

ZM155



APPROVED
Indicator



User Instructions

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FCC and EMC declarations of compliance

United States

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Canada

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

Installation



NO USER SERVICEABLE PARTS. REFER TO QUALIFIED SERVICE PERSONNEL FOR SERVICE.

The power connection must be made in accordance with the state and or country regulations.

Make sure that the voltage rating printed on the ID rating plate is identical to that of your incoming voltage.

Protection Class 1 Device; *The device must be plugged into a properly installed outlet that has a protective grounding conductor.*

If you use an electrical outlet that does not have the grounding conductor, ensure that the equivalent grounding conductor is installed by a certified electrician.

Safe handling of equipment with batteries



CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

ATTENTION: Il y a danger d'explosion s'il y a remplacement incorrect de la batterie, remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur. Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

Wet conditions

Under wet conditions, the plug must be connected to the final branch circuit via an appropriate socket / receptacle designed for washdown use.

Installations within the USA should use a cover that meets NEMA 3R specifications as required by the National Electrical Code under section 410-57. This allows the unit to be plugged in with a rain tight cover fitted over the plug.

Installations within Europe must use a socket which provides a minimum of IP56 protection to the plug / cable assembly. Care must be taken to make sure that the degree of protection provided by the socket is suitable for the environment.

Maintenance



IMPORTANT: This equipment must be routinely checked for proper operation and calibration.
Application and usage will determine the frequency of calibration required for safe operation.

Always isolate the indicator from the power supply before starting any routine maintenance to avoid the possibility of electric shock.

Cleaning the machine

Cleaning DOs and DON'Ts



DO	DO NOT
Wipe down the outside of standard products with a clean cloth, moistened with water and a small amount of mild detergent	Attempt to clean the inside of the machine
Spray the cloth when using a proprietary cleaning fluid	Use harsh abrasives, solvents, scouring cleaners or alkaline cleaning solutions
	Spray any liquid directly on to the display windows

Training

Do not attempt to operate or complete any procedure on a machine unless you have received the appropriate training or read the instruction books.

To avoid the risk of RSI (Repetitive Strain Injury), place the machine on a surface which is ergonomically satisfactory to the user. Take frequent breaks during prolonged usage.

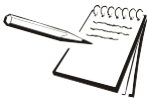
Sharp objects

Do not use sharp objects such as screwdrivers or long fingernails to operate the keys.

Front panel















Front panel of the ZM155 indicator









Never press a key with anything but your finger. Damage to the overlay may result if sharp or rough objects are used.

1. The front panel of the intrinsically safe ZM155 indicator is non-metallic and shall not be used where UV light or radiation may have an impact on the enclosure.
2. The front panel of the intrinsically safe ZM155 indicator is non-conducting and under certain extreme conditions may generate an ignition capable level of electrostatic charges. The user shall ensure that the equipment is not installed in a location where it may be subjected to external conditions (such as high-pressure steam) which might cause a build-up of electrostatic charges on non-conducting surfaces. Additionally, cleaning of the equipment should be done only with a damp cloth.
3. The device shall be installed in such a way that it is protected against the entry of solid foreign objects or water capable of impairing the safety of the apparatus. Reduce the risk of mechanical damage to a minimum,
4. After the first installation, the gasket must be replaced each time the enclosure is opened.

The normal function of the keys on the front panel are listed below. Some keys will have special functions in certain applications.

	<p>Press the ON/OFF key to turn the indicator on. Press and hold to place the indicator in Standby mode, STANDBY is displayed.</p>
	<p>Press the ZERO key to zero the display. Press and hold to display the adjustment and configuration counter. Acts as an arrow key for menu navigation.</p>
	<p>Press the TARE key to do a tare function. Saves the numeric input as a tare weight. Press and hold to save the tare value in a preselected memory. Acts as an arrow key for menu navigation.</p>
	<p>Press the SCALE key to toggle between two scales.</p>
	<p>Press the Fn key to navigate through menus and depending on the configuration it can toggle between the units of measure. Acts as an arrow key for menu navigation.</p>
	<p>Press the ISO key to start the calibration procedure.</p>
	<p>Press the PRINT key to send information to a peripheral device. Acts as an arrow key for menu navigation.</p>
	<p>Press the CF key to delete the last numeric entry character entered. Deletes initialization values or totalizing memory values.</p>
	<p>Press the REF key to change the set reference values.</p>
	<p>Press the Info key to display application parameters and manual tare values.</p>
	<p>Press the OK key to acknowledge entry values.</p>
	<p>Press the Toggle key to toggle between display modes.</p>

	Press the D key to toggle between applications.
	Press the ID key to enter an operator ID's.
	Press the Mem key to save values to a product data memory.
	Number Block keys used to enter numeric values.
	Press the X10 key to toggle between normal and 10-times the resolution.
	Press the B/G key to toggle between the gross or net value.

Annunciators

ZM155 Indicator – The Display in Weighing Mode

Bar Graph showing 10% intervals

Plus or minus sign

Symbol for active print

Net/Gross Value

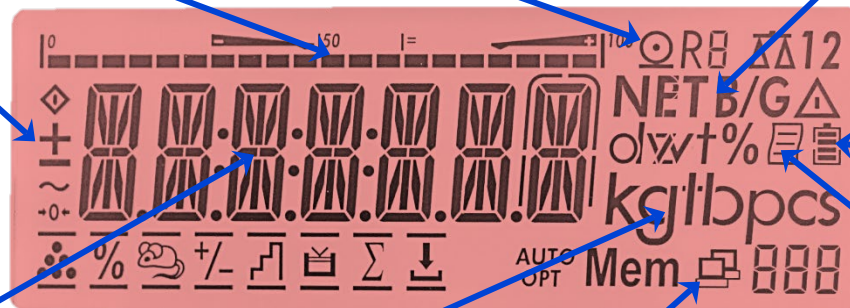
Battery Charge Status

Weight value

Unit of Measure
Flashes with motion

Terminal communication

Compliant printing in progress



ZM155-Com Interface Converter information

Warning and safety

1. Do not expose the ZM155-Com Interface Converter unnecessarily to extreme temperatures, moisture, shocks, or vibration.
2. Do not use electrical equipment out of doors.
3. The interface converter may not be used in hazardous areas.
4. The casing on all connecting cables as well as the casing on wires inside the equipment housing, is made of PVC. Chemicals that corrode this material must be kept away from these cables.

ZM155 PSU-H & PSU-S information

Warning and safety

1. Disconnecting the equipotential bonding cables is not permitted. The position is marked with a grounding symbol. The grounding cable must have a minimum cross-section of 4 mm². Connect all equipment and peripheral devices to be connected to the power supply to the equipotential bonding conductor.
2. Chemicals (e.g. gases or liquids) that can corrode and damage the inside or outside of the devices or cables must be kept away from the equipment. Handle the equipment and any accessories in accordance with the IP rating (EN 60529). The casing on all connecting cables as well as the casing on the wires of the internal cabling is made of PVC or of rubber.

ZM155 External battery information

Warning and safety

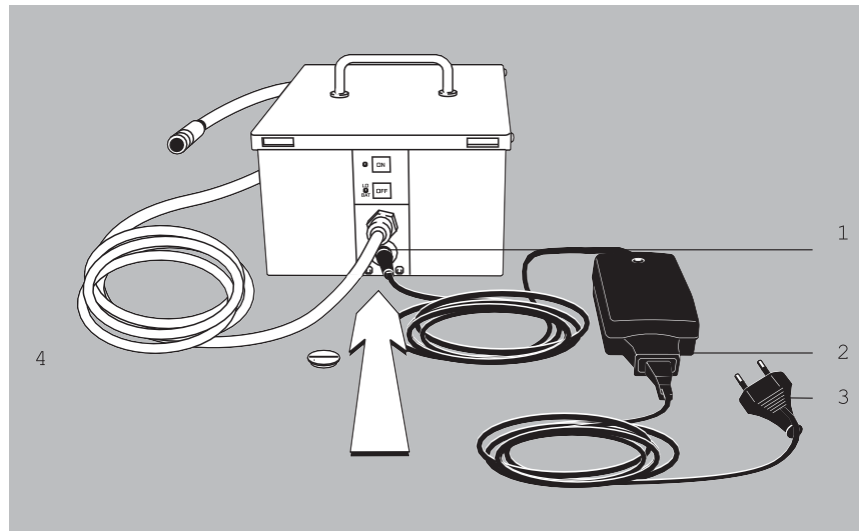
Improper use or handling can result in property damage and/or personal injury. Read these operating instructions thoroughly before using your external rechargeable battery pack and keep them in a safe place. Make sure all operating personnel are trained to recognize malfunctions and to take the appropriate corrective or preventive measures.

1. Do not open the external rechargeable battery pack in hazardous locations! The threaded sealing cap must always be securely fastened over the electronics box input for the charging connector when the equipment is used in hazardous areas/locations.
2. Avoid deep discharging (the red LED will start flashing).
3. The external rechargeable battery pack must be dusted off regularly when used in hazardous areas with potentially explosive dust atmospheres.
4. The external rechargeable battery pack must be installed so that the handle faces upwards and the rubber feet provide enough space between the base and the surface on which the external rechargeable battery pack sits. The external rechargeable battery must be freestanding to ensure that air can circulate, and heat can escape.

5. Avoid exposing the external rechargeable battery pack to direct sunlight or other heat sources.
6. The connecting cable is made of PVC. All cables used inside have a rubber casing. The gasket on the electronics box is made of polyethylene foam silicone rubber is used for all potting. The batteries consist of chemicals that corrode these materials and must be kept away from them.

Battery charging

1. Before using the battery pack for the first-time charge it for 8 hours.
2. Recharge the battery pack after each use, regardless of the amount of charge used.
3. The battery pack must be charged in a dry environment at an ambient temperature of 15°C to 30°C (59°F to 86°F).
4. In the hazardous area, the battery charger connector port must always be sealed with the threaded cap provided.



5. To charge the Ex battery pack, unscrew the threaded sealing cap (4) and insert the female charging connector (1). Then plug the power cord into the battery charger (2) and insert the plug of the power cord (3) into an electrical outlet. . Leave the battery pack turned off while charging.



6. The amount of charge in the external rechargeable battery pack is indicated by an LED on the charger.

Steady light	-	Charging Slowly
Flashing LED	-	Charge received
Rapidly flashing LED	-	Batteries are deeply discharged

General weighing

B/G key function

In the General Weighing application, you can view the gross and net display values by repeatedly pressing **B/G** key.

Gross weighing



To change unit of measure, press Fn key.

To perform gross weighing, power up the unit and follow these steps:

1. Empty the scale and press **ZERO** to zero the display ...
0 is displayed.
2. Place item to be weighed on the scale ...
Weight is displayed.
3. Repeat steps **1** and **2**.

Net weighing

Pushbutton Tare

To perform a net weightment using pushbutton tare, power up the unit and follow these steps:

1. With no weight on the scale, if the display does not read **0** press **ZERO** ...
0 is displayed.
2. Place item to be tared on the scale ... Weight is displayed.
3. Press **TARE** ...
0 is displayed and the **NET** annunciator lights.
4. Place material to be weighed into or on the tared item on the scale ... Net weight of material is displayed.
5. Repeatedly press **B/G** key to view the gross and net values.
6. If repeated weighments use the same tared item, you do not need to establish a new tare value as described in step **2** and **3**.


Key Entry Tare

1. Using the Numeric keypad key in the tare value and press the **TARE** key to accept the value.
2. The new tare value is now active.

To Clear a Tare

1. Using the Numeric keypad key in the tare value "0" and press the **TARE** key to accept the value. The display will change to gross mode.
2. If gross weight is not at 0, press the **ZERO** key to clear the tare value.

Error Codes

No Power Present	Check power supply
	Battery (CR2032 button cell) is bad or time has changed - Set Time (the warning symbol will be flashing)
INF 01	Data output not compatible with output format – Set output format correctly
INF 02	Scale was not zeroed before calibration – Zero off platform and retry calibration
INF 03	Calibration error due to motion
INF 07	Function not allowed due to legal for trade application
INF 08	The load on the scale is too heavy to be zeroed – Check whether TARE/ZERO on power are enabled
INF 09	Tare cannot be performed when gross weight is zero
INF 10	Tare key is blocked when there is data in the tare memory
INF 18	Preload is too light
INF 19	Preload is too heavy
INF 29	Minimum load not reached – Change the min load setting
INF 30	COM 1 is set to xBPI mode instead of BPI
INF 31	Handshake is activated – Possibly just turn off handshaking to resolve issue or check wire connections
INF 54	Underload error
INF 55	Overload error
INF 71	Cannot store the current weight value – Change control limit settings
INF 72	Cannot store the current weight value due to the transaction counter reaching its limit
INF 73	Data cannot be written or read
INF 74	Function is blocked (eg. Menu is locked or device is already configured to another interface)
ERR 101	Key is stuck or a button was held while powering on
ERR 320	Program error – reload data files or replace main PCB
ERR 340	New EEPROM loaded – Power cycle the indicator. If problem persists then replace main board
ERR 341	RAM has lost data – most common when battery pack has died. Recharge battery and reconnect.
ERR 335	Platform not compatible with indicator
NO WP	No scale connected – Connect a scale

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