![OHAUS logo]

SF40A PRINTER
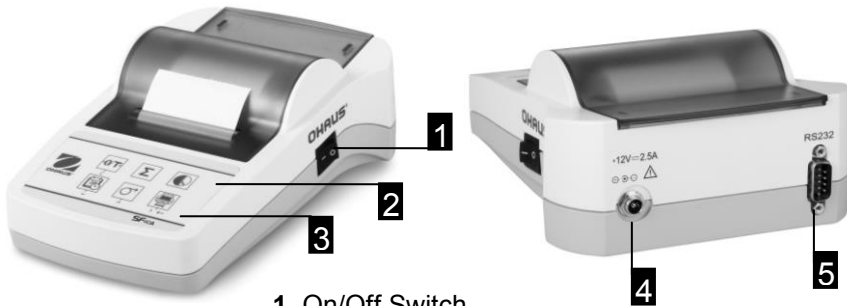# Instruction Manual

CONTENTS

Overview

Controls   **Connections**

1 On/Off Switch
2 Pilot lamp – status indicator
3 Control panel
4 Power connection
5 Interface connector

Control panel   **Functions**

Key	SF40A
+0/T+ C	• Zeroing /Taring the balance • Abort – Exit
📅 20	• Printout of date and time • Scroll down menu option
♂	• Paper feed • Scroll up menu option
🖨 > ←	• Printing of stable weight values • Opening the menu - select next menu option • Save settings
Σ	• Totaling application
◐	• Statistics application

1 Introduction

1.1 Description

The SF40A is an advanced dot matrix printer from OHAUS instruments. The printer has Statistics and Totalization functions. The SF40A also meets the requirements of modern quality assurance systems such as (GLP, GMP, ISO9001 etc.).

1.2 Features

- Supports all 13 languages present in Ohaus instruments.
- Statistics and Totalization functions.
- Zero / Tare function.
- Real-time clock function.
- The printout meets the requirements of modern quality assurance systems (GLP, GMP, ISO9001, etc.)
- Complies with the requirements of measurement traceability by precisely documenting the origin of data, as well as calibration procedures.
- Meets the requirement of archiving measurement results by providing a thermally stable and light resistant printout.
- Easy setup with the software provided with the printer.

1.3 Package Contents

- Printer
- Software CD
- Power Adapter
- Warranty Card
- RS232 Cable

- Instruction Manual
- Paper Roll
- Cable Adapter
- Paper Rotary Axis
- Power Cable*

Note: * AM/US version : 1 cable, EU/UK version : 2 cables.

2. Startup Procedure

2.1 Safety Measures

The Printer has been tested for the connections and intended purposes documented in these Operating Instructions. However, it is your responsibility to perform the necessary tests related to the methods and purposes of its intended use. Therefore, you should observe the following safety measures.

- The printer must be used indoors only, and never in hazardous areas.
- The electronics of the printer are protected against the ingress of splashing water and dust. However, since the printer housing is not watertight, the printer should not be used in the presence of liquids.
- Comply with cleaning instruction (see chapter 6.3), protect power plug against wet conditions.
- Never open the printer housing. If you have any problems with your printer, please contact your responsible OHAUS service.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

2.2 Power Supply

Your printer is supplied with an AC adapter with a country-specific power cable. The power supply is suitable for all line voltages in the range: 100 – 240 VAC, 50 – 60 Hz (for exact specifications, see chapter 11).

Attention
- First, check the local line voltage is in the range 100 – 240 VAC, 50 - 60 Hz and whether the power plug fits your local power supply connection. **If this is not the case, on no account connect the printer or the AC adapter to the power supply**, but contact the responsible OHAUS dealer.
- **Only plug the adapter into a socket which is grounded.**

Important
- Before operating, check all cables for damage.
- Guide the cables so that they cannot become damaged or interfere with the weighing process.
- Make sure that the AC adapter cannot come into contact with liquids
- The power plug must always be accessible.

2.3 Printer Setup

The default setting of the printer is as below.

Header:	No Header		Baud rate:	9600	
Date Format:	DD.MMM YYYY		Data bits:	8	
Time Format:	24:MM:SS		Parity:	None	
Char Set:	CP1252 Window Latin1		Stop bits:	1	
Balance Feature:	Balance Feature Enable		Flow control:	Xon/Xoff	
O/T Settings:	Perform Zero				

There are two ways to change the default setting:

- Use the accompanying software

- Operate on the printer only.

2.3.1 Printer setup using accompanying software

1) Attach the interconnecting cable to the printer interface on the computer and to the printer.

2) Connect the printer to the main power supply.

3) Use the main switch <I/O> to power on.

4) Insert the CD into the computer and install the printer software.

5) Run the software and set up the RS232 parameter of computer, then click the "Connect" button.
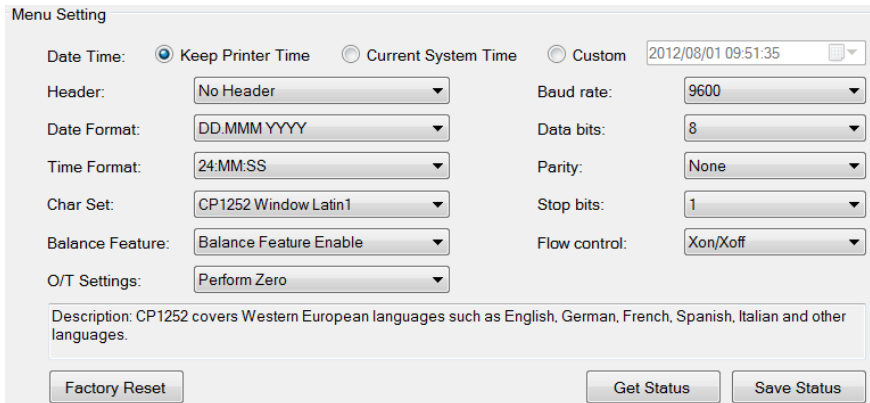
COM Settings

Please config the COM port setting.

Port:	COM1		Baud rate:	9600	
Data bits:	8		Parity:	None	
Stop bits:	1		Flow control:	Xon/Xoff	

Connect   Disconnect

6) The following window will appear if connection is successful, click OK to continue.
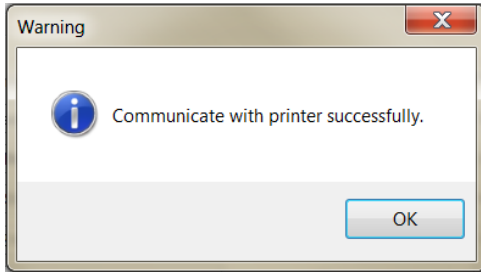
7) The printer Menu setting is now activated and all the settings can be changed.

a. **Date Time:** Set the date and time for the printer

- Keep Printer Time: keep the existing date and time in the printer

- Current System Time: Get the date and time from your computer

- Custom: Set the date and time manually

b. **Header:** Set the header of the printing content

- No header: No header for printing content

- Date/Time: Header with date and time

- Date/Time/Balance: Header with date, time and S/N.

c. **Date Format:** Set date format

d. **Time Format:** Set Time Format

e. **Char Set:** Set the Code page for different languages

- CP 1252 Window Latin1: Covers Western European languages such as English, German, French, Spanish and Italian.

- CP 1251Window Cyrillic: Covers languages that use the Cyrillic alphabet such as Russian, Bulgarian and Serbian Cyrillic.

- CP437 MS-DOS Latin US: Covers Western European languages such as English, German, French, Spanish and Italian.

- CP852 MS-DOS Latin2: Covers Central European languages that use Latin script such as Polish Bosnian, Czech, Hungarian, Croatian, Romanian, Serbian and Slovak.

- CP860 MS-DOS Portuguese: Covers Portuguese language

f. **Balance Feature :**

1) Enable/Disable a function: 0/T, Statistics, Totalization

2) Printer connection status: LED light will either blink or stay lit.

- Balance Feature Enabled: 0/T, Statistics and Totalization functions of the printer are enabled. The printer connection status LED light will blink if the connection with balance is lost.

- Balance Feature Disable: 0/T, Statistics, Totalization functions of the printer are disabled. The printer connection status LED will be lit even if the connection with balance is lost.

g. **0/T Setting:** Set up the function of the button 0/T

- Perform Zero: Perform Zero function when pressing the button.

- Perform Tare: Perform Tare function when pressing the button.

h. **Baud rate, Data bits, Parity, Stop bits, Flow control:** Set the parameters of RS232 setting.

The settings should be the same as the instrument to be connected. For the instrument RS232 settings, please see the instrument manual.

Factory Reset	Reset the printer to factory default setting.
Get Status	Get the current setting from the printer.
Save Status	Save the setting to the printer.

8) Click 'Save Status' button to save the setting and click Exit to finish the setup.

2.3.2 Printer setup using printer only

1) Connect the printer to the main power supply.

2) Use the main switch <I/O> to power on.

3) Press and hold the « » button to enter the menu list, the printer will print

"----------Menu-------".

Press « » to choose which item to change.

Press « » to change the parameter.

Press and hold « » to save and exit.

Press « » to exit without saving

The printer will print the content to show the result of every operation. For total menu structure, please see chapter 4.

2.4 Installing the printer

2.4.1 Connecting the printer to the instrument
Before connecting, make sure the instrument and printer have the same RS232 parameter setting. For instrument Baud rate settings, please see the related manual.

- Attach the interconnecting cable to the printer interface of the instrument and to the printer.
- Switch the instrument on.

2.4.2 Switching the printer on
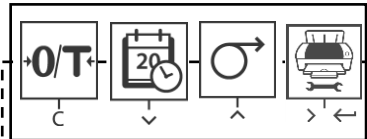
- Connect the printer to the mains power.
- Use the main switch <I/O> to power on.
- RS232 interface only: The pilot lamp will flash until an instrument is connected. If the lamp continues to flash see chapter 7.

<I/O>

Pilot lamp

2.4.3 Inserting Paper
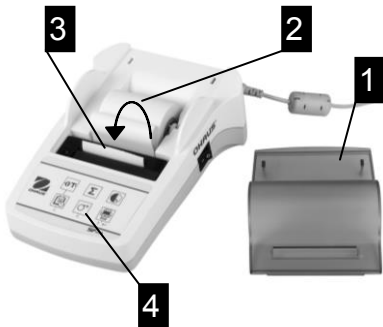
- Remove paper cover (pull on the back) (1).
- Insert the paper rotary axis through the core of the paper roll (2).
- Feed paper through the slot in the printing unit in the direction of the arrow (3).
- Press and hold until enough paper has been fed (4).
- Replace the paper cover (1).

3 Keystroke Functions

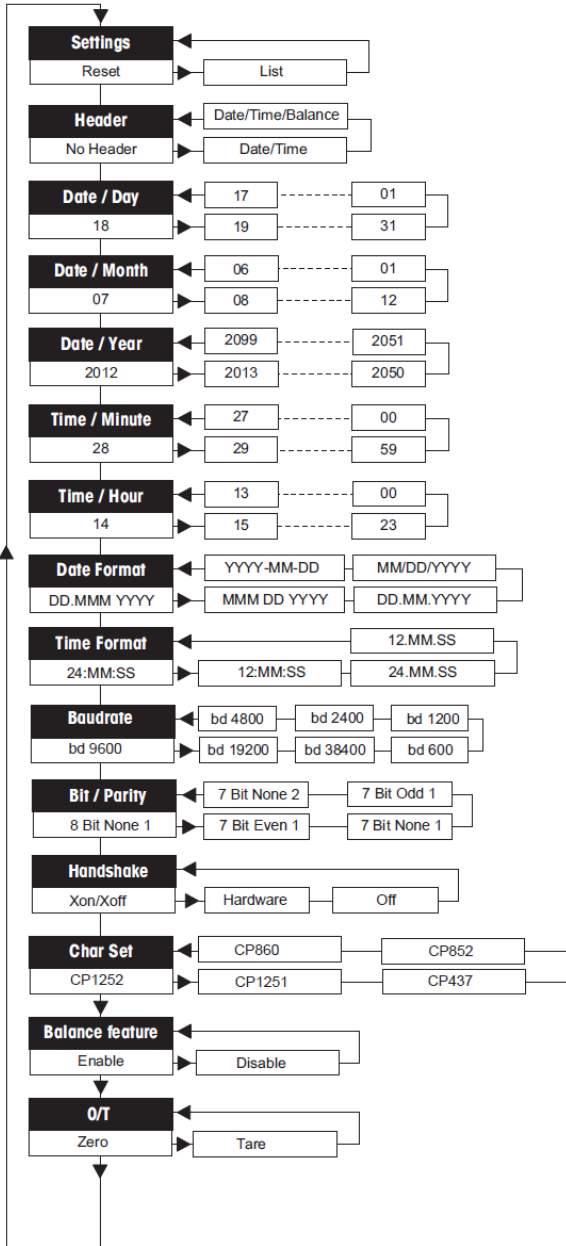| ✊ Press briefly		✊ Press and hold	
Operational Level	**·0/T·** Zero or Tare the balance		
	📅 print Date and Time		
	♂ one line feed	**♂** continuous fee (until release)	
	🖨 print	**🖨** open menu	
Menu Level	**·0/T·** **📅** **♂** **🖨** exit down up next	**🖨** store	
Function Level	**Σ** Start totaling application	**Σ** Conclude totaling application	
	◑ Start statistics application	**◑** Conclude statistics application	

4 Menu

Settings			
Reset	→	List	
Header	←	Date/Time/Balance	
No Header	→	Date/Time	
Date / Day	←	17	---- 01
18	→	19	---- 31
Date / Month	←	06	---- 01
07	→	08	---- 12
Date / Year	←	2099 ---- 2051	
2012	→	2013 ---- 2050	
Time / Minute	←	27	---- 00
28	→	29	---- 59
Time / Hour	←	13	---- 00
14	→	15	---- 23
Date Format	←	YYYY-MM-DD	MM/DD/YYYY
DD.MMM YYYY	→	MMM DD YYYY	DD.MM.YYYY
Time Format	←		12.MM.SS
24:MM:SS	→	12:MM:SS	24.MM.SS
Baudrate	←	bd 4800 bd 2400	bd 1200
bd 9600	→	bd 19200 bd 38400	bd 600
Bit / Parity	←	7 Bit None 2	7 Bit Odd 1
8 Bit None 1	→	7 Bit Even 1	7 Bit None 1
Handshake	←		
Xon/Xoff	→	Hardware	Off
Char Set	←	CP860	CP852
CP1252	→	CP1251	CP437
Balance feature	←		
Enable	→	Disable	
O/T	←		
Zero	→	Tare	

Example Printout:

```
---------MENU--------
Settings:
  * List

Header:
  * No Header

Date Day:
    31

Date Month:
    07

Date Year:
    2012

Time Minute:
    00

Time Hour:
    18

Date Format:
  * YYYY-MM-DD

Time Format:
  * 24:MM:SS

Baudrate:
  * 9600

Bit/Parity:
  * 8 Bit None 1

Handshake:
  * Xon/Xoff

Char Set:
  * CP1252 Windows Latin 1

Balance Feature:
  * Enable

->0/T<- Setting:
  * Zero
```

* Factory settings

Applications

✋ Press briefly	✋ Press and hold

Statistics Application[1]		Totaling Application[2,3,4]	
	→ Start "Statistics application" (LED on)	Σ	→ Start "Totaling application" (LED on)
	→ Add a new sample and press « ◑ ».	Σ	→ Add a new sample and press « Σ ».
🖨 >‹ ←	→ If needed print subtotal press « 🖨 » >‹ ←	🖨 >‹ ←	→ If needed print subtotal press « 🖨 » >‹ ←
	→ Print and end "Statistic application" (LED off).	Σ	→ Print and end "Totaling application" (LED off).

Important notes

Unit change during the application is not permitted.
Maximum 999 samples.
[1] Sample weight must be in the range of 70% - 130% of the current average value.
[2] Minimum sample weights should be larger than 1d.
[3] During sample change, the scale reading needs to be changed by more than 100d, otherwise the printer will not register the sample change.
[4] Statistics applications include: Number of samples, average value, standard deviation, min, max, min-max differential and total weight.

5 Printer Test

The printer is equipped with a self-test that automatically prints out the character set of the printer (standard IBM/DOS).

Starting the test   ➔   Press the «⟨printer icon⟩» key and power on the printer. The printer prints out the current settings.

Terminating the test   ➔   Power off the printer.

6 Maintenance

Under normal conditions the printer requires practically no maintenance. The OHAUS service department is available if servicing is required. Please ask your responsible OHAUS dealer for details.

6.1 Changing the Paper Roll

Insertion of a new roll of paper is described in chapter 2.4. Please see chapter 9 (Consumables) for paper roll order number.
Note: You may obtain the paper rotary axis from the old paper roll.

6.2 Replacing the Ribbon

- Remove the paper cover (1)
- Pull paper out of printing unit (2)

- To remove the ribbon cartridge, press in direction of arrow (3).
- Insert the new ribbon, and if necessary, take up slack with tensioning wheel (4). See chapter 9 (Consumables) for the ribbon cartridge order number.
- Insertion of a new roll of paper is described in chapter 2.4.

6.3 Cleaning

Since the printer housing is made of top grade materials, all commercially available mild cleaning agents may be used (see safety precautions in chapter 2.1).

6.4 Disposal

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.

Disposal instructions in Europe are available online at europe.ohaus.com/europe/en/home/support/weee.aspx.

Thank you for your contribution to environmental protection.

7 Troubleshooting

Problem / Message	Possible cause	Correction
Printout unreadable	• Ribbon worn or entangled. • Service life of printing unit at an end.	• Change ribbon cartridge or tense the ribbon properly. • Please contact OHAUS service.
Pilot lamp does not light	• No power. • Power supply fault.	• Switch printer on. • Please contact OHAUS service.
Pilot lamp flashes	• No connection printer device. • Printer did not find the settings of the connected instrument.	• Make sure that the printer and the instrument is connected. • Switch the printer off/on. • Alternatively change the settings of the printer or the connected instrument. (see chapter 2.4)
-------------Timeout--------------	• Data transfer has not completed in the last 45 s.	• Move balance to more stable location. • Check the balance.
-----------Over Load------------	• Balance in overload range.	• Check the sample weight.
	• Zeroing out of the zero range.	• Change the zero range of the balance. • Change the setting of the printer from zero to tare.
-----------Under Load----------	• Balance in underload range. Weighing pan is not in position.	• Check the balance.
--Transmission Error--	• Instrument does not understand printer instruction.	• Check interface parameter settings on printer and instrument.

Problem / Message	Possible cause	Correction
--------Not Executable------	• Instrument cannot execute printer instruction.	• Check the balance.
----Date/Time Not Set--- --------Memory Error--------	• Printer error messages.	• Check the instrument. • Reset the printer. • Set date/time • Back-up battery depleted Please contact OHAUS service.
--------- Memory full---------	• Statistics or Totaling Memory is full.	• Start a new Statistics or Totaling application.
--Load/Unload Weight---	• No sample or the same sample is on the weighing pan.	• Put a new sample or remove it and put it again on the pan.
Unit change not allowed!	• Changed unit during Statistics or Totaling application.	• Reset the balance. • Change the unit back to the first one.
--------Out of range--------	• Sample weight is out of range	• Sample weight must be in the range of 70% - 130% of the current average value.

8 Recommended Settings

Connected Device		Device Settings	Printer Settings
DV, AV, PA, AR, SP, TA, NV, NVL, NVT, MB35/45, MB23/25, (T31P, T51P, T71P, T32XW, T32WE, T51 XW, T71XW, CKW)*		Printer Mode Baud rate: 9600 Bit / Parity: 8 bit None 1 Handshake: Xon/Xoff	Factory Settings
EX		Printer Mode Baud rate: 9600 Bit / Parity: 8 bit None 1 Handshake: Xon/Xoff	Factory Settings
	Russian	Printer Mode Baud rate: 9600 Bit / Parity: 8 bit None 1 Handshake: Xon/Xoff Language: ANSI/WIN Russian	CP1251 Windows Cyrillic
	Polish	Printer Mode Baud rate: 9600 Bit / Parity: 8 bit None 1 Handshake: Xon/Xoff Language: ANSI/WIN Polish	CP852 MS-DOS Latin2
	Czech	Printer Mode Baud rate: 9600 Bit / Parity: 8 bit None 1 Handshake: Xon/Xoff Language: ANSI/WIN Czech	CP852 MS-DOS Latin2
	Hungarian	Printer Mode Baud rate: 9600 Bit / Parity: 8 bit None 1 Handshake: Xon/Xoff Language: ANSI/WIN Hungarian	CP852 MS-DOS Latin2
	Portuguese	Printer Mode Baud rate: 9600 Bit / Parity: 8 bit None 1 Handshake: Xon/Xoff Language: ANSI/WIN Portuguese	CP860 MS-DOS Portuguese
	English, French, German, Italy, Spanish, Chinese, Japanese, Korean	Printer Mode Baud rate: 9600 Bit / Parity: 8 bit None 1 Handshake: Xon/Xoff	Factory Settings

Note: * The Statistic and Totalization functions of the printer are supported in the following models: DV, EX, AV, PA, NV, MB23/25.
Only printing function is supported in all models.

9 Consumables & Spare Parts
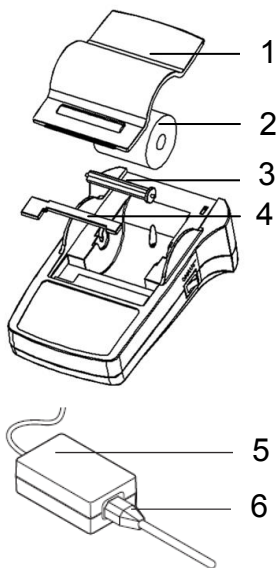
Pos.	Item	Part Number	Delivery Quantity
1	Paper Cover	30047939	1 pcs
2	Paper roll	12120799	2 pcs
3	Paper Rotary axis	30063920	1 pcs
4	Ribbon cartridge, black	12120798	1 pcs
5	AC/DC adapter (without power cable) 100 - 240 VAC, 50 - 60 Hz, 12 VDC 2.5 A	11107909	1 pcs
6	Power cable CH	30064089	1 pcs
	Power cable EU	12120761	1 pcs
	Power cable US	12120762	1 pcs
	Power cable IT	30064200	1 pcs
	Power cable GB	12120312	1 pcs
	Power cable AU	12120313	1 pcs
	Power cable BR	83033772	1 pcs
	Power cable JP	12122638	1 pcs
-	RS9 M/F Cable, 1.5 m	12122603	1 pcs

10 RS232C Interface

The SF40A printer is equipped with an RS232C interface to connect OHAUS instruments.
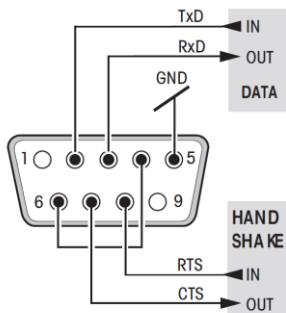
- 9-pin male connector
- Matching to other devices (transmission parameters) see chapter 8.

11 Technical Data

Power supply	AC/DC adapter: 12 VDC, 2.5 A Primary: 100 – 240 VAC, -50 -60 Hz Voltage fluctuations: up to ±10% of the nominal voltage Secondary: 12 VDC, 2.5 A (with electronic overload protection)
Cable to AC/DC adapter	3-core, with country-specific plug
Power line voltage	12 VDC
Power consumption	Max. 2.5 A
Altitude	up to 2000 m
Ambient temperature	0 ºC – 40 ºC
Relative humidity	Max. 80% at 31 ºC, decreasing linearly to 50% at 40 ºC, noncondensing
Overvoltage category	Class II
Pollution degree	2
Printing unit	Dot matrix printer 5x7, 40-character line length
Printing speed	1.2 lines per second
Ribbon cartridge	Exchangeable, black
Paper roll	Standard paper 57.5 mm x ø 50 to 60 mm, integrated in housing, commercial size
Print quality	Light resistant and thermally stable printing (GLP, GMP, ISO9001)
Interface	RS232C
Printer dimensions	(WxDxH) 120 mm x 203 mm x 73 mm
Packaging dimensions	(WxDxH) 255 mm x 205 mm x 150 mm
Net weight	740 g (paper roll incl.)
Compatibility limits	• Function Date / Time: not applicable on balances with built-in clock (built-in clock has priority) • Functions Zeroing / Taring, Statistics and Totalization: not applicable on all models of balances