NuDAM-6052 Isolated Digital Input Module

1. Introduction

NuDAM-6052 provides 8 isolated digital input channels. Six of the input channels are differential type and two of them are single-ended with common ground. The isolation voltage is up to 5000 Vrms. It is suitable to use NuDAM-6052 in industrial environment with the dangerous of high voltage electric shock.

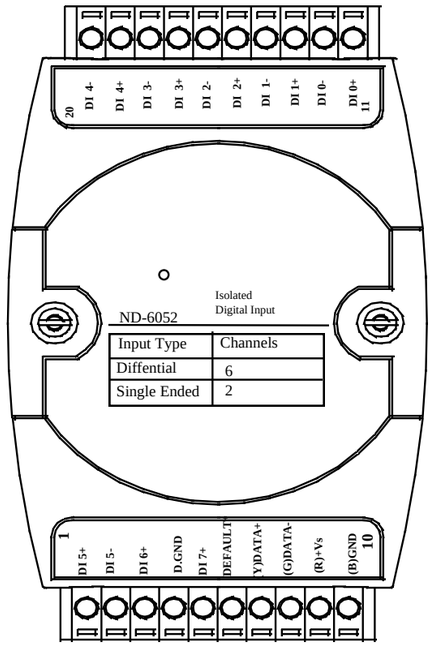
Features

- 8 bits isolated digital input
- 5000 Vrms isolation voltage
- 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: 6 differential, 2 single ended
  Logic level 0: +1V Max.
  Logic level 1: +3.5V ~ +24V
  Impedance: 1.2KΩ
  Maximum current: 0.5mA
- 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: 0.25W
- Case: ABS with captive mounting hardware
- CE Class A Conformity

2. Pin Assignment



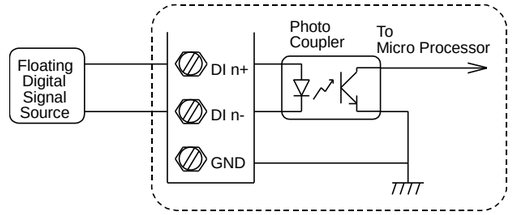
Pin Definitions

Pin #	Signal Name	Description
1	DI5+	Digital input channel 5+
2	DI5-	Digital input channel 5-
3	DI6+	Digital input channel 6+
4	D.GND	Digital input ground
5	DI7+	Digital input channel 7+
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	DI0+	Digital input channel 0+
12	DI0-	Digital input channel 0-
13	DI1+	Digital input channel 1+
14	DI1-	Digital input channel 1-
15	DI2+	Digital input channel 2+
16	DI2-	Digital input channel 2-
17	DI3+	Digital input channel 3+
18	DI3-	Digital input channel 3-
19	DI4+	Digital input channel 4+
20	DI4-	Digital input channel 4-

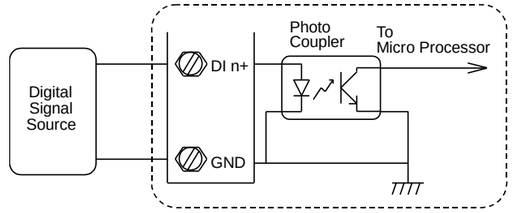
The module is in DEFAULT mode when DEFAULT* pin connected to GND while applying power on the module.
Do not apply any power signal to DEFAULT* pin, just left it open or connected it to GND.

3. Application Wiring

Isolated Differential Input



Isolated Single Ended Input



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.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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 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	**$(Addr)5**
Functional Command	
Digital Input	**$(Addr)6**
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
Service: service@adlink.com.tw
Technical Assistance: NuDAM@adlink.com.tw

Copyright © 2000 ADLINK TECHNOLOGY INC.
TEL: 886-2-82265877 FAX: 886-2-82265717
Contents and specification subject to change without notice.
NuDAM® is a registered trademark of ADLINK TECHNOLOGY INC. Other brands of products are trademarks or registered trademarks of their respective holders. **AM-ND6052-E1.00**

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000