NuDAM-6056 15-Channel Isolated Digital Output Module

1. Introduction

NuDAM-6056 provides 15 isolated digital output channels. All of the output channels are common ground type and one of them is use the same pin with default (use jumper to choose). The isolation voltage is up to 5000 Vrms. It is suitable to use NuDAM-6056 in industrial environment with the dangerous of high voltage electric shock.

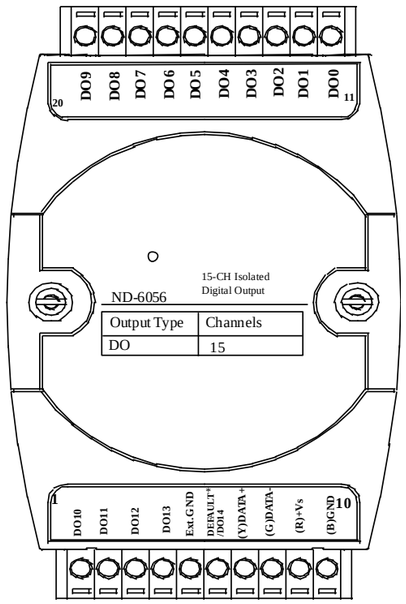
Features

- 15 bits digital open collector output with isolation protection and common power
- 5000 Vrms isolation voltage
- programmable power on output state
- programmable output 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 output:
  - Channel number: 15 isolation common ground
  - Impedance: 1.2KΩ
  - Maximum loading current: 300mA
- Storage Temperature Range: -25 to 80 °C
- Operating Temperature Range: -10 to 70 °C
- Power Requirement: +10V to +30V_{DC} Unregulated with against power reversal
- Power Consumption: 3.5W
- Case: ABS with captive mounting hardware
- CE Class A Conformity

2. Pin Assignment



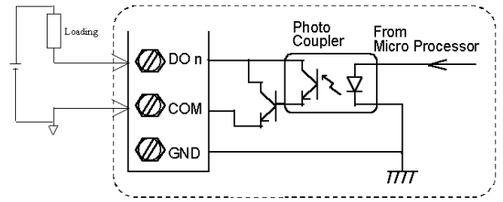
Pin Definitions

Pin #	Signal Name	Description
1	DO10	Digital output channel 10
2	DO11	Digital output channel 11
3	DO12	Digital output channel 12
4	DO13	Digital output channel 13
5	Ext.24V	External common power +24V
6	DEFAULT*/ DO14	Initial state setting / Digital output channel 14
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	DO0	Digital output channel 0
12	DO1	Digital output channel 1
13	DO2	Digital output channel 2
14	DO3	Digital output channel 3
15	DO4	Digital output channel 4
16	DO5	Digital output channel 5
17	DO6	Digital output channel 6
18	DO7	Digital output channel 7
19	DO8	Digital output channel 8
20	DO9	Digital output channel 9

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.

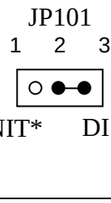
3. Application Wiring

Isolated Common Ground Output

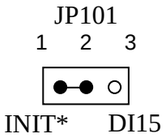


4. Jumper Setting

Digital Input Mode (Default Setting)



Init* Mode



5. 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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6. 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 discrete input/output 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	**$(Addr)5**
Functional Command	
Read Digital Output Status	**$(Addr)6**
Digital Output (All Channel Setting)	**#(Addr)T(OutDataH)(OutDataL)**
Digital Output (Port Setting)	**#(Addr)(Port)(OutData)**
Digital Output (Bit Setting)	**#(Addr)(Port)(ChNo)(OutData)**

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.***

7. 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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