# *doran*

# *Model 300*

## Digital Bench Scale

## OPERATOR MANUAL

*Made in USA*

# INTRODUCTION

Introducing the Doran Scales, Inc. Model 300 Bench Scale.  This scale uses state of the art technology to provide you with a low cost solution to the most demanding weighing applications. With ease of use and setup in mind, the scale is simple to set up and ready to use. The Model 300 offers many features.  A few of these features are listed below:

- NTEP certification for Class III installations to 5,000d.
- A six digit, 0.56" red LED display for easy reading.
- lb, kg, oz, g, lb-oz display units supported.
- Fully configurable duplex printer port with RS232 support.
- EEPROM nonvolatile data storage of all calibration and setup information.
- Microprocessor monitoring system to prevent scale failure under severe fault conditions.
- 115/230 VAC 50/60 Hz (jumper selectable) operation.
- Field selectable digital filtering.
- Software configurable remote push-button support (Optional).
- 60 hour of battery operation, with built in charger. (Optional).
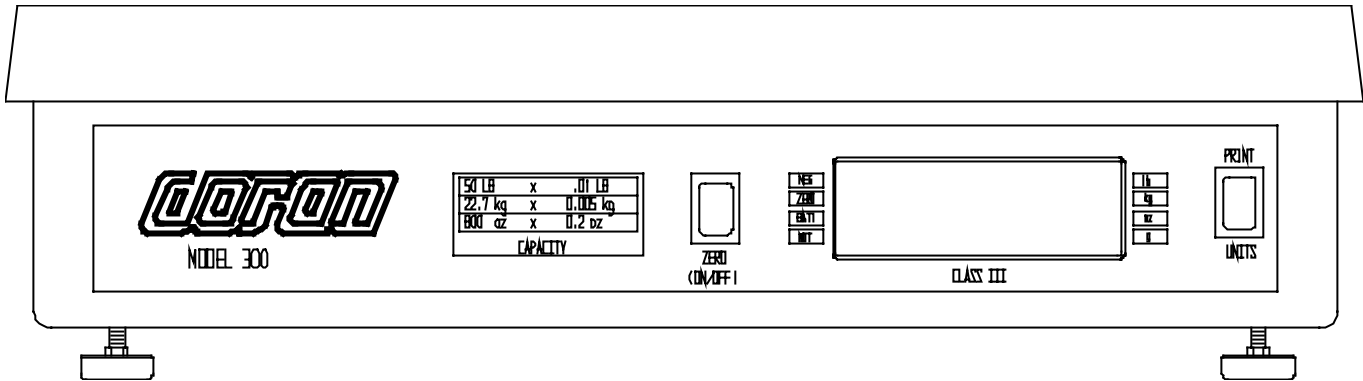- A six digit, 0.56" red LED remote display (Optional).

Please be sure to read the entire manual to ensure obtaining all the benefits that the Model 300 can provide.  If any questions arise, please feel free to contact the Doran Scales Technical Support Department at 1-800-262-6844.

**Unpacking Your Scale**
Before unpacking your Doran scale, please read the instructions in this section.  Your new scale is a durable industrial product, but it is also a sensitive weighing instrument. Normal care should be taken when handling and using this product.  Improper handling or abuse can damage the scale and result in costly repairs that will not be covered by the warranty.  If you notice any shipping damage, notify the shipper immediately. Please observe the following precautions to insure years of trouble free service from your new scale.

- DO NOT drop the scale.
- DO NOT immerse the scale.
- DO NOT drop objects on the platform.
- DO NOT pick up the scale by the "spider."
- Carefully remove the scale from the shipping carton.

# Quick Start User's Guide



**300 Front Panel Layout**

## Power Up:
Connect the Model 300 to a compatible power source. Or, press and release ZERO to turn on, for scale with battery option.

## Basic Weighing Operation:
1) Remove all items from the scale platter.
2) Press ZERO to zero the scale. The weight display should now read zero.
3) Place an item on scale platter and wait for the motion (MOT) indicator to go out, indicating a stable weight.
4) Read the weight on the scale display.

## Turn Off: (Battery option only)
1) To turn off manually, press and hold the ZERO push button until the display shows "**rel Pb**." Then release, the ZERO button and, the indicator will turn off, or…
2) Indicator will turn off automatically at the end of the programmed power on time delay when that mode is selected.

## Controls and Display Operation:
The operational controls for the Model 300 consist of the ZERO (on/off on battery option), UNITS, and an optional PRINT button.  A six digit LED display is used to provide weight indications and operator messages describing scale operation. Scale status such as motion (MOT), polarity (NEG), center of zero (ZERO), and optional low battery (BATT) are displayed on annunciators located to the left of the display area.  Scale units are indicated on four annunciators located to the right of the main weight display.

## ZERO:
The ZERO button is used to zero the scale prior to making a reading.  The ZERO button can function over the full range of the scale or it can be limited to a zero band equal to ±1.9% of scale capacity for Canadian applications. To zero the

scale, wait until the scale is stable and press the ZERO button.  The scale will zero immediately.  The scale will not "zero" if the scale is in motion.

## UNITS :

The UNITS button permits the operator to change the Model 300 display weight units easily.  Simply press the UNITS button and the scale will indicate the correct weight in the new units, lb, kg, g, oz, lb-oz.

## PRINT: (Optional)

The PRINT button permits the operator to print the current weight or send a data stream to an external device.  Like the ZERO button, the user must wait for motion to stop before pressing the PRINT button. The current weight will then be transmitted to the printer or external device (See Serial Output pin description table).

## Battery Operation: (Optional)

The Model 300 is equipped with a self-contained rechargeable, sealed, gelled-electrolyte battery and charging circuit. The scale is designed to run continuously for 60 hours on a fully charged battery.

The built-in charging circuit will fully charge the battery in approximately four hours.  To charge the battery, simply plug the line cord into a standard 115V (230V optional) wall outlet.

The Model 300 can be used while recharging the battery. A full recharge takes place in four hours, whether the scale is on or off, in fact the Model 300 can be used with the AC charger cord plugged in on a continuous basis.

If an AC power failure occurs, the Model 300 battery takes over immediately to provide uninterrupted scale operation for up to 60 hours.

## Low Battery Indication: (Optional)

The "BATT" indicator indicates that the battery is in need of recharging. Once the "BATT" indicator turns on, there will be approximately one more hour of battery life before the scale shuts down. When the battery is too low to run the scale, the Model 300 simply turns off and will not operate again until the battery is recharged. The Model 300 remains accurate and useable even with the "BATT" on.

**Note:**  Battery life can vary depending on the following:

1) The operating temperature.
2) If optional remote display is installed.
3) Whether or not the battery is fully charged after each low battery event.
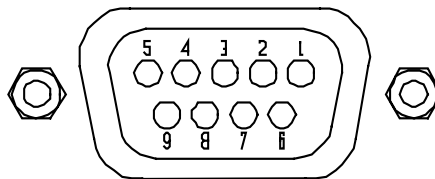
## Installation:

The desired scale location should be flat, level and free of any obstructions which might interfere with the operation of the scale platter. Remove the platter and locate the bubble level inside the base. Adjust the four scale feet so the bubble is centered with the base stable so it does not rock.

When installing your scale, make sure that the power connection is close to the scale and easily accessible.

## Electrical Connections:

Prior to connecting your Model 300 to power, check the serial number tag on the scale for the correct operating voltage. Verify that the power matches the rated voltage.

Be sure the AC power is not excessively noisy - this can occur if large inductive loads, such as solenoids or motors, are on the same power line. The Model 300 has a filtered power supply to reduce the effects of normal line noise, but they cannot limit severe fluctuations. If problems occur, noise producing devices may have to be suppressed to minimize their effect.

**P6 RS232 Output DB9 Connector**

| RS232 Output | |
|---|---|
| **DB9 Female connector** | |
| **Function** | **Pin** |
| N/A | 1 |
| TXD | 2 |
| RXD/CTS | 3 |
| N/A | 4 |
| Signal GND | 5 |
| N/A | 6 |
| N/A | 7 |
| N/A | 8 |
| N/A | 9 |

**Table 1: Serial Output pin description**

# UPS On-Line WorldShip Software Rev 3.1 and Higher Configuration

The following instructions will allow a Model 300 Bench Scale to be connected to the UPS On-Line shipping system. The UPS On-Line software operates by continuously polling the scale for weight several times a second. The program then displays the current weight in a window marked "Scale Weight:". This package weight, in pounds is then used to generate a shipping label if the "Electronic Scale Activated" check box is selected.

## Hardware Setup:

Before starting the UPS On-Line software, connect the Model 300 serial port to the computer's serial port (com1 or com2) by way of a standard male to female DB9 cable. Apply power to the scale and press the ZERO push button.

**WARNING:** The scale must be on and connected at all times while the UPS On-Line program is running. If the scale is disconnected, turned off, or placed in the calibration mode, an error message will be displayed on the computer screen. To correct this error, you must perform a scale setup again or restart the UPS software – see Software Setup for instructions.

## Software Setup:

**Computer:** If the UPS On-Line program has been already installed, follow the configuration steps below only.  If the UPS On-Line program is not installed, power up the scale and connect the serial port on the back of the Model 300 to an available PC serial port using a standard straight through DB9 Male to Female cable. Next, install the UPS On-Line program as per instruction on the UPS installation CD. The installation program will prompt you to select if a scale is connected, select yes.

To configure the UPS On-Line WorldShip program:
1. Click on the "Tools" menu located at top of screen, then select "System Preferences".
2. Click on the "Hardware" tab and set the "Scale Type:" drop down menu to "Fairbanks 70-2453-4".
3. Click on the "Scale Port:" drop down menu, choose which serial port the scale is connected to, com1 or com2.  This is the port that the DB9 cable is connected to at the rear of your PC from the Model 300.
4. Finally, click on the "Test Scale" button. Place weight on the scale.  The computer should then display the current weight on the scale.
5. Click the "OK" button, and return back to the service menu.
6. Check the "Electronic Scale Activation" box to accept weight readings from the scale. The current weight will be displayed under the "Package:" section, in the "Scale Weight" window. NOTE: UPS software does not show zero or negative weights on the main display page.

If any problems occur with your UPS On-Line Software, a trouble-shooting guide can be found on the United Parcel Service web site under Shipping Systems Scales at address:
                    http://www.ups.com/using/custserv/techfaq/scales.html
Or alternatively, contact Doran Scale's Technical Support Department at 800-262-6844 for assistance over the phone.

# Model 300

## LIMITED WARRANTY
## STATEMENT

DORAN SCALES, INC. warrants its products to be free from defects in material and workmanship for a period of two (2) years from date of shipment. Any product found to be defective within this time period may be returned to DORAN's factory, freight prepaid, with prior return authorization for repair or replacement at no charge.

DORAN's liability under this warranty is limited to the repair or replacement of the defective product and in no event shall DORAN be liable for consequential or indirect damages to equipment or personnel. Nor shall DORAN be liable for damages to equipment or for personal injury caused by misuse, overload, accidental damage, alteration, improper installation, or unauthorized opening of the equipment. Under no circumstances will DORAN be responsible for any indirect or consequential damages due to errors in weighing or failure of a DORAN product to perform properly.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. THIS WARRANTY CONSTITUTES DORAN'S EXCLUSIVE WARRANTY. THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

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