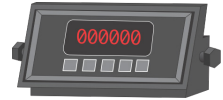


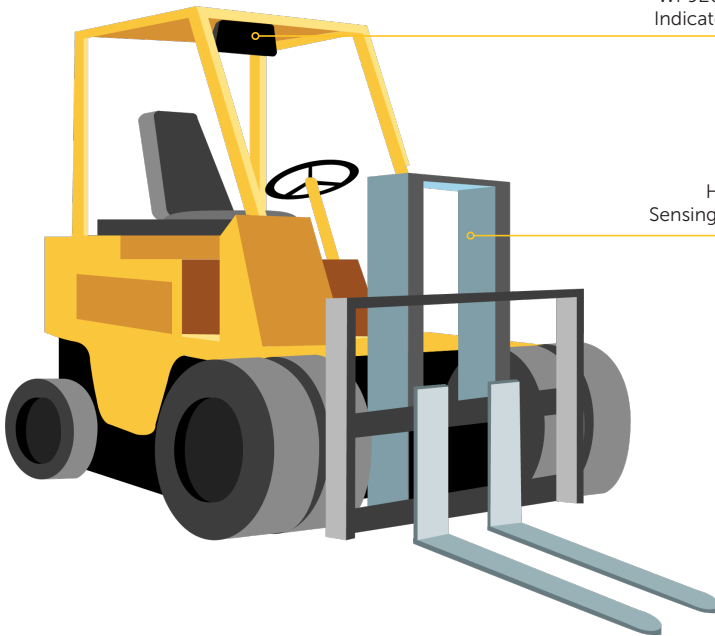
# WP92022

## LOAD CHECKER FORKLIFT SCALE

### USER & INSTALLATION MANUAL



WP9202  
Indicator



Hydraulic  
Sensing Module



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## SYSTEM DESCRIPTION

Weigh Point's WP92022 Load Checker Scale system allows you to lift and weigh in one smooth motion!

### How it works:

The hydraulic sensing module monitors pressure at the lifting cylinder, providing an electronic signal to the microprocessor. The indicator displays the weight of the load.

The sensor allows up to 5,000 psi (WP92022) or 10,000 psi (WP92022HC) pressure.

Weigh Point sensing module includes integrated cable for easy trouble free installation.

### Features:

- Quick and easy to install
- Integrated cable for easy, trouble-free installation
- Relock and lock - corrects hydraulic spiking error
- No alterations to lift truck required
- Does not hinder operators view
- Water-resistant, splash proof design
- Fits all size forklift trucks
- Suits most industrial applications
- 2-year warranty

### Specifications:

- Accuracy: 99% of truck capacity
- 12VDC operation (other voltages available upon request)
- Operating temperature -30°C to 45°C
- Non-linearity 0.01% FS
- A/D conversion rate 50 times per second
- Internal resolution 500,000 counts
- External resolution 30,000 counts
- No corrosive gas and no strong EMI in use field

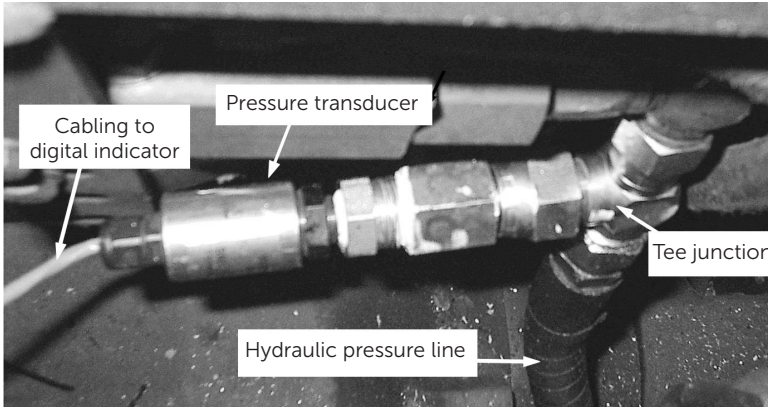
## PARTS LIST

Qty	Part Number	Description
1	WP9202	Indicator S/N _____
1	105-005/ 105-010	Hydraulic pressure sensor (5/10,000 psi) S/N _____
1	101-005	Display mounting plates with bolts & nuts
15 ft	109-001	Power cable
Assortment	106-003	Tie-wraps
1	117-001	Manual
1	110-003/ 110-005	Optional DC/DC converter and insulated bracket for electric trucks

## INSTALLATION INSTRUCTIONS

NOTE: It is recommended that a certified mechanic perform the installation or an individual that knows the hydraulic system well. You may need to contact the manufacturer for the proper sizing of the hydraulic fittings.

The forks must be secured or on the ground prior to starting.



The transducer supplied must be installed between the hydraulic lift valve and the lift cylinder. This can be done by “tee-ing” off from the hydraulic system. Some systems may already have a “tee” junction. Consult your forklift manufacturer for the best area of installation. If a “tee” is not available the fittings will need to be purchased in order to complete the installation. An extension hose with the proper fittings may need to be used to keep the transducer from any impeding surroundings. The female coupling to accommodate the transducer must be a 1/4” NPT.

Install the fittings to accommodate the transducer. Make sure the fittings are in a position that does not interfere with the mast, or impede any movement and does not touch any moving parts or the assembly of the lift truck when in normal operation (moving mast, tilt cylinder, etc.).

Once the transducer is tightened to the fittings, clamps should be applied to secure the extra hose if used.

Route the transducer wiring up into the dashboard of the truck and pull the free end through the dash.

Now mount the display in a suitable area for the operator to see and route the display wiring down into the dash.

Connect the display wiring to the forklift truck wiring using proper connections according to the forklift truck manual.

Make sure all wiring is secure and then place all wiring into the dash and secure it against movement.

Note: Although the WP9202 is internally fused, an additional 1 amp fast blow fuse assembly is provided if you deem necessary to fuse close to the power source.

## URGENT!

**Contact our installation assistance department before you proceed with calibration 1-800-268-7400.**

The hydraulic sensor should be placed in the lift cylinder input pressure line.

The sensor does not need to measure flow but simply pressure, therefore the port can be small for example it may be extended from an 1/8" NPT port with an adapter to the 1/4" NPT sensor.

The location of the sensor is at the discretion of the installer since there are many places to select from, depending upon on the make and model of truck and the available space.

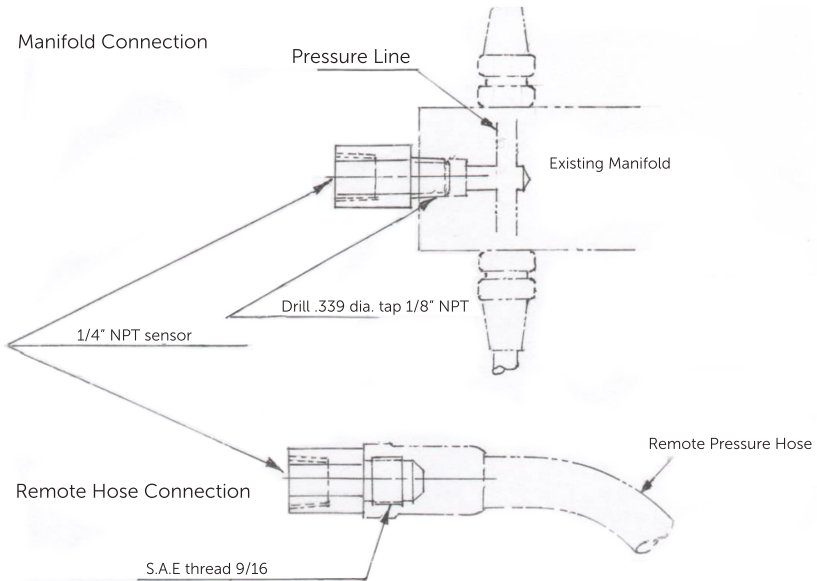
The most convenient method of installation would be where a lift truck has test ports and selecting the pressure line port, would save installation time and cost.

The most popular sensor installation locales are these 3 alternatives:

1. A tee-connector at the cylinder's input pressure port.
2. A hydraulic hose connected to the cylinder input pressure port. The sensor is fitted to the other end of the hose at a convenient tie down point.
3. Install the sensor in the manifold. A 1/8" NPT port can be drilled and tapped. A 1/8" to 1/4" NPT adapter would interface the sensor to the manifold.

## INSTALLATION INSTRUCTIONS (CONTINUED)

### Hydraulic system sensor connection



### Physical Installation

The WP9202 indicator can be located wherever convenient. It is not advisable to locate the indicator where it would be exposed to direct sunlight, excessive mechanical abuse or moisture.

### Power Requirements

Find out the voltage of your lift truck's electrical system. Our system requires 12 VDC, advise truck's voltage if it is 24, 36 or 48 VDC, a power supply will be added to the kit for voltage conversion. The kit will also run from a rechargeable battery as an alternative to using your trucks power.

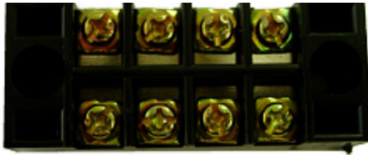


## WIRING

Connect the cable from hydraulic sensor (grey) to rear indicator's terminal strip.

THE CABLE WIRE MATCHES IDENTICALLY.

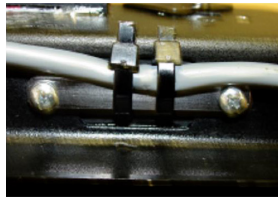
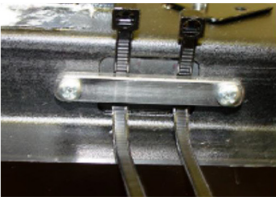
Terminal (Rear side of indicator)



+Exc -Exc +Sig -Sig

Grey cable from  
hydraulic sensor

+	Excitation	=	Red
-	Excitation	=	Black
+	Signal	=	Green
-	Signal	=	White



Strain relief the sensor cable utilizing the dual wraps provided next to the indicator's communication port.

**Ensure Greatest Accuracy – calibrate in the weight range most utilized.**

Example - A firm uses a 5000-lb. capacity lift truck to weigh mostly low weights up to 500 lbs. In this case calibration at 400 lbs. will provide best accuracy in the lower weight range. The infrequent higher weight items will still be accurate within typically 20-40 lbs. (On 5000 lb. capacity lift truck.)

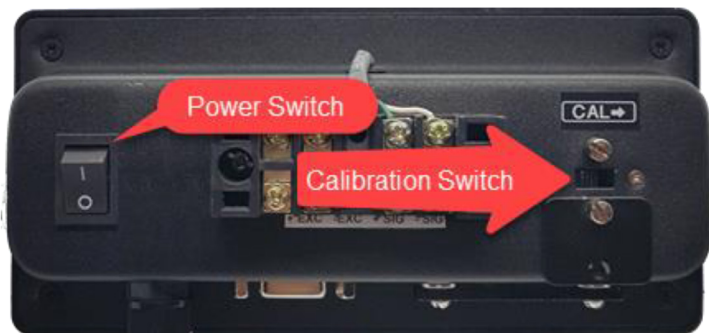
# CALIBRATION

## Calibration Weight

A known weight is required. The accuracy of the scale is influenced by the accuracy of the test weight used in the calibration process. We recommend using something that is 1,000 lbs. or heavier.

Calibration procedure – this procedure must be performed with forks at selected weigh height. This height should be used consistently for weighing to assure best accuracy.

You will need a pencil/pen, paper and calculator.



## Phase 1 - Setting Up

Ensure that there is NO load on the forks.

1. With the indicator powered off, slide the calibration switch on the back of the indicator to CAL.
2. Hold button [1] while turning on indicator power switch and observe F1 displayed on the indicator screen.
3. Press button [4] to display F18.
4. Press button [2] to reveal the F18 setting, this setting should be 100,000 if preset to 100,000 then press [3] followed by proceeding to the deadload section (parameter F15).
5. If F18 requires resetting to 100,000 please proceed by cancelling the existing F18 setting by pressing [4]. Observe six (6) zeros (0) with first zero flashing. If the first zero (0) isn't flashing then continue to press [4] until the first zero (0) is flashing.
6. Press [5] and observe 100,000 displayed. Press [3] and observe F18 displayed. Press [4] several times to move F18 down to F15.
7. Raise the empty forks to a chosen height for weighing. This height is to be in the 1st stage i.e. perhaps 6" above the floor. For best accuracy always weigh at this captured height. Using the ink marker provided (G), make markings on the mast and chain guide or on the side of the truck to indicate your desired weigh height.
8. With F15 shown and the empty forks raised to the designated height then press [2] (observe a complicated number on the display) then press [3]. The display will return to F15.
9. Return the display to operating mode by sliding the rear calibration switch from calibrating to operating mode. See the display count down.

## CALIBRATION (CONTINUED)

### Phase 2 - Lifting

1. Now's the time to use your test weight. Our 1,250 lb. example will be used in this demonstration.
2. The 1,250 lb. weight is raised to the F15 height. Just a second or two after reaching this height press button [1] on the display and the reading will change. Write down the displayed weight. This operation is then repeated at least six time so raise the weight to the designated height then a second or two later, press button [1], record the figure then lower the load to the floor, raise to the designated height, then press button [1] and again record the figure.
3. Here are the results we got:

1st lift	626
2nd lift	630
3rd lift	619
4th lift	625
5th lift	632
6th lift	621
TOTAL	3,753

Divided by 6 lifts = 625 average

4. Recall, we set up F18 to 100,000. This means since 625 lb. is exactly 1/2 the 1,250 lb. target that we can double the 625 to give us the target weight simply by doubling F18 from 100,000 to 200,000.

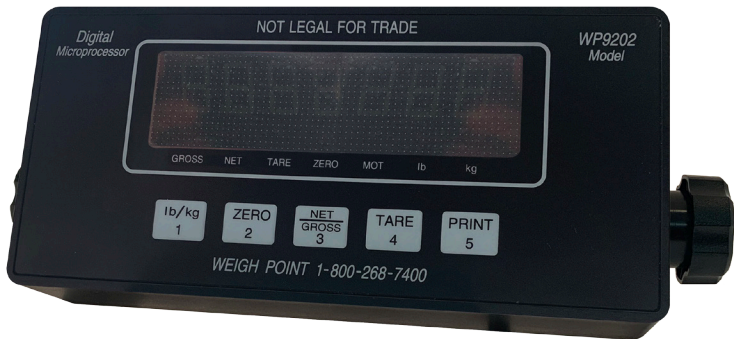
Likewise if our test weight had displayed an average 2,500 lb. then we'd lower the F18 value 2 times from 100,000 to 50,000.

You may even do small percentage corrections with F18 regardless if your initial results show too low a weight or too high.

The important thing to note is that the test readings are all close to each other.

Take note of the F18 number as this will be the F18 setting should you ever find the indicator loses calibration or you replace it with the exact same model indicator; you need only enter this value in F18, and you're scale will be fully calibrated.

## OPERATION



Your Weigh Point system is programmed to work with your lift truck by these simple steps:

### Weighing

Raise load to established weighing height. Press button [1] immediately after reaching weighing height (within 1-2 seconds). Ignoring this operation will cause improper weighs to be displayed. The displayed weight stabilizes immediately.

### Accumulation

Each raised load can be accumulated by pressing [5]. Repeat for each load you wish to accumulate. Notice the display will briefly display the accumulated weight. The accumulated weight is stored and is recalled by pressing button [4].

To clear accumulation, press button [4] then immediately press [2].

### IMPORTANT

Never press zero [2] button while forks are on the ground. You can look for zero only with forks at selected weigh height. When you pick up load try always to go to selected weigh height with same speed, and when you reach selected weigh height, don't forget to press button [1]

## WP92022 PARAMETERS, "F" SCALE

Code:	Name:	Description:	Code/Value:
F1	Full Scale	Full Scale Number of Division x Value of Division	5000 1000 1500 2000 2500 3000 4000 5000 6000 8000 10000 15000 20000 30000
F2	Division	Minimum difference between two weighing reading	1 2 5 10 20 50
F3	Decimal Pt.	Decimal point position	0 , 0.0, 0.00, 0.000, 0.0000, 0.00000
F4	Overload Limit	Display will show " _ _OL_ _ " if the reading is greater than the value	100%F.S 110%FsS
F5	Zero Tracking	Display maintain zero while the reading is less than this selection and stable	0.5d 1d 3d 5d OFF
F6	Zero Range	The range of zero-setting operation is enabled	2%F.S 100%F.S
F7	Motion Band	The MOT LED light out and the weighting operation (I.e. zero, tare) is enable while motive reading, is not exceeded the limit of this selection	1d 3d 5d 10d
F8	Digital Filter	L- light, M-middle, H-heavy. Select heavier, the reading is stable but slower	L M H
F9	Calibration Unit	Select unit at calibration. You should use "lb." weights if you select "lb."  Select unit at calibration. You should use "kg." weights if you select "kg."	
F10	Communication Mode	0-standard RS-232 output 1-printout	0 1
F12	Print Ticket	Print ticket Mode: 0-Print "GROSS, NET, TARE" 1-Print displayed weight	0 1
F15	Zero Calibration	Show internal codes at zero (no load on platform) and wait for MOT LED light out, press SET key to save zero calibration value.	
F16	Span Calibration	Enter the value of current test weights on platform via direction keys and wait for MOT LED light out, press SET key to save span calibration value. See appendix A if display show EER 1	
F17	Manual Zero Calibration	Check or re-establish zero calibration value.	
F18	Manual Span Calibration	Check or re-establish span calibration value.	

To change these settings, place in calibration mode "F" (see page 11)

## SYSTEM DETAILS

System Serial No. \_\_\_\_\_

Indicator Serial No. \_\_\_\_\_

Hydraulic Sensor Serial No. \_\_\_\_\_

Hydraulic Pressure:                      5,000 psi                      10,000 psi

## TYPICAL SETTINGS "A" SCALE

1. When the power is **ON**, press key [1] and hold, then slide the switch behind the rear inspection plate. The displays shows A1.
2. Ramp A1 to A8 with keys [5] to go forward, or key [4] to go backwards.
3. Press key [2], shows value to change value use key [4] or [5]
4. To save/accept displayed data press key [3]

### Parameter "A" Scale

Code	Name	Description	Code/Value
A1	Baud Rate	Set baud rate of the RS-232 serial communication when F10 is 0	1200    2400 4800    9600
A2	Communication Mode	"c" = continuous mode "d" = command mode	C d
A3	Data bits and parity	8N: 8 data bits with no parity bit and 1 stop bit 7O: 7 data bits with odd parity bit and 1 stop bit 7E: 7 data bits with even parity bit and 1 stop bit	8N    7O 7E
A4	lb/kg	"0" – enable the lb/kg key "1" =disable the lb/kg key	0    1
A5	ID No. enable	"0" = enable the ID no. "1" = disable the ID no.	0    1
A6	ID No. entry	Pressing [4]and [5] key to input ID no. and pressing the [3] key to store and return to A6. Displaying Axxxxx. Prints ID flashing. No. column after ID no. being set. (see APPE) 6-bit ID no. can be inputted at most when	
A7	Additional features	0 typical 1 counting feature 2 peakhold 3 accumulation 4 accumulation and peakhold	0 1 2 3 4
A8	Weight threshold	Typically 100 For lbs threshold	

Note: Factory values for A7 = 4  
A8=100

accumulation and peakhold  
peak detect threshold is 100 lbs.



## ERROR CODES

ERROR CODE	PROBLEM	SOLUTION
Err1	Input signal of the load cell is too low or open circuit	Examine whether there are items on the scale.
Err2	EEPROM Error	Change EEPROM
Err3	Key-in weight value in calibration mode is larger than full scale capacity	Reduce weight value in calibration mode or accrete full-scale capacity.
Err4	Calibration yard is too large	Reduce calibration divisions.
Err5	Unit selected is wrong	Change F9 or F11
Err6	Decimal position selected is wrong	Change decimal position in F3
Err7	The weight of one sample is too light	Check a greater sample item until display is 1
__OL__	Overload	Materials too much
=====	A/D not working	Examine the wire of the load cell, if well, change the print panel.

## WARRANTY

The Weigh Point warranty for lift truck scale kits provides specified customer rights based upon conditions herein stated.

Weigh Point Inc. provides a one-year free replacement of faulty material and/or workmanship of the scale system. Exception hydraulic sensor is warranted two years, cabling and batteries are not warranted. No other warranty liability is expressed or implied.

The faulty goods are to be returned freight prepaid to our Cambridge facility. After repair or replacement, the goods will be returned collect to the customer.

An option is for Weigh Point personnel or their agent to effect repairs at the customer's facility. Travel expenses and other associated expenses are the customer's responsibility.

Precautionary procedures: To prevent voiding warranty

- Weigh scales are measuring devices and require reasonable handling and care
- Inspect cabling to ensure no snagging will occur. Note that damaged cables are not covered by warranty
- Static build-up can easily destroy the microprocessor display. If static build up is suspected then take precautions such as use of grounding straps or chains, anti marring tires are particularly responsible for static build-up.
- Periodic inspection and adjustment of the scale components is required for scale longevity and safety.

Please note the precautionary notes are mandated as a condition of the product warranty.





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