

# SERIAL COMMUNICATIONS

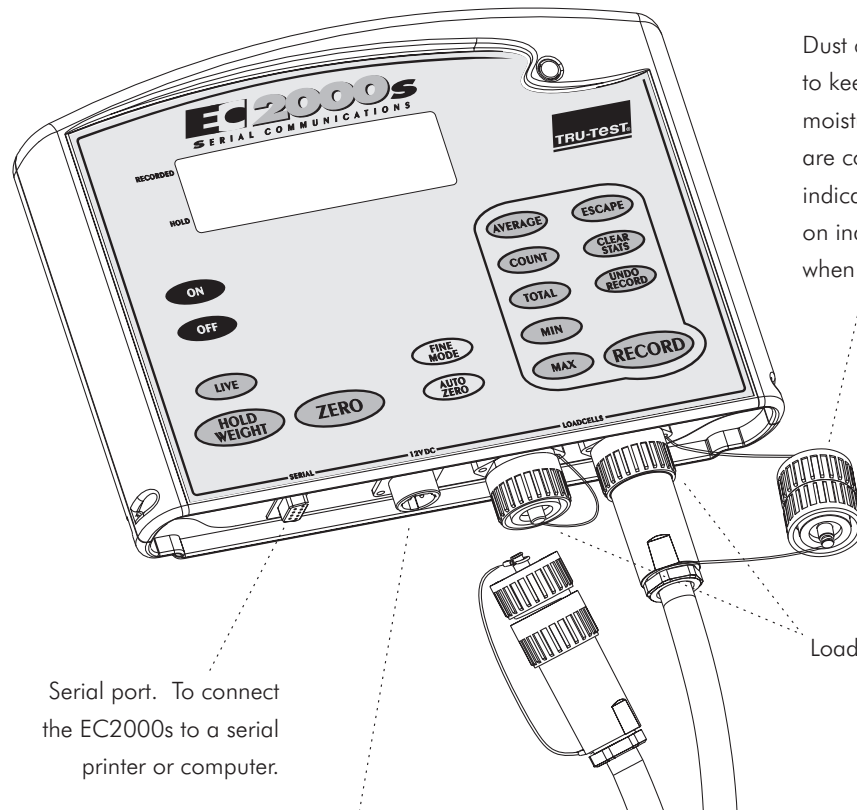
# EC2000s

## USER GUIDE

**Congratulations on your purchase of this Tru-Test Series 2000 scale indicator. To ensure you receive the service you are entitled to, please complete and post the warranty card without delay.**

### INSTALLATION

- 1 Install load bars under the platform on a firm, level surface (see Load bar User Manual).
- 2 Mount indicator bracket in a convenient place where animals can't knock the indicator off or chew the cables. The bracket mounts onto flat surfaces (timber rails, concrete) or horizontal pipe-work with the supplied U-bolts.
- 3 Connect load bar cable(s) to the Indicator. Connect dust caps as shown. The indicator automatically calibrates itself to Tru-Test load bars.
- 4 Connect power cable (if needed).



Dust caps screw together to keep out dirt and moisture when cables are connected to indicator. Screw back on indicator/cables when cables removed.

Serial port. To connect the EC2000s to a serial printer or computer.

Load cell connectors.

Power connector for connecting 12 V vehicle battery (red clip to positive terminal) or Tru-Test power adaptor. To connect power adaptor, pull battery clips off indicator lead and plug lead into power adaptor lead (red to red).

The power cable is permanently connected to non battery Indicators.

### BASIC WEIGHING

- 1 Press **ON** and wait for display.
- 2 Move animal onto platform.
- 3 Wait for stable light .
- 4 Release animal and repeat from step 2.

### RECORDING STATISTICS

- 1 Press **ON** and wait for display.
- 2 If weighing a new group of animals, press **CLEAR STATS** twice to clear memory.
- 3 Move animal onto platform.
- 4 Wait for stable light and press **RECORD**.
- 5 Release animal and repeat from step 3.
- 6 When weighing session completed, note down statistics.

# FUNCTIONS

Shows current weight has been recorded.

Shows displayed weight has been locked using **HOLD WEIGHT** key.

Turns indicator on. Press again to turn backlight on (if fitted).

Turns indicator off. Statistics will be kept in memory even when power is disconnected.

Returns indicator to live weight display.

Locks weight until next animal is weighed, or **LIVE** is pressed. **HOLD** annunciator is on when weight is locked.

Press to manually zero the scale.

Sets fine weighing on/off. Cannot be changed unless stats cleared. Not available for some load cells.

Sets automatic zeroing on/off. The indicator will zero on power up or when there is no load on the platform. This zeroes the platform to compensate for any build up of dirt (up to 3kg/6lb) during weighing. In some situations this feature should be turned off. Two common examples are:

- 1 To avoid accidental zeroing of the user's hand pressure on the entry gate.
- 2 To avoid zeroing a bale left in a wool press when the Indicator is turned off and then on again later.

Stable light ☀ shows weight is stable and **RECORD** or **HOLD WEIGHT** can be pressed.

Exits statistics and returns to live weight display.

Clears recorded weights. **CLRP** appears after **CLEAR STATS** is pressed. Press **CLEAR STATS** again to clear recorded weights, or press **ESCAPE** to cancel.

Clears last recorded weight.

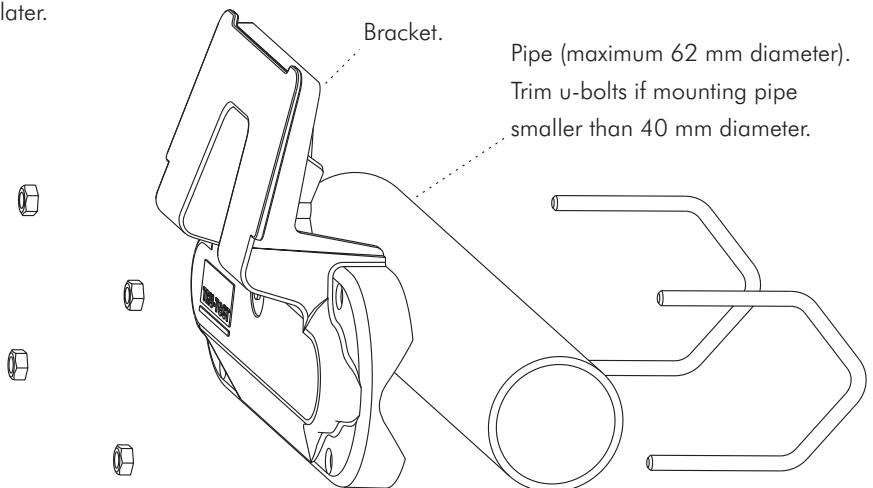
Adds current weight on platform to statistics. Prints recorded weight if printer connected.

Prints selected statistic if printer connected.

- AVERAGE** Displays average of recorded weights.
- COUNT** Displays number of recorded weights.
- TOTAL** Displays total of recorded weights.
- MIN** Displays minimum recorded weight.
- MAX** Displays maximum recorded weight.

## BRACKET INSTALLATION

Install on a horizontal pipe as shown, or attach to the wall using screws supplied.



## DISPLAY MESSAGES

bAd.c

Load cell type not recognised.  
Contact *Tru-Test*.

H.U.Lt

External power supply too high.  
Check power supply.

bAt.t

Recharge battery.  
About 10 minutes till flat.

L.U.Lt

External power supply too low.  
Voltage too low to charge.

cAnt

Memory empty, or previous recorded weights  
already removed.

n.rEc

Not recorded.  
No load cell connected or weight not stable.  
Otherwise clear stats and try again.



chAr

Battery is charging.  
Indicator can be used normally.

OFF

Function is off.

clr?

Clear statistics prompt.  
Press  to confirm, or  to cancel.

On

Function is on.

donE

Previous recorded weight has been removed  
from statistics.

oUeR

Overload. Weight on scale is greater than  
capacity. If fine mode is on, clear stats and  
turn fine mode off.

duPL

Duplicate record.  
Animal already recorded.

rEc.d

Weight recorded.

E - F

Charge level. Battery is low.

u.L

Under load.  
Negative load or faulty load cell/wiring.

E - - F

Charge level. Battery is fully charged.  
It is safe to leave on charge.

ZEro

Indicator is zeroing.

Er42

Scale needs service.  
Note the error number and contact *Tru-Test*.

2.oL

Zero overload.

## OPERATING NOTES

During weighing, check that animals are fully on the platform.

Ensure that the underside of the platform or crate is kept clear of dirt and stones.

Do not leave the Indicator or loadbars/EziFeet in water. Store the Indicator in a cool dry place.

The Indicator automatically turns off after 15 minutes of no activity, to limit discharge of the internal battery.

## INTERNAL BATTERY OPTION

The internal battery charger operates from either the recommended *Tru-Test* power adaptor or a 12 volt vehicle battery. Damage to the Indicator caused by other charging supplies, including automotive battery chargers, is not covered by the warranty.

The Indicator displays  about 10 minutes before flat, if the battery was fully charged within the last 2 weeks.

Charge the Indicator for 12 hours before using it for the first time.

To maximise battery life, observe the following simple guidelines:

- Preferably recharge the battery overnight before and after use.
- Never charge the indicator in direct sunlight.
- Store the indicator in a cool dry place.
- Fully charge the indicator before and after storage.
- To keep the indicator battery fresh, fully charge the indicator overnight at least once every 3 months.

The internal battery charger ensures maximum life of the battery, while giving the fastest charging rate possible. The battery is protected from overcharging. Charging a flat battery takes 6 hours at temperatures of 10 to 35 °C (50 to 95 °F).

You can safely leave the indicator on charge all the time. The scale can be used while charging.

Charging at low or high temperatures could extend the charging time to 12 hours. At extreme temperatures the indicator will not charge.

## PRINTER

To use the Tru-Test printer, connect the printer to the EC2000s with the cable supplied. Connect the EC2000s to an external 12 VDC supply (battery or power adaptor). Disconnect the printer cable when printed records are not required.

WARNING: Some cables, that connect pin 7 to the other end of the cable, may damage printers/computers.

## COMPUTER INTERFACE

Computer programs can request the displayed weight from the indicator via the serial port. The computer sends {RW}. The indicator responds with [102.5] for a weight of 102.5 kg/lb or [U102.5] if unstable. There is no carriage return or line feed sent or received.

Computer program suppliers should contact Tru-Test for further information.

## SPECIFICATIONS

Note: product specifications may change without prior notice.

Total Capacity	2000kg or 3000kg (4400lb or 6600lb) depending on load bars used.
Resolution	Set to 0.5kg (fine mode 0.1kg) or 1lb (fine mode 0.2lb).
Accuracy	±1% or 2 resolutions (whichever is greater) with Tru-Test load bars connected.
Power supply	12VDC (power adaptor or vehicle battery).
Operating temperature	-10°C to +40°C (14°F to +104°F).
Storage temperature	-20°C to +35°C (-4°F to +95°F).
Internal battery run time	8 hours with 2 load bars connected.
Serial port	RS-232, D9 male connector, 9600 baud, 8 data bits, 1 stop bit, no parity. Pin 2 receive data (Rx), pin 3 transmit data (Tx), pin 5 ground, pin 7 fused 12 V output when external 12 V supplied.
Environmental	IP67 (immersion in 1m of water).

## FOR SERVICE

[www.tru-test.com](http://www.tru-test.com)

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## FCC NOTICE

The Tru-Test Model EC2000 indicator has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is used in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction leaflet, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case users will be required to correct the interference at their own expense.



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