

Program: ST-100_SampleProgram.CR1

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'CR1000
'Program for measuring Apogee thermistor temperature sensor ST-100
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'Wiring Diagram:
'
' EX1 (Red) ----- Excitation for thermistor = 2.5V
'
' SE1 (Black) ----- Positive lead for thermistor
'
' Ground (Blue) ----- Negative lead for thermistor

'Explanation of variables and constants used in program
'PanelT = datalogger panel temperature
'BattV = datalogger battery voltage
'TempC = temperature in degrees Celsius
'TempK = temperature in Kelvin
'TempF = temperature in degrees Fahrenheit

'Declare public variables
Public PanelT, BattV, TempC, TempK, TempF

'Define data table (table is outputting data every 60 seconds)
DataTable (ST-100,1,-1)
  DataInterval (0,60,Sec,10)
  Minimum (1,BattV,FP2,0,False)
  Sample (1,PanelT,FP2)
  Average (1,TempC,FP2,False)
  Average (1,TempK,FP2,False)
  Average (1,TempF,FP2,False)
EndTable

'Main program
BeginProg
  Scan (5,Sec,0,0)

  'Measure Battery Voltage and Panel Temperature
  Battery (BattV)
  PanelTemp (PanelT,_60Hz)

  'Use Therm109 command to calculate temperature and place result in TempC
  Therm109 (TempC,1,1,Vx1,0,_60Hz,1.0,0)

  'Instructions to calculate temperature in Kelvin and degrees Fahrenheit
  TempK = TempC + 273.15
  TempF = TempC * 1.8 + 32

  'Call output table
  CallTable ST-100

  NextScan
EndProg
```