OHAUS

TAJ Carat / Gold Balances

Instruction Manual

Compliance

Compliance to the following standards is indicated by the corresponding mark on the product

CE

This product conforms to the EMC directive 2004/108/EC and the Low Voltage Directive 2006/95/EC. The complete declaration of Conformity is available from Ohaus Corporation

Disposal

In conformance with the European Directive 2002/96 EC on Waste Electrical and Electronic Equipment (WEEE) this device may not be disposed of in domestic waste. This also applies to countries outside the EU, per their specific requirements.

Please dispose of this product in accordance with local regulations at the collecting point specified for electrical and electronic equipment.

If you have any questions, please contact the responsible authority or the distributor from which you purchased this device.

Should this device be passed on to other parties (for private or professional use), the content of this regulation must also be related.

Thank you for your contribution to environmental protection.

ISO 9001 Registration

In 1994, Ohaus Corporation, USA, was awarded a certificate of registration to ISO 9001 by Bureau Veritus Quality International (BVQI), confirming that the Ohaus quality management system is compliant with the ISO 9001 standard's requirements. On May 15, 2003, Ohaus Corporation, USA, was re-registered to the ISO 9001:2000 standard.

FCC Note

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

Industry Canada Note

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Conformidad

La conformidad a los estándares siguientes es indicada por la marca correspondiente en el producto

Este producto se conforma con el EMC 2004/108/EC directivo y la baja tensión 2006/95/EC directivo. El declaración completo de la conformidad está disponible de Ohaus Corporation.

Eliminación de residuos

De conformidad con las exigencias de la directiva europea 2002/96 CE sobre residuos de aparatos eléctricos y electrónicos (RAEE), este equipo no puede eliminarse como basura doméstica. Esta prohibición es asimismo válida para los países que no pertenecen a la UE cuyas normativas nacionales en vigor así lo reflejan.

Elimine este producto, según las disposiciones locales, mediante el sistema de recogida selectiva de aparatos eléctricos y electrónicos.

Si tiene alguna pregunta al respecto, diríjase a las autoridades responsables o al distribuidor que le proporcionó el equipo.

Si transfiere este equipo (por ejemplo, para la continuación de su uso con fines privados, comerciales o industriales), deberá transferir con él esta disposición.

Muchas gracias por su contribución a la conservación medioambiental

Registro ISO 9001

En 1994, Bureau Veritus Quality International (BVQI) le otorgó a Ohaus Corporation, EE.UU., un certificado de registro ISO 9001 el cual confirma que el sistema administrativo de calidad de Ohaus cumple con los requerimientos del estándar ISO 9001. En mayo 15 del 2003, Ohaus Corporation, EE.UU., fue registrada nuevamente al estándar ISO 9001:2000.

Conformité

La conformité aux normes suivantes est indiquée par la marque correspondante sur le produit

Ce produit se conforme à l'EMC 2004/108/EC directif et la basse tension 2006/95/EC directif. La déclaration complète de la conformité est fournie par Ohaus Corporation.

Elimination

En conformité avec les exigences de la directive européenne 2002/96 CE relative aux déchets d'équipements électriques et électroniques (DEEE), cet appareil ne doit pas être éliminé avec les déchets ménagers. Logiquement, ceci est aussi valable pour les pays en dehors de l'UE conformément aux règlementations nationales en vigueur.

Veuillez éliminer cet appareil conformément aux prescriptions locales dans un conteneur séparé pour appareils électriques et électroniques.

Pour toute question, adressez-vous aux autorités compétentes ou au revendeur chez qui vous avez acheté cet appareil.

En cas de remise de cet appareil (p. ex. pour une utilisation privée ou artisanale/industrielle), cette prescription doit être transmise en substance.

Merci pour votre contribution à la protection de l'environnement.

Enregistrement ISO 9001

En 1994, le Bureau Veritus Quality International (BVQI) a octroyé la certification d'enregistrement ISO 9001 à Ohaus Corporation, États-Unis d'Amérique, confirmant que le système de gestion de la qualité Ohaus était conforme aux conditions normalisées de l'ISO 9001. Le 15 mai 2003, Ohaus Corporation, États-Unis d'Amérique, a été ré-enregistrée à la norme ISO 9001:2000.

Befolgung

Befolgung zu den folgenden Standards wird durch die entsprechende Markierung auf dem Produkt angezeigt

CE

Dieses Produkt paßt sich an das EMC richtungweisendes 2004/108/EC und die Niederspannung richtungweisendes 2006/95/EC an. Die komplette Erklärung der Übereinstimmung ist von Ohaus Corporation vorhanden.

Entsorgung

In Übereinstimmung mit den Anforderungen der Europäischen Richtlinie 2002/96 EG über Elektro- und Elektronik-Altgeräte (WEEE) darf dieses Gerät nicht mit dem Hausmüll entsorgt werden. Sinngemäss gilt dies auch für Länder ausserhalb der EU entsprechend den geltenden nationalen Regelungen.

Bitte entsorgen Sie dieses Produkt gemäss den örtlichen Bestimmungen in einer getrennten Sammlung für Elektro- und Elektronikgeräte.

Bei allfälligen Fragen wenden Sie sich bitte an die zuständige Behörde oder den Händler, bei dem Sie dieses Gerät erworben haben.

Bei Weitergabe dieses Gerätes (z.B. für private oder gewerbliche/industrielle Weiternutzung) ist diese Bestimmung sinngemäss weiterzugeben.

Vielen Dank für Ihren Beitrag zum Schutz der Umwelt.

Registrierung nach ISO 9001

Im Jahr 1994 wurde der Ohaus Corporation, USA, ein Zertifikat der Registrierung nach ISO 9001 vom Bureau Veritus Quality International (BVQI) verliehen, in dem bestätigt wird, dass das Ohaus-Qualitätsmanagementsystem den Anforderungen der Norm ISO 9001 entspricht. Am 15. Mai 2003 wurde die Ohaus Corporation, USA, gemäß der Norm ISO 9001:2000 neu registriert.

Conformità

La conformità ai seguenti campioni è indicata dal contrassegno corrispondente sul prodotto

Questo prodotto è conforme al EMC 2004/108/EC direttivo e la bassa tensione 2006/95/EC direttivo. La dichiarazione completa di conformità è disponibile da Ohaus Corporation.

Smaltimento

In conformità a quanto stabilito dalla Direttiva Europea 2002/96 CE in materia di apparecchi elettrici ed elettronici (RAEE), questo strumento non può essere smaltito come i normali rifiuti. Tale presupposto resta valido anche per i Paesi al di fuori dei confini della UE, conformemente alle norme nazionali in vigore.

Si prega quindi di smaltire questo prodotto separatamente e in modo specifico secondo le disposizioni locali relative alle apparecchiature elettriche ed elettroniche.

Per qualsiasi chiarimento, rivolgersi agli enti preposti o al rivenditore dell`apparecchiatura stessa.

In caso di cessione dello strumento (per es. per ulteriore utilizzo privato o aziendale/industriale), si prega di comunicare anche questa disposizione.

Si ringrazia per il contributo alla tutela dell`ambiente.

Registrazione ISO 9001

Nel 1994, Ohaus Corporation, USA, ha ricevuto il certificato di registrazione ISO 9001 da Bureau Veritus Quality International (BVQI), come conferma che il sistema di gestione della qualità Ohaus risponde alle caratteristiche standard di ISO 9001. Il 15 Maggio 2003, Ohaus Corporation, USA, è stata riregistrata per la normativa ISO 9001:2000.

1. INTRODUCTION

This manual contains installation, operation and maintenance instructions for the TAJ Carat and Gold Balances. Please read the manual completely before using the balance.

1.1 Safety Precautions

Please follow these safety precautions:

- Verify that the Power Adapter input voltage matches the local power supply voltage.
- Use the balance only in dry locations.
- Do not operate the balance in hostile environments.
- Do not drop loads on the pan.
- Do not place the balance upside down on the pan.
- Service should be performed only by authorized personnel.

1.2. Controls

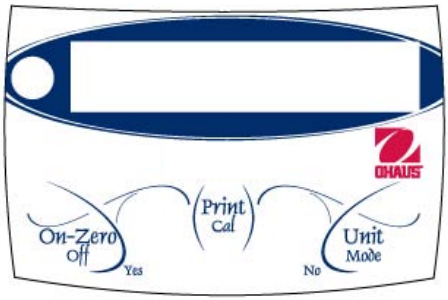


Figure 1-1. Controls.

TABLE 1-1. CONTROL FUNCTIONS.

Key Name	Function
On-Zero Off Yes	• Primary function (Short Press) – If balance is Off, turn On. If balance is on, perform Zero/Tare function
	• Secondary function (Long Press) – Turn balance Off.
	• Menu function – (Yes) This key is used to accept the currently displayed setting
Print Cal	• Primary function (Short Press) – Send the current display value to serial port if installed
	• Secondary function (Long Press) – Starts Span calibration as available in Menu

Key Name	Function
Unit Mode No	• Primary function (Short Press of Unit)– Advances to next available unit
	• Secondary Function – (Long Press of Unit) Scrolls through available enabled modes and back to the last used unit.
	• Menu function – (No) This key is used to reject the displayed setting and advance to next available setting

2. INSTALLATION

2.1 Package Contents

- Balance
- Pan
- Draft Shield (Carat models only)
- Power Adapter
- Calibration Weight (Carat models only)
- Gem Scoop (Carat models only)
- Instruction Manual
- Warranty Card

2.2. Location

Use the balance on a firm, steady surface. Avoid locations with excessive air currents, vibrations, heat sources, or rapid temperature changes. Adjust the leveling feet so the bubble is centered within the small circle.

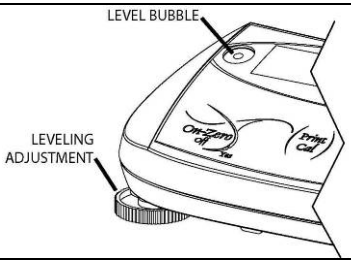


Figure 1-1. Level Adjustment.

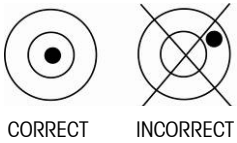


Figure 1-2. Level Bubble.

2.3. Transportation Lock, Calibration Lock & Pan Installation

Before using the balance the Transportation Lock must be released. At the bottom of the balance slide the locking pin to the 🔓 position. See Figures 2-1.

If the balance is to be calibrated by the user ensure that the Calibration Lock is set to 🔓 position. See Figure 2-2.

Install the metal pan over the plastic sub-platform.

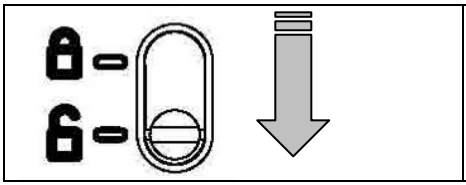


Figure 2-1. Release Transportation Lock.

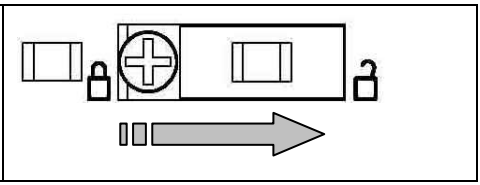
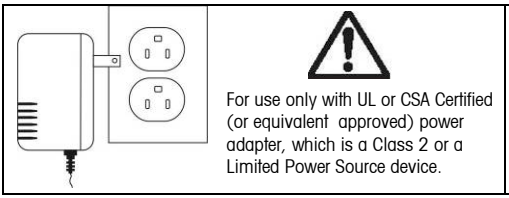


Figure 2-2. Release Calibration Lock.

2.4 Connect Power

A Power Adapter is used to power the balance. Connect the Power Adapter to the power outlet (see Figure 2-3) and the power plug to the back of the balance (see Figure 2-4).



Figures 2-3. Power Adapter.

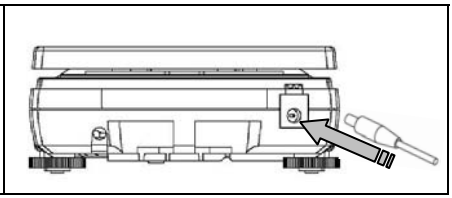
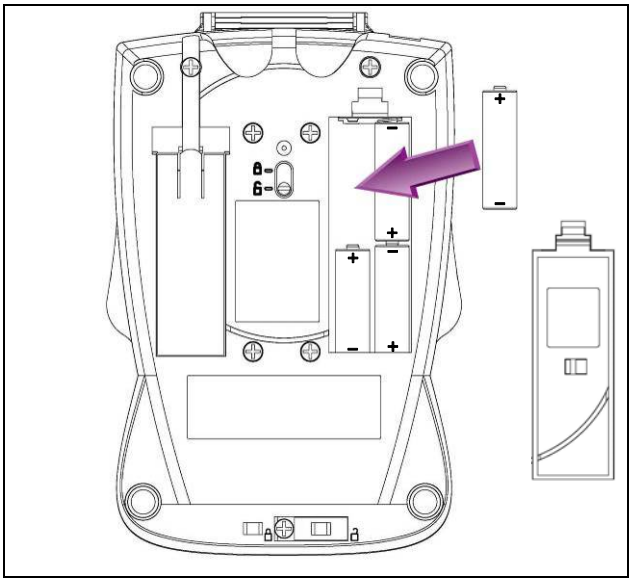


Figure 2-4. Power Plug.

2.5 Battery Installation and Use

The balance may also be powered by batteries. Remove the battery cover and install four alkaline AA (LR6) type batteries, (not included). Refer to Figure 2.5 to properly install the batteries. Under battery power a battery symbol is shown on the left side of the display. The Auto-Off setting is useful for conserving battery power, see section 4.2.1.



Figures 2-5. Battery Installation.

2.6 Draft Shield Installation (Carat models only)

Lay the dome shaped draft shield over the notched metal ring with the open end facing towards the back of the balance. With downward pressure rotate the draft shield allowing the bottom edges to slide under the notches of the metal ring. Continue rotating the draft shield until the opening is facing forward. See Figure 3-1.

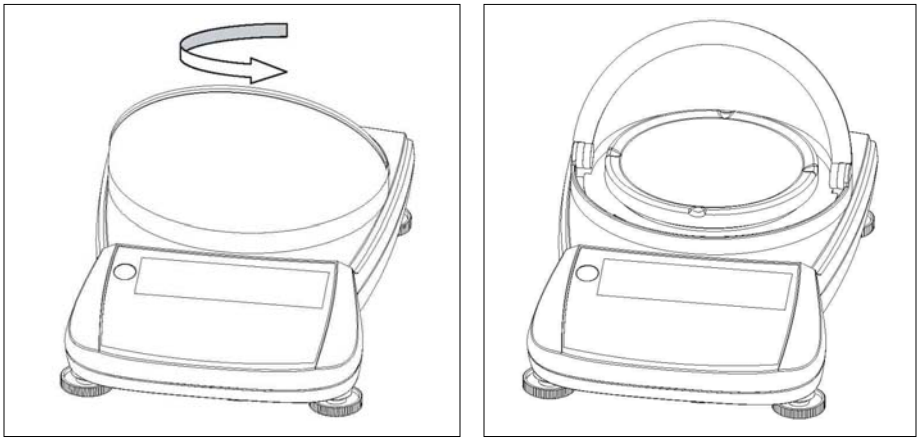


Figure 3-1. Draft Shield Installation.

2.7 Initial Calibration

Power on the balance by pressing **On-Zero**. Allow at least one minute for the balance to stabilize before calibrating. Press and hold the **Print/Cal** button until [CAL] is displayed. The display flashes [-C-] while zero reading is taken. The display flashes the required span mass. Put the indicated calibration mass on the pan and press **Yes.** The display flashes [-C-]. When calibration is complete, [donE] is displayed.

Note: Calibration is also available in the Setup menu, see section 4.2.1.

3. OPERATION

Press **Zero** to zero the balance and then place objects to be weighed on the pan.

Some weighing Modes and Units of measure may initially be unavailable. They can be enabled in the Main menu Unit [CU.n. .Ed], see section 4.

3.1 Weighing Units

Press **Unit** to advance to next available weighing Unit.

3.2 Weighing Modes

To access other weighing modes - Press and hold **Mode** until display shows desired mode. To exit weighing modes - Press and hold **Mode** until the prior weighing unit is shown.

3.2.1 Parts Count Mode

Use the Count mode to count parts of uniform weight

To begin Parts Counting, press **On-Zero** to tare a container or to set the display to zero.

Access Count Mode - Press and hold **Mode** until the display shows PC. [CLr.APU] is displayed.

Establish an Average Piece Weight (APW) - Each time a new type of part is to be counted, the nominal weight of one piece (Average Piece Weight) must be established using a small quantity of pieces.
With Clear APW [CLr.APU] displayed, press **No** to use the previously saved APW, or press **Yes** to establish a new APW. The display indicates the number of pieces to be used to establish the new APW.

If a different sample size is preferred, press **No** until the desired sample size is displayed (5, 10, 20, 50, or 100). Put the specified number of pieces on the pan. Press **Yes** to accept new APW. After the new APW is established, the number of pieces is shown on the display.

APW Enhancement - Since the weight of each piece may vary slightly, APW Enhancement (when enabled - [Cnt.Enh]) may be used to increase the accuracy of the count. The Average Piece Weight is automatically recalculated if the next stable weight is less than or equal to 2 times the original sample weight. Enhancement will then continue provided that each additional weight is less than or equal to the previous weight. The display shows [APW.Enh] each time the APW is recalculated.

Establish new APW -Press and hold Unit until "**PC**" blinks.

Count - Press **Zero** button. Place the quantity to be counted on the pan.

Exit - Press and hold **Mode** until the prior weighing unit is shown.

4. SETTINGS

The Settings allows the user to customize the balance.

4.1 Menu Structure

Table 4-1 illustrates the menu structure.

TABLE 4-1. MENU.

SEtuP		Un.it			End
A-OFF	On **OFF**	Un.it	g	**On*** OFF	Press Yes or No
LiGht	**On** Auto OFF	Un.it	kg	On **OFF**	
SPAN	Press Yes or No	Un.it	lb	On **OFF**	
Lin	Press Yes or No	Un.it	oz	On **OFF**	
End	Press Yes or No	Un.it	ozt	On **OFF**	
		Un.it	GN	On **OFF**	
		Un.it	ct	**On*** OFF	
		Un.it	t hk	On **OFF**	
		Un.it	t sg	On **OFF**	
		Un.it	t tw	On **OFF**	
		Un.it	dwt	On **OFF**	
		Un.it	tola	On **OFF**	
		Un.it	tical	On **OFF**	
		Un.it	PC Count	Cnt.Enh **OFF**	
		End	Press Yes or No		

Notes:

Unit	Symbol	Factor
Gram	g	1
Grain	GN	15.432
Carat	ct	5
Kilogram	kg	0.001
Ounce	oz	35.273e-3
Ounce Troy	ozt	32.150e-3
Taels hk	t hk	26.718e-3
Taels sg	t sg	26.455e-3
Taels tw	t tw	26.668e-3
Tola	tola	85.735e-3
Tical	tical	61.239e-3
Penny	dwt	64.301e-3
Pound	lb	2.204e-3

Modes
Parts Count PC

Default menu settings are shown in **bold.**

*Gold models have g unit as default.

*Carat models have ct unit as default.

kg and lb are not available in lower capacity models. See Table 6-1.

4.2 Menu Navigation

Main level menus are identified by decimal points between each letter, for example [S.E.t.U.P].

Enter Menu: With the balance off, press and hold the **On** button. Continue holding the **On** button until [S.E.t.U.P] is displayed. Each main menu is entered by pressing **Yes**. Advance to the next main menu by pressing **No**.

Changing Settings: Within each main menu are sub-menus. Enter each sub-menu by pressing **Yes**. Advance to the next sub-menu by pressing **No**. To accept the displayed sub-menu setting, press **Yes**. To advance to the next setting, press **No**.

Menu Exit: The last item in each sub-menu is [End]. Press **Yes** to return to the main menu. The last item in the main menu is [E.n.d]. Press **Yes** to return to the previous weighing mode.

4.2.1 Setup Menu [S.E.t.U.P.]

The Setup menu contains the following sub-menus:

Auto-Off [.A-OFF.]: Auto Off settings: On, **OFF****.
Setting [On] will automatically turn the balance off after no activity is detected for 4 minutes.

Light [L iGHt]: Backlight settings: **On**, OFF**, Auto.
Selecting [Auto] will turn the backlight on when the balance detects any activity. (Minimum 2 seconds)

Span Calibration [SPAN]: Uses two weight values: Zero and a value at or near the full capacity of the balance. Span calibration should be performed if the balance is repositioned or when the room temperature changes significantly.

Linearity Calibration [L in]: Uses three weight values: Zero, a mid-range value and full capacity. Generally this calibration is not required unless testing shows that the linearity error exceeds the linearity tolerance in the specification table. Accuracy of weights is important to maintain weighing integrity.

**Selecting [OFF] for these settings will reduce battery consumption.

4.2.2 Unit Menu [U.n. .t]

Each Weighing Unit may be individually set to On or OFF.
See Table 4-1 for the symbols associated with each Unit or Mode.

4.2.3 Other Menus

Additional Menus are available if a serial interface option is installed in the balance. These menus are explained within the user manual of each option kit.

4.3. Calibration Lock Feature

Sliding the switch fully to the lock position prevents calibration of the balance. Using a paper or wire seal will physically secure the switch if required.

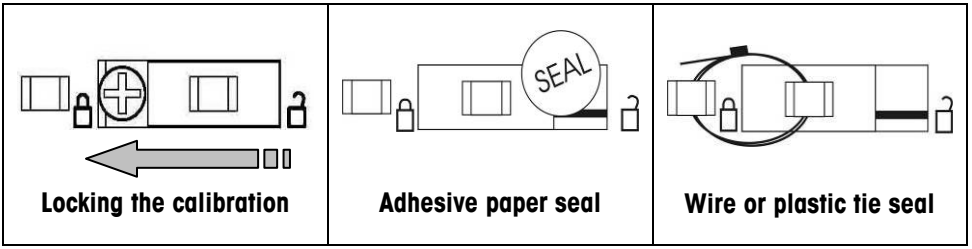


Figure 4-1. Locking and Sealing the Calibration Lock Switch.

4.4 Weigh Below Feature

The Weigh Below Hook is stored inside the battery cover. Thread the hook into the access hole at the bottom of the balance. Mount the balance onto an appropriate assembly that allows free working space below the hook. See Figure 4-2. **Note**: Never allow the balance to rest directly on the hook.

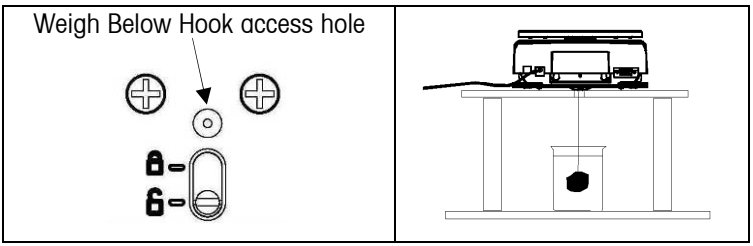


Figure 4-2. Setup for using the Weigh Below Hook.

5. MAINTENANCE

5.1 Troubleshooting

The following table lists common problems and possible causes and remedies. If the problem persists, contact Ohaus or your authorized dealer.

TABLE 5-1. TROUBLESHOOTING.

Symptom	Possible Cause	Remedy
Cannot turn on	• No power to balance • Empty or incorrectly installed batteries	• Verify AC adapter connections and voltage. • Replace batteries, check polarity.
Poor accuracy	• Improper calibration • Unstable environment • Transportation Lock is set • Debris touching the pan • Draft shield is touching the pan or sample.	• Perform calibration. • Move balance to suitable location. • Slide the pin to the unlocked position. • Clean any debris next to or under the pan. • Check that pan is fully seated, check sample height.
Cannot calibrate	• Unstable environment • Incorrect calibration mass • Transportation Lock is set • Calibration Lock switch is set	• Move the balance to a suitable location. • Use correct calibration masses. • Slide the pin to the unlocked position. • Slide the switch to the unlocked position.
Err 1	• Invalid Checksum data.	• Cycle balance off/on. • Contact Ohaus or authorized dealer.
Err 2	• Over-load or Under-load condition. • Transportation Lock is set • Improper calibration	• Verify pan is installed and/or excess load is removed from pan. • Slide the pin to the unlocked position. • Perform calibration.
Err 4	• Invalid calibration mass.	• Verify correct calibration mass is being used.
Err 8	• RS232 buffer is full.	• Cycle balance Off/On. • Check RS232 settings in balance and computer when RS232 option is installed.
Err 9	• Internal data error.	• Contact Ohaus or authorized dealer.
(Flashing)	• Battery power is low.	• Replace batteries soon.
bAtt LoW	• Battery power is too low for proper operation.	• Replace batteries.

5.2 Service Information

If the troubleshooting section does not resolve or describe your problem, contact your authorized Ohaus service agent.

6. TECHNICAL DATA

6.1 Specifications

TABLE 6-1. SPECIFICATIONS.

Model	TAJ203	TAJ202	TAJ402	TAJ602	TAJ501	TAJ2001	TAJ4001	TAJ6000
Capacity (g)	200 ct	200	400	600	500	2000	4000	6000
Readability (g)	0.005 ct	0.01	0.01	0.01	0.1	0.1	0.1	1
Linearity	±3	±1	±1	±2	±1	±1	±1	±1
Repeatability (g)	0.015 ct	0.01	0.01	0.01	0.1	0.1	0.1	1
Span Mass (g)	20*	200	200	300	300	1000	2000	3000
Linearity Mass (g)	20 40	100 200	200 400	300 600	300 500	1000 2000	2000 4000	3000 6000
Weighing Units/Modes	Gram, Grain, Carat, Kilogram[1], Ounce, Ounce Troy, Taels Hong Kong, Taels Taiwan, Taels Singapore, Tola, Tical, Pennyweight, Pound[2], Parts Counting							
Tare Range	To Capacity by Subtraction							
Stabilization Time (sec)	< 3							
Operating Temperature Range	50° - 104°F / 10° - 40°C							
Operating Humidity Range	30%-90%							
Pan Size (mm)	100 dia.	137x140						

***** Included with Balance

[1] TAJ2001, TAJ4001, TAJ6000 models only.

[2] TAJ501, TAJ602, TAJ2001, TAJ4001, TAJ6000 models only.

6.3 Drawings

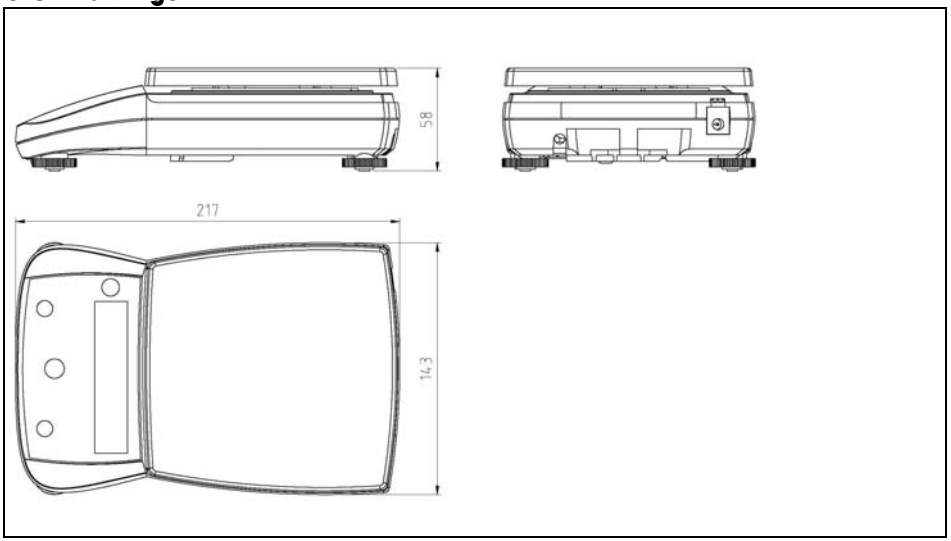


Figure 6-1. Overall Dimensions, Gold Model.

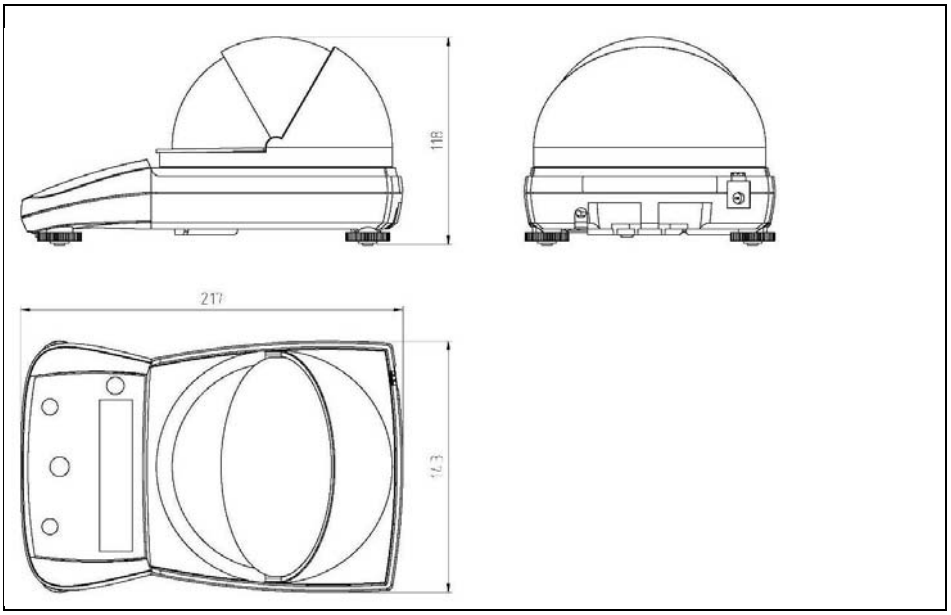


Figure 6-2. Overall Dimensions, Carat Model.

LIMITED WARRANTY

Ohaus products are warranted against defects in materials and workmanship from the date of delivery through the duration of the warranty period. During the warranty period Ohaus will repair, or, at its option, replace any component(s) that proves to be defective at no charge, provided that the product is returned, freight prepaid, to Ohaus.

This warranty does not apply if the product has been damaged by accident or misuse, exposed to radioactive or corrosive materials, has foreign material penetrating to the inside of the product, or as a result of service or modification by other than Ohaus. In lieu of a properly returned warranty registration card, the warranty period shall begin on the date of shipment to the authorized dealer. No other express or implied warranty is given by Ohaus Corporation. Ohaus Corporation shall not be liable for any consequential damages.

As warranty legislation differs from state to state and country to country, please contact Ohaus or your local Ohaus dealer for further details.