

Di160

SMART I/O™

DESCRIPTION

The Smart I/O™ Di160 programmable controller incorporates 16 channels of cost effective digital I/O. The I/O is monitored and controlled by a Neuron 3150 chip with free topology communication over a LonWorks® network. The Di160 can be utilized in many distributed control applications requiring digital I/O and can be programmed with custom applications.

The I/O of the Di160 makes it perfect for a variety of equipment control applications. The wide operating temperature range, -20 to 70°C, makes the Di160 well suited for many demanding applications.

The eight signal-isolated digital inputs can be used for a variety of functions such as alarm inputs, switch inputs, occupancy sensor inputs, or any other dry contact input.

The digital relay outputs can be used to control HVAC outputs, small motors, valves, alarm outputs, lights, or other loads where the current does not exceed 1A at 24 Vac.

The Di160 controller is protected from reverse power supply input wiring, over-voltages, transients, and other common events that can damage unprotected inputs and outputs.

User defined algorithms and functions can be programmed using VisualControl™, NodeBuilder, LonBuilder or other third party LONWORKS programming tools. The application program can be downloaded over the free topology network and is stored in FLASH non-volatile memory retaining the program when power is removed.

The enclosure snaps right onto a 35mm DIN-rail for quick and easy mounting. The spring-loaded latching mechanism on the base plate allows for easy removal of the controller.

APPLICATIONS

- Access Control
- Lighting
- Energy Management
- Custom Applications

SELECTION GUIDE

FEATURES

- 8 digital inputs for dry contact sensing
- 8 digital relay (N.O.) outputs
- DIN-rail mounting
- Fully programmable
- Pulse counting capability

S-Di160-F **STANDARD**, Fixed Applications or
 Custom Programmable, 56k Flash
 Memory

SPECIFICATIONS

General

Communication: LONTALK™ Protocol
Transceiver: FTT-10, Free Topology
Processor: Neuron 3150 @ 10 MHz
Memory: 64K bytes FLASH
 2K bytes SRAM (Neuron)
 0.5K bytes EEPROM (Neuron)

Inputs

Number: 8
Digital: Dry Contact, Open-Collector
Protection Circuitry: Transient Over voltage, ESD

Outputs

Number: 8
Type: Relay 1.0 A @ 24 VAC,
 Voltage Sourcing
Protection Circuitry: ESD

Power

Nominal Input Voltage: 24 VAC/VDC
Input Voltage Range: 21-28 VAC or 21-39 VDC
Maximum Consumption: 4 VA, does not include Relay loading

Enclosure

Dimensions: L 105 x W 86 x H 58 mm
 (4.13" x 3.39" x 2.28")
Cover: Lexan 940, UL94-V0 rated
Base: Noryl VO1550, UL94-V0 rated

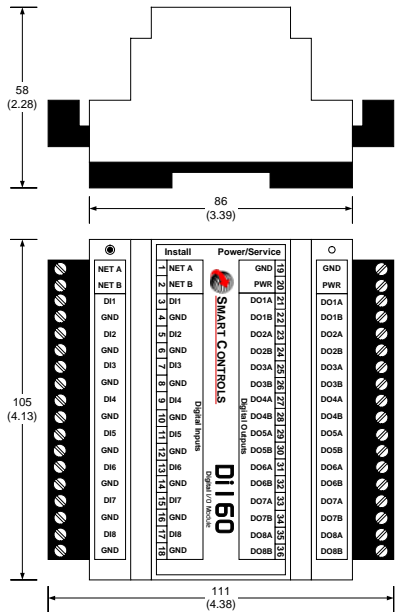
Environmental

Operating Temperature: -20 °C to +70 °C, -4 °F to 158 °F
Storage Temperature: -40 °C to +70 °C, -40 °F to 158 °F
Relative Humidity: 5% to 95% (non-condensing)

Warranty

Period: 2 Years (Limited)

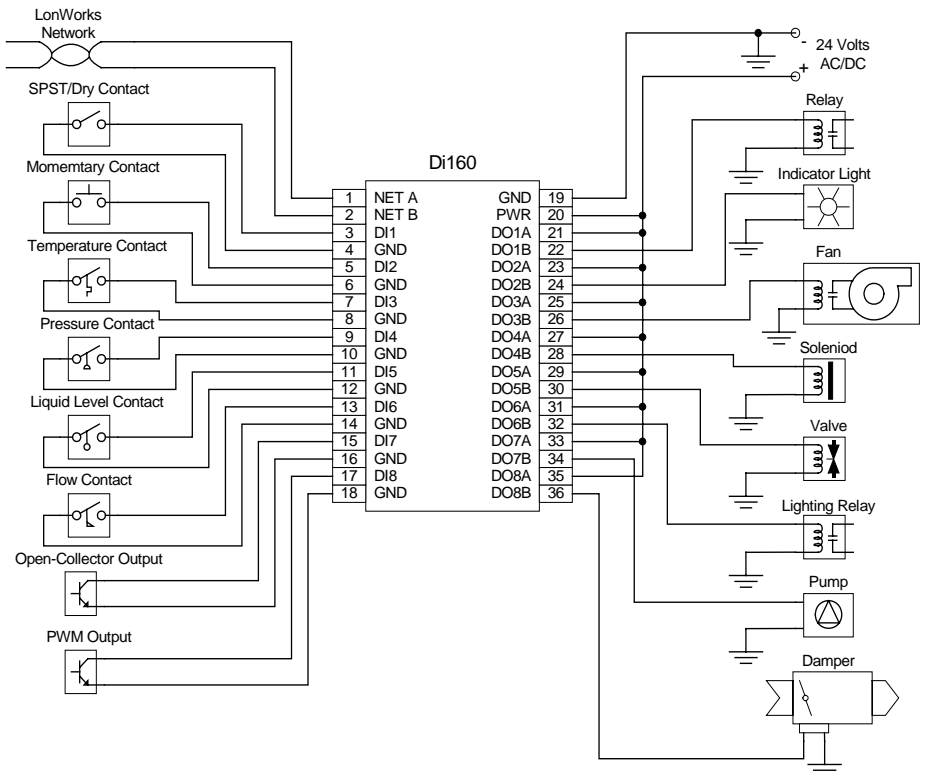
DIMENSIONS



OPTION JUMPER SELECTIONS

There are no options on the Di160 that require jumpers for selection.

EXAMPLE WIRING DIAGRAM



CONTACT



SMART CONTROLS

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AGENCY



FUNCTIONAL PROFILE

Note: Each P/N is an independent application profile.

NETWORK VARIABLES

nvoDI[8]. Digital input value. On = closed (0V). Index[0] = ch. 1, [7] = channel 8. For profile 0258vXXX, SNVT_lev_disc is used and is Factory Default Profile. The following profiles use the associated SNVT type. 0258vXXX, SNVT_lev_disc (Factory Default), 0259vXXX, SNVT_switch
The "XXX" is the latest version number.

nviDO[8]. Digital (relay) output control. 'On' activates the outputs (closed). Index[0] = ch. 1, [7] = channel 8. The following profiles use the associated SNVT type. 0258vXXX, SNVT_lev_disc (Factory Default), 0259vXXX, SNVT_switch
0260vXXX, SNVT_lev_disc
0261vXXX, SNVT_switch
The "XXX" is the latest version number.

nciBroadcastTime. Time period of sending a single analog and digital input value. If 0, all are transmitted when sampled. The default value for this network variable is 0. The SNVT_time_sec has a resolution of 0.1 seconds and the time period can be incremented by 0.1 seconds.

nviPlsCntOffset[8] (SNVT_count_f): Controls a fixed offset to the total pulse count. Index[0] applies to Channel 1, Index[7] applies to Channel 8.

nviResetCount[8] (boolean): Resets the pulse count to zero when TRUE is sent. Index[0] applies to Channel 1, Index[7] applies to Channel 8.

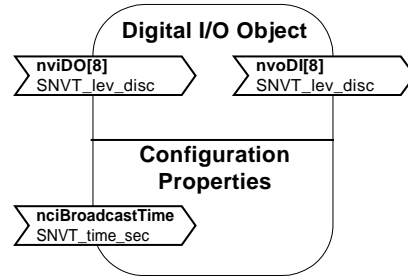
nvoPlsCnt[8] (SNVT_count_f): Reports the digital input pulse count value, where the value is the number of counts since the last reset or variable overflow. Index[0] = Channel 1, Index[7] = Channel 8.

nciMaxPCsndT[8] (SNVT_elapsed_tm): Defines the time period for updating nvoPlsCnt[]. Index[0] applies to Channel 1, Index[7] applies to Channel 8. Valid ranges are:

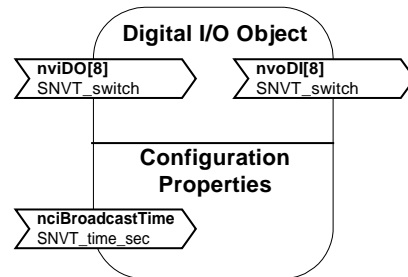
Day	0
Hour:	0-17
Minute:	0-59
Second:	0-59
ms:	0-999

Values entered outside this range will be ignored.

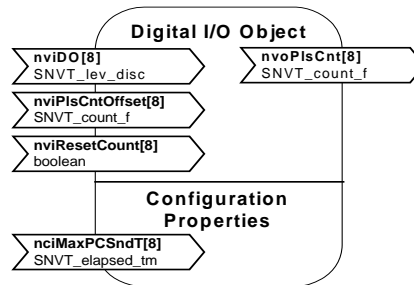
I/O Interfacing (Factory Default Profile) P/N 0258vXXX



I/O Interfacing P/N 0259vXXX



Pulse Counting P/N 0260vXXX



Pulse Counting P/N 0260vXXX

