NuDAM-6060 Relay Output and Isolated Input Module

1. Introduction

NuDAM-6060 provides four relay output channels, two are form A and two are form C. It can control high power devices without external circuits. The isolation guarantees the industrial safety.

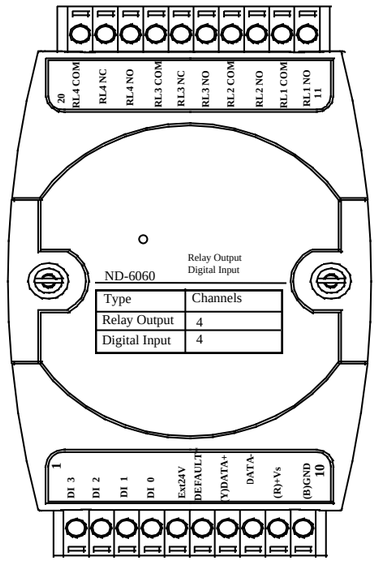
Features

- 4 channels relay output
- 4 channels isolated discrete input
- programmable power on output state
- programmable in/out polarity setting
- programmable host watchdog timer for host failure protection
- internal watchdog timer for device failure protection
- easy programming by software
- easy installation and wiring

Specifications

- Interface:
  - RS-485, 2 wires
  - Speed (bps): 600, 1200, 2400, 4800, 9600, 19.2k, 38.4k, 57.6k, 115.2k
- Digital Input:
  - Channel number: 4
  - Common external voltage: +24V or GND
  - Input type:
    - dry contact (for common power)
    - source (for common ground)
  - Current limit resistor: 2.2kΩ
- Relay Output:
  - Channel number: 8
  - Output type: 2 form C and 2 form A
  - Contact rating:
    - AC 0.5A/125V
    - DC 1A/30V, 0.3A/110V
  - ON/OFF time interval: 3ms
  - Expected life: 10^8 (at 180 cpm)
  - Insulation resistance : 1000 MΩ minimum (at 500VDC)
- Storage Temperature Range: -25 to 80 °C
- Operating Temperature Range: -10 to 70 °C
- Power Requirement: +10V to +30VDC Unregulated with against power reversal
- Power Consumption: 0.7W
- Case: ABS with captive mounting hardware
- CE Class A Conformity

2. Pin Assignment



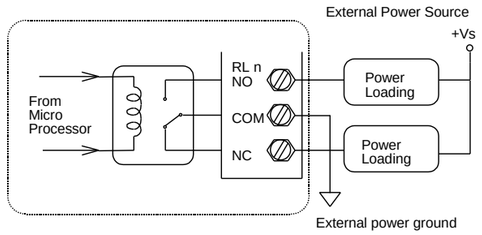
Pin Definitions

Pin #	Signal Name	Description
1	DI3	Digital input channel 3
2	DI2	Digital input channel 2
3	DI1	Digital input channel 1
4	DI0	Digital input channel 0
5	Ext24	External common
6	DEFAULT*	Initial state setting
7	(Y)DATA+	RS-485 signal, positive
8	(G)DATA-	RS-485 signal, negative
9	(R)+VS	Power supply, +10V ~ +30Vdc
10	(B)GND	Ground
11	RL1 NO	Relay 1, normal open
12	RL1 COM	Relay 1, common
13	RL2 NO	Relay 2, normal open
14	RL2 COM	Relay 2, common
15	RL3 NO	Relay 3, normal open
16	RL3 NC	Relay 3, normal close
17	RL3 COM	Relay 3, common
18	RL4 NO	Relay 4, normal open
19	RL4 NC	Relay 4, normal close
20	RL4 COM	Relay 4, common

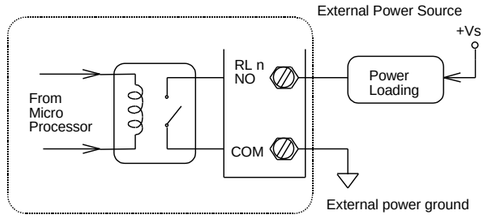
The module is in DEFAULT mode when DEFAULT* pin connected to GND while applying power on the module.
Do not apply any power signal to DEFAULT* pin, just left it open or connected it to GND.

3. Application Wiring

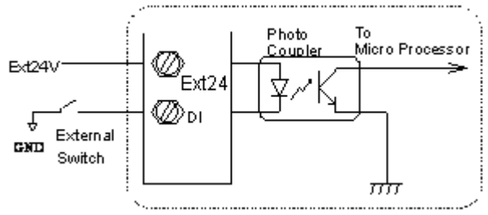
Form C Relay Output



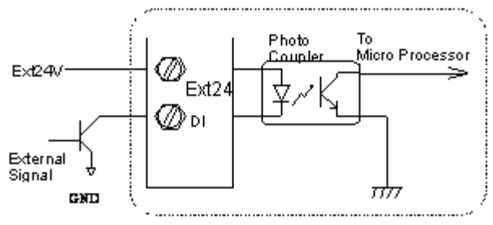
Form A Relay Output



Discrete Input: Contact Mode



Discrete Input: Transistor Mode



4. Installation

Equipment for Installation

A existing RS-485 network
NuDAM modules
DC Power supply (+10V~+30V)
Wires for power, communication and I/O signal

Installation Procedure

1. Configure every single NuDAM module under the administration utility.
2. The baud rate setting and calibration procedure must be done under the DEFAULT* mode.
3. The baud rate and check-sum status must be identity with the application network. The address ID must not be conflict with other modules on the network.
4. Plug the new module to the existing network.
5. Use the NuDAM administration utility to check the entire network.

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5. Command Set

There are three categories of NuDAM commands. The first is the ***general commands***, including set configuration command, read configuration, reset, read module's name or firmware version, etc. Every NuDAM can response to the general commands. The second is the ***functional commands***, which depends on functions of each module. Not every module can execute all function commands. The third is the ***special commands*** including functions about the programmable watchdog timer, safe values, and the programmable leading code. All the commands used in the NuDAM analog input module are list in the following table.

Command	Syntax
General Command	
Set Configuration	**%(OldAddr)(NewAddr)(InputRange)(BaudRate)(DataFormat)**
Read Configuration	**$(Addr)2**
Read Module Name	**$(Addr)M**
Read Firmware Version	**$(Addr)F**
Software Reset	**$(Addr)RS**
Reset Status	**$(Addr)5**
Functional Command	
Digital Input	**$(Addr)6**
Digital Output	**#(Addr)(ChannelNo)(OutData)**
Synchronized Sampling	**#****
Read Synchronized Data	**$(Addr)4**

Special Command	
Read Command Leading Code Setting	**~(Addr)0**
Change Command Leading Code Setting	**~(Addr)10(C1)(C2)(C3)(C4)(C5)(C6)**
Set Host Watchdog / Safety Value	**~(Addr)2(Flag)(TimeOut)(SafeValue)**
Read Host WatchDog / Safe Value	**~(Addr)3**
Host is OK	**~****
I/O Polarity Setting	**~(Addr)CP(State)**
Read Polarity Setting	**~(Addr)CR**

**** The module accepts calibration command, baud rate and checksum configuration setting under the DEFAULT* mode.***

**** Please refer the manual in PDF file format in the CD for detail description of these commands.***

6. ADLINK on the Internet

The full version manual can be download from website
http://www.adlink.com.tw/download/manual/index.htm#6000

Homepage: http://www.adlink.com.tw
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