

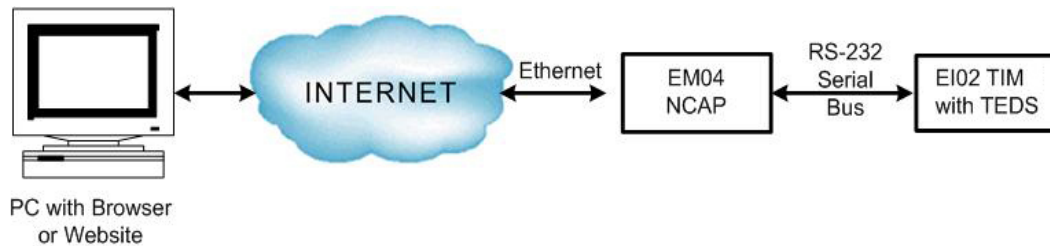
# E sensors



## IEEE p1451.2 Prototyping Kit (Internet Version)

### Introduction

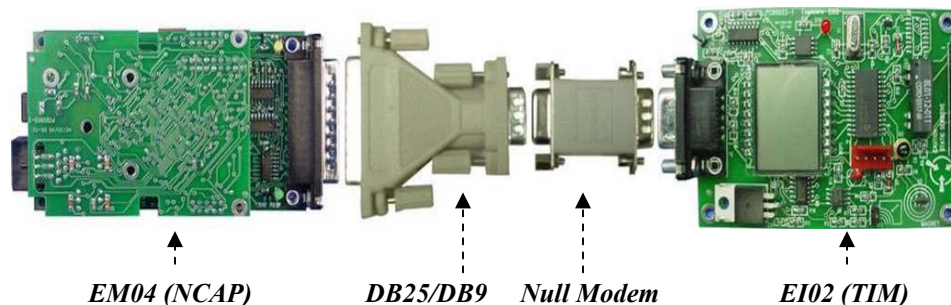
The **IEEE 14541.2** (Dot 2) smart transducer interface standard is being revised by a working group and is expected to utilize the standard RS232 and RS485 serial buses as the main options (replacing the TII). Also the Transducer Electronic Data Sheet (TEDS) format is being changed. The prototyping kit consists of an Internet compatible Network Capable Application Processor (NCAP) and a Transducer Interface Module (TIM) which can be reprogrammed to suit various applications. It is intended for engineers who are considering future Dot 2 application.



### Description

The **EM04** interface exchanges digital data between an RS232 serial bus and the Internet through Ethernet. Using TCP/IP format, commands from a website (browser) are sent to the EM04 NCAP which converts the commands to standard IEEE1451.2 format and retransmits them to a TIM through the serial port. Received sensor digital data from the TIM is reformatted within the NCAP (h-command set) and sent through the Internet, via Ethernet, back to the originating website. The NCAP supports several forms of the Transducer Electronic Data Sheet (TEDS).

The **EI02** is a prototype TIM with three inputs and two outputs. The input consists of two sensors (Photodiode and Hall Effect) and an analog input. The outputs consist of a relay output and a D/A voltage output. A standard RS232 serial connection is used with power provided over the 9-pin sub D connector. An internal PIC16F873 microcontroller can be reprogrammed by the user. Source code (PIC C) is provided but because the standard is not finalized, the data formats and TEDS are provisional and subject to change.



### Price

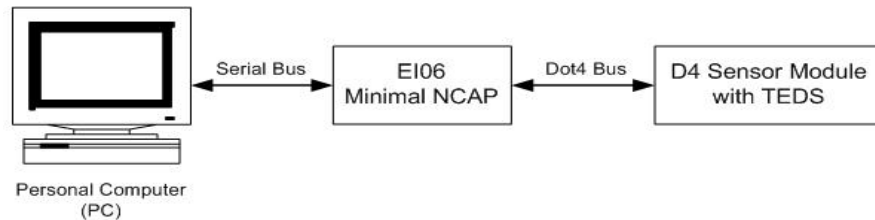
**Dot2 Kit (Internet Version)** -- Available at \$800

To order, or for further information -- Contact [designer@eesensors.com](mailto:designer@eesensors.com)

# IEEE 1451.4 Prototyping Kit (PC Version)

## Introduction

The **IEEE 1451.4** (Dot4) smart transducer interface standard has recently been adopted and the Class I interface is already being used by several accelerometer companies. However the Class II interface has the potential of being used with a larger number of devices, specifically with analog sensor signal conditioners. The kit is intended to be used by engineers adopting a Class II Dot4 interface to new or existing analog sensors. It provides the TEDS read/write capabilities along with an A/D for convenient conversion to a digital format.



## Description

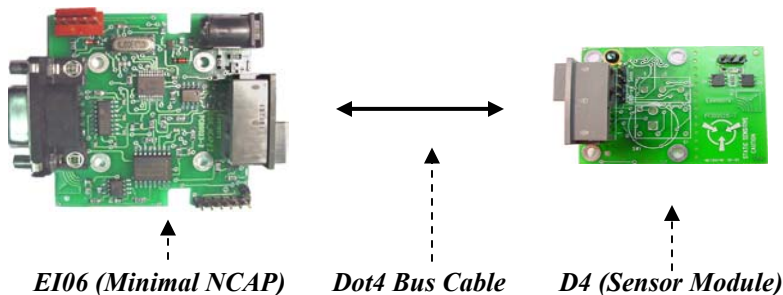
The **EI06** Minimal Dot4 NCAP (Network Capable Application Processor following IEEE 1451.4 protocol) allows testing and demonstration of the Dot4 Class 2 compatible transducers which have a TEDS (Transducer Electronic Data Sheet) and an analog signal input (Mixed Mode). One function provides an interface for reading (and writing) the TEDS digital data on the 1-wire Dallas/Maxim line and then to transfer this data to (and from) a PC via an RS232 link. The second function is to read analog data from a sensor, and to display this data on a PC screen.

The TEDS 64-bit Unique ID is displayed in hex, with the family code and CRC separated. The second part of the TEDS is the 64-bit Basic TEDS displayed as separate field (Manufacturer code, etc).

The EI06 has a 14-bit A/D and therefore can read in an analog signal. The a/d range is  $-2$  to  $+2$  volts. The EI06 reads in an analog signal and sends it to a PC through an RS232 following a read command.

The **D4** demonstration sensor module has the following features:

- Plugs into the EI06 via the 6-wire modular connector and cable (Dot4 bus)
- Uses the Dot4 type TEDS
- Analog signal outputs only when module is selected
- Multiple sensor modules can be connected on the same bus (multi-drop, 10+)
- Three optional versions of the D4 (Temperature, Illumination, and Switch Closure) are available
- Analog output compatible with the EI06 A/D range
- LED indicator indicates selection and power.



## Price

**Dot4 Kit (PC Version)** -- Available at \$800

To order, or for further information -- Contact [designer@eesensors.com](mailto:designer@eesensors.com)