NuDAM-6054 15-Channel Isolated Digital Input Module

1. Introduction

NuDAM-6054 provides 15 isolated digital input channels. All of the input channels are common power type and one of them is using the same pin with default (use jumper to choose). The isolation voltage is up to 5000 Vrms. It is suitable to use NuDAM-6054 in industrial environment with the dangerous of high voltage electric shock.

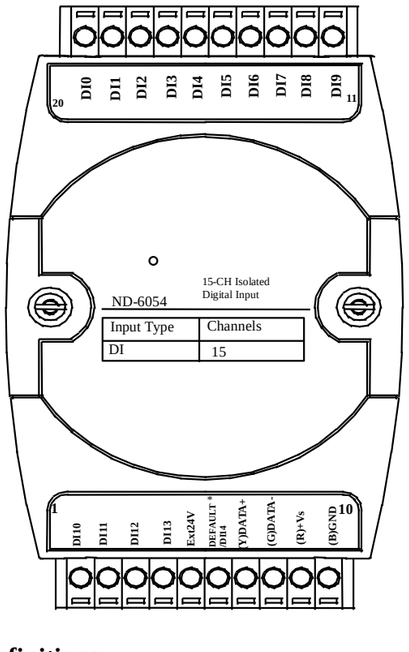
Features

- 15 bits digital inputs with isolation protection and common power
- 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: 15 isolation common power
  Impedance: 1.2KΩ
- 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



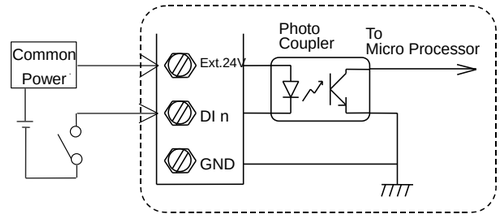
Pin Definitions

Pin #	Signal Name	Description
1	DI10	Digital input channel 10
2	DI11	Digital input channel 11
3	DI12	Digital input channel 12
4	DI13	Digital input channel 13
5	Ext.24V	External common power +24V
6	DEFAULT*/ DI14	Initial state setting / Digital input 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	DI9	Digital input channel 9
12	DI8	Digital input channel 8
13	DI7	Digital input channel 7
14	DI6	Digital input channel 6
15	DI5	Digital input channel 5
16	DI4	Digital input channel 4
17	DI3	Digital input channel 3
18	DI2	Digital input channel 2
19	DI1	Digital input channel 1
20	DI0	Digital input channel 0

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.

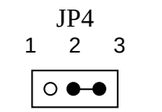
3. Application Wiring

Isolated Differential Input

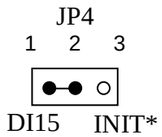


4. Jumper Setting

Init* Mode



Digital Input 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	**$(Addr)5**
Functional Command	
Digital Input	**$(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.***

7. ADLINK on the Internet

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

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