

I²C Professional

- Monitors bus traffic on I²C* or SMBus* systems at full speed (0 to 400 kHz).
- Sends and Receives messages as an I²C Master device.
- Sends and Receives messages as an I²C Slave device.
- Capable of being used on a Multi-Master bus.
- Trigger connection can provide an output to an oscilloscope or to power devices, or can be set to an input for timing events.
- Shows acknowledgements (ACKs) and negative acknowledgements (NACKs).
- **No driver disc needed** (Windows XP/2000 only).
- No power supply required.
- Compatible with 5 volt and 3.3 volt bus systems.
- Can be used with standard terminal programs supplied with Windows or Linux.
- Supplied with **Windows Software Developer Kit** that provides I²C data to VB, VBA, C or Java applications through an OCX.
- Allows user applications to control I²C peripherals through the OCX.
- Allows user applications to emulate I²C peripherals through the OCX.



The *I²C Professional* provides comprehensive facilities to monitor I²C bus activity plus the ability to participate on the bus through sending and receiving messages. It provides a simple method of examining bus traffic on an I²C or SMBus system with a standard PC without the need for any extra power supplies. It provides a user interface through the HyperTerminal application (supplied with Windows). This interface allows messages to be composed and sent when acting as a bus master and to receive data from slave devices through the master receive function. The interface also allows the *I²C Professional* to be configured to act as an I²C slave device to automatically receive data and respond to requests for data from Master devices on the bus. I²C messages can be colour coded according to the I²C device address and timestamps can show the time of each message with a resolution of 1ms. Filters can be applied so that only messages for devices of interest are shown.

The Windows OCX provides an alternative to the HyperTerminal interface and using this it is possible to fully emulate a slave device such as an EEPROM, ADC or DAC through VB, VBA, C or Java applications. The trigger wire allows an oscilloscope to be triggered in reaction to a sequence of bytes on the bus or to act as an input where transitions on the probe are shown as time-stamped events within the I²C data. It can also be used to power low power devices (e.g. an EEPROM) at 3.3 volts.

The *I²C Professional* connects to the host PC by a USB type-A connector. It is supplied with four probe clips for connection to the I²C system.

Parameters	Min	Typ	Max	Units
Bus Speed			400	kHz
Operating Temperature	0		70	°C
Timestamp resolution / accuracy			1	ms
Input Capacitance		20		pF
Voltage threshold (Input High)	2.0			V
Voltage threshold (Input Low)			0.8	V
I ² C Clock/Data line drive current		-8.5		mA
Trigger probe output voltage (I _{trig} =0mA)	2.9	3.3	3.6	V
Trigger probe output current			8	mA

* SMBus is a trademark of Intel Corporation, I²C is a trademark of Philips Semiconductor.