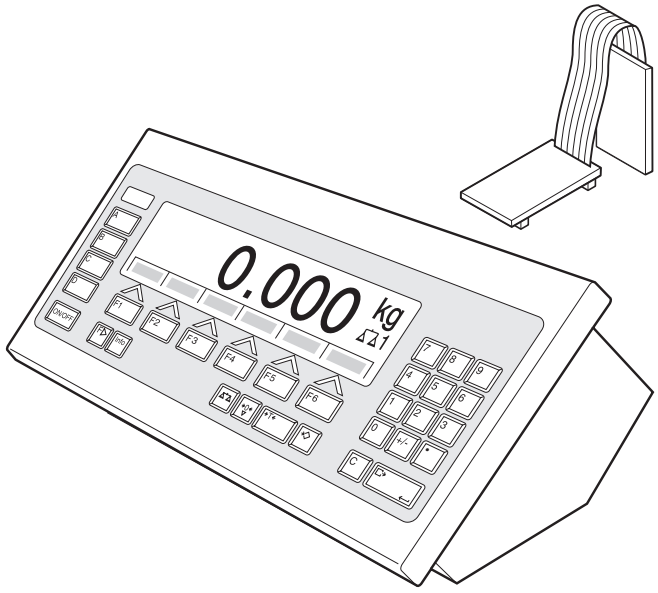
Operating instructions and installation information

METTLER TOLEDO MultiRange
Analog Output-ID7 interface

METTLER TOLEDO



1 Introduction and assembly

1.1 Introduction

The Analog Output-ID7 interface is an interface module for the METTLER TOLEDO ID7... weighing terminal. After the Analog Output-ID7 interface is installed, an additional data interface is available on the ID7... weighing terminal.

Documentation
The ID7... weighing terminal is provided with operating instructions and installation information for the original configuration of the weighing terminal. Please see these operating and installation instructions for basic information on working with the ID7... weighing terminal.

1.2 Safety precautions

1.2.1 Installation in explosion protected ID7xx-... weighing terminal

EXPLOSION HAZARD
The ID7xx-... weighing terminal may only be opened by METTLER TOLEDO service technicians.

➜ To install the Analog Output-ID7 application software, please contact METTLER TOLEDO Service.

1.2.2 Installing in ID7-... weighing terminal

▲ Only authorized personnel may open the ID7... weighing terminal and install the Analog Output-ID7 module.

▲ Before opening the terminal, pull the power plug or switch off the power supply for terminals with a fixed connection.

1.3 Installation

Note
Interface Analog Output-ID7 can be mounted on COM5 and COM6.

1.3.1 Opening ID7... weighing terminal

Desk unit

1. Unscrew the screws on the underside of the cover.
2. Lay down the cover toward the front. When doing so, make sure that the cables are not damaged.

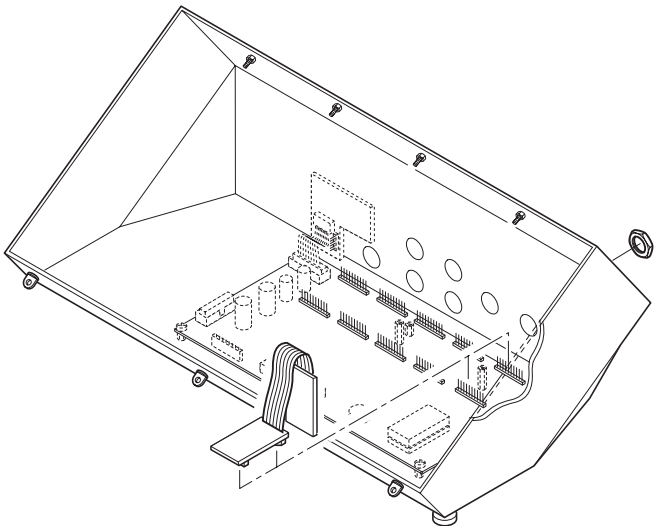
Wall unit

1. Unscrew the screws on the underside of the cover and fold the cover toward the front. When doing so, make sure that the cables are not damaged.
2. Fold open the mounting plate.

Panel unit

1. Unscrew the 10 hex bolts on cut-out on the inside of the switch cabinet.
2. Remove the cover from the switch cabinet and fold toward the front. When doing so, make sure that the cables are not damaged.
3. Fold open the mounting plate.

1.3.2 Install Analog Output-ID7 interface module



1. Remove blind plugs from desired interface connection.
2. Break the socket board off the interface board.
3. Screw the ring nut off the socket board.
4. Guide the socket from inside the housing through the hole to the outside.
5. Screw on the ring nut from the outside and tighten. When doing so, ensure proper seating of the rubber sealing ring.
6. Push the Analog Output-ID7 interface module onto the ID7 board.
7. With wall and panel unit connect the keypad cable and display cable to the ID7 board.

1.3.3 Closing ID7... weighing terminal

Closing desk unit

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

CAUTION
The IP68 protection type can only be guaranteed when the weighing terminal is closed again properly.

➜ The 3 engaging springs must be completely engaged.

➜ Make sure that the keypad cable is not pinched.

Closing wall unit

1. Fold in the mounting plate.
2. Position the cover and screw on again. When doing so, make sure that no cables are pinched.

Closing panel unit

1. Fold in the mounting plate and position the cover on the cut-out again.
2. Secure the cover on the switch cabinet from the inside with 10 screws. When doing so, make sure that no cables are pinched.

2 Settings in the master mode

2.1 INTERFACE master mode block

Select interface connection

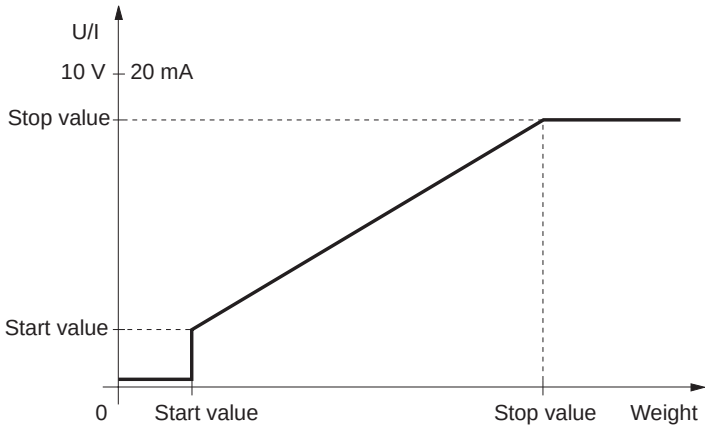
➜ Select the interface connection in the first block: COM5 or COM6.

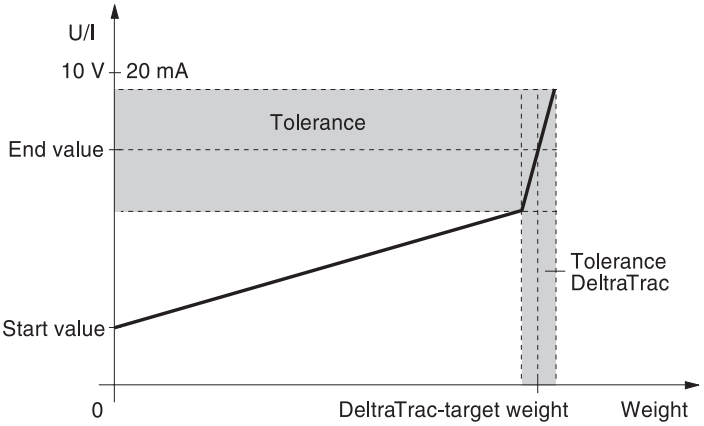
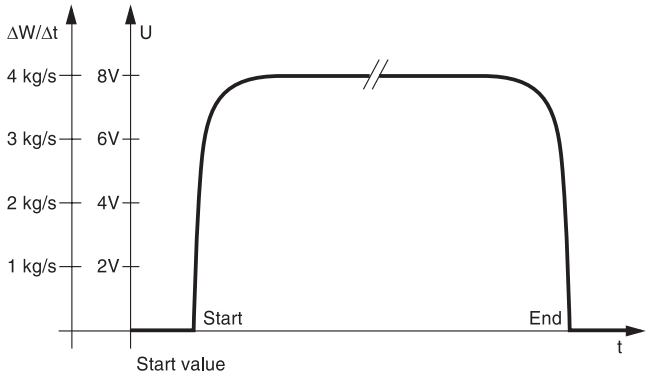
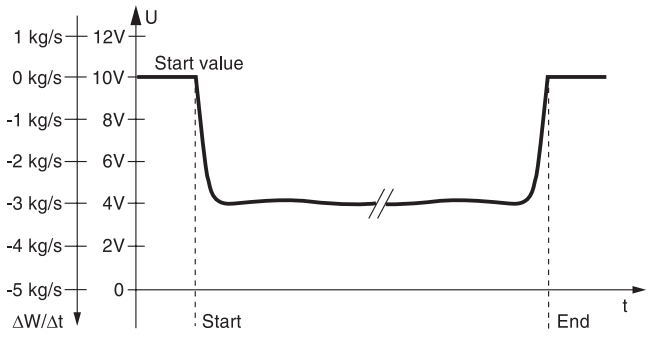
Select interface type

➜ Select the setting ANALOG OUTPUT for the selected interface connection COM5 or COM6.

2.1.1 Configuring Analog Output-ID7

Note
The functionality of Analog Output-ID7 is dependent on the version of your weighing terminal. For ID7-2000 see below, for ID7 see page 8.

ANALOG OUTPUT (ID7-2000)	
SCALE	Select weighing platform from which the weight values are to be output at the interface Analog Output-ID7. This block only appears when several weighing platforms are connected. Factory setting: All weighing platforms
ALL SCALES	Weight values can be output by all connected weighing platforms at the Analog Output-ID7 interface. The assignment of a weighing platform to the Analog Output-ID7 interface can be changed with the key SCALE or the command AW010...
SCALE 1 SCALE 2 SCALE 3	Only weight signals of the selected weighing platform can be output via the Analog Output-ID7 interface
START-STOP MODE	When the selected weight value or the selected number of pieces is within the specified en start and stop values, a current/voltage signal in the specified range will be output at the Analog Output-ID7 interface.  For additional settings, see page 6.

ANALOG OUTPUT (ID7-2000)	
DELTATRAC MODE	In this operating mode the net weight value on the Analog Output-ID7 interface is output in the factory setting, provided DeltaTrac is active. If no DeltaTrac target value is entered, 0 V / 0 mA are output.  For additional settings, see page 7.
ΔW-ΔT MODE	In this operating mode flows are measured via the weight change per time in the supply or catch container. **Example 1:** Weighing in with a flow rate of 4 kg/sec.  **Example 2:** Subtractive weighing with a flow rate of 3 kg/sec. starting value of the analog voltage signal: 10 V.  In both cases a change in the flow rate of 1 kg/sec. results in a change in the analog voltage signal of 2 V. For additional settings, see page 7.

Function keys for entering the parameters

After the operating mode is selected, all parameters are shown on a display page, and the function keys change to the following assignment:

<->	**<**	**>**		**EDIT**	↑
Select parameters	Change unit of output signal Only for ΔW-ΔT MODE			Changes to entry for selected parameter	Return to next highest level

Change parameter

1. Select parameter with <-> key and open entry mask with EDIT key.
2. Enter desired value with number block.
3. To complete entry: press ENTER.

Note
With the CHANGE FUNCTION key you can change the physical unit of the output signal.

Correct entry

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

Parameter for Start-Stop mode

AB — Application block number for the weight value to be output at the Analog Output-ID7 interface.
Factory setting: Application block 012, net weight

VALUE — Starting value of the analog output signal
Factory setting: 0 V
Possible settings: 0 V – 10 V or 0 mA – 20 mA
Stop value of the analog output signal
Factory setting: 10 V
Possible settings: 0 V – 10 V or 0 mA – 20 mA

WEIGHT — Weight value at which the analog output is to start.
Factory setting: 0 g or 0 kg
Weight value from which the maximum value of the analog signal is to be output.
Factory setting: Maximum load of weighing platform

Parameter for DeltaTrac mode

AB — Application block number for the weight value to be output at the Analog Output-ID7 interface.
Factory setting: Application block 012, net weight

V/mA AT ZERO — Starting value of the analog output signal
Factory setting: 0 V
Possible settings: 0 V – 10 V or 0 mA – 20 mA

V/mA AT TARGET — Stop value of the analog output signal
Factory setting: 10 V
Possible settings: 0 V – 10 V or 0 mA – 20 mA

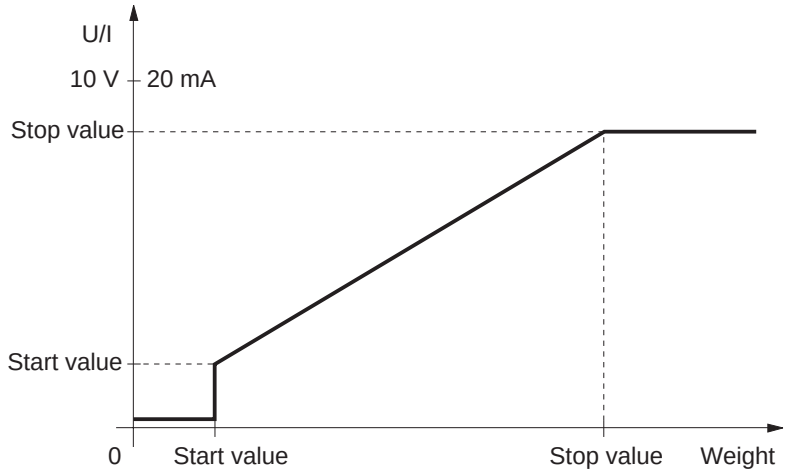
TOLERANCE — +/– deviation from stop value of analog signal when the target weight tolerance is reached
Factory setting: Tolerance = 0 V

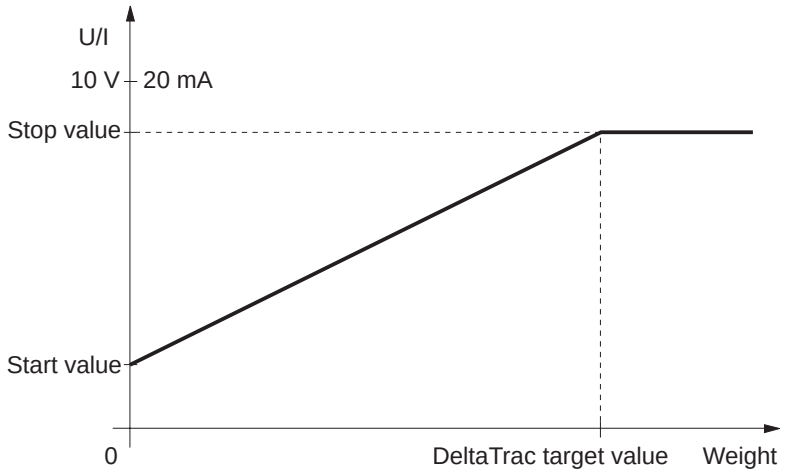
Parameters for the ΔW-ΔT MODE

AB — Application block number for the weight value to be output at the Analog Output-ID7 interface.
Factory setting: Application block 012, net weight

ΔW-ΔT — Value for the change in the analog output signal in the case of a weight change of one unit per second.

START VALUE — Starting value of the analog output signal
Factory setting: 0 V
Possible settings: 0 V – 10 V or 0 mA – 20 mA

ANALOG OUTPUT (ID7)	
SCALE SCALE 1 SCALE 2 SCALE 3	Select weighing platform from which the weight values are to be output at the interface Analog Output-ID7. This block only appears when several weighing platforms are connected. Factory setting: active weighing platform **Note** The weighing platform assignment to the Analog Output-ID7 interface can **not** be changed with the command AW010… or the key SCALE!
START-END MODE	When the selected weight value or the selected number of pieces is within the specified start and stop values, a current/voltage signal in the specified range will be output at the Analog Output-ID7 interface. 
BLOCK NUMBER	Enter the application block number for the weight value to be output at the Analog Output-ID7 interface. Factory setting: Application block 012, net weight
START VALUE	Enter the weight value at which the analog output is to start. Factory setting: 0 g or 0 kg
STOP VALUE	Enter weight value from which the maximum value is output. Factory setting: Maximum load of weighing platform
START V / mA STOP V / mA	Enter the start and stop value of the analog output signal. Possible settings: 0 V – 10 V or 0 mA – 20 mA Switching over between current and voltage with the CHANGE FUNCTION key. Factory setting: START V / mA 0 V STOP V / mA 10 V

ANALOG OUTPUT (ID7)	
DELTATRAC MODE	In this operating mode the net weight value is output at the Analog Output-ID7 interface. Start value 0 g or 0 kg Stop value DeltaTrac target value If no DeltaTrac target value is entered, 0 V / 0 mA are output. 
V / mA AT ZERO V / mA AT TARGET	Enter the start and stop values of the analog output signal. Possible settings: 0 V – 10 V or 0 mA – 20 mA Switching over between current and voltage with the CHANGE FUNCTION key. Factory setting: V / mA AT ZERO 0 V V / mA AT TARGET 10 V
Comment	If the resolution or maximum load of the selected weighing platform is changed, the error message NO ANALOG OUTPUT COMX appears when the scale is switched on again and COM5 or COM6 is reset to NOT IN USE. In this case the Analog Output-ID7 interface must be reconfigured with the changed weighing platform data.

3 Application blocks

In the following description, the application blocks are shown in the syntax for the MMR command set. When used with the SICS command set, please observe the SICS conventions, see Operating instructions and installation information for ID7... weighing terminal.

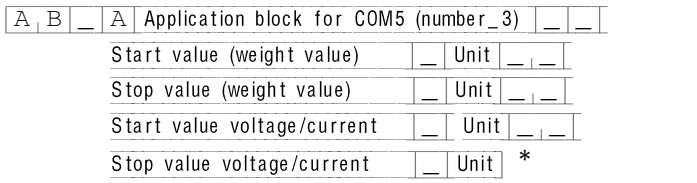
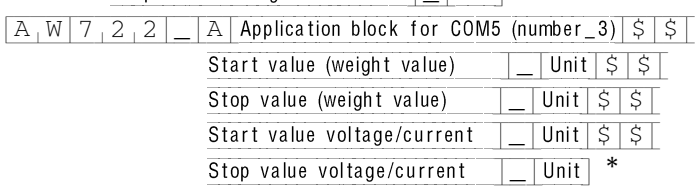
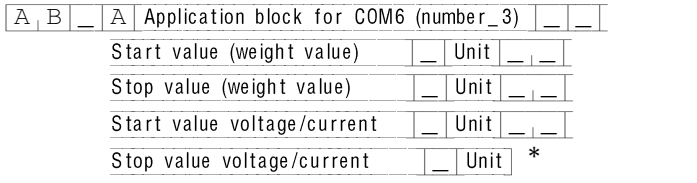
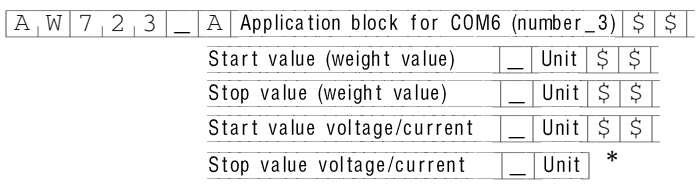
3.1 INTERFACE application blocks

3.1.1 Analog output

Note
The functionality of Analog Output ID7 is dependent on the version of your weighing terminal. For ID7-2000 see below, for ID7 see next page.

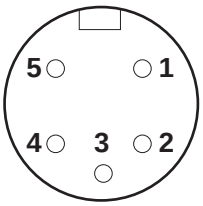
No.	Content	Format (ID7-2000)
722, 723	COM5 analog output, COM6 analog output	Response: Start-Stop mode A B _ A Application block for COM5 (Number_3) _ _ Start value (weight value) _ Unit _ _ Stop value (weight value) _ Unit _ _ Start value voltage/current _ Unit _ _ Stop value voltage/current _ Unit * DeltaTrac mode A B _ A Application block for COM5 (Number_3) _ _ Start value voltage/current _ Unit _ _ Stop value voltage/current _ Unit _ _ Tolerance voltage/current _ Unit * ΔW-ΔT mode A B _ A Application block for COM5 (Number_3) _ _ Start value voltage/current _ Unit _ _ Delta voltage/current _ Weight unit/sec * Write: Start-Stop mode A W 7 x x _ A Application block for COM5 (Number_3) $ $ Start value (weight value) _ Unit $ $ Stop value (weight value) _ Unit $ $ Start value voltage/current _ Unit $ $ Stop value voltage/current _ Unit * DeltaTrac mode A W 7 x x _ A Application block for COM5 (Number_3) $ $ Start value voltage/current _ Unit $ $ Stop value voltage/current _ Unit $ $ Tolerance voltage/current _ Unit * ΔW-ΔT mode A W 7 x x _ A Application block for COM5 (Number_3) $ $ Start value voltage/current _ Unit $ $ Delta voltage/current _ Weight unit/s * Note: xx = 22: COM5 xx = 23: COM6

* Format for start value/stop value voltage/current: xx.xx ; Unit: V or mA

No.	Content	Format (ID7)
722	COM5 analog output	Response:  Write: 
723	COM6 analog output	Response:  Write: 

* Format for start value/stop value voltage/current: xx.xx ; Unit: V or mA

4 Technical data

Interface Analog Output-ID7				
Digital-Analog converter	For outputting analog direct voltage or DC current signals			
Analog voltage output	V_{out}	0 – 10 V (4095 Parts) Start and stop value of output voltage and output weight value freely selectable		
	R_{Vout}	>10 kΩ		
	Cable	max. 10 m		
Analog current output	I_{out}	0 – 20 mA (4095 Parts) 4 – 20 mA (3275 Parts) Start and stop value of output current and output weight value freely selectable		
	R_{Iout}	<250 Ω		
	Cable	max. 50 m		
Characteristics	Resolution	12-bit		
	Error	+/– 1 % (current/voltage)		
Application	All data present in a valid weight unit can be used as a data basis for the analog output.			
Socket  External view	5-pin circular connector, socket			**Wire colors**
	Analog Output-ID7			**Cable 00 204 930**
	Pin 1	V out	analog output voltage	green
	Pin 2	0 V (V out)	reference potential	yellow
	Pin 3	I out +	analog current output, positive	brown
	Pin 4	I out –	analog current output, negative	pink
	Pin 5	0 V(V out)	reference potential	white

Accessories		**Order No.**
Accessories for Analog Output-ID7	Cable for Analog Output-ID7, 5-pin, 3 m	00 204 930
	Mating connector, 5-pin	00 205 538

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