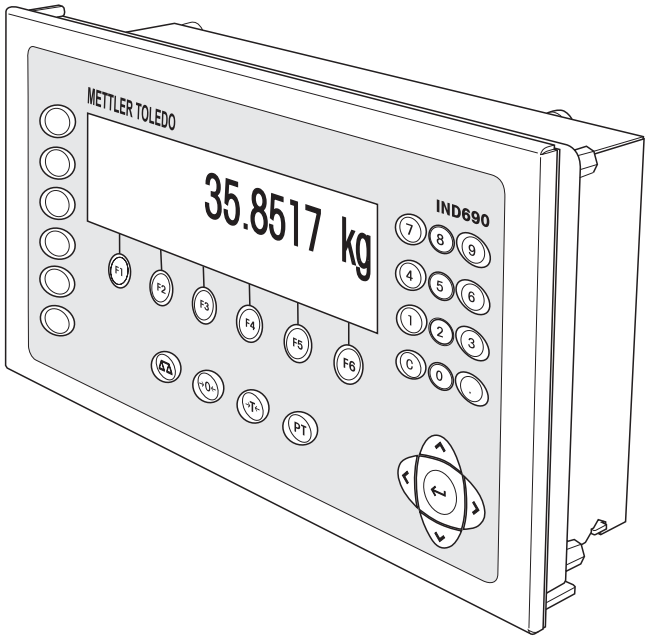
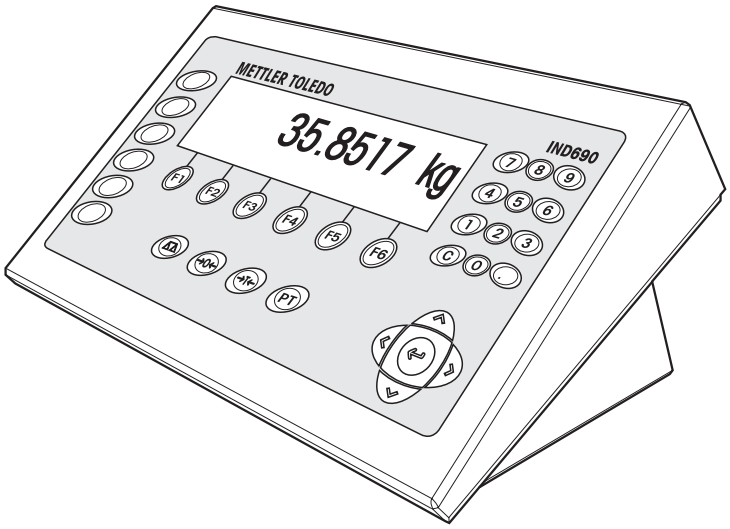
Operating instructions

METTLER TOLEDO MultiRange
Application software IND690-Form





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1 Formulation functions

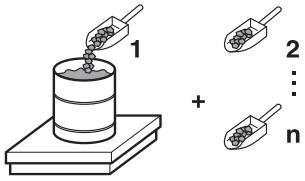
1.1 Documentation

The weighing terminal IND690-… comes supplied with a CD containing all the documentation on the weighing system IND690.
These operating instructions describe the operation and configuration of the application software IND690-Form.
The basic information for working with the weighing terminal IND690-... can be found in the operating instructions IND690-Base.

1.2 Introduction

The IND690-Form offers 3 different formulation applications, which you can select in the master mode:
FORMULATION, PHARMA FORMULATION and TOTALIZING.

1.3 FORMULATION application



In this application, you can measure out several components into a container one after the other. Each recipe and each component can be provided with an identification.

Prerequisite

In the master mode, the FORMULATION application is selected.

Function keys With the FORMULATION application the function keys are allocated as follows:

MAN	SUM	CONT	PLUS	–	–
Enter weight values manually	Display net sum and print out	Subtotal for current container	Add weight values	–	–

➜ Press the relevant function key, in order to select the function.

Example

➜ Press the MAN key.
Then you can enter the known weight values manually via the keyboard.

When the function keys have a different allocation

➜ Press the cursor keys < or > repeatedly until the function key assignment shown above appears.

1.3.1 Formulation

1. Press CODE A key and enter the identification for the recipe.
2. Place the empty container on the weighing platform and tare.
3. Press CODE C key and enter the identification for the first component.
4. Add first component.
   The display indicates the net weight of the current component.
5. Press PLUS key.
   The weighing platform tares automatically and the display registers 0.000 kg.
   The current net sum in the container is determined and the component counter is increased by 1.
6. In order to add further components in the container, repeat steps 3 to 5.
   Max. 15 components per container are possible.

Changing the container

7. If more than 15 components are filled into a container or the container is overfilled: Press CONT key and place a new container on the weighing platform.
   The container counter is increased by 1, the component counter is set back to zero for the new container and the tare weight is deleted.

Ending formulation

8. When fewer than 15 components have been dispensed into container, press CONT key.
9. Clear weighing platform.
10. Press SUM key.
    The net sum is displayed and automatically printed out.
11. If the net sum is to be placed into temporary storage, press the ENTER key.
12. Press CLEAR key.
    The net sum is deleted and the component counter and the container counter are reset.

1.3.2 Carrying over the known weight value to the sum

1. Press MAN key.
2. Enter the weight value and confirm with ENTER.
   The weight value is stored in the sum memory and the component counter is increased by 1.

Note
With the FUNCTION CHANGE key you can select the weight unit for entering known weight values.

1.3.3 Tolerance control with DeltaTrac

Using DeltaTrac in the application FILLING you can monitor on weighing in the compliance of the tolerances with the target weight, see section "Additional functions" in the operating instructions and installation information IND690-Base weighing terminal..
The weight value is only added to the sum when the weight value lies within the tolerance limits.

1. Preset the DeltaTrac target values for the current component.
2. Add the component.
   If there is an addition beyond the tolerance limits, remove the container and fill again or delete the target value.
3. Press PLUS key.
   The components are only carried over to the sum when they lie within the tolerance limits.

Note
The weight unit for entering the DeltaTrac target values can be selected with the cursor keys < or >.

1.3.4 FORMULATION on multiple weighing platforms

Up to 4 weighing platforms can be connected to the IND690-Form, see section "Basic functions" in the operating instructions IND690-Base weighing terminal.

Note for formulation on multiple weighing platforms

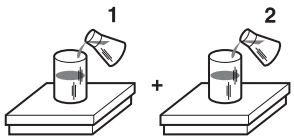
➜ Use a separate container on each weighing platform.

1.3.5 Recalling information regarding the FORMULATION application

Using the key sequence INFO, FUNCTION key you can recall information regarding the FORMULATION application.

INFO, MAN	Display last entered weight value.
INFO, CONT	Display number and subtotal for the current container.
INFO, PLUS	Display the last weighed components.

1.4 PHARMA FORMULATION application



In this application, you can fill each component of a recipe in a separate container. Each recipe and each component can be individually provided with an identification.

Prerequisite

In master mode, the PHARMA FORMULATION application is selected.

Function keys

With the PHARMA FORMULATION application the function keys are allocated as follows:

MANUAL	SUM	CONTAINER
Enter weight value manually	Display net sum and print out	Close container

➜ Press the relevant function key, in order to choose the functions.

Example

➜ Press the MANUAL key.
Then you can enter the known weight values manually via the keyboard.

If the function keys have a different allocation

➜ Press the cursor keys < or > repeatedly until the function key assignment shown above appears.

1.4.1 Pharma formulation

1. Press CODE A key and enter the identification for the recipe.
2. Place the conatiner on the weighing platform and tare.
   The container counter is increased by 1.
3. Press CODE C key and enter the identification of the first component.
4. Add the components.
   The display shows the net weight of the current component.
5. Press CONTAINER key.
   The tare weight of the container is deleted.
6. In order to add further components, repeat steps 2 to 5.

Ending pharma formulation

7. Press SUM key.
   The net sum is displayed and automatically printed out.
8. If the net sum is to be placed into temporary storage, press the ENTER key.
9. Press CLEAR key.
   The net sum is deleted, and the component and container counters are reset.

1.4.2 Carrying over the weight values to the sum

1. Press MANUAL key.
2. Enter the weight value and confirm with ENTER.
   The weight value is stored in the sum memory and the item counter is increased by 1.

Note
The weight unit for entering known weight values can be selected with the cursor keys < or >.

1.4.3 Tolerance control with DeltaTrac

With DeltaTrac in the application FILLING you can monitor on weighing in the compliance of the tolerances with a target value, see section "Additional functions" in the operating instructions IND690-Base weighing terminal.
The weight value is only added to the sum when the weight value lies within the tolerance limits. Possible settings in the master mode:

- FILL – A target value applicable to all fillings.
- COMPOUNDING – A target value for each container or each component.

Filling

1. Preset DeltaTrac target values.
2. Add component.
   If there is an addition beyond the tolerance limits, remove the container and fill again or delete the target value.
3. Press CONTAINER key.
   The components are only then carried over to the sum if they lie within the tolerance limits.
4. For the additional components, repeat steps 2 and 3.
   The DeltaTrac target values remain stored until new values are entered or the values are deleted.

Compounding

1. Preset the DeltaTrac target values for the components.
2. Add component.
   If there is an addition beyond the tolerance limits, remove the container and fill again or delete the target value.
3. Press CONTAINER key.
   The component is only then carried over to the sum if it lies within the tolerance limits.
4. For additional components, repeat steps 1 to 3.
   The DeltaTrac target values are deleted after each component.

Note
The weight unit for entering the DeltaTrac target values can be selected with the cursor keys < or >.

1.4.4 PHARMA FORMULATION on multiple weighing platforms

Up to 4 weighing platforms can be connected to the IND690-Form, see section "Basic functions" in the operating instructions IND690-Base weighing terminal.

Note formulation on multiple weighing platforms

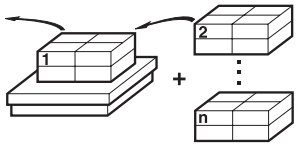
➜ Use a separate container on each weighing platform.

1.4.5 Recalling information regarding the PHARMA FORMULATION application

Using the key sequence INFO, FUNCTION key you can recall information regarding the PHARMA FORMULATION application.

INFO, MANUAL Display the last entered weight value.
INFO, CONTAINER Display the sum for the current container.

1.5 TOTALIZING application



In this application, you can determine the total weight of several items. Each sum and each item can be provided with an identification.

Prerequisite

In the master mode the TOTALIZING application is selected.

Function keys With the TOTALIZING application the function keys are allocated as follows:

MANUAL	SUM	PLUS
Enter weight values manually	Display gross sum and print out	Add weight values

➜ Press the relevant function key in order to select the function.

Example ➜ Press the MANUAL key.
Then you can enter the weight values manually via the keyboard.

If the function keys have a different allocation

➜ Press the cursor keys < or > repeatedly until the function key assignment shown above appears.

1.5.1 Totalizing

1. Press CODE A key and enter the identification for the sum.
2. Press CODE C key and enter the identification for the first item.
3. Put the first item on.
4. Press PLUS key.
   The item counter is increased by 1 and displayed with the gross sum.
5. Place the additional items on and repeat steps 2 to 4.

Ending totalizing

6. Press SUM key.
   The gross sum is displayed and printed out automatically.
7. In order to place the gross sum into temporay storage, press the ENTER key.
8. In order to delete the gross sum, press the CLEAR key.
   The item counter is reset.

1.5.2 Transferring the weight value to the sum

1. Press MANUAL key.
2. Enter the weight value and confirm with ENTER.
   The weight value is stored in the sum memory and the item counter is increased by 1.

Note
The weight unit for entering known weight values can be selected with the < or > cursor key.

1.5.3 TOTALIZING on multiple weighing platforms

Up to 4 weighing platforms can be connected to the IND690-Form, see section "Basic functions" in the operating instructions IND690-Base weighing terminal.
Changing the weighing platform is always possible when using the TOTALIZING application.

1.5.4 Recalling information regarding the TOTALIZING application

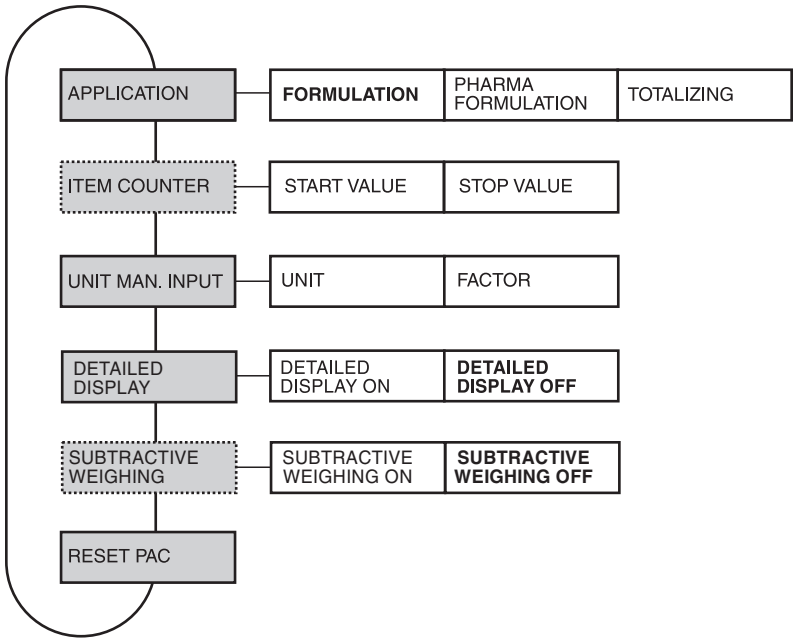
Using the key sequence INFO, FUNCTION key you can recall information regarding the TOTALIZING application.

INFO, MANUAL	Display the last entered weight value.
INFO, PLUS	Display the number of items weighed until now.

2 Settings in the master mode

2.1 Overview of the PAC master mode block

In this block, the following settings are possible:



Legend

- Blocks on a **grey** background are described extensively in the following.
- Factory settings are printed in **bold** type.
- Blocks that appear only under specific conditions are **dotted**.

2.2 Settings in the PAC master mode block

APPLICATION	**Select application**
FORMULATION	Fill the recipe components one after the other into the container.
PHARMA FORMULATION	Fill the recipe components one after the other into separate containers. Possible settings: • FILL – Fill all components to the same target value. • COMPOUNDING – Fill each component to a different target value.
TOTALIZING	Totalize several items.

ITEM COUNTER	**Set the item counter with the application TOTALIZING**
START VALUE	Possible values: 1 … 9999 (factory setting: 1)
STOP VALUE	Possible values: 1 … 9999 (factory setting: 9999)

UNIT MANUAL ENTRY	**Select preferred unit for weight values, which are entered with the MANUAL key**
UNIT	Possible units: g, kg, lb, ozt, dwt, oz, Stk, Pcs, neutral unit Factory setting: kg
FACTOR	Enter the conversion factor for the neutral unit. **Example:** For determining the weight of liquids, enter the density of the liquid as the factor. In weighing operation, enter the volume of the liquid, the weight of the liquid is displayed.

DETAILED DISPLAY	**Switch on/off additional info line in display**
	If DETAILED DISPLAY ON is set, an additional line for info appears in the display, e. g. "Item: 2/9999" For FORMULATION, PHARMA FORMULATION und TOTALIZING only. Factory setting: DETAILED DISPLAY OFF.

SUBTRACTIVE WEIGHING	**Switch on/off totalizing with subtractive weighing**
	If SUBTRACTIVE WEIGHING ON is selected, totalising can also occur with subtractive weighing. For the TOTALIZING application only. Factory setting: SUBTRACTIVE WEIGHING OFF.

RESET PAC	**Reset all functions to the factory settings**
	APPLICATION Formulation ITEM COUNTER Start value = 1, final value = 9999 UNIT MANUAL ENTRY kg DETAILED DISPLAY Off SUBTRACTIVE WEIGHING Off

3 Application blocks

In the following description, the application blocks are shown in the syntax for the MMR command set. When used with the SICS command set, please observe the SICS conventions, see Operating instructions for IND690-Base weighing terminal.

No.	Content	Format
301	Pac version	Response: A B _ IND690-Form_V1.00_
302	Program number	Response: A B _ IP62-0-0xxx_
310	Counter	Response: A B _ Number_4 Comment: Application FORMULATION, PHARMA FORMULATION: Component counter Application TOTALIZING: Item counter
311	Container counter	Response: A B _ Number_4 Comment: only with the application FORMULATION, PHARMA FORMULATION
312	Component counter current container	Response: A B _ Number_4 Comment: only with the application FORMULATION
313	Sum net weight	Response: A B _ Weight value _ Unit
314	Sum gross weight	Response: A B _ Weight value _ Unit Comment: only with the application TOTALIZING
315	Manual entry	Response: A B _ Weight value _ Unit
316	Unit manual entry	Response: A B _ Unit Write: A W 3 1 6 _ Unit
317	Start value item counter	Response: A B _ Number_4 Write: A W 3 1 7 _ Number_4 Comment: only with the application TOTALIZING
318_001 … 318_006	Identification data Code A … Code F	Response: A B _ Name (Text_20) _ _ Identification (Text_20) Write: A W 3 x x _ Name (Text_20) $ $ Identification (Text_20) Comment: xx = 18_001 …18_006; corresponds to the application blocks 094 … 099
318 … 321	Identification data Code A … Code D	Response: equal to 318_... Write: equal to 318_... Comment: xx = 18 … 21 corresponds to the application blocks 094 … 097
322	Sum net weight current container	Response: A B _ Weight value _ Unit Comment: only with the application FORMULATION

No.	Content	Format
323	Net weight last start weight	Response: A B _ Weight value _ Unit
324 … 338	Net weight component 1 …15	Response: A B _ Identification (text_20) _ _ Weight value _ Unit Comment: only with the application FORMULATION
339	Tare weight current container	Response: A B _ Weight value _ Unit Comment: only with the application FORMULATION, PHARMA FORMULATION
340	Stop value item counter	Response: A B _ Number_4 Write: A W 3 4 0 _ Number_4 Comment: only with the application TOTALIZING
341	Conversion factor for the neutral unit with manual entry	Response: A B _ Weight value _ Unit Write: A W 3 4 1 _ Weight value _ Unit
342	Gross weight last totalizing procedure	Response: A B _ Weight value _ Unit
343	Tare weight last totalizing procedure	Response: A B _ Weight value _ Unit Write: A W 3 4 3 _ Weight value _ Unit

4 What to do if …?

Error / Display	Possible causes	Remedy
OVERFLOW SUM GROSS OVERFLOW SUM NET	• Capacity of buffer for gross sum or for net sum exceeded	➜ Delete sum and form sub-sum
OVERFLOW CONTAINER	• Capacity of buffer for container counter exceeded	➜ Reset counter by deleting sum ➜ Suitably divide sum or recipe
OVERFLOW ITEMCOUNTER	• Item counter or component counter has reached stop value	➜ Reset counter by deleting sum ➜ Select suitable start and stop value
OVERFLOW MAN. INPUT	• Manual entry would exceed capacity of sum buffer	➜ Check value of manual entry ➜ Check value of FACTOR FOR NEUTRAL UNIT
WEIGHT TOO LOW	• Totalizing or formulation with weight which is too low	➜ Place item on platform or fill component; watch 10 d weight threshold.
NEGATIVE COMPONENT	• Current component negative	➜ Place component removed last on scale again until second display is positive
NO VALUE	• Manual entry: No value or zero entered	➜ Enter permissible value
CONT. NOT FINISHED	• Sum key pressed without having formed container sum for all scales used beforehand	➜ Form all container sums
CLEAR SUM	• Sum not cleared	➜ Clear sum

5 Technical data

Formulation functions	
Sum memory	Up to 8 places including decimal point
Manual entry memory	Up to 6 places including decimal point
Item counter	Up to 9,999 with freely selectable start and stop value, only for TOTALIZING application
Component counter	Up to 9,999, only for FORMULATION and PHARMA FORMULATION applications
Container counter	Up to 9,999, only for FORMULATION and PHARMA FORMULATION applications

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Mettler-Toledo (Albstadt) GmbH
D-72458 Albstadt
Tel. ++49-7431-14 0, Fax ++49-7431-14 232
Internet: http://www.mt.com