

"K" Type Thermocouple Adaptor

This module contains a MAX6675 Integrated Circuit to convert the output of a "K" type thermocouple to a Serial Peripheral Interface signal using the "max6675" library.

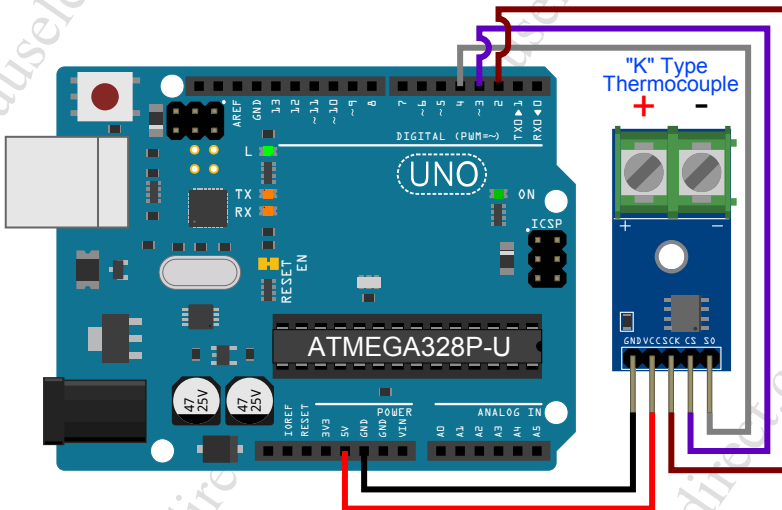
Thermocouples are a junction of two dissimilar metals which produce a small voltage which changes with the temperature at the junction. "K" type thermocouples are created using a nickel-chromium alloy (positive lead), and nickel-aluminium alloy (negative lead), and are capable of measuring temperatures between -250 °C and 1 350 °C.

Note! Thermocouple connections are polarised, and must be matched with the polarity marks on the adaptor.

Table 1: "K" Type Thermocouple Adaptor Pin Connections

Device	Arduino	Wire	Description
GND	GND	Black	Ground connection.
+	5V	Red	Positive 5 Volts Direct Current supply.
SCK	D2	Brown	Serial Clock.
CS	D3	Purple	Chip Select.
SO	D4	Grey	Signal Output.

D2, D3, D4: can be any digital pin.



The sketch below can be used to display the results to the Arduino Serial Monitor / Plotter.

```
#include "max6675.h"
int pThermoCLK = 2;
int pThermoCS = 3;
int pThermoSO = 4;
MAX6675 thermocouple( pThermoCLK, pThermoCS, pThermoSO );
void setup() {
  Serial.begin( 9600 );
  delay( 500 );
}
void loop() {
  Serial.println( thermocouple.readCelsius() );
  delay( 1000 );
}
```

K Type Thermocouple Adaptor...

Module Specifications

PCB Dimensions (H × W × D):	32.1 × 15.7 × 1.6 mm
Enclosing Dimensions (H × W × D):	38.0 × 16.2 × 15.3 mm
Weight:	4.61 grams [g]
Input Voltage:	5 VDC

Module Performance

Current Draw: 0.45 milliamps [mA] @ 5.00 VDC

Module Mounting

The module has a single 3.8 mm diameter mounting hole. As the bare component leads protrude through the bottom of the PCB, suitable spacers and insulation must be used.

Projects

Folder: \Modules\Environment\K_Type_Thermocouple_Adaptor\

- **K_Type_Thermocouple_Adaptor_SM**: Display the results to the Arduino Serial Monitor / Plotter.

K Type Thermocouple Adaptor - Dimensions

