

# Soil Depth Thermometer

Instruction for Use 2.2115.03... / 2.2116.03....



## Description

The soil depth thermometer is designed to measure the soil temperature. By pulling the thermometer support out of the guiding tube the thermometer is visible. The reading is carried out at the upper part of the mercury column.

## Mounting

At the measuring location a hole must be bored into the ground. The depth of the ground hole has to correspond at least to the length of the guiding tube. The bore diameter must be not less than 40 mm.

Afterwards, the guiding tube is to be inserted into the bore hole in the ground.

Now, the thermometer, together with the thermometer-support, is to be inserted carefully into the guiding tube.

## Technical Data

Meas. Range	: see model
Graduation	: see model
Inserting depth	: see model
Liquid	: Quecksilber
Accuracy	: see model
Type	: DIN 58655
Type *	: following DIN 58655
Weight	: 1,2 kg
Total length	: approx. 0,6 / 1,1 m
Thermometer length	: 320 mm
Bore diameter	: > 40 mm

## Model

Description	Order-No.	Meas. Range	Graduat.	Accuracy	Insert.Length
Soil Thermometer	2.2115.03.013	-10...+30°C	0,1 K	±0,3 K (-10..-5°C) ±0,15 K (-5..+30°C)	500 mm
Soil Thermometer	2.2116.03.013	-10...+30°C	0,1 K	±0,3 K (-10..-5°C) ±0,15 K (-5..+30°C)	1000 mm
Soil Thermometer *	2.2116.03.092	-10...+55°C	0,2 K	±0,2 K	1000 mm

## Maintenance

### Replacing a Thermometer

Screw off the ground contact cap at the lower part of the thermometer support. Afterwards, the thermometer is to be pulled out of the thermometer support. Mounting is carried out in reverse order.

### Separated liquid columns – what do you do?

Before use of a liquid in glass thermometer, make sure that the liquid column is not interrupted. These phenomena are frequently caused by violent shocks during transport.

In most cases it is possible to rejoin broken columns by application of the following directions:

If there is only a small interruption at the upper end of the column, try to rejoin it by holding the thermometer in a vertical position and taping it against the inside of the hand.

Another procedure may be effective by warming the bulb until the column reaches the separated portions in the safety chamber at the upper end of the capillary tube. Great care is necessary to avoid filling the safety chamber completely with mercury, which might produce pressures large enough to burst the bulb. Joining the mercury is more readily accomplished if the quantity in either cavity has first shattered into droplets by tapping the thermometer laterally against the hand.

If an interruption is in the lower part of the liquid column, the bulb of the thermometer may be cooled in a solution of common salt, ice and water (about  $-20^{\circ}\text{C}$ ) to bring the mercury down into an enlargement of the bore or finally into the bulb. Moderate tapping of the bulb on a paper pad, inside of the hand, or the application of centrifugal force usually serves to unite the mercury in the bulb. If the salt solution does not provide sufficient cooling carbon dioxide snow (dry ice about  $-78^{\circ}\text{C}$ ) may be used. Since mercury freezes at about  $-38^{\circ}\text{C}$ , it will cause the mercury to solidify. Care must be taken to warm at first the top of the bulb or the enlargement of the capillary tube so that pressures in the bulb due to the expanding mercury may be relieved.

	<b>ADOLF THIES GmbH &amp; Co. KG</b>		
	Hauptstraße 76      37083 Göttingen Germany P.O. Box 3536 + 3541      37025 Göttingen Phone ++551 79001-0      Fax ++551 79001-65 www.thiesclima.com      info@thiesclima.com		

- Alterations reserved -