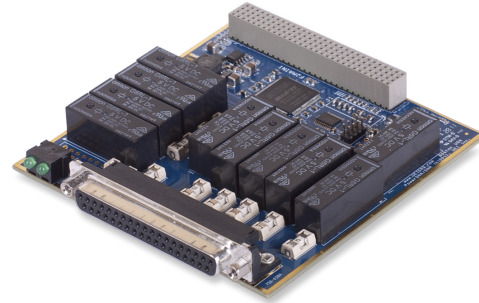


# DNA/DNR-DIO-470

## 10-Channel Electromechanical Relay Interface



- DNR-DIO-470 for use in DNR series RACKtangle chassis
- DNA-DIO-470 for DNA Cubes (*special order, call for details*)
- 10 independent Form C (SPDT) electromechanical relays
- 140 VDC or 150 VAC (maximum operating voltage)
- 5 A @ 125 VAC (continuous rated load)
- 5 A @ 30 VDC, (continuous rated load)
- 7 A on-board protection fuses
- **NOTE: This board uses a special high-current “D” connector and requires special Cables and/or Screw Terminal Panels**



The DNR-DIO-470 is designed for use in RACKtangle™ chassis. The DNA-DIO-470 (shown) is for use in Cube chassis and is available as a special order. Please call for details.

### General Description:

The DNA/DNR-DIO-470 are 10-channel, high-current, electromechanical relay boards for use with UEI's "Cube" and RACKtangle I/O series respectively. The DIO-470 boards are designed for use in a wide variety of switching and digital control applications. Each channel is configured as a standard Form C (SPDT) relay and switches voltages up to 140 VDC or 150 VAC. Each channel is rated for continuous operation at 5 Amps @ 30 VDC or 125 VAC and 0.4 A @ 125 VDC.

All relays default to "NC" on power up/reset. Switching rates up to 125 Hz are supported. Each relay is protected by an on-board 7 Amp fuse.

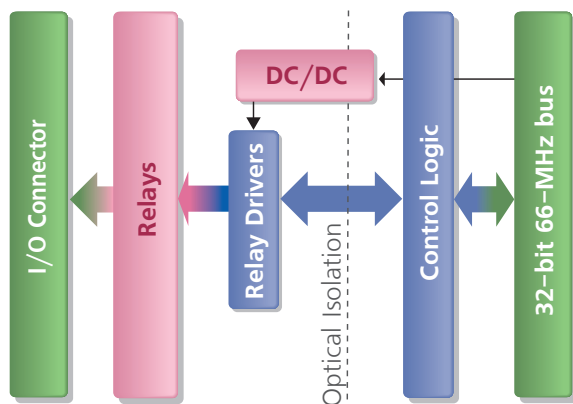
All connections are made through a convenient 37-pin D connector ensuring no problems obtaining mating cables or connectors. To support the high current ratings, the DNX-DIO-470 board uses a special version of the 37-pin D connector. As UEI's standard DNA-CBL-37 series cables and DNA-STP-37 should not be used with the DNX-DIO-470 unless the maximum current required will be less than 2 Amps. Please use the DNA-CBL-37HC and DNA-STP-37HC for applications switching 2 amps or more. The cables are available in 3, 6 and 12 foot lengths. Each board provides 350 VDC isolation between channels, as well as between the board, cube and other installed I/O boards.

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.

### Technical Specifications:

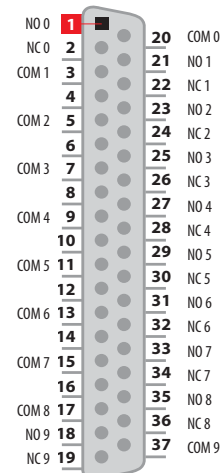
Output specifications	
Rated Load	5 A at 125 VAC, 5 A at 30 VDC, 0.4 A at 125 VDC continuous
Recommended interconnect wire size	22 gauge or larger
Circuit protection	7 A slo-blow fuse on each "Com" connection
Max Switching Capacity	750 VA
Max Operating Voltage	140 VDC, 150 VAC
Min Permissible Load	10 µA, 10 mVDC
Contact Material	AgSnO2
Contact OFF impedance	>100 MOhm
Off Leakage Current	< 100 µA
Turn-On Time	8 ms (typical)
Turn-Off Time	8 ms (typical)
Max Operating Freq.	125 operations/second)
Service Life	
Mechanical	100,000,000 min
Electrical	100,000 at full rated load
Power up / reboot state	Off (NC Energized)
Power dissipation	< 3 W
Isolation	350 Vrms
Operating Temp. Range	Tested -40 to +85 °C
Operating Humidity	95%, non-condensing
Vibration	IEC 60068-2-6 IEC 60068-2-64
Shock	IEC 60068-2-27
Altitude	120,000 ft
MTBF	275,000 hours

### Block Diagram:



### Pinout Diagram:

DB-37 (female)  
37-pin connector:



### Connection Options:

Terminal Panels	Matching Cable	Description
DNA-STP-37HC	DNA-CBL-37HC	Special high-current cable/STP connects all I/O signals to easy to use screw terminals. DNA-CBL-37HC is 3 feet long, DNA-CBL-37HC-6 is 6 feet long while DNA-CBL-37HC-12 is 12 feet long.