TT-TS & TT-TC | TEMPERATURE TREE - THERMISTOR OR THERMOCOUPLE

SENSORS

TEMPERATURE MEASUREMENTS THROUGH PAVEMENT AND SOIL LAYERS PROVIDE A METHOD FOR DETERMINING THERMAL GRADIENTS THAT CAN AFFECT FLEXURAL STRAINS AND MATERIAL STIFFNESS. BY PROVIDING FIXED SPACING OF THE THERMAL MEASUREMENTS IN SPECIFIC LAYERS IN PAVEMENTS AND SOILS HELP TO BETTER MODEL PAVEMENT-SOIL INTERACTION AND/ OR EFFECTS FROM THERMAL DIFFERENCES OF PAVEMENT SURFACES.

FEATURES

+ BDI temperature trees are custom built to specific measurement spacing using either thermistors or thermocouples dependent on User's data acquisition configuration. These can be configured with high-temperature lead wire for insertion in flexible pavements or standard lead wire for use in rigid pavements or soils.
+ In instances where temperature measurements are required in multiple lifts of flexible pavements, temperature trees are configured with telescoping rods for fixed spacing in multiple lifts.

APPLICATIONS

+ Slab curvature can be computed or predicted with the use of temperature trees, moisture and strain measurements through slab thickness during curing. This helps better understand interaction of slab jointing with dowels
+ Temperature trees are used to measurement influence of climatic conditions of daily and seasonal variations of temperature differentials through slab depths related to surface temperatures from solar radiation
+ Measurements of temperature differentials between pavement and subgrade help to better understand deflection behavior of pavements
+ Measurements of temperature variation through flexible pavements helps to better understand stress/strain in flexible pavements as material stiffness changes with temperature

SPECIFICATIONS

MODEL	TT-TS-### (THERMISTOR)	TT-TC-### (THERMOCOUPLE)
MEASUREMENT	2, 3, or 4 (user-specified). Can be customized for additional measurement points or telescoping for use in multiple lifts.	
MEASUREMENT DISTANCES[1]	Made to order	
TYPE	10kOhm - NTC Type Thermistor	Thermocouple (TYPE T)
TEMP RANGE	-40° to 200 °C (-40° to 400 °F)	
ACCURACY	2%	±1%
HOUSING	Nylon rod	
WEIGHT	100G (3.5 OZ)	
DIMENSIONS	300 mm (12 in) Long 19 mm (.75 in) Diameter	
POWER RATING	max 32 mW at 25 deg C (77 deg F) per Thermistor	0 Watts
CABLE	Custom lead cable length made to order: IC-02T-125 (24 AWG, 2 pair, drain wire, Teflon insulation and Jacket) IC-02-187 [22 AWG, 2 shielded pair, drain wire, red PVC jacket] IC-03-250 [24 AWG, 3 shielded pair, drain wire, black PVC jacket] IC-04-250 [24 AWG, 4 shielded pair, drain wire, black PVC jacket]	Thermocouple Type T wire 20-, 24- AWG solid wire with Neoflon FEP insulation cover for high-temperature performance.

[1] Measurement distances between temperature points can be specified by the customer and are made to order.