RAVAS 2560 Exi

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Quick guide

IND256x

English Quick Guide

METTLER TOLEDO

1 Safety Instructions

- Read this manual BEFORE operating or servicing this equipment and FOLLOW these instructions carefully.
- SAVE this manual for future reference.

⚠ WARNING

YOUR WEIGHING TERMINAL IS USED FOR WEIGHING. USE THE BALANCE 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.

⚠ WARNING

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 LIABILITY ARE EXPRESSLY EXCLUDED FOR DAMAGES CAUSED BY NON-COMPLIANCE WITH THE APPLICABLE MANUALS.

⚠ WARNING

DO NOT USE THE TERMINAL IN ANY ENVIRONMENT OR CATEGORY OTHER THAN THOSE SPECIFIED UNDER SPECIFICATIONS.

⚠ WARNING

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

⚠ WARNING

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.

⚠ WARNING

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.

⚠ WARNING

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.

⚠ WARNING

AVOID ELECTROSTATIC CHARGING DURING OPERATION AND MAINTENANCE.

⚠ WARNING

OPERATION IS ONLY PERMITTED WHEN OPERATIONAL AND PROCESS-RELATED ELECTRO-STATIC CHARGES ARE NOT PRESENT.

⚠ WARNING

WEAR SUITABLE CLOTHING. AVOID NYLON, POLYESTER OR OTHER SYNTHETIC MATERIALS THAT GENERATE AND HOLD CHARGE. USE CONDUCTIVE FOOTWEAR AND FLOORING.

⚠ WARNING

AVOID PLASTIC COVERS OVER THE TERMINAL.

⚠ WARNING

DO NOT USE DRY CLOTH TO CLEAN THE WEIGHING TERMINAL. ALWAYS USE A DAMP CLOTH TO CLEAN THE TERMINAL GENTLY.

⚠ WARNING

ONLY PERMIT QUALIFIED PERSONNEL TO SERVICE THE IND256x. EXERCISE CARE WHEN MAKING CHECKS, TESTS AND ADJUSTMENTS THAT MUST BE MADE WITH POWER ON. FAILING TO OBSERVE THESE PRECAUTIONS CAN RESULT IN BODILY HARM AND/OR PROPERTY DAMAGE.

⚠ WARNING

CONFIRM COMPLIANCE WITH APPLICABLE NATIONAL AND LOCAL WIFI REGULATIONS BEFORE INSTALLING AND COMMISSIONING IND256x TERMINAL CONFIGURED WITH WIFI MODULE. METTLER TOLEDO ACCEPTS NO RESPONSIBILITY FOR TERMINAL INSTALLATION IN COUNTRIES WHERE WIFI REGULATIONS ARE NOT FULFILLED.

⚠ WARNING

IF THE IND256x KEYBOARD, DISPLAY LENS OR ENCLOSURE IS DAMAGED, THE DEFECTIVE COMPONENT MUST BE REPLACED IMMEDIATELY. REMOVE POWER IMMEDIATELY AND DO NOT REAPPLY POWER UNTIL THE DISPLAY LENS, KEYBOARD OR ENCLOSURE HAS BEEN REPAIRED OR REPLACED BY QUALIFIED SERVICE PERSONNEL. FAILURE TO DO SO COULD RESULT IN BODILY HARM AND/OR PROPERTY DAMAGE.

⚠ WARNING

USE ONLY METTLER TOLEDO SPARE PARTS WHEN REPLACING THE WIFI MODULE. METTLER TOLEDO ACCEPTS NO RESPONSIBILITY FOR SAFETY OR COMPLIANCE RISKS CAUSED BY USE OF INCORRECT COMPONENTS.

⚠ WARNING

KEEP THE TERMINAL AWAY FROM PROCESSES THAT GENERATE HIGH CHARGING POTENTIAL SUCH AS ELECTROSTATIC COATING, RAPID TRANSFER OF NON-CONDUCTIVE MATERIALS, RAPID AIR JETS, AND HIGH PRESSURE AEROSOLS.

⚠ WARNING

ENSURE PROPER EQUIPOTENTIAL GROUNDING OF THE TERMINAL, MOUNTING ACCESSORIES, AND THE SCALE BASE.

⚠ WARNING

TERMINAL MUST BE PROTECTED FROM UV LIGHT.

⚠ WARNING

FOR THE DC VERSION OF THE IND256x TERMINAL, THERE IS NO GALVANIC SEPARATION BETWEEN NON-INTRINSICALLY SAFE SUPPLY CIRCUIT AND INTRINSICALLY SAFE OUTPUT CIRCUITS. THE NON-INTRINSICALLY SAFE CIRCUIT MUST BE SAFELY CONNECTED TO EARTH. AND POTENTIAL EQUALIZATION MUST EXIST ALONG INTRINSICALLY SAFE CIRCUITS. ALTERNATIVELY, THE NON-INTRINSICALLY SAFE SUPPLY CIRCUIT (SELV) MUST BE SAFELY SEPARATED FROM EARTH.

⚠ WARNING

THE EXTERNAL CUSTOMER-PROVIDED DC POWER SUPPLY MUST HAVE A CATEGORY II MAXIMUM OVER-VOLTAGE, ACCORDING TO IEC 60664-1.

⚠ WARNING

SUFFICIENT STRAIN RELIEF MUST BE ENSURED TO PREVENT TENSILE FORCES ON THE CABLE GLANDS.

⚠ WARNING

THE CABLE GLANDS MUST BE PROTECTED AGAINST DAMAGE FROM IMPACT.

⚠ WARNING

THE TERMINAL ASSEMBLED WITH WIFI ANTENNA SHALL BE INSTALLED IN A POSITION IN SUCH A WAY THAT THE RISK FOR MECHANICAL DAMAGE IS LOW. REPLACE THE WIFI ANTENNA IMMEDIATELY IF DAMAGED.

⚠ WARNING

IND256x TERMINALS FACTORY-CONFIGURED WITH WIFI ARE APPROVED FOR USE IN ZONE 1 EQUIPMENT GROUP IIB CLASSIFIED AREAS. IND256x TERMINALS FACTORY-CONFIGURED WITH WIFI MUST NOT BE USED IN EQUIPMENT GROUP IIC CLASSIFIED AREA. USING THE IND256X TERMINAL FACTORY-CONFIGURED WITH WIFI IN A CLASSIFIED AREA FOR WHICH IT IS NOT APPROVED COULD RESULT IN BODILY HARM AND/OR PROPERTY DAMAGE.

⚠ WARNING

DO NOT OPEN THE TERMINAL WHEN THE ATMOSPHERE IS EXPLOSIVE DUE TO DUST. TO PREVENT IGNITION OF HAZARDOUS ATMOSPHERES, DISCONNECT THE IND256x FROM ITS POWER SOURCE BEFORE OPENING THE ENCLOSURE. KEEP COVER TIGHTLY CLOSED WHILE THE CIRCUIT IS ENERGIZED. DO NOT OPEN WHEN AN EXPLOSIVE DUST ATMOSPHERE IS PRESENT.

⚠ WARNING

ALL EQUIPMENT MUST BE INSTALLED PER MANUFACTURER'S DOCUMENT DRAWING NUMBER 30282892 AND APPLICABLE LOCAL CODES.

General Recommendations For Cleaning

- Gently wipe the IND256x terminal's keypad and cover with a clean, damp, soft cloth.
- Use water or mild, non-abrasive cleaning agents.
- Do not use any type of acids, alkalis or strong industrial solvents such as toluene or isopropanol (IPA) that could damage the terminal's finish.
- Do not spray cleaner directly on the terminal.
- Do not clean the terminal using high-pressure or high-temperature water.
- Build-up of dust layers must be avoided.
- Remove light dust deposits using a damp cloth with a gentle wiping motion.
- Do not use compressed air or vacuum to remove dust layers.
- Follow good housekeeping practices to keep the terminal clean.

Compliance Documents Download

National approval documents, e.g., the FCC Supplier Declaration of Conformity, are available online and/or included in the packaging.

▶ www.mt.com/ComplianceSearch

Manuals Download

Customers can click the link ▶ www.mt.com/IND256x or scan the QR Code below to download product manuals.

2 Specifications and Operator Interface

2.1 Specifications

Enclosure Type	Stainless steel, configurable as desk top or column/wall mount enclosure
Dimensions (l × w × d)	173 x 230 x 127 mm [6.8″ x 9.1″ x 5.0″]
Operating Environment	Operating temperature range: -10 °C to +40 °C Storage temperature range: -20 °C to +60 °C Relative Humidity: 10-95%, non-condensing
Power	AC: Operates at 187 VAC–250 VAC, 50/60 Hz and includes a power cord configured for the country of use DC: 18-30 VDC Intrinsically safe external power supply: APS500/501 or NiMH Ex Battery Pack
Display	25 mm height character, 240 x 96 pixel backlit LCD. Display update rate: 10 Hz
Weight Display	Maximum displayed resolution of 100,000 divisions
Scale Types	Analog load cells
Number of Cells	Up to four 350 ohm load cells(2 or 3 mV/V)
Number of Scales	One
Load Cell Excitation voltage	4.5 VDC
Keypad	26 keys: Zero, Tare, Clear, On/Off, Print, numeric and navigation keypads

2.2 Front Panel and Display Features

Zero Capture a new gross zero reference point

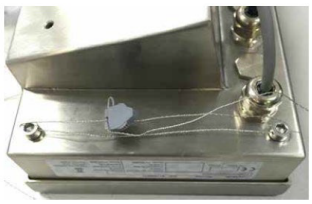
Tare Display a net zero weight

Clear When in the net weight mode, press CLEAR to clear the current tare value.
When in data entry mode, CLEAR functions like a backspace or ESCAPE key

Print Transmit data from the terminal or register a transaction

2.3 Weights and Measures Approved Mode

When the terminal is used in metrologically-approved applications, it will be sealed with a wire. Do not tamper with the wire seal.

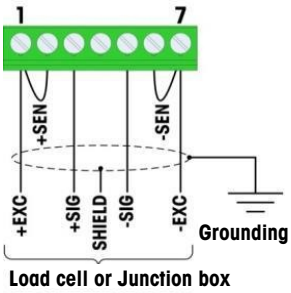


3 Operation

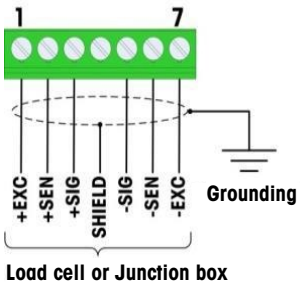
3.1 Connection

3.1.1 Load Cell Connection

4-Wire Load cell

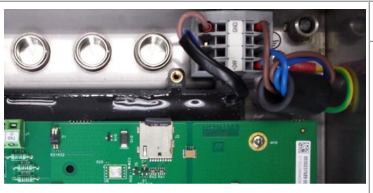
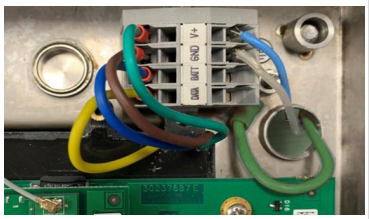


6-Wire Load cell



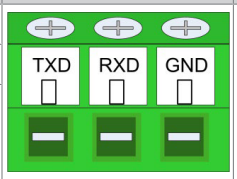
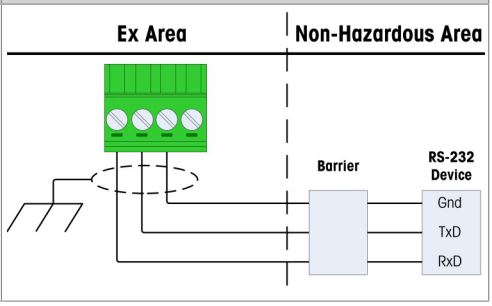
NOTICE : When Load cell shield is not led out, the shield needs to be grounded with a wire clip.

3.1.2 Power Connection

Power Input Method	Wiring Diagram	Pin	Pin Color
Internal AC Power Input (IECEx & ATEX Approved Terminals Only)		L	Brown
		N	Blue
Internal DC power input (IECEx & ATEX Approved Terminals Only)		GND	Brown
		+24V	Blue
External NiMH Battery Input		DATA	Empty
		BATT	Blue
		GND	White
		V+	Empty
APS500/501 Power Supply Input		DATA	Empty
		BATT	Empty
		GND	White
		V+	Blue

3.1.3 Communication Boards Connection

- **Serial Port (COM1)**

IND256x	Signal	COM1 Port	Sample RS-232 Connection
J1 - 1	TxD–send data		
J1 - 2	RxD–receive data		
J1 - 3	GND–logic ground		

- **Current Loop**

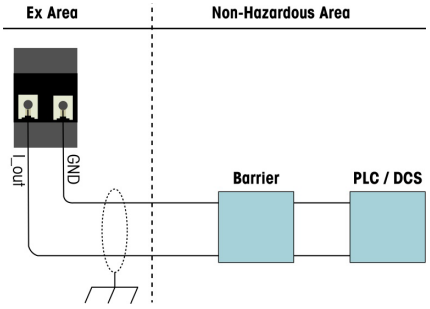
Active Current Loop: When IND256x is connected to ACM200, active CL interface is used.

Passive Current Loop: When IND256x is used as remote display, passive CL interface must be connected to the active current loop of another IND256x.

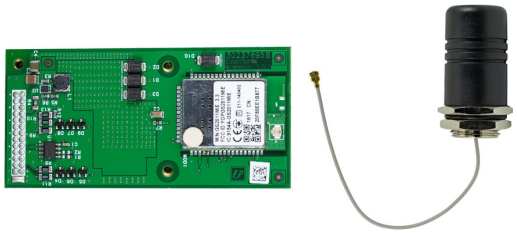
Active Current Loop		Passive Current Loop	
IND256x COM3 (J2)	ACM200 COM (J3)	IND256x COM3 (passive current loop J4) (Remote display)	IND256x COM3 (active current loop J2) (Instrument connecting the weighing platform)
1	4	1	1
2	3	2	2
3	2	3	3
4	1	4	4

- **Intrinsically Safe Analog 4-20 mA Output (Optional)**

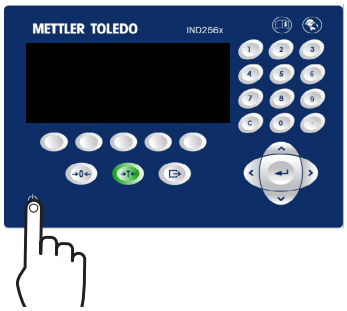
Intrinsically Safe Analog Output Option Board



- **Wireless Communication (Optional)**

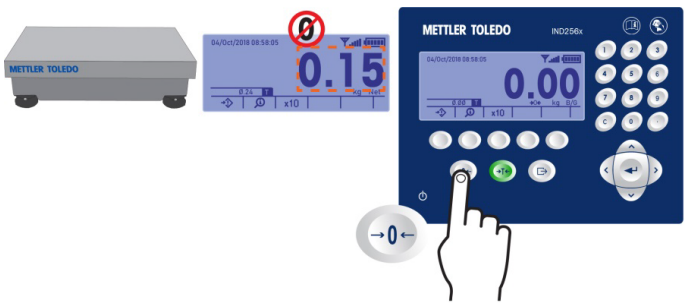


3.2 Turn on or off



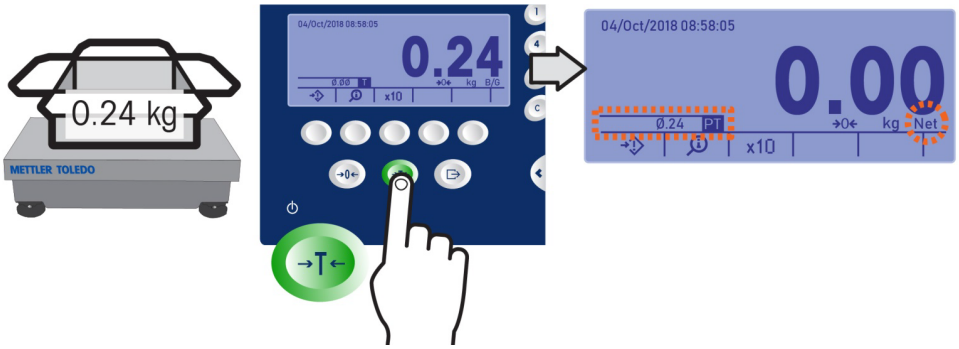
Long press the power button for 2 seconds to power on

3.3 Zero



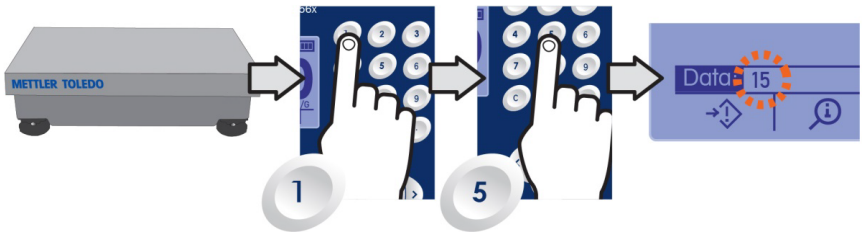
3.4 Tare

Pushbutton Tare

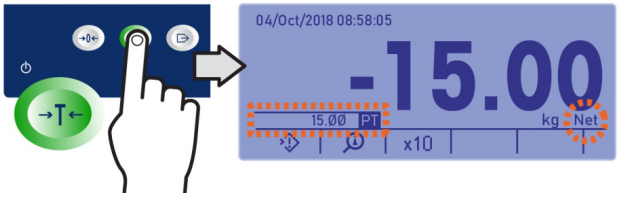


Keyboard Tare

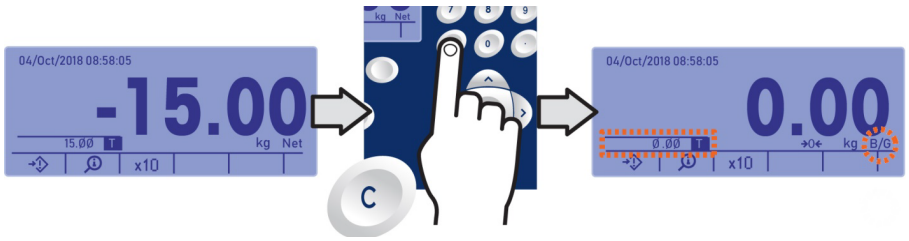
▶1



▶2



3.5 Clear Tare



3.6 Print