

DIGITAL WEIGHT COMPUTER MODEL TR-1-NK (HI-VIS)

STANDARD OPERATION FEATURES (TNKN 0800)

NOTE That battery powered units with the LCD display have on/off buttons and will auto-shutoff if the weight stays on zero. ON-OFF BUTTONS DO NOT OPERATE ON 120 VAC UNITS

ZERO BUTTON:

To bring the scale to a zero balance reading, press the ZERO button. The button will not activate if the MOTION lamp is on.

\* : (ON 6 BUTTON VERSION ONLY)

To change the display from the POUNDS display to a conversion into KILO, press THE \* BUTTON. This will toggle between the two display modes.

Note: Parameter #0 can disable this feature.

# : (ON 6 BUTTON VERSION ONLY)

Used to view the optional time and date

GROSS NET:

Press the GROSS/NET button to switch between the GROSS weight display mode and the NET weight display mode. The lamp will light to indicate which mode is being displayed.

PRINT:

To activate an optional printer, press the PRINT button. The printer data output will become active when the weight is not in motion or in an overload condition.

TARE:

This button is used to input a TARE weight value. This value is taken automatically taken as the GROSS weight value.

When the weight is stable (no motion), press the TARE button, and hold for one display update. If the gross weight was not a negative value, the tare weight now equals the gross weight and the display will show a NET weight of zero.

## MODEL TR-1-NK CALIBRATION INSTRUCTIONS

## Parameter Entry:

1. Access the CAL button on the main circuit board.
2. Press the CAL button until the display shows-----
3. Press and release the NET/GROSS button.
4. The display will show 01--nn (The 00 denotes parameter number 1 and the nn may be any 2 digit number representing the current value set for parameter number 1.
5. To change the value of this parameter, press the PRINT button until the digit you want to change is flashing.
6. Press the TARE button to increment the flashing digit.
7. To cycle to the next parameter, press the PRINT button until the parameter number is flashing, then increment by pressing the TARE button.
8. Continue steps 5 through 7 for all parameters desired.
9. When finished, press the CAL. button again to return to the weight display mode.

## Parameter List:

- # 0 = Printer Format and Lb/Kg conversion disable ;
  - 00 = enable conversion- single line print
  - 01 = disable conversion - single line print
  - 02 = disable conversion - with GR/TR/NT print
- # 1 = The sample/averaging rate. A setting of 1 is the fastest display rate update, and does not average. A setting of 3 (for example) will take 3 samples and average them before updating the displayed weight.
- # 2 = The displayed graduation size. Set at 10 if a graduation size of 10 is required.
- # 3 = The overload trip-point in hundreds of graduations +1%
  - If the scale is to be 2,500 by a graduation of 1, then a setting of 25 would cause the overload to activate at 2,525.
  - Set to 99 if no overload point is desired.
  - Set to 00 for a 10,000 graduation overload.
  - Note: do not use settings 99 or 00 if the unit has a 4-20ma output or any other type of analog output.
- # 4 = The motion detection window setting. Set this to the number of graduations that will be allowed as a no-motion condition.
- # 5 = Zero tracking amount. The 1s digit of this parameter is set to the number of graduations allowed to be auto-zeroed. A setting of n0 to n9 is available. The 10s digit of this parameter is used to set the number of samples that will be tested before auto-zero is done. For example, a setting of 52 in this parameter will track of + or- 2 graduations from zero, after the display has remained in a no-motion condition for 5 sample rates.
- # 6 = The decimal point position. i.e., 02 will cause 0.00
- # 7 = The print size and Time/Date option
  - 00=small 01=medium 02=large all with no time/date print
  - 10=small 11=medium 12=large with time/date printed
- # 8 = Printer pre-spaces (indent) and print inverted x0 = non inverted print x2 = inverted print
  - 0x = no pre-spaces
  - 2x = 4 pre-spaces (double the digit entered)
- # 9 = Remote data enable / Printer type and baud rate
  - x0= 300 baud inverted data
  - x1= 300 baud print data
  - x2= 1200 baud PR-2 roll-tape printer
  - x3= 1200 baud PR-1 ticket printer (TM-295)
  - 0x= no remote output
  - 1x= continuous remote output enabled
  - 2x= optional on-demand remote output enabled  
(this option must be ordered at time of purchase)

### Test Weight Calibration:

This procedure is done to set the initial calibration. Afterwards, the "Minor" calibration routine can be used.

1. Access the CAL button on the main board
2. Press the CAL button until the display shows. -----
3. Press and release the TARE button.
4. The display will show the raw un-calibrated value.
5. Assure that the scale is at a zero load condition.
6. Press the ZERO (balance) button to remove the dead-load.
7. Load the scale with a known weight value.
8. The display must now show a value larger than the test weight.
  - If the display is not larger than the weight value, do one of the following.
    - A. Check the load cell size, it may need to be reduced.
    - B. Increase the graduation size.
    - C. Raise the internal amplifier gain by adding the jumper across the gain pins on the main board.
9. When the weight is stable, press the NET/GROSS button and the display will come up with the last used calibration weight that was entered. If this is the weight that was placed on the scale, go to step #11.
10. Change the display to show the known calibration weight value.
  - A. Press the PRINT button to select the flashing digit.
  - B. Press the TARE button to increment the flashing digit.
11. Press the CAL button, and the display will return to the weight display mode, showing the calibrated weight.

### Minor Calibration Corrections.

This procedure is done to make minor adjustments to the calibration.

1. Access the CAL button on the main circuit board
2. Press the CAL button until the display shows. -----
3. Press and release the "PRINT" button.
4. The display will flash the current gross weight.
5. To increase the displayed weight, press the PRINT button.
  - or
  - To decrease the displayed weight, press the ZERO button.
6. When the weight is correct, press the CAL button again to return to the normal weigh mode.

5

LOAD CELL CONNECTION

LOAD CELL TERMINAL (BACK VIEW LEFT HAND SIDE)

		COLOR CODE	ALTERNATE
PIN 1 =	NEG EXCITATION	BLACK	BLACK

PIN 2 =	POSITIVE EXCITATION	GREEN	RED
---------	---------------------	-------	-----

PIN 3 =	POSITIVE SIGNAL	RED	GREEN
---------	-----------------	-----	-------

PIN 4 =	NEGATIVE SIGNAL	WHITE	WHITE
---------	-----------------	-------	-------

PIN 5	= SHIELD	REVERSE SIGNAL LINES IF SCALE OPERATES BACKWARDS	
-------	----------	---	--

DATA OUTPUT CONNECTION RS232 DB9P CONECTOR (MALE)

\*\*\* STANDARD OUTPUTS \*\*\*

USE PINS 1 AND 6 TO INTERFACE TO SERIAL INPUT PRINTERS WHEN RS232  
OPTION IS NOT INSTALLED

PIN 1 ---- DATA GROUND - Pin 7 of printer  
PIN 2 ---- RS232 PRINTER DATA (OPTIONAL)  
PIN 3 ---- RS232 CONTINUOUS DATA OUTPUT (OPTIONAL)  
PIN 4 ---- (RS232 SIGNAL INPUT NOT AVAILABLE)  
PIN 6 ---- Printer data to pin 3 of printer, or  
          -20ma Printer data  
PIN 7 ---- +20ma Printer  
PIN 8 ---- Continuous data to computer, or  
          - 20ma continuous data.  
PIN 9 ---- + 20ma continuous

Printer Data:

Baud rate selectable 300, 600, or 1200  
Data bits are 8 with 2 stop bits and no parity

Nominal single line print data string will be;

Polarity sign / 6 weight digits / LB or KG or TN / Time and  
Date if option is ordered / Carriage Return and Line Feed.

-----  
Remote or Continuous Data:

Baud rate is 1200 fixed.  
Data bits are 8 with 2 stop bits and no parity

Data stream is as follows;

STX / Space or - / 6 weight digits / L / G for gross /  
if negative With lead zero K N for net  
supression

Space or a / Carriage Return / Line Feed  
M if in motion or  
O if in overload

#### Time and Date Option:

If the time/date option is installed, the time and date can be printed after the weight. The time and date is battery powered and will run when power is removed from the TR-1-NK.

#### To View and or Set the Time/Date:

1. Press the # button, and hold until the display shows the current time, and then after a short delay, the date will be displayed.
2. To set the Time/Date, press and hold the ZERO button, while the time/date is being displayed. After the date has been displayed, the unit will go into the entry mode, with the time display flashing.
3. Use the PRINT button to increment the flashing digit, and use the \* button to select which digit flashes.
4. When the correct time has been set, press and release the TARE button to advance to the DATE display.
6. Use the PRINT button to increment the flashing digit, and use the \* button to select which digit flashes.
7. When the correct date has been set, press and release the TARE button to return to the weight display mode.