (The packaging medium will, in most cases, take on the temperature of the product. The exception is insulated packaging such as polystyrene foam or cardboard).

When measuring shiny plastic packaged products, if a paper label is adhered the plastic, measure the paper label.

Measure product in place where practical. (The temperature of packaging will increase very quickly when exposed to ambient (room) temperature).

Use in Freezers

If a few quick readings for a survey are required, then hold the FoodPro close to your body (under your arm pit) to keep it warm in between "snap" readings. An alternative method is to stabilise the FoodPro at freezer temperature for at least 20 minutes. If the temperature is too low the battery or display will freeze and the unit will not function. (the first method is preferable). It is preferable not to use the FoodPro at ambient temperature below 0˚C, use the Comark thermometer