



Decoder / Counter

8 Channel 16 Bit Shaft Decoders or 8 Channel 16 Bit Counters for Mini-Module or VMEbus Systems

The picture shows a diagram of the Quadrature decoder.

Features

- ❑ 16 Bit counters
- ❑ 8 Independent Channels
- ❑ 8 Independent Halt Lines
- ❑ Counter Reset either Hardware or Software
- ❑ Input Filters
- ❑ Up and Down count
- ❑ Single 5V Supply

Module Bus Slave

- ❑ Compatible with Mini-Module
- ❑ Software drivers and Examples
- ❑ Low cost Target
- ❑ Small Size 100 x 118mm

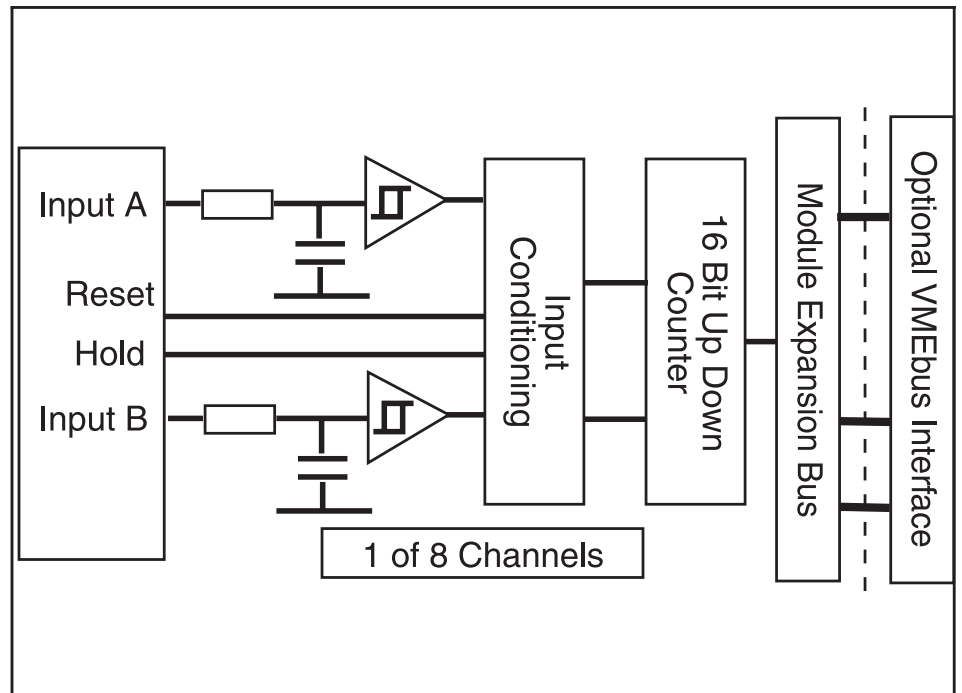
VMEbus Slave Rev C1

- ❑ 3U Single Height eurocard 100 x 160mm

Description

Two versions of this board are available. The board can be purchased as an 8 channel 16 bit counter or as an 8 channel 16 bit quadrature decoder. Also each of these can be purchased with software reset or hardware reset counters. The software reset counters are reset by writing to the counter. Hardware reset counters are reset by grounding the hardware reset input pin.

The counter board has four inputs for each channel, the clock, the direction, a hold line and optionally a reset line. While the hold line to a particular channel is high the counter will count the number of clocks since the channel was reset. When the hold line is active the



counter value is held at its current level and any subsequent clocks will be ignored. The clock line is passed through schmitt inverters to clean up any bad edges that are generated by long cable runs. Depending on the sense of the direction signal the counter will either count up from 0 or down from FFFF. The maximum clock frequency for these counters is 20MHz.

The quadrature decoder board also has four inputs for each channel, input A, input B, a hold line and optionally a reset line. Power and ground pins to driver the encoder are also provided for each channel. The quadrature encoder works by generating two square waves 90 degrees out of phase of each other. These are passed through schmitt inverters to clean up any bad edges generated by the filters and long cable runs. The direction of the counter depends on whether phase A leads phase B or phase B leads phase A. Like the counter board when the hold line is active the counter value will not change and any clocks that are generated in this

state are ignored. The maximum input frequency of the counters far exceeds the maximum rotational speed of standard quadrature encoders.

All of the input signals are connected to the plant by a 50 way IDC ribbon cable. If this is not suitable a transition board is available to enable plant wiring to be screwed into terminal blocks and a short ribbon cable connects to the counter board. Compatible Quadrature encoders include those available from RS Components (Stock No 187-337).

The picture shows a block diagram for the 8 channel counter

Specification

8 x 16 bit Counters

Maximum clock frequency 20MHz

Hardware reset Counters

Software reset Counters

Module Bus

A14:D16 32 byte Peripheral Address Space

4 Map options

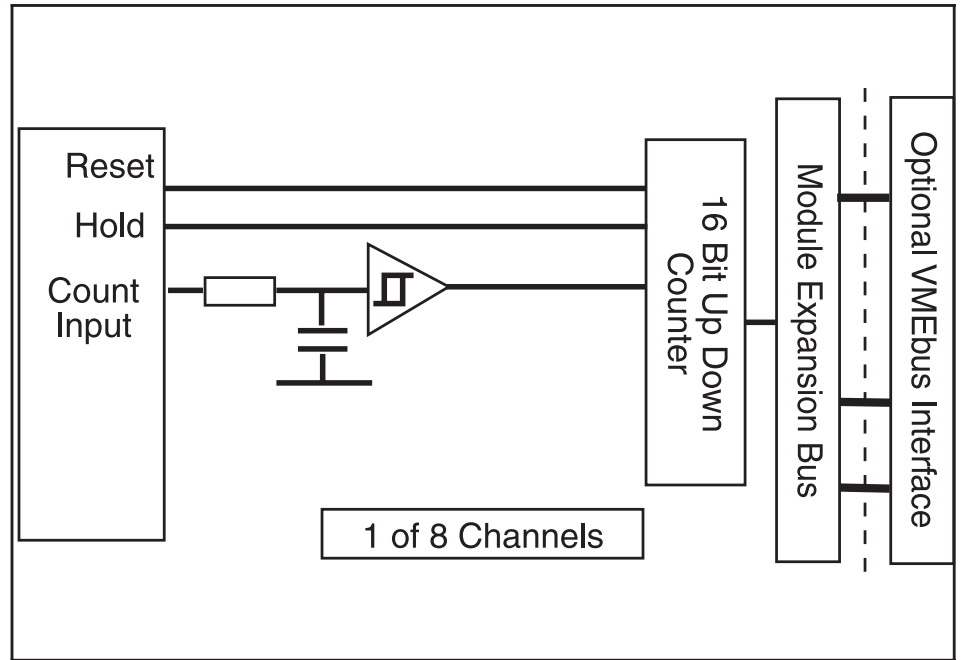
Mini-Module Compatible

Size 100 x 118mm

VMEbus

A16:D16 Short Address Space

\$29 and \$2D Modifiers



Size 100 x 160mm

Connectors

50 way IDC type Box Header

64 way Module Bus

or 96 way VMEbus DIN41612

Power Consumption

100mA at 5V Typ.

All VMEbus Boards add 100mA

Temperature Range

0 to 70 degC

Ordering Information

Module Bus Version

K-620	8 Channel Software reset Quadrature Decoder
K-621	8 Channel Hardware reset Quadrature Decoder
K-630	8 Channel Software reset Counter
K-631	8 Channel Hardware reset Counter

VMEbus Version

D-620	8 Channel Software reset Quadrature Decoder
D-621	8 Channel Hardware reset Quadrature Decoder
D-630	8 Channel Software reset Counter
D-631	8 Channel Hardware reset Counter

C-050 50 Way IDC to Screw Terminals

MK-620 Technical Manual

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