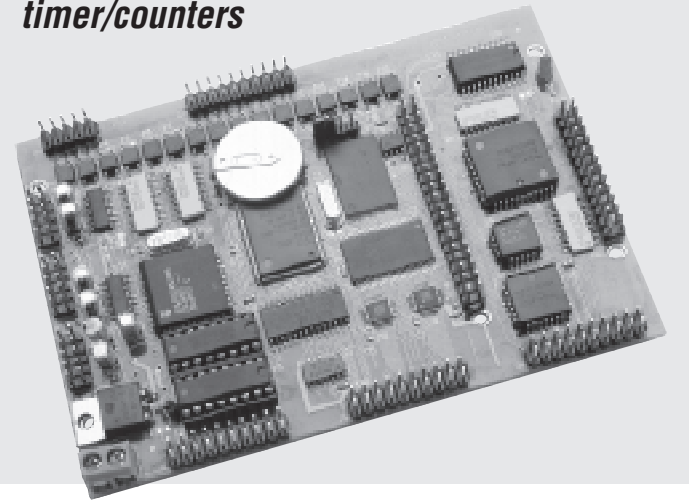


**16 opto couplers, 14 solenoid drivers, 24 TTL, 16 ADC, 4 DAC, 4 serial ports, 6 timer/counters**



### Features:

- 4.8x3.4x0.5", -40°C to +80°C sample tested
  - 16-bit CPU (186), 40 MHz, program in C/C++
  - 190 mA at 40 MHz, 30 mA in power-save mode
  - Up-to 256KW flash and 256 KW SRAM on-board
  - 16 ch. 300 KHz 12-bit ADC (AD7852), 0-5V analog input\*
  - 4 ch. 200 KHz 12-bit DAC (DAC7625), 0-2.5V analog output\*
  - 16-bit external data bus, 512-byte EE, 4 serial ports
  - PWM outputs and Pulse Width Demodulation
  - 6 16-bit timer/counters, 24 TTL I/Os, and 14 solenoid drivers
  - 16 opto-coupler inputs including 5 external interrupts
  - Real-time clock, battery, switching regulator\*
- \* optional

The **TD86™** is designed for rugged industrial control applications that require compact size, superior performance, and reliability.

### Superior Performance

The **TD86™** is a complete C/C++ programmable industrial controller based on a 16-bit, 40 MHz CPU (186) with 16-bit external data bus, supporting 16 channels of high speed parallel ADCs (AD7852, 12-bit, 300KHz, 0-5V) and 4 channels parallel DACs (DA7625, 12-bit, 5µs, 0-2.5V).

With the wider 16-bit external data bus, code executes directly out of 16-bit SRAM or 16-bit flash. The CPU can access the parallel 12-bit ADC, or parallel DAC with zero wait state in single instruction.

Three 16-bit programmable high-performance counters (71054, NEC), each with its own clock input, gate input, and output, can be clocked up to 10 MHz. Three 16-bit CPU internal timer/counters can support PWM, or pulse-width demodulation.

### Industrial Control Input/Outputs

The **TD86** also has 16 opto-isolated digital inputs, 14 solenoid drivers, and 24 TTL I/O pins. The 16 opto-couplers (PS2701/5, NEC) can take up to 50V DC (PS2701, default) or AC (PS2705) inputs. These opto-couplers have 3 µs ON time and 5 µs OFF time. Five opto-inputs are also external interrupts. The 14 solenoid

drivers are capable of sinking 350 mA at 50V per line, and they can drive solenoids or relays.

### Versatile Applications

Four serial ports (two CPU internal, two from SCC2692) are configured to RS232 by default. One CPU internal UART(SER1) can be configured to RS485 (half-duplex) or RS422 (full-duplex). The SCC2692 UART can be configure to RS485.

The **TD86** also supports a real-time clock (RTC72423) with battery, a watchdog timer, and a 512-byte EEPROM. A 64KW or 256 KW 16-bit SRAM can be installed. Using the DV-P kit, user applications can be easily field-programmed into the 16-bit ACTF flash over the serial link.

A **MMB**, or **FC-O** can be installed to support up to 1 GB PCMCIA, CompcFlash card. The **MMB** supports 10 BaseT Ethernet, and an additional 39 channels of 12-bit/24-bit ADC inputs.

A 82C55 PPI chip provides 24 I/Os, which can also be used to interface to an LCD. An optional switching regulator can be installed to reduce power consumption and heat.

The **TD86** supports power-off mode, allowing µA-level power consumption. In this mode, the real-time clock or an external signal can turn the TD86 on or off via the VOFF pin of the switching regulator.

An optional TD-Pack including a 16x2 LCD, 8x2 keys, and an enclosure is available.

### Ordering Information

**TD86**                      **\$229/\$180/\$138/\$92**                      **Qty 1/100/1K/5K+**

Includes: 40 MHz 186, 256KW ACTF Flash, 4 RS232, 24 TTL, 14 solenoid drivers, 16 optos, 6 timers, regulator, EE, and 64KW SRAM.

NOT including add-on options. OEM option discounts available.

### Add-on Options:

- |   |           |
|---|-----------|
| 1) SRAM: 256KW .....                                | \$40      |
| 2) Real-time clock (RTC) and battery .....          | \$20      |
| 3) 8 ch. 12-bit ADC, 300KHz (AD7852), 2 chips ..... | \$40 each |
| 4) 4 ch. 12-bit DAC, (DA7625) .....                 | \$60      |
| 5) RS485/422 driver for CPU SER1 .....              | \$10/\$20 |
| 6) RS485 driver for SCC2692-A .....                 | \$10      |
| 7) TD-Pack (Box, 16x2 LCD, 8x2 keypad ) .....       | \$100     |
| 8) Switching regulator .....                        | \$30      |

### Typical Order Example:

TD86, 256KW SRAM, RTC & Battery, 8 12-bit 300KHz ADCs  
 TD86 + 1 + 2 + 3 = \$229 + \$40 + \$20 + \$40 = \$329



1724 Picasso Avenue, Davis, CA 95616 USA  
 Tel: 530-758-0180 • Fax: 530-758-0181