

Quick Reference Guide

For detailed information, please refer to the LNL-1100 tab in the READYKEY^{PRO} Hardware Installation Guide (49289).

1.0 The Input Control Module Board

The Input Control Module board contains the following components (Refer to Figure 1):

- A. sixteen (16) software configurable alarm inputs
- B. two (2) non-supervised alarm inputs
- C. two (2) alarm output relays
- D. one (1) RS-485 interface
- E. one (1) power input
- F. eight (8) dip switches
- G. three (3) jumpers
- H. two (2) status LED's

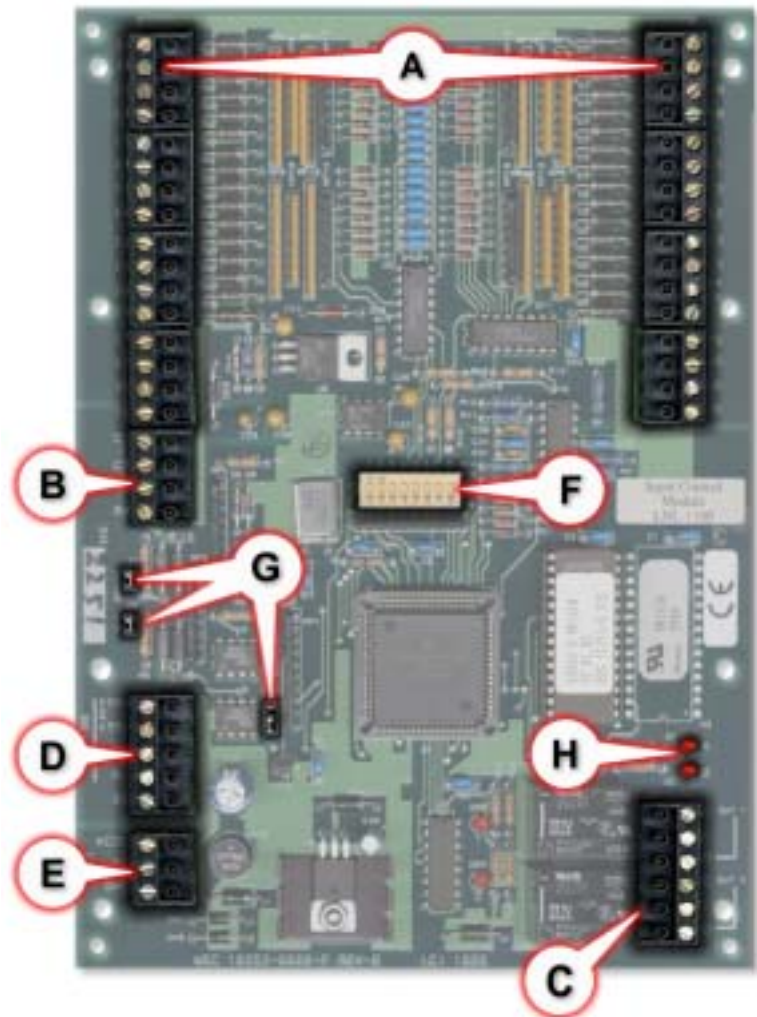


Figure 1: LNL-1100

2.0 Specifications



The Input Control Module is for use in low voltage, class 2 circuit only.

Primary Power	DC input	12 VDC @ 300 mA 24 VDC @ 220 mA
Communication Ports	Port 1	RS-485 (2-wire or 4-wire), 2400 to 38400 bps async
Inputs	Cabinet Tamper Monitor	non-supervised, dedicated
	Power Fault Monitor	non-supervised, dedicated
	Sixteen (16) software-configurable alarm inputs	
Wire Requirements	Power	one (1) twisted pair, 18AWG
	RS-485	24 AWG (minimum) twisted pair(s) with shield, 4000 ft (1200 m) maximum
	Inputs	twisted pair, 30 ohms maximum
	Outputs	as required for the load
Environmental	Temperature	0 to 70°C, operating, -55 to +85 °C, storage
	Humidity	0 to 95% RHNC
Mechanical	Dimension	6 W x 8 L x 1 H in. (152 W x 203 L x 25 H mm)
	Weight	10 oz. (290 gm) nominal

Table 1: LNL-1100 Specifications

3.0 Installation

3.1 Non-supervised Alarm Inputs: Power Fault and Cabinet Tamper Monitors

Wire the BA (power fault) and CT (cabinet tamper) inputs using a twisted pair cable, 30 ohms maximum (no EOL resistors required).

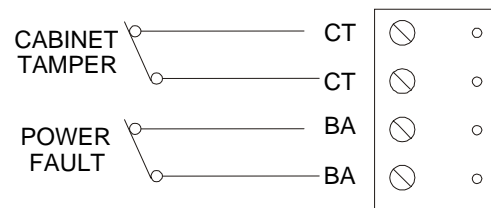


Figure 2: Unsupervised Alarm Input Wiring



If either of these inputs is not used, a jumper wire should be installed.

3.2 Software Configurable Alarm Inputs

Each input that is configured as a supervised alarm can be terminated with two (2) 1000-ohm resistors (1% tolerance – 0.25 watt. N/O and N/C alarms are terminated identically).

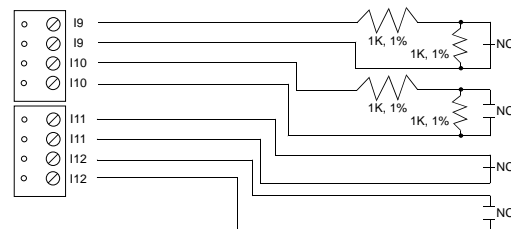


Figure 3: Supervised Alarm Terminations

3.3 Communication to the Intelligent System Controller

The RS-485 is asynchronous, half-duplex, using 1 start bit, 8 data bits, 1 stop bit.

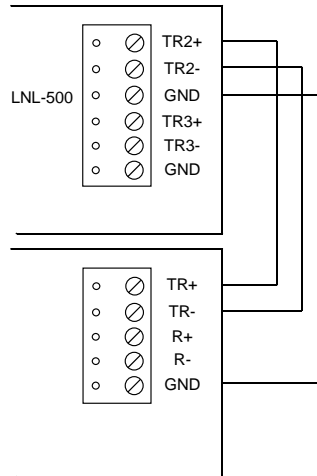


Figure 4: RS-485 2-Wire Communications

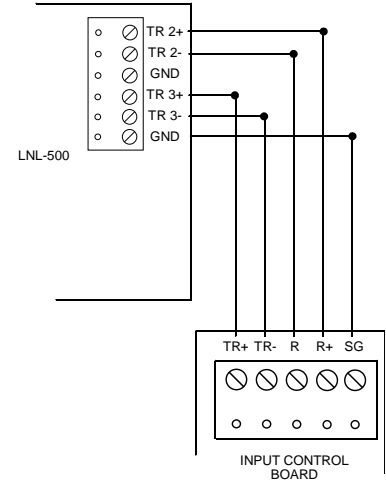


Figure 5: RS-485 4-Wire Communications

3.4 Relay Outputs

The Input Control Module contains two (2) form-C dry-contact relay outputs, Aux Out 1 and Aux Out 2, which each provide up to 5A 30 VDC, or 125 VAC current (resistive) relay. To wire the Aux Out 1 and Aux Out 2 outputs, use sufficiently large wires for the load to avoid voltage loss. Transient clamping must be provided to protect the output contacts and to reduce EMI emissions. For AC-powered devices, use MOV (metal oxide varistor) across the load. For DC-powered devices, use a diode across the load.

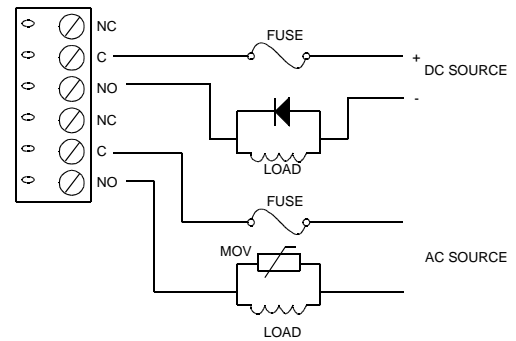


Figure 6: Relay Outputs

3.5 Configuration

The LNL-1100 Input Module board contains (8) DIP switches and (3) jumpers that must be configured for your system.

3.6 Setting DIP Switches

The default positions for DIP switches is: Address 00; 38,400 bps (switches 6 and 7 are on, others are off).

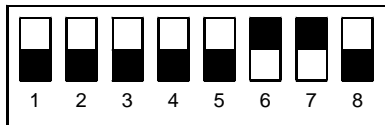


Figure 7: DIP Switch Settings

DIP Switch(es)	Used to configure:
1, 2, 3, 4, 5	Device Communication address (0-31)
6, 7	Communication baud rate (38400, 19200, 9600 bps)
8	Not used

Table 2: DIP Switch explanations

3.7 Communication Baud Rate

To configure the communication baud rate, set DIP switches 6 and 7 according to Table 3.

Baud Rate (bps)	DIP SWITCH	
	6	7
38400	ON	ON
19200	OFF	ON
9600	ON	OFF
0	OFF	OFF

Table 3: Setting Baud Rate

3.8 Device Addresses

To configure the device communication address, set DIP switches 1, 2, 3, 4, and 5 according to Table 4.

ADDRESS	DIP SWITCH				
	5:	4:	3:	2:	1:
0	OFF	OFF	OFF	OFF	OFF
1	OFF	OFF	OFF	OFF	ON
2	OFF	OFF	OFF	ON	OFF
3	OFF	OFF	OFF	ON	ON
4	OFF	OFF	ON	OFF	OFF
5	OFF	OFF	ON	OFF	ON
6	OFF	OFF	ON	ON	OFF
7	OFF	OFF	ON	ON	ON
8	OFF	ON	OFF	OFF	OFF
9	OFF	ON	OFF	OFF	ON
10	OFF	ON	OFF	ON	OFF
11	OFF	ON	OFF	ON	ON
12	OFF	ON	ON	OFF	OFF
13	OFF	ON	ON	OFF	ON
14	OFF	ON	ON	ON	OFF
15	OFF	ON	ON	ON	ON

ADDRESS	DIP SWITCH				
	5:	4:	3:	2:	1:
16	ON	OFF	OFF	OFF	OFF
17	ON	OFF	OFF	OFF	ON
18	ON	OFF	OFF	ON	OFF
19	ON	OFF	OFF	ON	ON
20	ON	OFF	ON	OFF	OFF
21	ON	OFF	ON	OFF	ON
22	ON	OFF	ON	ON	OFF
23	ON	OFF	ON	ON	ON
24	ON	ON	OFF	OFF	OFF
25	ON	ON	OFF	OFF	ON
26	ON	ON	OFF	ON	OFF
27	ON	ON	OFF	ON	ON
28	ON	ON	ON	OFF	OFF
29	ON	ON	ON	OFF	ON
30	ON	ON	ON	ON	OFF
31	ON	ON	ON	ON	ON

Table 4: DIP Switch Device Addresses

3.9 Installing Jumpers

3.9.1 RS-485 Type

Jumper J3 is used to configure the RS-485 type for Port 1 on the **READYKEYPRO** Input Control Module board. There are two possible configuration options that can be used to install this jumper: 2-wire configuration, and 4-wire configuration.

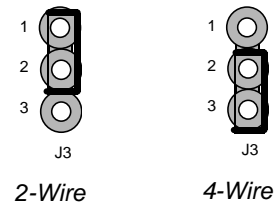


Figure 8: RS-485 configuration for Jumper J3

3.9.2 RS-485 EOL Terminator Status

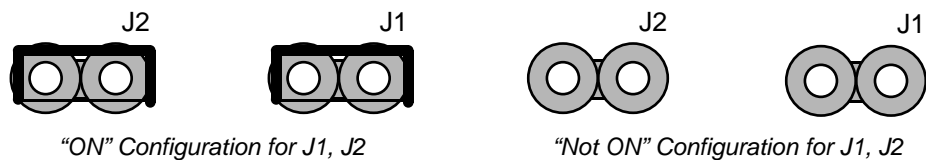


Figure 9: Jumper J5 & J6 Configuration

