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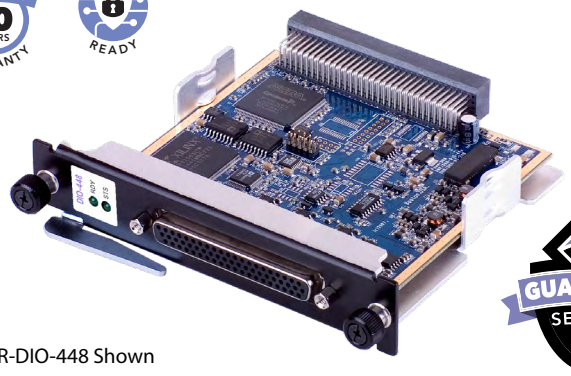
DNx-DIO-448

48-Channel digital input board with voltage monitoring

- DNA-/DNR-/DNF-DIO-448 for use with Cube/RACKtangle™/ FLATRACK™ I/O chassis
- Sample rate of 1 kS/sec
- Programmable input transition levels
- Programmable hysteresis
- 350 VAC isolation
- Monitors contacts without external components
- Programmable debounce intervals

Guardian Series Diagnostics

- A/D allows voltage measurement on each input, allowing quick and accurate diagnosis of short/open, circuits as well marginal or failing drive circuitry



DNR-DIO-448 Shown

The DNA-DIO-448 is designed for use in Cube I/O chassis while the DNR-DIO-448 is for use in the RACKtangle™ chassis.

General Description:

The DNx-DIO-448 is a 48 channel, high performance digital input board designed for use in a wide variety of digital monitoring applications. The DNx-DIO-448 is compatible with UEI's popular Cube, RACKtangle and FLATRACK I/O chassis respectively. The board's inputs are divided into two 24-bit ports, each of which presents its data in a single 24-bit write. This simplifies programming and maximizes throughput. The board reads all 48 bits at sustained rates in excess of 1 kS/s. Each channel is configured with a 33 k pull up/down resistor. This makes the board an ideal solution for monitoring contact closures as well as standard voltage inputs. The pull-up/pull-down resistors are configured by connecting the "PLEVEL" pins on the I/O connector to VCC or ground.

BENEFITS OF UEI'S GUARDIAN SERIES

✓	VOLTAGE MONITORING
✓	MONITOR SWITCHES

UEI's Guardian series boards include a sophisticated, reliable on-board monitoring system, allowing quick and easy system testing, sensor diagnostics monitoring and fault detection for rapid resolution in field or lab.

Learn more about UEI's Guardian series

The DNx-DIO-448 is part of UEI's Guardian series. The "Guardian advantage" is an innovative A/D input approach allowing the board to offer incredible input flexibility. A diagnostic input mode monitors the actual analog voltage at each input, allowing quick and accurate detection of short and open circuits, as well marginal or failing drive circuitry. The analog input capability is also a powerful installation, diagnostic and data acquisition tool. Monitor switch functionality helps protect against hardware failure.

The board offers programmable logic thresholds and hysteresis over the full input range. Thresholds and hysteresis are independently programmable on each channel. The board supports user programmable debouncing intervals, which may also be set on each channel independently, with durations between 5 and 500 ms. Each board provides 350 Vrms isolation between the I/O and the cube and other installed I/O layers. All inputs are overvoltage protected from -25 to +75 VDC, and against ESD.

Technical Specifications:

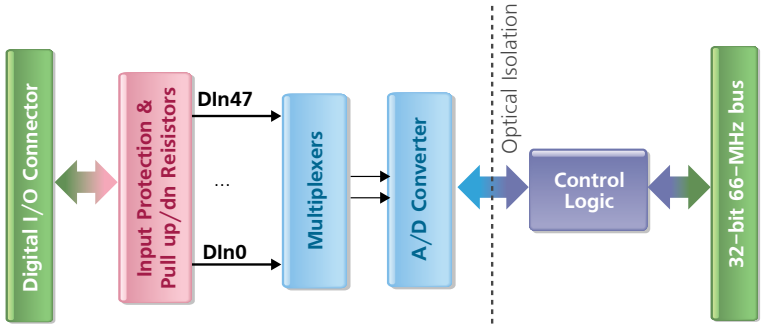
Number of channels	48 digital inputs
Port configuration	Two 24-bit ports
Input range	-1 VDC to +32 VDC
Input high voltage	Programmable from 0 to VCC (default: 12 V @ VCC = 28 VDC)
Input OFF voltage	Programmable from 0 to VCC (default: <1.25 V @ 28 VDC)
Hysteresis (voltage input)	Programmable, 0 to VCC (default 10.25 VDC)
Input impedance	> 33 kΩ
Input open circuit state	Programmable high or low via 33 kΩ pull up/pull down. Each pull up/down selection sets the configuration for 24 channels)
Input FIFO	256 words
Input throughput rate	1 kHz max
Diagnostic voltage measurement and threshold voltage accuracy	± 30 mV (-1 VDC to 30 VDC), ± 150 mV (30 VDC to 32 VDC), (Source impedance ≤ 100 Ω)
Input protection	- 25 to + 75 V, and ESD
Input Isolation	350 Vrms
Power dissipation	2 W
Operating temperature range	Tested -40 to +85 °C
Operating humidity	95%, non-condensing
Vibration *IEC 60068-2-6* *IEC 60068-2-64*	5 g, 10-500 Hz, sinusoidal 5 g (rms), 10-500 Hz, broad-band random
Shock *IEC 60068-2-27*	100 g, 3 ms half sine, 18 shocks @ 6 orientations 30 g, 11 ms half sine, 18 shocks @ 6 orientations
Altitude	120,000 ft
MTBF	550,000 hours

Software is included, providing a comprehensive, yet easy-to-use API that supports all popular operating systems, including Windows, Linux, and most real-time operating systems—such as QNX, Intime, VXworks, and more. Additionally, the UEIDAQ Framework—an even higher level Windows driver—supplies complete support for those creating applications in many popular Windows programming languages, as well as data acquisition software packages such as LabVIEW and MATLAB/Simulink.

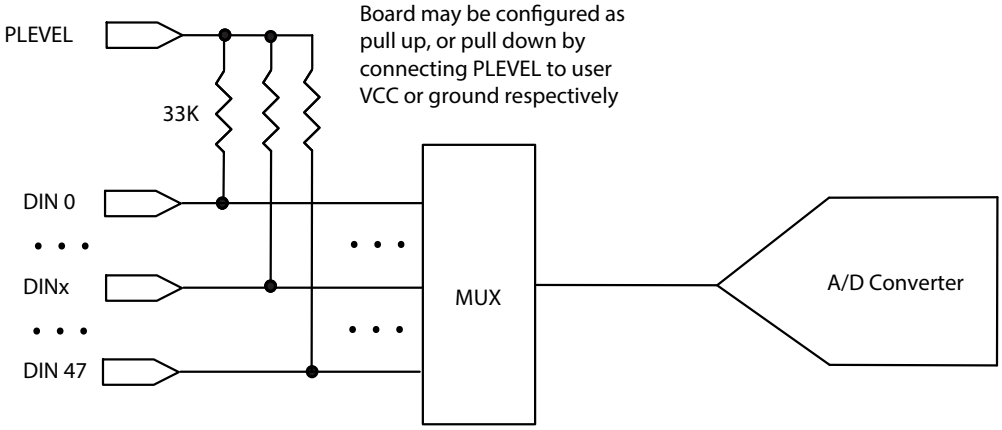
Connection Options:

Screw Terminal Panel	Matching Cable	Description
DNA-STP-62	DNA-CBL-62	Connects all I/O signals to easy to use screw terminals

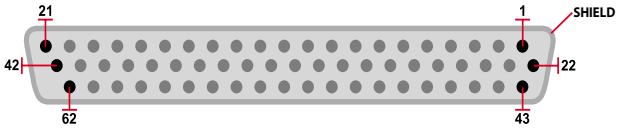
Block Diagram:



Single Channel Diagram:



Pinout Diagram:



NC - No Connection
Rsvd - Reserved

Pin	Signal	Pin	Signal	Pin	Signal
1	PLEVEL 0-23	22	PLEVEL 24-47	43	Gnd
2	Rsvd	23	Gnd	44	NC
3	Rsvd	24	Gnd	45	Gnd
4	Rsvd	25	NC	46	DIn 47
5	DIn 45	26	DIn 46	47	DIn 44
6	DIn 42	27	DIn 43	48	DIn 41
7	DIn 39	28	DIn 40	49	DIn 38
8	DIn 36	29	DIn 37	50	DIn 35
9	DIn 33	30	DIn 34	51	DIn 32
10	DIn 30	31	DIn 31	52	DIn 29
11	DIn 27	32	DIn 28	53	DIn 26
12	DIn 24	33	DIn 25	54	DIn 23
13	DIn 21	34	DIn 22	55	DIn 20
14	DIn 18	35	DIn 19	56	DIn 17
15	DIn 15	36	DIn 16	57	DIn 14
16	DIn 12	37	DIn 13	58	DIn 11
17	DIn 9	38	DIn 10	59	DIn 8
18	DIn 6	39	DIn 7	60	DIn 5
19	DIn 3	40	DIn 4	61	DIn 2
20	DIn 0	41	DIn 1	62	NC
21	NC	42	Gnd		

Ordering Guide:

Part #	Description
DNx-DIO-448	48-Channel digital input board with voltage monitoring
DNA-STP-62	62-channel screw terminal panel
DNA-CBL-62	2.5ft, 62-way round shielded cable
DNA-STP-3762	Universal Screw Terminal Panel for DNx-Series I/O
DNA-STP-37-DR	37-pos Terminal Panel for PowerDNA Layers
Extended Warranty	Option to purchase UEI's extended warranty (up to 10 years) is available

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