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Find the *Molex / Woodhead / SST 5136-DN-VME* at our website: *Click HERE*

5136-DN-VME may return an invalid Interrupt ID during an IACK cycle

Overview

The SST DeviceNet VME interface card (5136-DN-VME) has the potential to return an invalid or incorrect Interrupt ID during an Interrupt acknowledge cycle. This does not prevent proper use of interrupts on the 5136-DN-VME card but must be considered when developing an application to prevent sporadic interrupt detection.

Problem

The Interrupt ID Register on the 5136-DN-VME card is located at the short base address + 3 and contains the interrupt ID read by the VME host interrupt service routine during the interrupt acknowledge cycle. This 8-bit value is output on the odd half of the data bus (D00-D07) when the appropriate interrupt acknowledge bus cycle is detected to allow the VME host interrupt routine to be able to uniquely identify an interrupt source.

There is the potential that an invalid or incorrect Interrupt ID is returned during the interrupt acknowledge cycle which may, depending on interrupt service routine implementation, result sporadic interrupt detection.

Work Around

To ensure interrupts generated by the 5136-DN-VME are not missed it is recommended that the interrupt routine check the Configuration/Status Register IRQ bit to determine if the card has generated an interrupt.

Configuration / Status Register

The Configuration / Status register is located at the short base address +1.

7	6	5	4	3	2	1	0
RUN	SYS	WDI	HLTH	IRQE	IRQ	POLL	CINT

IRQ - Interrupt flag, active high

This-bit has different functions for read and write.

When read, this-bit indicates the state of the interrupt latch. A ‘1’ indicates that the card has generated an interrupt. Writing a 1 to this register clears the interrupt latch. This must be done during the hardware interrupt service routine, after the IACK cycle is complete to enable further interrupts.

IMPORTANT: The 5136-DN-VME uses Release on Acknowledge (ROAK) based interrupts, therefore, it is still necessary for the host interrupt routine to read the Interrupt ID from the VME host IACK space to complete the interrupt acknowledge cycle and allow further interrupts. This must be done BEFORE the IRQ bit is cleared. Attempting to clear the IRQ bit before the IACK cycle is complete has no effect.

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If you need more help

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