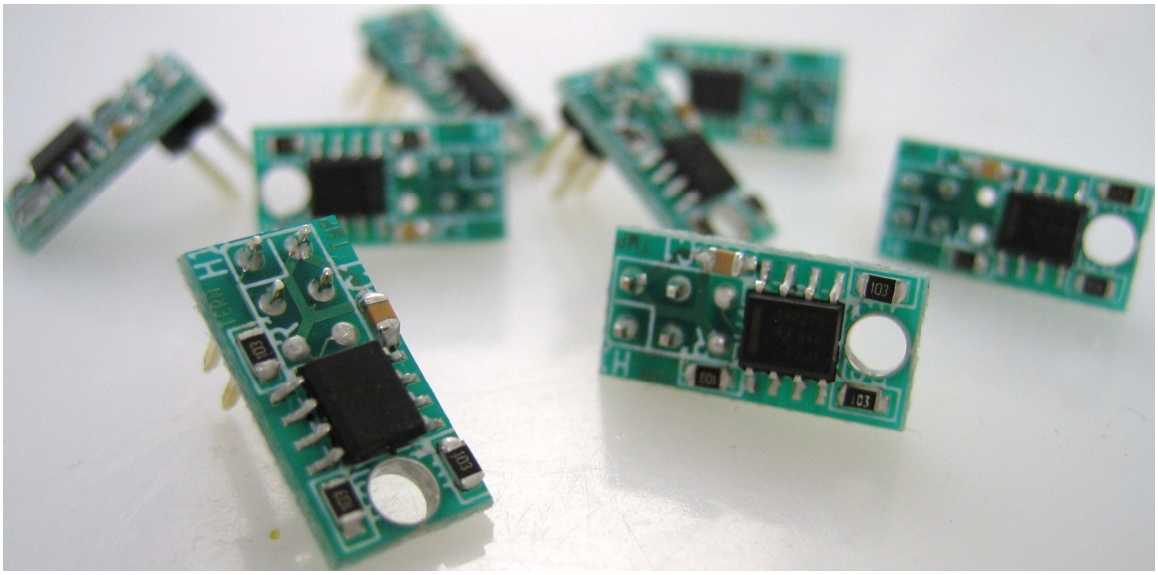
Temperature IC Sensor™

Two Wire Temperatire Sensor Newtork



Technical Manual

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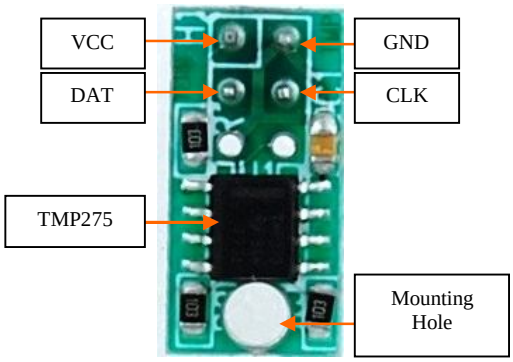
TERN reserves the right to make changes and improvements to its products without providing notice.
Temperature readings for controllers are based on the results of limited sample tests; they are provided for design reference use only.

1.1 Functional Description

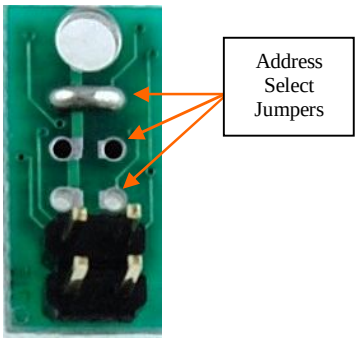
The TMP275 is a 0.5°C accurate, Two-Wire, serial output temperature sensor with a resolution of 0.0625°C. It is ideal for extended temperature measurement in a variety of communication, computer, consumer, environmental, industrial, and instrumentation applications. Three Address Select Jumpers allow up to 8 devices on the same 2-line I/O bus.
The TMP275 is specified for operation over a temperature range of −40°C to +125°C.
The IC Sensor uses 4 pins: VCC, GND, DAT, CLK.

1.2 Physical Description

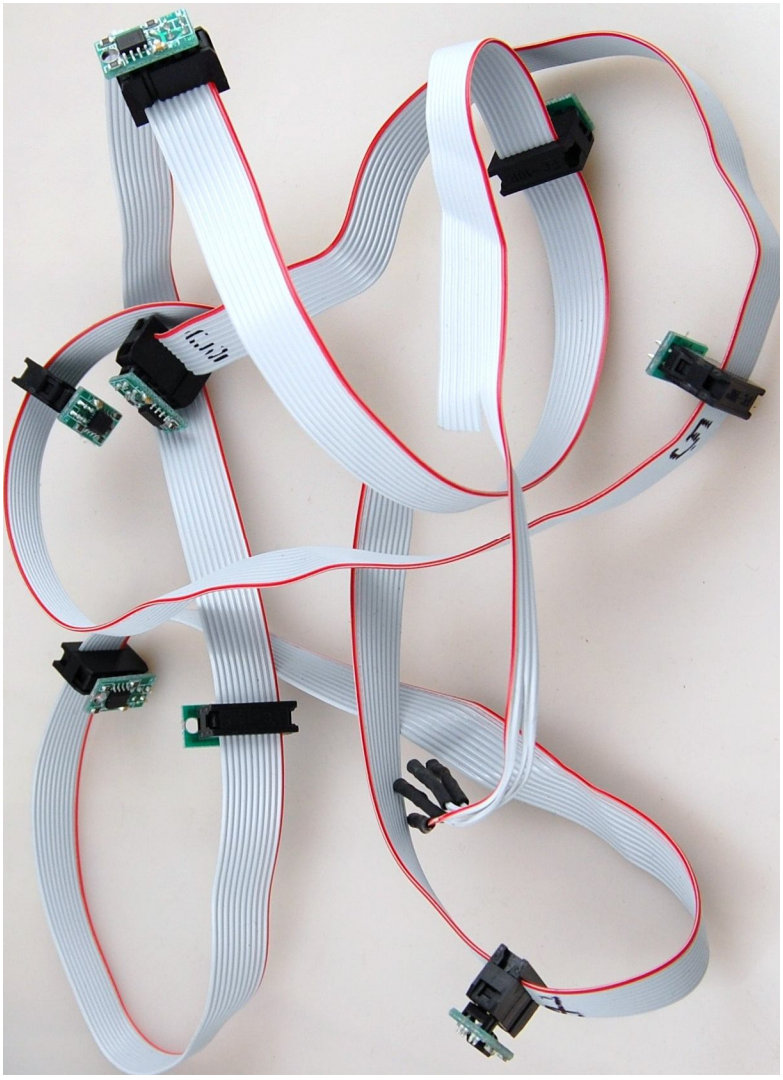
Layout of IC Sensor(Top View):

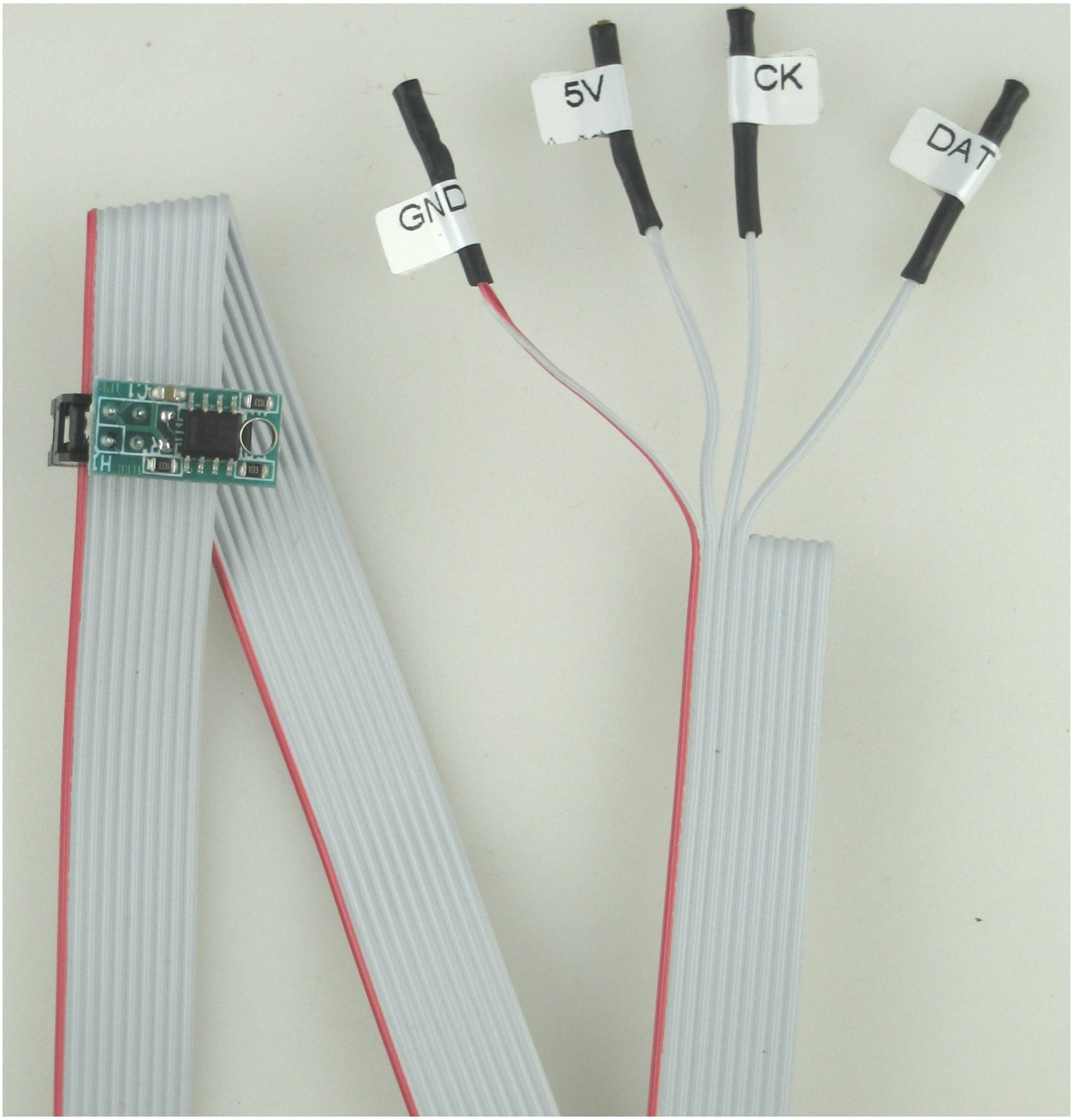


Address Select Jumpers(Bottom View):



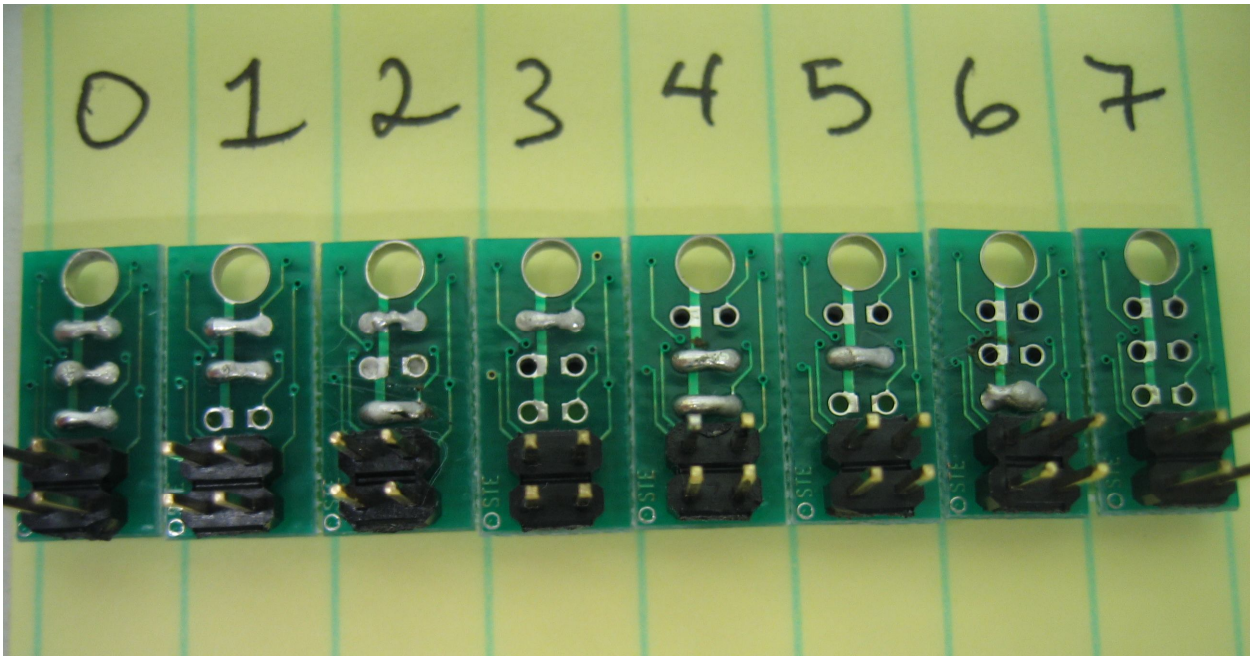
Temperature Sensor Demo Cable Assembly:

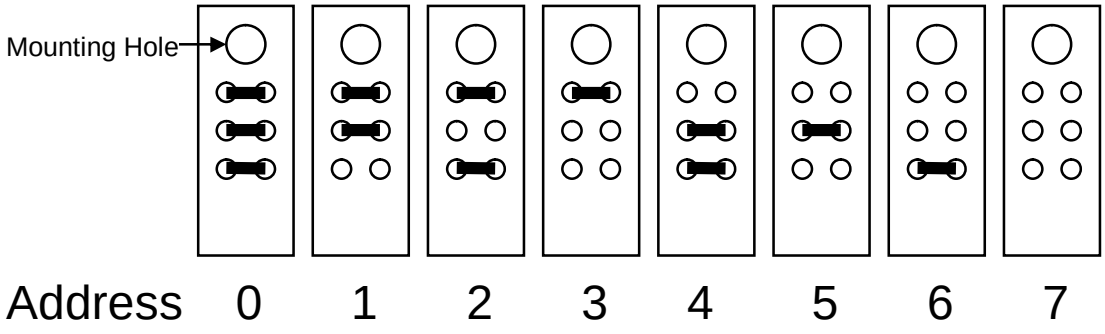



GND
5V
CK
DAT

Functional Description

Sensor Addressing:





1.3 Software

The TS is read using two wires: CLK and DAT. The CLK and DAT lines directly interface the TMP275 temperature sensor chip (U1). Details on communicating with the TMP275 can be found in the TMP275 User Guide on the TERN Development/Evaluation kit CD under *\tern_docs\parts*.

The sample program "*tb_tmp.axe"* in project *c:\tern\186\samples\tb\tb.ide* shows how to address, read and decode temperature readings from a TS.