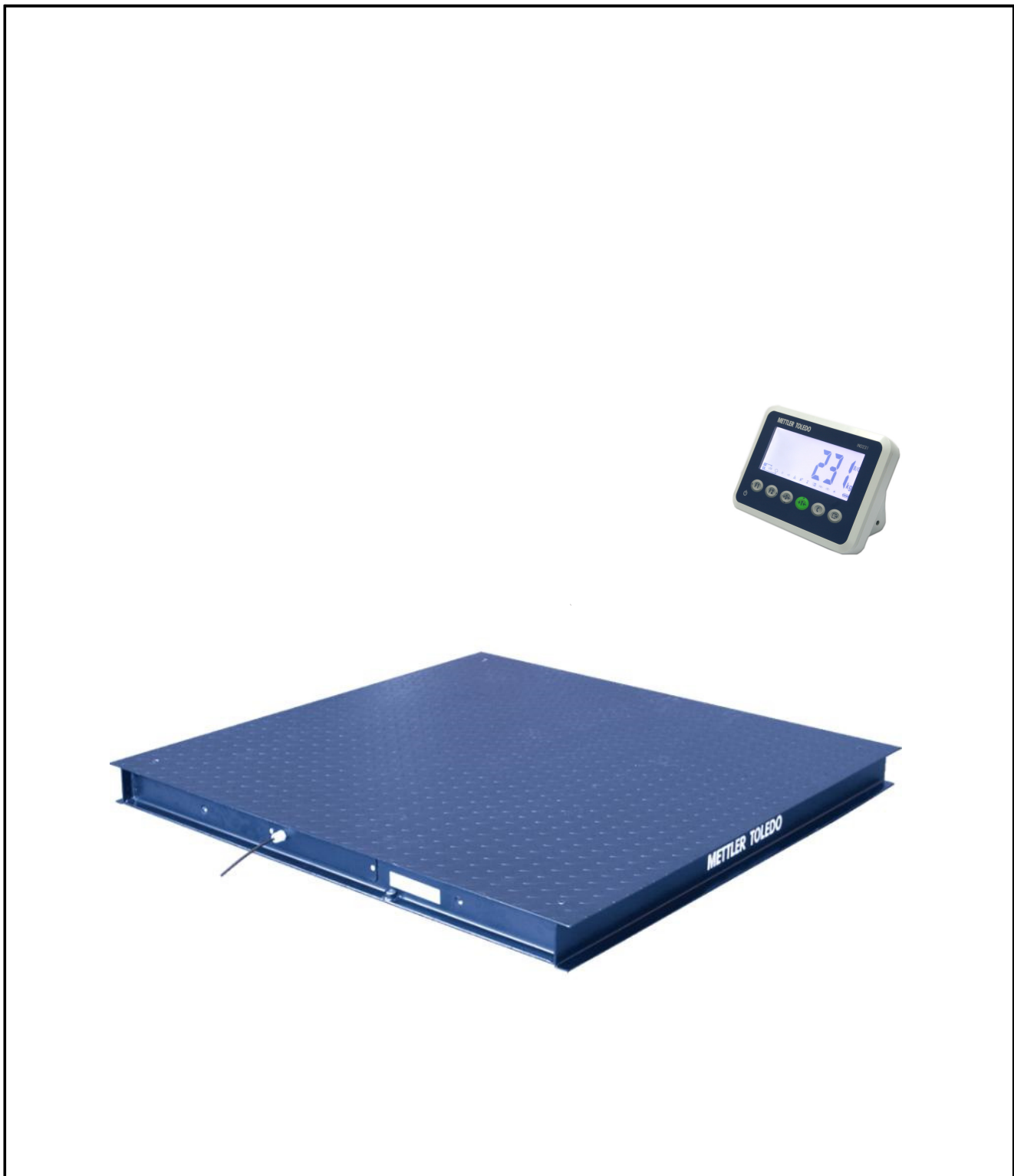
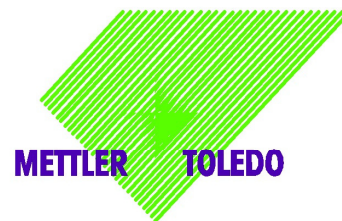


**METTLER TOLEDO  
PFA220 Series Floor Scale**





**EC-Declaration of Conformity**  
EC-Konformitätserklärung  
EC-Déclaration de conformité  
EC-Declaración de Conformidad  
EC-Conformiteitsverklaring  
EC-Dichiarazione di conformità

We , Wir, Nous, Nosotros, Wij, Noi

**Mettler-Toledo (ChangZhou) Measurement Technology Ltd.**  
No.111, West TaiHu Road, XinBei District, ChangZhou, JiangSu, 213125, P.R.China

declare under our sole responsibility that the product,  
erklären, in alleiniger Verantwortung, daß dieses Produkt,  
déclarons sous notre seule responsabilité que le produit,  
declaramos, bajo nuestra sola responsabilidad, que el producto,  
verklaren onder onze verantwoordelijkheid, dat het product,  
dichiariamo sotto nostra unica responsabilità, che il prodotto,

**Model/Type: PFA220 floor scale (EC type certificate :T5976)**

To which this declaration relates , is in conformity with the following standard(s) or other normative document(s),  
auf das sich diese Erklärung bezieht, mitder/den folgenden Norm(en) oder Richtlinie(n) übereinstimmt.  
Auquel se réfère cette déclaration est conforme à la (aux) norme(s) ou au(x) document(s) normatif(s).  
Al que se refiere esta declaración es conforme a la(s) norma(s) u otro(s) documento(s) normativo(s).  
Waarnaar deze verklaring verwijst, aan de volende norm(en) of richtlijn(en) beantwoordt.  
A cui si riferisce questa dichiarazione è conforme alla/e se quente/i norma/e o documento/i normativo/i.

EC marking	EC Directive:	Applicable Standards:
	2006/95/EC Low Voltage Directive	EN60950-1:2006
	2004/108/EC EMC Directive	EN61326-1:2006 (Class B) EN61000-3-2 / 3-3 EN61000-4-2 / 4-4 / 4-5 / 4-11 EN61000-4-3 (10 V/m) EN61000-4-6 (3 V)
For non-automatic weighing instrument used in an Article 1,2.(a) application ,additional metrological marking according to Annex IV of Council Directive 90/384/EEC must be attached to the instrument		
	90/384/EEC Non-automatic weighing instruments directive	EN45501 1)

1) only valid for weighing terminal in connection with approved load cells.

No.111, West TaiHu Road, XinBei District, ChangZhou, JiangSu, 213125, P.R.China, November 22, 2007, Mettler-Toledo (ChangZhou) Measurement Technology Ltd.

Yang JiaWu

**Quality Assurance Manager**

**Important notice concerning verified instruments see overleaf!**

## Mettler-Toledo (ChangZhou) Measurement Technology Ltd.

Legal Metrology

### Important notice for verified weighing instruments



Weighing Instruments verified at the place of manufacture bear the preceding mark on the packing label and a green "M" sticker on the descriptive plate. They may be set to work immediately.



Weighing Instruments which are verified in two steps have no green "M" on the descriptive plate and bear the preceding identification mark on the packing label. The second step of the verification must be carried out by the approved Mettler-Toledo service or by the W&M authorities. Please contact your Mettler-Toledo organization.

The first step of the verification has been carried out at the manufacturing plant. It comprises all tests according to EN 45501-8.2.2. If national regulations in individual countries limit the period of validity of the certification, the operator of such a scale is himself responsible for its timely re-certification.

### Wichtiger Vermerk für geeichte Waagen in EU-Ländern



Werksgeeichte Waagen tragen vorstehendes Kennzeichen auf dem Packetkett und einen grünen "M"-Kleber auf dem Eichschild. Sie dürfen sofort in Betrieb genommen werden.



Waagen, die in zwei Schritten geeicht werden und kein grünes "M" auf dem Eichschild haben, tragen vorstehendes Kennzeichen auf dem Packetkett. Der zweite Schritt der Eichung ist durch den behördlich anerkannten Mettler-Toledo Service oder durch den Eichbeamten durchzuführen. Bitte nehmen Sie mit dem Mettler-Toledo Kundendienst Kontakt auf.

Der erste Schritt der Eichung wurde im Herstellerwerk durchgeführt. Er umfasst alle Prüfungen gemäss EN45501-8.2.2. Sofern gemäss den nationalen Vorschriften in den einzelnen Staaten die Gültigkeitsdauer der Eichung beschränkt ist, ist der Betreiber einer solchen Waage für die rechtzeitige Nacheichung Selbst verantwortlich.

### Remarque importante pour les instruments de pesage vérifiés dans les pays membre de l'Union Européenne



Les instruments de pesage vérifiés en usine portent l'identification ci-contre sur leur emballage et un autocollant "M" vert sur la plaque d'identification. Ils peuvent être utilisés après leur installation.



Les instruments de pesage vérifiés en deux étapes portent l'identification ci-contre sur leur emballage et n'ont pas d'autocollant "M" vert sur la plaque d'identification. La seconde étape de la vérification doit être effectuée par le service technique Mettler-Toledo autorisé responsables. Veuillez s.v.p. contacter le service technique Mettler-Toledo.

La première étape de la vérification a été effectuée en usine. Cela comprend tous les essais suivant la norme EN45501-8.2.2. Dans la mesure où la durée de la vérification est limitée en fonction des prescriptions nationales dans les différents pays, l'utilisateur d'une telle balance est lui-même responsable de la vérification ultérieure dans les délais.

### Nota importante para básculas verificadas en países de la UE



Las balanzas verificadas en origen llevan esta indicación en la etiqueta del embalaje y con la etiqueta "M" sobre fondo verde en la placa de características pueden ser utilizadas inmediatamente.



Balanzas cuya verificación se realiza en dos fases llevan esta indicación en la etiqueta del embalaje (ninguna etiqueta "M" verde en la placa de características). La segunda fase de la verificación debe ser realizada por personal Mettler-Toledo acreditado, o por la autoridad competente. Rogamos contacten con el Servicio Técnico de Mettler-Toledo.

La primera fase de la verificación ha sido realizada en origen. Incluye todos los ensayos según la norma EN45501-8.2.2. Si el plazo de validez de la verificación está limitado por las normas nacionales de cada estado, el usuario será responsable de las verificaciones posteriores reglamentarias de su balanza.

### Nota importante per la balance approvate nei paesi UE



Le balance verificate in fabbrica portano questo contrassegno sull'etichetta dell'imballo e con il sigillo "M" su sfondo verde sulla targhetta metrologica possono essere messe in uso immediatamente.



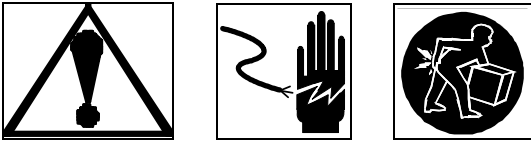
Le balance che vengono verificate in due fasi, portano questo contrassegno sull'etichetta dell'imballo e non portano il sigillo "M" sulla targhetta metrologica. La seconda fase della verifica dev'essere eseguita dal servizio assistenza Mettler-Toledo autorizzato, oppure dalla autorità competente. Prego contattare il vostro servizio assistenza Mettler-Toledo.

La prima fase della verifica è stata eseguita dal produttore e comprende tutte le prove previste dalla norma EN 45501-8.2.2. Se la durata di validità della verifica è limitata in accordo con le prescrizioni nazionali vigenti nei singoli paesi, l'utilizzatore stesso di una bilancia di tale tipo sarà responsabile dell'esecuzione, entro le date di scadenza previste, delle verifiche periodiche.

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## 1 Safety notice



Product safety is a fundamental concern at MT. Use common sense and follows the simple precautions listed below to ensure your safety and to optimize the use and performance of this product.

- Read this manual before operating or servicing this product. Save this manual for future reference.
- Observe safety warnings located throughout this manual.
- Use caution when lifting or moving heavy equipment.
- This product should only be serviced by qualified personnel. Exercise care when moving, testing, or adjusting this product.
- Disconnect all power to this product before installing, servicing, or cleaning.
- Use only MT parts for repair.
- Observe electrostatic handling precautions for electronic components. Allow at least thirty (30) seconds after power is disconnected to allow charges to dissipate before servicing any electronic components.
- Allow the product to adjust to room temperature before connecting the power source.

**FAILURE TO FOLLOW THESE PRECAUTIONS COULD RESULT IN DAMAGE TO OR DESTRUCTION OF THE EQUIPMENT, OR BODILY HARM.**

## 2 Introduction

### 2.1 General

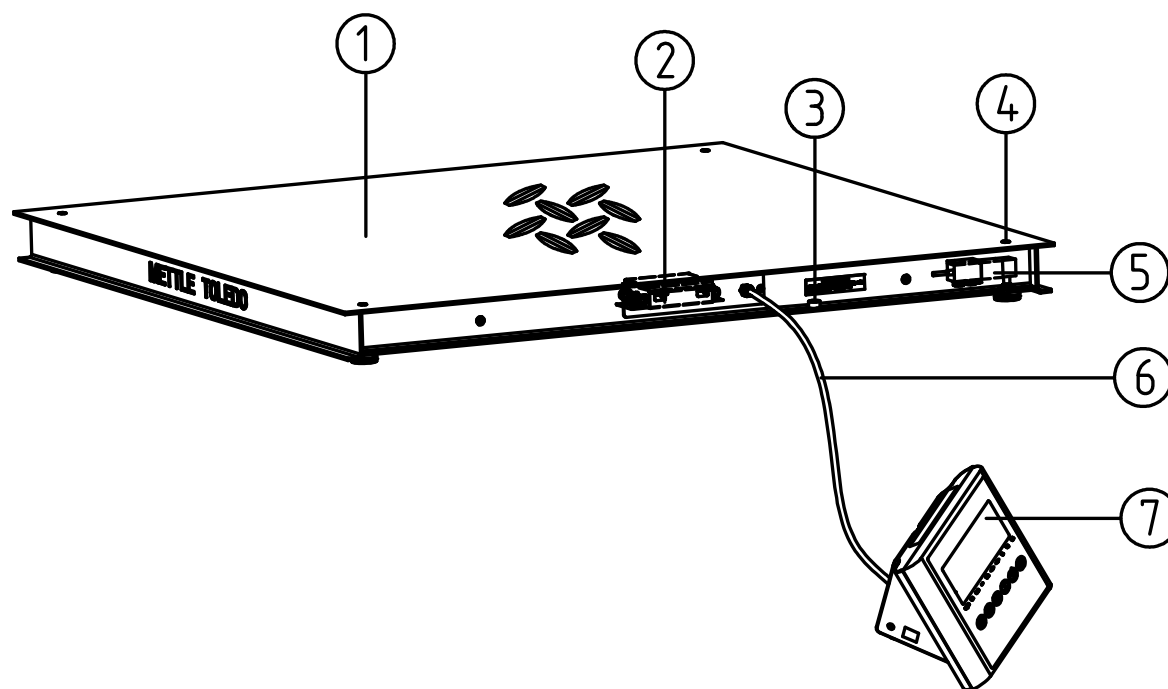
This manual contains all the information on the installation, operation and maintenance instructions for the PFA220 series Floor Scale.

### 2.2 Standard Sizes and Capacities

Model	Capacity	Accuracy	Increment	Platform Size	Height
PFA220-DS1500	1500kg	III	0.5kg	1.0m X 1.0m	11cm
PFA220-EE1500	1500kg	III	0.5kg	1.25m X 1.25m	11cm
PFA220-ES1500	1500kg	III	0.5kg	1.5m X 1.5m	11cm
PFA220-DS3000	3000kg	III	1kg	1.0m X 1.0m	11cm
PFA220-EE3000	3000kg	III	1kg	1.25m X 1.25m	11cm
PFA220-ES3000	3000kg	III	1kg	1.5m X 1.5m	11cm

Table 2-1 Standard Sizes and Capacities

## 2.3 Structure

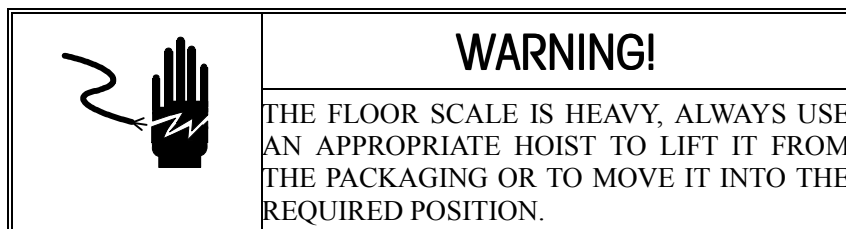


- |                                 |                    |                 |                   |
|---------------------------------|--------------------|-----------------|-------------------|
| 1. Platform                     | 2. Junction-box    | 3. level bubble | 4. Plugging screw |
| 5. Load cell and load cell feet | 6. Indicator cable | 7. Indicator    |                   |

Fig. 2-1 Major Components

### 3 Preparing the Scale for Use

#### 3.1 Unpacking



Open the package, and check all the parts following the below checklist. Make sure no parts were damaged and missing.

Description	Qty.
Platform(attached indicator cable)	1
User manual	1
Eye bolt(M12)	2

- 3.1.1 Open the packaging;
- 3.1.2 Install the two eyebolt into opposing sides of the floor scale, see Figure 3-1;
- 3.1.3 Lift the floor scale from the packaging material, see caution notice;
- 3.1.4 Remove the shipping feet;

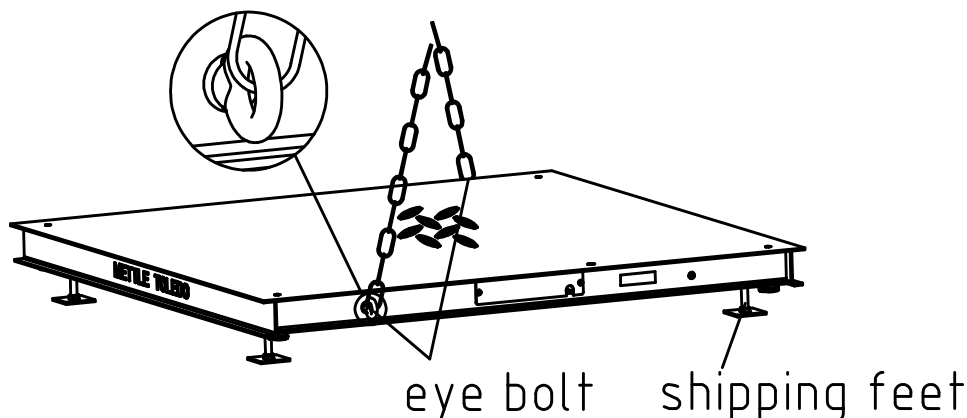


Fig. 3-1 Package Scrap View

#### 3.2 Inspection

Upon delivery of the PFA220 floor scale, visually inspect the scale for any damages which may have occurred during shipment and handling. Inspect the following areas:

- Platform assembly for any warping or bent angles.
- Load cell (assembled in the platform) and load cell feet.



- Junction box.
- Indicator cable.

### 3.3 Site Selection

Many problems associated with floor scale installations are caused by improper site conditions. Before installing the scale, check the proposed location for the following conditions:

- Ensure the surface is flat in the area where the scale will be positioned, especially in the region of the load cell feet. The height difference is at least less than or equal to 5mm; Small differences in height can be compensated by adjusting the load cell feet.
- The foundation at the installation site must be strong enough to safely support the weight of the weighing platform at its support points when it carries the maximum load.
- There should be proper drainage away from the scale.
- There should be no heavy vibrations or wind currents at or near the scale.
- The scale should not be subjected to excessive or unusual loading due to the location or type of equipment used.

※ Method to adjust platform level:

Loosing the plugging screw to adjust the load cell feet to get the level of the platform.

If the site is acceptable, proceed with the installation. If not, choose a new location which is satisfied with the requirements.

## 4 Installation

### 4.1 Location

Place the PFA220 Floor Scale in the desired location after inspecting the site according to Section 3.2 of this manual.

### 4.2 Scale Installation

4.2.1 Connect the weighing platform to the indicator following the below Indicator Cable Color table. Detail wiring see Fig. 4-1 system connection and IND231 manual.

Color	Function
green	+EXE
yellow	+SEN
whit	+SIG
red	-SIG
blue	-SEN
black	-EXE
yellow/green	Shield

Table 4-1 Indicator cable color table

4.2.2 Maintain the Indicator cable under good protection from the damaging.

4.3 System Connection

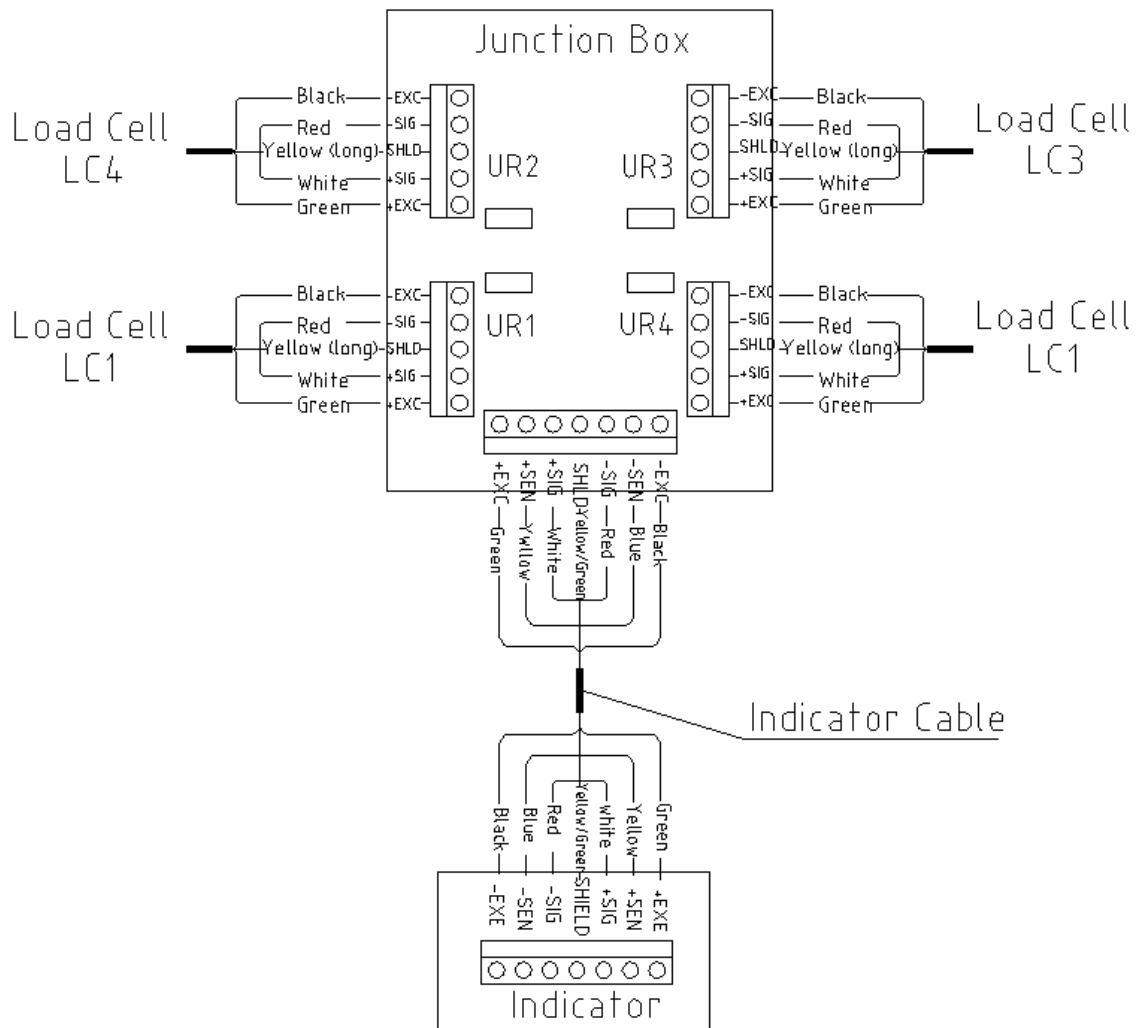


Fig. 4-1 System Connection

## 5 Routine Care and Maintenance

### 5.1 General

Once the scale has been installed, it should be inspected and calibrated periodically by an authorized METTLER TOLEDO representative. If the scale is used for legal-for-trade purposes, consult the local weight and measure authorities for minimum inspection requirements. Contact your local authorized METTLER TOLEDO service representative for information about periodic inspection and calibration services.

### 5.2 Site Inspection

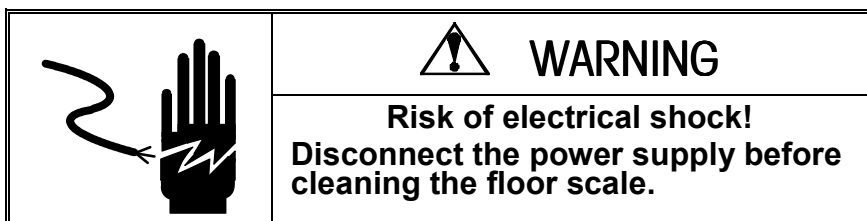
Make sure that the scale site remains in good condition. Check for alterations in the surrounding floor, excessive vibrations, and possible overloading conditions.

### 5.3 Platform Inspection

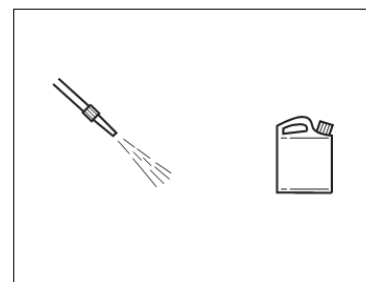
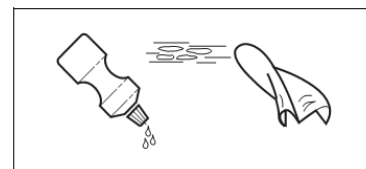
During periodic inspections of the scale, check the following:

- Check whether the 4 feet touch the floor well.
- Check whether the load is same approximately for each load cell feet.
- Check whether the platform is level.
- check whether there are any blocks between the platform and ground.
- Are the junction box lid properly sealed and all cable connectors tight against the enclosure?
- Is there any moisture or foreign material around or inside the junction box assembly?
- Is the instrument cable damaged or binding the scale?
- Check repeatability and shift of the scale.

### 5.4 Cleaning



- Wiping with a damp cloth.
- Use the ordinary household detergent.
- Avoid the direct spray of water to the platform.



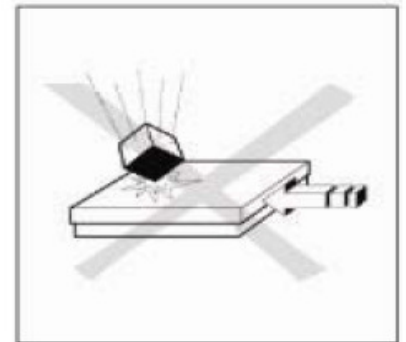
## 6 Basic Weighing Sequence

### 6.1 Loading and Weighing Procedure

- Clean the platform. Push the **+0+** button on the panel. The display numerical value should be:0.0
- Load weight, then record the weight reading from the terminal display.
- Remove weight. Repeat the procedure for subsequent.

### 6.2 For continued best operating performance

- Avoid falling loads, shock loads as well as impacts from the side.
- When weighing, all items should be equally spread on the platform.
- Verify the calibration of the floor scale system at regular intervals.



### 6.3 Operating Limits

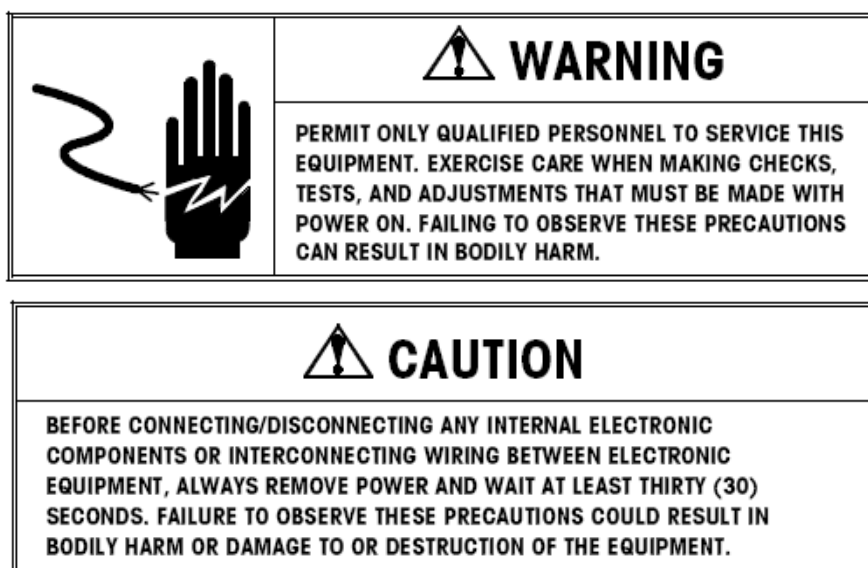
- No biggish impacts when weighing.
- Pallet truck not allowed on the platform.
- Not applicable for weighing valuable cargos, such as cooper.
- Do not apply the scale in the wet environment.

## 7 Troubleshooting

### 7.1 General

If the scale does not operate properly, find out as much about the problem as possible. Try to determine whether the problem is constant or intermittent. Mechanical and electrical influences can cause malfunctions, so be patient and use sound logic when troubleshooting.

When troubleshooting a PFA220 floor scale, examine the scale's physical location. Check for the presence of water, corrosive materials, unlevel floors, high vibrations, air currents, or physical damage to the scale platform. Also check the instrument cable for damage, and all connections for loose or improper wiring.



### 7.2 Isolate the Problem

Determine whether the problem is in the scale or the indicator.

- Remove power from the system, and then disconnect the indicator from the scale.
- Connect the indicator to a load cell simulator (analog simulator available from METTLER TOLEDO)
- Reapply power and test the indicator. If the problem persists, consult the indicator manual for further troubleshooting assistance.
- If the problem is NOT present with the load cell simulator attached to the indicator, remove power, disconnect the simulator, and reconnect the scale. If the problem persists, continue troubleshooting the scale.

### 7.3 Check Wiring

- Remove power from the system.
- Remove the junction box cover and check inside the junction box for moisture or foreign material.
- Make sure that all wiring connections are tight and that no insulation material is touching the terminal contacts.
- Check all cable connections to make sure they are wired correctly. The wiring color codes are given in Fig 4-1 system connection.

- Check all cable connectors and cord grip caps on the junction box.
- Tighten any loose connectors.

## 7.4 Check Load Cells

7.4.1 Remove power from the system. Fully disconnect each load cell and check for proper input/output resistances (See Table 7-1).

Measuring Points	Resistance(SLB215-1.1f)	Resistance(SLB215-2.2f)
+Exc (Green) to -Exc (Black)	350 ± 3.5 ohms	350 ± 3.5 ohms
+Sig (White) to -Sig (Red)	351 ± 2 ohms	351 ± 2 ohms

Table7-1: Load Cell Measuring Points

7.4.2 If resistance is within specification, perform a shorted-signal symmetry test.

- Short the signal leads together and place one multimeter lead on the shorted signals and one lead on the +Excitation wire. Note the resistance value.
- Remove the lead from the +Excitation wire and place it on the –Excitation wire. The two resistance values should be approximately equal.

7.4.3 If the load cells pass the shorted-signal test, reconnect them and reapply power to the scale. Confirm that the proper excitation voltage is reaching the load cells by placing multimeter leads on the excitation positions of each load cell terminal.

7.4.4 If proper excitation voltage is reaching the load cells, check the output signal from each cell by disconnecting the signal leads and measuring voltage output. If one cell has a particularly high or low dead-load output, it is suspect.

7.4.5 If any load cell has an unusual signal, remove all loads from that cell.

NOTE: Remove signal leads from terminals to measure output.

7.4.6 If a load cell fails any of the above tests, replace it.

**8 Spare Parts**

Description	Part Number	Note
Load cell(SLB215-1.1t, 3m)	72258695	for PFA220-DS1500/PFA220-EE1500/PFA220-ES1500
Load cell(SLB215-2.2t,3m )	72258701	For PFA220-DS3000/PFA220-EE3000/PFA220-ES3000
Junction-box	72200031	for all PFA220 series
Load cell feet	72202318	for all PFA220 series
Indicator cable	72200032	for all PFA220 series

**Table 8-1 Spare Parts**



**ServiceXXL**  
Tailored Services

Congratulations on choosing the quality and precision of METTLER TOLEDO. Proper use according to these instructions and regular calibration and maintenance by our factory-trained service team ensure dependable and accurate operation, protecting your investment. Contact us about a Service XXL agreement tailored to your needs and budget.

We invite you to register your product at [www.mt.com/product](http://www.mt.com/product) registration so we can contact you about enhancements, updates and important notifications concerning your product.

**\*72213534\***

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