

Tecnología Aplicada
a la Información

Thermocouple Module

TAI8560

Features

- Dallas 1-Wire ® interface with unique 64-bit device address
- Internal temperature sensor for cold junction compensation
- Several modules with different thermocouples can be located at the same 1-Wire LAN
- 32 bytes of lockable EEPROM
- 16 bytes of general purpose SRAM
- Information associated with the thermocouple may be stored within the chip itself (“tagging”),
- Internal Temperature sensor resolution of 0.125 °C.
- Thermocouple input uses
 - A 12 Bit ADC to measure the thermocouple voltage.
 - Voltage Resolution of 15.625 uV
 - Voltage Range of +/- 64 mV
- Works with thermocouples type E, J, K, R, S, T.
- DS2760 based, 1-Wire compatible
- Several modules with different thermocouples can be located at the same 1-Wire LAN.
- Not external power supply needed, power received from the communications 1-Wire line.
- The thermocouple is the only needed external component.

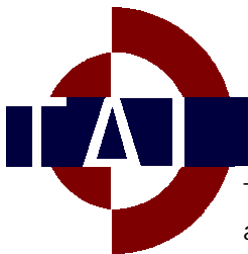


Description.

The DS2760 thermocouple module is a low cost device, that allows to connect a thermocouple to a 1-Wire LAN. The module reports the analog voltage generated by the thermocouple by means of a 12 A/D converter that provide a resolution of 15.625 micro volts. The voltage range of this converter is +/-64 mv allowing to register positive and negative temperatures.

Each module has an internal “environment” temperature sensor to report the connector temperature allowing the host computer to calculate the value for the “cold junction” compensation.

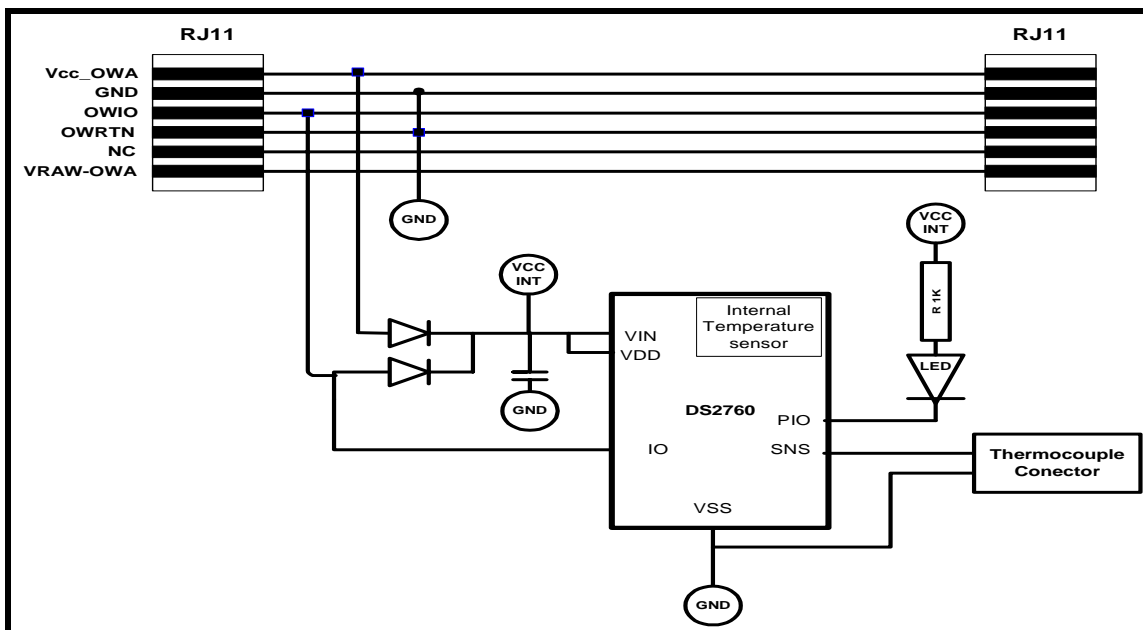
The DS2760 inside the module provides also 32 bytes of EEPROM that can be used to identify the type of



thermocouple connected to the module.

A java class is available at <http://www.aag.com.mx/downloads> that extends the functionality of the DS2760 class in the OneWireAPI , providing methods to read the a/d converter or to convert the a/d readings to temperature values in C° or F° taking care of the cold junction compensations

Also an evaluation kit TAI8560KIT is provided that includes a TAI8560 Module, a type K thermocouple and a CD with the source code of the TAI8560 java class, some examples and a Windows 95/98/2000 program that allow to experiment with the module. The only requirements are a DS9097U and the TMEX and OneWireAPI drivers available at ftp://ftp.dalsemi.com/pub/auto_id/softdev/softdev.



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