Isolated Event Counter
Time- And Frequency Meter
Model FR 1215

CE

Highlights
- 12 x 16 Bit Timer/Counter Usable As
- Event Counters
- Frequency/Speed Meters
- Time Measurement
- Inputs Ánd Outputs Optical Isolated
- Meets EMV-Specifications

General
The data acquisition board model FR 1215 was designed to interface directly with PC's internal ISA-Bus through any available expansion slot.

The unit is provided with twelve 16-bit counters and a 2 MHz frequency oscillator. All 12 counter inputs, 12 gate inputs and 11 counter overflow outputs are available at the DB37 connector.

By a selectable jumper field, different measuring modes like event counter, frequency metering or time measurement can be configured.

Besides this one of the main feature is the input/output-to-system isolation thus eliminating trouble some ground loops and protecting the system from damage by external high voltages.

The BASE address is switch selectable and can be located anywhere up to 3E0$_h$. 16 addresses are used. This allows installing multiple boards in the same host at the same time.

The counters can be cascaded. By this way 32-bit counter respective 48-bit counter can be configurated. Additional the unit is provided with 2 MHz quartz oscillator. Using some jumpers, the frequency of 2 MHz can be connected to a counter input for generating a distinct frequency for time measurement.

Using a second counter for frequency deviding times of 0.1 sec or 1 sec can be generated as time base for frequency measuring.

Software
A disk is included with programming examples for Basic, Turbo Pascal, C, Visual Basic, 16 Bit DLL for Windows 3.x and 32 Bit DLL for Windows 95.
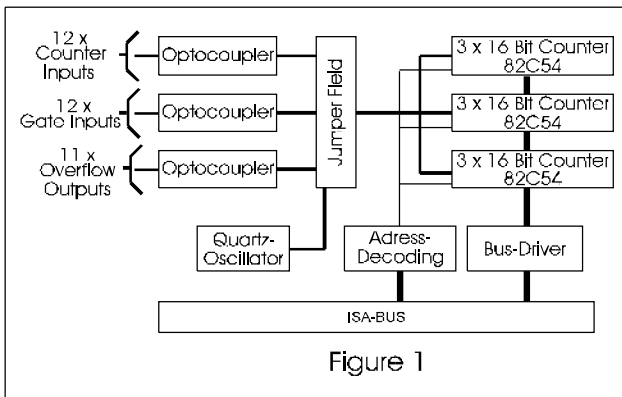

Figure 1

Applications
The model FR1215 board uses 4 programmable Timer/Counter-Chips 82C54. The counter/timer device 82C54 is designed for fast 10 MHz operation. It has three independently programmable 16 bit counters and six programmable counter modes. Counting can be performed in both binary and BCD formats.

The 82C54 offers a very flexible, hardware solution to the generation of accurate time delays.

Technical Specifications	
CountingInputs	: 12 x Channel
Gate Inputs	12 x Channel Optoisolated
Input Voltage	: 5 V, 12 V, 15 V, 24 V Customer Defined
Input Frequency	: max. 10 kHz
Optional (Counting)	: max. 1 MHz
Outputs	: 11 x Counter Overflow Optoisolated External Common +
External Supply Voltage	: max. 30 V
Output Current Per Channel	: max. 20 mA
Time Base	: 2 MHz
Supply Voltage	: +5 V, max. 0,5 A
Connector	: DB37-male
EMV	: EMV-conform with 89/336/EWG
Operating Temperature	: 0 - 50 °C
Storage Temperature	: - 25 to +85 °C

Ordering Information
FR 1215/XXXXX/XX

Input Voltage:
05 = 5 V
12 = 12 V
15 = 15 V
24 = 24 V

Input Frequency:
10kHz = max. 10 kHz
1MHz = max. 1 MHz