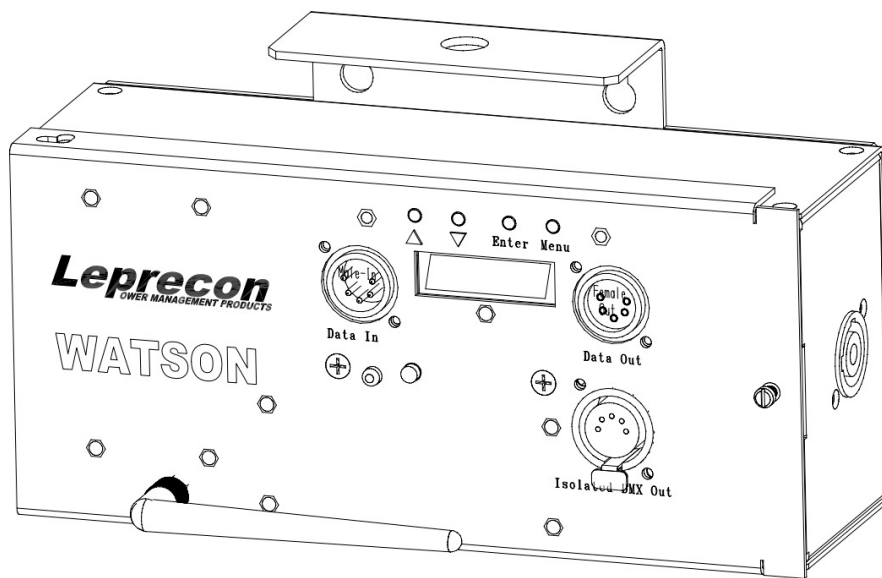


Leprecon®

Power Management Products

Watson Installation and User's manual



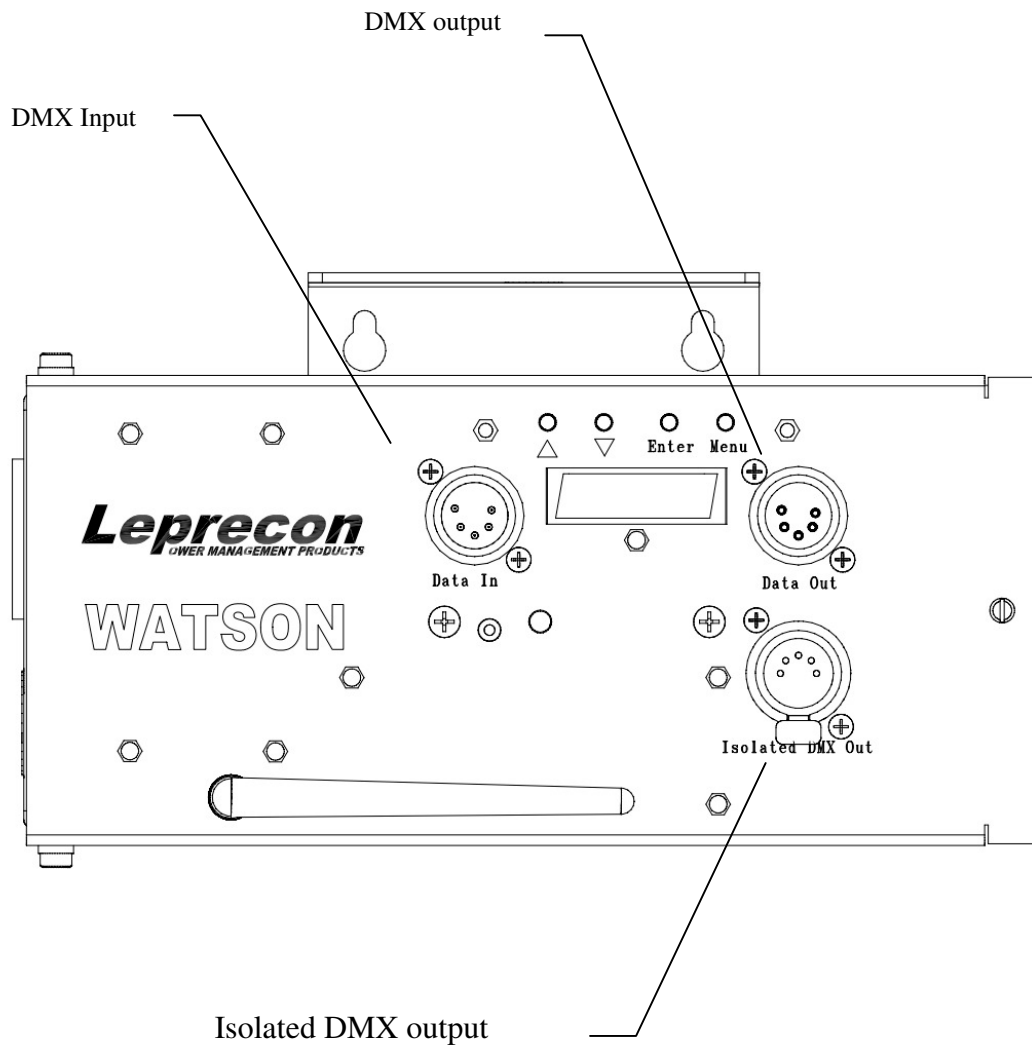
©Copyright Leprecon LLC. 2013
All rights reserved
Publication 21-1050 Rev C

This document is the property of Leprecon LLC, and is provided for service and instructional purposes only. Possession does not imply or convey rights to use any information herein. This information is proprietary, and may relate to patents or patents pending that are the properties of CAE, Inc. other than the use of products manufactured by CAE, Inc.

Table of Contents

Front panel Controls: Watson W1	3
<u>1) Introduction</u>	4
<u>2) Features and Specifications</u>	4
Power Connection	4
Ambient Temperature	4
Load Connector	4
DMX Control input	5
<u>3) Installation</u>	6
Mounting	6
Power Connection	6
Load Connection	6
<u>4) Turning on Power</u>	6
<u>5) Front Panel Controls</u>	7
Address Menu:	7
Mode Menu	9
Delay Menu	10
Software Version	11
<u>6) Troubleshooting and Service</u>	12
Service policy	12
Warranty Information	12
<u>7) DMX 512 Information</u>	13
Connectors	13
Cable type	13

Front panel Controls: Watson W1



1) Introduction

Watson provides two important functions to support new technology (non-incandescent) lighting fixtures.

- 1) Power Switching – using a set DMX address, or simply detecting DMX signal, Watson will turn off the power to fixtures when they are not in use.
- 2) Isolated DMX data – Watson provides optically isolated and buffered signal for a series of DMX fixtures.

Please take a few minutes to review the specifications features of the new Watson product.

2) Features and Specifications

Power Connection

Power input Connector	Neutrik PowerCon
Mating connector	Neutrik NAC3FCA
Operating voltage	110 – 240 VAC
Maximum load current	15 amps

Ambient Temperature

Watson Power Management systems are designed to operate in an environment where the ambient temperature is less than 40 degrees Celsius, or 104 degrees Fahrenheit.

Load Connector

Depending on the model purchased, your Watson Power System will use either Powercon or standard NEMA 5-15 load connectors. Please note that Powercon connectors are NOT designed to be connected under load. Please turn off the circuit breaker on Watson before connecting power or load. PowerCON load connector is Neutrik NAC3MPB-1, and the mating cable mount connector is NAC3FCB.

DMX Control input

All Watson models accept 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 Watson front panel. This allows easy connection to additional dimmer packs. The DMX standard allows up to 32 devices to be connected to a single DMX controller.

3) Installation

Mounting

Each Watson system ships with a simple metal bracket that will accept a standard C clamp. The packaging for the bracket includes the screws that are needed to attach the bracket to the Watson chassis.

Power Connection

For full current operation, 12 gauge power cords are recommended to power Watson and the fixtures downstream. Leprecon can supply NEMA 5-15 to Powercon cables in several lengths.

Load Connection

Fixtures or other devices connected to the output of Watson can be turned off remotely. The powered devices are protected by an internal circuit breaker on the Watson unit. To prevent overload, make sure that the total wattage of devices connected to Watson is less than 15 amps.

4) Turning on Power

Watson has one line cord and circuit breaker. When power is applied, and the breaker is turned on, the breaker will be illuminated by a green pilot lamp. When first powered, the red display on the Watson front panel will light.

Note:

Watson is designed to turn off the display after a short delay with no activity. Even if the display is not lighted, Watson is still operational.

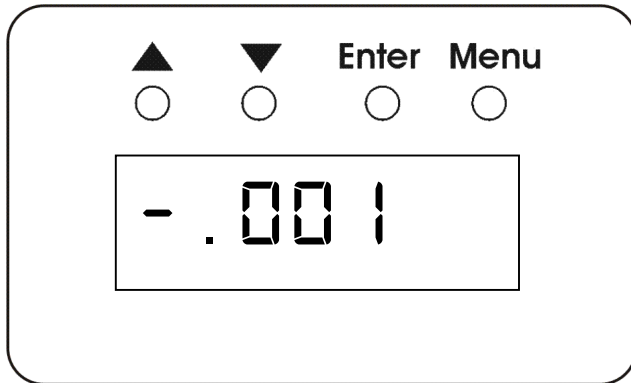
5) Front Panel Controls

Watson uses a 4 digit display and four entry switches to set operating modes, and show the operating status.

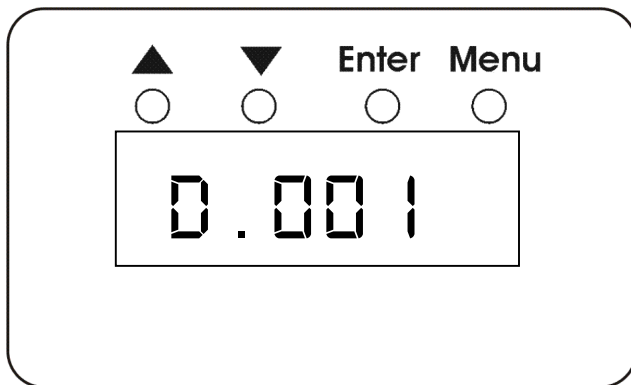
Address Menu:

When the unit is first turned on, the display shows the DMX address. This is the DMX address that can be used to turn loads on and off

When there is no DMX input, the address number is preceded by a dash (-).



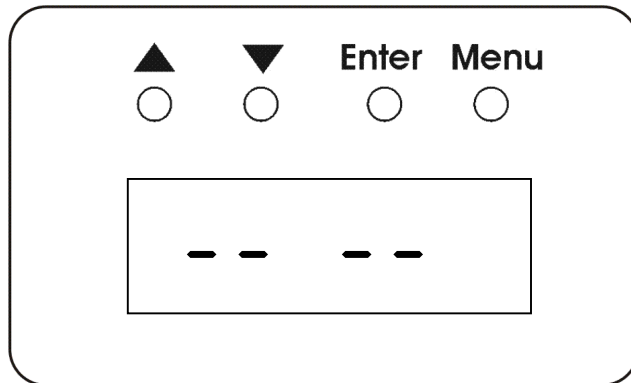
When valid DMX is detected, the dash is replaced with the letter 'd' for DMX:



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

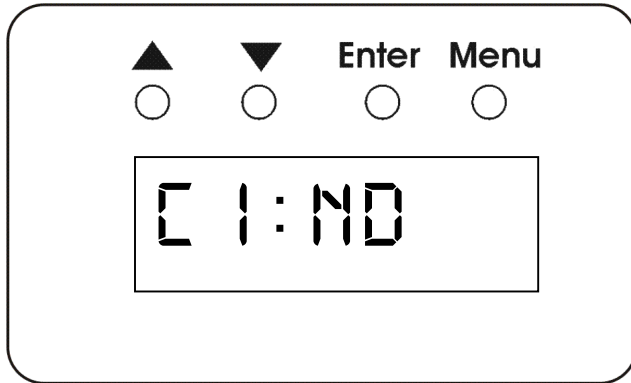
After power on, the ULD-360 remains in the Address Menu . If no buttons are pressed, the display will blank after about 15 seconds.

If Watson is in 'Automatic' mode, it will turn on when DMX is present, and off when data is not present. Since this operation does not need a start address, Watson shows blanks on power up:



Mode Menu

The Mode Menu sets the way Watson performs power switching. Press the Menu button once to enter set the operating mode:



The display shows C1, then the selected mode.

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

Mode	Description
Nd	Non- dim. DMX level above 60% turns on the output. When the DMX level is below 40% the output is off
Au	Output switched on whenever DMX is present.
Of	Output permanently off (test mode)
On	Output permanently on (test mode)

After changing the mode the colon will blink to indicate new data has been entered. Pressing the ENTER key saves the change.

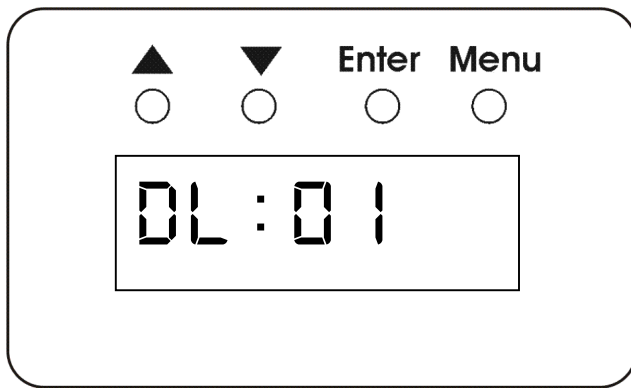
Watson returns to the main display automatically after 4 seconds if no keys are pressed in the Mode Menu.

Delay Menu

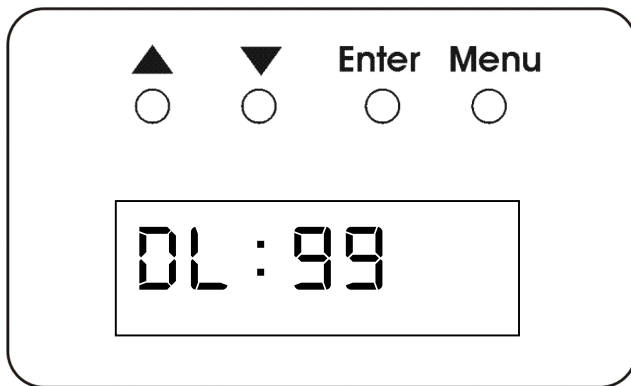
The Non-Dim and Auto switch modes use a delay time to prevent immediate power switching. This can be useful in two situations:

- 1) Momentary signal loss or accidental changes will not turn off fixtures.
- 2) Device turn on can be delayed to sequence power on for multiple units. This can minimize the disturbance on the power system.

From the main menu, press the Menu button twice. The Delay menu is indicated by the first two display characters DL.

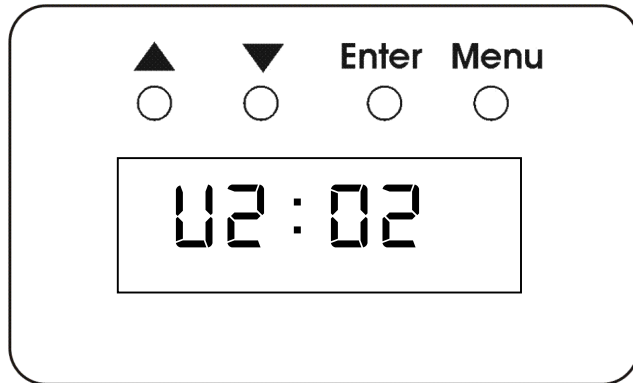


Delay times are represented in seconds, and can be set from 01 to 99 seconds.



Software Version

From the main display, pressing the Menu key three times will display the current software version. In the example below, the software version is 2.02



6) Troubleshooting and Service

Service policy

Watson is designed for a long, trouble free life. If you suspect that you have a problem, the first step is to check all other system components and connections.

Specific problems and solutions are listed below:

Problem	Indication	Solution
No power	breaker not lighted	check incoming power
No response to DMX	Display shows D, but no output	Check address assignment and operating mode
Shorted load	breaker trips	repair instrument or cable
No DMX signal	Display shows ‘-‘	Check cable and controller
No output	Loads off	Test with ‘On’ mode
Overload	breaker trips	check wattage of loads

If a problem is suspected with Watson, contact your Leprecon dealer for service. Because of the high voltages present inside of the system, it is important that only qualified personnel do all service. Substandard repairs can create a dangerous condition.

Warranty Information

For a period of two years from the date of sale, Leprecon LLC will replace any defective parts and will repair any defective module returned to the factory prepaid, without charge for parts or labor. Damage caused by misuse, incorrect line voltage or connection to shorted loads is not covered under warranty.

Please consult your dealer for full warranty details.

The Leprecon service department may be reached at 810-231-9373 during business hours, or a message may be left after hours. Our fax number is 810-231-1631.

Our service department must first authorize any return to the factory. Do not return any equipment without calling for an authorization number.

7) DMX 512 Information

The following information is a summary of the USITT 1990 standard for dimmers and controllers. A complete copy may be obtained from:

USITT
10 W. 19th ST.
Suite 5A
New York, NY 10011-4206

Several web sites exist that have an abundance of information regarding DMX-512. As with any Internet information, consider the source.

The DMX 512 standard is designed as a simple, reliable system for connecting digital dimmers and controllers. The protocol allows up to 512 dimmers to be connected to a single control console. With 512 dimmers in a system, DMX 512 allows each dimmer level to be updated 44 times each second.

Connectors

The DMX standard specifies the use of 5 pin XLR connectors. DMX 512 currently uses 3 pins of the 5 pin connector. Pins 4 and 5 are reserved for future use. Some manufacturers are using these pins for communications back from the dimmer to the control console, or as a redundant data line.

The connectors to be used for DMX 512 are as follows:

Console end (transmitter)	Female 5 pin XLR
Dimmer end (receiver)	Male 5 pin XLR

Some manufacturers of XLR connectors are Switchcraft, ITT Cannon, and Neutrik.

Cable type

Shielded twisted pair approved for EIA-422/EIA-485 use. Either one pair with shield or two pair with shield may be used. Examples of such cable are:

Single pair: Belden 9841, Alpha 5271
Two pairs: Belden 9842, Alpha 5272

The Pin Designations for DMX 512 are as follows:

Pin 1	Signal common (cable shield)
Pin 2	Data 1-
Pin 3	Data 1+
Pin 4	Spare, optional Data 2-
Pin 5	Spare, optional Data 2+