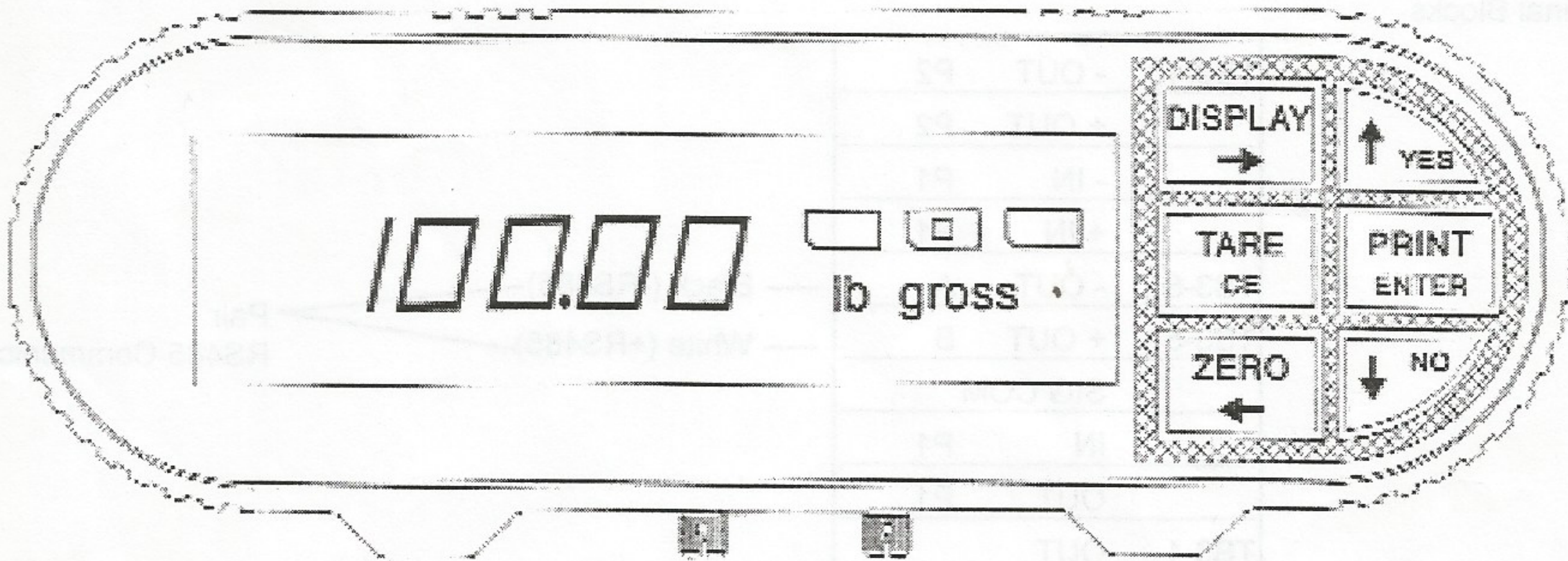


## Digital Load Cell Indicator Model TD-I-1050

### Instruction Manual



### Contents

### Page

Load cell wiring	2
Calibration	3
Setup Configure	4
Setup Input/Output	5
Setup Units	6
Setup Port 2	7
Balance multiple cells	8
Factory setup	9
Front Panel lights & buttons	9
Specifications	10



**Advanced Load Cell Protocol**



### Load cell wiring connections

If (1) load cell is connected to indicator, it must have address 01.

If (4) load cells are connected to indicator, they must have addresses 01, 02, 03, 04.

#### Terminal Blocks

TB3-10	- OUT	P2
	+ OUT	P2
	- IN	P1
	+ IN	P1
TB3-6	- OUT	A
TB3-5	+ OUT	B
	SIG COM	
	IN	P1
	OUT	P1
TB3-1	OUT	
TB2-3	IN	P1
TB2-2	OUT	P1
TB2-1	OUT	
TB1-6	- EXC	
	- SENSE	
	- SIG	
	+ SIG	
	+ SENSE	
TB1-1	+ EXC	

----- Black (-RS485)  
 ----- White (+RS485) } Pair RS485 Communications

----- Black (0VDC Ref)  
 ----- Red (+12VDC) } Pair 12VDC power



## Calibration

1. Internal MAIN MODE switch S1-1 to "CLOSED". Do **not** use CAL MODE switch S1-2.
2. Display **SEt**      **AUTO**      ?      Press **NO(')**
3. Display **SEt-UP**    **CONFIG**    ?      Press **NO(')**
4. Display - - - -    **CAL**      ?      Press **YES(')**
5. Display **10000**    **CAPACITY**    " or » will position flashing digit. **YES(')** or **NO(')** will change value.  
Press **ENTER** if value has been changed.
6. Press **NO(')** for next step or **YES(')** **YES(')** for previous step.
7. Display **10000**    **X 1**      Change with " or »  
.0001 .0002 .0005 .001 .002 .005 .01 .02 .05 .1 .2 .5 1 2 5 10 20 50 100
8. Press **NO(')** for next step or **YES(')** for previous step.
9. Display **10000**    **LB**      Change with " or »  
LB KG OZ GRAM(g) GRAIN(gr) TON(tn) DRAM(dr) MTON(mt)
10. Press **NO(')** for next step or **YES(')** for previous step.
11. Display **Actual**    **ZERO CAL**    With no test load, press **ENTER**. Display **CAL OK**.
12. Display **Actual**    **SPAN CAL**    Change span cal target value (Test Load) with " or » keys and **YES(')** or **NO(')** keys.  
With test load on scale, press **ENTER**. Display **SPAN OK**.
13. Display **Actual**    **FILTR 10**    Change with " or » Larger numbers have more filtering.  
1 2 3 4 5 6 7 8 9 10 12 14 16 18 20 25 30 35 40 45 50
14. Cal switch S1-1 to "OPEN". Calibration is complete.

Note: If "?" is flashing, press **YES(')** or **NO(')** keys only. The other keys will not work.  
To EXIT the Calibration program at any point set Main Mode switch S1-1 to "OPEN".



## Set Up Configure

1. Internal MAIN MODE switch S1-1 to "CLOSED".

- |            |               |               |   |                     |
|------------|---------------|---------------|---|---------------------|
| 2. Display | <b>SEt</b>    | <b>AUTO</b>   | ? | Press <b>NO(')</b>  |
| 3. Display | <b>SEt-UP</b> | <b>CONFIG</b> | ? | Press <b>YES(')</b> |

Press **NO(')** to go down the SET UP CONF list or **YES(')** to go up the list.

Available settings (Change with " or » arrow keys.)

- |             |               |                |                |  |  |
|-------------|---------------|----------------|----------------|--|--|
| 4. Display  | <b>Actual</b> | <b>FILTR</b>   | 1              | 1 2 3 4 5 6 7 8 9 10 12 14 16 18 20 25 30 35 40 45 50      |  |
| 5. Display  | <b>Auto</b>   | <b>DSP/SEC</b> | 2 3 5          | Auto   |  |
| 6. Display  | <b>oFF</b>    | <b>ZERO %</b>  | 2 5 10 20 100  | oFF  | "oFF" will disable ZERO button.  |
| 7. Display  | <b>oFF</b>    | <b>AZM +/-</b> | 0.5 1 3 5 10   | oFF  | "oFF" will disable auto zero tracking.                                     |
| 8. Display  | <b>oFF</b>    | <b>MOTION</b>  | 1 3 5 10 20 50 | oFF  |  |
| 9. Display  | <b>oFF</b>    | <b>AUTO TR</b> | on             | oFF  | "on" will enable TARE button.  |
| 10. Display | <b>oFF</b>    | <b>CONV.</b>   | on             | oFF  | "on" will enable multiple units with <b>NO(')</b><br><b>YES(')</b> arrows. |
| 11. Display | <b>oFF</b>    | <b>LINEAR</b>  | on             | oFF  |  |
| 12. Display | <b>oFF</b>    | <b>MIN</b>     | on             | oFF  |  |
| 13. Display | <b>oFF</b>    | <b>MAX</b>     | on             | oFF  |  |
| 14. Display | <b>oFF</b>    | <b>FREEZE</b>  | on             | oFF  |  |
| 15. Display | <b>SEt-UP</b> | <b>EXIT</b>    | ?              | <b>YES</b> will return to main menu (- - - - <b>CAL</b> ?) |  |

16. Mode switch S1-1 to "OPEN". Set Up Configure is complete.

Note: If "?" is flashing, press **YES(')** or **NO(')** keys only. The other keys will not work.  
To EXIT the Set Up Configure program at any point set Main Mode switch S1-1 to "OPEN".



## Set Up Input/Output

1. Internal MAIN MODE switch S1-1 to "CLOSED".

- |            |               |               |   |                     |
|------------|---------------|---------------|---|---------------------|
| 2. Display | <b>SEt</b>    | <b>AUTO</b>   | ? | Press <b>NO(')</b>  |
| 3. Display | <b>SEt-UP</b> | <b>CONFIG</b> | ? | Press <b>NO(')</b>  |
| 4. Display | - - - -       | <b>CAL</b>    | ? | Press <b>NO(')</b>  |
| 5. Display | <b>SEt-UP</b> | <b>I/O</b>    | ? | Press <b>YES(')</b> |

Press **NO(')** to go down the SET UP I/O list or **YES(')** to go up the list.

Available settings (Change with " or » arrow keys.)

- |             |               |                   |  |
|-------------|---------------|-------------------|--|
| 6. Display  | <b>SEt-UP</b> | <b>PORT 2</b>     | To setup port 2 press YES and refer to page <b>Setup Port 2.</b> |
| 7. Display  | <b>SEt-UP</b> | <b>TIME&amp;D</b> |  |
| 8. Display  | <b>SEt-UP</b> | <b>PARAL</b>      |  |
| 9. Display  | <b>SEt-UP</b> | <b>ANALOG</b>     |  |
| 10. Display | <b>SEt-UP</b> | <b>IN/OUT</b>     |  |
| 11. Display | <b>SEt-UP</b> | <b>EXIT ?</b>     | <b>YES</b> will return to main menu ( <b>SEt-UP I/O ?</b> )      |

12. Mode switch S1-1 to "OPEN". Set Up Input/Output is complete.

Note: If "?" is flashing, press **YES(')** or **NO(')** keys only. The other keys will not work.  
To EXIT the Set Up Input/Output program at any point set Main Mode switch S1-1 to "OPEN".



## Set Up Units

Note: Make sure that in the Set Up Configure parameters on page 4 **CONV** is set on

1. Internal MAIN MODE switch S1-1 to "CLOSED".

- |            |               |               |   |                      |
|------------|---------------|---------------|---|----------------------|
| 2. Display | <b>SEt</b>    | <b>AUTO</b>   | ? | Press <b>NO</b> (')  |
| 3. Display | <b>SEt-UP</b> | <b>CONFIG</b> | ? | Press <b>NO</b> (')  |
| 4. Display | - - - -       | <b>CAL</b>    | ? | Press <b>NO</b> (')  |
| 5. Display | <b>SEt-UP</b> | <b>I/O</b>    | ? | Press <b>NO</b> (')  |
| 6. Display | - - - -       | <b>CONV.</b>  | ? | Press <b>YES</b> (') |

Press **NO**(') to go down the UNITS list or **YES**(') to go up the list.

Available settings (Change with " or » arrow keys.)

- |             |               |                  |  |
|-------------|---------------|------------------|--|
| 7. Display  | <b>on</b>     | <b>LB</b>        | on oFF   |
| 8. Display  | <b>on</b>     | <b>KG</b>        | on oFF   |
| 9. Display  | <b>oFF</b>    | <b>OZ</b>        | on oFF   |
| 10. Display | <b>oFF</b>    | <b>GRAM(g)</b>   | on oFF   |
| 11. Display | <b>oFF</b>    | <b>GRAIN(gr)</b> | on oFF   |
| 12. Display | <b>oFF</b>    | <b>TON(tn)</b>   | on oFF   |
| 13. Display | <b>oFF</b>    | <b>DRAM(dr)</b>  | on oFF   |
| 14. Display | <b>oFF</b>    | <b>MTON(mt)</b>  | on oFF   |
| 15. Display | <b>SEt-UP</b> | <b>EXIT</b>      | ? <b>YES</b> will return to main menu (- - - - <b>CONV.</b> ?) |

16. Mode switch S1-1 to "OPEN". Set Up Inits is complete.

Note: If "?" is flashing, press **YES**(') or **NO**(') keys only. The other keys will not work. To EXIT the Set Up Units program at any point set Main Mode switch S1-1 to "OPEN".



## Set Up Port 2

1. This setup continues from Setup Input/Output Port 2

Press **NO(')** to go down the SET UP Port 2 list or **YES(')** to go up the list.

Display	Available settings (Change with " or » arrow keys.)		
2. Display	<b>PORT 2</b>	<b>PRINTER</b>	PRINTER SIMPLEX OFF
3. Display	<b>SEt P2</b>	<b>AUTO PR ?</b>	
4. Display	<b>baud</b>	<b>9600</b>	600 1200 2400 4800 9600 19200
5. Display	<b>Parity</b>	<b>ODD</b>	EVEN ODD MARK NONE
6. Display	<b>PORT 2</b>	<b>STANDARD</b>	STANDARD MODIFY CUSTOM
7. Display	<b>PORT 2</b>	<b>EXIT ?</b>	<b>YES</b> will return to ( <b>SEt-UP Port 2 ?</b> )

Note: If "?" is flashing, press **YES(')** or **NO(')** keys only. The other keys will not work.  
To EXIT the Set Up Port 2 program at any point set Main Mode switch S1-1 to "OPEN".



## Balance

1. Internal MAIN MODE switch S1-1 to "CLOSED".

- |            |               |                |   |                      |
|------------|---------------|----------------|---|----------------------|
| 2. Display | <b>SEt</b>    | <b>AUTO</b>    | ? | Press <b>NO</b> (')  |
| 3. Display | <b>SEt-UP</b> | <b>CONFIG</b>  | ? | Press <b>NO</b> (')  |
| 4. Display | - - - -       | <b>CAL</b>     | ? | Press <b>NO</b> (')  |
| 5. Display | <b>SEt-UP</b> | <b>I/O</b>     | ? | Press <b>NO</b> (')  |
| 6. Display | - - - -       | <b>CONV.</b>   | ? | Press <b>NO</b> (')  |
| 7. Display | - - - -       | <b>BALANCE</b> | ? | Press <b>YES</b> (') |

8. Display **CELLS** 1 Change with " or » Choices are 1 2 3 4  
 One load cell must have address 01. Four cells must have addresses 01 02 03 04.  
 Press **NO**(') for next step or **YES**(') for previous step.

- |             |               |                 |  |
|-------------|---------------|-----------------|--|
| 10. Display | <b>Actual</b> | <b>BalReset</b> | Press <b>ENTER</b> to clear registers.                                 |
| Display     | <b>Actual</b> | <b>RESET</b>    | Briefly.   |
| Display     | <b>Actual</b> | <b>BalReset</b> | Press <b>NO</b> (') for next step or <b>YES</b> (') for previous step. |
| 11. Display | <b>Actual</b> | <b>ZERO BAL</b> | Scale unloaded, Press <b>ENTER</b> .                                   |
| Display     | <b>CAL</b>    | <b>ACQUIRE</b>  | Briefly.   |
| Display     | <b>Actual</b> | <b>ZERO BAL</b> | Press <b>NO</b> (') for next step or <b>YES</b> (') for previous step. |
| 12. Display | <b>Actual</b> | <b>CEL1 BAL</b> | Apply load to cell 1 only. Press <b>ENTER</b> .                        |
| Display     | <b>CAL</b>    | <b>ACQUIRE</b>  | When display changes back to <b>CEL1 BAL</b> , remove load..           |
| Display     | <b>Actual</b> | <b>CEL1 BAL</b> | Press <b>NO</b> (') for next step or <b>YES</b> (') for previous step. |
| 13. Display | <b>Actual</b> | <b>CEL2 BAL</b> | Apply load to cell 2 only. Press <b>ENTER</b> .                        |
| Display     | <b>CAL</b>    | <b>ACQUIRE</b>  | When display changes back to <b>CEL2 BAL</b> , remove load..           |
| Display     | <b>Actual</b> | <b>CEL2 BAL</b> | Press <b>NO</b> (') for next step or <b>YES</b> (') for previous step. |
| 14. Display | <b>Actual</b> | <b>CEL3 BAL</b> | Apply load to cell 3 only. Press <b>ENTER</b> .                        |
| Display     | <b>CAL</b>    | <b>ACQUIRE</b>  | When display changes back to <b>CEL3 BAL</b> , remove load..           |
| Display     | <b>Actual</b> | <b>CEL3 BAL</b> | Press <b>NO</b> (') for next step or <b>YES</b> (') for previous step. |
| 15. Display | <b>Actual</b> | <b>CEL4 BAL</b> | Apply load to cell 4 only. Press <b>ENTER</b> .                        |
| Display     | <b>CAL</b>    | <b>ACQUIRE</b>  | When display changes back to <b>CEL4 BAL</b> , remove load..           |
| Display     | <b>Actual</b> | <b>CEL4 BAL</b> | Press <b>NO</b> (') for next step or <b>YES</b> (') for previous step. |
| 16. Display | - - - -       | <b>BALANCE</b>  | Press <b>ENTER</b> .   |
| Display     | <b>CAL</b>    | <b>ACQUIRE</b>  | Briefly.   |
| Display     | - - - -       | <b>BALANCE</b>  |  |

18. Mode switch S1-1 to "OPEN". Balance is complete.

Note: If "?" is flashing, press **YES**(') or **NO**(') keys only. The other keys will not work.  
 To EXIT the Balance program at any point set Main Mode switch S1-1 to "OPEN".



## Setup

Factory settings that should not be changed.

1. Port 1 serial: Automatic
2. Serial switch S10: sw 3 closed, sw 1,2 & 4 open (RS485 sel).
3. Jumper plugs s8 & s9 in position 2 & 3 (RS485 A & B).

## Front Panel Lights and Buttons

### Lights (Annunciators)

- |                      |  |
|----------------------|--|
| 1. CENTER ZERO       | » <b>0</b> "                                     |
| 2. MOTION            | <b>I</b>   |
| 3. TARE              | » <b>T</b> "                                     |
| 4. (8) character LED | <b>lb, kg, oz, g, gr, tn, dr, mt, gross, net</b> |

### Buttons (Keys)

1. ZERO function key. This key allows the display to be zeroed if it is within the limits set by the ZERO configuration (2%, 5%, 10%, 20% or Full Scale). See page 4 Setup Configure.
2. TARE function key. The indicator can be set to AUTO TARE by enabling the AUTO TR feature in the Setup Configure mode on page 4. When AUTO TARE is enabled, pressing the TARE key will automatically tare the value of the current gross weight and change the display to the NET mode.
3. Recalling TARE and GROSS data:
  1. With NET display, press the DISPLAY key once or twice to show GROSS weight (GR RCL) or TARE value (TARE RCL).
  2. GROSS RECALLED or TARE RECALLED will display continuously while the DISPLAY key is pressed.
  3. When DISPLAY key is released GROSS RECALLED or TARE RECALLED will display for approximately 3 seconds, then NET display.
4. Returning to GROSS mode from NET mode:
  1. Remove load from scale.
  2. Press ZERO key.
  3. Tare value is set to zero.
  4. Display is GROSS.
5. PRINT key. Sends a demand serial output of display data.
6. DISPLAY key. In the normal operating mode, will select and view all displays that were enabled in Setup Configure mode on page 4.
7. UP and DOWN arrow keys will display the data in the conversion units that were selected in the Setup Units mode on page 6.



**Specifications**

Load cell power 12VDC, 500 ma, (4) digital load cells.  
 Load cell data **ALCP** Advanced load cell protocol, RS485

Display divisions: 10,000 div, NTEP.. For NTEP applications mount Capacity label above display area.  
 100,000 div, non NTEP

Update rate: 10 updates/sec max



Capacity Label

Weight display: (6) digit red LED (0.6" high)  
 Annunciator Alpha Numeric (8) character red LED (0.2" high)

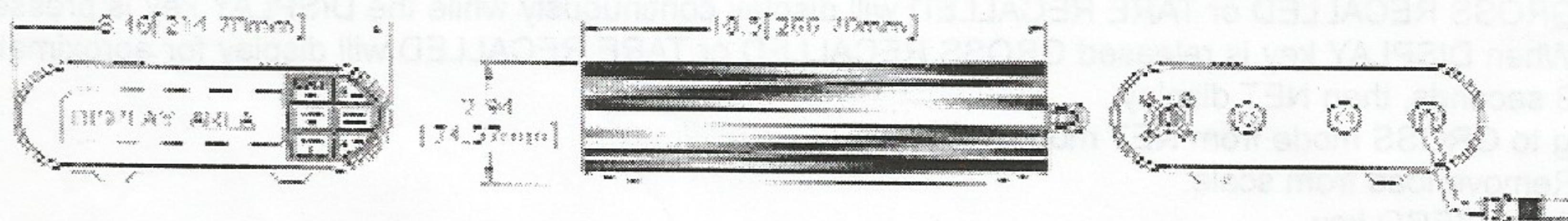
Temperature  
 Operating: 40 deg F to 140 deg F.  
 Storage: 0 deg F to 185 deg F.  
 Warm up: 3 minutes to rated accuracy, 15 minutes to complete stability.

Weight: 6 lb, table top NEMA 4.  
 4 lb, panel mount.

Case: Aluminum, extruded, single piece, desk mount.  
 Steel, painted, panel mount.

Power input: 120VAC

**DESK TOP**



**PANEL MOUNT**

