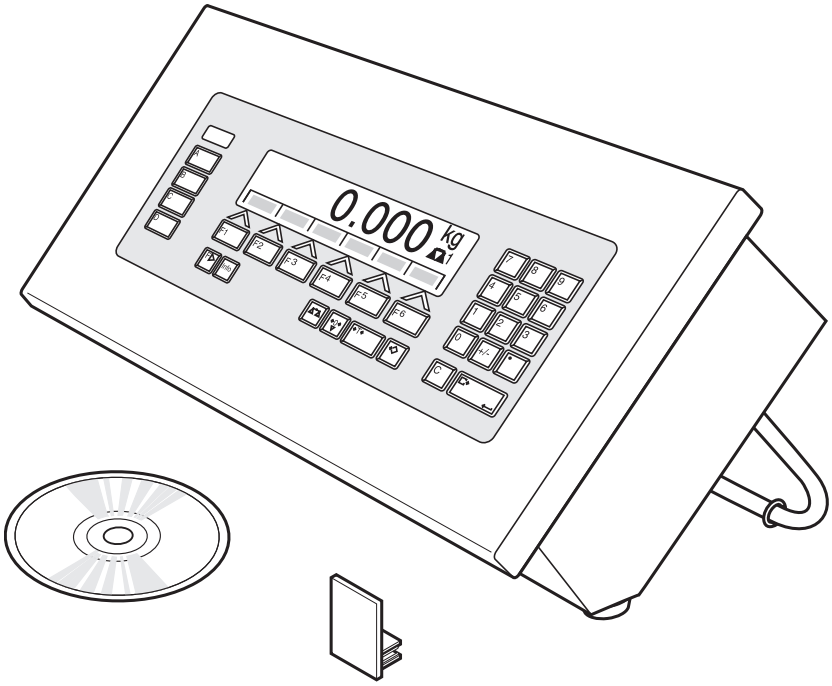
Operating instructions

METTLER TOLEDO MultiRange ID7sx-Data application software



Contents

1 Safety precautions

The ID7sx... weighing terminal is approved for operation in zone 1 and 21 hazardous areas. It may only be used in areas in which the causes of static electricity build-up, which lead to propagating brush discharges, have been eliminated.
If the ID7sx... weighing terminal is used in hazardous areas, special care must be taken. The code of practice is oriented to the "Safe Distribution" concept drawn up by METTLER TOLEDO.

Competence

- ▲ The weighing system may only be installed, maintained and repaired by authorised METTLER TOLEDO service personnel.

Ex approval

- ▲ No modifications may be made to the terminal and no repair work may be performed on the modules. Any weighing platform or system modules that are used must comply with the specifications contained in the installation instructions. Non-compliant equipment jeopardises the intrinsic safety of the system, cancels the Ex approval and renders any warranty or product liability claims null and void.
- ▲ The safety of the weighing system is only guaranteed when the weighing system is operated, installed and maintained in accordance with the respective instructions.
- ▲ Also comply with the following:
  - the instructions for the system modules
  - the regulations and standards in the respective country
  - the statutory requirement for electrical equipment installed in hazardous areas in the respective country
  - all instructions related to safety issued by the owner
- ▲ The explosion-protected weighing system must be checked to ensure compliance with the requirements for safety before being put into service for the first time, following any service work and every 3 years, at least.

Operation

- ▲ Prevent the build-up of static electricity. Always wear suitable working clothes when operating or performing service work in a hazardous area.
- ▲ Do not use protective coverings for the device.
- ▲ Avoid damage to the system components.

Installation

- ▲ Only install or perform maintenance work on the weighing terminal in the hazardous zone if the following conditions are fulfilled:
  - the owner has issued a permit ("spark permit" or "fire permit")
  - the area has been rendered safe and the owner's safety co-ordinator has confirmed that there is no danger
  - the necessary tools and any required protective clothing are provided (danger of the build-up of static electricity)
- ▲ The certification papers (conformity certificates, manufacturer's declarations) must be present.

- ▲ Use only cables for intrinsically-safe circuits in accordance with the applicable country-specific regulations and standards for the installation of a weighing system with the ID7sx-Data weighing terminal.
- ▲ Lay cables in such a way that they are protected from damage.
- ▲ Only route cables into the housing of the system modules via the earthing cable gland and ensure proper seating of the seals.
- ▲ If the ID7sx... weighing terminal is used in conjunction with an automatic or manual filling plant, all of the system modules must be equipped with a permanently wired emergency stop circuit, independent of the system circuit, in order to prevent personal injury or damage to other items of equipment.

Maintenance

- ▲ Always disconnect the system from the power supply before commencing maintenance work. Where certain inspections, tests or adjustments require the system to remain connected to the power supply, this work must be performed with particular care.

Service

- ▲ Service technicians must have attended a product-specific course of training for hazardous-duty equipment.
- ▲ Service work should be performed outside hazardous zones wherever possible. Service work includes dismantling an Ex device inside the hazardous area and moving it into the safe area.
- ▲ To avoid accident and injury, turn the weighing terminal off and wait for at least 30 seconds before connecting or disconnecting cables to/from the printed circuit board.
- ▲ Only use the parts or modules specified in the spare parts list as replacements.

2 Introduction and assembly

2.1 Introduction

ID7sx-Data is a software application for the METTLER TOLEDO ID7sx... weighing terminal. You can utilise the functions of the ID7sx-Data after inserting the dongle and loading the software application.

Scope of delivery

- Hardware dongle for installation in the ID7sx...
- CD-ROM with
  - Software application
  - ID/PC Expert: for installation of the software package

Documentation

The ID7sx... weighing terminal is provided with operating instructions and installation information for the original configuration of the weighing terminal. Please see these operating instructions for basic information on working with the ID7sx... weighing terminal.
These operating instructions contain additional information on installing and using the ID7sx-Data application software.

2.2 Installing ID7sx-Data

EXPLOSION HAZARD

The ID7sx... weighing terminal may only be opened by METTLER TOLEDO service technicians.

➜ To install the ID7sx-Data application software, please contact METTLER TOLEDO Service.

3 Weighing in dialogue with computer

The ID7sx-Data can be operated in the dialogue mode with a computer as a terminal with a keyboard and display.
The connected computer controls the dialogue mode. The keyboard of the ID7sx-Data serves as the input unit, and the display of the ID7sx-Data as the display unit.
Additional information on the communication between the ID7sx-Data and the computer is contained in the operating instructions for the ID7sx... weighing terminal.

Available dialogue types

Two dialogue types are available:

- Dialogue mode with the display command, whereby only the display field can be written on the ID7sx-Data, see section 3.1.
- Dialogue mode with the RM commands, whereby the display field can be written and the function key assignment can be changed on the ID7sx-Data, see section 3.2.

Function keys

In the default configuration the function key assignment for the ID7sx-Data is designed for use with the METTLER TOLEDO SQC application "FreeWeigh", however can be set as desired with RM commands or the commands AW303 ... AW307 or AW_303 ... AW_307 (see section 5.1).

Default function key assignment ("FreeWeigh")

SHIFT	**RESET**	**CODE**	**NEXT**	**SAMPL**	**END**
For activating the second assignment of the keys CODE A ... D	See operating instructions for "FreeWeigh"				

➜ Select the function by pressing the function key.

Example

➜ Press the SHIFT key to activate the second assignment of the keys CODE A ... CODE D.

If the function keys are assigned other functions

➜ Press the CHANGE FUNCTION key repeatedly until the function key assignment shown above appears.

Change function key assignment with RM commands
The assignment of the 4 function keys F2 ... F5 can be selected as desired by transmitting an RM command to the ID7sx-Data, see section 3.2.

<--	TEXT 1	TEXT 2	TEXT 3	-->
Scroll by page within the function key line	see RM commands from page 12			Scroll by page within the function key line

Key The key marking can cover a maximum of 4 function keys, i.e. several function key fields are then combined to form one function key.
Page A function key page corresponds to the display size, i.e. a maximum of 4 function keys can be shown on a page depending on the key marking.
Line A function key line consists of a maximum of 15 function keys.

Timer function following an RM command
If a function key on the ID7sx-Data is pressed following a request by an RM command, the keyboard is locked and a 15-second timer is started.
When the timer has run out, the function keys are marked in the "FreeWeigh" default setting and the response "RM30_T" transmitted.
The timer can be suppressed by one of the following commands being transmitted immediately to the ID7sx-Data after a function key message is received:
D, RM34, RM35, RM38, RM39_x1.

Note
The timer function does not apply to the keys CODE A ... CODE D.

3.1 Dialogue mode with display command

The display of the ID7sx-Data is described in the dialogue on the display command. However, the entered text disappears when entries are made on the ID7sx-Data. The function key assignment is matched to the METTLER TOLEDO SQC application "FreeWeigh". The dialogue is possible without/with format specification.

Start The ID7sx-Data receives a display command from the computer and displays the received data.

Dialogue
- The ID7sx-Data waits for an entry via the keyboard and transmits the entry to the computer.
- The computer transmits display commands to the ID7sx-Data.
- The data cable to the computer remains active exclusively for the display dialogue until the display dialogue is ended.

End The dialogue mode ends when the ID7sx-Data receives a display command without a content (D _).

3.1.1 Display dialogue without format specification

If a character is entered on the keyboard of the ID7sx-Data, it is immediately transmitted to the connected computer.

Display command from computer to ID7sx-Data

The following commands can be transmitted from the computer to the ID7sx-Data:

Display command	Shown on display of ID7sx-Data
D x _ Text (MMR) D x _ "Text" (SICS) D _ Text D _ "Text"	The transmitted text is shown in the line x x=1 Line 1 Character size 4x6 pixels max. 14 characters x=2 Line 2 Character size 4x6 pixels max. 14 characters x=3 Line 3 Character size 5x7 pixels max. 20 characters x=4 Line 4 Character size 4x6 pixels max. 30 characters Abbreviation for D 3 _ Text Abbreviation for D 3 _ "Text"
D 1 2 3 4 _ Text1 $ $ Text2 $ $ Text3 $ $ Text4 (MMR) D 1 2 3 4 _ "Text1" _ "Text2" _ "Text3" _ "Text4" (SICS)	The transmitted text is shown in the lines 1 to 4
D x	Delete line x
D _	Delete all lines
D	End display dialogue
Note	When the interface is operated in the dialogue mode with the SICS command set, "Text" must always be between inverted commas.

Response of the ID7sx-Data to the computer

The ID7sx-Data transmits the following answers to the computer:

Response	Meaning
D B (MMR) D x _ B (SICS) D 1 2 3 4 _ B (SICS)	Display command executed Display command executed for line x Display command executed for lines 1 to 4

Message of ID7sx-Data to computer

The ID7sx-Data transmits a message to the computer immediately after a key is pressed.

Message	Meaning
K D _ Code (MMR) D _ A _ "Code" (SICS)	For numeric and alphanumeric keys of an external keyboard, CLEAR key and decimal point
K F _ Code	The function keys F1 - F6 and for the keys CODE A ... CODE D
R M 3 0 _ A _ 1 6	For ENTER key

Notes

- For information on "Code", see section 3.1.3.
- As many entries as desired are permitted. The content of the last display command continues to be shown in the display until a new display command is transmitted.
- The following basic functions of the ID7sx-Data can be used during the dialogue mode, causing "Text" to appear again in the display.
  - Taring
  - Tare specification
  - Set to zero
  - Specify DeltaTrac target values
  - Scale switchover

3.1.2 Display dialogue with format specification

The ID7sx-Data accepts only entries in the specified format (e. g. alphanumeric, real, etc.). The transmission to the computer does not take place until the entry on the ID7sx-Data has been completed with ENTER.

Note

The control sequences of the function keys and the keys CODE A ... CODE D are always transmitted immediately.

Display command from computer to ID7sx-Data

`D x _ Text (max. 20 characters)` Interface in dialogue mode with MMR command set

`D x _ "Text" (max. 20 characters)` Interface in dialogue mode with SICS command set

x = Code for the format that must be observed during entry on the ID7sx-Data

Format	Possible keyboard entries	No. of characters
x = A (Alpha)	alphanumeric keys, special characters, CLEAR key, ENTER key	max. 20
x = H (Hidden)	as for x = A, however all characters appear on the display as *	max. 20
x = G (General)	number keys 0... 9. sign, decimal point, CLEAR key, ENTER key	max. 20
x = R (Real)	number keys 0... 9. sign, decimal point, CLEAR key, ENTER key	max. 20, incl. one decimal point, one sign
x = N (Natural)	number keys 0... 9. CLEAR key, ENTER key	max. 20
x = Q (Query)	key 0, key 1, CLEAR key, ENTER key	1 ("1" or "0")

Note

When the ID7sx-Data expects an alphanumeric entry, the function keys change to the assignment for the alphanumeric entry, see operating instructions for ID7sx… weighing terminal.

Message of ID7sx-Data to computer

After the keyboard entry is completed with ENTER, the ID7sx-Data transmits the following message to the computer:

Message	Meaning
K _ _ Data (max. 20 characters) (MMR) D x _ A _ "Data" (max. 20 characters) (SICS)	For alphanumeric keys
K F _ Code (MMR) D x _ A _ Code (SICS)	The function keys F1 … F6 and the keys CODE A … CODE D, CLEAR and ENTER

Notes

- For information on "Code", see section 3.1.3.
- Incorrect entries can be deleted character by character with the CLEAR key, and correct entries must be completed with the ENTER key. The keys pressed here are not transmitted to the computer.
- With the format Q (Query) YES appears in the display after the key 1 is pressed, and NO appears after the key 0 is pressed.
- The entered data continue to be shown in the display after the transmission.
- If no data entry is to take place, the keys CLEAR or ENTER trigger a data transmission.

3.1.3 Key codes for response from ID7sx-Data

The codes of the messages to the computer K F _ Code or K D _ Code can be assigned to the keys as follows

Code	Key	FreeWeigh assignment
A	CODE A	Art
B	CODE B	Tare
C	CODE C	Test
D	CODE D	Print
E	Shift CODE A	Mach
F	Shift CODE B	Param
G	Shift CODE C	Atrr
H	Shift CODE D	Stat
No message	Function key F1	Shift
I	Function key F2	Reset
J	Function key F3	Code
K	Function key F4	Next
L	Function key F5	Sample
M	Function key F6	End
_ (Hex 5FH)	CLEAR	
^ (Hex 5EH)	ENTER	
. (Hex 2EH)	Decimal point	
1	Number key 1	
2	Number key 2	
…	…	
9	Number key 9	
0	Number key 0	

3.2 Dialogue mode with RM commands

With the RM dialogue the assignment of the function keys can be set from the computer. The specified text continues to be shown on the display during an entry on the ID7sx-Data. The RM commands of the ID7sx-Data are based on the command set MT-SICS 3 RemoteR V1.0x.

3.2.1 Table of RM commands

Command	Meaning	Page
RM20	Request user entry (value or text) of ID7sx-Data	13
RM30	Define function key assignment	15
RM31	Define highlighting of function keys	16
RM32	Define sequence of function keys	17
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RM35	Change function key assignment immediately	19
RM36	Display defined function key line	20
RM37	Display defined function key assignment	21
RM38	Display defined function key assignment immediately	22
RM39	Execute current RM3x commands last transmitted	24
RM50	Carry out acoustic signal (beep) on terminal ID7sx-Data	25

3.2.2 Description of RM commands

RM20 – Request user entry (value or text) of ID7sx-Data

Command	R M 2 0 _ x1 _ "Text1" _ "Text2" _ "Text3" Text1: Text in Line 1 on the display (max. 14 characters). Text2: Text/value displayed as default specification and overwritten or adopted by the user (max. 20 characters). **x1: Entry format** x1=1: Real (only positive values) x1=2: Real x1=3: Integer (only positive values) x1=4: Integer x1=5: EU date (DD.MM.YY) x1=6: US date (MM/DD/YY) x1=7: Time (hh:mm:ss) x1=8: Alphanumeric Text3: Unit (max. 3 characters).
1st response	R M 2 0 _ B Command executed, user entry will follow. R M 2 0 _ I Command understood, however cannot currently be executed (e.g. when an RM20 command is already active). No second response will follow. R M 2 0 _ L Command understood, however parameter incorrect. No second response will follow.
2nd response	R M 2 0 _ A _ "User entry" Entry by the user that will be sent back by pressing ENTER. R M 2 0 _ T 10 minutes have past since the last RM20 command. If present, the last RM3x commands will be reactivated (including RM39).
Example	**Request entry of date from ID7sx-Data** Command: R M 2 0 _ 5 _ "Date:" _ "09.09.99" _ "" Date display in European format with default specification "09.09.99" and "Date" as text to the left of the cursor. It is not necessary to enter a unit. 1st response: R M 2 0 _ B Command executed, user entry will follow. The information ("09.09.99") is saved in the terminal. 2nd response: R M 2 0 _ A _ "09.09.99" The ENTER key has been pressed.
Reset/cancel	**Cancel RM20 command** Command: R M 2 0 _ 0 Response: R M 2 0 _ A Command executed, i.e. the last RM20 command was cancelled. R M 2 0 _ I Command understood, however cannot currently be executed (e.g. when no RM20 command is active).

Comments	• The display of the function keys can be deactivated with the command RM39_2 as long as the RM20 command is still active. This is the meaning when the current function key assignment may not appear immediately after the RM20 command is executed, e.g. the function key assignment is to be changed. • Entry is also possible via a barcode or an RS232 keyboard. However, the correctness of the entry and of the format must be checked by the host, i.e. all barcodes read in are transmitted, regardless of the required entry format x1. • The character " (ASCII 34) may not be used within the parameters "Text1", "Text2" and "Text3". • The SICS commands T, TI, Z, C1, C2, C3, TST1, TST2 and TST3 will not be executed when an RM20 command is active, as otherwise the response RM20_I appears. Other commands are processed, however are not displayed until after the RM20 command is executed.

RM30 – Define function key assignment

Command	R M 3 0 _ "Text1" _ "Text2" _ . . . "Text15" Text1: Text for the 1st function key (max. 20 characters). Text2: Text for the 2nd function key (optional; max. 20 characters). : Text15: Text for the 15th function key (optional; max. 20 characters).
1st response	R M 3 0 _ B Command executed, additional RM3x commands expected (at least one RM39 command). R M 3 0 _ I Command understood, however cannot currently be executed. No second response will follow. R M 3 0 _ L Command understood, however parameter incorrect (e.g. more than 20 characters for a function key, or more than 15 function keys). No second response will follow.
2nd response	R M 3 0 _ A _ x1 Number of function key pressed (x1=1...15). R M 3 0 _ T A 15-second timer has expired since the last function key was pressed and none of the host commands RM34, RM35, RM38 or RM39_x1 has been received. All function keys switch into the default assignment.
Additional response	R M 3 0 _ A _ 16 Transmitted after ENTER was pressed.
Example	**Define the assignment for three function keys** Command A: R M 3 0 _ "Small" _ "Medium" _ "Large" 1st response A: R M 3 0 _ B Command executed, user entry will follow. The information (Small Medium Large) is saved in the terminal. To display the information on the ID7sx-Data, the command RM39_1 is required: Command B: R M 3 9 _ 1 Execute current RM30 command. Response B: R M 3 9 _ A Command executed. 2nd response A: R M 3 0 _ A _ 2 Second function key has been pressed (Medium).
Comments	• To activate the command, the terminal expects the command RM39_1. The commands RM31, RM32 or RM33 must be transmitted before the command RM39. • The commands RM31, RM32, RM33 and RM34 will be automatically deleted, i.e. the command RM30 must be transmitted first. • Keys that are not function keys react as described for the SICS command "K_x". • The character " (ASCII 34) may not be used within the parameters "Text1", "Text2" ... or "Text15". • By switching off the terminal or with the SICS command @ (Reset), all RM30 information is deleted from the memory of the ID7sx-Data.

RM31 – Define highlighting of function keys

Command	R M 3 1 _ x1 _ x2 _ . . . x15 x1: Highlight 1st function key (optional). x2: Highlight 2nd function key (optional). : x15: Highlight 15th function key (optional).
Response	R M 3 1 _ A Command executed. R M 3 I _ I Command understood, however cannot currently be executed (e.g. no RM30 command is present). R M 3 1 _ L Command understood, however parameter incorrect.
Example	**Define highlighting of second function key** Example: R M 3 0 _ "Small" _ "Medium" _ "Large" Command: R M 3 1 _ 2 Highlight second function key (Medium). Response: R M 3 1 _ A Command executed. To display the change on the display of the ID7sx-Data, the command RM39_1 is required.
Reset/cancel	**Cancel all highlighting** Command: R M 3 1 _ 0 Response: R M 3 1 _ A Command executed. Response: R M 3 I _ I Command understood, however cannot currently be executed (e.g. no RM30 command has preceded).
Comments	• No fault message appears when a function key has been marked more than once. • To activate the command, the terminal expects the command RM39_1. Note that the commands RM32 or RM33 must be transmitted before the command RM39. • The command RM31 refers to the last RM30 command transmitted. • By switching off the terminal or with the SICS command @ (Reset), all RM31 information is deleted from the memory of the ID7sx-Data.

RM32 – Define sequence of function keys

Command	`R M 3 2 _ x1 _ x2 _ . . . x15` x1: Number of function key to be displayed as the 1st function key from now on. x2: Number of function key to be displayed as the 2nd function key from now on. : x15: Number of function key to be displayed as the 15th function key from now on.
Response	`R M 3 2 _ A` Command executed. `R M 3 I _ I` Command understood, however cannot currently be executed (e.g. no RM30 command is present). `R M 3 1 _ L` Command understood, however parameter incorrect.
Example	**Change sequence of function keys** Example: `R M 3 0 _ "Small" _ "Medium" _ "Large"` Command: `R M 3 2 _ 3 _ 1 _ 2` Arrange function keys in following sequence: Large Small Medium. Response: `R M 3 2 _ A` Command executed. To display the change on the display of the ID7sx-Data, the command RM39_1 is required.
Reset/cancel	**Produce original sequence (created with RM30 or RM36)** Command: `R M 3 2 _ 0` Response: `R M 3 2 _ A` Command executed. `R M 3 2 _ I` Command understood, however cannot currently be executed (e.g. no RM30 or RM36 command is present).
Comments	• A function key can be displayed several times. • To activate the command, the terminal expects the command RM39_1. Note that the commands RM31 or RM33 should be transmitted before the command RM39. • The command RM32 refers to the last RM30 command transmitted. The function key sequence of other RMx commands remains unchanged. • By switching off the scale or with the SICS command @ (Reset), all RM32 information is deleted from the memory of the ID7sx-Data.

RM33 – Define sequence of function keys by page

Command	`R M 3 3 _ x1` **Display the page that contains function key x1 as the first page** x1: Number of function key to be displayed on the 1st page from now on.
Response	`R M 3 3 _ A` Command executed. `R M 3 3 _ I` Command understood, however cannot currently be executed (e.g. no RM30 command is present). `R M 3 1 _ L` Command understood, however parameter incorrect (e.g. a parameter contains a function key that does not exist).
Example	**Define Page 2 from 1st page** Example: `R M 3 0 _ "Grape" _ "Pear" _ "Apric" _ "Mango" _ "Apple" _ "Kiwi" _ "Bana" _ "Orang"` (4 function keys per page) Command: `R M 3 3 _ 5` Define the page that contains the 5th function key (Apple) (Page 2), as 1st page. Response: `R M 3 3 _ A` Command executed. To show the changes on the display, the command RM39_1 is required. Now the following appears on the display: Apple Kiwi Bana Orang.
Reset/Cancel	**Deactivate previous RM30 command if its parameter is not zero** `R M 3 3 _ 0` `R M 3 3 _ A` Command executed. `R M 3 3 _ I` Command understood, however cannot currently be executed (e.g. no RM30 command is present).
Comments	• To activate the command, the terminal expects the command RM39_1. Note that the commands RM31 or RM33 should be transmitted before the command RM39. • The command RM33 refers to the last RM30 command transmitted. • By switching off the scale or with the SICS command @ (Reset), all RM33 information is deleted from the memory of the ID7sx-Data.

RM35 – Change function key assignment immediately

Command	`R M 3 5 _ x1 _ "Text1" _ ... x4 _ "Text4"` x1: Position of 1st function key to be changed (1...15). Text1: New text for the 1st function key (max. 20 characters). : x4: Position of 4th function key to be changed (1...15). Text4: New text for the 4th function key (max. 20 characters).
Response	`R M 3 5 _ A` Command executed. `R M 3 5 _ I` Command understood, however cannot currently be executed (e.g. no RM30 command is present). `R M 3 5 _ L` Command understood, however parameter incorrect (e.g. more than 20 characters used for a function key, more than 4 function keys present or the position specification refers to an empty function key).
Example	**Rename first and fourth function key immediately** Example: `R M 3 0 _ "Grape" _ "Pear" _ "Apric" _ "Mango" _ "Apple" _ "Kiwi" _ "Bana" _ "Orang"` Command: `R M 3 5 _ 1 _ "Apple" _ 4 _ "Lime"` Rename first function key Grape to Apple, fourth function key from Mango to Lime. Response: `R M 3 5 _ A` Command executed.
Comments	• The command RM35 only concerns the function key assignment of the last RM30 command transmitted. If the function key assignment of the last RM30 command is currently displayed, the command RM35 changes the display immediately. Therefore, the command RM39_1 is no longer required. • The character " (ASCII 34) may not be used within the parameters "Text1" to "Text4". • By switching off the scale or with the SICS command @ (Reset), all RM35 information is deleted from the memory of the ID7sx-Data.

RM36 – List or save function key line from fix memory

Command

List function key line

`R M 3 6 _ x1` x1=0: List all function key lines (including empty ones).
x1=1...30: Number of desired function key line.

Save Function key line (30 lines with 20 characters per key)

`R M 3 6 _ x1 _ "Text1" _ "Text2" _ ... "Text15"`

x1: Number of the function key line to be defined (1...30).
Text1: Text for the 1st function key (max. 20 characters).
Text2: Text for the 2nd function key (optional; max. 20 characters).
:
Text15: Text for the 15th function key (optional; max. 20 characters).

Response

Function key line transmitted

`R M 3 6 _ A _ x1 _ "Text1" _ "Text2" _ ... "Text15"`

Command executed.
x1: Number of function key line (1...30).
Text1...15: Display the individual parameters (see below).

Function key line defined

`R M 3 6 _ A` Command executed.
`R M 3 6 _ I` Command understood, however cannot currently be executed.
`R M 3 6 _ L` Command understood, however parameter incorrect.

Example

Define two function key lines

Command A: `R M 3 6 _ 1 _ "Grape" _ "Pear" _ "Apric" _ "Mango" _ "Apple" _ "Kiwi" _ "Banan"`
The 1st function key line has been saved.

Response A: `R M 3 6 _ A` Command executed.

Command B: `R M 3 6 _ 16 _ "Net" _ "Gross" _ "Target" _ "Act" _ "Diff"`
The 16th function key line has been saved.

Response B: `R M 3 6 _ A` Command executed.

Two function key lines (1 and 16) have been saved. To show the function keys on the display of the ID7sx-Data, the command RM38_x or RM39_1 is required. However, an RM37 command should precede the command RM39_1.

Comments	• The command RM36 may be a good alternative to an RM30 command. As the function key assignments are saved in the internal memory of the ID7sx-Data, they can be displayed at any time. Therefore, it is no longer necessary for the host to send back the function key commands. Displaying the function key assignment from the internal memory of the ID7sx-Data requires less time than the transmission of the function key assignment by the host. • RM commands may be a maximum of 250 characters long, i.e. not all 15 function keys in a function key line can be marked with up to 20 characters. • Information saved with the RM36 command remain in the memory of the ID7sx-Data even after the scale is switched off or following the SICS command @ (Reset). However, a reset deletes all information saved in RM36.

RM37 – Display defined function key assignment

Command	`R M 3 7 _ x1` x1: Number of function key line (1...30) defined beforehand with the command RM36.
Response	`R M 3 7 _ A` Command executed. `R M 3 7 _ I` Command understood, however cannot currently be executed (e.g. no function key line is defined in RM36). `R M 3 7 _ L` Command understood, however parameter incorrect.
Example	**Display first function key line** Example: `R M 3 6 _ 1 _ "Grape" _ "Pear" _ "Apric" _ "Mango" _ "Apple" _ "Kiwi" _ "Bana"` Command: `R M 3 7 _ 1` Response: `R M 3 7 _ A` Command executed. To show the function key line on the display, the command RM39_1 is required. Press arrow keys F1 or F6 to scroll between the different pages of a function key line.
Comment	By switching off the scale or with the SICS command @ (Reset), all RM37 information is deleted from the memory of the ID7sx-Data.

RM38 – Display defined function key assignment immediately

Command

R M 3 8 _ x1 _ ABCtext1 _ ABCtext2 _ ABCtext3

x1: Number of function key line (1...30) defined beforehand with the command RM36.

The maximum of 15 function keys are assigned the 15 letters A to O.

ABCtext1: The letters A to O define the sequence of the function keys.
Alternative entry:
0 (zero): Use memory content.
X: Use specification of RM36.
The specification of ABCtext1 is optional; if there is no specification, the specification of RM36 will be taken into account or, if available, the memory content will be used, see notes.

ABCtext2: A letter from A to O defines the function key page to be displayed.
Alternative entry:
0 (zero): Use memory content.
X: Use specification of RM36.
The specification of ABCtext2 is optional; if there is no specification, the specification of letter A will be selected or, if available, the memory content will be used, see notes.
ABCtext2 may only be specified when ABCtext1 has also been specified.

ABCtext3: The letters A to O define which function keys are highlighted.
Alternative entry:
0 (zero): Use memory content.
X: Use specification of RM36.
The specification of ABCtext3 is optional; if there is no specification, no function keys will be highlighted or, if available, the memory content will be used, see notes.
ABCtext3 may only be specified when ABCtext1 and ABCtext2 have also been specified.

Response

R M 3 8 _ A — Command executed.

R M 3 8 _ I — Command understood, however cannot currently be executed (e.g. if no function key line has been defined in RM36).

R M 3 8 _ L — Command understood, however parameter incorrect.

Example	Example: `R M 3 6 _ 2 _ "NetWeight" _ "GrossWeight" _ "TargetWeight" _ "ActWeight" _ "WeightDiff"` Maximum of 2 function keys per page Command: `R M 3 8 _ 1 _ DEBC _ C _ DE` Based on the second function key line predefined in RM36, the new function key line is defined as follows: ActWeight WeightDiff GrossWeight TargetWeight. First display the function key page that contains the third function key (TargetWeight). The fourth and fifth function keys are highlighted. Response: `R M 3 8 _ A` Command executed. The function keys GrossWeight and TargetWeight (second page) immediately appear on the display of the ID7sx-Data. Press the arrow keys to display the first page.
Comments	• In command RM38 the functions of the commands RM30, RM31, RM32, RM33 and RM39_1 are combined to form a single command, whereby a predefined function key line (RM36) is used. • The memory content is used when parameters have not been precisely specified (ABCtext1, ABCtext2 or ABCtext3) or when, wherever possible, 0 (zero) has been entered (for faster processing). In this case the function-key command line will obtain the missing information from the memory and apply it as was the case during the last use of an RM38 command with the same x1. • If a function key line generated by RM38 is active or has been deactivated by the command RM39_2, the commands RM31, RM32 and RM33 directly influence the memory content for a subsequent RM38 command with regard to this command line. This function simplifies updates running in the background and enables faster working. • By switching off the scale or with the SICS command @ (Reset), all RM38 information is deleted from the memory of the ID7sx-Data.

RM39 – Execute current RM3x commands last transmitted

Command	R M 3 9 _ x1 x1=0: Delete command line (RM30...RM33 information no longer available). x1=1: Activate command line. x1=2: Deactivate command line (can be reactivated with command RM39_1).
Response	R M 3 9 _ A Command executed. R M 3 9 _ I Command understood, however cannot currently be executed (e.g. no RM30 present (x1=1) or no function keys displayed (x1=2)). R M 3 9 _ L Command understood, however parameter incorrect.
Example	**Execute current RM3x commands last transmitted** Example: R M 3 0 _ "Small" _ "Medium" _ "Large" R M 3 1 _ 2 R M 3 2 _ 3 _ 1 _ 2 . Command: R M 3 9 _ 1 Execute current function key commands RM30, RM31 and RM32. Response: R M 3 9 _ A Command executed. The commands RM30, RM31 and RM32 are executed simultaneously. The display of the ID7sx-Data shows the following: Large Small Medium, Medium is highlighted.
Comments	• The command RM39 deletes, deactivates (hide) or activates/reactivates the current function key lines, including the RM31…RM33 information. • Also see "2nd response" for command RM30. • The commands RM35 and RM38 already contain an RM39_1 command.

RM50 – Execute acoustic signal (beep) on the terminal ID7sx-Data

Command	R M 5 0 _ x1 **x1:** **Length of beep** x1=1...15: Beep of approx. 0.1...1.5 second duration.
Response	R M 5 0 _ A Command executed. R M 5 0 _ A Command understood, however cannot currently be executed. R M 5 0 _ L Command understood, however parameter incorrect.
Example	**Execute beep (1 sec.)** Command: R M 5 0 _ 10 Execute beep with a duration of 1 second on the terminal ID7sx-Data. Response: R M 5 0 _ A Command executed.
Comment	Pressing any key ends the beep.

4 Settings in the master mode

4.1 PAC master mode block

Prerequisite

At least one serial interface (CL20mA or RS232) is configurated in the master mode block INTERFACE for dialog mode with the computer.

COMX	Select the interface connection
CHANNEL 1 CONFIGURED … CHANNEL 3 CONFIGURED	Select one of the configurated serial interfaces.

MODE	Set CODE D key
NORMAL	The CODE D key functions line the keys CODE A … CODE C.
D KEY LOCK	The key can only be pressed once. Then the scale must be unloaded below the ZERO LIMIT or by the MIN. DEFLECTION for the key to be released again.

5 Application blocks

In the following description, the application blocks are shown in the syntax for the MMR command set. When used with the SICS command set, please observe the SICS conventions, see operating instructions for ID7sx... weighing terminal.

5.1 PAC application blocks

No.	Content	Format
301	Pac version	Response: AB_ID7-DATA_Vx.xx
302	Program number	Response: AB_IPY5-0-0xxx_
303	Text for F2 key	Response: AB_Text_20 Write: AW303_Text_20 Note: Only the first 5 characters are shown in the display
304	Text for F3 key	Response: AB_Text_20 Write: AW304_Text_20 Note: Only the first 5 characters are shown in the display
305	Text for F4 key	Response: AB_Text_20 Write: AW305_Text_20 Note: Only the first 5 characters are shown in the display
306	Text for F5 key	Response: AB_Text_20 Write: AW306_Text_20 Note: Only the first 5 characters are shown in the display
307	Text for F6 key	Response: AB_Text_20 Write: AW307_Text_20 Note: Only the first 5 characters are shown in the display

6 What to do if …?

Error / Display	Possible causes	Remedy
Certain keys have no function	• ID7sx-Data in dialog mode through display command with format specification	➜ Only press keys defined by format specification ➜ Change format specification so that other keys are permitted
NO DATA CHANNEL FOUND	• No serial interface is configured for dialog mode with computer	➜ Install serial interface if necessary ➜ Configure serial interface for dialog mode with computer

7 Technical data

Dialog mode with computer	
Operating modes	• Dialog mode without format specification • Dialog mode with format specification • Control of the function key assignment with RM commands
Key codes	Special key codes for • 6 function keys F1 to F6 • 8 keys CODE A to CODE D, Shift CODE A to Shift CODE D • CLEAR, ENTER and decimal point keys

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