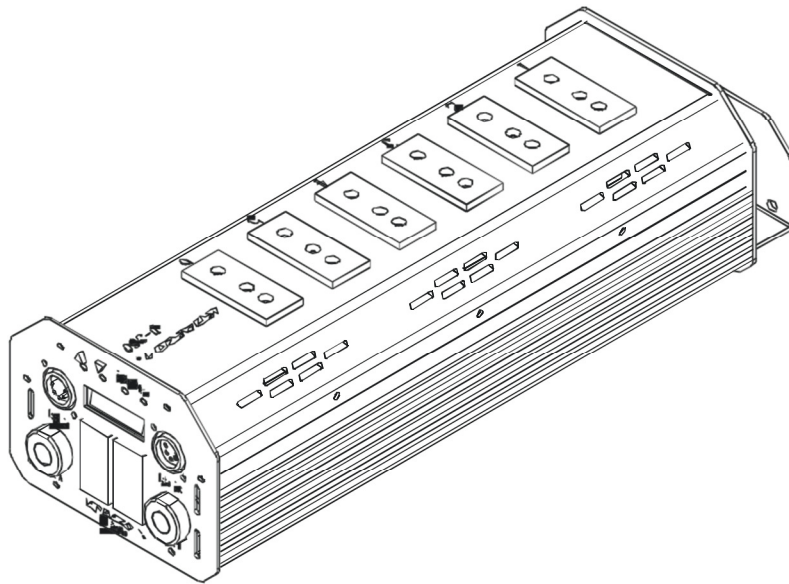


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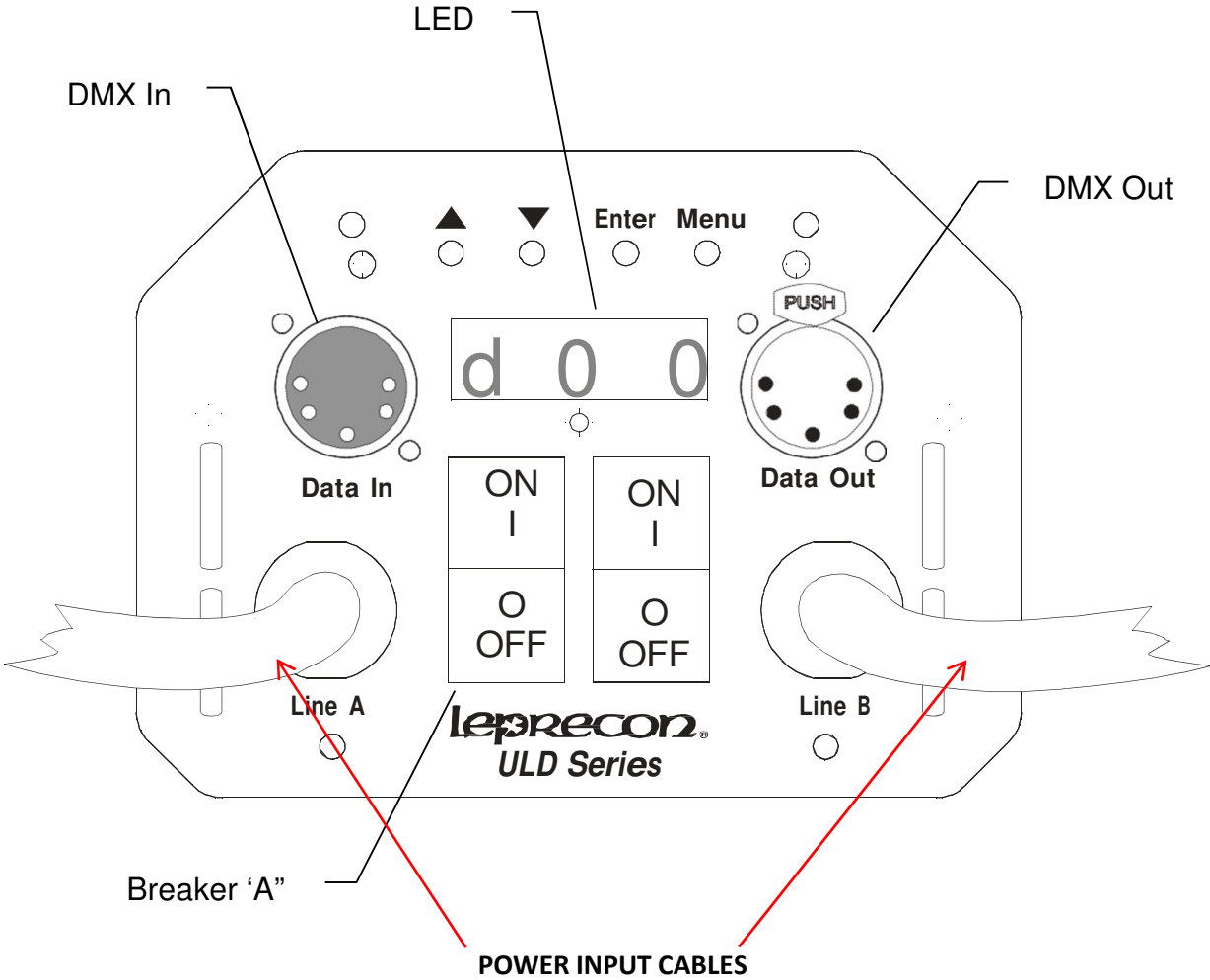
## ULD-340DMX-HP USER'S MANUAL



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**Endplate Illustration – ULD-340DMX-HP**



## **1) Introduction**

The new ULD series dimmer is designed to be a capable and reliable solution for temporary and portable dimming requirements. With the menu-based interface, the dimmer can be configured for different applications, including stand-alone use without a controller. Default values can be restored at any time, clearing the internal memory back to the standard values.

Please take a few minutes to review the specifications and operating features of the ULD-340 dimmer.

The ULD-340 dimmer is designed for use with conventional incandescent fixtures. Transformer loads, such as low voltage devices using a step-down transformer, may require an additional load to be connected to the same circuit to operate properly.  
For operating florescent fixtures, see the section regarding Front Panel Controls.

## **2) Specifications**

### ***Power Connection***

Unless otherwise indicated, your ULD-340 dimmer is designed for connection to standard US power systems, 120 VAC 60 Hz. Lamp connections must be 120 V devices only. Line voltages over 135 VAC will trigger the overvoltage protection circuit and shut off the dimmer pack.

### ***Ambient Temperature***

The ULD-340 dimmer is designed for use in a cool, ventilated area. Ambient air temperature must be less than 40 degrees Celsius, or about 104 degrees Fahrenheit.

### ***Power Capacity***

The ULD340 DMX is unique in the market of small portable dimmers. A single breaker is used on the pack instead of individual fuses per each channel. As a result, the limits of the dimmer are *pack* limits, not channel limits. The following guidelines should be followed:

**ULD340 DMX-HP – when plugged into a 100% duty-cycle service or a wall socket in the USA**  
**Pack Limit: 15 Amps (1800 watts) for each of the 2 power input cables, or 30 amps (3600 watts) total**  
**Individual channel limit of 1800 watts**

**Example 1: 1500 watts on channel 1, 600 watts on channel 2, 1800 watts on channel 3 and nothing on channel 4**

**Power input cable A and breaker A control channels 1 and 2. The maximum wattage per power input cable is 1800 watts. You have 2100 watts on the 2 channels (1500 + 600) so the breaker will trip. You will have to remove some lights.**

**Power input cable B and breaker B control channels 3 and 4. The maximum wattage per power input cable is 1800 watts. The maximum wattage per channel is also 1800 watts, so an 1800 watt load will be OK, as there is no load on channel 4 and the pack is on a 100% duty cycle service.**

**ULD340 DMX-HP – when plugged into a normal wall outlet in Canada**

**Pack Limit: 12 Amps (1500 watts) for each of the 2 power input cables, or 24 amps (3000 watts) total**

**Individual channel limit of 1500 watts**

**Example 2: 1300 watts on channel 1, 600 watts on channel 2, 1500 watts on channel 3 and nothing on channel 4**

**Power input cable A and breaker A control channels 1 and 2. The maximum wattage per power input cable is 1500 watts. You have 1900 watts on the 2 channels (1300 + 600) so you will trip the breaker.**

**Power input cable B and breaker B control channels 3 and 4. The maximum wattage per power input cable is 1500 watts. The maximum wattage per channel is also 1500 watts, so a 1500 watt load will be OK on channel 3, as there is no load on channel 4.**

### ***Control input***

The ULD-340 DMX accepts DMX 512 1990 as specified by USITT. Reliable DMX systems require cable rated for data communication at 250K baud; for this reason the use of microphone cable is **NOT** recommended. DMX rated cables are available pre-manufactured from your Leprecon dealer. For more information on the DMX standard and acceptable cable, see the Appendix at the end of this manual.

For convenience, DMX in and out connectors are provided on the ULD-340DMX. This allows easy connection to additional dimmer packs. The DMX standard allows up to 32 dimmers to be connected to a single DMX controller.

For proper operation, it is recommended that the last dimmer in the system have a termination plug placed in the DMX Out connector. Termination plugs can be purchased, or easily built by installing a 120 ohm resistor between pins 2 and 3 of the 5 pin XLR.

### **3) Installation**

#### ***Mounting***

The ULD340 is designed for vertical mounting. The top hanging bracket has a pre-punched hole for a standard 1/2" pipe clamp mounting bolt. Using this mounting point allows the dimmer to be mounted with the power cords, DMX display and DMX control connectors facing downward.

The ULD340 dimmers are passively cooled, using no internal fans. The heat generated by the dimmer is dissipated by the extruded metal chassis, and the airflow through the chassis vents. For this reason, mount the dimmer so that air is free to circulate around the dimmer. The dimmer should be mounted with at least 12 inches of clearance between the dimmer and any ceiling or obstruction above the dimmer that would block air circulation.

#### ***Power Connection***

Leprecon LD340 series dimmers are supplied with line cords which have standard TLG plugs attached. Each line of the LD340 should be connected to a service capable of supplying 15 amps @ 100% duty cycle and protected by a properly sized circuit breaker.

If you have any questions about the suitability of the power circuit that you intend to use with the LD340 dimmer, consult with a qualified electrician.

#### ***Load Connection***

Lamp loads are plugged directly into the outlets on the body of the dimmer.

### **4) Turning on Power**

The ULD-340 has two line cords and two circuit breakers. The line cord and breaker to the left on the endplate, labeled 'A', supplies power for channels 1 and 2, as well as the internal power supply for the control electronics. Line cord and breaker 'B' supplies power to channels 3 and 4.

Power applied to the dimmer is indicated by an internal green indicator in each of the breakers. If the breaker is on, but not lighted, there is no power to the line cord. Turning on breaker 'A' will also light the red LED display.

#### **Note:**

**The unit can be Reset to original factory settings by depressing and holding the ENTER switch while turning on the first breaker.**

## 5) Front Panel Controls

The ULD-340 dimmer uses a 4 digit display and four entry switches to set pack functions, and display operating status.

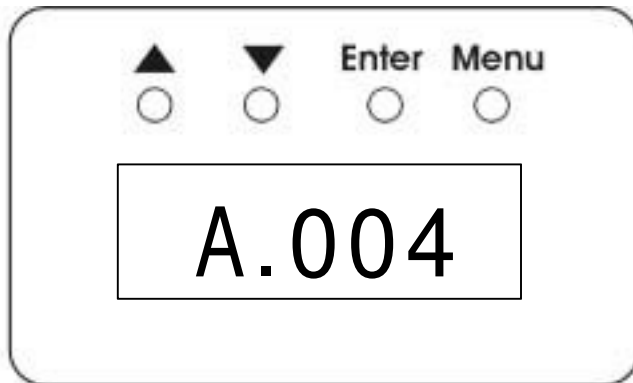
### ***Resetting the ULD-340 to default values:***

The unit can be Reset to original factory settings by depressing and holding the ENTER switch while turning on the first breaker.

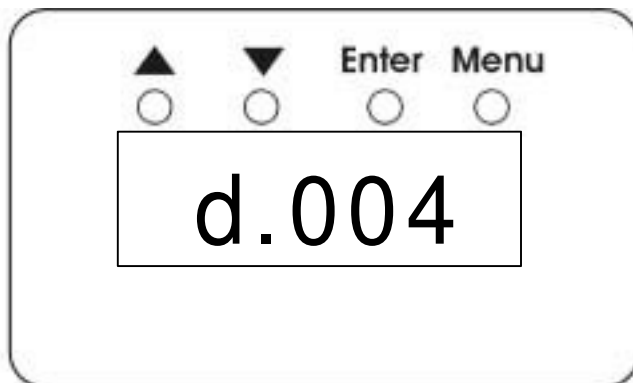
Address  
Menu

When the dimmer is first turned on, the display shows the starting channel address of the ULD-340. This is the DMX address that will control the first channel of the pack.

When there is no DMX input, the channel number is preceded by the letter A for address:



When valid DMX is detected, the letter 'A' is replaced with the letter 'd' for DMX:

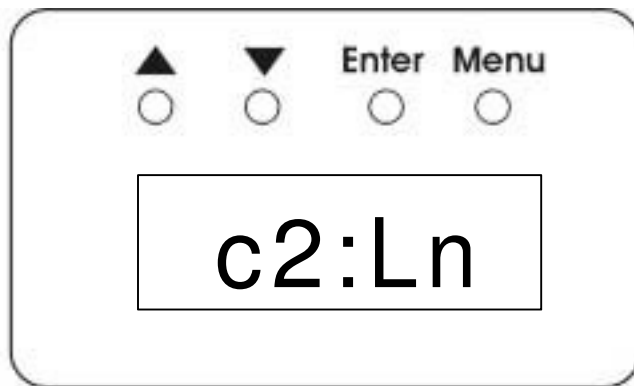


The UP/DOWN keys change the value for the start address. The ULD-340 uses the changed value immediately and permanently saves it after 10 seconds or if the Enter or Menu key is pressed.

After power on, the ULD-340 remains in the Address Menu in its simple interface mode. To go to any other menu requires the user to hold the MENU key for about 5 seconds.

### **Channel Mode Menu**

The Channel Mode Menu allows setting the mode of each dimmer channel. This mode is indicated by the letter 'c' in the display:



Set the mode for the displayed channel by pressing the UP/DOWN keys. The possible channel modes are:

Mode	Description
Ln	Linear output. Standard dimmer channel.
Nd	Non- dim. Fader input above 60% turns on channel to 100%. Input below 40% turns off channel.
FL	Florescent output. Dimmer does not begin to turn on until 20%.
00-FF	Fixed output level. Values are 0, 10-99 and FF. FF is 100% output.

After changing the mode the colon will blink to indicate new data has been entered. Press the ENTER key saves the change, and advance to the next channel.

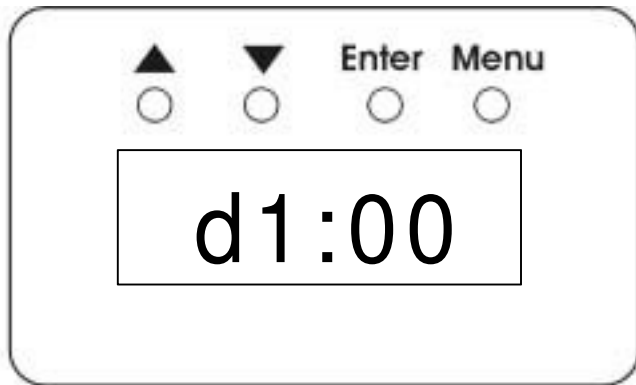
The LD-340 returns to the Address Menu automatically after 4 seconds if no keys are pressed in the Mode Menu.



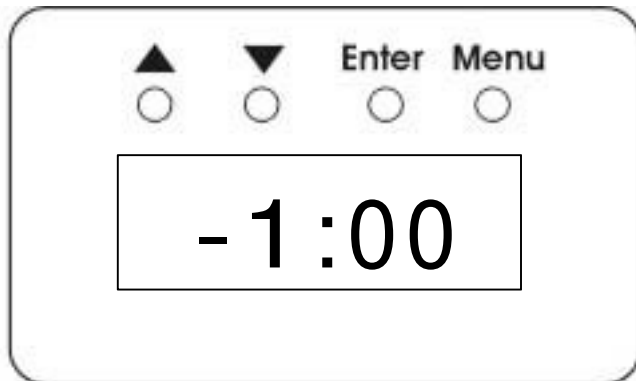
### **Status Menu**

When the ULD-340 is in the Channel mode, pressing 'MENU' again will start the Status mode. When Status mode starts, the state of each channel will be shown in sequence, with the display cycling from Channel 1 to Channel 4, then automatically cycle back to channel 1. This automatic cycling is indicated by the flashing colon.

The Status Mode first displays the current input state of the dimmer channels 1-4. If valid DMX is present, the letter 'd' is displayed, followed by the DMX value for the channel:



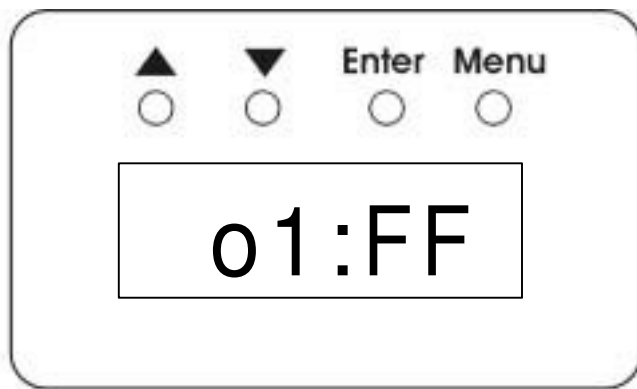
If there is no DMX present, the 'd' letter will disappear, and a '-' will be shown instead:



Once the input levels for all dimmer channels have been shown, the display will then indicate the output level for each channel. This is indicated by the letter 'o' in the display, followed by channel number, followed by output level. Output will be shown as a percentage, with 100% indicated by the letters 'FF'

Pressing the ENTER, UP or DOWN keys stops the auto cycle mode and enters manual mode. Pressing MENU toggles between auto and manual cycle modes.

In manual mode the menu steps through its displays when the UP or DOWN keys are pressed. The colon is steady in manual mode.



If a channel has been set to a fixed level in the Channel menu, the output status will reflect that level. In this case, the input for channel 1 could be zero, but there could be a non-zero output level.

Status Letter	Description
-	No input detected
d	DMX is input source
o	Output level
F	Output Fault – Overtemp or Overvoltage shutdown

**Note:**

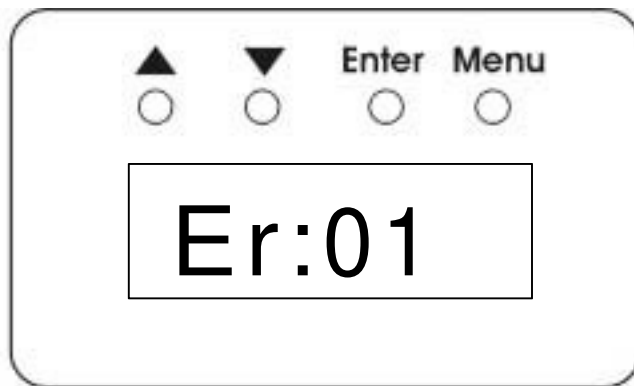
The unit can be Reset to original factory settings by depressing and holding the ENTER switch while turning on the first breaker.

### **Configuration Data**

If you press the Menu button while in the status display, various factory configuration data will be seen. These features are not fully defined at this point, but include software version, power configuration, and analog calibration data for the microprocessor.

## **6) Error conditions**

The ULD-340 will protect itself if the line voltage or operating temperature exceeds safe limits. In these cases, the dimmer will turn off all channels, and display an error message on the display:



Error 01 is displayed for an overtemperature condition.  
Error 02 is displayed for an overvoltage condition.

The dimmer will return to normal operation once the fault is corrected.

**NOTE:** Extended operation with Overvoltage applied can cause damage to the dimmer power supply.

## 7) Service

### ***Service policy***

The LD340 DMX is designed for a long, trouble free life. If you suspect that you have a dimmer problem, the first step is to check all other system components and connections. The easiest test is to substitute a known good dimmer in place of the suspected unit. Make sure that the DMX start address is set to the same value.

Specific problems and solutions are listed below:

<b>Problem</b>	<b>Indication</b>	<b>Solution</b>
no power	breaker not lighted	check incoming power
No response to DMX	Display shows D, but no output	Level set in Channel menu Clear dimmer and recheck.
Shorted load	breaker trips	repair instrument or cable
No DMX signal	Display shows A	Check cable and controller
SCR failure	Channel stuck at full	refer to service center
Over Temp	Error 02	Check airflow
Over Voltage	Error 01	Check power wiring
Overload	breaker trips	check wattage of loads