

# Optimization WST5

System Calibration



# Theoretical calibration

## 1 Maximum weight

- (Maximum weight) is capacity of loadcell(s), number of load cell (for example four load cell with capacity 1500kg become 6000kg)
- If system consist of one loadcell then insert the capacity of that loadcell.

## 2 Sensitivity mV/V

- If system consist of multiple loadcells, insert average mV/V of all load.
- If System consist of one loadcell, insert mV/V of that load cell.

## 3 Full Scale:

- This is the capacity of the system, insert slightly above capacity.  
(For example, if tank is 3000kg insert 3100kg. Otherwise overload error will activate immediately after 3000kg).

## 4 Set division

## 5 Click SEND key

## 6 Click SAVE key

Optimization - COM11 - Rev.1.0.0

Language Mode Tools Help Exit

Home 0 Input: 1 2 Firmware: 333.01 Rel.0.8  
Output: 1 2 Fieldbus: PROFINET Address: 1  
Full Scale: 6000

### Calibration

Base Settings

Maximum weight	Sensitivity mV/V	Pre-Tare	Full Scale	5 Send
1 6000	2 2.0000	0	3 6000	

Dead Weight Table Table Graph

WEIGHT 0 Zero Acquire

Scale division 4 1

Weight Data

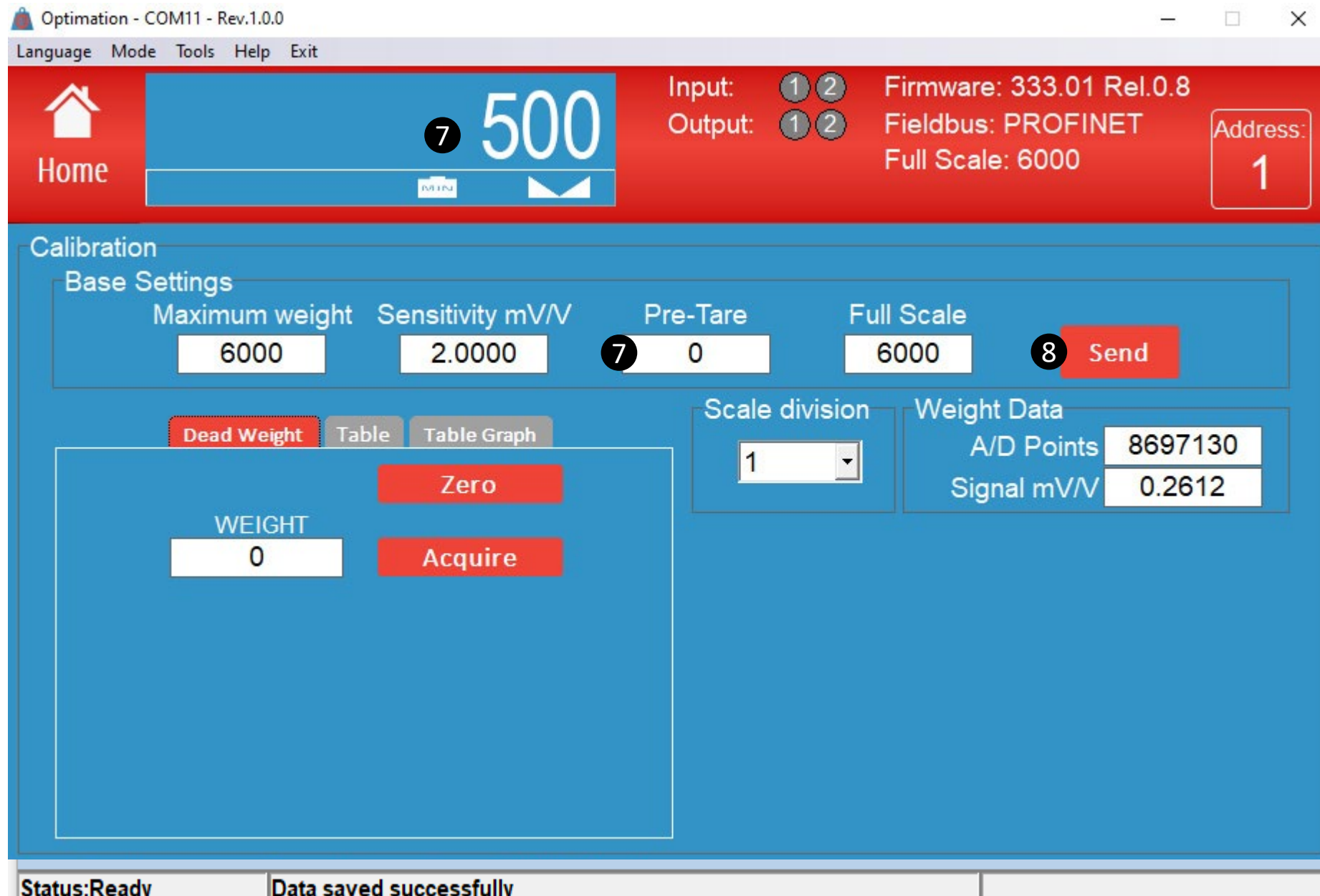
A/D Points	8697130
Signal mV/V	0.2612

Status:Ready Data saved successfully

Status:Ready Some data are not saved! (Click Here) 6

Status:Ready Data saved successfully

# Theoretical calibration



- 7** Value measured by scale:
- Weight of empty tank
  - You can either Zero away the weight of the tank or use the Pre-Tare function, insert the weight of the tank, (in this example 500kg) into the Pre-Tare box.

- 8** Click **SEND** key
- 9** Click **SAVE** key

**DONE**



- x** Structure value signal = TARE

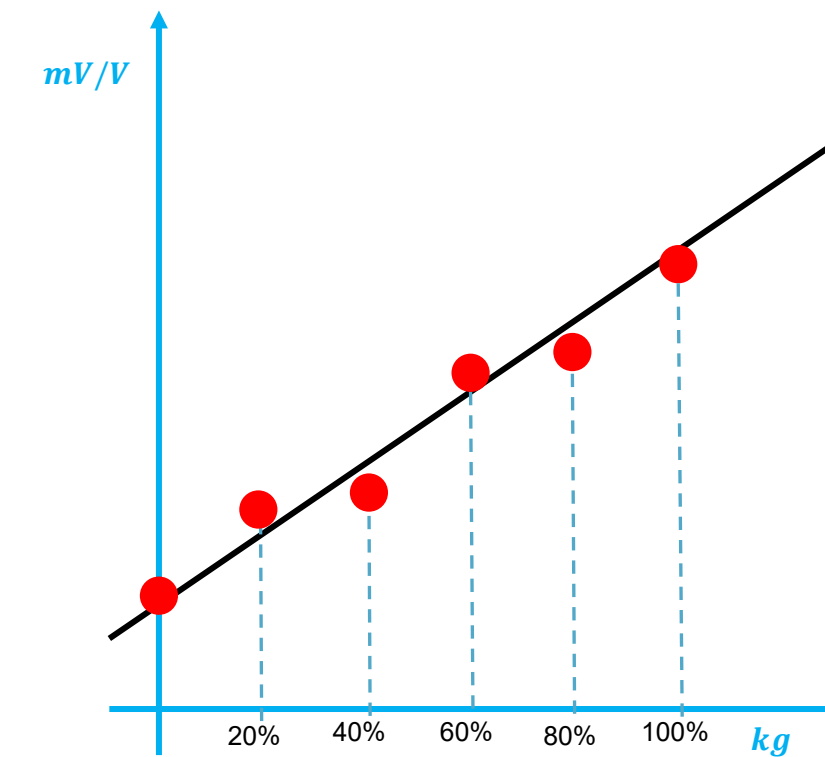
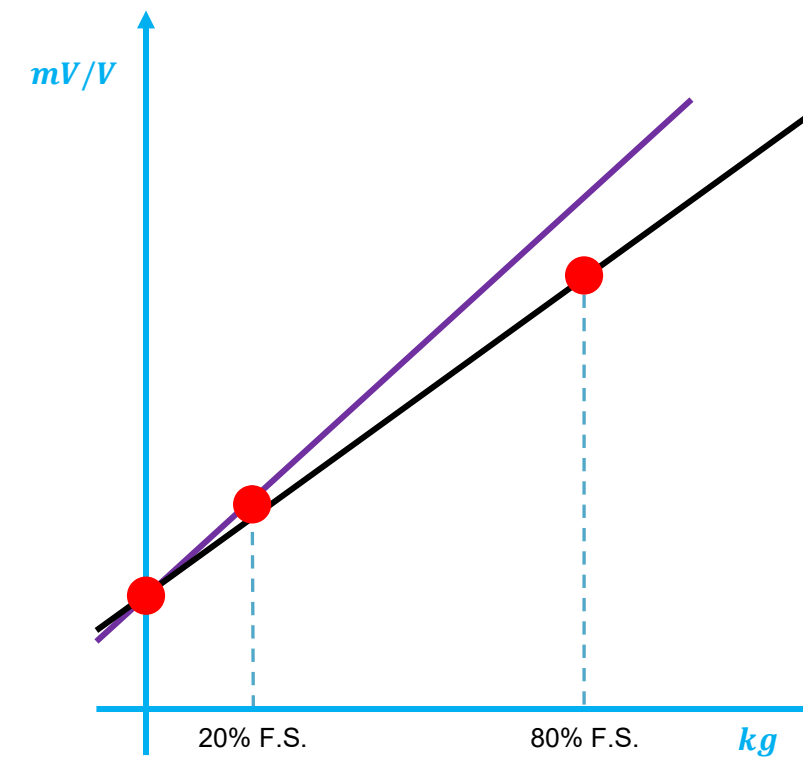
# Calibration with real weight

After you have done the Theoretical calibration it is possible to refine the response with know weights (only if it is necessary).

It is a linear corrispondation between WEIGHT and mV/V.

## Procedure:

- A. Linearization in 1 point
  - I. It is recommended to use a weight of at least 80% of Full Scale.
  - II. If you use a weight < 80% it will not be a very accurate scale.
  
- B. Linearization in 5 points
  - I. Same principal is used in this exampel, except that you use five weights up to 80% of Full scale.

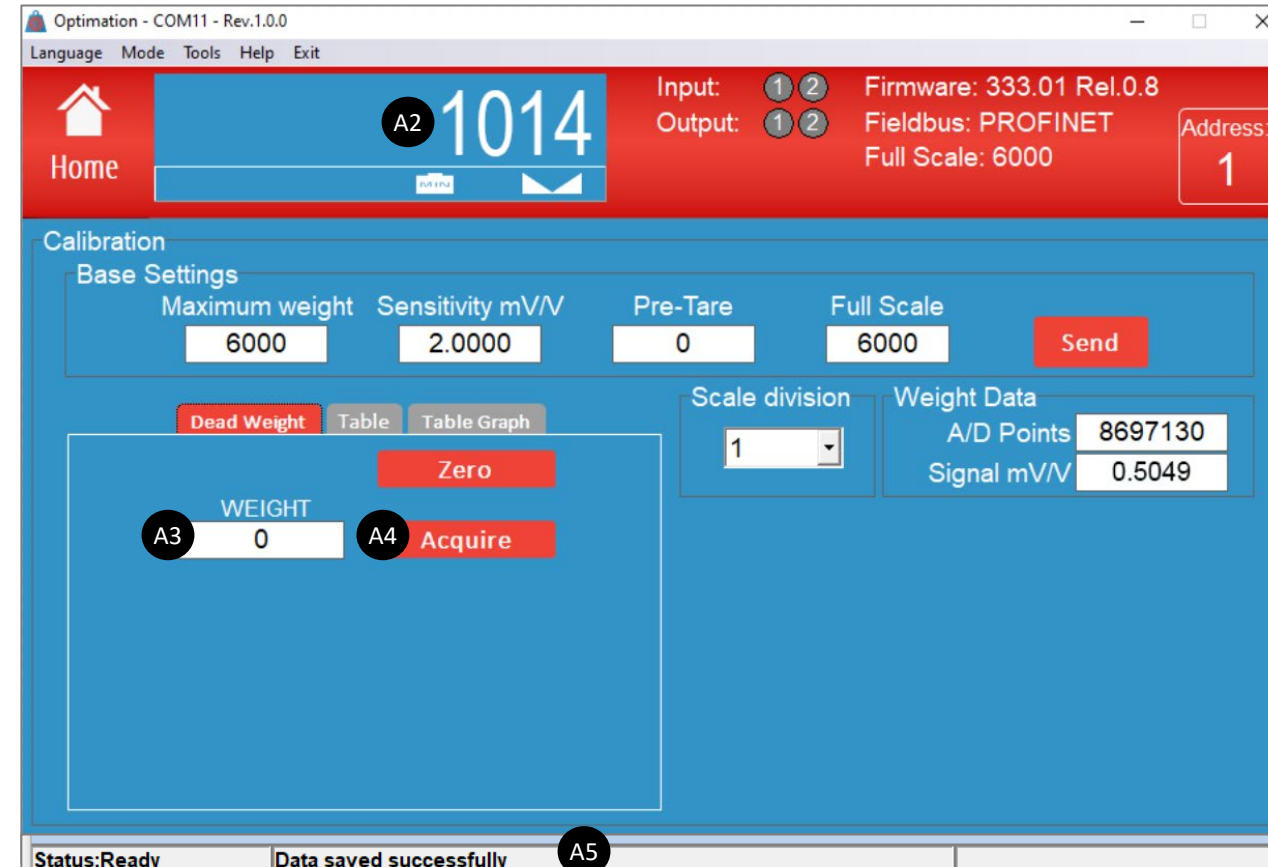


# Calibration 1 point



A1 Click on Zero key to do Zero of system

X1 Signal at Zero



Apply known weight, example 1000kg

A2 Weight read by instrument example 1014kg

A3 Write real weight 1000kg

A4 Click on ACQUIRE key

A5 Click on SAVE key

DONE



With this linearization procedure you inform the instrument that the mV/V value in X2 is 1000kg as shown in A6 instead of 1014kg as shown in A2

This linearization is useful for correct little imperfection.

# Calibration 5 points

Same procedure as for points 1 → repeat 5 times

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Language Mode Tools Help Exit

Home 0 Input: 1 2 Firmware: 333.01 Rel.0.8  
Output: 1 2 Fieldbus: PROFINET Address: 1  
Full Scale: 6000

Calibration

Base Settings

Maximum weight	Sensitivity mV/V	Pre-Tare	Full Scale
6000	2.0000	0	6000

Send

Scale division: 1

Weight Data

A/D Points	8697130
Signal mV/V	0.2612

WEIGHT: 0

Buttons: Zero, Acquire

Status:Ready | Data saved successfully

Optimization - COM11 - Rev.1.0.0

Language Mode Tools Help Exit

Home 2010 Input: 1 2 Firmware: 333.01 Rel.0.8  
Output: 1 2 Fieldbus: PROFINET Address: 1  
Full Scale: 6000

Calibration

Base Settings

Maximum weight	Sensitivity mV/V	Pre-Tare	Full Scale
6000	2.0000	0	6000

Send

Scale division: 1

Weight Data

A/D Points	8697130
Signal mV/V	0.8406

WEIGHT: 1000, 1500, 0

Buttons: Zero, Acquire

Status:Ready | Some data are not saved! (Click Here)

Optimization - COM11 - Rev.1.0.0

Language Mode Tools Help Exit

Home 3000 Input: 1 2 Firmware: 333.01 Rel.0.8  
Output: 1 2 Fieldbus: PROFINET Address: 1  
Full Scale: 6000

Calibration

Base Settings

Maximum weight	Sensitivity mV/V	Pre-Tare	Full Scale
6000	2.0000	0	6000

Send

Scale division: 1

Weight Data

A/D Points	8697130
Signal mV/V	1.1999

WEIGHT: 1000, 1500, 2000, 2500, 3000

Buttons: Zero, Acquire

Restart Calibration

Status:Ready | Some data are not saved! (Click Here)

In the Table Graph tab it is possible to watch the points of the calibration

Optimization - COM11 - Rev.1.0.0

Language Mode Tools Help Exit

Home 2428 Input: 1 2 Firmware: 333.01 Rel.0.8  
Output: 1 2 Fieldbus: PROFINET Address: 1  
Full Scale: 6000

Calibration

Base Settings

Maximum weight	Sensitivity mV/V	Pre-Tare	Full Scale
6000	2.0000	0	6000

Send

Scale division: 1

Weight Data

A/D Points	8697128
Signal mV/V	0.8289

Table Graph

Status:Ready | Data saved successfully

# Table calibration

With table Calibration is possible keep a record of value



After theoretical calibration

- B1 Click on **ZERO** key to do Zero of system
- Y1 Signal at Zero
- B3 Due B1, weight change to zero
- B4 Due B1, signal change

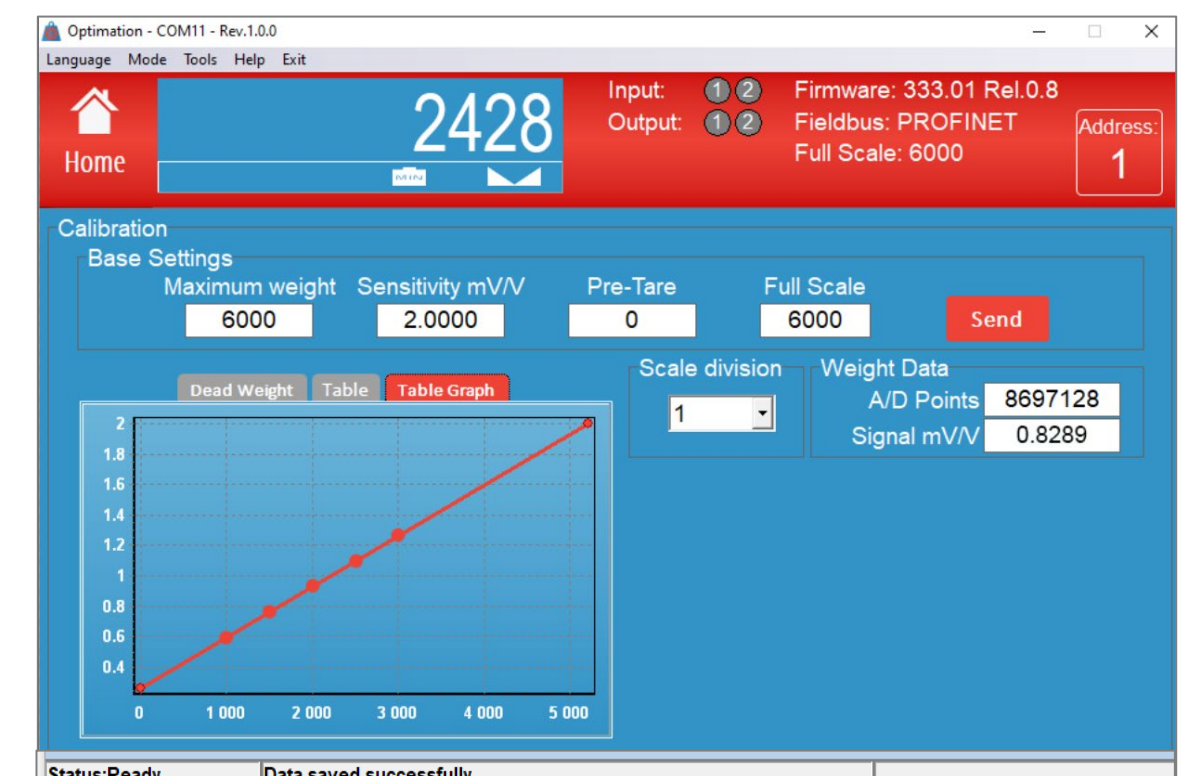
Add know weight step by step to the scale and save the signal Value.

- B5 Fill table, with signal for related know weight
- B6 Click **SAVE** key

**DONE**



In Table Graph it is possible watch the points of calibration.



# Measurement · Weighing · Control

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