

Quick Reference Guide

Note: For detailed information, please refer to the LNL-4000 tab in the **READYKEYPRO** Hardware Installation Guide (49289)

1.0 The Multiplexer Board

The Multiplexer board contains the following components:

- A. one (1) power input
- B. one (1) RS-485 interface
- C. four (4) RS-232 interfaces
- D. nine (9) jumpers

2.0 Specifications

Note: The Multiplexer is for use in low voltage, class 2 circuit only.

Primary Power (DC or AC)	AC input	12 Vac \pm 15%. 200 mA RMS
	DC input	12 Vdc \pm 15%. 150 mA
Communication Ports	Port 1	RS-485 (2-wire or 4-wire), 2400 to 38400 bps async
	Ports 2-5	RS-232
Wire Requirements	Power	1 twisted pair, 18 AWG
	RS-485	24 AWG twisted pair(s) with shield, 4000 ft (1200 m) maximum
	RS-232	24 AWG, 50 ft. (15 m) maximum
Environmental	Temperature	0 to 70°C, operating, -55 to +85 °C, storage
	Humidity	0 to 95% RHNC
Mechanical	Dimension	3 W x 6 L x 1 H in. (76 W x 152 L x 25 H mm)
	Weight	4 oz. (120 gm) nominal

Table 1: LNL-4000 Specifications

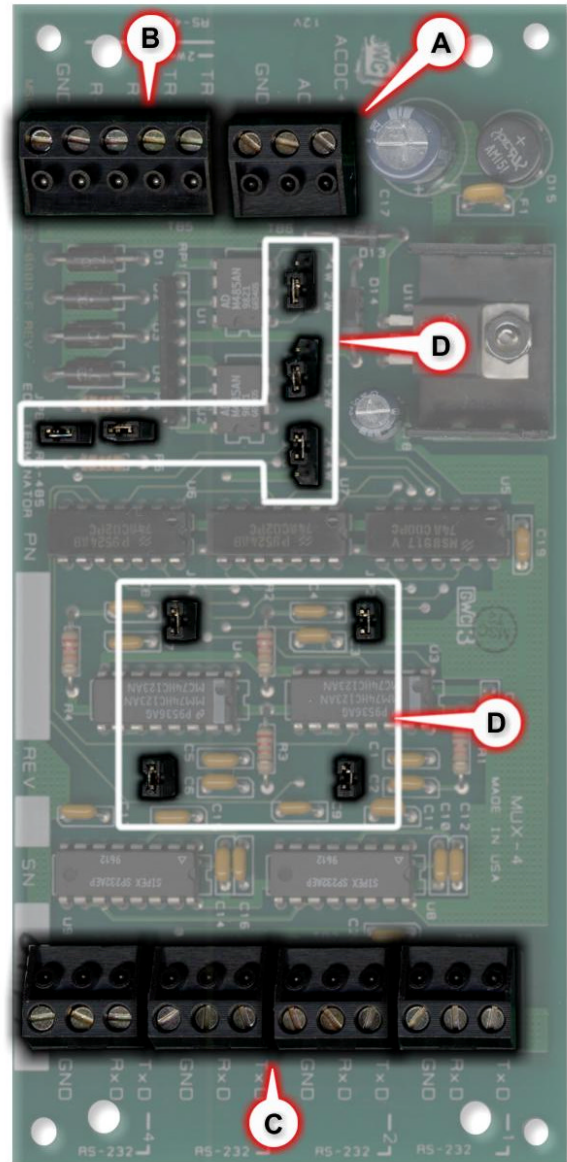


Figure 1: LNL-4000

3.0 Upstream Controller Communication (from LNL-500)

The **READYKEY^{PRO}** Multiplexer uses Port 1 to communicate to the LNL-500 Intelligent System Controller, see Figure 2. (Ports 2, 3, 4, and 5 are for downstream communications, see Figure 3).

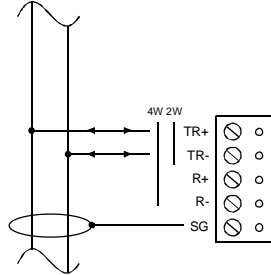


Figure 2: RS-485 2-Wire Communications

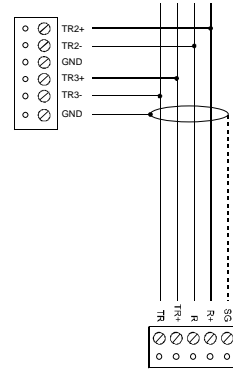


Figure 3: RS-485 4-Wire Communications

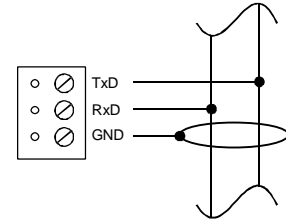


Figure 4: 2-Wire RS-232 (Ports 2-5)

4.0 Downstream Communications

See Figure 4.

5.0 Configuration

The **READYKEY^{PRO}** Multiplexer board contains (9) jumpers that must be configured for your system.

5.1 Installing Jumpers

5.1.1 RS-485 Tri-State Delay

Jumpers JP1, JP2, JP3, and JP4 are used to configure the RS-485 tri-state delay length for the **READYKEY^{PRO}** Multiplexer. There are two possible configuration options for these jumpers: 2mS configuration, and 4mS configuration.

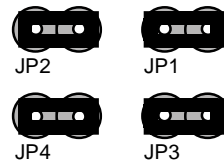


Figure 5: 2mS Configuration

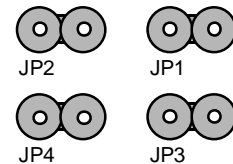


Figure 6: 4mS Configuration

For the 2mS configuration (Figure 5, for 4800 bps or higher), all four of these jumpers must be installed. For the 4mS configuration (Figure 6, for rates lower than 4800 bps), these jumpers should *not* be installed at all.

5.1.2 RS-485 Type

Jumpers JP5 and JP6 are used to configure the RS-485 type for the **READYKEY^{PRO}** Multiplexer. There are two possible configuration options that can be used to install these jumpers: 2-wire configuration, and 4-wire configuration.

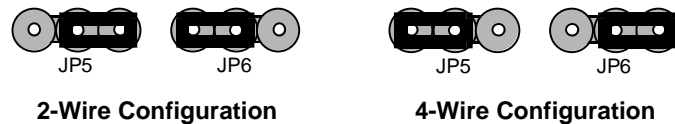


Figure 7: for Jumpers JP5, JP6

5.1.3 RS-485 Transmit Status

Jumper JP7 is used to configure the RS-485 transmit status for the **READYKEY^{PRO}** Multiplexer. There are two possible configuration options that can be used to install these jumpers: "Transmit permanently enabled" configuration, and "Tri-state controlled" configuration.

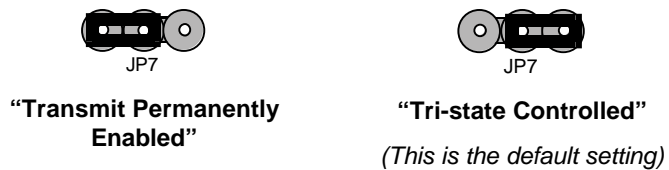


Figure 8: Configuration for Jumper JP7

5.1.4 RS-485 EOL Terminator Status



Figure 9: EOL Termination Configuration for J8, J9