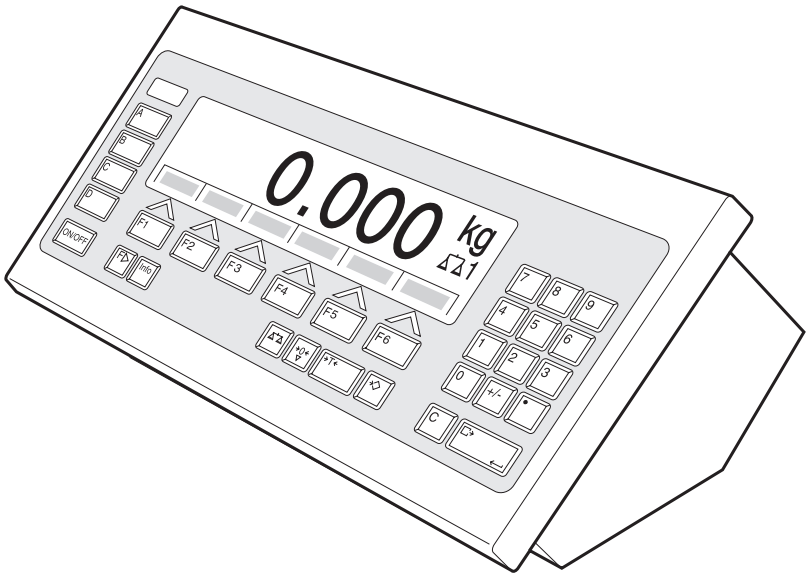
Operating instructions and installation information

METTLER TOLEDO MultiRange
ID7-Base weighing terminal

METTLER TOLEDO



The weighing terminal 22001373A consists of:

ID7-Desk
BasePac-ID7
IDNet-ID7
RS232-ID7

Contents

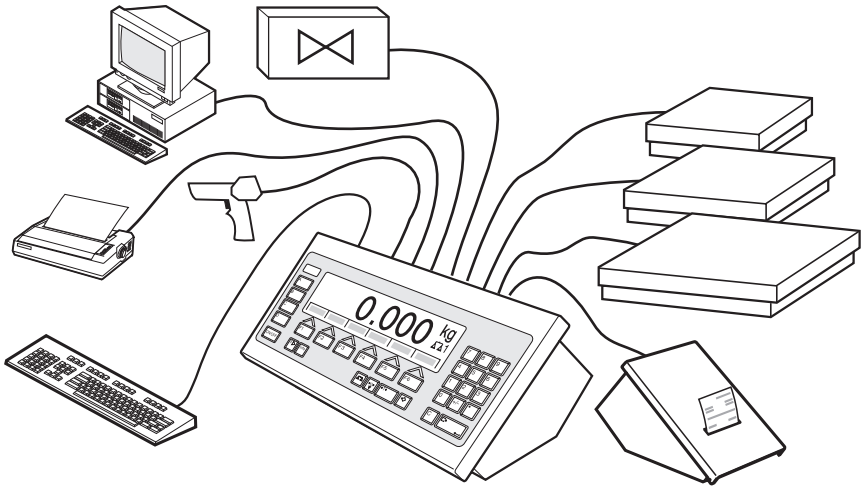
1 Introduction and commissioning

1.1 Safety precautions

- ▲ Never operate the ID7-Base weighing terminal in hazardous areas; there are special scales in our product line for this purpose.
- ▲ Make sure that the electrical outlet for the ID7-Base weighing terminal is grounded and easily accessible to that it can be isolated quickly in emergencies.
- ▲ Make sure that the mains voltage at the installation location is within the range from 100 V to 240 V.
- ▲ The safety of the unit is endangered if it is not operated in accordance with these operating instructions.
- ▲ Only authorized personnel may open the ID7-Base weighing terminal.

1.2 Applications

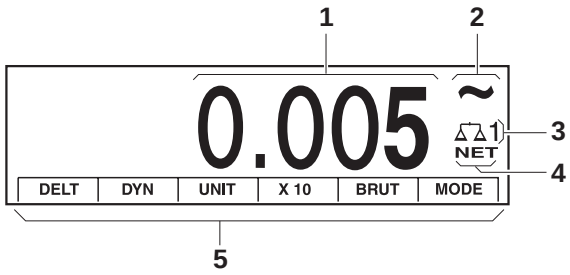
With the ID7-Base weighing terminal the following applications are possible:



- Multi-scale operation with up to 3 weighing platforms, including a weighing platform with an analog signal output.
- Up to 6 data interfaces
  - for printing,
  - for data exchange with a computer,
  - for connecting a barcode reader,
  - for control, e.g. of valves or flaps.
- Comfortable alphanumeric entry via an external keypad.

1.3 ID7-Base weighing terminal

1.3.1 Display



1 Weight display BIG WEIGHT DISPLAY with sign and decimal point

2 Stability monitor: lights up until the weighing platform has levelled out, then the weight unit appears here

3 Number of the weighing platform: shows the weighting platform just selected

4 NET symbol for marking net weight values

5 Assignment of the function keys

1.3.2 Keypad

1 CODE A ... CODE D keys – enter identification data

2 ON/OFF – On/Off key

3 FUNCTION CHANGE key – display additional functions
when entering weight values: switch over unit

4 INFO key – recall memory contents and system information

5 Function keys F1 … F6 – the current assignment is shown in the display above the key

6 SCALE key – select scale

7 ZERO-SET key – set scale to zero, test scale

8 TARA key – tare scale

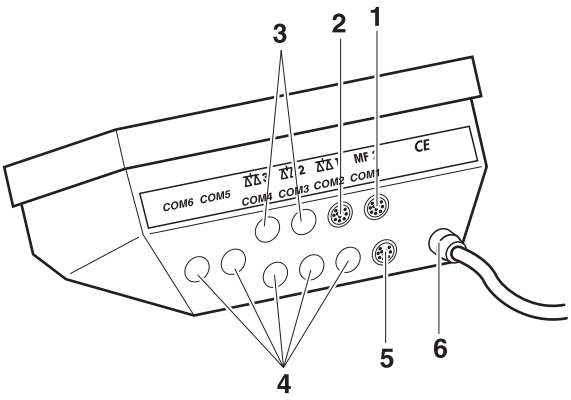
9 TARE SPECIFICATION key – enter known tare values numerically

10 CLEAR key – clear entries and values

11 ENTER key – accept and transfer data

12 Numeric keypad with decimal point and signs

1.3.3 Connections



1 Connection for the external MFII keypad

2 Connection for weighing platform 1

3 Optional connections for weighing platform 2 and 3

4 5 optional interface connections

5 Standard RS232 interface

6 Power supply

Possible assignments for serial interfaces

Interface	COM1	COM2	COM3	COM4	COM5	COM6
CL20mA-ID7	–	x	x	x	x	x
RS232-ID7	x	x	x	x	x	x
RS422-ID7	–	–	–	–	x	x
RS485-ID7	–	–	–	–	x	x
RS485-ID7 with relay box 8-ID7	–	–	–	–	–	x
4 I/O-ID7	–	–	–	–	x	x
Analog Output-ID7	–	–	–	–	x	x
Alibi Memory-ID7	–	x	x	x	x	x

Notes

- COM1 is permanently equipped with the serial interface RS232-ID7 as standard.
- Only one Alibi Memory ID7 can be installed. It has no additional external connection, and internally it occupies the space of a data port COM2 ... COM6. Alibi Memory ID7 is installed as COM4 at the factory.

CAUTION

➜ Cover unused connection sockets with protective caps to protect the socket contacts from moisture and dirt.

1.4 Commissioning

1.4.1 Connect weighing platforms of the series D, F, K, N, Spider ID and AWU3/6

1. Set up weighing platform, see installation instructions of weighing platform.
2. Route weighing platform cable to weighing terminal.
3. Plug in weighing platform connector on weighing terminal.

1.4.2 Connect scales of the series B, G, R and DigiTOL

Precision scales of the **series B, G and R** can be connected to the ID7-Base weighing terminal with the LC-IDNet B or LC-IDNet R/G connection set.
To connect **DigiTOL** scales, the GD17 connection set is required.

1. Set up scale, see operating instructions of scale.
2. Connect appropriate connection set to scale.
3. Route cable of connection set to weighing terminal and plug in.

1.4.3 Commissioning with several weighing platforms

➜ To start up the ID7-Base weighing terminal with several weighing platforms, please contact METTLER TOLEDO Service.

1.4.4 Connect ID7-Base to network

CAUTION
The ID7-Base weighing terminal only functions properly with mains voltages of 100 V to 240 V.

➜ Make sure that the mains voltage at the installation location lies within this range.

➜ Make sure that the mains outlet is grounded and easily accessible.

Connecting

➜ Plug mains plug of ID7-Base into a mains outlet.
In the factory setting the display briefly shows METTLER TOLEDO ID7 and the versions of the installed components; then the weight display appears.

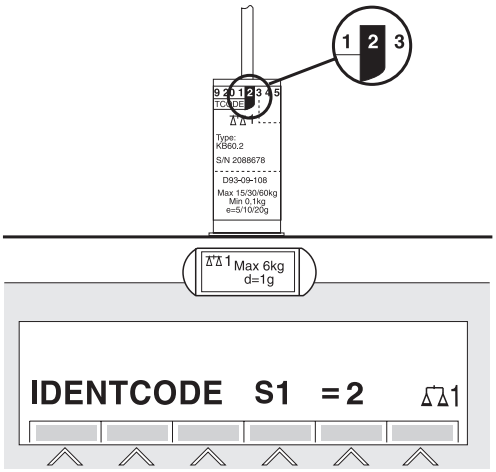
1.4.5 Marking and sealing of certified weighing platforms

ID code With the ID code it can be checked whether certified weighing platforms have been tampered with since the last calibration. The ID code can be displayed on the terminal at any time, see section 3.9.
During calibration the currently displayed ID code is recorded and sealed.
During each change to the configuration the displayed ID code increases. It then no longer matches the sealed ID code; the calibration is not longer valid.

Certification To mark and certify your weighing system, please contact METTLER TOLEDO Service or your local board of weights and measures.

Check certification

1. Display ID code, see section 3.9; press ZERO-SET key until IDENTCODE = ... is displayed.
   No value is shown for noncertified weighing platforms, but instead:
   IDENTCODE ===.
2. Compare ID code displayed with sealed ID code on ID card.
   The certification of the weighing system is only valid when both values are identical.



3. Press ZERO-SET key again.
   The connected weighing platform is checked. The display shows CHECK SCALE and after the test is completed SCALE IS OK.
   Then the ID7-Base automatically returns to normal operation.

1.5 Cleaning

DANGER OF SHOCK

➜ Do not open ID7-Base weighing terminal to clean.

CAUTION

➜ Make sure that unused connection sockets are covered with protective caps to protect the socket contacts from moisture and dirt.

➜ Do not use high-pressure cleaners.

Cleaning

➜ Wipe of ID7-Base weighing terminal with a commercially available glass or plastic cleaner.

2 Basic functions

2.1 Switching on and off

Switch on from the standby mode

➜ Press ON/OFF key.
The display shows a weight value based on the last tare value and zero point.

Switch on with restart

1. Relieve weighing platform.
2. Press ON/OFF key and hold down until METTLER TOLEDO ID7 (factory setting) or text you have specified appears in display.
   Then weight value 0.000 kg appears.

The weighing platform is restarted.

Note
The text which appears during switch-on with a restart is saved in the text memory 20, see section 4.3.2.

Switch off

➜ Press ON/OFF key.
The display goes out and the ID7-Base weighing terminal is in the standby mode. The zero point and tare value remain saved.

2.2 Setting to zero

Setting to zero corrects the influence of minor dirt on the load plate.
In the case of excessive dirt which cannot be compensated by setting to zero, the display shows OUT OF RANGE.

Manual zero set

1. Relieve weighing platform.
2. Press ZERO-SET key.
   The display shows 0.000 kg.

Automatic zero set

On certified weighing platforms the zero point of the weighing platform is automatically corrected when the weighing platform is relieved.
The automatic zero set can be switched off in the master mode on noncertified weighing platforms.

2.3 Taring

2.3.1 Manual taring

1. Place empty container on scale.
2. Press TARE key.
   The tare weight is saved and the weight display set to zero.
   The display shows the NET symbol.

Notes

- When the weighing platform is relieved, the saved tare weight is displayed with a negative sign.
- The weighing platform only saves **one** tare value.

2.3.2 Automatic taring

Prerequisite
AUTOTARA ON must be set in the master mode, see section 4.4.

➜ Place empty container on scale.
The container weight is automatically saved and the weight display set to zero.
The display shows the NET symbol.

Note
When the weighing platform is relieved, the saved tare weight is cleared.

2.3.3 Specify tare weight

Enter numerically

1. Press TARE SPECIFICATION key.
2. Enter tare weight (container weight) and confirm with ENTER.
   When weighing platform is relieved, the entered tare weight is displayed with a negative sign.

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

Correct entry

➜ Clear the entry character by character with the CLEAR key and repeat correctly.

Copy tare constant

The ID7-Base has 25 Tara memories for frequently used tare weights programmed in the master mode. The programmed tare constants are listed in the table in the Annex.

1. Enter memory number: 1… 25.
2. Press TARE SPECIFICATION key.
   The display shows the NET symbol and the net weight based on the recalled tare weight.

2.3.4 Recall currently saved tare weight

The saved tare weight can be recalled at any time.

➜ Enter INFO, TARE SPECIFICATION key sequence.
The saved tare weight is displayed.

2.3.5 Clear tare weight

➜ Relieve weighing platform and tare.

– or –

➜ Specify tare weight 0.

– or –

➜ Enter TARE SPECIFICATION, CLEAR key sequence.

2.4 Weighing

Weighing without taring

➜ Lay weighing sample on weighing platform.
Gross weight (total weight) is displayed.

Weighing with taring

1. Place the empty container on the weighing platform and tare.
2. Pour in weighing sample.
The display shows the net weight and the NET symbol.

Weighing with tare specification

1. Place filled container on weighing platform.
The display shows the gross weight (total weight).
2. Specify tare weight or recall tare memory.
The display shows the net weight (container content) and the NET symbol.

2.5 Switch over weighing platform

Up to 3 weighing platforms can be connected to the ID7-Base.
The weighing platform currently selected is shown on the terminal.

➜ Press SCALE key.
The next weighing platform is selected.

– or –

➜ Enter number of weighing platform and press SCALE key.
The desired weighing platform is selected.

3 Additional functions

The assignment of the 6 function keys of the ID7-Base weighing terminal differs depending on the weighing task. The current assignment is shown above the function keys.
With the FUNCTION CHANGE key it is possible to switch over to other function key assignments.
Independent of the application software, the ID7-Base has the following additional functions:

DELT	DYN	UNIT	X 10	GROSS	MODE
Weighing with the DeltaTrac, see 3.1	Dynamic weighing, see 3.2	Change weight unit, see 3.3	Increase resolution, see 3.4. This key is not assigned when the control mode is continually switched on.	Display gross weight, see 3.5	Activate master mode, see Chapter 4

MULT-TARE	ADD-TARE	SANDWICH-T
Multiplicative tare function, see 3.6	Additive tare function, see 3.7	Sandwich tare, see 3.8

3.1 Weighing with the DeltaTrac

The DeltaTrac is an analog display which makes it easier to read the weighing results.
In the master mode you can select how the DeltaTrac is displayed for the various weighing tasks FILLING, CLASSIFYING or CHECKWEIGHING.

Notes

- With the DeltaTrac signals you can also control lamps, flaps or valves, see section 4.5.4.
- With the Analog Output-ID7 interface the net value can be output as an analogue current or voltage signal.

Application FILLING

For weighing-in to a target weight with tolerance monitoring.

Example: Target weight = 1.000 kg, tolerance = 1 %

Target weight not reached yet

Weight within the tolerance

Target weight reached exactly

Application CLASSIFYING

To evaluate test samples as OKAY, TOO LIGHT or TOO HEAVY, based on a target weight and specified +/– tolerances.

Example: Target weight = 1.000 kg, tolerance = 1 %

TOO LIGHT
Weight below the tolerance

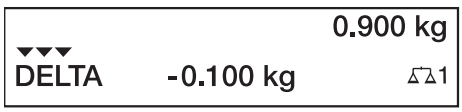
OKAY
Weight within the tolerance

TOO HEAVY
Weight above the tolerance

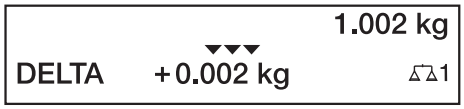
Application CHECKWEIGHING

For determining the difference between the target and actual weight.

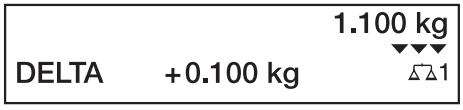
Example: Target weight = 1.000 kg, tolerance = 1 %



Weight below the tolerance
Difference: –0.100 kg



Weight within the tolerance
Difference: +0.002 kg



Weight above the tolerance
Difference: +0.100 kg

3.1.1 Preset DeltaTrac target values

Enter numerically

1. Press DELT key.
2. Enter target weight and confirm with ENTER.
3. Enter tolerance in % of target weight and confirm with ENTER.

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

Correct entry

➜ With the CLEAR key the entry is corrected character by character.

Copy constants

The ID7-Base weighing terminal has 25 DeltaTrac memories for frequently used target values and tolerances, which are programmed in the master mode. The programmed DeltaTrac constants are specified in the list in the Annex.

1. Enter number of DeltaTrac memory: 1 … 25.
2. Press DELT key.

Reference sample

1. Press DELT key.
2. Lay sample on weighing platform and confirm with SCALE key.
3. Only for FILLING and CLASSIFYING: Enter tolerance and confirm with ENTER.
4. Remove sample from weighing platform.

Limits

Minimum target value	40 Digit
Maximum target value	configured maximum load
Minimum tolerance	1 Digit
Maximum tolerance	10 % for the applications FILLING, CHECKWEIGHING 50 % for the application CLASSIFYING

Note
If the limits are not observed, a message appears in the display, e.g. MIN-DEL = …, for too small a target value.

Clear DeltaTrac target value

➜ Press DELT CLEAR key sequence.
DELTA CLEARED appears briefly in the display, then the weight is shown.

3.2 Dynamic weighing

With the dynamic weighing function you can weigh restless weighing samples, e.g. live animals. To do this, specify the number of weighing cycles for which the mean weight value is to be taken.

1. Set container on the weighing platform.
2. Tare weighing platform.
3. Place weighing sample in container.
4. Press DYN key and enter number of weighing cycles.
   Possible values: 1 … 255.
5. Start dynamic weighing with ENTER key.
6. After cycle time has expired, center line of display shows:
   RESULT x.xxxx kg.
   This display is retained until the next weighing is started or until it is cleared.

Delete result ➜ Press CLEAR key.

Notes

- Dynamic weighing results are automatically printed when AUTO PRINT is set in the master mode, see section 4.3.2.
- During dynamic weighing it is not possible to display the weight value BIG WEIGHT DISPLAY, which fills the entire display.
- Dynamic weighing can also be started with the interface command AW016..., see section 6.2.

3.3 Change weight unit

If an additional, second weight unit is configured in the master mode, it is possible to switch back and forth between the two weight units.

➜ Press UNIT key.
The weight value is shown in the second unit.

Note

Possible second weight units are: g, kg, lb, oz, ozt, dwt.

3.4 Working in a higher resolution

Depending on the setting in the mastermode (see page 27), the weight value can be displayed in a higher resolution continuously or when called.
Weight values in a higher resolution are marked with a *.

Displaying weight values in higher resolution

➜ Press X 10 key.
The weight value is displayed in at least a 10x higher resolution.
The higher resolution is displayed until the X 10 key is pressed again.

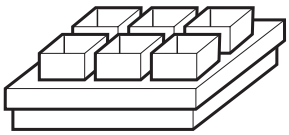
Note
With certified weighing platforms, the weight value only appears in a higher resolution as long as the X 10 key is pressed.

3.5 Display gross weight

The gross weight can only be displayed when a tare weight has been saved.

➜ Press GROSS key and hold down.
The gross weight is displayed.

3.6 Multiplicative tare function

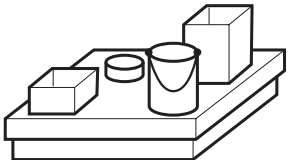


The multiplicative tare function is particularly suitable when pallets with identical containers are filled. If the number of containers and tare of the individual container are known, the ID7-Base weighing terminal calculates the total tare.

1. Press MULT TARE key.
2. Enter known tare weight of individual container and confirm with ENTER.
3. Enter number of containers and confirm with ENTER.
   When the weighing platform is relieved, the total tare value is shown in the display with a negative sign.

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

3.7 Additive tare function

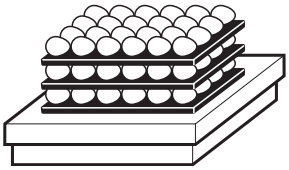


With the additive tare function you can subtract the tare of additional containers with a know tare weight for related weighings, e.g. if containers with different weights are filled on one pallet.

1. Place container on scale and press ADD TARE key.
2. Enter known tare weight and confirm with ENTER.
   The total net weight appears in the weight display.

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

3.8 Sandwich tare



With the sandwich tare function you can detect additional tare weights for related weighings without loosing the total gross and total net.

Example
In production or shipping boxes are laid between individual layers in the transport container. The weight of these boxes can be subtracted with this function.

1. Press SANDWICH-T key.
2. Place sandwich tare, e.g. box, on scale and confirm with ENTER.
   The net weight is retained.

3.9 Display ID code and test weighing platform

Each time the weighing platform configuration is changed the ID code counter is increased by 1. On certified weighing platforms the displayed ID code must match the ID code on the ID code sticker, otherwise the calibration is no longer valid.

Display ID code

➜ Press ZERO-SET key and hold until IDENTCODE = ... appears in the display.

Test weighing platform

➜ Press ZERO-SET key again.
The connected weighing platform is checked. The display shows CHECK SCALE and then SCALE IS OK after completing the test.

Note
If weighing platform is defective, display shows SCALE ERROR.

3.10 Identifications

The ID7-Base weighing terminal is equipped with 4 identification data memories for storing identification data Code A … Code D.
The memories have a name, e.g. Article No., and a content which identifies the current weighing, e.g. 1234567.
The memories are named in the mastermode, and the names can be noted on the keyboard. When the CODE keys are pressed, the name appears in the display.
Identification data Code A … Code D can be entered or recalled for each weighing and are printed immediately.

3.10.1 Enter identification

An identification may contain a maximum of 20 characters.

Enter numerical identification

1. Press one of the keys CODE A … CODE D.
2. Enter identification data Code A … Code D via the numeric keypad and confirm with ENTER.

Enter alphanumeric identification

1. Press one of the keys CODE A … CODE D.
   The functions keys are given the following assignment:

ABCDE	**FGHIJ**	**KLMNO**	**PQRST**	**UVWXY**	**Z/-()**
Selection of letters A to E	Selection of letters F to J	Selection of letters K to O	Selection of letters P to T	Selection of letters U to Y	Selection of letters Z and special characters

2. Select desired group of letters, e.g. press KLMNO key.
3. Select desired letter.
   The display changes again to the above selection.
4. Repeat entry in steps 2 and 3 for additional characters.

Note
Letters and numbers can be combined as desired.

Recall fixed text memory

The ID7-Base weighing terminal is equipped with 20 memories for fixed texts which can be programmed in the master mode and used as identifications.
The programmed fixed texts are specified in the list in the Annex.

1. Enter memory number.
2. Press a key CODE A … CODE D.
   The saved fixed text is now assigned to the selected identification Code A … Code D.

Other entry possibilities

Identifications can also be entered with a barcode reader, see section 3.13, or with an external keypad, see section 3.14.

3.10.2 Clear identifications

➜ Press desired key CODE A … CODE D and clear memory content with CLEAR key.

3.11 Recall information

On the ID7-Base weighing terminal memory contents and system information can be recalled.

1. Press INFO key.
   Then the following function key assignment appears:

DELT	TARE	TEXT	ALIBI	DATE	VERS
Display DeltaTrac values	Display tare weight	Display fixed texts and name of keys CODE A … CODE D	Recall content of alibi memory. This selection only appears when Alibi Memory-ID7 is installed.	Display date and time	Display version numbers of installed software modules

2. Select desired information.
   The information is displayed for approx. 5 seconds, then the ID7-Base changes to the weighing mode again.

Notes

- When several values are displayed, the ID7-Base automatically changes to the next value after approx. 5 seconds.
- With the CLEAR key it is possible to switch to the next value or back to the weighing mode.
- When the GA46 printer is connected, the version numbers of the installed software modules are automatically printed.

3.11.1 Recall memory

1. Press INFO key.
2. Enter number of memory and press DELT, TARA or TEXT key depending on desired memory.

Recall name of CODE A … CODE D keys

1. Press INFO key.
2. Press one of the keys CODE A … CODE D.
   The display shows the current Code.

3.12 Print or transfer data

If a printer or computer is connected, weighing results can be printed out or transferred to the computer. In the master mode you can set the following for this purpose:

- Data to be printed or transferred,
- Manual or automatic data transfer,
- Key which triggers printing or data transfer.

Factory setting

- Manual triggering with the ENTER key.
- The content of the display is transferred or printed.

3.13 Enter values with barcode reader

If you have connected a barcode reader to the ID7-Base weighing terminal, you can make all required entries, such as identifications or target specifications, easily with the barcode reader.

3.13.1 Read in any desired entries with the barcode reader

Example **Read in identification Code A**

1. Press CODE A key; the ID7-Base expects the entry of Code A.
2. Enter identification Code A with the barcode reader.
3. Confirm barcode entry with ENTER.

3.13.2 Read in a frequently used entry directly with the barcode reader

If your working procedure repeatedly requires the same entry, you can configure the barcode reader in the master mode (see section 4.5.3) so that no additional keys need to be pressed on the ID7-Base terminal for barcode entry.

Example **Barcodes are automatically read in as Code A**

If the working procedure requires the entry of Code A:

➜ Enter identification Code A with barcode reader.
The read-in information is automatically processed by ID7-Base as Code A.

3.14 Working with external keypad

In addition to the alpha and numerical keys, the following additional scale functions can also be operated with the external AK-MFII keypad.

Function for ID7-Base	**External keypad**	**Function for ID7-Base**	**External keypad**
Function key F1	F1	CODE A key	Shift F1
Function key F2	F2	CODE A key	Shift F2
Function key F3	F3	CODE A key	Shift F3
Function key F4	F4	CODE A key	Shift F4
Function key F5	F5		
Function key F6	F6		
FUNCTION CHANGE key	F7		
INFO key	F8		
SCALE key	F9	SCALE key	Shift F9
ZERO-SET key	F10	ZERO-SET key	Shift F10
TARE key	F11	TARE key	Shift F11
TARE SPECIFICATION key	F12	TARE SPECIFICATION key	Shift F12

Note
The language of your external keyboard can be set in the mastermode block LAYOUT EXT. KEYBOARD, see page 26.

3.15 Working with a second display

An ID1 Plus, ID3s or another ID7-... weighing terminal can be connected to the ID7-Base as a second display.

Conditions

- Interface CL 20mA-ID7 installed in passive operating mode (factory setting).
- AUTO-DIR setting selected in mastermode (see page 33).
- Weighing terminal is connected as second display with cable 00 504 511.

Operation possibilities on second display

The following functions are also possible on the second display:

- Set to zero
- Taring

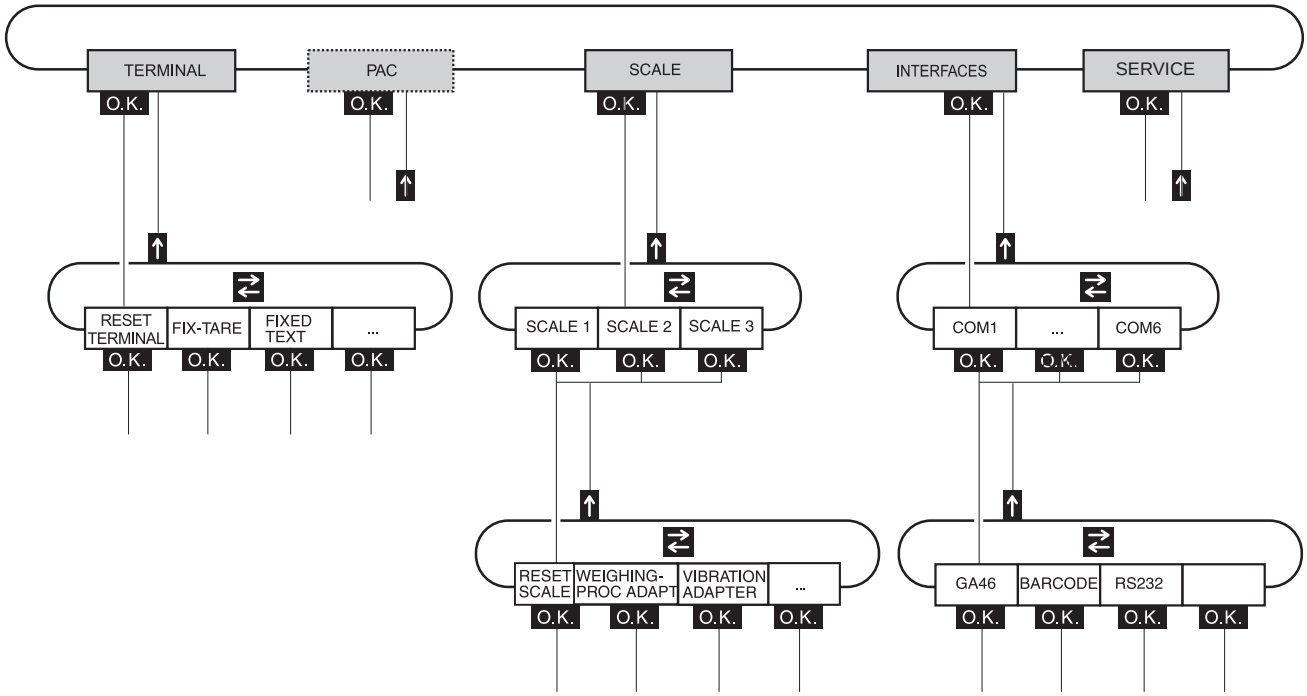
ID7-... as second display

With ID7-... as a second display, the weight value fills the entire display (BIG WEIGHT DISPLAY ON).

4 Settings in the master mode

4.1 Overview of the master mode

In the master mode you adapt the ID7-Base weighing terminal to meet your needs. Depending on the configuration, the master mode is divided into 4 or 5 master mode blocks, which are in turn divided into further blocks.



TERMINAL For system settings, such as entering the date and time or loading permanent texts, see section 4.3.2.

PAC To set application-specific parameters.
This block does not appear with ID7-Base.

SCALE To select one of the connected weighing platforms. For each selected weighing platform the parameters are then set which concern the weight value, e. g. stability detector, unit, etc., see section 4.4.

INTERFACES To select an interface. The communication parameters are then set for each interface, see section 4.5.

SERVICE For configuring the weighing platform(s). On IDNet weighing platforms only for METTLER TOLEDO service technicians.

4.2 Operating the master mode

4.2.1 Enter the master mode

1. Press MODE key.
   If the current function key assignment does not contain MODE, change to the assignment with MODE by repeatedly pressing the FUNCTION CHANGE key.
2. Enter personal code if configured.
   The display shows the first master mode block TERMINAL.

4.2.2 Assignment of function keys in the master mode

In the master mode the function keys are assigned as follows:

←	→		↑	**END**	**OK**
Change to previous block within a level	Change to next block within a level		Exit level and return to higher-level block	Exit the master mode and return to normal mode	Recall lower-level block or confirm selection

➜ Select the function by pressing the function key.

Example ➜ Press the END key to exit the master mode and return to the normal mode.

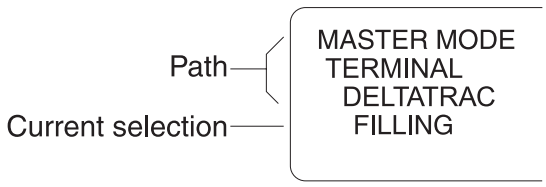
When the function keys are otherwise allocated

➜ Press the key FUNCTION CHANGE until the function keys allocation displayed above appears.

4.2.3 Orientation in the master mode

For improved orientation the display shows the last steps in the path of the current master mode block.

Example The upper 3 lines of the display show the following path for selecting the DeltaTrac application FILLING:



4.2.4 Entries in the master mode

The following basic rules apply to entries made in the master mode:

- Confirm (alpha)numeric entries with ENTER.
- Alphanumeric entries with the ID7-Base: see section 3.10.
- To accept the displayed value: Press ENTER key.

4.2.5 Emergency entrance into the master mode

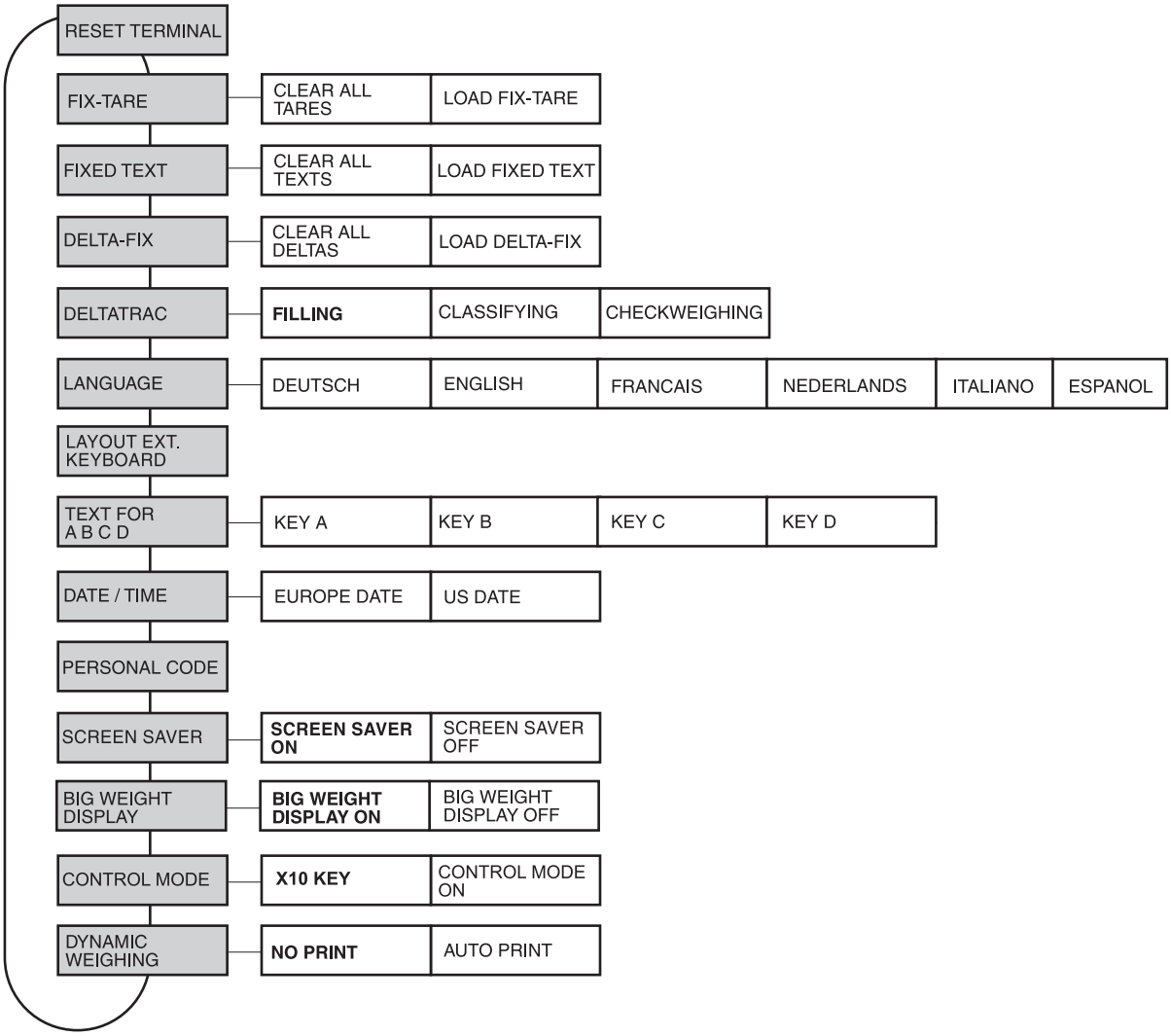
If a personal code has been assigned for entering the master mode and you have forgotten your code, you can still enter the master mode:

➜ Enter the character sequence C, L, E, A, R as your personal code.

4.3 TERMINAL master mode block

4.3.1 Overview of the TERMINAL master mode block

In the TERMINAL master mode block you enter the following system settings:



Legend

- Blocks highlighted in **grey** are described in detail in the following.
- Factory settings are printed in **bold print**.

4.3.2 Settings in the TERMINAL master mode block

RESET TERMINAL	**Reset all terminal functions to the factory setting**
	DELTATRAC Filling BIG WEIGHT DISPLAY On DYNAMIC WEIGHING No printout CONTROL MODE X 10 key
Comment	The memories are not affected by this.

FIX-TARE	**Save tare values protected against power failure to tare memories**
CLEAR ALL TARES	Delete all tare memories.
LOAD FIX-TARE	1. Enter memory number of FIX-TARE No.: 1 … 25. 2. Enter tare weight for the selected memory in the displayed unit. 3. To load additional fixed tare values, repeat the first two steps. 4. End entry: Confirm FIX-TARE NO. without entry with ENTER.
Comment	A list for entering fixed values is contained in section 9.1.

FIXED TEXT	**Save texts protected against power failure to text memories**
	These texts can be assigned, for example as identifications, or also output during printing.
CLEAR ALL TEXTS	Delete all text memories.
LOAD FIXED TEXT	1. Enter memory number of FIXED TEXT No.: 1 … 20. 2. Enter text for the selected memory: max. of 20 characters. 3. To load additional fixed texts, repeat the first two steps. 4. End entry: Confirm memory number without entry with ENTER.
Comments	• Fixed Text No. 20 is displayed during switch-on with a restart, see section 2.1. • A list for entering fixed values is contained in section 9.3.

DELTA-FIX	**Save target weight/tolerance combinations in DeltaTrac memory**
CLEAR ALL DELTA	Delete all DeltaTrac memories.
LOAD DELTA-FIX	1. Enter memory number of DELTA-FIX No.: 1 … 25. 2. Enter target weight TARG in the displayed unit. 3. Enter tolerance TOL in %. 4. To enter additional Delta-Fix, repeat the first three steps. 5. End entry: Confirm memory number without entry with ENTER.
Comment	A list for entering fixed values is contained in section 9.2.

DELTATRAC	**Select DeltaTrac application**
FILLING	Weigh in target weight within a tolerance range (factory setting).
CLASSIFYING	Evaluate the test samples as good, too light or too heavy based on the target weight and tolerance.
CHECKWEIGHING	Determine difference between target and actual weight.

LANGUAGE	**Select dialog language**
	Possible settings: German, English, French, Dutch, Italian, Spanish

LAYOUT EXT. KEYBOARD	**Select keyboard layout of connected external keyboard**
	Possible setting: Germany, England, France, Holland, Italy, Spain, Scandinavia, Russia, Poland, Belgium, Switzerland, Slovakia, Czech Republic, Latin America, Canada, …

TEXT FOR A B C D	**Name identification keys CODE A … CODE D**
KEY A	Factory setting: ARTICLE NO.
KEY B	Factory setting: ORDER NO.
KEY C	Factory setting: CODE NO.
KEY D	Factory setting: DOCUMENT NO.

DATE / TIME	**Enter date and time**
EUROPE DATE	• Enter DATE in European notation: Day.Month.Year. • Enter TIME in European notation: (24) Hours.Minutes.Seconds.
US DATE	• Enter DATE in American notation: Month.Day.Year. • Enter TIME in American notation: (12) Hours.Minutes.Seconds. AM/PM, Change over between AM and PM: Press FUNCTION CHANGE key.
Comments	• Enter single-place numbers with a preceding zero. • Date and time can be printed out. • The clock continues to run after the terminal is switched off.

PERSONAL CODE	**Load or delete code for entering the master mode**
CODE	Enter code with a maximum of 8 alphanumeric characters.
Comment	If no code is entered, access to the master mode is unrestricted.

SCREEN SAVER	**Switch screen saver on or off**
WAITING TIME	Enter time until screen saver is activated. Possible values: 1 ... 99 minutes
Comment	To hold all display elements at the same luminosity, we recommend not switching off the screen saver.

BIG WEIGHT DISPLAY	**Switch full-display indication of the weight on or off**
	Factory setting: BIG WEIGHT DISPLAY ON

CONTROL MODE	**Adjust control mode**
X 10 KEY	Activation of control mode with X 10 key (factory setting)
CONTROL MODE ON	This setting is only possible with non-certified scales. The weighing terminal always operates with the higher resolution.

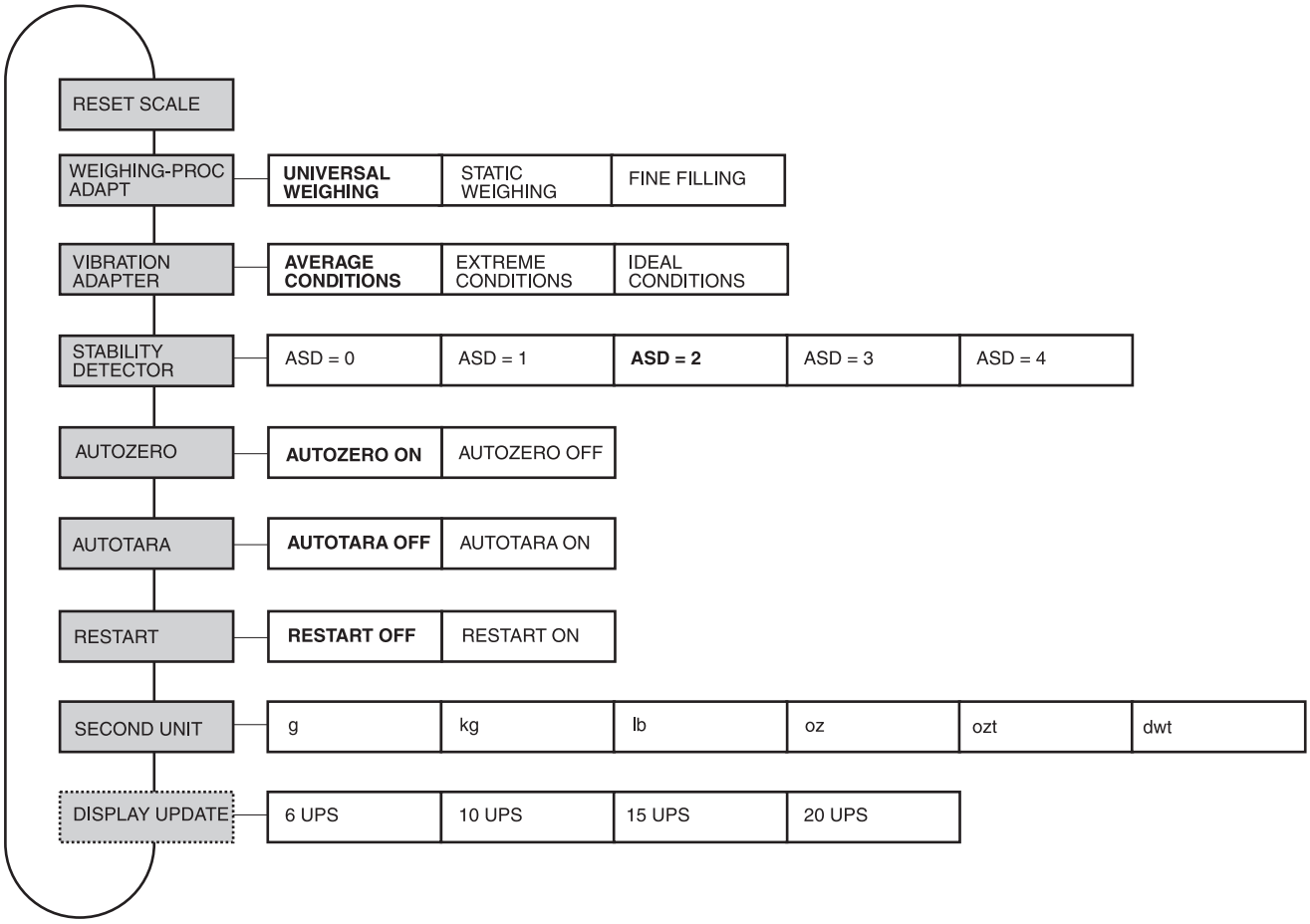
DYNAMIC WEIGHING	**Set printing during dynamic weighing**
NO PRINT	Results during dynamic weighing are not automatically printed out (factory setting).
AUTO PRINT	Each result during dynamic weighing is automatically printed. Dynamic weights are marked with "Result:" on the printout.

4.4 SCALE master mode block

In the first block the weighing platform is selected: SCALE 1 … SCALE 3.
The other setting possibilities are the same for all connected weighing platforms.

4.4.1 Overview of the SCALE master mode block

In the SCALE master mode block the following settings for the weight can be carried out:



Legend

- Blocks highlighted in **grey** are described in detail in the following.
- Factory settings are printed in **bold print**.
- Blocks which only appear under certain conditions have a **dotted outline**.

4.4.2 Settings in the SCALE master mode block

RESET SCALE	**Reset weighing platform to factory setting**	
	WEIGHING-PROC ADAPT	universal weighing
	VIBRATION ADAPTER	average conditions
	STABILITY DETECTOR	ASD = 2
	AUTOZERO	on
	AUTOTARA	off
	RESTART	off

WEIGHING-PROC ADAPT	**Adapt weighing platform to weighing sample**
UNIVERSAL WEIGHING	For solid bodies, coarse filling or checkweighing (factory setting).
STATIC WEIGHING	For solid bodies and weighing under extreme conditions, e. g. strong vibrations or weighing animals.
FINE FILLING	For liquid or powdered weighing samples.

VIBRATION ADAPTER	**Adapt weighing platform to the vibration influences of the environment**
AVERAGE CONDITIONS	Factory setting.
EXTREME CONDITIONS	The weighing platform operates more slowly, however is less sensitive, e. g. suitable with building vibrations and vibrations at the weighing location.
IDEAL CONDITIONS	The weighing platform operates very quickly, however is very sensitive, e. g. suitable with very calm and stabile weighing location.

STABILITY DETECTOR	**Adapt automatic stability detector**	
	Possible settings:	
	ASD = 0	Stability detector switched off (only possible with non-certified weighing platforms)
	ASD = 1	fast display — good reproducibility
	ASD = 2	▲ — ▼ (factory setting)
	ASD = 3	▲ — ▼
	ASD = 4	slow display — very good reproducibility

AUTOZERO	**Switch automatic zero-point correction on or off**
	The automatic zero-point correction corrects the weight of minor dirt with the weighing platform unloaded. Factory setting: AUTOZERO ON
Comment	On certified weighing platforms the zero-point correction is always switched on.

AUTOTARA	**Switch automatic taring on or off**
	Factory setting: AUTOTARA OFF

RESTART	**Switch restart function on or off**
	When RESTART ON is set, the zero point and tare value remain stored after the power supply is interrupted. When the weighing platform is switched on again, the terminal shows the current weight. Factory setting: RESTART OFF

SECOND UNIT	**Select second weight unit**
	Possible units: g, kg, lb, oz, ozt, dwt **Unit** / **Abbreviation** / **Conversion to g** Kilogram / kg / = 1000 g Pound / lb / ≈ 453.59237 g Ounce / oz / ≈ 28.349523125 g Troy Ounce / ozt / ≈ 31.1034768 g Pennyweight / dwt / ≈ 1.555173843 g Gram / g / = 1 g
Comment	On certified weighing platforms only the units permitted by certification appear.

DISPLAY UPDATE	**Set display speed of the weight display**
	Select number of updates per second (UPS). Possible values: 6, 10, 15, 20 UPS
Comments	• This block only appears when the DISPLAY UPDATE function is supported by the connected weighing platform. • The possible settings are dependent on the connected weighing platform.

4.5 INTERFACE master mode block

Select the interface connection

➜ Select the interface connection in the first block:
COM1, COM2, COM3, COM4, COM5 or COM6.

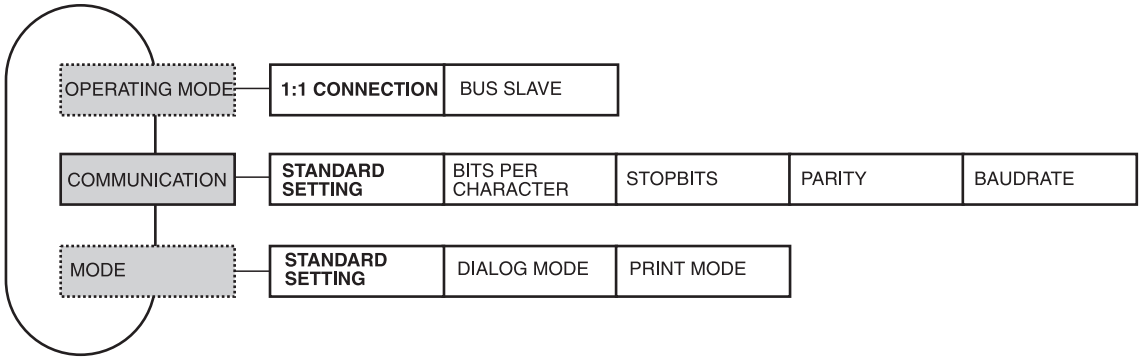
Select interface type

➜ Specify the interface type for the selected interface connection COM1 … COM6.

Possible interface types

- NOT ASSIGNED — When the selected interface connection is not assigned.
- GA46 — For connection of the GA46/GA46-W printer. An RS232-ID7 interface must be installed on the selected interface connection for this purpose. The other setting possibilities are described in the operating and installation instructions GA46.
  This selection no longer appears when a GA46 printer is already configured.
- BARCODE — For connection of a barcode reader. An RS232-ID7 interface must be installed on the selected interface connection for this purpose. For other settings see 4.5.3.
- RS232 — An RS232-ID7 interface must be installed on the selected interface connection for this purpose. For other settings see 4.5.2.
- ALIBI MEMORY — Only for COM2 … COM6. An Alibi Memory-ID7 must be installed on the selected interface connection for this purpose. No further settings are required in the master mode.
  This selection no longer appears when an Alibi Memory-ID7 is already configured.
- CL20mA — Only for COM2 … COM6. A CL20mA-ID7 interface must be installed on the interface connection for this purpose.
  For other settings see 4.5.2.
- RS422 — Only for COM5/COM6. An RS422-ID7 interface must be installed on the interface connection for this purpose.
  For other settings see 4.5.2.
- RS485 — Only for COM5/COM6. An RS485-ID7 interface must be installed on the interface connection for this purpose.
  For other settings see 4.5.2.
- 4 I/O — Only for COM5/COM6. A 4 I/O-ID7 interface with relay box 4-ID7 must be installed on the interface connection for this purpose. For other settings see 4.5.4.
- RELAY BOX 8 — Only for COM6. An RS485-ID7 interface with relay box 8-ID7 must be installed on the interface connection for this purpose. For other settings see 4.5.4.
- ANALOG OUTPUT — Only for COM5/COM6 with installed analog output ID7 interface.

4.5.1 Overview of the master mode blocks RS232, RS422, RS485, CL20mA



Legend

- Blocks highlighted in **grey** are described in detail in the following.
- Factory settings are printed in **bold print**.
- Blocks which only appear under certain conditions have a **dotted outline**.

4.5.2 Settings in the master mode blocks RS232, RS422, RS485, CL20mA

RS232, RS422, RS485, CL20MA	
OPERATING MODE	This selection only appears with the RS485 master mode block.
1:1 CONNECTION	ID7-Base weighing terminal and peripheral are directly connected.
BUS SLAVE	For operating the ID7-Base weighing terminal in a bus system. The following parameters are set automatically for the dialog: No handshake, no continuous transmission, no transfer string, fixed string framing $C_R L_F$. The PC is the master, the terminals act as slaves and only transmit when requested to do so by the master. The master must also wait until after sending out a command until the slave's answer is received. Each terminal must be assigned a unique address. Additional setting: ENTER TERMINAL ADDRESS. Possible addresses: 1 … 31
COMMUNICATION	Set communications parameters.
STANDARD SETTING	Set communications parameters to factory setting: 7 bits, 2 stop bits, parity even, 2400 baud
BITS PER CHARACTER	Possible settings: 7 bits, 8 bits
STOPBITS	Possible settings: 1 stop bit, 2 stop bits
PARITY	Possible settings: Parity even, parity odd, parity space, parity mark, no parity
BAUDRATE	Possible settings: 150, 300, 600, 1200, 2400, 4800, 9600, 19200 baud

RS232, RS422, RS485, CL20MA	
MODE	Set operating mode. This selection does not appear when interface RS485-ID7 is operated in the BUS SLAVE operating mode.
STANDARD SETTING	Set operating mode to factory setting: CL handshake: no auto transmission (no continuous transmission), transfer string: Standard, string framing: C_RL_F
DIALOG MODE	For dialog between ID7-Base weighing terminal and computer. For other settings see next section.
PRINT MODE	To print weighing data, e. g. on a form printer. Up to two interfaces can be operated in the print mode. This selection does not appear when two interfaces are already configured in the print mode. For other settings see page 35.

Set dialog mode

DIALOG MODE	**Set dialog between ID7-Base weighing terminal and computer**
MMR	For information on dialog mode with the MMR command set, see section 5.1.
HANDSHAKE	Possible settings: • CL HANDSHAKE – for additional information on the CL handshake, see page 34. • XON-XOFF PROTOCOL.
AUTOMATIC CONTINUOUS TRANSMISSION	This block does not appear with the RS485-ID7 interface. Possible settings: • NO AUTO TRANSMISSION. • AUTO SIR – after each measuring cycle a stabilized or dynamic weight is transmitted. • AUTO DIR – weight values are transmitted as with AUTO SIR and the special characters in the display are transmitted for a second display . Fixed communications parameters: 9600 baud, 7 data bits, 2 stop bits, parity even
TRANSFER STRING	This block does not appear with the RS485-ID7 interface. Possible settings: • STANDARD – gross, net, tare • USER-DEFINED – enter numbers of the application blocks which are to be transmitted or printed out.

DIALOG MODE	Set dialog between ID7-Base weighing terminal and computer
STRING FRAMING	Possible settings: • ---<CR><LF> (Factory setting) • <STX>---<ETX> • BLOCK CHECK CHAR • ---<CR>
TOLEDO CONTINUOUS	For the continuous transmission of net and tare values to METTLER TOLEDO devices, e. g. to a second display. For a description, see section 5.2. This block does not appear with the RS485-ID7 interface.
TOLEDO SHORT CONTINUOUS	For the continuous transmission of net values to METTLER TOLEDO devices, e. g. to a second display. For a description, see section 5.2. This block does not appear with the RS485-ID7 interface.
PE SEND CONTINUOUS	For connecting a PE balance as a reference balance, only with ID7 Count.

CL handshake

With the CL handshake 3 types of interface control are possible:
Handshake in receiving direction, in transmitting direction and in both directions.
After switch-on and after each interruption, the ID7-Base attempts to establish the handshake in both directions.

CL handshake in receiving direction

This type of CL handshake is suitable for data transmission from the ID7-Base to the computer.

1. The ID7-Base transmits SYN after switch-on.
2. The computer transmits the character ACK after switch-on or after receiving SYN.
3. ID7-Base then sends the response to a command or to a key actuation after each ACK.

CL handshake in transmission direction

This type of CL handshake is suitable for data transmission from the computer to the ID7-Base.

1. The ID7-Base transmits SYN after switch-on.
2. The computer transmits the character SYN after switch-on or after receiving SYN.
3. ID7-Base acknowledges the receipt of SYN again with SYN and signals its readiness to receive with ACK.
4. Then the computer can transmit a command after each ACK.

CL handshake in both directions

1. The ID7-Base transmits SYN after switch-on.
2. The computer transmits the character SYN after switch-on or after receiving SYN.
3. ID7-Base acknowledges the receipt of SYN again with SYN and signals its readiness to receive with ACK.
4. The computer signals its readiness to receive with ACK.
5. During operation the ID7-Base receives data and transmits ACK when it is ready to receive data again.
   The computer receives data and transmits ACK when it is ready to receive data again.

Set print mode

PRINT MODE	Configure printout on an external printer
HANDSHAKE	Possible settings: • NO HANDSHAKE • CL HANDSHAKE • XON-XOFF PROTOCOL
LINE LENGTH	Enter number of characters per line. Possible settings: 1 … 80 characters Factory setting: 40 characters
LINE FRAMING	Enter ASCII character for line framing. Possible settings: ASCII 0 … 255 Factory setting: ASCII 013 010 (C_RL_F)
CONFIGURATION PRINTOUTS TRANSFER KEY CODE A KEY … CODE D KEY DYNAMIC KEY Pac keys	Configuration of printouts assigned to the individual keys. The current configuration for each offered key can be printed out with CHANGE CONFIGURATION, EDIT, PRINT. For each selected key the printout can be configured as follows: • DELETE ALL • STANDARD SETTING key-specific • CHANGE CONFIGURATION see below
AUTOMATIC PRINT-OUT	When AUTOMAT. PRINT-OUT ON is selected, the key configuration of the transfer key (ENTER key) is automatically printed out for each weight change > 10 d. To activate this function in the weighing mode, press the ENTER key once, then a print-out takes place automatically each time the weight changes.

Change configuration

If CHANGE CONFIGURATION is selected for a key, the function keys change to the following assignment with which the data string can be displayed and edited:

<<	<	EDIT	↑	>	>>
Display first block in data string	Display previous block in data string	Edit data string, trigger test printout, see page 37	Exit level and return to higher-level block; end configuration	Display next block in data string	Display last block in data string

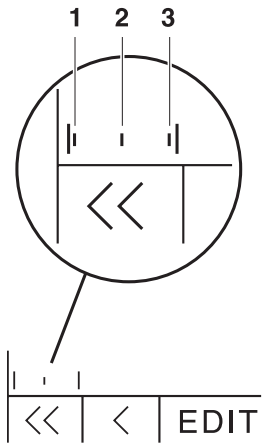
Example ➜ To display the next block in the data string, press the > key.

Display data string

After selecting CHANGE CONFIGURATION the first block of the configured data string appears.

Possible displays

- BLOCK XXX — Application block
- SPECIAL FUNCTION – – – – – – – – — Separator line – – – – – – – –
- SPECIAL FUNCTION * * * * * * * * — Separator line * * * * * * * *
- SPECIAL FUNCTION + + + + + + + + — Separator line + + + + + + + +
- SPECIAL FUNCTION BLANK LINE — Blank line
- SPECIAL FUNCTION ADVANCE — Paper advance
- SPECIAL CHARACTERS NN x XXX — ASCII characters; NN = Number of characters; XXX = Decimal representation of the ASCII character
- BUFFER END — appears for last block of the configured data string



The position of the displayed block in the total data string is shown in the lower left corner of the display.

1 the displayed block is the first block of the data string

2 the displayed block is approximately in the middle of the data string

3 the displayed block is the last block of the data string

Edit data string

If EDIT is selected, the function keys change to the following assignment with which the data string can be edited:

DEL	PRINT	INS	↑		
Remove displayed block from the data string	Trigger test printout	Insert block in the data string, see page 37	Exit level and return to the higher-level block	–	–

Insert block

After pressing INS the function keys are assigned the normal assignment for the master mode again.

INS	Insert block in the data string before the last position shown
BLANK LINE	Insert a blank line in the data string.
SEPARATOR LINE	Insert separator line in the data string. Possible separator lines: – – – – – – – –, * * * * * * * *, + + + + + + + +
APPLICATION BLOCKS	Insert application block in the data string.
BLOCK 000/00	Enter block no. and sub-block no. If all sub-blocks are to be inserted, enter sub-block no. 0.
WITH TEXT	Print out designation of application block.
WITH LEADING BLANK SPACES	Print weights with leading blank spaces.
EXTRABLANK SPACES	Enter number of additional blank spaces between designation and value.
SPECIAL CHARACTERS	Insert ASCII characters in the data string.
CHARACTER 000 NUMBER 00	Enter ASCII character in decimal representation. Enter number of characters.

End configuration

➜ Press ↑ key, several times if necessary, until the Yes/No inquiry PAPER ADVANCE and/or SAVE CHANGES appears or until the configured key is displayed again.

Notes

- The PAPER ADVANCE inquiry only appears when no advance has been defined yet.
- The SAVE CHANGES inquiry only appears when the configuration has actually been changed.

4.5.3 Set barcode reader

BARCODE	**Set barcode reader**
TYPE	
DL900 LS3603 …	Select barcode reader. When one of the barcode readers is selected, the communications and mode parameters for the selected barcode reader are automatically set.
OTHER	For other barcode readers: Settings in the sub-blocks COMMUNICATION and MODE as for the blocks RS232/ RS422/RS485/CL, see section 4.5.2. The PRINT MODE setting is not possible when using barcode readers!
DESTINATION BLOCK 000/00	Enter the number of the application block and of the subsequent block with which the barcode entry is to be described. When a target block is selected, barcode information can be read directly into this block without having to press a key beforehand, see section 3.13.2.

4.5.4 Configure inputs/outputs

4 I/O / RELAY BOX 8	
INPUT	Operate inputs internally or externally.
INTERNALLY	Factory setting.
EXTERNALLY	Inputs are independent of the weighing functions. Read status of the inputs with the AR707 command, see section 6.3.2.
OUTPUT	Operate outputs internally or externally.
INTERNALLY	Factory setting.
EXTERNALLY	Outputs are independent of the weighing functions. Set the outputs via the AW706... command, see section 6.3.2.

Assignment of inputs/outputs by ID7-Base

Output signals

Output 1	TOO LITTLE	for DeltaTrac application FILLING, CHECKWEIGHING
	CLASS 1	for DeltaTrac application CLASSIFYING
Output 2	OKAY	for DeltaTrac application FILLING, CHECKWEIGHING
	CLASS 2	for DeltaTrac application CLASSIFYING
Output 3	TOO MUCH	for DeltaTrac application FILLING, CHECKWEIGHING
	CLASS 3	for DeltaTrac application CLASSIFIYING
Output 4	Stability of weighing platform	

Input signals

Input 1	ON/OFF key
Input 2	Set weighing platform to zero
Input 3	Tare weighing platform
Input 4	ENTER key

5 Interface description

To exchange data with a computer, the ID7-Base weighing terminal is equipped with an RS232 interface. Up to 5 additional interfaces are available as an option.
The interfaces operate independently of each other, can be used simultaneously and can be adjusted individually, see section 4.5.
To operate the serial interfaces in the **dialog mode**, one of the following METTLER TOLEDO command sets must be selected in the master mode:

- MMR command set, see section 5.1.
- METTLER TOLEDO Continuous mode, see section 5.2.

5.1 MMR command set

5.1.1 Syntax and formats of communication

Commands and responses for transmitting weights have the following formats:

Command format

Identification	_	Weight value	_	Unit	Framing
Character sequence for specification of command (1 … 4 characters)		1 … 8 digits, number of digits variable		1 … 3 characters, number of characters variable	Definable in master mode, factory setting: C_RL_F

Response format

Identification	_	Weight value	_	Unit	Framing
Character sequence for specification of response (2 … 3 characters)		10 digits, right-justified, filled out with blank spaces		3 characters, left-justified, filled out with blank spaces	definable in master mode, factory setting: C_RL_F

Example

Command Tare specification `T_13.295_kg`
Response Tare specification `TBH_____13.295_kg_`

Data formats

- The following symbols are used in the following command description:

Weight value	10 characters with sign and decimal point, right-justified (with preceding blank spaces)
Unit	3 characters, left-justified (with following blank spaces)
Text_n	maximum of n characters, left-justified

- The string framing is mandatory, however it is **not** contained in the following command description!
- Enter commands as ASCII characters. The following ASCII characters are available: 20 hex/32 deci … 7F hex/127 deci, see section 9.4.

BUS SLAVE operating mode (RS485)

In the BUS SLAVE operating mode each command and each response begins with a code for the terminal address.

Terminal address 1 … 9	Code "1" … "9"	(31H … 39H)
Terminal address 10 … 31	Code "a" … "v"	(61H … 76H)

Example

Command to terminal 3: 3 S

Response from terminal 3: 3 S _ _ _ _ _ _ 1 2 . 7 6 5 _ k g _

5.1.2 Command overview

Command	Meaning	Page
R0 / R1	Switch keypad on/off	43
Z	Set weight display to zero after weighing platform stabilization	43
U_…	Change over terminal to a different weight unit	43
T	Tare	44
T_…	Specify tare weight	44
DY_…	Specify DeltaTrac target value	45
S	Transmit in case of weighing platform stabilization	45
SI	Transmit independent of weighing platform stabilization	45
SIR	Transmit repeatedly independent of weighing platform stabilization	46
SR	Transmit stabilized weight values repeatedly depending on a weight change	46
SR_…	Transmit repeatedly depending on weighing platform stabilization with specification of an excursion value	46
SX	Transmit data record after weighing platform stabilization	47
SXI	Transmit data record independent of weighing platform stabilization	47
SXIR	Transmit data record repeatedly independent of weighing platform stabilization	47
ARNo.	Read information of application block	48
AWNo._…	Write to application block	48
D_…	Write to display	48
P_…	Print alphanumeric characters or barcodes on the GA46	48,49
DS	Trigger acoustic signal	49
ID	Interrogate terminal identification	49
W_…	Actuating digital outputs	50

5.1.3 Command description

Switch keypad on or off

Command	R I 0 R I 1	Switch on keypad Switch off keypad
Response	R I B	Keypad switched on or off
Comments	• Factory setting: Keypad switched on. • When the keypad is switched off, the terminal cannot be operated manually.	

Set zero

Command	Z	Set gross weight display to zero after weighing platform stabilization, effect as when ZERO-SET key is pressed.
Response	Z I B Z I - Z I +	Weighing platform set to zero Command cannot be executed: Zero-set range dropped below Command cannot be executed: Zero-set range exceeded
Comments	• Setting to zero is not possible when the weighing platform stabilizes in the zero-set range. • With some weighing platform types setting to zero deletes a saved tare weight. This is indicated with the message TA, see section 5.1.4.	

Changing over to different weight unit

Command	U I _ I Unit U	Change over weight display to different weight unit Change over weight display to first weight unit
Response	U I B	Weight display changed over to different weight unit
Comment	Possible units: g, kg, ozt, oz, dwt	

Tare

Command	[T] Tare weighing platform: After the weighing platform stabilizes, the current weight value is saved as the tare weight and the weight display is set to zero with the weight placed on the platform. Effect as when TARE key is pressed. [T][_][Tare weight (weight value)][_][Unit] Specify tare weight: The content of the tare memory is overwritten with the specified tare weight and the net weight is displayed. Effect as when TARE ENTRY, 0 … 9, ENTER key sequence is pressed. [T][_] Delete tare weight.
Response	[T][B][_][_][Tare weight (weight value)][_][Unit] Weighing platform is tared [T][B][H][_][Tare weight (weight value)][_][Unit] Weighing platform is tared with specified weight [T][-] Command cannot be executed: Tare range dropped below [T][+] Command cannot be executed: Tare range exceeded
Comments	• Taring is only possible when the weighing platform stabilizes within the tare range. • The tare weight is always transmitted in the first weight unit. • Each taring command overwrites the content of the tare memory with the new tare weight. • Taring with an unloaded weighing platform deletes the tare memory. On some weighing platform types a zero set is carried out in the unloaded state. This is displayed with the message ZA, see section 5.1.4. • On not certified weighing systems the tare weight is automatically rounded to the current increment. • On certified weighing systems: Tare range for MultiRange only in first increment range.
Example	Command: [T] Response: [T][B][_][_][_][_][_][1][2][.][6][5][0][_][k][g][_]

Specify DeltaTrac target value

Command	D Y _ Target weight (weight value) _ Unit _ Tolerance _ % Specify DeltaTrac target value D Y Delete DeltaTrac target value
Response	D B DeltaTrac target value loaded/deleted
Comment	Watch limits, see section 3.1.1
Example	Command: D Y _ 4 . 5 _ k g _ 5 _ % Response: D B

Transmit content of display

Command	S Transmit a stabilized weight when weighing platform is stabilized. S I Transmit a stabilized or dynamic weight independent of weighing platform stabilization.
Response	S _ _ Weight value _ Unit Stabilized weight value transmitted S D _ Weight value _ Unit Dynamic weight value transmitted S I Invalid weight S I - Weighing platform in underload range S I + Weighing platform in overload range

Transmit content of display repeatedly

Command	`S I R` Transmit stabilized or dynamic weight values after each measuring cycle independent of weighing platform stabilization. `S R` Transmit the next stabilized weight value after a weight change (e. g. different item) and one dynamic and the next stabilized weight value after each deflection > 30 d. `S R _ Deflection weight (weight value) _ Unit` Transmit the next stabilized weight value and, depending on the specified deflection, a dynamic weight value after a weight change greater than the specified deflection value.
Response	`S _ _ Weight value _ Unit` Transmit stabilized weight value repeatedly `S D _ Weight value _ Unit` Transmit dynamic weight value repeatedly
Comment	Stop command with `S`, `S I` command or by interrupting the interface
Example	Command: `S R _ 1 4 0 _ k g` Responses: `S _ _ _ _ _ 2 0 0 . 0 0 _ k g` 1st item `S D _ _ _ _ _ 3 4 5 . 8 5 _ k g` `S _ _ _ _ _ _ 4 1 0 . 5 0 _ k g` 2nd item

Transmit data record

Command	`S X` Transmit a data record with stabilized weight values after weighing platform stabilization. Effect as if ENTER key is pressed. `S X I` Transmit a data record with stabilized or dynamic weight values independent of weighing platform stabilization. `S X I R` Transmit data records with stabilized or dynamic weight values repeatedly independent of weighing platform stabilization.
Response	`S X _ _` Application block `_ _` Application block ... `A` No. `_` Data record Data record with stabilized weight values transmitted `S X D _` Application block `_ _` Application block ... `A` No. `_` Data record Data record with dynamic weight values transmitted `S X I` Invalid value `S X I -` Weighing platform in underload range `S X I +` Weighing platform in overload range

Comments	• Number of application block: three-digit with leading zeros.
	• The content of the corresponding application block is contained in data record, see chapter 6. Standard data record consists of 3 blocks:
	`S X _ _ A 0 1 1 _` Gross weight (weight value) `_` Unit `_ _`
	`A 0 1 2 _` Net weight (weight value) `_` Unit `_ _`
	`A 0 1 3 _` Tare weight (weight value) `_` Unit
	The continuous transmission of data records started with the `S X I R` command can be stopped with the `S X` or `S X I` command.

Example	Command: `S X I`
	Response: Standard data record
	`S X D _ A 0 1 1 _ _ _ _ _ 2 3 . 6 5 0 _ k g _`
	`_ _ A 0 1 2 _ _ _ _ _ 2 1 . 6 5 0 _ k g _`
	`_ _ A 0 1 3 _ _ _ _ _ _ 2 . 0 0 0 _ k g _`

Read application block

Command	A R No.	Read content of application block
Response	A B _ Information	Content of application block transmitted
Comments	• Transmitted information is dependent on application block, see chapter 6. • Number of application block must be entered as 3 digits with preceding zeros.	

Write to application block

Command	A W No. _ Information	Written to application block
	A W No.	Reset application block
	A W No. _	Delete application block
Response	A B	Written to application block
Comments	• Information to be entered is dependent on target block, see chapter 6. • Deleting and resetting have same effect.	

Write to display

Command	D _ Text_20	Write to display
	D _	Switch display to dark
	D	Set display to normal status
Response	D B	Written to display
Comments	• Character stock: ASCII characters 20 hex/32 deci … 7F hex/127 deci, see section 9.4. • Watch capitalization.	

Alphanumeric printout on GA46 printer

Command	P _ Text_20	Print text as per setting
	P _ $! 1 Text_20	Print text in small type
	P _ $! 2 Text_20	Print text in normal type
	P _ $! 3 Text_20	Print text in large type
	P _	Print blank line
Response	P B	Alphanumeric characters printed
Comments	• Character stock: ASCII characters 20 hex/32 deci … 7F hex/127 deci, see section 9.4. • Test is printed in last selected type size. • Watch capitalization.	

Barcode printout on GA46 printer

Command	P _ $ # 1 Text_20, barcode-specific	Print Code 39
	P _ $ # 2 Text_8, barcode-specific	Print EAN 8
	P _ $ # 3 Text_13, barcode-specific	Print EAN 13
	P _ $ # 4 Text_20, barcode-specific	Print EAN 128
	P _ $ # 5 Text_20, barcode-specific	Print Code 2 of 5
	P _ $ # 6 Text_20, barcode-specific	Print Code 2 of 5 interleaved
	P _	Print blank line
Response	P B	Barcode printed
Comments	• Character stock: ASCII characters 20 hex/32 deci … 7F hex/127 deci, see section 9.4. • With Code 39, 3 barcodes can be printed next to each other. Separating characters: $$ or H_T (ASCII character 09 hex/9 deci). Arrangement of barcodes: Barcode 2, Barcode 1, Barcode 3.	

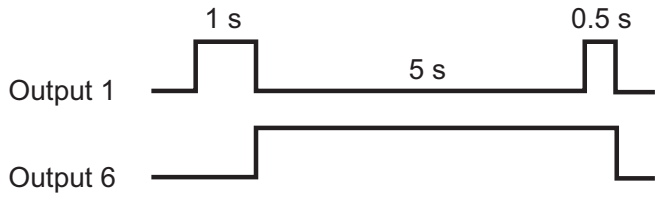
Acoustic signal

Command	D S	Generate short acoustic signal (beep tone) in terminal
Response	D B	Acoustic signal generated in terminal

Identification

Command	I D	Interrogate identification of terminal
Response	I D 7 _ Program number of Pac	

Actuating digital outputs

Command	W _ Status — Switch individual digital outputs on or off W _ Status 1 _ Time 1 _ Status 2 _ Time 2 _ ... Status 4 _ Time 4 _ Status 5 — Trigger time sequence of status changes of digital outputs W , W _ — Reset all outputs to logical 0 Status: Each output is assigned a value. The total of the values of those outputs which are to be closed is indicated as the "Status". Digital output 1 — 1 Digital output 2 — 2 Digital output 3 — 4 Digital output 4 — 8 Digital output 5 — 16 Digital output 6 — 32 Digital output 7 — 64 Digital output 8 — 128 All outputs open — 0 All outputs closed — 255 Time: 1 ... 99999 ms
Response	W B — Digital outputs set
Comments	• Max. 5 statuses "Status" and 4 intervals "Time" are possible. After sequence has been run, digital outputs freeze in last status "Status". • A break in the port has no effect on the outputs. • If terminal receives a new W command before time sequence has been run, ongoing sequence will be aborted immediately. • If limits for "Status" and "Time" are not adhered to, error message EL appears.
Example	Command: W _ 5 Digital outputs 1 and 3 are closed, all others opened Command: W _ 1 _ 1000 _ 32 _ 5000 _ 33 _ 5000 _ 0 triggers following sequence: 

5.1.4 Terminal messages – only with RS232, RS422 or CL

In the dialog mode the ID7-Base weighing terminal transmits an acknowledgement to the computer each time a key is pressed.
When this pressing of a key is replaced with an interface command, the acknowledgement only differs in the second character in the response format which is part of the command:

Function	Key	Acknowledgement
Set zero		Z A
Tare		T A
Specify tare weight		T A H … (see command T_ …)
Change over unit		U A
Transmit data record in case of weighing platform stabilization		S T _ _ … (see command SX)
Switch over weighing platform		S A _ n n = weighing platform 1 … 3
Dynamic weighing		A A 0 1 6 _ Weight value _ Unit
Identification A … D	A … D	K x _ Identification x = A, B, C, D 20 characters, right-justified
Function keys	F1 … F6	K F _ x x = I, J, K, L, M, N

5.1.5 Fault messages

Fault messages always consist of 2 characters and a string frame.
The string frame can be defined in the master mode (section 4.5.2).

E T **Transmission error**
The terminal transmits a transmission error for errors in the received bit sequence, e. g. parity errors, missing stop bit.

E S **Syntax error**
The terminal transmits a syntax error when the received characters cannot be processed, e. g. command does not exist.

E L **Logic error**
The terminal transmits a logic error when a command cannot be executed, e. g. when an attempt is made to write to a write-protected application block.

5.2 METTLER TOLEDO continuous mode

These operating modes are suitable for continuous data transmission in real time to METTLER TOLEDO devices, e. g. to a second display.
The data are even transmitted when the weighing platform is moving or the gross weight = 0.
There are 2 different continuous modes:

- Continuous mode – net and tare values are continuously transmitted.
- Short continuous mode – only net values are continuously transmitted.

Output format Weight values are always transmitted in the following format:

STX	SB1	SB2	SB3	DF1	DF2	CR	CHK

STX ASCII characters 02 hex/2 deci, character for "start of text" is required by some printers
SB... For status bytes, see below
DF1 Data field with 6 digits for the weight value transmitted without a decimal point and unit
DF2 Data field with 6 digits for the tare weight; is not transmitted in the short continuous mode
CR Carriage return (ASCII character 0D hex/13 deci)
CHK Checksum (2-part complement of binary sum of 7 lower bits of all previously transmitted characters, including STX and CR)

Status byte SB1

Bit 6	**Bit 5**	**Bit 4**	**Bit 3**	**Bit 2**	**Bit 1**	**Bit 0**
0	1	Rounding / Increment		Decimal position		

Bit 4	**Bit 3**	**Rounding/ Increment**
0	1	1
1	0	2
1	1	5

Bit 2	**Bit 1**	**Bit 0**	**Decimal position**
0	0	0	XXXX00
0	0	1	XXXXX0
0	1	0	XXXXXX
0	1	1	XXXXX.X
1	0	0	XXXX.XX
1	0	1	XXX.XXX
1	1	0	XX.XXXX
1	1	1	X.XXXXX

Status byte SB2

Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
0	1	0 lb	0 Stabiliza-tion	0 Normal status	0 Positive sign	0 Gross value
		1 kg	1 Movement	1 Underload/ overload	1 Negative sign	1 Net value

Status byte SB3

Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
0	1	0	0 Basic state 1 Print request	Weight value		

Bit 2	Bit 1	Bit 0	Weight value
0	0	0	kg / lb (SB2 Bit 4)
0	0	1	g
0	1	0	t
0	1	1	oz
1	0	0	ozt
1	0	1	dwt
1	1	0	ton
1	1	1	free unit

6 Application blocks

Application blocks are internal information memories in which weighing data, calculated quantities, configuration data or character sequences entered with the keypad are stored. The content of the application blocks can be read out or written to with a computer.
When the GA46 printer is connected, the assignment of the application blocks can be printed out, see operating instructions for the GA46 printer.

6.1 Syntax and formats

6.1.1 Read application block

Read `A R No.` The weighing terminal receives the command from the computer to read out the content of the "No." application block.
This command is **not** contained in the following description of the application blocks.

Response `A B _ Information` As a response the weighing terminal transmits the content of the "No." application block to the computer.
This response is contained in the following description of the application blocks.

Example

Command `A R 0 2 1` Read out tare memory 1.

Response `A B _ _ _ _ _ _ _ 1 0 . 5 _ k g _`

Note
If an application block is not in use, the weighing terminal transmits the corresponding number of blank spaces in place of the data.
For example, when Tare Memory 1 is not in use, the weighing terminal transmits the following response: `A B _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _`

6.1.2 Write to application block

Write `A W No. _ Information` The weighing terminal receives the command from the computer to write to the "No." application block.
This command is contained in the following description of the application blocks.

Response `A B` The weighing terminal transmits a confirmation to the computer.
This response is **not** contained in the following description of the application blocks.

Example

Write `A W 0 2 1 _ 1 2 . 0 _ k g _`
Write to tare memory 1.

Response `A B`

Notes

- Only those application blocks can be written to for which the corresponding AW command is listed in the following description.
- An application block can consist of one or more sub-blocks, and the numbering of the sub-blocks begins with 1.
- The sub-blocks of an application block can each contain a maximum of 20 characters.
- The sub-blocks are separated with $$ or H_T (ASCII character 09 hex/9 deci):
  `A W No. _ Sub-block 1 $ $ Sub-block 2 $ $ ... Sub-block n`
- Extensive application blocks are displayed so that each sub-block begins in a new line.
- To write to individual sub-blocks, enter the corresponding number of $ characters. If only sub-block 1 is written to, the $ characters are eliminated,
  e. g. sub-block 3 written to: `A W No. _ $ $ $ $ Sub-block 3`

6.1.3 Data formats

- In the following description of the application blocks the following data formats are used:

`Weight value`	10 digits with sign and decimal point, right-justified (with preceding blank space)
`Unit`	3 characters, left-justified (with following blank spaces)
`Number_n`	Number, n digits, right-justified (with preceding blank spaces)
`Text_n`	maximum of n characters

- Conclude commands and responses with the string frame $C_R L_F$ (ASCII characters C_R = 0D hex/13 deci, L_F = 0A hex/10 deci). The string frame is **not** contained in the following description.

6.2 TERMINAL, SCALE application blocks

No.	Content	Format
001	Terminal type	Response: AB_Mettler-Toledo_ID7
002	Program number	Response: AB_IT07-0-0xxx_
006	Transfer key	Response: AB_Keys__24 Write: AW006_$$24
007	Current gross weight (2nd weight unit)	Response: AB_Weight value_Unit
008	Current net weight (2nd weight unit)	Response: AB_Weight value_Unit
009	Current tare weight (2nd weight unit)	Response: AB_Weight value_Unit Write: AW009_Weight value_Unit
010	Current weighing platform	Response: AB_Number_2 Write: AW010_Number_2 Switch over weighing platform
011	Current gross weight (1st weight unit)	Response: AB_Weight value_Unit
012	Current net weight (1st weight unit)	Response: AB_Weight value_Unit
013	Current tare weight (1st weight unit)	Response: AB_Weight value_Unit Write: AW013_Weight value_Unit
014	Content of display	Response: AB_Display Display = Text_20 or weight value
015	Date	Response: AB_Date Write: AW015_Date Date = DD/MM/YY or DD.MM.YY
016	Dynamic weighing	Response: AB_Weight value_Unit Write: AW016_No. of cycles Start weighing cycle Comment: No. of cycles = 1 … 255
018	Difference target/actual weight	Response: AB_Weight value_Unit
019	Date and time	Response: AB_______DD/MM/YY__ _____hh:mm:ss Europe AB_______MM/DD/YY__ ___A/PM_hh:mm:ss USA Write: AW019_DD/MM/YY$$ hh:mm:ss Europe AW019_MM/DD/YY$$ A/PMhh:mm:ss USA Date: instead of "/" also "."; Time: instead of ":" also "/" or "."

No.	Content	Format
020	Current DeltaTrac	Response: A B _ Target weight (weight value) _ Unit _ _ Tolerance value (number_2) _ % _ _ Write: A W 0 2 0 _ Target weight (weight value) _ Unit $ $ Tolerance value (number_2) _ % _ _
021 ... 045	Tare memory 1 ... 25	Response: A B _ Weight value _ Unit Write: A W 0 x x _ Weight value _ Unit Comment: xx = 21 ... 45
046 ... 070	DeltaTrac memory 1 ... 25	Response: A B _ Target value (weight value) _ Unit _ _ Tolerance value (number_2) _ % _ _ Write: A W 0 x x _ Target value (weight value) _ Unit $ $ Tolerance value (number_2) _ % _ _ Comment: xx = 46 ... 70
071 ... 090	Text memory 1 ... 20	Response: A B _ Text_20 Write: A W 0 x x _ Text_20 Comment: xx = 71 ... 90
091	Barcode EAN 28, EAN 128	Response: A B _ EAN 28 _ _ EAN 128 01 _ _ EAN 128 310 _ _ EAN 128 330 EAN 28: 2 8 Article Check digit Weight Article: 4-digit Article No. from memory Code A Check digit: 1-digit, calculated by ID7-Base for the weight Weight: 5-digit positive weight value with 3 decimal places between 00.000 kg - 99.999 kg EAN 128 01: 0 1 Article or 0 1 Article Check digit or 0 1 0 Article Check digit or 0 1 0 Article Article: Article No. from memory Code A, max. 14 digits Check digit: 1-digit, calculated by ID7-Base Length: total of max. 16 digits EAN 128 310: 0 1 9 Article Check digit 3 1 0 x Weight or 0 1 9 Article 3 1 0 x Weight Article: Article No. from memory Code A max. 12 or 13 digits Check digit: 1-digit calculated by ID7-Base x: 0 ... 6, decimal places of weight value Weight: 6-digit net weight value EAN 128 330: 3 3 0 x Weight x: 0 ... 6, decimal places of weight value Weight: 6-digit gross weight value

No.	Content	Format
092	Barcode EAN 29	Response: A B _ 2 9 Article Check digit Weight Comment: Article: 4-digit article no. from memory Code A Check digit: 1-digit no., calculated from ID7-Base for the weight Weight: 5-digit positive weight value with 3 places to right of point between 00.000 kg … 99.999 kg
093	Barcode EAN 29 A	Response: A B _ 2 9 Article Weight Comment: Article: 5-digit article no. from memory Code A Weight: 5-digit positive weight value with 3 places to right of point between 00.000 kg … 99.999 kg
094 … 097	Identification data Code A … Code D	Response: A B _ Name (text_20) _ _ Identification (text_20) Write: A W 0 x x _ Name (text_20) $ $ Identification (text_20) Comment: xx = 94 … 97
098	Number of last Alibi entry	Response: A B _ Number_6 Note: The data record number is output with leading zeros

6.3 INTERFACE application blocks

Application blocks are reserved for the possible interface connections.
These application blocks can only be read and written to when an ...-ID7 interface is actually installed on the interface connection concerned.

6.3.1 Serial interfaces

No.	Content	Format
101	Description of application	Response: `AB_ID7 Interfaces`
102	Program designation	Response: `AB_IK07-0-0100`
103	Transmit buffer COM1	Response: `AB_Transmit buffer COM1` Write*: `AW103_Information`
104	Transmit buffer COM2	Response: `AB_Transmit buffer COM2` Write*: `AW104_Information`
201	Description of application	Response: `AB_ID7 Interfaces`
202	Program designation	Response: `AB_IK07-0-0100`
203	Transmit buffer COM3	Response: `AB_Transmit buffer COM3` Write*: `AW203_Information`
204	Transmit buffer COM4	Response: `AB_Transmit buffer COM4` Write*: `AW204_Information`
701	Description of application	Response: `AB_ID7 Interfaces`
702	Program designation	Response: `AB_IK07-0-0100`
703	Transmit buffer COM5	Response: `AB_Transmit buffer COM5` Write*: `AW703_Information`
704	Transmit buffer COM6	Response: `AB_Transmit buffer COM6` Write*: `AW704_Information`

* **Comments on the transmit buffers**

- The entered information is transmitted directly via the selected interface.
- A transmit buffer contains a maximum of 256 characters.

6.3.2 Digital inputs/outputs

The following application blocks are only available when interface 4 I/O-ID7 is installed on COM5/COM6 or interface RS485-ID7 and relay box 8-ID7 is installed on COM6.

When the weighing terminal checks the outputs, the blocks concerned cannot be written to, and the E L error message appears.

No.	Content	Format
706	Digital outputs 1 COM5/COM6	Response: A B _ 8-place binary value * Write: A W 7 0 6 _ 8-place binary value *
707	Digital inputs 1 COM5/COM6	Response: A B _ 8-place binary value *
708	Dig. outputs 2 COM6	Response: A B _ 8-place binary value * Write: A W 7 0 8 _ 8-place binary value *
709	Dig. inputs 2 COM6	Response: A B _ 8-place binary value *
710	Dig. outputs 3 COM6	Response: A B _ 8-place binary value * Write: A W 7 1 0 _ 8-place binary value *
711	Dig. inputs 3 COM6	Response: A B _ 8-place binary value *
712	Dig. outputs 4 COM6	Response: A B _ 8-place binary value * Write: A W 7 1 2 _ 8-place binary value *
713	Dig. inputs 4 COM6	Response: A B _ 8-place binary value *
714	Dig. outputs 5 COM6	Response: A B _ 8-place binary value * Write: A W 7 1 4 _ 8-place binary value *
715	Dig. inputs 5 COM6	Response: A B _ 8-place binary value *
716	Dig. outputs 6 COM6	Response: A B _ 8-place binary value * Write: A W 7 1 6 _ 8-place binary value *
717	Dig. inputs 6 COM6	Response: A B _ 8-place binary value *
718	Dig. outputs 7 COM6	Response: A B _ 8-place binary value * Write: A W 7 1 8 _ 8-place binary value *
719	Dig. inputs 7 COM6	Response: A B _ 8-place binary value *
720	Dig. outputs 8 COM6	Response: A B _ 8-place binary value * Write: A W 7 2 0 _ 8-place binary value *
721	Dig. inputs 8 COM6	Response: A B _ 8-place binary value *

* 8-place binary value: Bit8, Bit7 … Bit1
Bit8 = output/input 8 … Bit1 = output/input 1

7 What to do if ...?

Error / Display	Possible causes	Remedy
Display is dark	• No mains voltage • Terminal switched off • Power cord not connected • Brief malfunction	➜ Check mains ➜ Switch on terminal ➜ Plug in power plug ➜ Switch terminal off and on again
Underload	• Load plate not in place • Preload not applied • Weighing range dropped below	➜ Apply load plate ➜ Apply preload ➜ Set zero
Overload	• Weighing range exceeded • Weighing platform locked	➜ Relieve weighing platform ➜ Release lock
Weight display unstable	• Agitated set-up location • Draft • Agitated weighing sample • Contact between load plate and/or weighing sample and surroundings • Power malfunction	➜ Adjust vibration adapter ➜ Avoid drafts ➜ Weigh dynamically ➜ Eliminate contact ➜ Check mains
Wrong weight display	• Wrong setting to zero of weighing platform • Wrong tare weight • Contact between load plate and/or weighing sample and surroundings • Weighing platform tilted • Wrong weighing platform selected	➜ Relieve weighing platform, set to zero and repeat weighing ➜ Delete tare or enter right tare value ➜ Eliminate contact ➜ Level weighing platform ➜ Select right weighing platform
PLUG IN	• Weighing platform cable not plugged in	➜ Switch off terminal, plug in weighing platform cable and switch on terminal again ➜ If the message appears again: contact METTLER TOLEDO Customer Service
IDENTCODE =	• Test cycle started	➜ Complete test by pressing the ZERO-SET key
WRONG CODE	• Wrong personal code	➜ Enter right personal code

Error / Display	Possible causes	Remedy
SCALE NO. ERROR	• Error in weighing cell	➜ Repeat test ➜ If the message appears again: contact METTLER TOLEDO Customer Service
OUT OF RANGE	• Zero set range exceeded • Gross weight negative • Taring range exceeded • Entered value outside permissible range	➜ Relieve weighing platform ➜ Relieve weighing platform and set to zero ➜ Relieve weighing platform and set to zero ➜ Enter permissible value
NOT ALLOWED	• Wrong cycle time for dynamic weighing • Weighing platform does not exist • Print with negative weight value	➜ Enter cycle time between 1 and 255 cycles ➜ Connect weighing platform ➜ Relieve weighing platform, set to zero and repeat weighing
NOT EXISTENT	• Recalled memory not assigned	➜ Recall other memory
NO DATA TRANSFER	• Weighing platform does not transmit data to the terminal	➜ Switch terminal off and on again ➜ If the message appears again: contact METTLER TOLEDO Customer Service
INTERF. COM X – BREAK	• Break in receiving cable of specified interface	➜ Check cable and connectors ➜ Check external devices (on/off)
TRANSMIT BUFFER FULL	• No transmission • Too many key messages and baud rate too low	➜ Check handshake ➜ Increase baud rate
KEY BUFFER FULL	• Data string currently being edited contains too many blocks	➜ Remove blocks from data string
ERROR BARCODE	• The specified application block contains no data • Wrong sub-block selected, e.g. sub-block 0	➜ Select application block which contains data ➜ Select permissible sub-block
NO BLOCK	• Entered application block does not exist	➜ Enter different application block
BUFFER IS FULL	• Data string of transfer key contains more than 10 application blocks	➜ Change configuration of transfer key

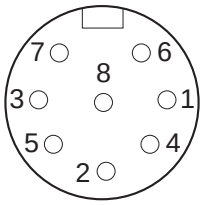
Error / Display	Possible causes	Remedy
DISPLAY MODE	• Weighing cell defective	➜ Contact METTLER TOLEDO Customer Service
	• 2 weighing platforms with same scale number connected	➜ Contact METTLER TOLEDO Customer Service

8 Technical data and accessories

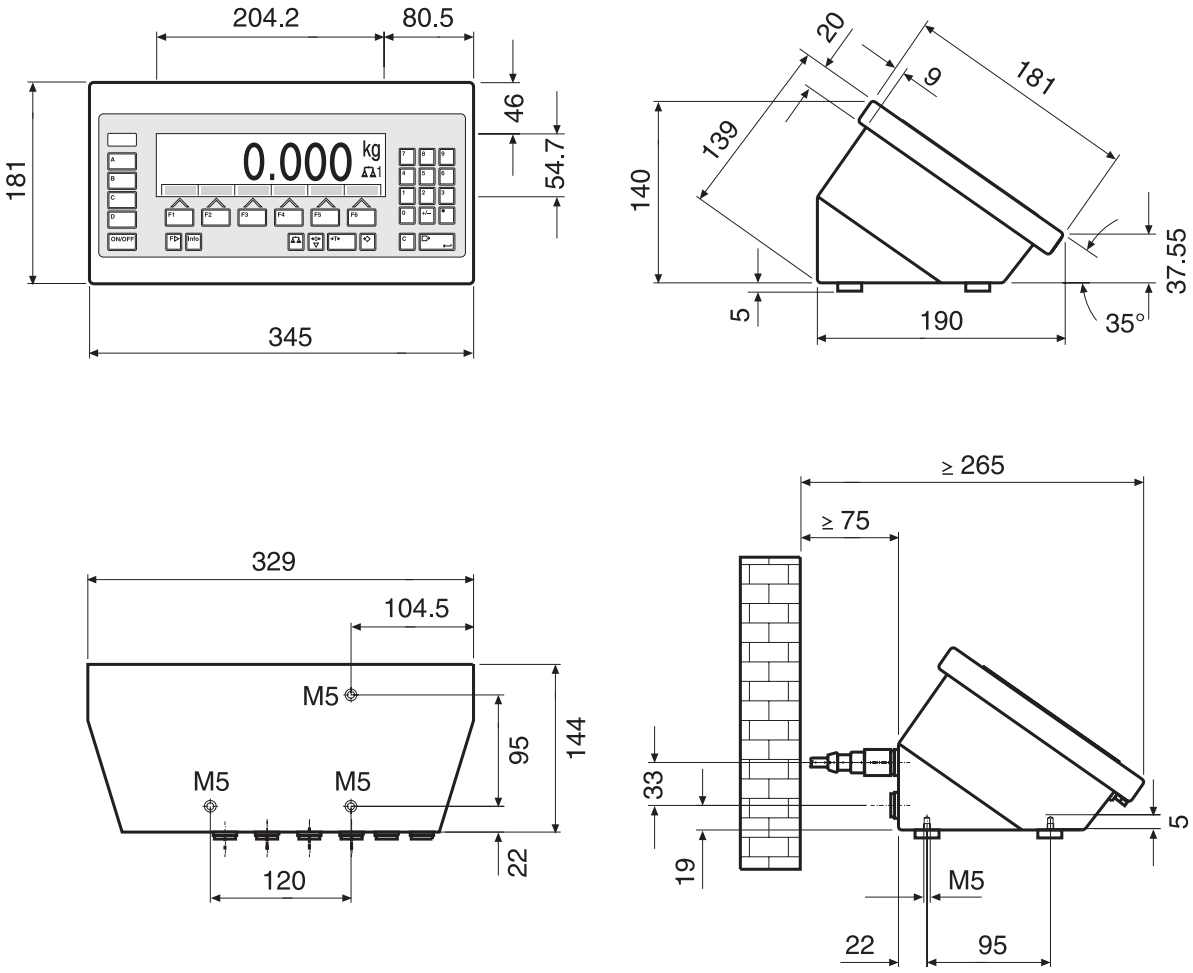
8.1 Technical data

Terminal	
Display	• Active, brightly lit green VFD dot matrix display, with graphics capabilities, 40 x 170 pixels, display field 135 x 46 mm • BIG WEIGHT DISPLAY with 35 mm high characters • Cover of scratch-resistant, hardened, antireflection glass
Keypad	• Tactile-touch membrane keypad with acoustic acknowledgement • Scratch-resistant marking, 3-color • 4 keys A to D for identification data, 6 function keys with function change and info key, 4 scale function keys, numerical keypad • Alphanumeric input possible with function keys • Standard connection for external MFII keypad
Housing	• All nickel chromium steel DIN X5 CrNi 1810 • Weight: net 3.5 kg; gross 5 kg
Protection type (IEC 529, DIN 40050)	• Dust and water-tight as per IP68 • Resistant to high-pressure and steam jet cleaning as per IPX9K
Power supply	• 100 V – 240 V, +10/–15 %; 50/60 Hz • Power cord with grounded plug, length approx. 2.5 m • Power consumption approx. 60 VA
Ambient conditions as per EN 60950	• Pollution degree 2 • Overvoltage category II • Maximum operating elevation in m above sea level: 2000 m
Ambient temperature	• Operation: –10 – +40 °C for weighing platforms of certification class III 0 – +40 °C for weighing platforms of certification class II • Storage: –25 – +60 °C
Relative humidity	20 – 80 %, non-condensing
Weighing platform connection	• 1 IDNet connection standard for METTLER TOLEDO weighing platforms of the series D, F, K, N, Spider ID, DigiTOL, analog scales with AWU 3/6 and analysis and precision scales of the series B, G and R • 2 IDNet additional connections possible or 1 analog and 1 IDNet connection
Interface connection	1 RS232 connection standard, maximum of 5 additional interface connections possible
Total load of all output voltages on the ID7-Base	Output voltage 5 V max. 600 mA Output voltage 12 V max. 200 mA Output voltage 24 V max. 100 mA

Weighing functions	
Tare compensation	At the press of a button or automatically, up to maximum load (subtractive)
Tare target value	• For single-range scales over entire weighing range (subtractive) • For multi-range scales depending on national calibration regulations • 25 stored tare memories, protected against power failure
Tare calculation	Tare addition, tare multiplication, sub-tare
Tare indicator	NET lights up with saved tare weight
DeltaTrac	• Analog display of dynamic measured values • With optical marks for target value and tolerances • 3 selectable applications • 25 DeltaTrac memories, protected against power failure
Setting to zero	Automatic or manual
Gross changeover	Display of weight value can be changed over to gross weight at press of a button
Unit changeover	Unit can be changed over to weight units kg, g, lb, oz, ozt, dwt in dependence on national calibration regulations at press of a button
Dynamic weighing	• Cycle time adjustable from 1 – 255 cycles • Automatic printout selectable
Stabilization detector	4-step, with motion indicator
Weighing process adapter	3-step adjustment to weighing sample
Vibration adapter	3-step adjustment to ambient conditions
Test	Test function for displaying identcode and for checking weighing platform
Identification data	• 4 memories for 20 alphanumeric characters, can be recalled with keys A to D • Each memory can be assigned a fixed name which can be written in the marking field next to the corresponding key • 25 memories for frequently used identification data
Info function	Displays of current weighing data, identification data and memories at the press of a button
Date and time	• For printout or output via the data interface • Quartz-controlled, 12 or 24-hour display, automatic calendar function, Europe or US format, protected against power failures

Interface RS232-ID7	
Interface type	Voltage interface as per EIA RS232C/DIN 66020 (CCITT V.24/V.28)
Control signals DTR, DSR	• Signal level 0 (for R_L > 3 kΩ): –3 V – –25 V (low level) • Signal level 1 (for R_L > 3 kΩ): +3 V – +25 V (high level)
Data lines TXD, RXD	• Signal level 0 (for R_L > 3 kΩ): +3 V – +25 V (high level) • Signal level 1 (for R_L > 3 kΩ): –3 V – –25 V (low level)
Interface parameters	Operating mode full duplex Transmission type bit serial, asynchronous Transmission code ASCII Data bits 7/8 Stop bits 1/2 Parity parity even, parity odd, parity space, parity mark, no parity Baud rate 150, 300, 600, 1200, 2400, 4800, 9600, 19200 baud
Socket  External view	8-pin circular connector, socket Pin 1 Ground Pin 2 TXD, transmission line of scale Pin 3 RXD, receiving line of scale Pin 4 DTR, Data Terminal Ready Pin 5 +5 V, max. 250 mA (factory setting, for COM1 – COM6) or +12 V, max.100 mA (for COM2 – COM6 only); configuring of Pin 5, see section 9.6 Pin 6 Signal Ground Pin 8 DSR, Data Set Ready
Cable	• Shielded, stranded in pairs, max. 15 m • Cable resistance ≤ 125 Ω/km • Cable cross section ≥ 0.14 mm^2 • Cable capacity ≤ 130 nF/km

Dimensions



Dimensions in mm

8.2 Accessories

Applications		**Order No.**
ControlPac-ID7	Basic functions, checking, classifying	22 001 081
CountPac-ID7	Basic functions, convenient counting, totalizing	22 001 075
DataPac-ID7	Basic functions, data communication	22 001 077
DosPac-ID7	Basic functions, dispensing, filling	22 001 079
DosPac-R-ID7	Basic functions, multi-component dispensing	22 001 080
FormPac-ID7	Basic functions, formulation, dispensing	22 001 076
SumPac-ID7	Basic functions, totalizing, inventory management	22 001 078

Weighing platform connections		**Order No.**
IDNet ID7	• Connection for an IDNet weighing platform • Max. of 2 additional connections possible	22 001 082
Analog Scale ID7	• Connection for a weighing platform with an analog signal output • Max. of 1 analog weighing platform connection possible	22 001 083
LC IDNet R/G	Connection set for connecting METTLER TOLEDO R/G scales to IDNet connection of ID7-Base	00 229 110
LC IDNet B	Connection set for connecting METTLER TOLEDO B scales to IDNet connection of ID7-Base	00 229 225
GD17	Connection set for connecting DigiTOL scales to IDNet connection of ID7-Base	00 507 073

Serial data interfaces		**Order No.**
CL20mA-ID7	CL 20 mA interface	22 001 084
Accessories for CL20mA-ID7	CL cable, 3 m Mating connector, 7-pin Second-display cable CL20mA-ID7 – ID1 Plus/ID3s/ID7, 10 m Extension cable for second display, 10-pin, 10 m Adapter cable PE / CL, 0.3 m	00 503 749 00 503 745 00 504 511 00 504 134 22 003 029
RS232-ID7	RS232 interface	22 001 085
Accessories for RS232-ID7	RS232 cable/DTE, 3 m RS232 cable/DCE, 3 m RS232 cable/PC, 3 m RS232 cable/9-pin, 3 m Mating connector, 8-pin	00 503 754 00 503 755 00 504 374 00 504 376 00 503 756
RS422-ID7	RS422 interface, electrically isolated	22 003 031
RS485-ID7	RS485 interface, electrically isolated	22 001 086
Accessories for RS422-ID7/RS485-ID7	RS422/485 cable, 6-pin, open end, 3 m Mating connector, 6-pin	00 204 933 00 204 866
8-ID7 relay box	8 digital inputs, 8 digital outputs, for connection to RS485-ID7	22 001 089
Accessories for 8-ID7 relay box	RS422/485 cable, 6-pin, open end, 3 m Power supply unit for 8-ID7 relay box, 24 V DC	00 204 933 00 505 544

Digital inputs/outputs		**Order No.**
4 I/O-ID7	4 digital inputs, 4 digital outputs	22 001 087
4-ID7 relay box	Relay box for 4 I/O-ID7; 4 digital inputs, 4 digital outputs, for connection to 4 I/O-ID7	22 001 088
Accessories for 4-ID7 relay box	Cable for 4 I/O-ID7, 19-pin, open end, 10 m Mating connector, 19-pin	00 504 458 00 504 461
8-ID7 relay box	8 digital inputs, 8 digital outputs, for connection to RS485-ID7	22 001 089
Accessories for 8-ID7 relay box	RS422/485 cable, 6-pin, open end, 3 m Power supply unit for 8-ID7 relay box, 24 V DC	00 204 933 00 505 544

Digital/analog interface		**Order No.**
Analog Output-ID7	Digital/analog output 0 – 10 V, 0 – 20 mA or 4 – 20 mA	22 001 090
Accessories for Analog Output-ID7	Cable for Analog Output-ID7, 5-pin, 3 m Mating connector, 5-pin	00 204 930 00 205 538

Alibi memory		**Order No.**
Alibi Memory-ID7	Archiving of certification-relevant weighing data	22 001 663

Printer		**Order No.**
GA46	Printer in separate tabletop housing of nickel chromium steel, protection type IP21 Printing of weighing data and barcodes on 62 mm wide thermal paper Interface RS232, cable approx. 2.5 m For technical details see data sheet GA46	00 505 471
GA46/0.4 m	As for GA46, however with 0.4 m cable	00 507 229
GA46-W	As for GA46, however with integrated paper winding device and transparent PVC cover, protection type IP65	00 505 799
GA46-W/0.4 m	As for GA46-W, however with 0.4 m cable	00 507 230
Accessories for GA46	Protective cover for GA46	00 507 224

External keypad		**Order No.**
AK-MFII	Compact, alphanumeric membrane keypad for connection to the standard-equipment 5-pin MFII circular connector Housing of all nickel chromium steel, protection type IP65 Dimensions (W x D x H): 380 mm x 158 mm x 30 mm Cable approx. 1 m	00 505 490
Accessories for AK-MFII	Keypad-terminal adapter	00 208 047

Other accessories		**Order No.**
Protective covers	3 pieces	22 001 091
Wall bracket	black, plastic-coated completely rust-proof	00 504 129 00 504 130
Floor stand	black, plastic-coated completely rust-proof	00 504 131 00 504 132
Stand socket	black, plastic-coated completely rust-proof	00 503 700 00 503 701
Bracket stand	black, plastic-coated completely rust-proof	00 504 127 00 504 128

9 Appendix

9.1 Fix-tare

➜ Copy this list and enter your tare constants.

Fix-tare no.	Appl. block no.	Tare value	Comment
1	21		
2	22		
3	23		
4	24		
5	25		
6	26		
7	27		
8	28		
9	29		
10	30		
11	31		
12	32		
13	33		
14	34		
15	35		
16	36		
17	37		
18	38		
19	39		
20	40		
21	41		
22	42		
23	43		
24	44		
25	45		

9.2 Delta-fix

➜ Copy this list and enter your DeltaTrac constants.

Delta-fix no.	Appl. block no.	Target value	Tolerance	Comment
1	46			
2	47			
3	48			
4	49			
5	50			
6	51			
7	52			
8	53			
9	54			
10	55			
11	56			
12	57			
13	58			
14	59			
15	60			
16	61			
17	62			
18	63			
19	64			
20	65			
21	66			
22	67			
23	68			
24	69			
25	70			

9.3 Fixed texts

➜ Copy this list and enter your fixed texts.

Fixed text no.	Appl. block no.	Content	Comment
1	71		
2	72		
3	73		
4	74		
5	75		
6	76		
7	77		
8	78		
9	79		
10	80		
11	81		
12	82		
13	83		
14	84		
15	85		
16	86		
17	87		
18	88		
19	89		
20	90		appears after switch-on

Code	Appl. block no.	Name	Content
Code A	94		
Code B	95		
Code C	96		
Code D	97		

9.4 Table of representable characters

hex	deci	ASCII US	hex	deci	ASCII US	hex	deci	ASCII US	hex	deci	ASCII US	hex	deci	ASCII US
00	0	NUL	34	52	4	68	104	h	9C	156	£	D0	208	╨
01	1	SOH	35	53	5	69	105	i	9D	157	¥	D1	209	╤
02	2	STX	36	54	6	6A	106	j	9E	158	₧	D2	210	╥
03	3	ETX	37	55	7	6B	107	k	9F	159	ƒ	D3	211	╙
04	4	EOT	38	56	8	6C	108	l	A0	160	á	D4	212	╘
05	5	ENQ	39	57	9	6D	109	m	A1	161	í	D5	213	╒
06	6	ACK	3A	58	:	6E	110	n	A2	162	ó	D6	214	╓
07	7	BEL	3B	59	;	6F	111	o	A3	163	ú	D7	215	╫
08	8	BS	3C	60	<	70	112	p	A4	164	ñ	D8	216	╪
09	9	HT	3D	61	=	71	113	q	A5	165	Ñ	D9	217	┘
0A	10	LF	3E	62	>	72	114	r	A6	166	ª	DA	218	┌
0B	11	VT	3F	63	?	73	115	s	A7	167	º	DB	219	█
0C	12	FF	40	64	@	74	116	t	A8	168	¿	DC	220	▄
0D	13	CR	41	65	A	75	117	u	A9	169	⌐	DD	221	▌
0E	14	SO	42	66	B	76	118	v	AA	170	¬	DE	222	▐
0F	15	SI	43	67	C	77	119	w	AB	171	½	DF	223	▀
10	16	DLE	44	68	D	78	120	x	AC	172	¼	E0	224	α
11	17	DC1	45	69	E	79	121	y	AD	173	¡	E1	225	ß
12	18	DC2	46	70	F	7A	122	z	AE	174	«	E2	226	Γ
13	19	DC3	47	71	G	7B	123	{	AF	175	»	E3	227	π
14	20	DC4	48	72	H	7C	124	|	B0	176	░	E4	228	∑
15	21	NAK	49	73	I	7D	125	}	B1	177	▒	E5	229	σ
16	22	SYN	4A	74	J	7E	126	~	B2	178	▓	E6	230	µ
17	23	ETB	4B	75	K	7F	127	⌂	B3	179	│	E7	231	τ
18	24	CAN	4C	76	L	80	128	reserved	B4	180	┤	E8	232	Φ
19	25	EM	4D	77	M	81	129	ü	B5	181	╡	E9	233	Θ
1A	26	SUB	4E	78	N	82	130	é	B6	182	╢	EA	234	Ω
1B	27	ESC	4F	79	O	83	131	â	B7	183	╖	EB	235	δ
1C	28	FS	50	80	P	84	132	ä	B8	184	╕	EC	236	∞
1D	29	GS	51	81	Q	85	133	à	B9	185	╣	ED	237	ø
1E	30	RS	52	82	R	86	134	å	BA	186	║	EE	238	ε
1F	31	US	53	83	S	87	135	ç	BB	187	╗	EF	239	∩
20	32	SP	54	84	T	88	136	ê	BC	188	╝	F0	240	≡
21	33	!	55	85	U	89	137	ë	BD	189	╜	F1	241	±
22	34	"	56	86	V	8A	138	è	BE	190	╛	F2	242	≥
23	35	#	57	87	W	8B	139	ï	BF	191	┐	F3	243	≤
24	36	$	58	88	X	8C	140	î	C0	192	└	F4	244	⌠
25	37	%	59	89	Y	8D	141	ì	C1	193	┴	F5	245	⌡
26	38	&	5A	90	Z	8E	142	Ä	C2	194	┬	F6	246	÷
27	39	´	5B	91	[	8F	143	Å	C3	195	├	F7	247	≈
28	40	(	5C	92	\	90	144	É	C4	196	─	F8	248	°
29	41	)	5D	93	]	91	145	æ	C5	197	┼	F9	249	•
2A	42	*	5E	94	^	92	146	Æ	C6	198	╞	FA	250	·
2B	43	+	5F	95	_	93	147	ô	C7	199	╟	FB	251	√
2C	44	,	60	96	`	94	148	ö	C8	200	╚	FC	252	ⁿ
2D	45	-	61	97	a	95	149	ò	C9	201	╔	FD	253	²
2E	46	.	62	98	b	96	150	û	CA	202	╩	FE	254	.
2F	47	/	63	99	c	97	151	ù	CB	203	╦	FF	255	
30	48	0	64	100	d	98	152	ÿ	CC	204	╠			
31	49	1	65	101	e	99	153	Ö	CD	205	═			
32	50	2	66	102	f	9A	154	Ü	CE	206	╬			
33	51	3	67	103	g	9B	155	¢	CF	207	╧			

9.5 Opening/closing ID7-Base weighing terminal

CAUTION

➜ The ID7-Base weighing terminal may only be opened by authorized personnel!

➜ Always pull the mains plug before opening the unit.

Opening

1. Remove screws on underside of cover.
2. Lay down cover toward front.

Closing

1. Lay device on cover and fix slightly in place with 3 screws.
2. Press unit into cover so that 3 engaging springs engage.
3. Tighten screws.

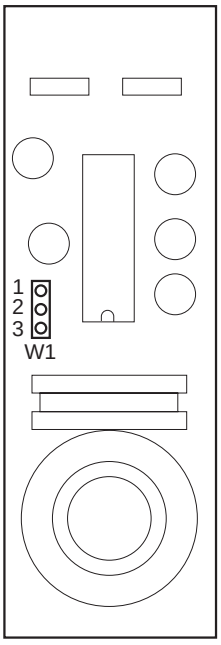
CAUTION

The IP68 protection type is only ensured when the weighing terminal is properly closed again.

➜ The 3 engaging springs must be completely engaged.

➜ Make sure that keypad cable is not pinched.

9.6 Configuring Pin 5 on RS232-ID7 interface



Pin 5 of the RS232-ID7 interface can be configured for the connection of devices which require a 12 V supply voltage (with COM2 – COM6 only).

1. Open weighing terminal.
2. Change position of jumper W1 on RS232-ID7 board.

Jumper W1	**Voltage at Pin 5**
Pin 1 and 2 (factory setting)	5 V
Pin 2 and 3	12 V

3. Close weighing terminal again.

10 Index

Mettler-Toledo (Albstadt) GmbH		**D-72458 Albstadt**	**T ++49-7431-14 0**	**F -14 232**
AT	**Mettler-Toledo Ges.m.b.H.**	1100 Wien	T ++43-1-604 19 80	F -604 28 80
AU	**Mettler-Toledo Ltd.**	Victoria 3207	T ++61-3-9646 45 51	F -9645 39 35
BE	**N.V. Mettler-Toledo S.A.**	1651 Lot	T ++32-2-334 02 11	F -378 16 65
CH	**Mettler-Toledo (Schweiz) AG**	8606 Greifensee	T ++41-1-944 45 45	F -944 45 10
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