ACT350Analog Type
Weight Transmitter

METTLER TOLEDO

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 is considered as not intended.

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-act350-downloads

Safety Warnings

READ the Installation Guide on the enclosed ACT350 Analog Weight Transmitter BEFORE operating or servicing this equipment, FOLLOW all instructions carefully, and SAVE all documentation for future reference.

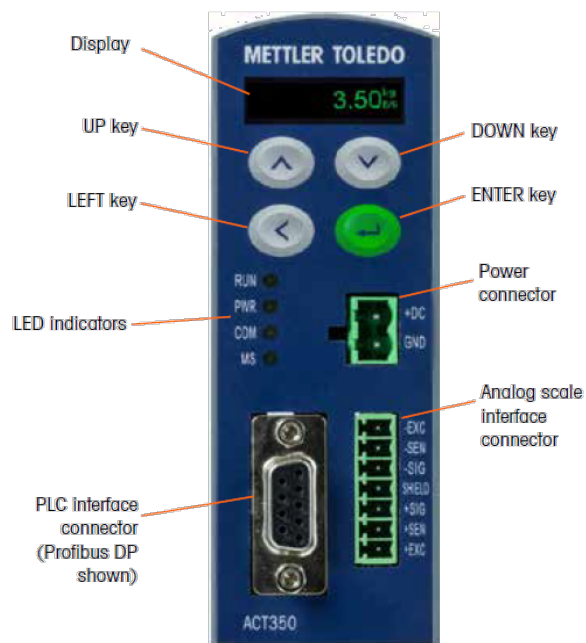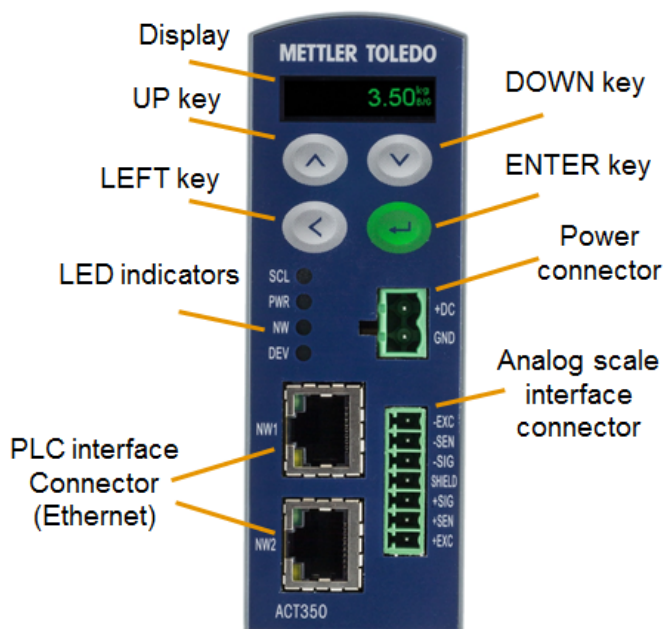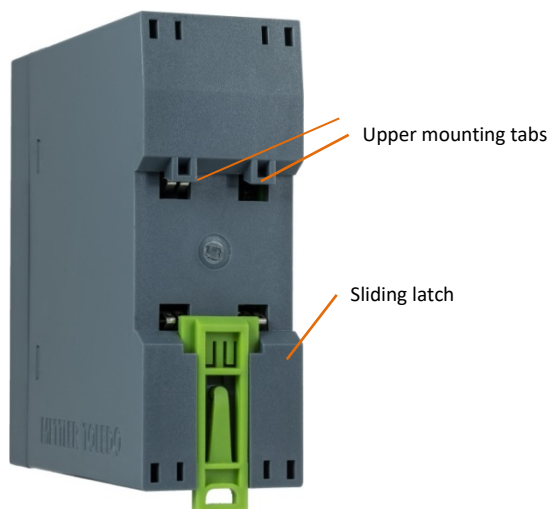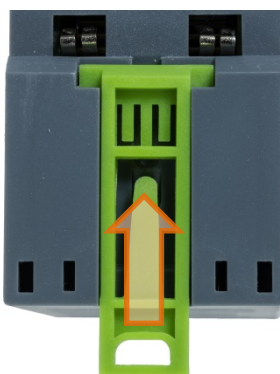| ⚠ WARNINGS |
|---|
| THE ACT350 IS INTENDED TO BE USED FOR PROCESS CONTROL AND IS NOT APPROVED AS A SAFETY COMPONENT. WHEN USED AS A COMPONENT PART OF A SYSTEM, ANY SAFETY CIRCUITS MUST BE INDEPENDENT OF THE ACT350 AND REMOVE POWER FROM THE ACT350 OUTPUTS IN THE EVENT OF AN EMERGENCY STOP OR EMERGENCY POWER DOWN. |
| ONLY USE RECOMMENDED 12-24 VDC POWER SUPPLY APPROVED AS NEC Class 2 OR RATED AS LIMITED POWER PER IEC60950-1. |
| 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. |
| ONLY THE COMPONENTS SPECIFIED ON THE ACT350 DOCUMENTATION MEDIA CAN BE USED IN THIS TRANSMITTER. ALL EQUIPMENT MUST BE INSTALLED IN ACCORDANCE WITH THE INSTALLATION INSTRUCTIONS DETAILED IN THE INSTALLATION 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, HARNESSES 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. |
| NOT ALL VERSIONS OF THE ACT350 ARE DESIGNED FOR USE IN HAZARDOUS (EXPLOSIVE) AREAS. REFER TO THE DATA PLATE OF THE ACT350 TO DETERMINE IF A SPECIFIC TRANSMITTER IS APPROVED FOR USE IN AN AREA CLASSIFIED AS HAZARDOUS BECAUSE OF COMBUSTIBLE OR EXPLOSIVE ATMOSPHERES. |
| THE ACT350 IS NOT INTRINSICALLY SAFE! DO NOT USE IN HAZARDOUS AREAS CLASSIFIED AS DIVISION 1, ZONE 0, ZONE 20, ZONE 1 OR ZONE 21 BECAUSE OF COMBUSTIBLE OR EXPLOSIVE ATMOSPHERES. |
| INSTALLATION AND ANY SERVICE ON THIS EQUIPMENT MUST BE DONE ONLY AFTER THE AREA IS SECURED AS NON-HAZARDOUS BY THE RESPONSIBLE PERSON ON-SITE AUTHORIZED TO DO SO. |
| IN ORDER TO INSTALL THE DIVISION 2 APPROVED ACT350 TRANSMITTER UTILIZING THE U.S. APPROVAL, METTLER TOLEDO CONTROL DRAWING 30315298/30369059 MUST BE FOLLOWED WITHOUT EXCEPTION. IN ORDER TO INSTALL THE CATEGORY 3 MARKED ACT350 UTILIZING THE EUROPEAN APPROVAL, THE DEKRA APPROVAL CERTIFICATE 18ATEX0036X/ IECEx DEK 18.0022X 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 ACT350 DIVISION 2 AND ZONE 2/22 INSTALLATION GUIDE 30369090/30467204 FOR ADDITIONAL INFORMATION. |

Physical Dimensions

110mm / 4.3"

100mm / 3.9"

40mm / 1.6"

Interfaces and Wiring

Display

UP key

LEFT key

LED indicators

PLC interface
Connector
(Ethernet)

DOWN key

ENTER key

Power
connector

Analog scale
interface
connector

SCL
PWR
NW
DEV

NW1

NW2

+DC
GND

-EXC
-SEN
-SIG
SHIELD
+SIG
+SEN
+EXC

ACT350

Display

UP key

LEFT key

LED indicators

PLC interface
connector
(Profibus DP
shown)

DOWN key

ENTER key

Power
connector

Analog scale
interface
connector

RUN
PWR
COM
MS

+DC
GND

-EXC
-SEN
-SIG
SHIELD
+SIG
+SEN
+EXC

ACT350

Mechanical Installation

The ACT350 is standard DIN rail-mounted component. DIN mount includes a green latch.
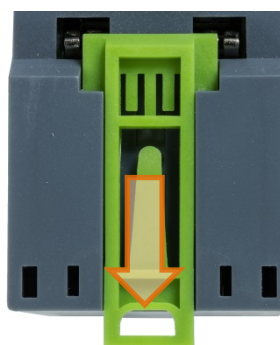

Upper mounting tabs

Sliding latch

To mount the ACT350 on a rail, open this latch by pulling down on it, then position the transmitter so that its upper tabs rest on the DIN rail.

Then use a screwdriver to close the latch and secure the transmitter in position.

To remove the ACT350, simply put the blade of a screwdriver in the latch and press it downward.

A special automatic grounding system at the back of the unit is installed to ensure that device is properly grounded to the DIN rail.

Front Panel and Display Features

Up/Down Arrow Keys	Used for data entry/menu switch
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
>0<		Weight in center of zero range
X10		In expanded mode
B/G		Gross Mode
KG/G/LB		Weight Display Unit
SCL		Scale status: On okay, flashing indicates scale error
PWR		Power status: On okay, Off error
NW		Network (Fieldbus) status: On okay, flashing indicated network error
DEV		Device status: On okay, flashing contact service
NW1		Green: Link , Yellow: Active
NW2		Green: Link , Yellow: Active

Bottom DIP Switches

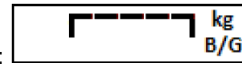| Legal-for-trade switch	Reset switch	Description	
Switch 1	Switch 2		
OFF	OFF	Normal state	
ON	OFF	Legal-for-trade mode, calibration data protection	
OFF	ON	Master Reset of all data during transmitter power-up	
ON	ON	Reset (not calibration data) during transmitter power-up	

PLC Connectivity

All actual **Device Description Files** (GSD/GSDML/EDS) and **PLC Sample Code** files are available to be downloaded at:

www.mt.com/ind-act350-downloads

Common Errors Shown on Display

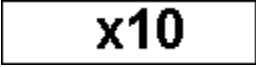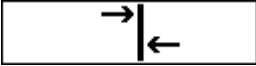|		
Overcapacity	Weight overload. The weight display shows blanked condition:	
Undercapacity	Weight underload. The weight display shows blank condition:	
Zero failed out of range	Zero operation cannot be executed as out of allowed range. Unload scale	

Keypad Operator Menu Structure

The operator setup functionality via keypad is limited. Full configuration is possible via PC software Setup+.

Enter operator menu: Long Press

Information	Model ACT350 Analog	
	Terminal SN ############	
	S/W Version #.##.#####.##	
	PLC Fieldbus #.#.##.#	
	Station Name	
	IP Address ###.###.###.###	
	MAC Address ##:##:##:##:##:##	
	Node Address (ProfiBus DP)	
	Documents are available at www.mt.com/ind-act350- downloads	
On/Off X10 resolution **x10**	Switch ON/OFF X10 resolution, leave menu	
Set Comparators	Limit 1..5	Input value with keypad
Calibration	Geo	Input Geo Code
	Linearity	Input - None, 3 point, 4 point, 5 point
	Adjust Zero	Empty Scale, then Press Enter
	Adjust Span	Add test weight to scale Input test weight value, then press Enter Continue if linearization selected
	Step Adjust	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 – Weightless Calibration	Input total load cell capacity Input Unit of cell capacity Input Rated Cell Output, default 2.0000 mV/V

Display Error Messages	List of latest error messages	
Language Select	Select language for HMI display	Input-English, Chinese
Setup	Capacity & Incr.	Input scale unit Input scales capacity Input Scale increment
	Calibration	Input Geo .. CalFree – repeated from calibration before
	Filter	Input Limit Frequency 1…20
		Weighing Mode - Normal, Dynamic, Trigger Weigh
		Environment – Very Stable, Stable, standard, Unstable, Very Unstable
	PLC	Assignment - SAI
		Input 1-Block / 2-Block Format
		Input Acyclic Disable, Enable
		Input Byte Order – Automatic, Standard, Byte&Word Swap
		EtherNet/IP
		- MAC Address
		- Input DHCP – Disable, Enable
		- Input IP Address
		- Input Subnet Mask
		- Input Gate Way
		ProfiNet
		- Input Station Name
		- Input IP Address
		- Input Subnet Mask
		- Input Gate Way
		ProfiBus DP
		- Input Node Address
	Serial	Input Assignment – None, Remote Display
		Input Baudrate 300…115200
		Input Data Bit 7 or 8
		Input Parity None, Odd, Even
		Perform Serial Test
	Trigger Weighing	Input Scale Belt Speed
		Input Scale Length
		Input Object Distance
		Input Object Length
		Input Block Time of Light Barrier
		Input Transparent-Transparent, Non Transparent

Errors Messages Shown on Display

Error value	ACT350 Display	Description	Action
002	"Remote calib."	Calibration in process	Wait for calibration to finish
005	"NW Module init.fail"	SAI initialize fail	Cycle power; call service if issue persists
006	"NW connection disconnected"	Lose connection to network	Check cable or connector
009	"Board info. err."	Hardware information error	Cycle power; call service if issue persists
010	"Calib. block err."	Calibration block data error; block data is lost	Perform scale block reset Re-calibrate
011	"Scale block err."	Scale block data error; block data is lost	Perform scale block reset Perform setup for scale block
012	"Term. block err."	Terminal block data error; block data is lost	Perform terminal block reset Perform setup for terminal block
013	"APP. block err."	Application block data error; block data is lost	Perform application block reset Perform setup for application block
014	"COM. block err."	Communication block data error; block data is lost	Perform communication block reset Perform setup for communication block
015	"Maint. block err."	Statistics block data error; block data is lost	Perform maintenance block reset Perform setup for maintenance block
016	"Analog system A/D fail"	Lost analog signal; abnormal functioning of scale	Call service
018	"Zero failed Motion"	Scale in motion when Zero attempted	Zero when scale is stable
019	"Zero failed net mode"	Scale in net mode when Zero attempted	Clear tare before zeroing
020	"Zero failed out of range"	Weight out of Zero range	Unload scale and zero
021	"Zero failed Zero disabled"	Zero attempted when function disabled in setup	Enable Zero function in Setup
022	"Tare failed Motion"	Tare failed as scale is in motion	Tare when scale is stable
027	"Tare failed Not rounded value"	Preset tare value not in display increment size	The preset tare value must be rounded to the same increment
028	"Tare failed Value too small"	Tare value too small	The preset tare value must be minimum of 1 display increment
029	"Tare failed Zero not captured"	Power-up zero not captured; Zero not captured after power cycle (with Zero capture enabled) then tare was attempted	Disable zero capture at power-up or unload scale and power-up again, then tare
030	"Tare Failed Over capacity"	Tare was attempted while scale was over capacity	Remove weight and tare within weighing range
031	"Tare failed Negative value"	Tare value under zero	The preset tare value must be positive
035	"Analog saturation"	A/D converter in overload	Reprogram Scale Capacity
049	"TW. block err. Reset?"	Trigger Weighing block data error; block data is lost	Perform trigger weighing block reset Perform setup for trigger weighing block

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

For more information