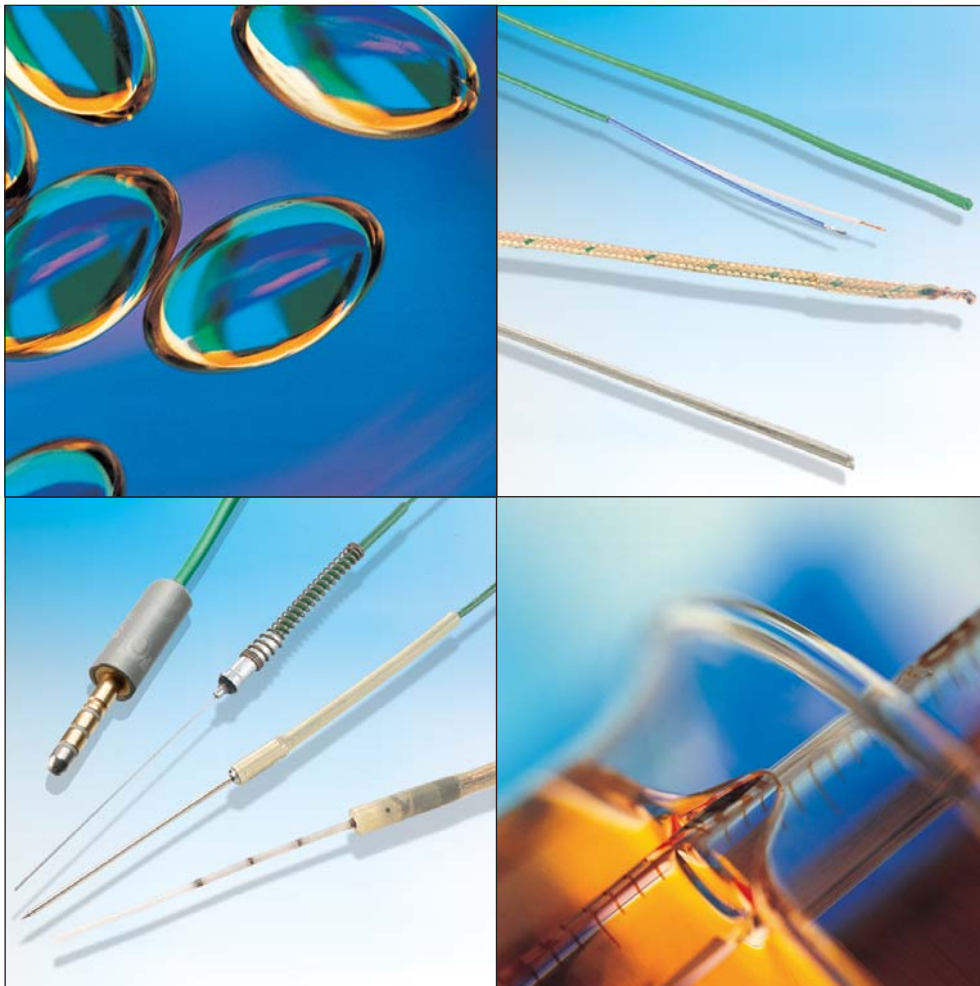


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# Temperature Probes



When accurate measurements matter

# Temperature

## High Precision Thermocouple Probes

Often high quality thermocouples are overlooked when purchasing a temperature monitoring system. Using high quality probes dramatically improves accuracy, stability and successful study. Often money and time are wasted trying to calibrate or locate problems with inferior thermocouples. Why risk it when many of your maintenance problems can be solved with a quality probe.

Ellab develops and manufactures a wide range of probes for all kinds of purposes, e.g. multipoint probes with 4 to 10 measuring points, probes for frozen applications, special probes for liquids and air, probes for hot air ovens and autoclaves, high temperature probes etc. Our standard probes are supplied with threads which fit into packing glands for a no leaking seal into packages or cans.

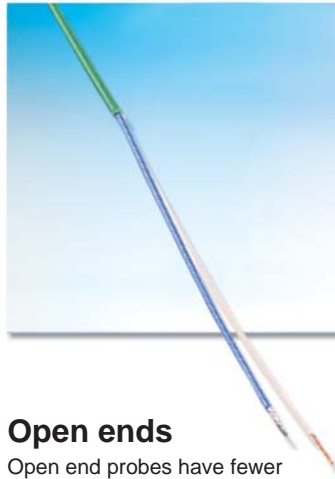
## Measuring Principles and Accuracy

Ellab probes are high accuracy type T thermocouple wire. The copper/constantan thermocouples are sealed with high quality silicone or teflon materials to withstand the harsh conditions of thermal validation. Thus it is possible to offer a standard probe with an outstanding full range accuracy of  $\pm 0.2$  °C when calibrated the accuracy is  $\pm 0.05$  °C.



### Jack Plug

The plug consists of copper/constantan to minimize the source of errors. The jack plug is waterproof which means no liquid will enter the equipment. All plugs are fitted with an ID and calibration offsets.



### Open ends

Open end probes have fewer benefits than Jack Plug probes but can be supplied to fit non-Ellab equipment.



### CC contacts

Set up of probes in e.g. autoclaves is very time consuming. CC contact cables can be permanently fitted inside the autoclave and then connected to the product probes.



### Rotating autoclaves

The slipping contact is used to facilitate temperature, pressure and deflection measurement in rotating autoclaves. The slipping contact also counts the rotations per minute (RPM). It is possible to measure up to 14 temperatures, 1 RPM and 1 pressure channel.

## Electrodes

The material of the electrode can be stainless steel, polyoxymethylen or teflon. Stainless Steel electrodes are more durable and preserve better stability than standard thermocouples reducing maintenance time and replacement costs. Depending on the application it is possible to choose the design of the electrode to be either round, sharp or conic.

## Cables

The cables are as standard 7 metres long, but the length can always be customized for a specific application. The cable can be delivered with silicone, teflon or mineral insulated stainless steel. The teflon cables are intended for applications where space is limited such as feed through in autoclaves.

## Plugs

Our standard thermocouples are supplied with high quality gold/platinum Jack Plugs. These plugs are superior for accuracy and durability to other styles. Using high quality plugs greatly reduces time and preserves better accuracy. As Ellab has many customers who also have other brands of equipments, probes can be supplied with open ends or other types of plugs so they can be fitted to non-Ellab equipment.



### SSA-TS

Operating range: -20 °C to +135 °C  
Accuracy: < 0.2 °C / calibrated  $\pm 0.05$  °C  
Response time: 0.8 sec.  
Electrode material: Stainless steel  
Electrode  $\varnothing$ : 1.2 mm  
Electrode end: Round/sharp/conic  
Cable material: Silicone  
Cable dimensions:  $\varnothing$  4.0 mm

### SSA-TF

Operating range: -50 °C to +135 °C  
Accuracy: < 0.2 °C / calibrated  $\pm 0.05$  °C  
Response time: 0.8 sec.  
Electrode material: Stainless steel  
Electrode  $\varnothing$ : 1.2 mm  
Electrode end: Round/sharp/conic  
Cable material: Teflon  
Cable dimensions: 2.6x1.6 mm

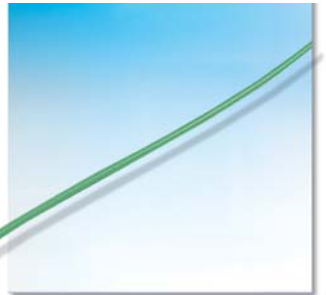


### SSV

Operating range: -20 °C to +135 °C  
Accuracy: < 0.2 °C / calibrated  $\pm 0.05$  °C  
Response time: 0.8 sec.  
Electrode material: Stainless steel  
Electrode  $\varnothing$ : 2.0 mm  
Electrode end: Round/sharp/conic  
Cable material: Silicone  
Cable dimensions:  $\varnothing$  4.0 mm

### STC-TF

Operating range: -90 °C to +200 °C  
Accuracy: < 0.2 °C / calibrated  $\pm 0.05$  °C  
Response time: 2.1 sec.  
Electrode material: Teflon  
Electrode  $\varnothing$ : 3.2 mm  
Electrode end: Round  
Cable material: Teflon  
Cable dimensions: 2.6x1.6 mm



### SSS

Operating range: -20 °C to +135 °C  
Accuracy: < 0.2 °C / calibrated  $\pm 0.05$  °C  
Response time: 3.0 sec.  
Electrode material: Stainless steel  
Electrode  $\varnothing$ : 3.0 mm  
Electrode end: Round/sharp/conic  
Cable material: Silicone  
Cable dimensions:  $\varnothing$  4.0 mm

### SSU-MM

Operating range:  
-185 °C to +300 °C (+400 °C short term)  
Accuracy: 1.0 % of measuring range  
Response time: 1.0 sec.  
Electrode material: Mineral insulated  
Metal Sheated  
Electrode  $\varnothing$ : 1.5 mm  
Electrode end: Round  
Cable material: Mineral insulated  
Metal sheathed  
Cable dimensions:  $\varnothing$  1.5 mm



### SSR

Operating range: -20 °C to +135 °C  
Accuracy: < 0.2 °C / calibrated  $\pm 0.05$  °C  
Response time: 3.0 sec.  
Electrode material: Stainless steel  
Electrode  $\varnothing$ : 3.0 mm  
Electrode end: Round/sharp/conic  
Cable material: Silicone  
Cable dimensions:  $\varnothing$  3.0 mm

### STC-AC

Operating range: -67 °C to +400 °C  
Accuracy: < 0.5 °C  
Response time: 1.8 sec.  
Electrode material: Fibre glass  
Electrode  $\varnothing$ : 2.0 mm  
Electrode end: Round  
Cable material: Fibre glass  
Cable dimensions: 1.8 x 1.1 mm  
- for usage in hot air.



### SD4

Operating range: -20 °C to +135 °C  
Accuracy: < 0.2 °C / calibrated  $\pm 0.05$  °C  
Response time: 5.0 sec.  
Electrode material: Polyoxyethylene  
Electrode  $\varnothing$ : 3.0 mm  
Electrode end: Round  
Cable material: Silicone  
Cable dimensions:  $\varnothing$  8.0 mm  
- by probe w. 4 measuring points

# Ellab

More than 50 years of manufacturing experience has taken Ellab probes into a leading position worldwide. Our know-how is unique and we constantly strive to develop our manufacturing technique to fulfill demands. When it comes to accuracy, performance and versatility no other probe can guarantee and actually perform within the specifications of Ellab probes.

## Customized probes

Ellab offers customized probes for our customers to fit all kinds of applications. Please contact our specialists in your area to specify your exact need.

## Calibration Certifications and Service

Ellab maintains a complete calibration facility for annual certifications and service. All certifications are traceable to NPL and NIST Standards. Service and maintenance contracts are available.

## Training

Training and equipment installation are available through Ellab. Validation consultants are available experienced with Ellab equipment to assist with IQ, OQ and PQ procedures.



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