# LANSRLU1

### Lantronix UDS100

## QuickStart User Guide

# Contents

# Overview

The LANSRLU1 (UDS100) Device Server connects serial devices such as Security Alarms and Access Control Devices to Ethernet networks using the IP protocol family. The UDS100 connects these devices through a TCP data channel or through a Telnet connection to computers or another Device Server.

The UDS100 uses the Internet Protocol (IP) for network communications and the Transmission Control Protocol (TCP) to assure that no data is lost or duplicated, and that everything sent to the connection arrives correctly at the target.

# Requirements for WIN-PAK 2.0/Pro R3 and Higher

- LANSRLU1 at the Remote End
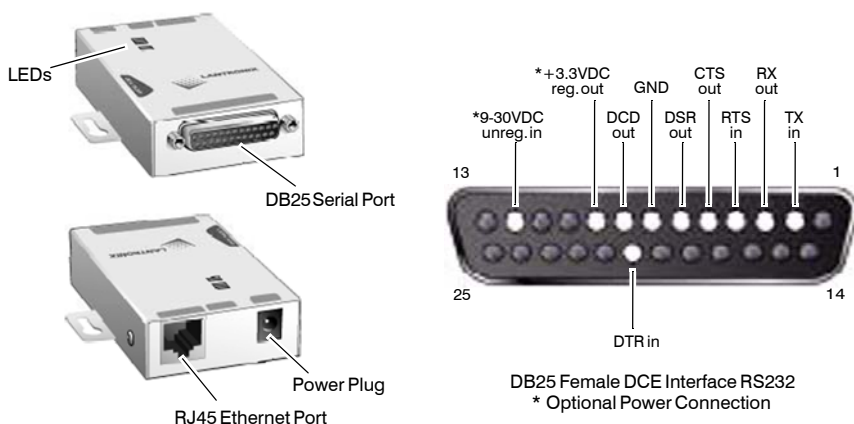- N-485-PCI-2L (with 25-pin M-M null modem adapter)

# Requirements for WIN-PAK 1.1x

- UDS100s

  at the Local End

  at the Remote End

- 485-PCI-2L (with 25-pin M-M null modem adapter)

# Troubleshooting Requirements

- 9 pin female to 25-pin male serial cable
- Network cross-over cable

# Pinouts and Connections



DB25 Serial Port

Power Plug

RJ45 Ethernet Port

LEDs

*+3.3VDC reg.out    GND    CTS out    RX out

*9-30VDC unreg.in    DCD out    DSR out    RTS in    TX in

13                                                                1

25                                                               14

DTR in

DB25 Female DCE Interface RS232
* Optional Power Connection

## LEDs

The UDS100 device uses LEDs to indicate the following conditions:

- 10 Mbps Link/Activity (green)
- 100 Mbps Link/Activity (green)
- Collisions
- Diagnostics (red)
- Status (yellow)

| LEDs | Definition |
|---|---|
| 10 Mbps Link/Activity steady (green). | Valid 10 Mbps network connection. |
| 10 Mbps Link/Activity blinking (green). | Network packets transmitting and receiving. |
| 100 Mbps Link/Activity steady (green). | Valiid 100 Mbps network connection. |
| 100 Mbps Link/Activity blinking (green). | Network packets transmitting and receiving. |
| Collisions blinking red. | Network collisions. |
| Diagnostics steady red and status blinking green. | 1 blink = EPROM checksum error.<br>2 blinks = RAM error.<br>4 blinks = EEPROM checksum error.<br>5 blinks = Duplicate IP address on networ.k |
| Diagnostics blinking red and status blinking green. | 4 blinks = Faulty network connection.<br>5 blinks = No DHCP response. |
| Status steady green. | Serial port not connected to network. |
| Status blinking green. | Serial port connected to network. |

## Assigning the IP Address

| Method | Description |
|---|---|
| DeviceInstaller | User manually assigns the IP address using a GUI. The UDS unit must be attached to the network. |
| ARP and Telnet | User manually assigns the IP address and other network settings at a command prompt using UNIX ro a Windows based system. The user must be logged onto the configuration port (9999). |
| Serial Port Login | Configure the unit through a serial connection. |
| Note: The UDS device is shipped with a default IP address of 0.0.0.0. | |

# Programming

## DeviceInstaller

The user can manually assign the IP address using the DeviceInstaller, which is on the product Lantronix CD.
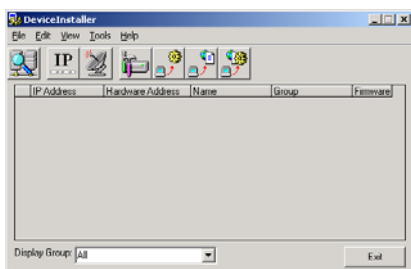
## Install the DeviceInstaller

1. Insert the product CD into your CD-ROM drive. The Lantronix UDS100 Device Server window displays.

   If the CD does not launch automatically:

   a. Click the Start button on the Task Bar and select Run.

   b. Enter your CD drive letter, colon, backslash, and deviceinstaller.exe (e.g., E:\deviceinstaller.exe).

2. Click the DeviceInstaller button. The installation wizard window displays.

3. Respond to the installation wizard prompts. (When prompted to select an installation type, select Typical.)

## Assign IP Address and Network Class

1. Click the Start button on the task bar and select Programs Device–Installer DeviceInstaller. The DeviceInstaller window appears.



2. Observe the menu bar and tool bar. Select IP on the tool bar in order to assign a New IP Address.

   A dialogue box will appear prompting that an Ethernet (MAC) Address and the desired IP Address be entered.

3. Enter in the MAC Address and the IP Address of the UDS100 device.

   Note that the appropriate Subnet Mask is required at this point.
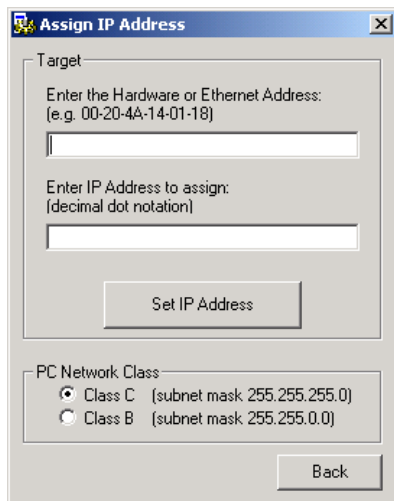
4.   Once the MAC Address, IP Address and Subnet Mask have been entered, select the Set IP Address button.

DeviceInstaller will then perform the following steps before the message 'Assign IP successful!' appears:

- Test for an existing IP…

- Ping the new IP…

5.   Then select OK.

6.   On the Assign IP Address screen, select Back.

7.   The main DeviceInstaller window will reappear.  On the tool bar, select .

8.   Select 'Start Search' as well as the 'PC Network Class'.
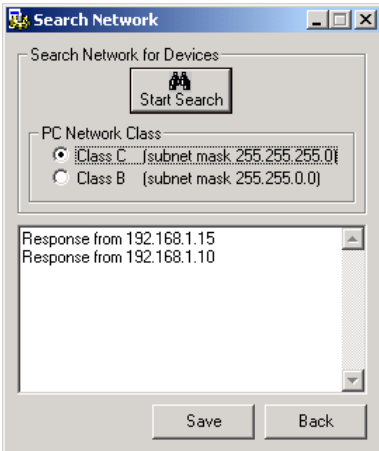


9.   After receiving a response from the unit(s), displaying the assigned IP, select 'Save'.



10.  Select 'OK' on the window confirming the successful update of the unit(s).
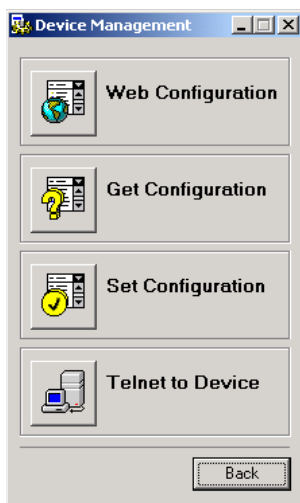
11.  On the Search Network window, select 'Back'.

The user will then be back at the Main DeviceInstaller window.

12.  If adding more than one device, select the one that is to be configured first.

13.  On the Menu Bar, select Tool then Device Manager…

A Device Management window will appear displaying four management options.

14. For the purposes of programming the UDS100, select option four, 'Telnet to Device'.

    Connecting through port 9999, the user will be connected to a Telnet session.

15. A Lantronix Device Universal Server DOS screen will appear prompting the user to press Enter to go into Setup Mode. Press <enter>.

    The duration of programming will be completed through the DOS screen.

16. At the 'Your Choice?' prompt, Enter "0" then <enter> to go into Server Configuration.

17. At the IP Address prompt, Enter the IP Address of the UDS100 then <enter>.

18. At the Gateway IP Address prompt

    a. Hit enter immediately if no gateway is required.

    b. Type 'Y', if a gateway is used. If the user selects 'Y', at the Gateway IP Addr (000) prompt, enter the gateway address then <enter>.

19. At the Netmask Number of Bits for Host Part (0=default) (00) prompt, enter 8,16 or 24 pending the subnet mask class being used:

    8  = Class C = subnet 255.255.255.0

    16 = Class B = subnet 255.255.0.0

    24 = Class A = subnet 255.0.0.0

20. Change Telnet Config Password (N), press <enter>.

    The Change Setup Menu will now re-appear.

21. At the 'Your Choice ?' prompt, enter "1" thenn <enter> in order to go into the Channel 1 Configuration.

22. At the Baud Rate prompt, enter 9600 then <enter>.

23. I/F Mode is not used, press <enter>.

24. At the Flow prompt, type 00 then <enter> in order to disable Flow Control.

25. At Port No (10001), type, 3001 then <enter>.

26. At the ConnectMode (C0) prompt, enter C1 for remote configuration then <enter>.

27. At the Remote IP Address prompt, if configuring the Remote UDS100 at this time, press the enter key four times so no Remote IP is assigned.

28. At the Remote (0): prompt, enter 3001then <enter>.

29. Press <enter> through the rest of the menu options.

    The Change Setup Menu will now re-appear.

30. Type 9, <enter> to Save and Exit.

    After Exiting the TELNET configuration screen the user will then return to the DeviceInstaller software.

The user will then notice a screen specifying a Target Source.
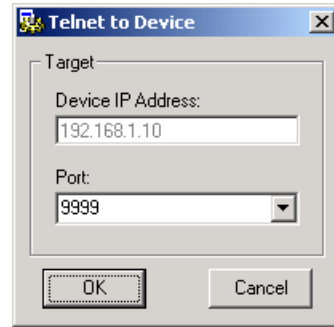


31. To test communications, under the Ports option, enter in 3001 and then select OK.

    If able to communicate through the UDS100 on port 3001, the user will notice a black screen with a blinking cursor.

32. Upon completion, exit out of DeviceInstaller.

## Programming the UDS100 with Windows Command Prompts

1. Connect the UDS100 to the network.

2. On the Windows Menu Bar, select Start > Run.

3. Enter in CMD then <enter>.

4. At the Command Prompt, enter in the following then press <enter>:

    ARP -s_IP Address_MAC Address,

    i.e.  ARP -s 192.168.1.14 00-20-4A-64-CC-3D.

5. In order to confirm the assignment of the IP Address and

MAC, at the next command prompt enter in ARP -A, <enter>.
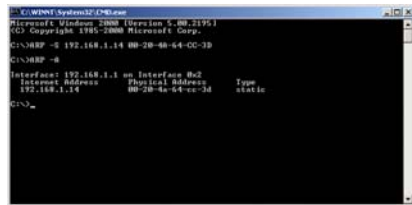


6. At the following Command Prompt, enter in TELNET then <enter>.

7. Enter in OPEN_IP Address_1 then <enter>,

    i.e. OPEN 192.168.1.14 1.

The user will notice an error message that reads as follows:

Could not open a connection to host on Port 1: connection failed

8. At the following Command Prompt, enter OPEN_IP Address_9999 then <enter>,

   i.e. OPEN 192.168.1.14 9999

9. A Lantronix Device Universal Server DOS screen will appear prompting the user to Press Enter to go into Setup Mode. Press <enter>.

10. At this point, complete steps #21 through #30 of the IP address procedure that begins on page 5.

11. Exit the TELNET session.

## Serial Programming through HyperTerminal

1. On the Windows Menu Bar, go to Start > Programs > Accessories > Communications > HyperTerminal.

2. A Connection Description screen will appear, prompting the User to 'enter a name and choose an icon'. Enter a name and select OK.

3. A Connect to screen will appear. Under the category 'Connect using'. Select the COM Port in use with the UDS100.

4. At last a COM Properties screen will appear. Make the following changes:

   Bits per second = 9600.

   Data Bits = 8.

   Parity = None.

   Stop Bits = 1.

   Flow Control = None.

5. Select OK.

   The user will then notice a blank screen with a blinking cursor.

6. To enter Setup Mode, while holding down the 'x' key, cycle power to the UDS100 (power off and back on).

7. When the device reports back information, immediately press <enter>.

8. At this point, complete steps #21 through #30 of the IP address procedure that beginns on page 5.

9. Upon completion,exit the Hyper-Terminal session.

## WIN-PAK 2.0/Pro/Intl. R3 Configuration with UDS100

1. Be sure all devices are properly configured and attached over the network.

2. Log into the WIN-PAK 2/Pro User Interface.

3. On the WIN-PAK Menu Bar, go to Configuration > Device > Device Map.

4. Assuming the 485 Loop has already been configured, right-click on the 485 and select Configure.

5. Notice two tabs, Basic Information and Port Settings. Select the Port Settings tab.

6. Under Port, press the drop down arrow and select TCP/IP connection.

7. At this point, enter an IP Address or Node name.

8. After the IP Address has been entered, exit the Loop Configuration by selecting OK.

9. At this point, continue with the system programming.

10. Upon completion of programming, test communication by Initializing the panel(s).

# System Design
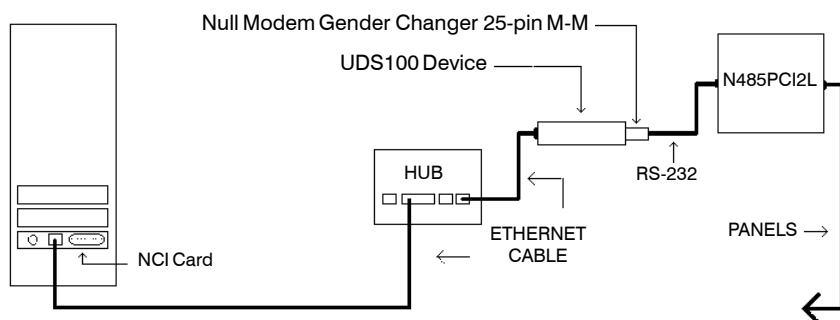


# Connection Alternatives

| Connection | Description | Remedy |
|---|---|---|
| N-485-HUB-2 | • 25-pin male on serial end.<br>• HUB firmware is used for dial-up systems. | Replace the HUB firmware chip with a PCI firmware chip. Be sure that the version PCI matches that of the HUB. |
| N-485-PCI-2 | • 9-pin female on serial end.<br>• Designed for direct connect. | Use a 9-pin to 25-pin M-M Null modem adapter to interface between the PCI and the UDS100. |
| N485PCI2L | • 25-pin female on serial end.<br>• Designed for connection to the LANSRL or LANSRLT. | Use a 25-pin M-M Null modem adapter between the PCI and the UDS100. |

# Problems and Error Messages

| Problem/Message | Reason | Solution |
|---|---|---|
| When issuing the ARP -S command in Windows, "The ARP entry addition failed: 5" message displays. | The user currently logged in does not have the correct rights to use this command on this PC. | Have someone from the IT department log in a user-with sufficient rights. |
| When attempting to assign an IP address to the UDS via the ARP method, the "Press Enter to go into Setup Mode" error (described below) displayed. Now when Telneting to the UDS, the connection fails. | When Telneting into port 1 on the UDS, a temporary IP address is being assigned. When Telneting into port 9999 without pressing <enter> quickly, the UDS will reboot, causing it to lose the IP address. | Telnet back into Port 1. Wait for it to fail, then Telnet to port 9999 again. Make sure to press <enter> quickly. (Only be allocated 5 seconds to press <enter>.) |
| When Telneting to port 9999, the message "Press Enter to go into Setup Mode" displays. However, nothing happens when pressing <enter>, or the connection is closed. | The <enter> was not pressed quickly enough. Only have 5 seconds are allocated to press<enter> before the connection is closed. | Telnet to port 9999 again, but press <enter> as soon as the message "Press Enter to go into Setup Mode" appears. |
| When Telneting to port 1 to assign an IP address to the UDS, the Telnet window does not respond for a long time. | The Ethernet address may have been entered incorrectly with the ARP command. | Verify that the Ethernet address that was entered with the ARP command is correct. The Ethernet address may only include numbers 0-9 and letters A-F. In Windows and usually in Unix, the segments of the Ethernet address are separated by dashes. In some forms of Unix, the Ethernet address is segmented with colons. |
| | The IP address being assigned is not on the logical subnet. | Confirm that the PC has an IP address and that it is in the same logical subnet as the UDS. |
| | The UDS may not be plugged into the network properly. | Make sure that the Link LED is illuminated. If the Link LED is not illuminated, then the UDS is not properly plugged into the network. |

| Problem/Message | Reason | Solution |
|---|---|---|
| When attempting to assign an IP with DeviceInstaller, the following message appears: "No response from device! Verify the IP, Hardware address and Network Class. Please try again." | The cause is most likely one of the following: The Hardware address specified is incorrect. The IP address being assigned is not a valid IP for the logical subnet. The correct subnet mask was not selected. | Double-check the specified parameters. Tip: An IP address cannot be assigned to a UDS through a router. |
| No LEDs are illuminated. | The unit or its power supply is damaged, or the unit is not plugged into power properly. | Try plugging the UDS into another outlet. If this does not fix the problem, contact the dealer or Lantronix Technical Support for a replacement. |
| The UDS100 will not power up properly, and the LEDs are flashing. | Various. | Consult the LEDs section in the Introduction chapter or the Quick Start guide for the LED flashing sequence patterns. Call Lantronix Technical Support if the blinking pattern indicates a critical error. |
| The UDS is not communicating with the serial device attached to the UDS. | The most likely reason is the wrong serial cable or serial settings were chosen. | Make sure to use the correct serial cable. The UDS serial port is just like a modem serial port (DCE). The serial settings for the serial device and the UDS must match. The default serial settings for the UDS are RS232, 9600 Baud, 8 Character Bits, No Parity, 1 Stop Bit, No Flow Control. |
| When attempting to enter the setup mode on the UDS via the serial cable, there is no response. | The issue will most likely be something covered in the previous problem, or possibly the Caps Lock is on. | Double check everything in the problem addressed above. Confirm that Caps Lock is not on. |

| Problem/Message | Reason | Solution |
|---|---|---|
| It's possible to ping the UDS, but not Telnet to the UDS on port 9999. | There may be an IP address conflict on the network Port 9999 is not being Telnetted.<br><br>The Telnet configuration port (9999) is disabled within the UDS security settings. | Turn the UDS off and then issue the following commands at the DOS prompt of the computer: ARP -D X.X.X.X (X.X.X.X is the IP of the UDS).<br><br>PING X.X.X.X (X.X.X.X is the IP of the UDS).<br><br>If a response is given, then there is a duplicate IP address on the network (the LEDs on the UDS should flash a sequence that tells you this). If no response is given, use the serial port to verify that Telnet is not disabled. |
| With DeviceInstaller a "Wrong Password" error is given when attempting to upgrade the firmware. | An incorrect setting was chosen for the Existing Firmware filed. | Try upgrading the firmware again, but make sure to use the correct setting in the field of Existing Firmware field. |

| Problem/Message | Reason | Solution |
|---|---|---|
| The correct serial cable is used, and the UDS is setup correctly, but there is no communication with the device attached to the UDS across the network. | If the serial cable is correct, perhaps it is not connected to the correct socket of the UDS.<br><br>Another possibility is that the UDS is not set up correctly to make a good socket connection to the network. | Check to see whether there is a socket connection to or from the UDS by looking at the Status LED.<br><br>If the Status LED is blinking consistently, or is completely off, then there is a good socket connection.<br><br>If the Status LED is solid green, then the socket connection does not exist. Use the Connect Mode option C0 for making a connection to the UDS from the network. Use Connect Mode option C1 or C5 for a connection to the network from the UDS. |
| When connecting to the Web-Manager within the UDS, the message "No Connection With The CoBox" displays. | The computer is not able to connect to port 30718 (77FEh) on the UDS. | Make sure that port 30718 (77FEh) is not blocked with any another router being used on the network. Also make sure that port 77FEh is not disabled within the Security settings of the UDS. |

# Adapter Pinouts for 9-pin and 25-pin Connectors

| Null Modem Adapter: 9-to-25 pin | | | Straight-through Adapter: 9-to-25 pin | | |
|---|---|---|---|---|---|
| 9DB | to | 25DB | 9DB | to | 25DB |
| 2-RX | | 2TX | 2-TX | | 3-TX |
| 3-TX | | 3-RX | 3-RX | | 2-RX |
| 5-SG | | 7-SG | 5-SG | | 7-SG |
| Null Modem Adapter: 9-to-9 pin | | | Straight-through Adapter: 9-to-9 pin | | |
| 9DB | to | 9DB | 9DB | to | 9DB |
| 2-RX | | 3-TX | 2-TX | | 2-TX |
| 3-TX | | 2-RX | 3-RX | | 3-RX |
| 5-SG | | 5-SG | 5-SG | | 5-SG |
| Null Modem Adapter: 25-to-25 pin | | | Straight-through Adapter: 25-to-25 pin | | |
| 25DB | to | 25DB | 25DB | to | 25DB |
| 2-TX | | 3-RX | 2-TX | | 2-TX |
| 3-RX | | 2-TX | 3-RX | | 3-RX |
| 7-SG | | 7-SG | 7-SG | | 7-SG |
| Note: RX = Receive; TX = Transmit; SG = Ground. | | | | | |

## Honeywell

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