



# Optima OP-902

## User Manual

# Warnings



- For safety operation of the weighing indicator, please follow the following warning/safety instructions:
  - Calibration inspection and maintenance of the indicator are prohibited by non-professional staff
  - Please ensure that the indicator has good ground
  - The indicator is a static and sensitive equipment; Please cut off power during electrical connections; Touching the internal components by hand is prohibited; Please take anti-static prevention measures



# Optima OP-900 Series

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# Optima OP-902

## User Manual / Getting Started

### Overview

Thank you for using Optima's OP-902 weighing indicator for your important application. This indicator has a stainless steel enclosure with a stainless steel wall mount bracket. The OP-902 series weighing indicator can be used for many type of scales such as bench and floor scales. The basic functions are as follows:

- Auto Hold function
- Tare
- kg/lb/oz
- Low power and overload indication

### Technical Parameters

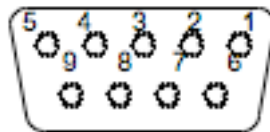
- Accuracy class: III,  $n=3000e$
- Resolution:
  - Display: 15,000
- Power: AC adapter (included) or (3) AA batteries (not included)
- 6 digits 0.7" high LCD display with blue backlight

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### Installation

- The indicator can connect with 4 load cell of 350ohm maximum with the following quick disconnect:
  - Pin 1: +Exec
  - Pin 2: +Sig
  - Pin 3: -Sig
  - Pin 4: -Exec
- RS232: DB9 Pin or 3 Pin



DB9 joint	Definition	Function
2	TXD	Sending data
3	RXD	Receiving data
5	GND	Ground interface

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### Calibration and Parameter Settings

- To restore defaults, turn off the indicator. Then press HOLD and UNIT key at the same time while you turn the indicator on (Do this while indicator counting down).
  - “dEF 0” will be displayed.
  - Press UNIT key to change to “dEF 1”
  - Press HOLD key to confirm defaults restore.
- To display version number:
  - Turn off the indicator. Then press UNIT and ON/OFF simultaneously while you turn the indicator on (Do this while indicator counting down).
- To enter calibration/parameter settings
  - Turn indicator off. Then press and hold the HOLD and UNIT key at the same time while turning on indicator (Do this while indicator counting down).
  - Display [CAL kg], meaning the unit is kg.
  - Press UNIT to change the unit to lb; Display will change to [CAL lb].
  - Press HOLD to confirm.
  - Display [FS 5], meaning the max. capacity is 200kg, (see table below).
  - Press UNIT to change the capacity range.

Display	Max.Cap	Division	Calibration Loading Weight
FS 0	15.000kg	0.005kg	10kg
FS 1	30.00kg	0.01kg	25kg
FS 2	60.00kg	0.02kg	50kg
FS 3	100.00kg	0.02kg	75kg
FS 4	150.00kg	0.05kg	100kg
FS 5	200.00kg	0.05kg	150kg
FS 6	custom	custom	custom

Display	Max.Cap	Division	Calibration Loading Weight
FS 0	33.00lb	0.01lb	22.05lb
FS 1	66.00lb	0.02lb	55.12lb
FS 2	132.00lb	0.05lb	110.25lb
FS 3	220.00lb	0.05lb	165.35lb
FS 4	330.0lb	0.1lb	220.5lb
FS 5	440.0lb	0.1lb	330.7lb
FS 6	custom	custom	custom

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- Press the HOLD key.
- If FS = 6, then follow the procedure below:

Display [dP 1], indicate the decimal places; press UNIT to change, and press HOLD to confirm;  
Display [d 2], indicate the division; press UNIT to change, and press HOLD to confirm;  
Display [CAP ], indicate the max. capacity; press HOLD to display current max. capacity; press ZERO to left shift and UNIT to change the capacity; Then press HOLD to confirm;  
Display [LoAd ], indicate the calibration loading weight; press HOLD to display the current calibration loading weight; press ZERO to left shift and UNIT to change the calibration loading weight; Then press HOLD to confirm and go to [CALon] below.

- For all FS value 0 to 6, follow the procedure below:

Display [CALon], press HOLD to enter into weight calibration, press ON/OFF to exit.  
Display [noLoAd] is zero calibration; make sure there is no load on scale, then press HOLD to confirm.  
Display [AdLoAd] is loading calibration; Put on calibration weight as defined the the [LoAd] step above, make sure calibration weight and weighing platform are stable, then press HOLD to confirm.  
Display [CALEnd], press HOLD to save weight calibration parameter and press ON/OFF to exit and go back to weighing mode.

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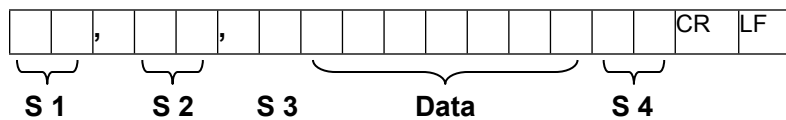
## User Manual / Using Indicator

### Functions

- ON/OFF key: used to turn the indicator on and off
- Zero key: used to zero or tare the indicator
- Unit key: used to change units between kg/lb/oz
- Hold key: used to activate the auto hold function

### RS232 Output Format

#### Continuous Output Format



- S1: weight status, ST= standstill, US= not standstill, OL= overload
- S2: weight mode, GS=gross mode, NT=net mode
- S3: weight of positive and negative, "+" or "-"
- S4: "kg" or "lb"
- Data: weight value, including decimal point
- CR: carriage return
- LF: line feed



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## Troubleshooting

Q:What are the different error codes?

A:The following table shows the error codes and explanations:

ERROR	REASON	SOLUTION
UUUUUU	1. Overload 2. wrong connection with load cell 3. load cell has quality problem.	1. reduce the weight 2. check load cell connection 3. inspection load cell. Check the input and output
nnnnnnn	1. calibration is no good 2. wrong connection 3. load cell has quality problem	1. check scale is resisted or not, foot is kept level or not. 2. check load cell connection. 3. checking load cell: check input and output resistance to judge it is good or not.
ERR1	During calibration, not input the weights or the weight is overload	Input the correct weights
ERR2	During calibration , the weights is below than Min. required weights	The calibration weights Minimum is 10% of Max. cap. Recommend 60%-80% of Max. Cap.
ERR3	During calibration, the input signal is negative	1. check the connection is correct 2. check load cell is no problem 3. recalibration if still wrong change the PCB
ERR4	During calibration, the signal is unstable	After the platform is stable, start calibration
ERR5		Change PCB

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Q: The scale does not turn on.

A: Make sure the power cord is plugged in, and that there is power. One easy way to test this is by connecting another appliance to the same outlet and see if it's operational.

Q: The reading goes negative when a load is applied.

A: Try interchanging the Sig+ and Sig- wiring connected to the load cell or junction box (if one is used).

## Technical Support

Please email [support@optimascale.com](mailto:support@optimascale.com) if you have any further questions.