

LITROL™

Digital Input Module

For integrated operation of lighting ;
with LONMARK Association-Certified device

DIM-8



- **8-channel digital input module**
- **Dry contact input for occupancy sensor, switch and any other detectors**
- **Indicating LED for status of the digital input**
- **Simple installation – DIN rail mounting device**
- **LONMARK Association-Certified device**

Application

The Digital Input Module provides 8 digital inputs that can monitor dry contacts from sensors and switches. The digital input can be a normal closed or normal open contact by using configuration variables. Indicating LEDs represent each digital input status On/Off. Plug-In provides easy configuration of the output function with regards to the each input.

Technical data

Power requirements	Operating voltage	AC/DC 24V (Polarity insensitive)
	Power consumption (24V)	Max. 1VA
	DIM-8 receives its power via the LONWORKS network	2 LPUL(Unit Load)
	In accordance with specification LPT-10	
Functions	Timers for each digital input	
	LED status indicator	On(RED), Off(OFF)
Interfaces	Interface type	LON (LONMARK)
	Transceiver	LPT-10
	Baud rate	78 kBit/s
Cable connection	Terminals	Screw terminals
	LONWORKS network (Polarity insensitive)	2-wire twisted pair 0.2 ~ 1.0 mm ²
Hardware	Processor type	TMPN3120FE3M
	Processor clock	5MHz
	Memory	20KB(18K ROM, 2K RAM)
Industry standards	CE conformity to EMC directive	89/336/EEC
	Emission	EN 55011
	Immunity	EN 50082-2
	LONMARK conformance	Guidelines Version 3.2

Operating Environments

Temperature
Humidity

0 ... 50 °C
Max 95 % RH (Non-condensing)

LonWorks® Interoperability

LONMARK ® Version 3.2 interoperability

Standard program ID	80:00:72:05:0D:06:04:00
External Interface File	DIM8_xx.XIF
Plug-In Software	DIM8_xx.EXE

Objects

Object #0

Node object

Status request support: RQ_NORMAL for each Object
Configuration variables for Location String

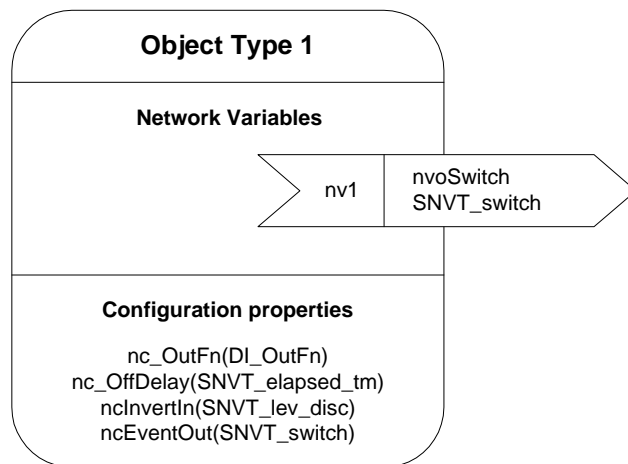
Object #1 to #8

Open loop sensor
object

Functional profile 1 version 1.0
SNVT_switch for output
Configuration variables for output value and output function

Object #1 to #8

Digital Input (DI1 ~ DI8)



Network Variables

nvoSwitch	Switch output. State On/Off with regards to the digital input
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Configuration Properties

ncOutFn	<p>Selects an output function</p> <p>DEFAULT- nvoSwich value is changed depending on the input state. If input state is open, it has off delay time</p> <p>TOGGLE - nvoSwich is toggled whenever the input is closed</p> <p>PULSE - nvoSwich is On while the off delay timer is running.</p> <p>EVENTLOCK – If input is close, the output state goes the ncEventOut state, if the input is open, the output state goes –1. This can be used as a Manual Override</p> <p>LEGACY – Only if input is close, the output propagate the ncEventOut state. This can be used with legacy switch or security sensor.</p>
ncMaxSendT	Time between subsequent updates. Range 0min 0sec ~ 59min 59sec. Default = 0 sec
ncOffDelay	Off delay time before output changes, when digital input contact goes open. Default = 10sec. The DEFAULT, TOGGLE and PULSE mode use the off delay timer.

ncInvertIn

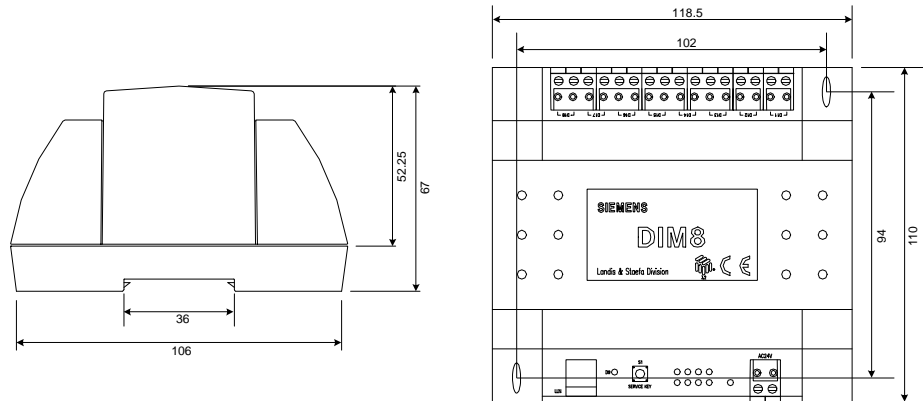
According to the ncInvertIn, the input state is considered as a Normal Open(ncInvertIn = ST_ON) or Normal Close(ncInvertIn = ST_OFF)

ncEventOut

In the EVENTLOCK and LEGACY mode, the nvoSwitch propagate the ncEventOut when the input is close.

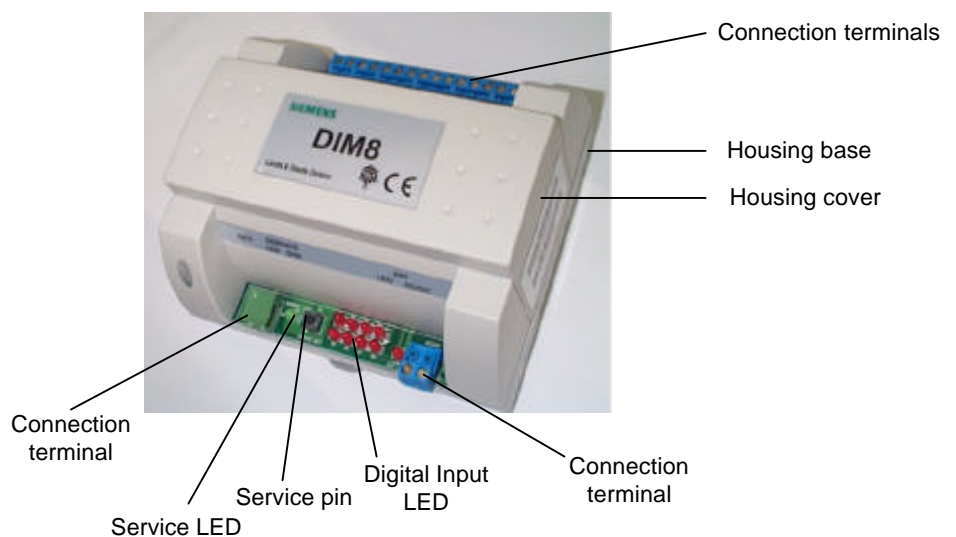
Dimensions

All dimensions in mm



Mechanical Design

The DIM-8 comprises a housing cover and a housing base. The device also has a service Pin/LED, Digital Input LEDs, a 24V LED and connection terminals for 24V AC/DC and NET A/B.



Service LED

This LED shows the overall status of the LonWorks device. When the device application is not configured, this LED flashes green and off. When the device application is configured, the LED goes off.

Service pin

The service pin is used to identify the device at commissioning. When the service pin is pressed, program ID and LonWorks Unique ID(Neuron ID) contained in the device are transmitted to the commissioning or service tools.

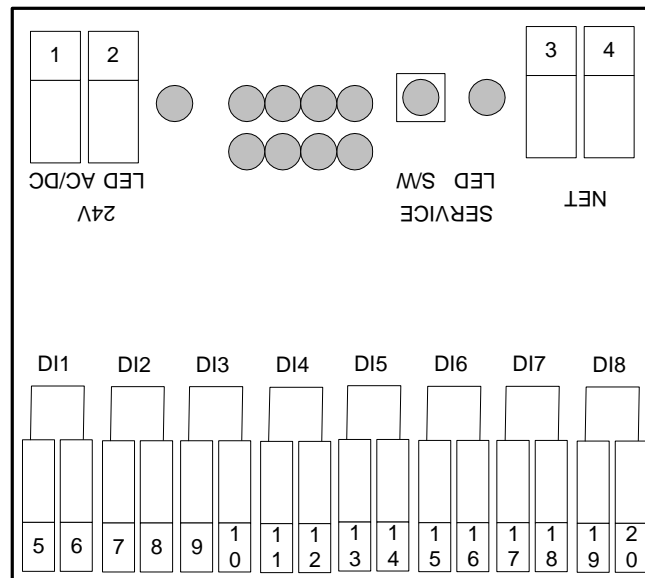
Mounting notes

The device can be mounted in any orientation and fixed as follows:



<i>Rail mounting</i>	<i>Direct mounting</i>
The housing base is designed for snap-mounting on DIN rails.(can be released with a screwdriver)	Two drill holes are provided for screw-mounting.

Connection terminals



Power supply

- 1 AC/DC Max 24V
- 2 AC/DC Max 24V

Lonworks Networks

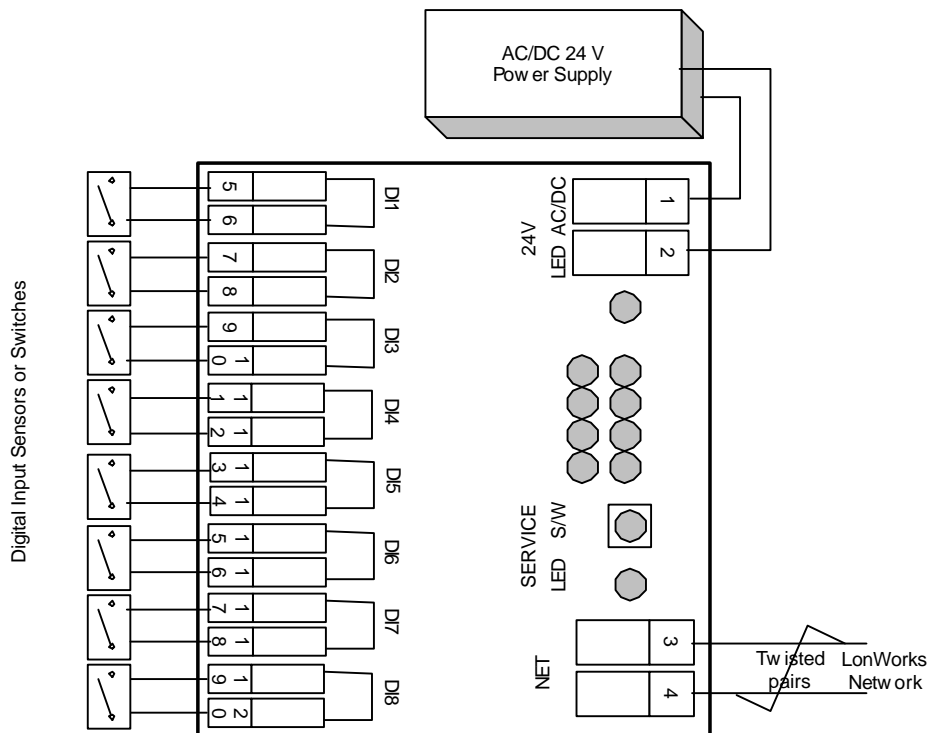
- 3 Data A
- 4 Data B

Digital Inputs

- 5, 6 Digital Input 1
- 7, 8 Digital Input 2
- 9,10 Digital Input 3
- 11,12 Digital Input 4
- 13,14 Digital Input 5
- 15,16 Digital Input 6
- 17,18 Digital Input 7
- 19,20 Digital Input 8

Connection diagrams

Connection of LonWorks network, power supply and digital input sensors or switches.



Installation instruction

1. Mount the DIM-8 in the required location by firmly fixing to the wall with a minimum of two screws or by fixing to the din rail. (See mounting notes)
2. Connect the cable as per connection diagram. (See connection diagrams)
3. Once the connections are completed, you must commission the device using LonWorks commissioning tool. (like as Echelon's LonMaker for Windows or SBT's Robust Manager)
4. Once the device is successfully added in the LonWorks network, you have to check the following.
 "The service LED is indicated by 5 flashes by **Wink** command."
5. If you want to set unconfigured state of the device, press the "Service pin" during 10 seconds.

Ordering information

Model	Description	P/N	Remark
DIM-8	Digital Input Module, 8 DI, for LonMark	35-120	