# TABLE OF CONTENTS

TECHNICAL SPECIFICATIONS ................................................................. 1
SAFETY DURING USE ................................................................................ 2
  Cleaning .................................................................................................. 2
  Charging battery and welding ................................................................. 2
FEED MANAGEMENT SOFTWARE .............................................................. 3
INDICATOR OVERVIEW ............................................................................ 4
OPERATION ................................................................................................. 6
  Turn on Indicator .................................................................................. 6
  Zero Balance Indicator ........................................................................ 6
  Tare and Net/Gross ............................................................................... 7
  Print Key ............................................................................................... 8
DATA TRANSFER ......................................................................................... 9
  DataKey Mode ..................................................................................... 9
  RF DataLink Modes ............................................................................. 9
  Indicator Data Formats ....................................................................... 10
LOADING AND FEEDING COMPLETE LOADS MODE ............................... 10
  Starting A Recipe ................................................................................ 10
  Resize Recipe Weight ......................................................................... 11
  Loading Recipe ................................................................................... 12
  Unloading to Pens .............................................................................. 13
RECIPE AND PEN LIST MODE ................................................................. 14
  Starting a Recipe ................................................................................ 14
  Resize Recipe Weight ......................................................................... 14
  Loading Recipe ................................................................................... 15
  Unloading Pens ................................................................................... 15
ADVANCED COMMANDS ........................................................................ 16
  Unload Partial Pens ........................................................................... 16
  Go Back To Skipped Ingredient ........................................................ 16
  Change Feeding Number ................................................................... 17
  Use Arrow Keys Recipe or Pens List .................................................. 17
  Clear Indicator Memory .................................................................... 17
  Re-Use Recipe/Pen Data .................................................................... 18
  Add a Pen to Pen List ........................................................................ 19
COMMONLY USED DIRECT ACCESS NUMBERS .................................... 20
  Pre-Alarm ........................................................................................... 20
  Auto Ingredient / Manual Pen Advance .............................................. 20
  Auto Advance ..................................................................................... 21
  Tolerance ............................................................................................ 21
  Pen Tolerance ..................................................................................... 21
  Delay Time ........................................................................................ 22
  Drive Ratio ......................................................................................... 22
  Scale ID or Truck ID ........................................................................... 22
  Radio Number .................................................................................... 23
  Resize Option ..................................................................................... 23
  Change Time ....................................................................................... 24
<table>
<thead>
<tr>
<th>Table of Contents</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change Date</td>
<td>24</td>
</tr>
<tr>
<td>Manual Programming</td>
<td>24</td>
</tr>
<tr>
<td>MANUAL PROGRAMMING OF RECIPES</td>
<td>25</td>
</tr>
<tr>
<td>Change Entry Method</td>
<td>25</td>
</tr>
<tr>
<td>Ingredient Re-Name</td>
<td>25</td>
</tr>
<tr>
<td>Print Ingredient Names</td>
<td>26</td>
</tr>
<tr>
<td>Enter New Recipe</td>
<td>26</td>
</tr>
<tr>
<td>Edit Recipe</td>
<td>28</td>
</tr>
<tr>
<td>Erase A Recipe</td>
<td>30</td>
</tr>
<tr>
<td>Review A Recipe</td>
<td>30</td>
</tr>
<tr>
<td>Printing Single Recipe</td>
<td>31</td>
</tr>
<tr>
<td>Printing All Recipes</td>
<td>31</td>
</tr>
<tr>
<td>RUNNING A RECIPE</td>
<td>32</td>
</tr>
<tr>
<td>Using Amount Per Animal</td>
<td>32</td>
</tr>
<tr>
<td>OTHER FUNCTIONS</td>
<td>34</td>
</tr>
<tr>
<td>Hold</td>
<td>34</td>
</tr>
<tr>
<td>Using Dimmer Option</td>
<td>34</td>
</tr>
<tr>
<td>MENUS AND CALIBRATION</td>
<td>35</td>
</tr>
<tr>
<td>Change Setup and Calibration Numbers</td>
<td>38</td>
</tr>
<tr>
<td>INSTALLATION</td>
<td>39</td>
</tr>
<tr>
<td>Indicator Mounting</td>
<td>39</td>
</tr>
<tr>
<td>Cable Connection</td>
<td>40</td>
</tr>
<tr>
<td>Indicator Connection Diagram</td>
<td>40</td>
</tr>
<tr>
<td>Bottom Panel Cable Connections</td>
<td>40</td>
</tr>
<tr>
<td>Connect Load Cells To J-Box</td>
<td>41</td>
</tr>
<tr>
<td>Load Cell Direction</td>
<td>41</td>
</tr>
<tr>
<td>OPTIONAL EQUIPMENT</td>
<td>42</td>
</tr>
<tr>
<td>Cab Control (Wireless)</td>
<td>42</td>
</tr>
<tr>
<td>Rotation Counter Sensor</td>
<td>42</td>
</tr>
<tr>
<td>Transmitter/Receiver</td>
<td>43</td>
</tr>
<tr>
<td>Remote Indicators</td>
<td>43</td>
</tr>
<tr>
<td>TROUBLESHOOTING</td>
<td>44</td>
</tr>
<tr>
<td>LEGAL-FOR-TRADE CERTIFICATION</td>
<td>46</td>
</tr>
<tr>
<td>Legal for Trade Features</td>
<td>46</td>
</tr>
<tr>
<td>Sealed to Prevent Unauthorized Modifications</td>
<td>47</td>
</tr>
</tbody>
</table>

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TECHNICAL SPECIFICATIONS

SIZE
10.25" long x 8.0" high x 4" wide (260mm x 190mm)

WEIGHT
4.5 lbs (2.04 Kg)

HELP MESSAGES
Context sensitive help messages in 10 languages
Long messages are scrolled

TRANSODER EXCITATION
8 volts D.C. Nominal
Capable of driving ten 350 Ohms transducers
Short circuit proof

ATC
Auto Temperature Compensation of the internal circuitry for high accuracy weighing measurements

TRANSDUCER SIGNAL
Compatible with transducers having full scale indicator transfer characteristics greater than 0.25 mv/v

“AUTO RANGE”
(Selectable) To increase display counts at weight values of 300 and 600 display counts

CONNECTOR
AMP plastic weather resistant circular connector. Gold contacts.

POWER REQUIREMENTS
10.5 to 16.0 V.D.C.
160 mA nominal with four 350Ω L.C.

SET UP AND CALIBRATION
Via front panel

GROSS RANGE
999,999 max display

LOW BATTERY WARNING
Enabled at 10.5V nominal

POUND/KILOGRAM
Selectable

DISPLAY RESOLUTION
01, .02, .05, .1, .2, .5, 1, 2, 5, 10, 20, 50, 100

DISPLAY UPDATE RATE
Selectable: 1, 2, 3, 4 times/sec.

MAX. DISPLAY RESOLUTION
Adjustable to 40,000 counts max.

ZERO TRACKING
Selectable, On/Off

SPAN ACCURACY
±(1% + .005%/ °F) or (.1% + 0.009% °C) full scale ± 1 output count

MOTION DETECTION
Selectable, On/Off

ZERO ACCURACY
(.005%/ °F.) or (0.009% °C) full scale ±1 output count for 0.5 mv/v transducer

ENVIRONMENTAL ENCLOSURE
IP65, IEC 529

WEIGH ALGORITHM
4 internally selectable digital filters to optimize performance
(General, Slow, Fast and Lock-on)

HOLD MODE
Used in mobile applications to stabilize displayed weight while moving the scale

NON-VOLATILE MEMORY
EEPROM for balance

OPERATING TEMP
-29°C to 60°C -20°F to 140°F

REMOTE INPUTS
Tare / Advance Recipe / Re-enter Preset
SAFETY DURING USE

⚠️ Caution

Cleaning
Do not use running water (high pressure cleaners, hoses) to clean the indicator.

Charging battery and welding
Disconnect all cables from the weighing indicator before charging the battery or welding on the machine. If cables are left connected, the weighing indicator and connected load cells could be damaged.

![Diagram of scale indicator, remote indicator, J-box, and instruction to disconnect all cords.](image-url)
FEED MANAGEMENT SOFTWARE

A full featured Windows® based system that offers powerful features that are easy to use.

Entry level system easily upgraded.
Based on features of TMR Tracker

Remote site monitoring software.
Works with email service to connect Tracker to remote location

Front-end tool for beef feeding customers to enter ingredient, recipe, corral and wagon information.

For additional information go to www.tmrtracker.com
INDICATOR OVERVIEW

1. **ZERO** - press and hold for 3 seconds to zero balance indicator.
2. **Pre-Alarm Light** – Flashes and alarm sounds when weight is within preset limit. See page 20.
3. **HOLD** – holds displayed weight when moving machine.
4. **SELECT COUNT** – selects timer or rotation counter feature.
5. **ON** - turns indicator on.
6. **OFF** - turns indicator off.
7. **Upper Display Window** – Displays current actions.
8. **Lower Display Window** – Lists 3 lines (i.e. ingredients, recipes, pens).

**Note:** See page 39-41 for installation instructions
Indicator Overview


10. - records to memory or prints displayed weight.

11. - toggles between Net and Gross weights.

12. - selects recipes in memory.

13. - enter user number and feeding number. Any number can be used for user until number assigned by management software.

14. - Clear (backspace).

15. - press in List Mode to begin pen unloading. See page 15.

16. - accepts change or proceeds to next item.

17. Directional Arrows - moves through list of information.

18. Keypad – inputs numbers or letters as required.

19. - performs the task displayed by select.

20. - displays additional tasks.


22. DataKey – Used for data transfer between computer and indicator.

23. Serial/Printer Port – optional, to communicate with computer and other digital input/output devices.


25. Load Cell Port – for J-Box cord.


27. DataKey Port – for DataKey insertion. Turn DataKey to upload/download data.

28. Serial Number Plate – Serial Number of indicator.
**OPERATION**

**Turn on Indicator**

1. Press \[ \text{ON} \]

**Zero Balance Indicator**

1. Press and hold \[ \text{ZERO} \] for 3 seconds to zero balance indicator.

2. Flashing arrow points to gross next to the display window, indicator ready to weigh.
Tare and Net/Gross

Tare is a temporary zero (Net Weight) to display total weight (Gross Weight) Press \( \text{NET/GROSS} \).

1. Weight displayed, press \( \text{TARE} \) sets zero weight.

2. Pressing \( \text{TARE} \) displays zero weight and flashing arrow on side of display points to NET.

3. Add more weight.
4. To know total of original weight of 4000 pounds plus added 300 pounds, press `<NET/GROSS>` to show 4300 pounds, flashing arrow points GROSS.

5. Press `<NET/GROSS>` 300 pounds displayed flashing arrow points NET.

**Print Key**

*NOTE:* Optional serial port must be installed for printing.

1. Press `<PRINT>`. Indicator sends data to printer or PC.

   Date in ddmmyy format

   Time

   

   Weight

   Gross (GR) or Net (NET)
DATA TRANSFER

DataKey Mode

To upload data:
1. Insert DataKey turn clockwise.
2. Press \( \text{ENTER} \).

**NOTE:** If indicator displays uncompleted data in memory, press \( \text{ENTER} \) to overwrite uncompleted data.

Remove DataKey when transfer complete.

To download data:
Insert DataKey, turn clockwise, indicator automatically sends data to DataKey. Remove DataKey.

RF DataLink Modes

<table>
<thead>
<tr>
<th>Operation</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>DataLink connects with indicator</td>
<td>( \leftarrow \text{PC} \rightarrow )</td>
</tr>
<tr>
<td>DataLink sends data to indicator</td>
<td>( \text{DL} \leftarrow \text{IN} )</td>
</tr>
<tr>
<td>Indicator receives data</td>
<td>\text{ALL FEED LINES RECEIVED - PRESS RECIPE KEY TO CONTINUE}</td>
</tr>
<tr>
<td>Data compete, indicator sends data to DataLink</td>
<td>( \leftarrow \text{PC} \rightarrow )</td>
</tr>
<tr>
<td>Data sending</td>
<td>( \text{DL} \rightarrow \text{OUT} )</td>
</tr>
<tr>
<td>To send data to PC if operator does not complete all feeding at end of feeding schedule. Press ( \text{SELECT} ) until display shows message (right column), press ( \text{FUNCTION} ) to select.</td>
<td>( \text{EZ} \rightarrow \text{PC} )</td>
</tr>
</tbody>
</table>

The indicator marks uncompleted data as completed and sends feeding data to DataLink.

**NOTE:** After sending, uncompleted data erased.

**NOTE:** Indicator may also be manually programmed, see page 25 for instructions.
Indicator Data Formats

Data sent to indicator in two formats:

Complete Loads Mode: Each load built by PC software. It assigns pens to a recipe and builds exact load for pens.

Recipe and Pen List Mode: PC software sends recipe data and pen data in two different fields. Operator selects recipe to build and pen deliveries.

LOADING AND FEEDING COMPLETE LOADS MODE

Starting A Recipe

1. Press ➔.

2. Press ▲ and ▼ to find desired recipe.

3. Desired recipe in upper display line, press ➔ ENTER.
Resize Recipe Weight

Indicator gives option to resize pen load weight.

1. Enter new weight or keep original weight
2. Press \( \text{ENTER} \).

**NOTE:** Press \( \text{SELECT} \) to resize by number of head in pen.

**NOTE:** Press \( \text{RECIPE} \) to accept pen values without resizing.

**NOTE:** If indicator warns resized amount is over capacity, press \( \text{RECIPE} \) to override.
Loading Recipe

1. First ingredient weight flashes in upper display. Load ingredient.

2. Weight approaches zero, alarm will flash and sound.

3. a. Manual Advance: Weight reached, press \( \text{to accept.} \)
   
   or

3. b. Auto Advance: When preset weight reached, indicator advances to next ingredient.

Displayed when in load or unload mode.

Line 1:
- feeding number: \( FD-2 \)
- number of rotations during pen delivery: \( CTR-000 \) (RC option only)
- pen name: \( PEN-I \)

Line 2:
- zone number: \( ZN-I \)
- name of recipe: \( REC-PREFRE \)
- call weight of pen: \( PRE-I200 \)

Line 3:
- gross weight: \( G-10000 \)
- Instruction data: \( USE ADVANCE TO LOG \)
Unloading to Pens

Ingredients loaded, indicator displays first pen to unload.

1. Manually Advance: press \[\text{ENTER}\] to go to pen. When weight reached press \[\text{ENTER}\] to accept. Press \[\text{ENTER}\] again to start next pen.

or

1. b. Auto Advance: When preset weight reached, indicator advances to next pen.

Last pen complete, indicator displays: “RECIPE COMPLETE”

**NOTE:** Do not press \[\text{PENS}\].

**NOTE:**
If different pen needed press \[\text{UP}\] or \[\text{DOWN}\] to find desired pen.
Press \[\text{ENTER}\] for pen delivery.
**RECIPE AND PEN LIST MODE**

Starting a Recipe

1. Press \( \text{REC} \).  
2. Display reads:  
   Example:  
   Line 1: \textbf{RECIPE RI}  
   Line 2: \texttt{RI - 25000 TOT- 50000}  
   Line 3: \texttt{R2 - 20000 TOT-18000}  
   Line 4: \texttt{R3 - 20000 TOT-10000}  
3. Press \( \text{UP} \) and \( \text{DOWN} \) to select recipe, \( \text{ENTER} \) to start.

Resize Recipe Weight

Indicator will display: \texttt{RESIZE}, then the resize weight.

4. Display reads:  
   Example:  
   Line 1: \texttt{25000}  
   Line 2: \texttt{ENTER AMOUNT TO BE LOADED}  
   Line 3: (No Data)  
   Line 4: \texttt{RI - 25000 TOT- 50000}  
5. Enter the amount to build in this load.  
6. Press \( \text{ENTER} \).
Loading Recipe

1. First ingredient and weight flash in upper display. Begin loading ingredient.

2. Weight reached, alarm will flash and sound.

   Press to start next ingredient.
   or

3. b. Auto Advance: When preset weight reached, indicator advances to next ingredient.

Unloading Pens

1. When ingredient loading complete, display reads “RECIPE COMPLETE”. Press . Indicator displays unloading pens.

2. Press or to select desired pen.

3. Press .

4. Pen and weight displayed, begin unloading to pen.

   Press again to start next pen.
   or

5. b. Auto Advance: When preset weight reached, indicator advances to next pen.

6. When unloading is complete press to start next recipe.
ADVANCED COMMANDS

Unload Partial Pens

1. Press  to advance to next pen without finishing current pen.

**NOTE:** If pen tolerance is set and feeding stopped before preset weight reached, alarm sounds, indicator displays:

```
PEN UNDERFEED - PRESS PRINT TO REMOVE PEN FROM LIST- PRESS ON TO KEEP PEN
```

See page 21 for Pen Tolerance setup.

Go Back To Skipped Ingredient

1. Press  or  to move back.
2. Press  .

**NOTE:** Ingredient weight changed more than 4 display counts cannot restart that ingredient.

Example: If minimum display change is 10 lbs/kgs, more than 40 lbs/kgs, cannot restart that ingredient.
### Change Feeding Number

1. Press **ID**.
2. Enter user number.
3. Press **ENTER**.
4. Enter feeding number (1-9).
5. Press **ENTER**.

### Use Arrow Keys Recipe or Pens List

1. Press **LEFT** or **RIGHT** to move list three lines at a time.

### Clear Indicator Memory

1. Press **OFF**.
2. Press and hold **CLEAR**.
3. Press **ON** while holding **CLEAR** indicator reads: `ON=CLEAR CLEAR=REUSE NET=EXIT`.
4. Press **ON** to erase feeding memory.
Re-Use Recipe/Pen Data

1. Indicator \[ \text{OFF} \]
2. Press and hold \[ \text{CLEAR} \].
3. Press \[ \text{ON} \] while holding \[ \text{CLEAR} \] indicator scrolls:

\[ \text{ON}=\text{CLEAR} \quad \text{CLEAR}=\text{REUSE} \quad \text{NET}=\text{EXIT}. \]

Release \[ \text{CLEAR} \].

4. Press \[ \text{CLEAR} \] again to re-use recipe and pen data.

**NOTE:** When re-using data stored in indicator, it takes recipe and pen information and removes completed weights loaded or unloaded and marks them undone. It will not accumulate data day to day. Download data to DataKey before re-using recipe and pen data stored.

**NOTE:** For continuous re-use, set D.A.N. 466 to on. See page 37.
Add a Pen to Pen List

1. Enter pen name or number.
2. Press \( \sqrt{\text{PENS}} \).
3. Press \( \sqrt{\text{ENTER}} \).

1. Press \( \triangledown \) or \( \triangledown \) to find desired recipe.
2. Press \( \sqrt{\text{ENTER}} \).

1. Enter amount to unload to pen.
2. Press \( \sqrt{\text{ENTER}} \).

1. Enter number of animals / pen.
2. Press \( \sqrt{\text{ENTER}} \).

1. If zones are active display reads: “ENTER ZONE 0-9”
2. Press \( \sqrt{\text{ENTER}} \).
COMMONLY USED DIRECT ACCESS NUMBERS

Pre-Alarm
Select weight or percentage method, enter value to activate early warning indicator reaching preset.

1. Enter 401 and press \( \Delta \text{SELECT} \).
2. Press \( \Delta \text{SELECT} \) again to change between WEIGHT and PERCENT.
3. Press \( \text{ON} \).
4. Enter Pre-Alarm value. Press \( \text{ON} \).

Auto Ingredient / Manual Pen Advance
Ingredients automatically advance, Pens manually advance.

1. Enter 461 and press \( \Delta \text{SELECT} \).
2. Press \( \Delta \text{SELECT} \), choose on/off.
3. Press \( \text{ON} \).
Auto Advance

Allows hands free operation of programmed recipes. When auto advance feature activated, indicator automatically advances to next ingredient once tolerance, and delay time requirements met.

Tolerance

Sets Auto Advance to trigger prior to reaching preset weight by weight or percentage.

1. Enter 442 and press \( \text{SELECT} \).
2. Press \( \text{SELECT} \) to choose tolerance method.
3. Press \( \text{ENTER} \) to save.
4. To change percentage, press \( \text{SELECT} \) until desired value is shown. To change weight, enter value.
5. Press \( \text{ENTER} \) to save.

**NOTE**: OFF setting always advances after preset amount reached.

Example: Preset = 1000 lbs. If tolerance is set to 5%, Auto Advance will activate at 950 lbs or 95% of preset weight.

Pen Tolerance

Available in List Mode Only

1. Enter 462 and press \( \text{SELECT} \).
2. Press \( \text{ON} \), screen will display “PENTOL”.
3. Enter weight or percentage desired.
4. Press \( \text{ON} \).
Delay Time
Changes time indicator waits before automatically advancing to next feedline.

1. Enter 443 and press \( \text{SELECT} \). Enter delay time in seconds.
2. Press \( \text{ENTER} \) to save.

NOTE: Set to 0 prevents automatic advance.

Drive Ratio
Drive ratio is number of turns seen by sensor divided by number of mixer rotations.

1. Enter 422 and press \( \text{SELECT} \) to enter drive ratio value.
2. Press \( \text{ON} \).

Scale ID or Truck ID
Each indicator has scale ID.

1. Enter 108 and press \( \text{SELECT} \).
2. Press \( \text{CLEAR} \) to erase old ID, enter the new ID.
3. Press \( \text{ON} \).

NOTE: TRM Tracker or Diet Manager, software ID must match.
**Radio Number**

Used with cab control option.

1. Enter **231** and press ⋅.
2. Press CLEAR to erase number, enter new number.
3. Press ON.

*NOTE*: Do not use same number for two different indicators.

---

**Resize Option**

Make weight changes to pens unload weight or recipe load size.

1. Enter **448** and press ⋅, press ⋅ again, change On/Off.
2. Press ON.
Change Time

1. Enter 202 and press \( \text{SELECT} \).
2. Enter time.
3. Press \( \text{ENTER} \) to save.

Change Date

1. Enter 204 and press \( \text{SELECT} \).
2. Enter date in format: ddmmyy
3. Press \( \text{ENTER} \) to save.

Manual Programming

1. Enter 439 and press \( \text{SELECT} \).
2. Follow instructions on page 25.
MANUAL PROGRAMMING OF RECIPES

Three different entry methods for entering ingredients:

Amount Per Animal (this is the default setting)
Allows entry of ingredient amounts required for feeding one animal. Indicator calculates preset amounts required for each ingredient.

Percent (%) Per Load
Enter ingredient amounts in (%). Indicator calculates amounts for each ingredient. Total of all ingredients must equal 100% in this mode.

Amount Per Load
Allows entry of ingredient amounts required per load.

Change Entry Method

1. Enter 441 press \(\text{SELECT}\).
2. Repeatedly press \(\text{SELECT}\) scrolls following entry methods:
   - 1 = Amount per Animal
   - 2 = Percent (%) per Load
   - 3 = Amount per Load
3. Press \(\text{ON}\) sets entry method.

Ingredient Re-Name

Ingredient names are listed in a standard table and can be changed using the following 9 steps.

1. Repeatedly press \(\text{SELECT}\) until \(\text{INGRNM}\) displays.
2. Press \(\text{FUNCTION}\)
3. Press \(\text{ON}\) shows ingredient
4. Press \(\text{ON}\) again to edit name. Display briefly shows \(\text{EDIT}\) and flashing cursor displayed.
5. Repeatedly press \( \text{CLEAR} \) erases ingredient.

6. Press “1” key once enters 1, twice enters A, three times for B, other numbers on keypad work same.

7. Pause for one second after entering a number or letter and they shift to left so a new letter or number can be added.

8. Press \( \text{ENTER} \).

9. Press \( \text{NET/GROSS} \) to exit.

Print Ingredient Names

1. Press \( \text{ENTER} \) displays first ingredient.

2. Press \( \text{PRINT} \) prints total accumulations for this ingredient.

3. Press \( \text{PRINT} \) again prints accumulations for all ingredients currently used in all recipes.

4. Press \( \text{PRINT} \) again prints names for all ingredients. Ingredients not used by recipe, show unused.

Enter New Recipe

1. Press and hold \( \text{REC} \) until indicator beeps and displays \( \text{PROGRAM} \) then displays either first recipe programmed or \( \text{REC} \). This indicates recipe number can be entered.

2. Press \( \text{CLEAR} \).

3. Enter recipe number.

4. Press \( \text{ENTER} \) enters number.
5. Press \( \text{SELECT} \) to scroll available ingredients.

6. Press \( \text{ENTER} \) to select ingredient on screen.

7. Enter amount of ingredient required. (see note)

8. Press \( \text{ENTER} \) to store amount.

**NOTE:** In percent/load entry mode a 75% ingredient, for example, should be entered as 75.00 on display. 5.75% ingredient entered as 5.75.

9. Press \( \text{ID} \) to change to pens.

10. Press \( \text{SELECT} \) to scroll available pens.

11. Press \( \text{ENTER} \) to select pen on screen.

12. Enter amount for pen.

13. Press \( \text{ENTER} \) to store amount.

Repeat steps 10-13 for each pen required.
14. Press \[\text{enter}\] to complete recipe.
15. Indicator calculates and displays \[\text{TOTAL}\] amount of recipe.
   Repeat steps 1 - 15 until all recipes programmed.
16. Press \[\text{net/gross}\] to exit.

**Edit Recipe**

1. Press and hold \[\text{recipe}\] until indicator beeps and displays \[\text{program}\].
2. Repeatedly press \[\text{recipe}\] until recipe number displayed.
3. Press \[\text{enter}\] to edit this recipe.
4. First ingredient name displayed followed by \[\text{amount}\].
5. Enter new amount.
6. \[\text{enter}\] stores and advances to next feedline.
7. Press \( \text{SELECT} \) to return to previous ingredient.
   Repeat steps 5-6 for each feedline change.

8. Press and hold \( \text{RECIPE} \) to insert a new ingredient. This will insert just before the current ingredient on the screen.

9. Press \( \text{ID} \) to switch between ingredients and pens.

10. Press \( \text{SELECT} \) to scroll available ingredients or pens.

11. Press \( \text{ENTER} \) to select ingredient or pen.

12. Enter amount required.

13. Press \( \text{ENTER} \) to store amount.

14. Press and hold \( \text{ZERO} \) to erase an ingredient. Message \text{ZERO TO ERASE} scrolls.

15. Press \( \text{ZERO} \) to erase the current ingredient or pen displayed on the screen.

16. Press \( \text{NET/GROSS} \) to exit.
### Erase A Recipe

1. Press and hold until indicator beeps and displays `PROGRAM` followed by first recipe number.
2. Repeatedly press until desired recipe number displayed.
3. Press and hold message `PRESS ZERO TO ERASE RECIPE OR NET/GROSS TO EXIT` scrolls.
4. Press erases recipe.
5. Press exits.

![Erase A Recipe](image)

### Review A Recipe

1. Repeatedly press until recipe shown.
2. Press displays each feedline, weight or % and total for recipe.
3. Press exits.

![Review A Recipe](image)
Printing Single Recipe

NOTE: Optional serial port must be installed for printing.

1. Press \( \text{RECIP} \) displays first recipe. Repeatedly press \( \text{RECIP} \) displays other recipes.
2. Press \( \text{PRINT} \) prints recipe.
3. Press \( \text{NET/GROSS} \)

Printing All Recipes

1. Press \( \text{RECIP} \) displays first recipe.
2. Press \( \text{PRINT} \) prints recipe.
3. Press again prints all recipes in memory.
4. Press \( \text{NET/GROSS} \)
RUNNING A RECIPE

Using Amount Per Animal

1. Repeatedly press \( \text{RECIPES} \) until recipe displayed.
2. Press \( \text{ENTER} \) to accept recipe.
3. Indicator displays \text{LOADING RECIPE}.

4. Indicator displays \text{RESIZE} followed by \text{PEN}.
5. Indicator displays flashing number. Change number to amount of animals to feed.

\textbf{NOTE:} If using percent/load, change number to weight amount for pen.

6. Press \( \text{ENTER} \).

7. After resizing all pens, indicator displays ingredient to load and how much to load. As ingredient loaded indicator counts down to zero.
8. Press \( \text{ENTER} \) to advance to next ingredient.

(See page 21 for auto advance)
9. After last ingredient loaded, indicator displays *START DELIVERIES*.

10. Indicator displays pen to unload and how much to unload. As pen is unloaded indicator counts down to zero.

11. Press the *ENTER* button to advance to next pen.

12. After last pen unloaded, indicator displays *RECIPE COMPLETE TOTAL*.
OTHER FUNCTIONS

Hold

Hold mode prevents displayed weight from changing while moving.

1. Press \textit{Hold}.
2. Press \textit{Hold} returns indicator to normal.

If weight added in hold mode, press \textit{on} to cancel hold.

\textbf{NOTE:} This feature is disabled on all legal for trade systems.

Using Dimmer Option

1. Repeatedly press \textit{select} until \textit{Dimmer} is displayed.
2. Press \textit{function} dims backlight.
**MENUS AND CALIBRATION**

Enter D.A.N. press \( \text{SELECT} \) displays setting name, allows value change. Press \( \text{ON} \) to save setting.

<table>
<thead>
<tr>
<th>SETTING [display]</th>
<th>D.A.N NO.</th>
<th>OPTIONS [displayed]</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LANGUAGE</strong> (LANGAG)</td>
<td>101</td>
<td>English Dutch French German Italian Portuguese Spanish Danish Hungarian Spanish ( (\text{ENGLISH}) ) ( (\text{NEDERL}) ) ( (\text{FRANCS}) ) ( (\text{DEUTSH}) ) ( (\text{ITAL}) ) ( (\text{PORT}) ) ( (\text{ESPAN}) ) ( (\text{DANSK}) ) ( (\text{MAGYAR}) ) ( (\text{VESTA}) )</td>
<td>Select language to be displayed.</td>
</tr>
<tr>
<td><strong>TR HOLD</strong> (TR HLD)</td>
<td>107</td>
<td>ON/OFF</td>
<td>Display gross weight if TR key is held for 3 seconds.</td>
</tr>
<tr>
<td><strong>SCALE ID SETUP</strong> (SCALEID)</td>
<td>108</td>
<td>NEW EZ</td>
<td>Identity of scale location (truck id or Mixer number).</td>
</tr>
</tbody>
</table>

**MENU 2. CLOCK, PRINTER, COMMUNICATIONS & ESTIMATED WEIGHT FEATURES**

<table>
<thead>
<tr>
<th>TIME FORMAT (TIME F)</th>
<th>201</th>
<th>24 HR AM/PM</th>
<th>Select time format - AM/PM or 24 hour</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DATE FORMAT</strong> (DATE F)</td>
<td>203</td>
<td>1-mm-dd 2-mm/dd/yy 3-mm/dd/yyyy 4-dd-mm 5-dd/mm/yy 6-dd/mm/yyyy 7-ddmooy 8-ddmooyyyy.</td>
<td>Select date format</td>
</tr>
<tr>
<td><strong>DATE</strong> (DATE)</td>
<td>204</td>
<td>Enter XXXXXX</td>
<td>Select key changes date - function key chooses mm/dd/yy .</td>
</tr>
<tr>
<td>SETTING [display]</td>
<td>D.A.N NO.</td>
<td>OPTIONS [displayed] BOLD=DEFAULT</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>-------------------</td>
<td>----------</td>
<td>---------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>SCALE NUMBER (SCL NO)</td>
<td>231</td>
<td></td>
<td>Select scale number for cab control communication</td>
</tr>
<tr>
<td>REMOTE DISPLAY (RDISP)</td>
<td>234</td>
<td></td>
<td>Select type of remote display</td>
</tr>
</tbody>
</table>

**MENU 3. SCALE CALIBRATION SETTINGS**

<table>
<thead>
<tr>
<th>DISPLAY UNIT (LB-KG)</th>
<th>303</th>
<th>LB/KG</th>
<th>Display pounds -lb or kilograms -kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIMIC TYREL (TCX1300)</td>
<td>321</td>
<td>OFF/ON</td>
<td>If ON -records preset weights like a TYREL TCX-1300 indicator. Indicator Tracks gross weight while batching.</td>
</tr>
</tbody>
</table>

**MENU 4. PRESET, BATCHING & ROTATION COUNTER FEATURES**

<table>
<thead>
<tr>
<th>PRE ALARM {P METHD} &amp; {P-ALN}</th>
<th>401</th>
<th>WEIGHT PERCNT</th>
<th>Select weight or percentage method, then enter a value to activate an early warning that indicator is reaching the preset.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUZZER (BUZZER)</td>
<td>404</td>
<td>1-4, ON/OFF</td>
<td>ALARM BUZZER - allows user to turn off alarm horn.</td>
</tr>
<tr>
<td>TIMER/ COUNTER (TMRCTR)</td>
<td>421</td>
<td>REV TIME</td>
<td>Select time or mixer revolutions to decrement mix timer/counter.</td>
</tr>
<tr>
<td>DRIVE RATIO (DRATIO)</td>
<td>422</td>
<td>0001.00</td>
<td>Enter the number of input pulses that equal 1 mixer revolution.</td>
</tr>
<tr>
<td>MANUAL PROGRAMMING</td>
<td>439</td>
<td>PC/SCALE</td>
<td>PC: Requires a Datakey with programming. Scale: Allows user to manually program indicator.</td>
</tr>
<tr>
<td>ENTRY METHOD (E METHD)</td>
<td>441</td>
<td>1,2,3</td>
<td>Select batch 1-amount/animal 2-percent/load 3-amount/load</td>
</tr>
<tr>
<td>TOLERANCE (TOLER)</td>
<td>442</td>
<td>OFF,.5,1-5,7,10</td>
<td>Select tolerance weight percentage to accept ingredient.</td>
</tr>
<tr>
<td>SETTING</td>
<td>D.A.N NO.</td>
<td>OPTIONS [displayed] BOLD=DEFAULT</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------</td>
<td>----------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>IGR. ADVANCE DELAY</td>
<td>443</td>
<td>MANUAL, 1-3,5,7, 10,20,30,60</td>
<td>Select seconds to delay before advancing to next ingredient.</td>
</tr>
<tr>
<td>FORCE USER ID USER ID</td>
<td>446</td>
<td>ON/OFF</td>
<td>If ON -operator must enter user ID to use indicator.</td>
</tr>
<tr>
<td>RESIZE RECIPE RESIZE</td>
<td>448</td>
<td>ON/OFF</td>
<td>If ON -operator can change recipe size.</td>
</tr>
<tr>
<td>TOLER OVER LOCK OVERLK</td>
<td>453</td>
<td>ON/OFF</td>
<td>If ON -prevents auto-advancing if preset exceeds tolerance.</td>
</tr>
<tr>
<td>FEED ZONE FDZONE</td>
<td>454</td>
<td>ALL, 1-9</td>
<td>Select feed zone for recipe deliveries.</td>
</tr>
<tr>
<td>UNDONE RECIPES UNION</td>
<td>455</td>
<td>ON/OFF</td>
<td>If ON -displays all incomplete recipes or enable if indicator is stationary mixer/batch when using Datalink.</td>
</tr>
<tr>
<td>AUTO START PENS AUTOPEN</td>
<td>458</td>
<td>ON/OFF</td>
<td>If ON -starts pens list after recipe is loaded in list mode format.</td>
</tr>
<tr>
<td>MANUAL PEN ADVANCE MANPEN</td>
<td>461</td>
<td>ON/OFF</td>
<td>If ON -overrides automatic advance for pens.</td>
</tr>
<tr>
<td>PEN TOL PENWT TPTH &amp; PEN TOL</td>
<td>462</td>
<td>WEIGHT PERCNT</td>
<td>Select weight or percentage method, then enter pen tolerance.</td>
</tr>
<tr>
<td>PEN WEIGHT PENWT</td>
<td>463</td>
<td>LOAD GROSS NET</td>
<td>Select method for displaying pen Weight - net, load, or gross.</td>
</tr>
<tr>
<td>DOUBLE KEY PRESS PREV</td>
<td>465</td>
<td>ON/OFF</td>
<td>Select method ignores double pressing of keys when advancing ingr. While loading mixer.</td>
</tr>
<tr>
<td>RECIPE REMAIN ACTIVE RE-USE</td>
<td>466</td>
<td>ON/OFF</td>
<td>Select ON to reuse recipes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CALIBRATION</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SETUP NUMBER SETUP</td>
<td>871</td>
<td></td>
<td>Quick entry method selects weigh method 1-4lbs, 5-8 kg, gain 1-9, display counts 1-9 and capacity *1000</td>
</tr>
</tbody>
</table>
### Menus and Calibration

<table>
<thead>
<tr>
<th>SETTING [display]</th>
<th>D.A.N NO.</th>
<th>OPTIONS [displayed] BOLD=DEFAULT</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>CALIBRATION NUMBER&lt;br&gt; (CRU)</td>
<td>872</td>
<td></td>
<td>Weight displayed at 0.4mV/V for these load cells</td>
</tr>
</tbody>
</table>

### Change Setup and Calibration Numbers

1. Enter **871** and press \( \text{SELECT} \).

2. Indicator shows **SETUP** briefly then show a 6 digit number. Enter new number.

3. Press \( \text{ON} \).

Follow same procedure changes calibration number except use **872**.
# INSTALLATION

## Indicator Mounting

<table>
<thead>
<tr>
<th>KEY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>404353</td>
<td>BRACKET-EZ3 PLASTIC RAIL *</td>
</tr>
<tr>
<td>B</td>
<td>403780</td>
<td>SCR-#10 X 5/8 FHSTS BLACK ZP</td>
</tr>
<tr>
<td>C</td>
<td>840459</td>
<td>SUPPORT-HAT BRACKET</td>
</tr>
<tr>
<td>D</td>
<td>405069</td>
<td>U-BOLT 1/4-20 X 3.25 ZP</td>
</tr>
<tr>
<td>E</td>
<td>405084</td>
<td>NUT-1/4-20 TOP LOCKING FLANGE</td>
</tr>
<tr>
<td>F</td>
<td>403770</td>
<td>BRACKET- WING MOUNT *</td>
</tr>
<tr>
<td>G</td>
<td>405124</td>
<td>PACK-WEDGE MOUNT BRACKET WITH U-BOLTS &amp; FLANGE NUTS</td>
</tr>
<tr>
<td>H</td>
<td>405244</td>
<td>EZ3 WEDGE MOUNT</td>
</tr>
</tbody>
</table>

## RAM MOUNT

<table>
<thead>
<tr>
<th>KEY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>404799</td>
<td>RAM MOUNT FOR EZ III INDICATOR WITH HARDWARE</td>
</tr>
<tr>
<td>J</td>
<td>404230</td>
<td>RAM SUCTION CUP W/TWIST LOCK</td>
</tr>
</tbody>
</table>
Cable Connection

Scale Indicator

Power Cord

Remote Indicator (Optional)

Indicator Connection Diagram

See J-Box Connections

Pin To 12VDC Power Supply

1. Red + Terminal
2. Black - Terminal
3. Orange Alarm Out
4. Blue Remote Input

Bottom Panel Cable Connections

Scale

Indicator

Digital Input/Output Connection

Remote Indicator Connection

Power Cord Connection

Data Key Insertion

J-Box Connection

SERIAL/PRINTER J904
REMOTE J903
LOAD CELL J902
POWER J901

DATAKEY

SN00000000
Connect Load Cells To J-Box

Observe direction of arrow on load cell when installing load cell.

**Wire Color Key**

<table>
<thead>
<tr>
<th>Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>White</td>
</tr>
<tr>
<td>2</td>
<td>Green</td>
</tr>
<tr>
<td>3</td>
<td>Red</td>
</tr>
<tr>
<td>4</td>
<td>Black</td>
</tr>
<tr>
<td>5</td>
<td>Shield</td>
</tr>
</tbody>
</table>

**J-Box Connections**

- Connect load cell wires to terminal blocks.
- Connect load cell wires to terminal blocks.
- Load cell cable
- J-Box Cable
- Connect to Indicator bottom panel.
- Tighten nuts

**Load Cell Direction**

**BENDING DIRECTION**
**DIRECTION DE FLEXION**
**BIEGERICHTUNG**

141815

Observe direction of arrow on load cell when installing load cell.
OPTIONAL EQUIPMENT

Cab Control (Wireless)

Features
- Wireless remote with full key control of indicator on mixer
- Mount remote in easy view of loading
- Improves loading accuracy

Functions
- Communicates with multiple mixers
- Easily call-up recipes without leaving loader

Specification
- Internally mounted 2.4 GHz radios
- Up to 1000 foot range
- 24 channels
- 12 or 24 volt DC system

Rotation Counter Sensor

Use with EZ3600 or EZ4600 indicators equipped with rotation counter port. Sensor allows operator to program indicator to count auger or PTO rotations for accurate mix.
Transmitter/Receiver

Transmitter (shown) with factory installed receiver in indicator. Use to zero indicator from remote location. Operating range about 90 feet.

Remote Indicators

RD440 small remote display with 1” high numbers
RD2400V backlit remote display with 1.7” high numbers
RD4000 LED remote display with 4” high numbers
TROUBLESHOOTING

FLOW CHART

START

Does the indicator come on?

YES

Is the reading on the Indicator stable?

NO

If your display is unstable, or flashes "± RANGE" disconnect the j-box cord from Indicator.

If display is still unstable?

YES

Your Indicator is probably defective. Try another Indicator to verify. Note: Be aware of electrical interference that might affect Indicator, such as mobile phones, CB radios, radio towers, electrical motors, etc. Make sure Load Cell cables are not attached to hydraulic lines or reservoir.

NO

Put your weight on each load cell. Does the indicator respond to your weight?

YES

Check all J-Box and Load Cell cables for cuts or pinched/flat spots.

NO

Are the readings all positive? If not Load Cell is upside down.

YES

Does the scale weigh you approx. the same over all Load Cells? (Weight will not be accurate)

NO

Remove the cover from your J-Box

YES

Is there moisture inside the box?

NO

Look for loose connections. Watch your Indicator display while moving the wires and pressing on the circuit board inside the J-Box. You will see if there is a loose connection or bad solder joint.

YES

Your Indicator is probably not set-up and calibrated correctly. Check the decal on the bottom of Indicator. It shows what type of Load Cells the Indicator was calibrated to. By pressing the on key while the Indicator is already on, you will get the Indicator’s “Set-up” and “Cal” numbers. See if they compare to the set-up and calibration numbers on the indicator. Contact Dealer for further information.

NO

Fix or replace the J-Box

Did the J-Box have a bad connection or loose wire?

YES

See next Page

NO

Poor Connection: Take them apart and clean connections. (Rust or paint should be wire brushed.) Then reconnect and tighten securely.

Bad Battery: Replace battery (weak battery may test good if tested with no load on battery)

Bad Power Cord: Make sure red wire is connected to (+) positive side and black wire is connected to (-) negative side. When using a multimeter to check for voltage, measure between pin 1 (pos) and pin 2 (neg). Meter should read between 10.5 and 14.5 volts DC if using a tractor power cord, black wire is positive and white wire is negative.

Bad Indicator: Try another Indicator. (Even a different model or set-up should come on.)

Remove the cover from your J-Box

YES

Dry out your J-Box (use a hairdryer). Check cable strain reliefs for tightness. Cables have drip loops. Is lid gasket damaged?

NO

See next Page
1. Disconnect all the Load Cell wires from the terminal blocks inside the J-Box (leave the Indicator on while connecting and disconnecting the wires, it will not damage Load Cells or Indicator if wires are shorted during this step). Is reading on Indicator stable?

   YES

   2. Zero balance the Indicator. (Press "NET/GROSS" then "ZERO"). Indicator should display "0".

   NO

   Replace J-Box (be aware of electrical interference that might affect your scale such as mobile phones, CB radios, radio towers, electric motors, etc.).

   3. Connect one Load Cell back into one of the terminals in the J-Box. (The reading you get for each Load Cell is dependent on the size and type of each Load Cell and how much weight is over each Load Cell. In general, the number should be positive and stable.)

   4. Record the Indicator reading with the Load Cell connected.

   5. Stand or hang your weight over the connected Load Cell. Record how much the weight increased with your weight over the Load Cell. (A scale with only one Load Cell will weigh heavy.)

   Note: If the scale responded to your weight, that’s verification on the J-Box is OK. If the scale did not respond, either that Load Cell is bad or the J-Box is bad. Try the other Load Cells. If the Indicator still shows no response, the J-Box is bad. (Replace J-Box)

   6. Disconnect the first Load Cell and reconnect a second one. Record the Indicator reading. Stand or hang your weight over the connected Load Cell. Record how much the weight increased.

   7. Repeat step 6 for the remaining Load Cells. Remember to record your readings.

   Do not expect the Load Cells to give the same reading. It is common for Load Cells to have readings that vary by hundreds, even thousands. Especially when one is carrying more weight.

   8. Bad Load Cells will have a reading that is either unstable, makes the indicator flash "±RANGE" or is more than three times greater or less than the average of the others. Also the readings of your weight over each Load Cell should be similar. (Probably 4 times your actual weight). Any differences could be an indication of a bad Load Cell or a structural problem.
LEGAL-FOR-TRADE CERTIFICATION

United States
In the US, the Legal-for-Trade certification is regulated by the National Type Evaluation Program (NTEP). The NTEP certificate number is 08-40.

Canada
Measurement Canada is the Canadian agency that regulates Legal-for-Trade scales. The approval number from Measurement Canada is AM-5678C.

Legal for Trade Features
Digi-Star Legal-for-Trade indicators are modified to comply with US and Canadian regulatory agencies. Some of these modifications are:

Load Cell Disconnect Sensor
Indicator displays $+$RANGE or $-$RANGE without flashing when load cells are disconnected.

Hold Function
The Hold function has been disabled. (EZ3400, EZ3600 and EZ4600)

Printing
Printing weight values is not allowed while in motion, during self-calibration, or if any error conditions such as $+$RANGE, OVRCAP or OVRFLW. are active.

Lock-On Weigh Method
Lock on weigh method (for animal weighing) cannot be enabled.

Tare
Cannot tare a negative weight.

Labeling
The capacity and division information is shown on the front of the indicator.
Sealed to Prevent Unauthorized Modifications

The scale indicator is sealed by a Category 1 Audit Trail. To access the audit trail in the normal weighing mode, press and hold the “ON” key. This will display the current parameter and calibration event count values. Pressing any key will return the indicator to the weighing mode. The audit trail system is always active and cannot be altered. Audit trails are stored in flash memory and do not require batteries to maintain the audit trail values.

Changing any of the following parameters will change the Calibration event count value or parameter audit event count value. This will void your Legal-for-Trade certification unless performed by properly trained personnel.

- Setup
- Calibration
- Capacity
- Display Count
- Display Units
- Weigh Method
- Motion
- WMA1-1 through WMA2-3
- LFT Option Setting

On Legal-For-Trade Units Only

Perform the following procedure on an empty and clean machine before the unit is to be “site-certified”.

- Install the LFT indicator on the machine and connect all load cells.
- Zero/balance the scale with no load on the machine.
- Enter “871” and press \( \text{SELECT} \). Press \( \text{ON} \) to accept.