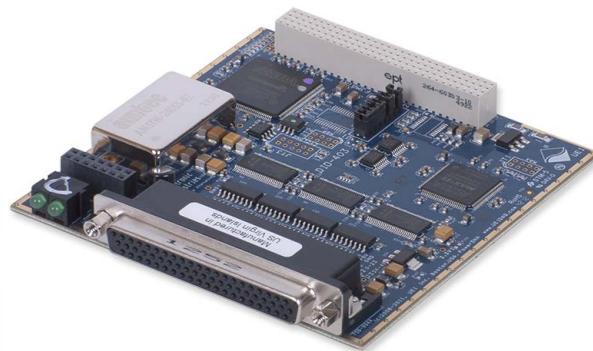


# DNA/DNR-DIO-403-802

## 48-Channel TTL Digital I/O Interface

- DNA-DIO-403-802 for use with "Cube" I/O chassis
- DNR-DIO-403-802 for use with RACKtangle™ I/O chassis
- 48 TTL-compatible digital I/O channels
- 4.7 kOhm pull-up resistors on each I/O line
- Monitor contact state without external components
- I/O throughput rate of 10kHz (20kHz aggregate)
- Outputs provide drive capability of 16 mA/channel
- Lines protected up to 7-kV electrostatic discharge

10-Year  
Availability  
Guarantee

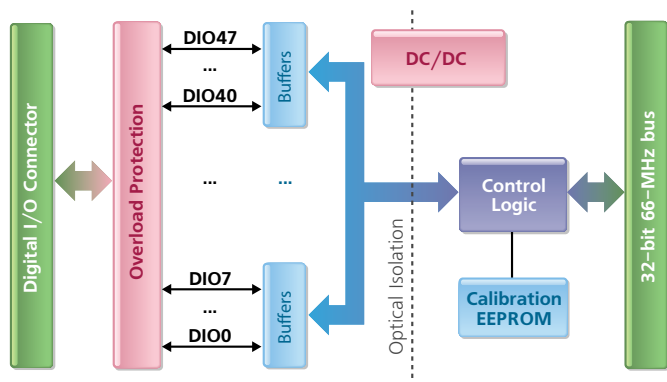


Supports **UEIDAQ Framework** Data Acquisition Software Library for Windows, Linux and QNX drivers available. Visit our website for more details.

### General Description:

The DNA/DNR-DIO-403-802 offers high density I/O and flexibility with forty-eight 5V-compatible TTL digital lines configurable as either inputs or outputs in groups of eight-bit ports. A 4.7 kOhm pull-up resistor is installed on each I/O line. This allows the board to monitor switch/contact closures without any external components. The DNA-DIO-403-802 is compatible with UEI's "Cube" chassis while the DNR-DIO-403-802 is designed for use in RACKtangle I/O chassis. All DIO lines are isolated from the rest of the system (they share the same internal ground), and each pin is individually protected against ESD and overvoltage, making this layer suitable for the harsh industrial environment use. Guaranteed 2.4V @15mA output allows direct interfacing of this layer to solid-state relays and other TTL-compatible devices. The DNA/DNR-DIO-403-802 are an excellent digital I/O solution for a wide array of data acquisition and control applications.

### Block Diagram:



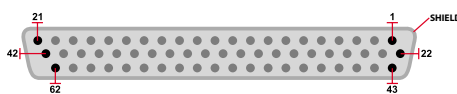
### Technical Specifications:

Digital I/O Lines	48
Logic Level	5V
Port Width	8 bit
Pull-up resistor	4.7 KOhm on each I/O line
Direction	per-port configurable
Input FIFO	512 samples
Output FIFO	512 samples
Default Power-up State	Input
I/O Throughput Rate	10 kHz; 20 kHz aggregate
Drive Capacity	16 mA per channel, continuous
Input High Voltage:	2.4V
Input Low Voltage:	0.8V
Output High Voltage:	4.5V @ 2mA; 2.4 V min @ 15 mA, 3.5V typ @ 15 mA
Output Low Voltage:	0.55V @ 63 mA
Protection	±30V overvoltage, 7 kV ESD, 22Ω current limiting resistors
Output protection	140mA PTC fuse
Power Consumption	1.2W; Plus approx. 0.007W/mA of load current
Physical Dimensions	3.875" x 3.875" (98 x 98 mm)
Operating Temp. Range	Tested -40 to +85 °C
Operating Humidity	0 - 95%, non-condensing
Isolation	350Vrms
MTBF	>600,000 hours

### Pinout Diagram:

DB-62 (female)  
62-pin connector:

62	N/C	42	DGND	21	+5V@140mA
61	DIO2	41	DIO1	20	DIO0
60	DIO5	40	DIO4	19	DIO3
59	DIO8	39	DIO7	18	DIO6
58	DIO11	38	DIO10	17	DIO9
57	DIO14	37	DIO13	16	DIO12
56	DIO17	36	DIO16	15	DIO15
55	DIO20	35	DIO19	14	DIO18
54	DIO23	34	DIO22	13	DIO21
53	DIO26	33	DIO25	12	DIO24
52	DIO29	32	DIO28	11	DIO27
51	DIO32	31	DIO31	10	DIO30
50	DIO35	30	DIO34	9	DIO33
49	DIO38	29	DIO37	8	DIO36
48	DIO41	28	DIO40	7	DIO39
47	DIO44	27	DIO43	6	DIO42
46	DIO47	26	DIO46	5	DIO45
45	TRIG1	25	TRIG2	4	TRIG0
44	DGND	24	N/C	3	N/C
43	DGND	23	DGND	2	DGND
		22	DGND	1	DGND



### Connection Options:

Cable	Screw Terminal Panel	Description
DNA-CBL-62	DNA-STP-62	Connects DNA/DNR-DIO-403-802 to 62-way terminal panel via 3 foot shielded cable.
DNA-CBL-62	DNA-DIO-O22	Connects to external accessory panel which distributes 48 DIO channels into 3 groups of 16 lines connected to three Opto-22 compatible connectors. Using PD2-DIO-CBL-50 cable you can further connect to PD2-DIO-BPLANE16 - 16-channel solid state relay panel. Refer to DNA-DIO-O22 datasheet for more details.