DATA PATTERNS

DP-cPCI-3780 | 192 Channel Isolated Digital Input / Interrupt Module

KEY FEATURES AND BENEFITS

• 192 channel isolated digital input / interrupt

• Isolation in group of 16 channels

• 192 input interrupts / state change interrupts

• User programmable masks on each input channel

• User programmable low true or high true selection on each input

• Supports input levels from 5 V to 28V DC

• Self-test excluding isolation

• Time programmable debounce for input channel

• Single slot 6U cPCI form factor

• Hot swap compliant

• Windows 2000 drivers provided

• RT Linux drivers provided

APPLICATIONS

• High density status read

• High density digital interface

• Automated testing

• Digital input for soft PLCs

DESCRIPTION

DP-cPCI-3780 provides 192 channel digital input / interrupt with optical isolation. The 192 channel input is divided into 12 groups of 16 channels. The inputs are designed for a input voltage range from 5V to 28V.

INPUTS

Each input group has a programmable debounce circuit so as to enable a unique debounce time for each group. The debounce clock can be programmed from 128 sec to 16 seconds in binary steps. A debounce circuit ensures that false transients are not recognised. Subsequent to de-bouncing, the data can be acquired in a number of modes. Capability to mask individual input channel or group interrupt allows convenient application engineering. The interrupt status is latched and available for reading through cPCI backplane.

DIRECT INPUT

The debounced input data can be read on command from the host bus.

LOW TRUE & HIGH TRUE LOGIC
Each input channel can be assigned as "Low True" or "High True" through software. Each input channel can generate a backplane interrupt on either "HI" to "LO" or "LO to "HI" or state change. The low true/high true polarity can be programmed on a per channel basis.

INTERRUPT MODE

Any input can be configured to generate an interrupt by programming the interrupt mask register. Whenever an enabled input changes to its true state, an interrupt is generated.

STATE CHANGE INPUT

The state change input block continuously compares the current data with the previous data. Whenever the change occurs in the input the changed status is indicated via an interrupt and the changed channels are recorded for reading by the host through the cPCI interface.
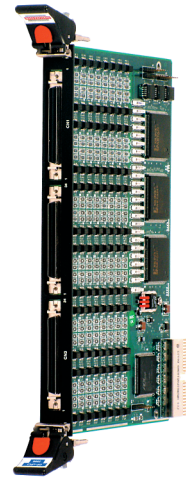
SELF TEST REGISTER

Complete built-in-self-test allows all channels in the module to be independently tested without any external circuits. Each input after isolation is fed through a software programmable switch assembly to allow either self-testing or direct reading of field inputs. The test value can be programmed by the user to carry out the self-test as desired, even when the "Field" wiring is in place at real time.

cPCI INTERFACE

The DP-cPCI-3780 has a 32-bit 33 MHz cPCI interface. The module is hot swap compliant as per PICMG2.1 Rev 1.0

SOFTWARE SUPPORT

The module is supplied complete with device drivers in Windows 2000 and RT Linux. Please contact factory for support in any other operating system such as VxWorks, QNX, INTime, Lynx etc.

DP-cPCI-3780

SPECIFICATIONS

INPUTS

No. of channels	192 Isolated inputs
Input control	On program command
Debounce	128 sec to 16 sec
Minimum pulse width	100 sec + Debounce Time
Isolation	Input to system (500V DC)
	Input group to group (150V DC)

INTERRUPTS

Interrupt	Input interrupt with logic selection
	State change interrupts with mask capability

CONNECTORS

Backplane	cPCI
Field termination	3 x 68 pin SCSI connector

MECHANICAL

Board	233.35mm (H) x 160mm (D)
Module	6U (H), 4T (W)- 6U cPCI form factor

ENVIRONMENT   Commercial and Rugged versions

ORDERING INFORMATION

DP   cPCI   3780   3 3 0

Factory options specified based on applications

3 - Digital input range - 5V to 28V DC
6 - Other input range

3 - Commercial version
6 - Rugged version

BLOCK DIAGRAM OF DP-cPCI-3780