TRANSCELL TECHNOLOGY, INC.

SRP-300

DIGITAL BENCH SCALE

Operation Manual

Revision 1.3
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ATTENTION:

To extend the life of your digital scale, do not drop items to be weighed onto the platform or overload the scale beyond its rated capacity. Shock-loading and overloading may damage the load cell and void the warranty.

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INTRODUCTION

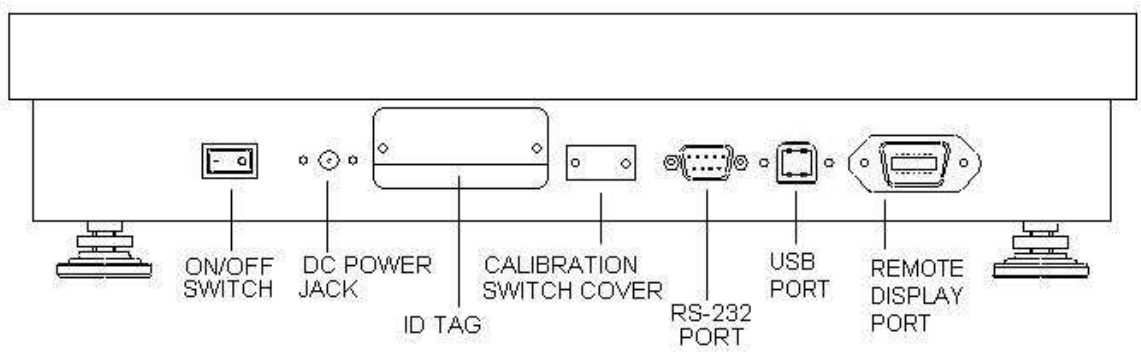
The SRP-300 Digital Bench Scale is a heavy duty, 300 lb (150 kg) capacity bench scale with remote display and five function keyboard. It comes standard with a bright VFD screen for easy readout, a removable stainless steel platform, and adjustable feet for leveling

The SRP-300 has both an RS-232C and a USB port for communication with personal computers or printers. The scale can transmit data on demand or continuously in several popular data protocols.

The system is NTEP certified for Class III at 3,000 divisions, and is legal-for-trade.

The scale's serial communication parameters are altered through the User menu. The "User Menu Mode" section of the manual explains how to use the five front panel keys to maneuver and save settings in this menu.

INSTALLATION



The SRP-300 rear panel contains all necessary power switches, communication ports and power receptacles.

To install the scale:

Place the scale in its intended area of use.

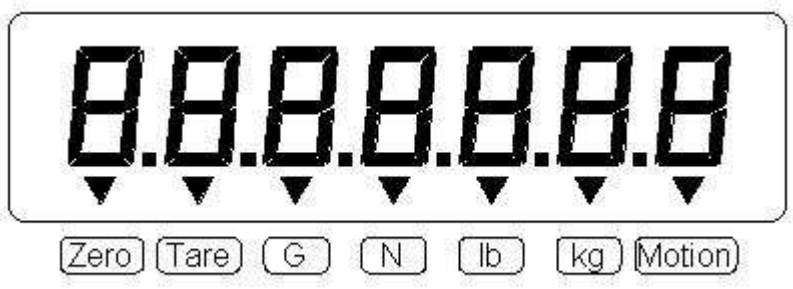
- Ensure that the scale is placed securely on a flat and level surface. Use the adjustable feet to level out the scale and avoid rocking.
- *Avoid installing the scale in areas of direct sunlight and high humidity. Also avoid drafts, vibrations and dusty conditions.*
- To extend the life of your digital scale, do not drop items to be weighed onto the platform or overload the scale beyond its rated capacity. Shock-loading and overloading may damage the load cell and void the warranty.

Connect the scale to your computer (or other communication device) using the appropriate optional communication cable (RS-232 or USB). **NOTE**: This scale is not designed to use both ports at the same time. Doing so may damage the scale and void your warranty.

Plug the enclosed AC Adapter into the scale's DC power jack first, then into an AC outlet. ***Make sure that the AC voltage appearing at the wall outlet matches the input voltage marked on the AC adapter***

Finally, turn the rocker switch to the ON ("1") position. After a brief initialization period, the scale is now ready for use.

DISPLAY OVERVIEW



SRP-300 Display Area

ANNUNCIATOR	MEANING
ZERO	Better known as the “Center of Zero” annunciator, this light is active whenever the displayed weight is within ± 0.25 divisions of true zero.
NET	Indicates that the scale is displaying net weight.
G	Indicates that the scale is displaying gross weight.
N	Indicates that the scale is displaying net weight.
TARE	Indicates that the tare weight in the system was established by means of the push button method.
lb and kg	Indicates the unit of the displayed weight.
Motion	This light indicates that the scale is in motion.

KEYBOARD FUNCTIONS

SRP-300 Keyboard

KEY	FUNCTION
lb / kg	Toggles between lb and kg units if enabled in the User (“A”) Menu.
ZERO	Sets scale to display "0" only when a) in Gross mode, b) not in overload and c) not in motion.
NET / GROSS	Toggles between Gross and Net weight display if a tare has been established.
TARE	Used to establish the weight on the platform as the tare weight. You cannot establish zero or negative gross weight as a tare. Also, the scale must not be in motion or in overload.
PRINT	Sends "Print" data to serial port if scale is not in motion or in overload.

OPERATION

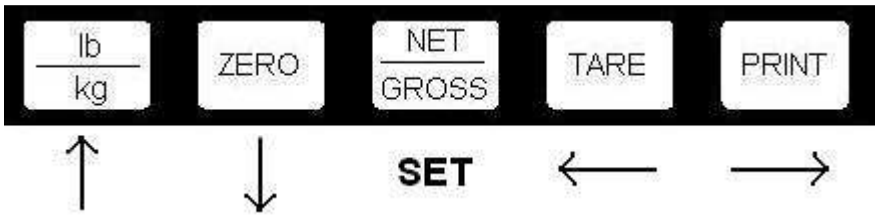
WEIGHING AN ITEM

1. Select the desired weighing unit by pressing the lb/kg key until that unit is indicated on the display.
2. If necessary, press the ZERO key to obtain a weight reading of zero.
3. If weighing an item in a container, place the empty container on the scale's platter and, after allowing the weight indication to stabilize, press the TARE key. The display shows zero weight and turns the N (net) annunciator on.
4. Place the object to be weighed on the scale's platter and allow the weight indication to stabilize. If the item weight exceeds the scale's weight capacity, it displays "oooooo".
5. Read the weight shown on the display. If you have established a tare, you may toggle between the gross weight and the net weight by pressing the NET/GROSS key.

USER MENU MODE

The SRP-300 scale includes a User menu that contains the scale's serial communication parameters. It consists of 5 separate menu selections, each also with its own sub-menu of choices.

To change a listed parameter, you must first enter the User Menu mode. Once there, four of the front panel keys become directional navigators to move around in the menus, and one key is used to save or SET the selections.



To place the scale into User menu mode:

1. Turn the power off to the unit by moving the rocker switch to the “O” position.

2. While holding down the **lb/kg** key, turn the power back on. When the display shows "**A1**", the unit is in User Menu mode, and you can release the **lb/kg** key.

3. To move to a new heading, use the Tare (left) or Print (right) key to move right or left in the Menu.

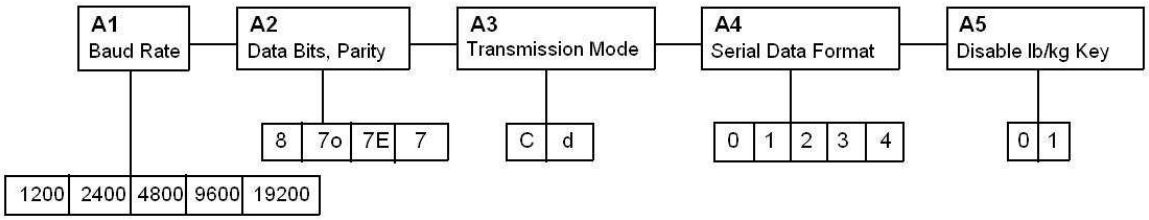
4. To move to the selection or programming level, press the Zero (down) key once. The currently saved selection is shown.

5. To view the available selections for the current heading, use the Tare (left) or Print (right) key to move through the selection field.

6. To save a new selection, press the Net/Gross (Set) key .To exit without saving, press the lb/kg (up) key to return to the current heading.

7. Repeat Steps 3 through 6 until the Menu is programmed.

USER MENU CHART



USER MENU DESCRIPTIONS

NAME/CODE	DESCRIPTION	CODE/VALUE
A1 Baud Rate	Selects the baud rate for data transmission through the serial port.	1200 **2400√** 4800 9600 19200
A2 Data Bits and Parity	Selects the number of data bits and parity of serial transmission. "8" = 8 data bits with no parity bit and one stop bit "7o" = 7 data bits with odd parity bit and one stop bit "7E" = 7 data bits with even parity bit and one stop bit "7" = 7 data bits with no parity bit and two stop bits	**8√** 7o 7E 7
A3 Mode of Serial Transmission	Selects when data will be sent out of the serial port to a printer or computer: "C" = Continuous mode; send data continuously "d" = Demand mode; send data when a PRINT command is issued from the printer, computer, or scale.	**C√** d
A4 Serial Data Format	Selects the data format to be transmitted via the serial port to a printer or computer. "0" = Consolidated Controls Format "1" = Toledo 8213 Format "2" = NCI 3825Format "3" = Transcell Technology Format	0 1 2 **3√** 4
A5 Disable the lb/kg Key	Allows the lb/kg key to be disabled so that an operator cannot accidentally press the key and change the displayed units. "0" = Disable the lb/kg key "1" = Enable the lb/kg key	0 **1√**

To place the scale back into the Normal Operating mode:

1. Turn off the scale.

2. Turn the scale back on without pressing any keys. The display will go through a digit check, and then settle into Normal Operating mode. All front panel keys will now return to their normal mode of operation.

CALIBRATION

Your SRP-300 shipping scale is ready to use right out of the box. There is no need to calibrate the scale unless you feel that the scale has become inaccurate. It is a good idea to check the calibration of your scale from time to time with a precision test weight.

The scale can be calibrated by following the procedure below. The minimum test weight that can be used is 3 lb (1.5 kg), but 200 lb (100 kg) is the recommended test weight.

To calibrate the scale:

1. Turn the scale off. Locate the hidden switch on the rear panel of the weighing platform and set it at the rightmost position. Turn the unit back on..

   The message "**C 0**" appears on the display briefly, followed by a value which remains on the screen. Allow a 2-3 minute warm-up period for the load cell and electronics to become thermally stable.

2. Press **ZERO** to zero the value, and then press the **NET/GROSS** key to save the zero point value. The display will momentarily prompt "**C 1**" for the span calibration, followed by "**0.0**" with one digit flashing.

3. Place the test weight on the platform.

4. Use the four directional keys to adjust the displayed value to the actual test weight value in pounds. Increase the flashing digit by pressing the **lb/kg** key. Decrease the flashing digit by pressing the **ZERO** key. The position of the flashing digit may be changed by pressing the **PRINT** key or the **TARE** key.

5. After setting the exact value of the test weight, press the **NET/GROSS** key to save the value.

6. If the calibration was successful, the display will show "**ECAL**" momentarily, and then freeze. Exit the Calibration mode and enter the Normal Operating Mode by positioning the Calibration Switch back to its original position.

7. If the calibration was *not* successful, one of the error messages below will appear. Take the indicated action to correct the problem, and then perform a new calibration.

   "**Err0"** - The calibration test weight or the adjusted keyed-in weight is larger than full scale. Change the calibration test weight or check the keyed-in weight.

   "Err1" - The calibration test weight or the adjusted keyed-in weight is smaller than 1% of full scale. Change the calibration test weight or check the keyed-in weight**.**

   "Err2" - Check keyed-in weight with the actual weight placed on platform; could also indicate a fault with the scale.

To place the scale back into the Normal Operating mode:

1. Toggle the Calibration Switch back to its original position.

2. The display will go through a digit check, and then settle into Normal Operating mode. All front panel keys will now return to their normal mode of operation.

SPECIFICATIONS

CAPACITY:
300 X 0.1 lb
150 x 0.05 kg

CONSTRUCTION:
Display: Black ABS with steel rear cover.

Base: Mild steel with stainless steel platform.

DISPLAY:
7 Digit, 0.5", 7-Segment Green VFD

OVER CAPACITY ANNUNCIATION:
103% of Full Scale Capacity

PLATTER SIZE:
18” x 18” (450 mm x 450 mm)

POWER SOURCE:
AC Wall Adapter,
12VDC, 800mA, included

WEIGHT:
Net Weight: 45 lb (20.4 kg)
Shipping Weight: 50 lb (22.7 kg)

COM PORTS:
RS-232C: Full duplex, DSUB9
USB: 2.0, full speed, peripheral

OPERATING TEMPERATURE RANGE:
14°F to 104°F (-10℃ to 40℃)

APPROVALS

NTEP Certified

CC: 95-034

PHYSICAL DIMENSIONS (L x W x H)

Remote Display: 6.8” x 3.2” x 1.4” (173 mm x 81.x mm x 35 mm)
Weighing Platform: 18” x 18” x 4.8” (450 mm x 450.x mm x 119 mm)
Cable Length - Weighing Platform to Remote Display: 6 ft (1.8m)

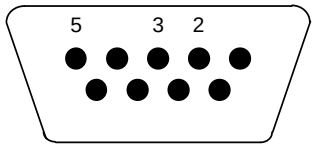
SERIAL PORT INFORMATION

The rear panel of the SRP-300 contains two serial ports:

- RS-232C
- USB 2.0, full speed, peripheral

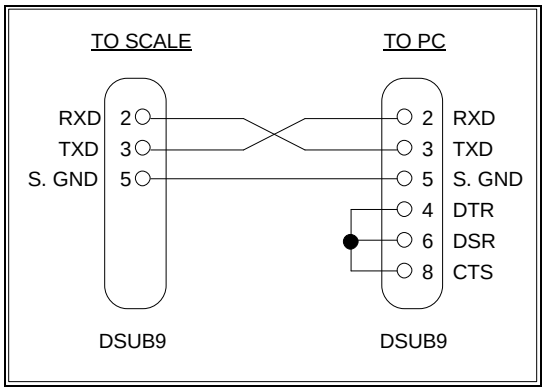
The RS-232C port is a full duplex (bi-directional) communication port realized by a 9-pin DSUB "female" connector. Its pin-out is as follows:

Pin No.	Pin Name
2	Receive Data
3	Transmit Data
5	Signal Ground



9-pin RS-232 connector (female)

Transcell's off-the-shelf cable solution for connection to a PC style COM port is our NMC-1 Null Modem Cable, included at no extra charge with your scale. If you prefer to fabricate your own cable instead, use the cable diagram shown below:



Not many computers these days come with a COM port. USB has replaced the serial COM port on most computers. The USB solution on our SRP-300 uses a special driver on your PC to produce what's called a Virtual COM Port or VCP. This allows many legacy applications to work seamlessly with our scale because to them, it's just another COM port. A standard USB cable (Standard Type A to Standard Type B) is included with the scale.

The SPS-70DL USB drivers are compatible with our SRP-300. You can download the SPS-70DL USB drivers in the Downloads section of our website

If you are experiencing communication problems, please note the following:

Cabling – This must be 100% correct (see diagrams above)
Baud Rates, Date Bits, Parity – These parameters must match 100% on both devices
Select the proper COM port on your computer or serial device – sometimes other applications will automatically grab the first available COM port
Handshaking – Select 'None' on your application

For more detailed troubleshooting, please refer to the SRP-300 Service Manual, or contact Transcell Technology Technical support at 1-847-419-9180.

ERROR CODES

CODE	MODE	MEANING / POSSIBLE SOLUTION
❒❒❒❒❒❒	Normal Operating Mode	A weight greater than 102% of the scale's capacity has been applied to the scale. Remove the weight from the platter. Try re-calibrating the scale if this doesn't solve the problem. Otherwise, possible load cell damage due to overloading.
– – – – – –	Normal Operating Mode	Underrange condition. Platter has been removed. Re-install platter. Try re-calibrating the scale if this doesn't solve the problem. Otherwise, possible load cell damage due to shock loading.
– HI –	Warmup Mode	The scale has been turned on with a weight already present on the platter. Remove the weight and then press the **ZERO** key if necessary. Try re-calibrating the scale if this doesn't solve the problem. Otherwise, possible load cell damage due to overloading.
– LO –	Warmup Mode	The scale has been turned on without the platter installed. Install the platter and then press the **ZERO** key if necessary. Try re-calibrating the scale if this doesn't solve the problem. Otherwise, possible load cell damage due to shock loading.
Err 0	Calibration Mode	Keyed-in weight value in Calibration Mode is less than 3 lb (1.5 kg). Use a larger test weight or re-adjust value.
Err 1	Calibration Mode	Keyed-in weight value in Calibration Mode is larger than 300 lb (150 kg). Use a smaller test weight or re-adjust value.
Err 2	Calibration Mode	Internal resolution is not high enough to process keyed-in weight value in Calibration Mode. Verify test weight and value.

WARRANTY AND SERVICE INFORMATION

Transcell warrants that the SRP-300 Digital Bench Scale will conform to written specifications, drawings, and other descriptions made by the manufacturer, including any modifications thereof. Transcell warrants the goods against faulty workmanship and defective materials. If any goods fail to conform to these warranties, Transcell will, as its sole and exclusive liability hereunder, repair or replace such goods if they are returned within the following warranty period:

Twelve (12) months from date of shipment from manufacturer.

These warranties are made upon the express condition that:

1) Transcell Technology, Inc. is given prompt written notice upon discovery by Buyer of such non-conformity, with a detailed explanation of the alleged deficiencies;

2) Such goods are returned to the Transcell at the expense of the Buyer;

3) Examination of such goods by Transcell discloses that the nonconformity actually exists and was not caused by accident, misuse, neglect, alteration, improper installation improper or unauthorized repair, or improper testing, and

4) Such goods have not been modified, altered, or changed by any person other than the Transcell or its duly authorized repair agents.

5) Transcell Technology, Inc. will have a reasonable time to repair or replace such goods.

THESE WARRANTIES EXCLUDE ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ORAL OR WRITTEN, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TRANSCELL WILL NOT IN ANY EVENT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

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