DIGITAL WEIGHT COMPUTER MODEL TR-1-NK (TNKN-0800)

STANDARD OPERATION FEATURES   (TNKN SOFTWARE)

NOTE That battery powered units with the LCD display have
on/off buttons and will auto-shutoff if the weight stays on
zero. 120 volt units have the buttons covered

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. Remove the sealing screw on the back to access the CAL
   button.
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
       2,500.
         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. Remove the sealing screw to access the CAL button.
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. Remove the sealing screw to access the CAL button.
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.

                    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.