

AE ADAM

Adam Equipment

PT LP PU Service Manual

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1.0 PRODUCT DESCRIPTION

The PT, LP and PU series of products are heavy duty portable and permanent platform type scales, they all use the same load cells, Indicator cables and base connectors ensuring conformity within the range.

They are made from heavy gauge mild steel using a strong construction design to ensure maximum capacity readings are correct and accurate.

4 x Load cells are fitted and adjusted for exacting and matched output using an Off Centre Loading (OCL) adjustment PCB where necessary.

The 7 pin connector allows for the use of a certified Load cell using separate sense wires, making approvals easy where applicable.



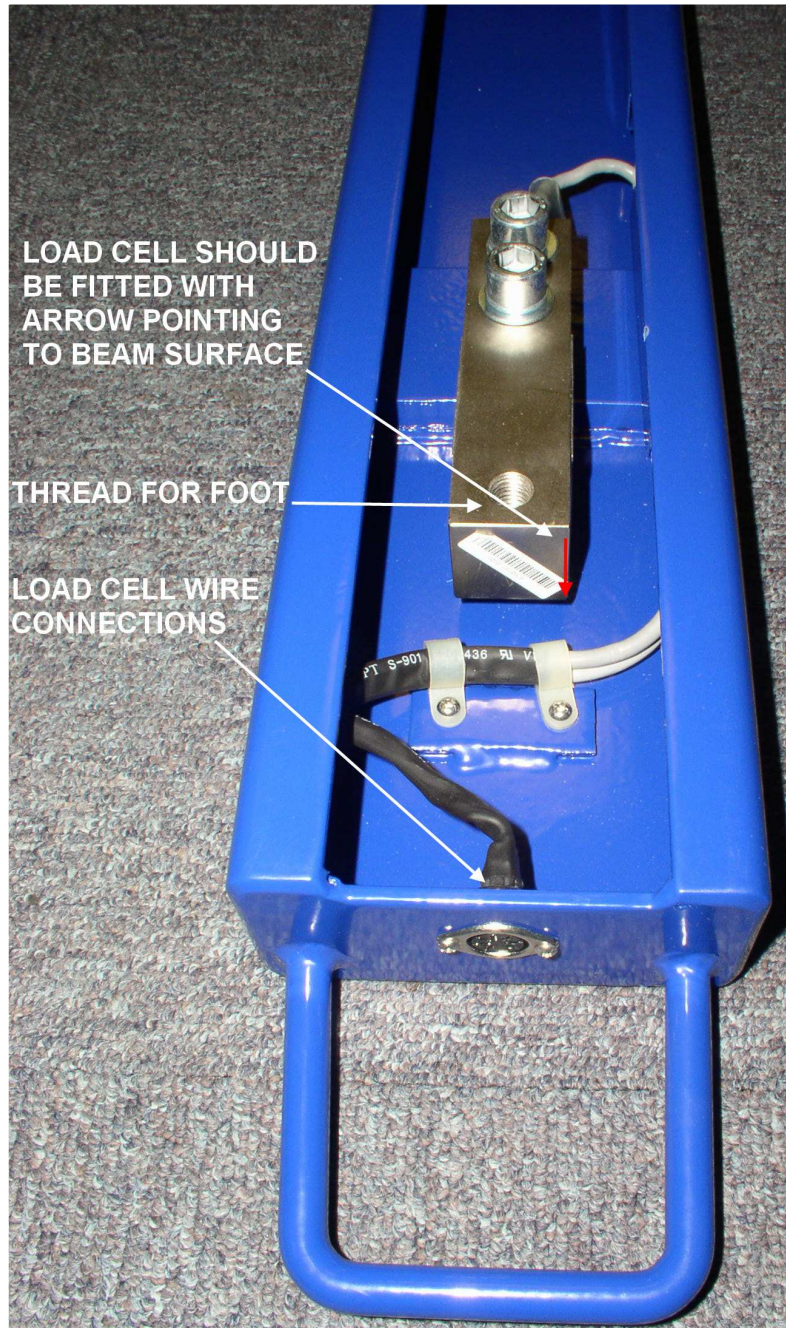
2.0 SPECIFICATION TABLE

MODEL	CAPACITY	LOAD CELL	OCL PCB
PT 1000	1000kg	1000kg x 4	YES
PT 2000	2000kg	1000kg x 4	YES
PT 3000	3000kg	2000kg x 4	YES
LP 1000	1000kg	1000kg x 4	NO
LP 2000	2000kg	1000kg x 4	NO
PU 1500	1500kg	1000kg x 4	YES
PU 3000	3000kg	2000kg x 4	YES

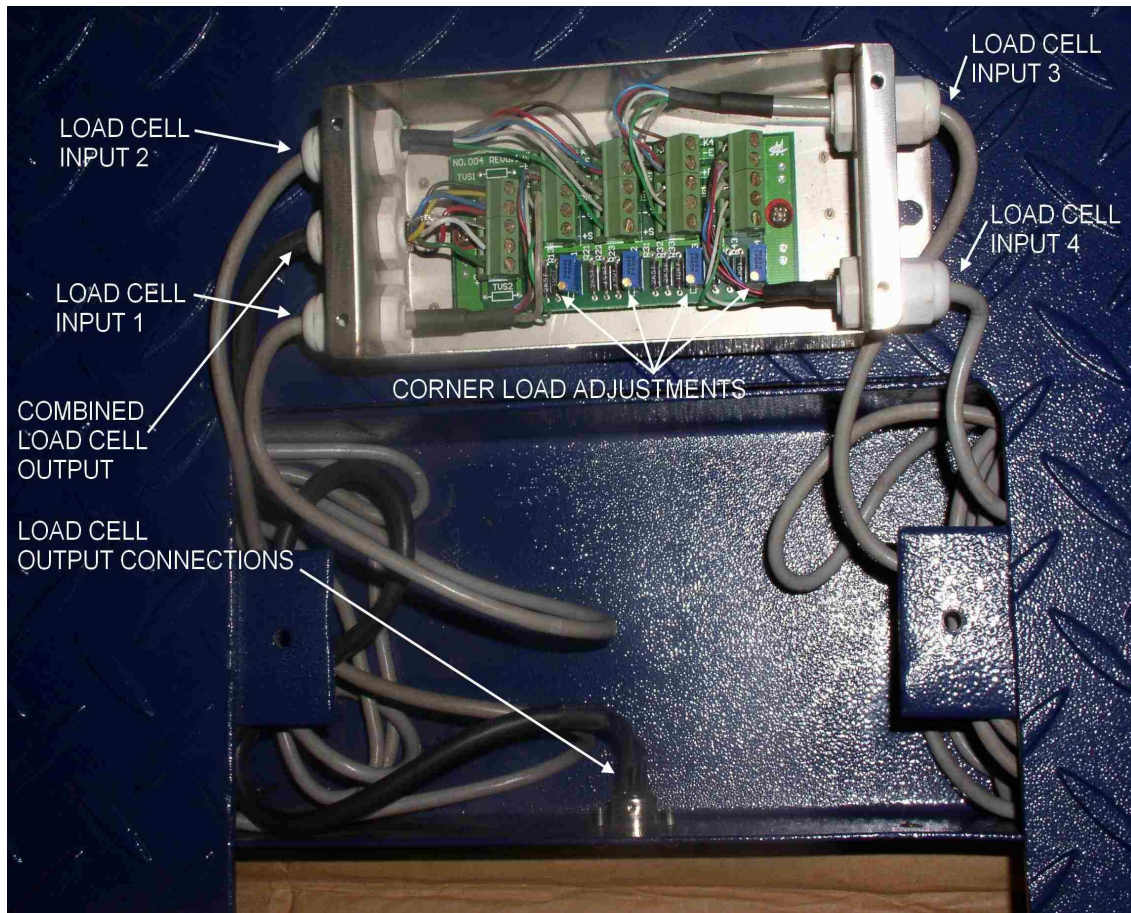
3.0 TROUBLE SHOOTING TABLE

Poor weighing performance	<p>Check for interference between the feet and the underside of the base structure</p> <p>Check that there is sufficient space between the base of the structure and the floor</p> <p>Check that the load cells are fully tightened</p> <p>Check that the wiring of the OCL PCB is correct and good</p> <p>Check that the Off centre loading (OCL) is adjusted correctly</p> <p>Check that the wiring to the base connector is correct and good</p> <p>Check that the Base to Indicator cable is securely connected and not damaged</p>
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4.0 VIEW OF LOAD CELL ASSEMBLY



5.0 VIEW OF OCL ADJUSTING PCB



To evaluate that the load cell signal output is correct you can make certain measurements. The load cell functions using a 5Vdc input and this can be checked by placing two individual probes from a multi meter between the (exc +) and (exc-) cables at the load cell output connection from the OCL PCB.

If 5Vdc is present then power is being provided correctly to the load cell, the next step is to measure the output of the load cells, this can be done by placing the 2 probes between the (sig +) and (sig -) wires. In order to obtain an accurate reading the (sig +) and (sig -) wires must be detached from the MAIN PCB.

You should expect to see a positive voltage reading of between 0 and 2 milli volts when the load cell assembly is at no load, and when a downward force is applied to the load cell assembly the reading should increase.

If with no load a reading of more than 2 milli volts is recorded then this suggests damage to a load cell may have occurred and a replacement load cell is required.

As there are 4 x load cells each one should be measured individually at it's connection point on the OCL PCB so as to determine which cell or cells are faulty.

For products without an OCL PCB the same measurements can be taken at the base connector point where the 4 x load cell connections are joined.

To measure the signal output from each load cell accurately you will have to de solder at this point each set of signal wires relevant to the cell that you measure.

Please note where sense wires are present that these should always be connected with the matching excitation wire as shown in the picture

6.0 LOAD CELL REPLACEMENT

When replacing a load cell the correct type and capacity load cell should be selected, once fitted the scale will need to be calibrated and checked.

To replace a load cell, firstly remove the 2 x hex bolts that fix the load cell in place and de solder or disconnect the wires of that load cell.

Fit the new load cell ensuring that the arrow for direction of movement points towards the surface of the structure as the picture above shows, tighten well and then connect the wires.

Where an OCL adjusting PCB is present you should ensure that the new load cell is weighing correctly and matched to the other load cells by adjusting the potentiometer on the PCB that is relevant to that load cell, each potentiometer is marked to relate to a particular load cell.

This is done by placing a weight over the corner of the base where the new load cell has been fitted, a reading is taken and compared against a reading from another corner weighing, adjust the output of the new load cell fitted using the potentiometer for that load cell until the reading for this corner matches all other corners, the base can then be recalibrated correctly

7.0 BASE TO INDICATOR CABLE CONNECTIONS

All base to Indicator cables are 7 core and wired following the pin numbers as below.

Pin 1 Excitation plus+

Pin 2 Sense plus +

Pin 3 Shield

Pin 4 Sense minus –

Pin 5 Excitation minus –

Pin 6 Signal plus +

Pin 7 Signal minus –

8.0 PARTS LIST

<u>PT/AELP/PU</u>	
Part number	Description
7.00.1.0.0226	LOAD CELL 1000kg- SQB
7.00.1.0.0227	LOAD CELL 2000kg - SQB
7.00.1.0.0178	LOAD CELL S/S 1000kg - BM8H
7.00.1.0.0179	LOAD CELL S/S 2000kg - BM8H
7.00.4.0.0040	PT/ AEPU INDICATOR CABLE - GK
7.00.4.0.0054	PT/ AEPU INDICATOR CABLE - AE 402
7.00.4.0.0062	AELP INDICATOR CABLE - GK
7.00.4.0.0063	AELP INDICATOR CABLE -AE 402
7.00.4.0.0038	SUMMING ECL PCB
7.00.1.0.0151	BASE CONNECTOR
7.00.2.0.0050	FOOT - PT and PU - SELF LEVELLING
7.00.2.0.0054	FOOT - AELP - FIXED - M12
7.00.2.0.0055	FOOT - AELP - FIXED - M16
7.00.2.0.0051	WHEEL
7.00.2.0.0052	SPIRIT LEVEL
7.00.3.0.0013	COMPLETE PACKING PT - 1.0m x 1.0m
7.00.3.0.0016	COMPLETE PACKING PT - 1.2m x 1.2m
7.00.3.0.0017	COMPLETE PACKING PT - 1.5m x 1.5m
7.00.3.0.0014	COMPLETE PACKING AELP
7.00.3.0.0015	COMPLETE PACKING PU

9.0 WARRANTY INFORMATION

Adam Equipment offers Limited Warranty (Parts and Labour) for the components failed due to defects in materials or workmanship. Warranty starts from the date of delivery.

During the warranty period, should any repairs be necessary, the purchaser must inform its supplier or Adam Equipment Company. The company or its authorised Technician reserves the right to repair or replace the components at any of its workshops depending on the severity of the problems. However, any freight involved in sending the faulty units or parts to the service centre should be borne by the purchaser.

The warranty will cease to operate if the equipment is not returned in the original packaging and with correct documentation for a claim to be processed. All claims are at the sole discretion of Adam Equipment.

This warranty does not cover equipment where defects or poor performance is due to misuse, accidental damage, exposure to radioactive or corrosive materials, negligence, faulty installation, unauthorised modifications or attempted repair or failure to observe the requirements and recommendations as given in this User Manual. Additionally rechargeable batteries (where supplied) are not covered under warranty.

Repairs carried out under the warranty does not extend the warranty period. Components removed during the warranty repairs become the company property.

The statutory right of the purchaser is not affected by this warranty. The terms of this warranty is governed by the UK law. For complete details on Warranty Information, see the terms and conditions of sale available on our web-site.



Manufacturer's Declaration of Conformity

This product has been manufactured in accordance with the harmonised European standards, following the provisions of the below stated directives:

Electro Magnetic Compatibility Directive 2004/108/EC

Low Voltage Directive 2006/95/EC

Adam Equipment Co. Ltd.
Bond Avenue, Denbigh East
Milton Keynes, MK1 1SW
United Kingdom

FCC COMPLIANCE

This equipment 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 operated in a commercial environment. The equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Shielded interconnect cables must be employed with this equipment to insure compliance with the pertinent RF emission limits governing this device.

Changes or modifications not expressly approved by Adam Equipment could void the user's authority to operate the equipment.

WEEE COMPLIANCE



Sealed Lead Acid
Battery
Must be recycled
Properly

Any Electrical or Electronic Equipment (EEE) component or assembly of parts intended to be incorporated into EEE devices as defined by European Directive 2002/95/EEC must be recycled or disposed using techniques that do not introduce hazardous substances harmful to our health or the environment as listed in Directive 2002/95/EC or amending legislation. Battery disposal in Landfill Sites is more regulated since July 2002 by regulation 9 of the Landfill (England and Wales) Regulations 2002 and Hazardous Waste Regulations 2005. Battery recycling has become topical and the Waste Electrical and Electronic Equipment (WEEE) Regulations are set to impose targets for recycling.

ADAM EQUIPMENT is an ISO 9001:2008 certified global company with more than 35 years experience in the production and sale of electronic weighing equipment.

Adam products are predominantly designed for the Laboratory, Educational, Medical, retail and Industrial Segments. The product range can be described as follows:

- Analytical and Precision Balances
- Compact and Portable Balances
- High Capacity Balances
- Moisture analysers / balances
- Mechanical Scales
- Counting Scales
- Digital Weighing/Check-weighing Scales
- High performance Platform Scales
- Crane scales
- Medical Scales
- Retail Scales for Price computing

For a complete listing of all Adam products visit our website at
www.adamequipment.com

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All information contained within this publication is to the best of our knowledge timely, complete and accurate when issued. However, we are not responsible for misinterpretations which may result from the reading of this material.

The latest version of this publication can be found on our Website.

www.adamequipment.com