

ACT350 Precision Weight Transmitter



METTLER TOLEDO

ACT350 Precision 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

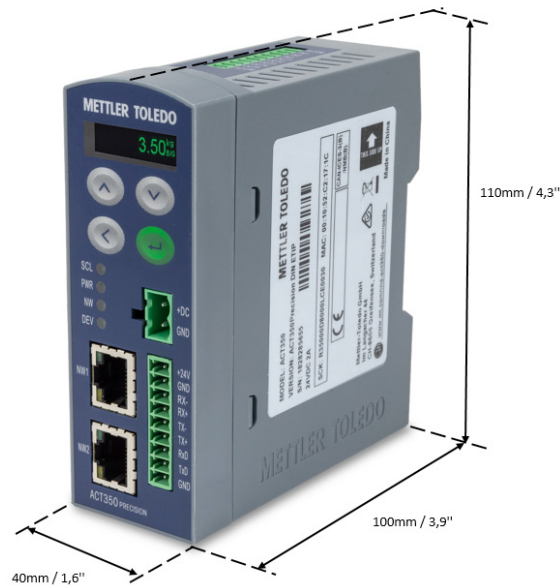
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Safety Warnings

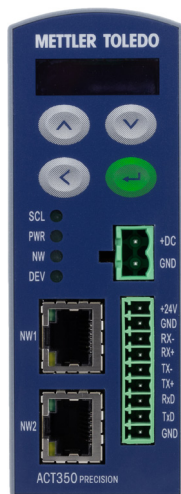
Read the Installation section on ACT350 Precision User Guide before operating or servicing this equipment, follow all instructions carefully, and save all documentation for future reference.

 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, 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.
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 ACT350 Precision 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.
ONLY 24VDC POWER SUPPLY IS AVAILABE TO CONNECT WEIGHT MODULES / SCALES TO ACT350 Precision. ALL OTHER WEIGHT MODULES REQUIRE AN EXTERNAL POWER SOURCE. CONFIRM VOLTAGE BEFORE USE!

Physical Dimensions



Front Panel and Display Features

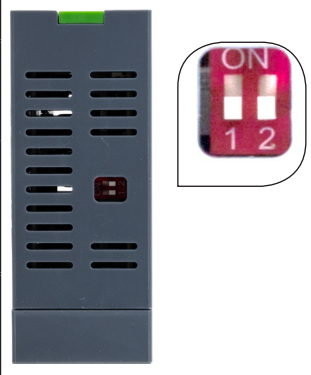


Up/Down Arrow Keys	Used for data entry
Enter	Enter key /Zero scale/Enter Operator menu
Left Arrow Key	Switch position/Return

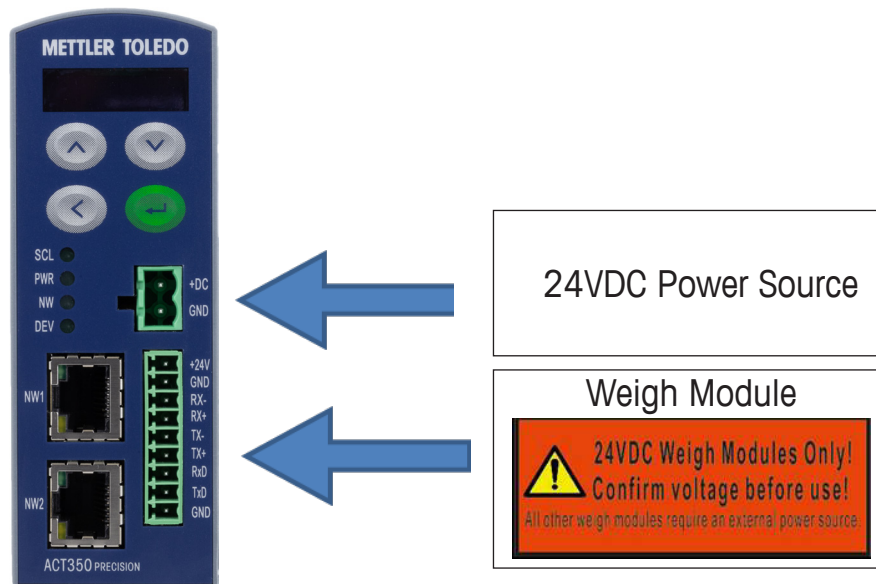
Weight Display	000000	Displays weight information
~		Motion, weight is currently changing
B/G		Gross Mode
KG/G/LB		Weight Display Unit
SCL		Scales status: On okay, flashing indicates scale error
PWR		Power status: On okay, Off error
NW		Automation Network status: On okay, flashing indicated network error
DEV		Device status: On okay, flashing contact service
NW1		Green: Link , Yellow: Active
NW2		Green: Link , Yellow: Active

Bottom DIP 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	No function



ACT350 Precision and Weigh Module/Scales Wire Connection



Check the Weigh Module or Scale manual to confirm the power supply voltage.

It is recommended to connect ACT350 Precision with Weigh Module or Scale via RS232 or RS422 interface.

In the case of using RS485 interface of Weigh Module, it connects RS485- to RX-/TX-, RS485+ to RX+/TX+ on the ACT350 Precision side.

NOTICE

The TX and RX cross wiring between Weigh Module or Scale and ACT350 Precision should be done for correct connection. See below in the **Table 1; Table 2.**

When the Weigh Module or Scale is powered by ACT350 Precision with 24VDC

The Weigh Modules such as WKC (24VDC), PBK-9_APW / PFK-9_APW and SLF6 can be powered by ACT350 Precision directly.







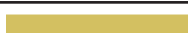


ACT350 Precision Pin Assignment		Weigh Module Signal			APW products examples	
Pin No.	Signal	RS232	RS422	RS485*	PBK-9; PFK-9; SLF-6; WKC	Cable colors**
1	+24V	VDC	VDC	VDC	White	
2	GND	GND	GND	GND	Brown	
3	RX-		TX-	RS485-	Purple	
4	RX+		TX+	RS485+	Orange	
5	TX-		RX-	RS485-	Violet	
6	TX+		RX+	RS485+	Black	
7	RxD	TxD			Yellow	
8	TxD	RxD			Pink	
9	GND	GND + Shield	Shield	Shield	Red (RS232)	
					Green (RS422)	

Table 1: Pin Assignment and signals connection wiring scheme with 24VDC Power Supply.

When the Weigh Module or Scale is powered externally with 12VDC.





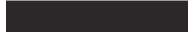



ACT350 Precision Pin Assignment		Weigh Module Signal			APW products examples	
Pin No.	Signal	RS232	RS422	RS485*	WKC	Cable colors**
1	+24V	The external power source should be used for 12VDC Weigh Modules or Scale				
2	GND					
3	RX-		TX-	RS485-	Purple	
4	RX+		TX+	RS485+	Orange	
5	TX-		RX-	RS485-	Violet	
6	TX+		RX+	RS485+	Black	
7	RxD	TxD			Yellow	
8	TxD	RxD			Pink	
9	GND	GND + Shield	Shield	Shield	Red (RS232)	
					Green (RS422)	

Table 2: Pin Assignment and signals connection wiring scheme with 12VDC Power Supply.

* Some manuals also use A-(or D-) and B+(or D+) to refer to RS485- and RS485+ respectively.

** Cable color of the METTLER TOLEDO standard cables.

ATTENTION

The Weigh Modules or Scales powered by 12VDC should be supplied using external power source.

Wiring connection examples for APW products











APW Weigh Module Type	Cable type / Power Supply	ACT350 Precision
<p>WXS</p> 	 <p>Cable No: 11141979 only RS232 Power Supply: powered externally</p>	 <p>Order Item No: 30476263 (PROFINET) 30476264 (EtherNet/IP)</p>
<p>WMC</p> 		
<p>WMS</p> 	 <p>Cable No: according to data sheet RS232/RS422 Power Supply: 24 VDC powered by ACT350 Precision</p>	
<p>PBK9/PFK9</p> 		
<p>SLF6</p> 		
<p>WKC</p> 		

Table 3: APW products wiring connection examples.

NOTICE

Please refer to the individual Weigh Module or Scale connection installation guide for correct wiring instruction.

Common Errors Shown on Display

Overcapacity

Weight overload. The weight display shows blank:



Undercapacity

Weight underload. The weight display shows blank:



PLC Connectivity


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


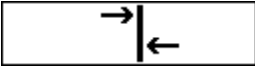



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Keypad Operator Menu Structure



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 ACT350 Precision	
	Transmitter SN #####	
	S/W Version #.##.#####.##	
	PLC Fieldbus #.#.#.#	
	Station Name	
	IP Address ###.###.###.###	
	MAC Address ##:##:##:##:##:##	
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Set Comparators 	Limit 1..5	Input value with keypad
Test & Adjustment 	Test	Mode – External or Internal
		Weight – Input test weight value
	Adjustment	Mode – External or Internal
		Step Control – On or Off
		Weight – Input calibration weight value
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 readability
	Filter	Cut-off Frequency – Input frequency
		Weighing mode
		Environment
	PLC	Protocol - SAI
		Format – 1 block format or 2 block format
		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
		- Device Name
		- MAC Address
		- Input IP Address
	- Input Subnet Mask	
	- Input Gate Way	
	Connection Type	Serial: RS232, RS422, RS485
- Input Baud rate: 150 ... 115200		
- Input Bits: 8/None/1...		
- Handshake: None or XON/XOFF		
Webserver	- Enable	
	- Disable	

Error Messages Shown on Display

Error value	ACT350 Precision Display	Description	Action
002	"Calib. In process"	Remote Calibration (via WebServer) is in process	No actions, allow calibration process to finish.
005	"NW Module init. fail"	Hardware for PLC communication initialization fail	Cycle power; call service if issue persists
006	"PLC connection disconnected"	Lost connection to PLC	Check cable or connector. If problem persists, re-establish communications to PLC
009	"Board info. Err"	Hardware production information error	Cycle power; call 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
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
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
034	"Tare failed"	Tare failed due to weight out of range or scale not stable or disabled Tare function	Confirm tare function is enabled or confirm weight is in tare range or allow weight to settle
038	"WM Supply Beyond Voltage"	Overvoltage of power supply for WM	Check the weigh module supply voltage that should be lower than 26.4V
039	"WM Supply Over Current"	Overcurrent of power supply for WM	Check the weigh module supply current that should be lower than 2000mA
043	"WM Communication Error"	Lost communication between WM and ACT350 Precision	Check the communication parameters and connection cables. Use the webserver to re-establish communication if necessary

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/ACT350-Precision

For more information

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