

ACT100/ACT100xx Weight Transmitter



ACT100 Quick Guide

Intended Use

Your weighing transmitter is used for weighing. Use the scale exclusively for this purpose. Any other type of use and operation beyond the limits of technical specifications without written consent from Mettler-Toledo, LLC will invalidate its warranty.

It is essential for the buyer to closely observe the installation information, product and system manuals, operating instructions and other documentation and specifications. MT's warranty and any liability are expressly excluded for damages caused by non-compliance with the applicable manuals.

Documentation

For further details on system configuration and operation, refer to the documents provided on www.mt.com/ind-act100-downloads.

Safety Warnings

Read the Installation section on ACT100/ACT100xx User Guide before operating or servicing this equipment, follow all instructions carefully, and SAVE all documentation for future reference.



WARNINGS

FOR CONTINUED PROTECTION AGAINST SHOCK HAZARD CONNECT TO PROPERLY GROUNDED OUTLET ONLY. DO NOT REMOVE THE GROUND PRONG.

WHEN THIS EQUIPMENT IS INCLUDED AS A COMPONENT PART OF A SYSTEM, THE RESULTING DESIGN MUST BE REVIEWED BY QUALIFIED PERSONNEL WHO ARE FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF ALL COMPONENTS IN THE SYSTEM AND THE POTENTIAL HAZARDS INVOLVED. FAILURE TO OBSERVE THIS PRECAUTION COULD RESULT IN BODILY HARM AND/OR PROPERTY DAMAGE.

ALL EQUIPMENT MUST BE INSTALLED IN ACCORDANCE WITH THE INSTALLATION INSTRUCTIONS DETAILED IN THE USER MANUAL. INCORRECT OR SUBSTITUTE COMPONENTS AND/OR DEVIATION FROM THESE INSTRUCTIONS CAN IMPAIR THE SAFETY OF THE TRANSMITTER AND COULD RESULT IN BODILY HARM AND/OR PROPERTY DAMAGE.

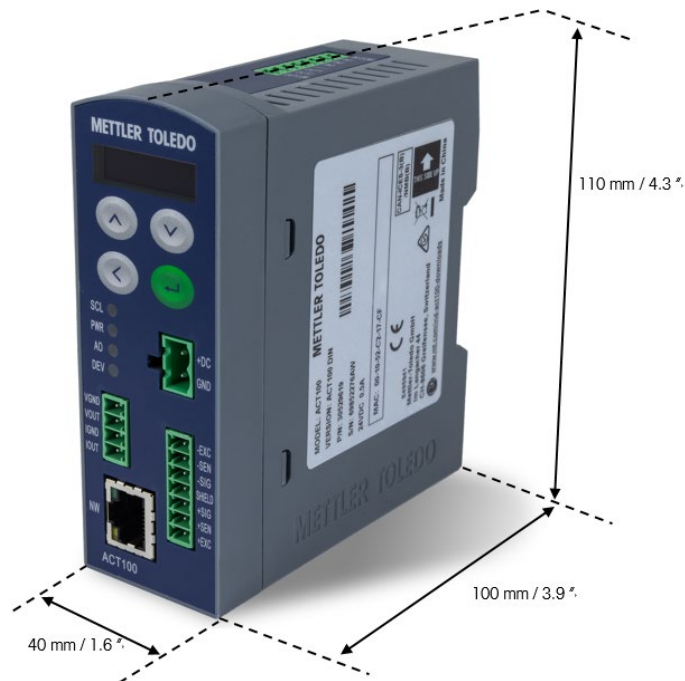
BEFORE CONNECTING/DISCONNECTING ANY INTERNAL OR EXTERNAL ELECTRONIC COMPONENTS, LOAD CELLS, HARNESSSES OR INTERCONNECTING WIRING BETWEEN ELECTRONIC EQUIPMENT ALWAYS REMOVE POWER AND WAIT AT LEAST THIRTY (30) SECONDS BEFORE ANY CONNECTIONS OR DISCONNECTIONS ARE MADE. FAILURE TO OBSERVE THESE PRECAUTIONS COULD RESULT IN BODILY HARM AND/OR PROPERTY DAMAGE.

DO NOT INSTALL, DISCONNECT OR PERFORM ANY SERVICE ON THIS EQUIPMENT BEFORE POWER HAS BEEN SWITCHED OFF AND THE AREA HAS BEEN SECURED AS NON-HAZARDOUS BY PERSONNEL AUTHORIZED TO DO SO BY THE RESPONSIBLE PERSON ON-SITE.

THE ACT100 IS NOT INTRINSICALLY SAFE! DO NOT USE IN HAZARDOUS AREAS CLASSIFIED AS DIVISION 1 AND DIVISION 2, ZONE 0, ZONE 20, ZONE 1, ZONE 2 OR ZONE 21 BECAUSE OF COMBUSTIBLE OR EXPLOSIVE ATMOSPHERES.

IN ORDER TO INSTALL THE DIVISION 2 APPROVED ACT100 TRANSMITTER UTILIZING THE U.S. APPROVAL, METTLER TOLEDO CONTROL DRAWING 30565571 MUST BE FOLLOWED WITHOUT EXCEPTION. IN ORDER TO INSTALL THE CATEGORY 3 MARKED ACT100 UTILIZING THE EUROPEAN APPROVAL, THE FM APPROVAL CERTIFICATE FM19ATEX0213X/ IECEx_FMG_19.0043X AND ALL LOCAL REGULATIONS MUST BE FOLLOWED WITHOUT EXCEPTION. FAILURE TO DO SO COULD RESULT IN BODILY HARM AND/OR PROPERTY DAMAGE. REFER TO THE ACT100 DIVISION 2 AND ZONE 2/22 INSTALLATION GUIDE 30562232 FOR ADDITIONAL INFORMATION.

Physical Dimensions



Front Panel and Display Features

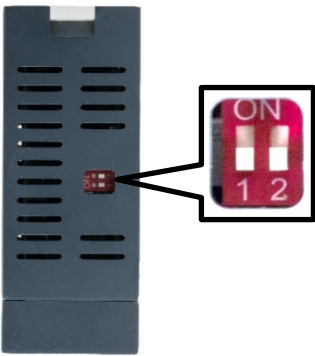


Up/Down Arrow Keys	Navigation/Used for data entry
Enter	Enter key /Zero scale/Enter Operator menu
Left Arrow Key	Switch position/Return

Weight Display	000000	Displays weight information
~		Motion, weight is currently changing
B/G		Gross Mode
KG/G/LB		Weight Display Unit
SCL		Scales status: On okay, flashing indicates scale error
PWR		Power status: On okay, Off error
AO		Analog Output status: On okay, flashing indicates out-of-range error
DEV		Device status: On okay, flashing contact service
NW		Green: Active , Yellow: Link

Bottom DIP Switch

Switch 1	Switch 2	Description
OFF	OFF	Normal state
On or OFF	ON	Master Reset of all data during transmitter power-up
ON	OFF	Protection mode for important data



Common Errors Shown on Display

Overcapacity

Weight overload. The weight display shows:



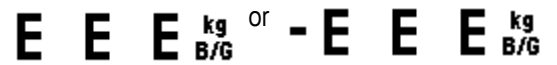
Undercapacity

Weight underload. The weight display shows:




Power-up Zero Fail


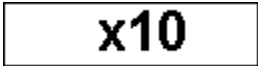
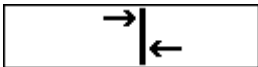




Out of Power-up Zero range. The weight display shows:



Keypad Operator Menu Structure

The operator setup functionality via keypad is limited. Full configuration is possible via Webserver.

Enter operator menu: Long Press ENTER . Use UP and DOWN keys to switch between menu icons. Use ENTER key to enter the next level menu and LEFT key to return to previous level.

Information 	Model ACT100	
	Terminal SN #####	
	S/W Version #.##.#####.##	
	IP Address ###.###.###.###	
	MAC Address ##:##:##:##:##:##	
	www.mt.com/ind-act100-downloads	
On/Off X10 resolution 	Switch ON/OFF X10 resolution, leave menu	
Set Comparators 	Limit 1..5	Input value with keypad
Test & Adjustment 	Geo	Input Geo Code
	Linearity	Input - None, 3 point, 4 point, 5 point
	Set Zero	Empty Scale, then Press Enter
	Set Span	Add test weight to scale Input test weight value, then press Enter Continue if linearization selected
	Step Calibration	Input test weight Add test weight to scale, press Enter Remove test weight Fill load to former level Add test weight to scale, press Enter Finish with Left-Arrow key
	CalFree	Perform calibration without test weights
Display Error Messages 	List of current error messages	
Language 	Select language for HMI display	Input-English, Chinese
Setup 	Capacity & Incr.	Input scale unit Input scale capacity Input scale increment
	Calibration	Refer to above "Test & Adjustment"
	Filter	Limit Frequency – 1-20 Hz
		Weighing mode Environment

	Analog Output	Input source – Display Wt. or Gross Wt.
		Output Range – current output or voltage output (None, 0~5V, 0~10V, 4~20mA, 0~20mA or 0~24mA)
		Analog Zero Value – ##### kg
		Analog Span Value – ##### kg
		Calibrate Output – Adjust analog signal value for Analog Zero and Span output
	Webserver	Webserver: Enable or Disable
		IP Address: ###.###.###.###
		Subnet Mask: ###.###.###.###

Webserver

The webserver is an easy-to-use tool that is the primary configuration/maintenance tool for ACT100/ACT100xx. There is no need to install additional software. It is only necessary to have a web browser (IE, Chrome, Firefox or Safari) on your PC or Laptop. If the ACT100/ACT100xx and your PC are in the same network, the ACT100 webserver can be accessed by inputting the ACT100/ACT100xx IP address (default **192.168.0.2**) in the address bar of web browser.

A Webserver example is shown below. For more details, please refer to the ACT100/ACT100xx User Guide.

The screenshot shows a web browser window with the address bar set to `http://192.168.0.2/`. The browser tab is labeled "ACT100". The page header includes the METTLER TOLEDO logo, the text "ACT100", and a language dropdown menu set to "English".

The main content area is titled "Device Information" and is divided into two columns. The left column contains a navigation menu with the following items: "Device Information", "ACT100 Basic Settings", "Analog Output +", "Calibration +", "Scale +", "Application +", "Communication +", "Maintenance +", and "Login +". Below the menu, the weight is displayed as "3.22 kg B/G" and a "Zero" button is visible.

The right column displays the following information:

Transmitter Information	
Serial Number	69961486CW
Software Version	1.00.0000

Service Ethernet Configuration	
IP Address	192.168.000.002
Subnet Mask	255.255.255.000
MAC Address	00:10:52:C2:17:DC
Default Gateway	192.168.000.001

At the bottom of the page, the copyright notice reads: "© Mettler Toledo GmbH, 8606 Naenikon, Switzerland All Rights Reserved".

Analog Output

ACT100/ACT100xx provides two types of analog output signals: a current output signal or a voltage output signal. This can be selected via the "Output Type" submenu in the Webserver or local menu. Below is an example of the selection "4~20mA". Please note ACT100/ACT100xx has separate pins for current output (IOUT and IGND) and voltage output (VOUT and VGND).

METTLER TOLEDO ACT100 Language English ▾

Device Information	Analog Output Settings	
ACT100 Basic Settings		
Analog Output -		
Analog Output Settings		
Analog Output Adjustment		
Calibration +		
Scale +		
Application +		
Communication +		
Maintenance +		
Login +		

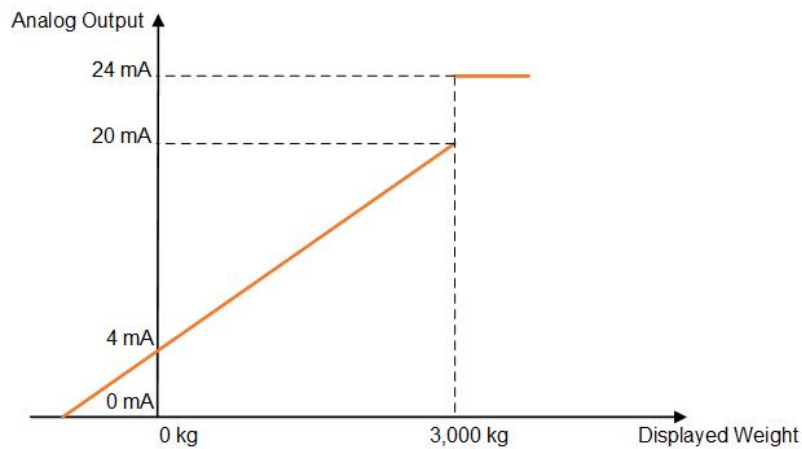
Analog Source:

Output Type:

Analog Zero Value: kg

Analog Span Value: kg

For example, if the Output Type is set as 4~20 mA, Analog Zero Value as 0 kg and Analog Span Value as 3,000 kg, ACT100/ACT100xx will output 4 mA when the scale is empty (0 kg) and 20 mA when 3,000 kg load is on the scale. In this case, when live weight exceeds 3,000 kg, the analog output signal will jump from 20 mA to 24 mA as a warning to the DCS/PLC.



The analog output signal can be calibrated via the Analog Output Adjustment submenu. ACT100/ACT100xx can increase or decrease the analog signal via two levels of adjustment (Coarse and Fine adjustment).

METTLER TOLEDO ACT100 Language English ▾

Device Information	Analog Output Adjustment	
ACT100 Basic Settings		
Analog Output -		
Analog Output Settings		
Analog Output Adjustment		
Calibration +		
Scale +		
Application +		
Communication +		
Maintenance +		
Login +		

Adjust Zero Output

Press "+" or "-" to increase Zero Output

Press "-" or "-" to decrease Zero Output

Press Continue to save and adjust Span Output

Press ESC to Abort

Errors Messages Shown on Display

Error value	ACT100 Display	Description	Action
009	"Board info. Err"	Hardware production information error	Cycle power; call MT Service if issue persists
010	"Calib. Block err"	Calibration block data error; block data is lost	Perform master reset Re-calibrate
011	"Scale block err"	Scale block data error	Perform master reset Perform setup for scale block
012	"Term. Block err"	Transmitter block data error	Perform master reset Perform setup for transmitter block
013	"APP. Block err"	Application block data error	Perform master reset Perform setup for application block
014	"COM. Block err"	Communication block data error	Perform master reset Perform setup for communication block
015	"Maint. Block err"	Statistics block data error	Perform master reset Perform setup for maintenance block
016	"Analog system A/D fail"	Lost analog signal; abnormal functioning of scale	Call MT Service
018	"Zero failed Motion"	Zero failed due to scale is in motion	Wait scale to be stable
019	"Zero failed Net mode"	Zero failed due to scale is in Net mode	Attempt to Zero after Clear operation is performed
020	"Zero failed/Out of range"	Weight out of zero range	Unload scale and perform Zero again
021	"Zero failed Zero disabled"	Zero attempted when function disabled in Setup menu	Enable Zero function in Setup menu
022	"Tare failed Motion"	Tare failed due to scale is in motion	Wait scale to be stable
029	"Tare failed Zero not captured"	Tare failed due to Power-up Zero is not captured	Capture the Power-up Zero or disable Power-up Zero before Tare
030	"Tare Failed, over capacity"	Tare failed due to scale being over capacity	Unload weight on scale until overcapacity is cleared and perform Tare again
031	"Tare failed Negative value"	Tare failed due to current gross weight is negative	Adjust the weight on scale to make gross weight positive
035	"Analog saturation"	A/D converter in overload	Check the input signal(should be between 0mV and 20mV)or call MT Service
036	"Factory zero not done"	Factory Zero calibration not performed	Call MT Service
037	"Factory span not done"	Factory Span calibration not performed	Call MT Service
050	"LC Connection Error"	Lost connection between ACT100 and LC	Check the LC and connection cables

Cleaning the Transmitter

Use a soft, clean cloth and mild glass cleaner. Do not spray cleaner directly onto transmitter. **Do not use** industrial solvents such as acetone.

Disposal of Transmitter / WEEE Information



In conformance with the European Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE) this device may not be disposed of in domestic waste. This also applies to countries outside the EU, per their specific requirements.

Please dispose of this product in accordance with local regulations at the collecting point specified for electrical and electronic equipment.

If you have any questions, please contact the responsible authority or the distributor from which you purchased this device.

Should this device be passed on to other parties (for private or professional use), the content of this regulation must also be related.

Thank you for your contribution to environmental protection.

METTLER TOLEDO Service

To protect your METTLER TOLEDO product's future:

Congratulations on choosing the quality and precision of METTLER TOLEDO. Proper use according to these instructions and regular calibration and maintenance by our factory-trained service team ensure dependable and accurate operation, protecting your investment. Contact us about a METTLER TOLEDO service agreement tailored to your needs and budget.

We invite you to register your product at www.mt.com/productregistration so we can contact you about enhancements, updates and important notifications concerning your product.

www.mt.com

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