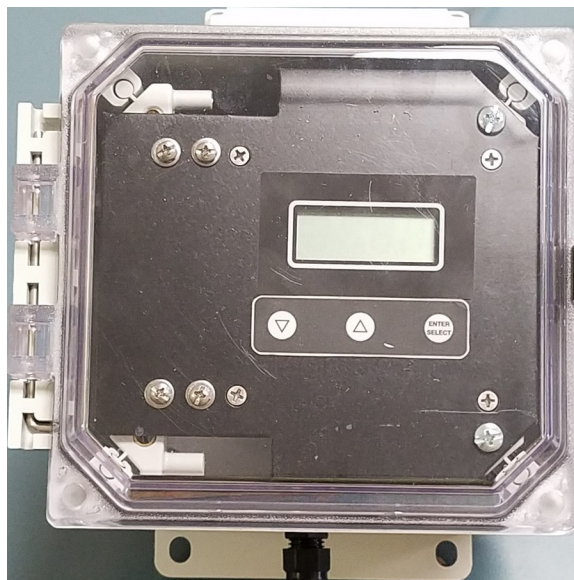




EI-250 Economy Electronic Weight Indicator



INSTALLATION & OPERATION MANUAL

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V1.0

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I. INTRODUCTION

The EI-250 is an economical weight indicator meant to meet simple performance requirements or for use in remote locations where power supply is a concern.

II. SPECIFICATIONS

EI-250 Electronic indicator

Power requirements:	2x, 1.5V D-CELL (LR20) Alkaline
Battery life:	six-months to one-year
Scale input:	0.4mV/V to 2.2mV/V
Scale Excitation Resistance:	350Ω to 1000Ω, single load cell
Scale distance from Indicator:	Twenty-five (25) feet or less
Max weight:	9990 lbs/kgs
Resolution:	0.1, 0.2, 0.5, 1, 2, or 5
Graduations:	1000 typical
Update rate:	Four/sec (normal),once/ten-seconds(low-power mode)
Display:	four-digit LCD, 0.5"
Push buttons:	UP, DOWN, & SELECT (Tactile dome)
(optional) 4-20mA output:	Passive, loop powered, 32VDC _{MAX}
4-20mA burden voltage:	8VDC _{MAX}
4-20mA output Impedance:	>1MΩ
(optional) Relay type:	Form-C (N/O & N/C), Latching
Relay voltage rating:	250VAC or 32VDC _{MAX}
Relay current rating:	5A
Relay type:	Mechanical
Temperature:	0C to 50C, 0% non-condensing
Enclosure:	Nema 4X
Option boards (field installable):	Loop powered 4-20mA (PN 110556) Low-level set point (PN 110557)

III. Installation and startup

Before opening the box the indicator was shipped in, inspect it for damage. If damage occurred during shipping file a claim with the carrier.

1. Choose a location for the scale and indicator
2. The scale should be on a flat surface, refer to the scale manual for full installation instructions.
3. Bolt the EI-250 indicator to the wall through the enclosures mounting feet. 15 feet of load cell cable is standard on Eagle Microsystems scales but additional length may be provided if specified at time of order.
4. Open the enclosure and place 2 D-cell batteries in the holder at the rear of the instrument
5. Bring the load cell cable into the enclosure through the strain relief at the bottom of the enclosure and wire it to TB1 on the left hand side of the instrument PCB. Refer to the table at the end of this manual for scale specific wiring codes

IV. General Operation

The EI-250 has three pushbuttons as shown below:



Pushbutton functions		
	General function	Special function
Down arrow	Decreases displayed value	Press and hold 3 seconds to adjust remaining weight
Up arrow	Increases displayed value	Press and hold 3 seconds to adjust remaining weight
Enter/select	Toggles between gross and remaining weight	Press and hold 3 seconds to enter calibration mode

V. Calibration and zero procedure

1. Remove all weight from the scale.
2. Press and hold enter/select for 3 seconds OR flip the dip switch labeled “cal” on the instrument circuit board.
3. Press the enter/select button to zero the scale with no weight on it.
4. Place a known weight on the scale and use the up and down arrows to adjust the displayed weight on the indicator to match the appropriate gross weight.
5. Exit calibration by pressing and HOLDING the enter/select button for 3 seconds OR return the dip switch on the circuit board to its normal position.

VI. Adjusting remaining weight(tare)

1. Put the display in remaining mode by pressing the enter/select pushbutton. Look for the small arrow on the left side of the display.
2. Press and HOLD the up or down arrow for three seconds, the arrow on the left side of the display will start flashing.
3. Make the adjustment to the remaining weight with the up and down arrows.
4. Press enter/select to return to normal operations.

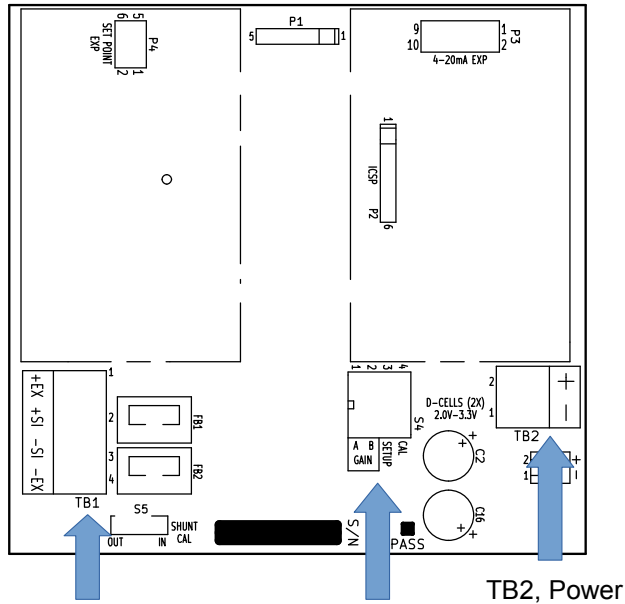
VII. Configuration

1. Flip the dip switch on the instrument circuit board labeled “setup”.
2. A parameter number will be displayed on the front of the instrument.
3. Use the up and down arrows to navigate between different parameters
4. Press the enter/select pushbutton to view a parameter, use the up and down arrows to adjust the parameter.
5. Press enter to back out of parameter viewing/editing mode and return to the parameter list.
6. Flip the “setup” dip switch back to its normal position to return to normal operating mode.

Parameter List			
Parameter number	Description	Values	Notes
P111	Scale resolution / minimum increment	0.1, 0.2, 0.5, 1, 2, 5	
P112	Averaging / sample rate	1, 2, 4, 8, 12, 20, auto(adaptive averaging)	Sets the number of readings the instrument will take before averaging them and updating the display.
P113	Auto-Zero	On/Off	Auto zeroes a weight less than 10XP111 when weight is removed.
P116	Operational threshold	0-Full Scale	Automatically displays remaining if weight goes over the threshold
P117	Full scale	User defined, based on scale capacity limits. Use the full gross weight of the container/tank being weighed.	
P501 (requires optional relay card PN 110557)	Relay setpoint	User defined	Energizes the latching relay if remaining weight falls below the set value.
P610(requires optional 4-20 mA DC output card PN 110556)	Full scale for analog output	User defined	Sets the weight for the full 20 mA output signal

EI-250 Wiring Diagram

EI-250 Wiring Diagram

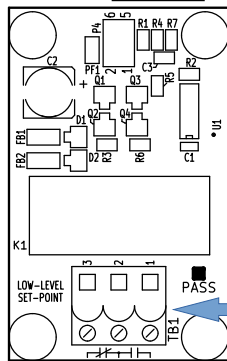


TB1, Scale input S4, Dip Switches, Gain

Wiring Legend			
Terminal	Position	Function	Notes
TB1	+EX	Positive Excitation	Refer to scale reference page for color codes
TB1	+SI	Positive Signal	
TB1	-SI	Negative Signal	
TB1	-EX	Negative Excitation	
S4	Gain A	Both open = .56 mV/V B = .75, A = 1.35, AB = 2.28	Set as close as possible to scale mV/V
S4	Gain B		
S4	Setup	Enter config. mode	
S4	Cal	Enter calibration	
TB2	+	Positive battery conn.	
TB2	-	Negative battery conn.	

(Optional) Set point / relay PN

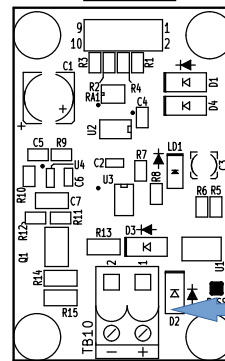
110557



Form C relay:
NC, common, NO

(Optional) 4-20 mA output PN

110556



4-20 mA DC loop
power: -/+

EI-250 ROUTING TICKET

SO#: - -
Program: EI-250
Version:

DATE:
SERIAL #:
PCB REV:

Engineering Setup:	Default values	User Changes	Parameters requiring option cards	Default values	User Changes
P111 Resolution			P501 Relay Setpoint		
P112 Averaging			P601 Analog Output F.S.		
P113 Auto-Zero	Off				
P116 Operational Threshold					
P117 Full-Scale	30.0				

INSTALLED HARDWARE OPTIONS

4-20 mA DC card

Relay card

Custom Option

Custom Enclosure