LION PRECISION

TechNote

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TARGA III External DAQ Usage

Applicable Equipment:

TARGA III Dynamic Runout Systems

Applications:

High-Speed drill spindle runout measurements

Summary:

Details the use of the National-Instruments-ready DAQ connector on the rear panel of the TARGA III for use with external data acquisition operations.

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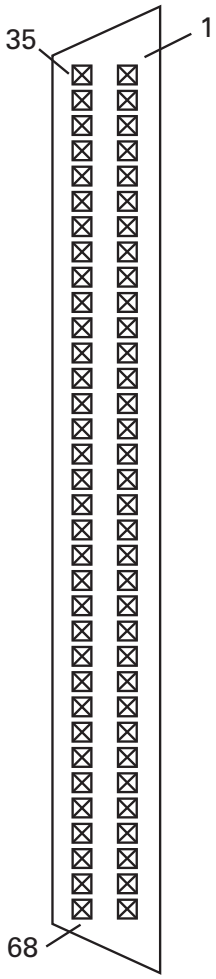
External Data Acquisition

The TARGA III is configured for easy connection to National Instruments data acquisition systems. The rear panel DAQ connector is a high-density 68-pin connector which connects directly to National Instruments E-series cards and USB-6251 data acquisition modules. The specific signals and pin-out of the DAQ connector are detailed at the end of this TechNote.

DAQ Connector Pinout

DAQ Connector as viewed on the rear panel.



DAQ Connector Signal Descriptions

Pin	Signal	NI Input	Description
33	Analog Output	ACH1 (+ACH1)	Analog output from BNC on display module, ±10V, see manual for details
66	Ground	ACH9 (–ACH1)	Connected to ground
57	RPM Out	ACH7 (+ACH7)	Square wave, 1/2 Index input frequency, 0 – 3.3 VDC
23	Ground	ACH15 (–ACH7)	Connected to ground
51	Output Bit 0	DIO5	TTL
16	Output Bit 1	DIO6	TTL
48	Output Bit 2	DIO7	TTL

Output Bits

This 3-bit code divides the output voltage range into six divisions according to the following table:

Bit 2	Bit 1	Bit 0	Output Voltage
0	0	0	$V_0 < -5V$ (out of range)
0	0	1	$-5V < V_0 < -2.5V$
0	1	0	$-2.5V < V_0 < 0V$
0	1	1	$0V < V_0 < +2.5V$
1	0	0	$+2.5V < V_0 < +5V$
1	0	1	$+5V < V_0$ (out of range)

Index Input

The index connector on the front of the TARGA III is configured for use with the Lion Precision optical RPM sensor (P015-3375). This sensor uses a black mark on the rotating gage pin to generate a square wave (RPM Out) which is half the frequency of the spindle's revolutions per second. Contact a sales engineer or a Lion Precision representative for details.