

Virtual Measurements & Control



VW-321

Digital Platform Scale

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SETUP MANUAL

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1. CALIBRATION

- (1) Before calibration, remove outer case of the indicator and set circuit breaker on the circuit board to 'ON' position.
- (2) Press and hold 'TARE' button. Display will show 'CALSP'. Press 'ACC PRINT' button to enter calibration mode. 'CAL 00' will be displayed.
- (3) Remove all weight on platform and press 'MODE' button to enter automatic zero check. '----' will be displayed followed by value of previous weight.
- (4) Key in required weight value. Press 'ACC PRINT' button to select the digit position. Digit selected will flash. Press 'PRINT' button to change the value of the digit selected.
- (5) Load the weight onto the platform and wait for scale to stabilize before pressing 'MODE' button to confirm.
- (6) Display will show '----' automatically, indicating entry into calibration and weighing status. When calibration is completed, indicator will return to normal weighing mode and display will show the weight value of the load.
- (7) Check that the displayed weight corresponds to the weight of the load on the platform. If the displayed weight is not consistent with the weight of the load on the platform, please repeat calibration.
- (8) Set circuit breaker on the circuit board to 'OFF' position after completing calibration.

Note: Calibration and setup must be done in the unit which user requires display to show.

Exception: Calibration and setup in kg can be switched to lb display but not vice versa.

2. PARAMETER SETTINGS

Please remove outer case of indicator and set the circuit breaker to 'ON' position before proceeding with setup.

Enter Setup

Press and hold 'TARE' until 'CALSP' is displayed on screen. Press 'MODE' button to enter into setup mode. Screen will show 'SET'. Press 'ACC PRINT' to enter menu.

Graduation (Increment size or Count-by)

Either 'd1 X.XXX' or 'd2 X.XXX' will be displayed.

'd1' is the graduation size for single range display. (from 0.0001 – 50)

'd2' is the smaller graduation size of the dual range display. (from 0.0001 – 50)

Example: For a 60kg scale, if 'd1' is set to 0.02kg, the scale will show a graduation of 0.02kg throughout 0kg – 60kg.

If 'd2' is set to 0.005kg, the scale will show a graduation of 0.005kg from 0-30kg and show a graduation of 0.01kg from 30-60kg.

Press 'ACC PRINT' to switch between 'd1' and 'd2'.

Press 'PRINT' to change graduation size.

Press 'MODE' to confirm and advance to the next step.

Note: If 'd1' is set, scale will only be in the single range display mode and 'd2' will be ignored.

If 'd2' is set, scale will only be in the dual range display mode and 'd1' will be ignored.

Please refer to Table 1 for graduation values of 'd1' and 'd2'.

Display Resolution

'n XXX.XX' will be displayed on screen. The value shown is the display resolution.

Display resolution = (Graduation)kg / (Full Capacity)kg

For dual range display, please refer to Table 1 for value of 'n'.

Ignore the decimal point shown and treat the value as a whole number.

Example: 'n 060.00' will mean 6000 and 'n 120.00' will mean 12000.

Press 'ACC PRINT' to select digit position. Selected digit will flash.

Press 'PRINT' to change the value of the selected digit.

Press 'MODE' to confirm value and advance to next step.

Important: Please calibrate the scale again after changing “Graduation” and “Display Resolution” settings.

Units

'Unt YX' will be displayed. X denotes the basic unit of the display and Y denotes the secondary unit.

'Unt 00': kg only

'Unt 10': kg as basic unit, lb as secondary unit. Switchable in normal weighing mode.

'Unt 01': lb only

'Unt 02': oz only

'Unt 03': ct only

Press 'PRINT' to change basic unit and press 'ACC PRINT' to change secondary unit.

Press 'MODE' to confirm.

- Note:
- 1) In normal weighing mode, indicator will only be able to switch between "kg" and "lb" display by pressing the 'MODE' button if 'Unt YX' is set to 'Unt 10'.
 - 2) Indicator will only display the unit assigned to the basic unit for all other combinations of 'Unt YX'.

Baud Rate

'b XXXX' will be displayed on screen. The value shown is the baud rate.

Press 'PRINT' to switch between baud rate of 1200, 2400, 4800 and 9600.

Press 'MODE' to confirm.

Serial Port Parameters

'Ads XX' will be displayed on screen. XX values determine the print mode.

Press 'ACC PRINT' to select position of digit X.

Press 'PRINT' to change the value of the selected digit.

Press 'MODE' to confirm and return to normal weighing mode.

- (1) **Manual On-Demand Print Mode (XX=99)**
Indicator sends out weight data when either 'PRINT' or 'ACC PRINT' is pressed by user in normal weighing mode.
- (2) **Transmission Command Print Mode (XX=01~98)**
(A) **Command: STX, R, D, S, n, BCC, CR**
When indicator receives above command, it will return data provided that the address "n" in the command is the same as the value of "XX" set in indicator.

STX, n, X1, X2, X3, X4, X5, X6, X7, SA, BCC, CR

The SA bit is described below:

High							Low
0	1	0	0	Overflow	Net Weight	Stable	Zero

BCC is the checksum bit. Adding all the contents of the bits after STX and before BCC will give the checksum which is the lower 8 bits of the sum.

(B) Command: STX, T, A, R, n, BCC, CR

When indicator receives above command, it is equivalent to pressing the 'TARE' key once. (Ensure that the address "n" in the command is the same as the value of "XX" set in indicator.)

(3) Continuous Print Mode (XX=00)

Protocol: 1 start bit,
 8 data bits,
 1 stop bit,
 no parity check,
 baud rate (1200~9600),
 continuous sending of data 10 times per second

= , X1, X2, X3, X4, X5, X6, X7, SA, CR
 where X1~X7 are the weight readings, X1 is LSB, X7 is MSB, decimal point "." and negative sign "-" are included in X1~X7.

The SA bit is described below:

High							Low
0	0	0	0	Overflow	Net Weight	Stable	Zero

(Example) If the display shows 35.25, then the output of the serial port is:

=, 5, 2, ., 5, 3, space, space, (42H),
 Hex Code: 3DH, 35H, 32 H, 2EH, 35H, 20H, 20H, 42H, 0DH,

Connections to VMC printer (Model: VMP-PM or VMP-T)

Micro printer (D-SUB-25 Male)	Indicator (D-SUB-9 Female)
RX 2-----	3 (TXD)
GND 7-----	5 (GND)

A/D display

In normal weighing mode, press and hold 'TARE' until display shows 'CALSP'.

Press 'MODE' and 'SET' will be displayed on screen.

Press 'MODE' again and '-A-D-' will be displayed on screen.

Press 'ACC PRINT' and display will show the A/D value.

Typically, an empty scale will have an A/D value of about 35000 and a full scale will have an A/D value of about 210000. (Load cell sensitivity of 2.0mV/V)

Press 'MODE' to return to normal weighing mode.

Please remember to set circuit breaker to 'OFF' position after setup.

Table 1

No.	Capacity	Graduation d1	Graduation d2
1	1.5000kg	0.0001, 0.0002, 0.0005	0.0001kg(0~0.6kg), n=15000 0.0002kg(06~1.5kg)
2	3.0000kg	0.0002, 0.0005, 0.001	0.0002kg(0~1.5kg), n=15000 0.0005kg(1.5~3kg)
3	6.0000kg	0.0005, 0.001, 0.002	0.0005kg(0~3kg), n=12000 0.001kg(3~6kg)
4	15.000kg	0.001, 0.002, 0.005	0.001kg(0~6kg), n=15000 0.002kg(6~15kg)
5	30.000kg	0.002, 0.005, 0.01	0.002kg(0~15kg), n=15000 0.005kg(15~30kg)
6	60.000kg	0.005, 0.01, 0.02	0.005kg(0~30kg), n=12000 0.01kg(30~60kg)
7	150.00kg	0.01, 0.02, 0.05	0.01kg(0~60kg), n=15000 0.02kg(60~150kg)
8	300.00kg	0.02, 0.05, 0.1	0.02kg(0~150kg), n=15000 0.05kg(150~300kg)
9	600.00kg	0.05, 0.1, 0.2	0.05kg(0~300kg), n=12000 0.1kg(300~600kg)
10	1000.0kg	0.1, 0.2, 0.5	0.1kg(0~600kg), n=10000 0.2kg(600~1000kg)
11	1500.0kg	0.1, 0.2, 0.5	0.1kg(0~600kg), n=15000 0.2kg(600~1000kg)
12	2000.0kg	0.2, 0.5, 1	0.2kg(0~1t), n=10000 0.5kg(1t~2t)
13	3000.0kg	0.2, 0.5, 1	0.2kg(0~1.5t), n=15000 0.5kg(1.5t~3t)
14	5000.0kg	0.5, 1, 2	0.5kg(0~3t), n=10000 1kg(3t~5t)
15	8000.0kg	1, 2, 5	1kg(0~4t), n=8000 2kg(4t~8t)
16	10000kg	1, 2, 5	1kg(0~5t), n=10000 2kg(5t~10t)
17	15000kg	1, 2, 5	1kg(0~6t), n=15000 2kg(6t~15t)
18	20000kg	2, 5, 10	2kg(0~10t), n=10000 5kg(10t~20t)
19	30000kg	2, 5, 10	2kg(0~15t), n=15000 5kg(15t~30t)
20	40000kg	5, 10, 20	5kg(0~30t), n=8000 10kg(30t~40t)