SIEMENS

SIWAREX FTA
Weighing Module for High Accuracy Requirements
Calibrating SIWAREX FTA with SIWATOOL FTA

Quick Guide

For modules with order number 7MH4900-2AA01

Contents

Introduction

SIWAREX FTA is a calibratable and versatile weighing electronics for SIMATIC S7, C7 and PCS7. It can be used for automatic and non-automatic weighing, e.g. for the production of mixtures, filling, loading, monitoring and bagging.

Purpose of this document for functional safety

This programming manual contains all information that you will require to commission and use the device.

It is aimed at persons who install the device mechanically, connect it electrically, parameterize and commission it, as well as at service and maintenance engineers.

Notes on warranty

The contents of this programming manual shall not become part of or modify any prior or existing agreement, commitment or legal relationship. All obligations on the part of Siemens AG are contained in the respective sales contract, which also contains the complete and solely applicable warranty conditions. Any statements on the device versions described in the programming manual do not create new warranties or modify the existing warranty.

The content reflects the technical status at the time of printing. We reserve the right to make technical changes in the course of further development.

Validation of this document

This documentation is only valid in conjunction with the manual SIWAREX FTA. This manual is available on the Siemens homepage.

http://support.automation.siemens.com/WW/view/en/17831309/133300

1 Hardware Requirements

Following hardware parts and software are requested to integrate a scale in SIMATIC. 24V Power supply, S7-300 CPU or ET200M Station, memory card for CPU, SIWAREX FTA front connector for SIWAREX FTA, SIWATOOL FTA software, RS232 cable, computer with Windows XP or higher and a calibration weight bigger than 5% of the sum of the nominal value of all load cells.

24V PS   S7-3xx PLC   or   ET 200M   SIWAREX FTA
                                                                            7MH4900-2AA01

SIWATOOL RS232 Cable   Configuration Package for SIWAREX FTA

7MH4607-8CA   7MH4900-2AK01

Adjustment weight

> 5% of the sum of the

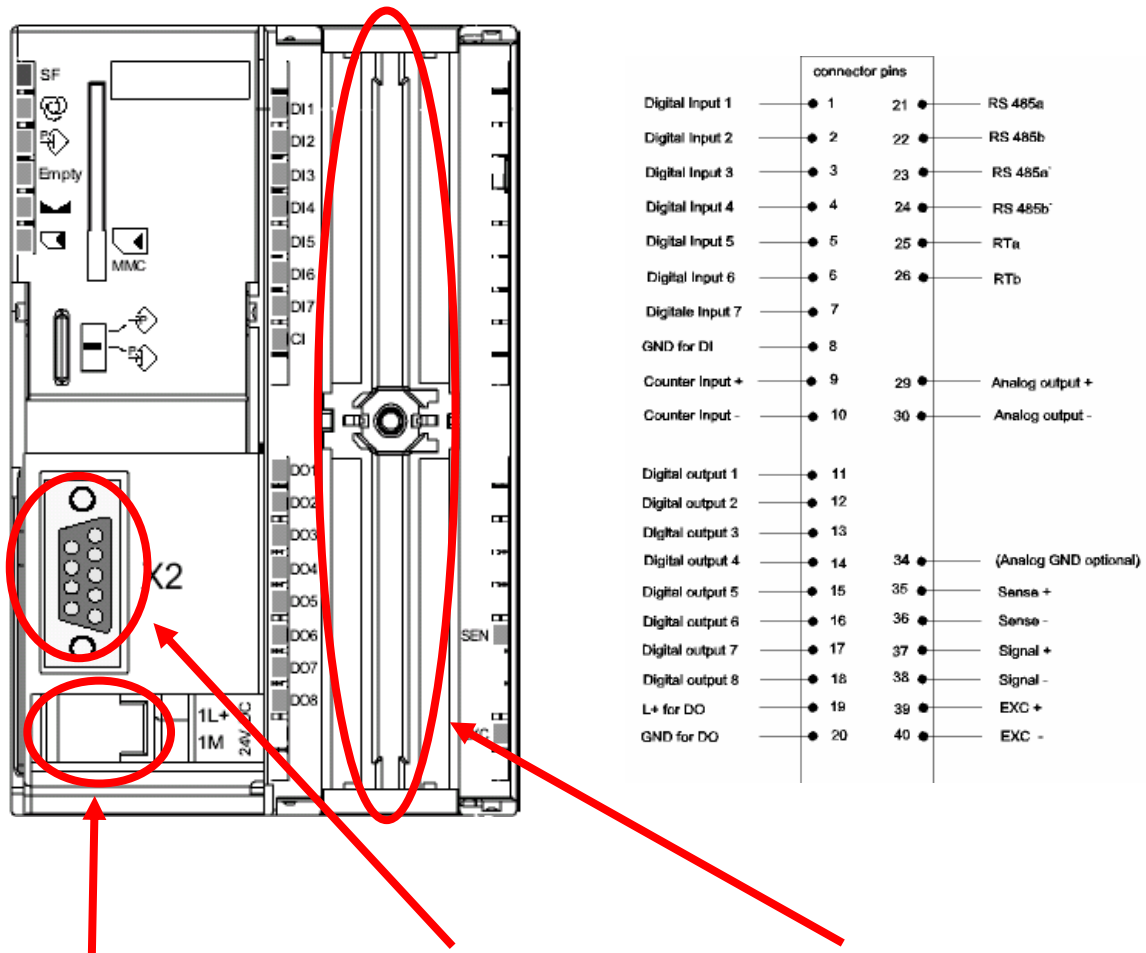nominal value of all load cells

Scale

The operating environment shown below includes the following:
PS207 2A power supply, ET200M station or CPU3xx, SIWAREX FTA weighing module, MPI
communication card, SIWATOOL cable
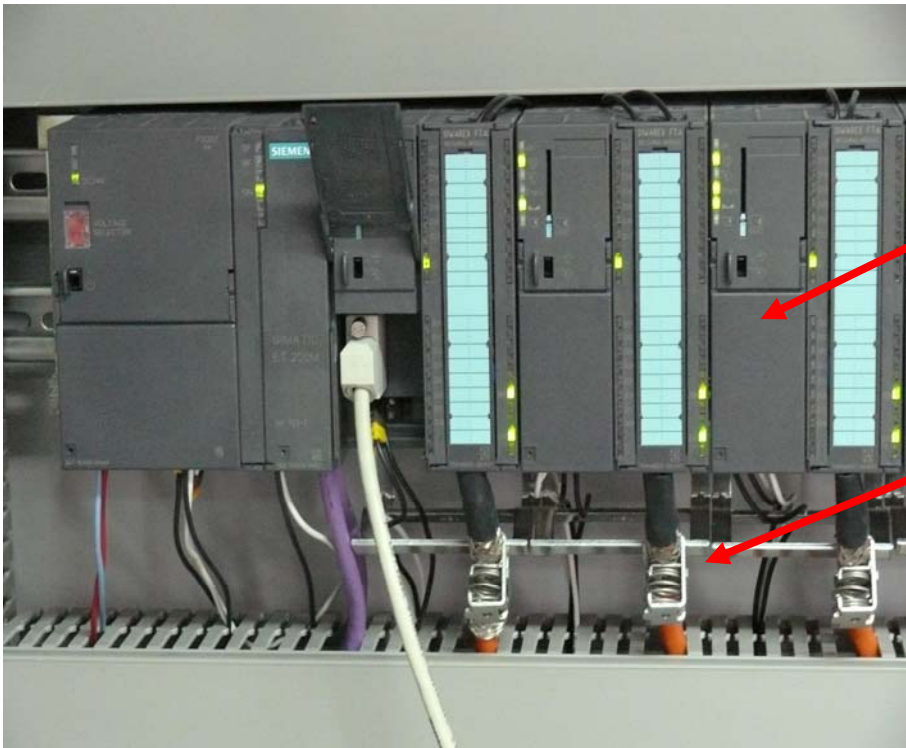
SIWAREX FTA
module

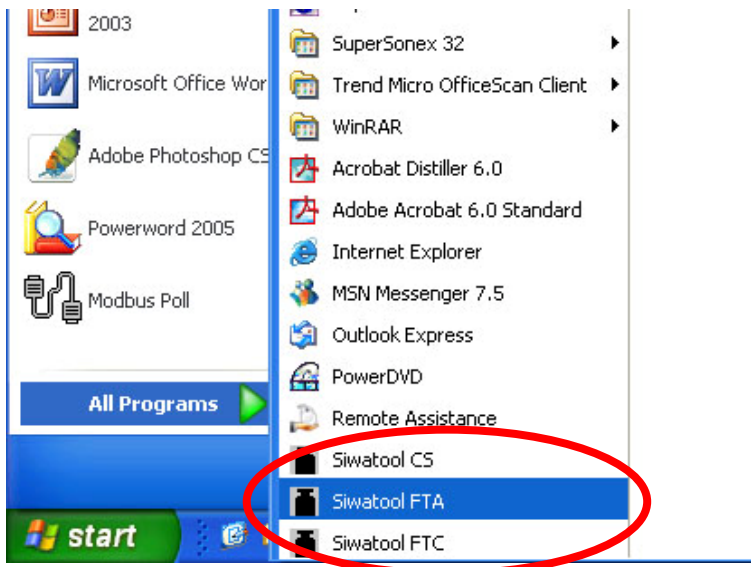Load Cell Cable

2 Connections

| 24V Power Supply | RS232 Interface | Connection terminal of the sensor |

Load Cell Connection:

Termination Clamp	Signal	Remark
35	SEN+	Sensor Line +
36	SEN-	Sensor Line -
37	SIG+	Measuring Line +
38	SIG-	Measuring Line –
39	EXC+	Load Cells Feeding Voltage +
40	EXC-	Load Cells Feeding Voltage –

3 Start SIWATOOL FTA

On the SIWATOOL FTA interface select the interface COM1 used on your computer.
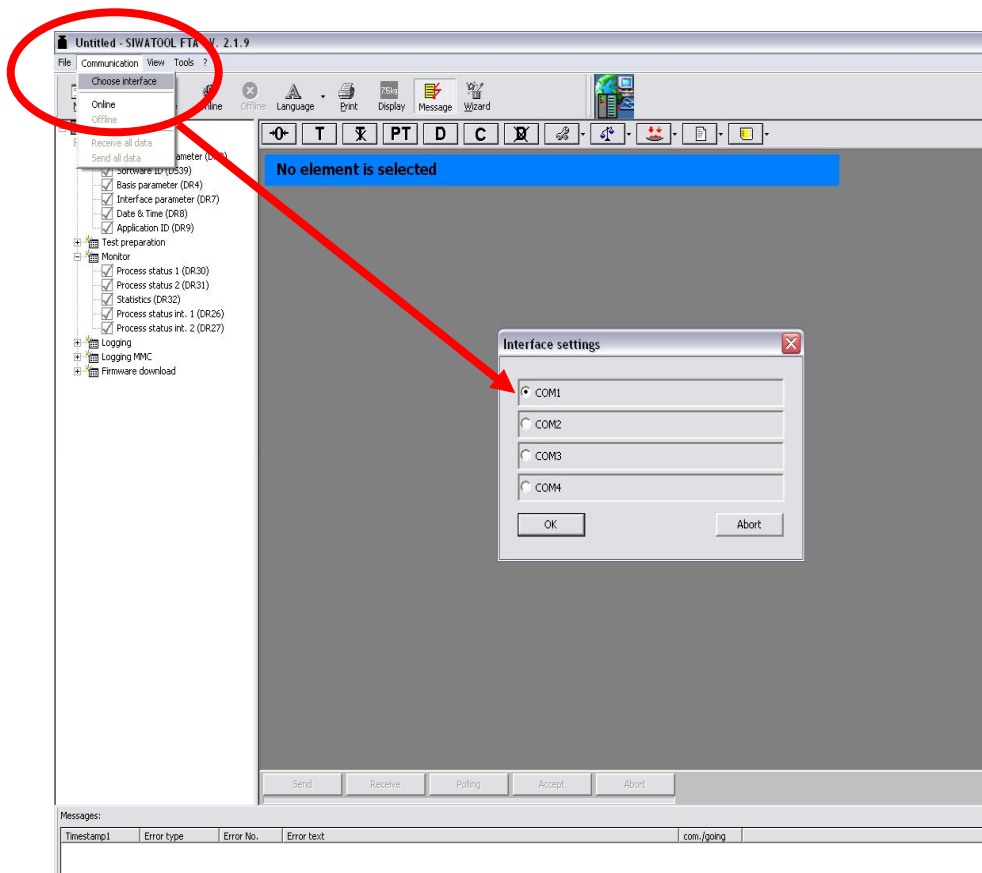
Click "**Online**"
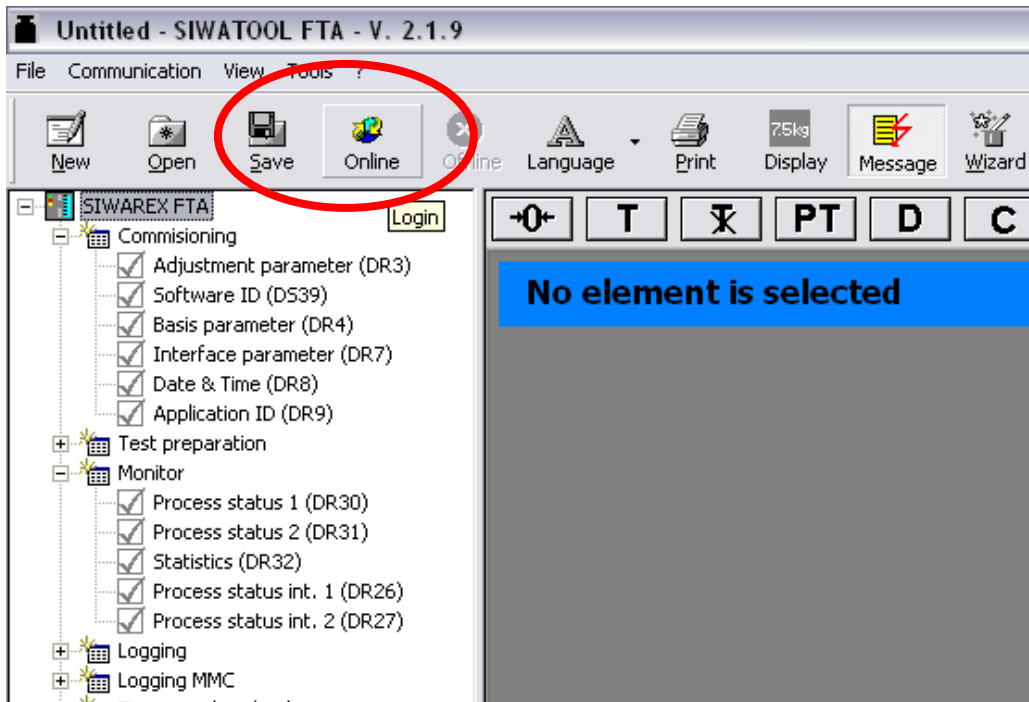
When the communication is established "**Online**" turns into grey.
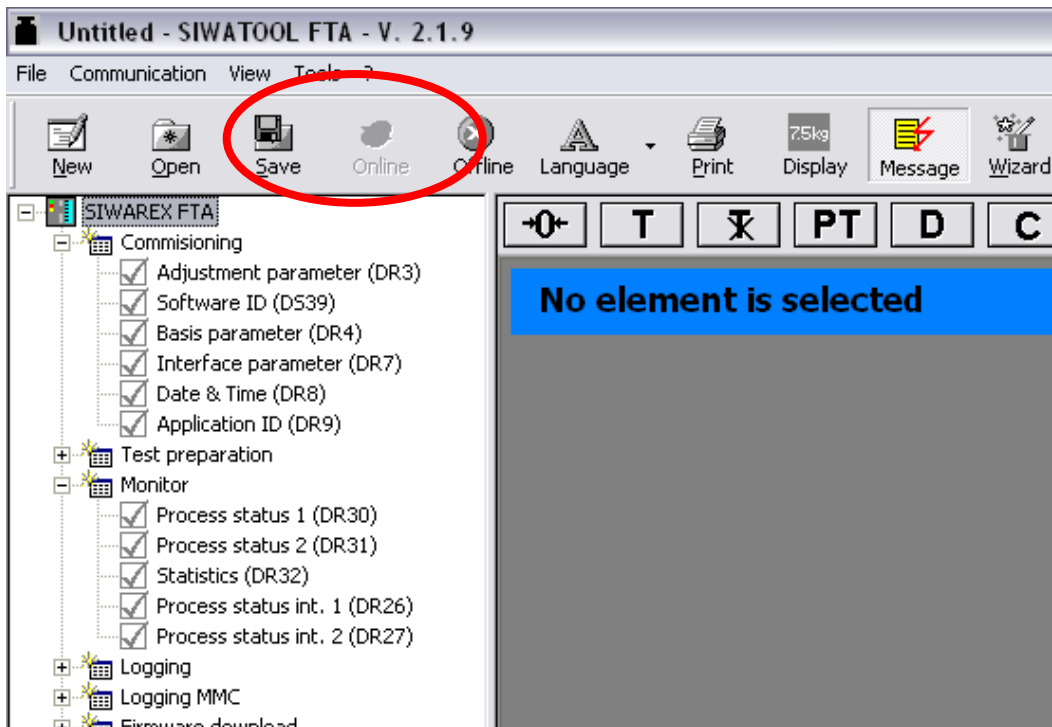
4 Resolution of SIWAREX FTA

The Siwarex FTA electronics converts the weight into a 24 bit value.
The value is comprised between approx. 1.4 Mio ... 15.4 Mio Digits. That internal digits value is taken for further calculations, e.g. gross weight. These numbers are then transmitted as real values to the SIMATIC PLC.

5 Type of Filters (Limit frequency: Low-pass filter (0.05 Hz ~ 20 Hz))

3 types of filters are available to choose for suppressing interferences.
If it is set to 5 Hz, the scale will respond quickly to the weight change; if it is set to 0.05 Hz, the scale will "move slowly".

Digital low pass filter step response fg=2Hz
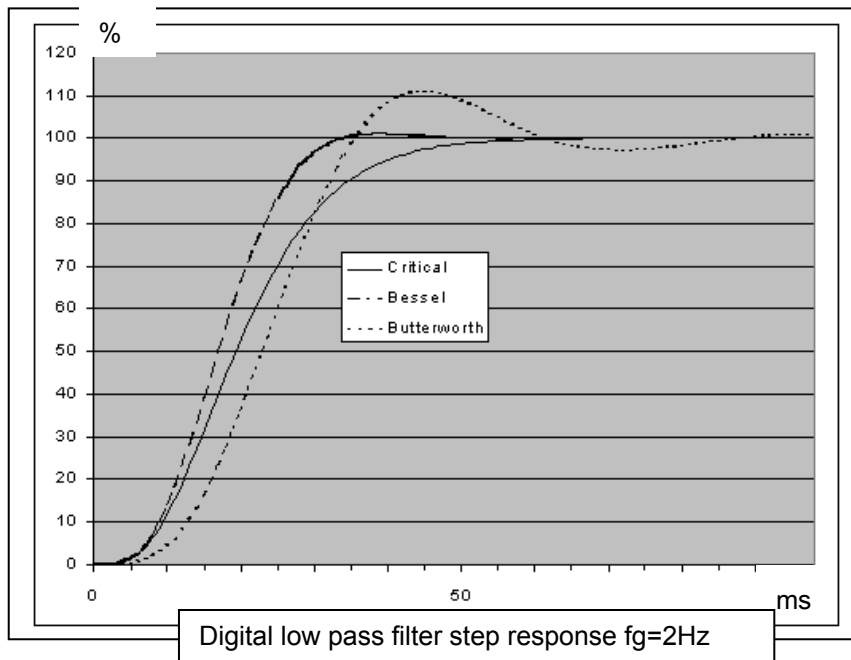
The average value filter is used to calm the weighing value compensating for random interferences.
The weight is measured according to the average value of n weight values.
If n = 10, 10 weight values will be used for calculating the average value. The earliest value is discarded every 10 milliseconds and the latest value will be added for the calculation.

Enter filterdata's in DR3

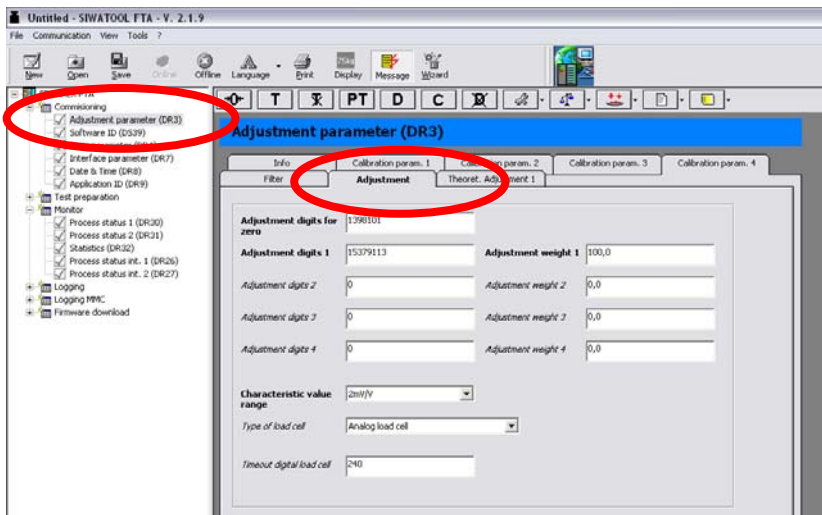Depth of average value filter e.g.=10

6 Calibration
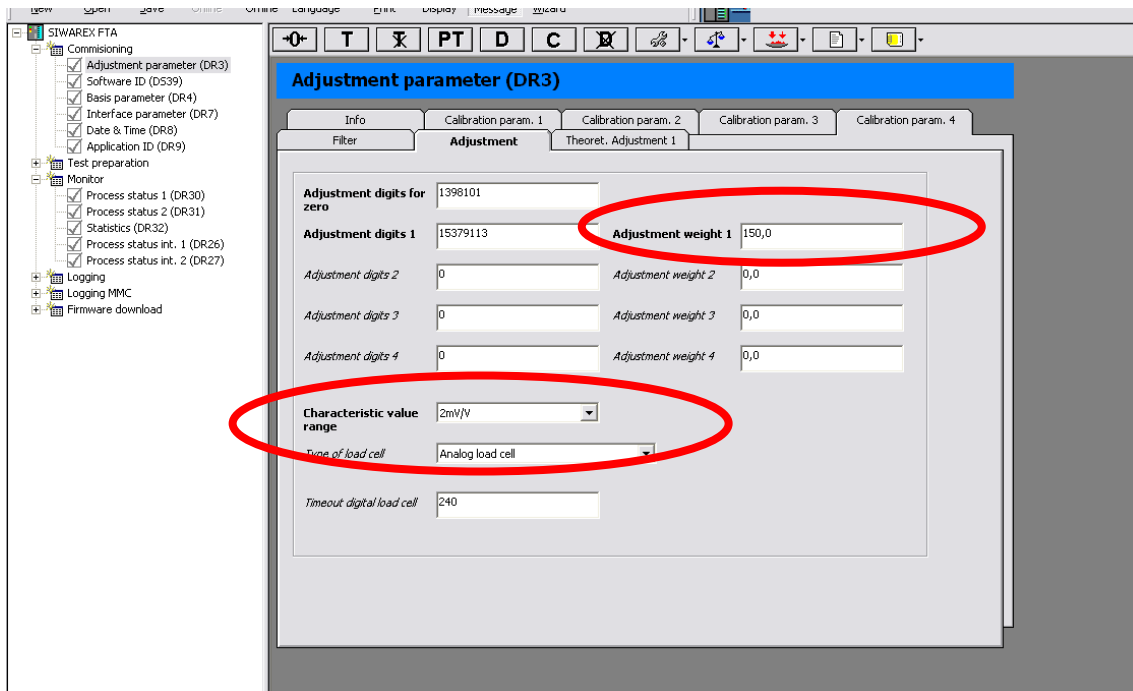
Before calibrating, set the "**Service mode on (1)**".

Only one click is required.

Once the setting is successful this icon appears.
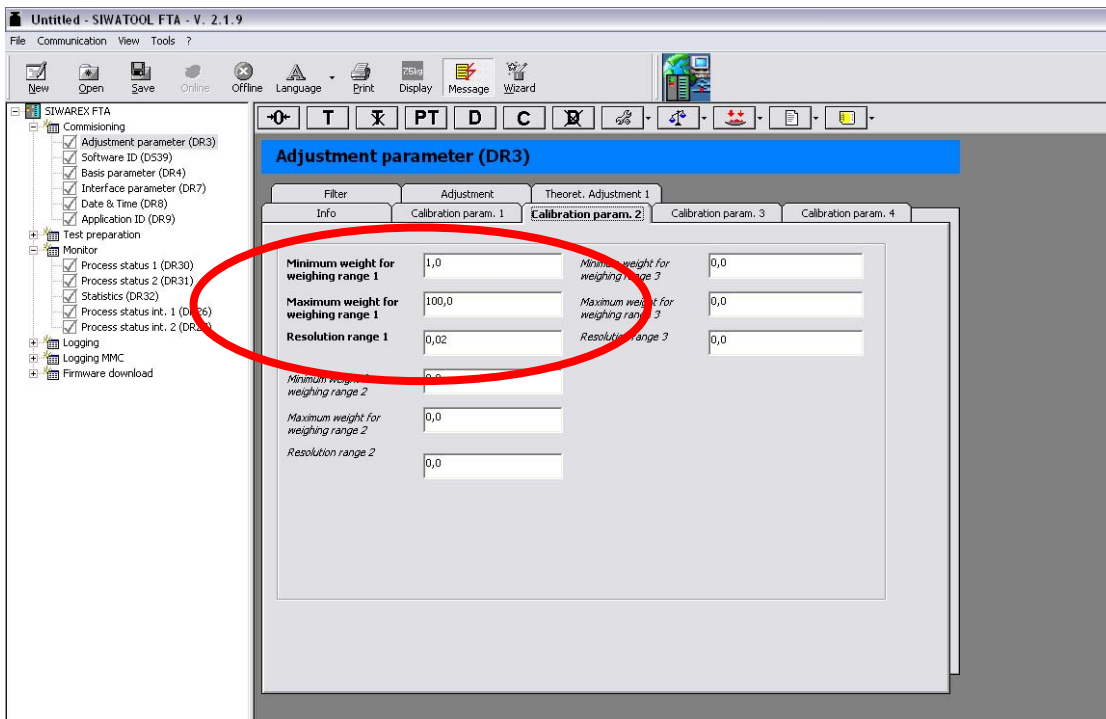Whether not, please click on Error type and follow the advice

Click "**Adjustment parameter (DR3)**"

Enter the **"Adjustment weight"** (e.g. "150.0") and set the **"Characteristic value range"**.

Set parameters "**Min/Max weight for weighing range 1**" and the "**Resolution range 1**" in register **"Calibration parameter 2".**
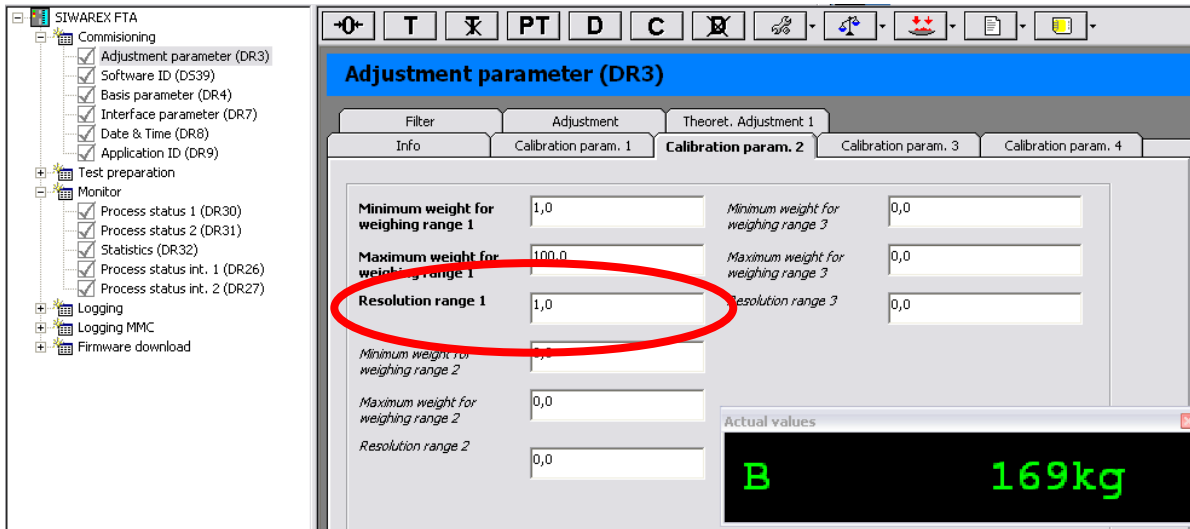
"Resolution range 1": It is the minimum change of the displayed weight. The unit is the same as the **"Weight unit"** selected under the **"Calibration parameter 3"** tab (see below).
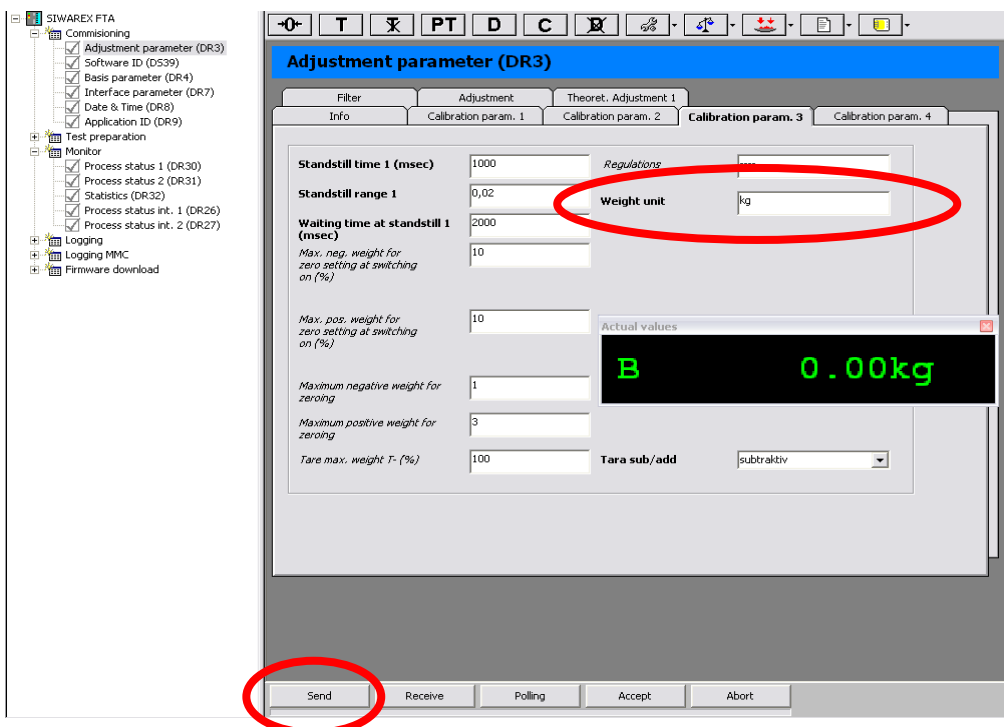
Examples:
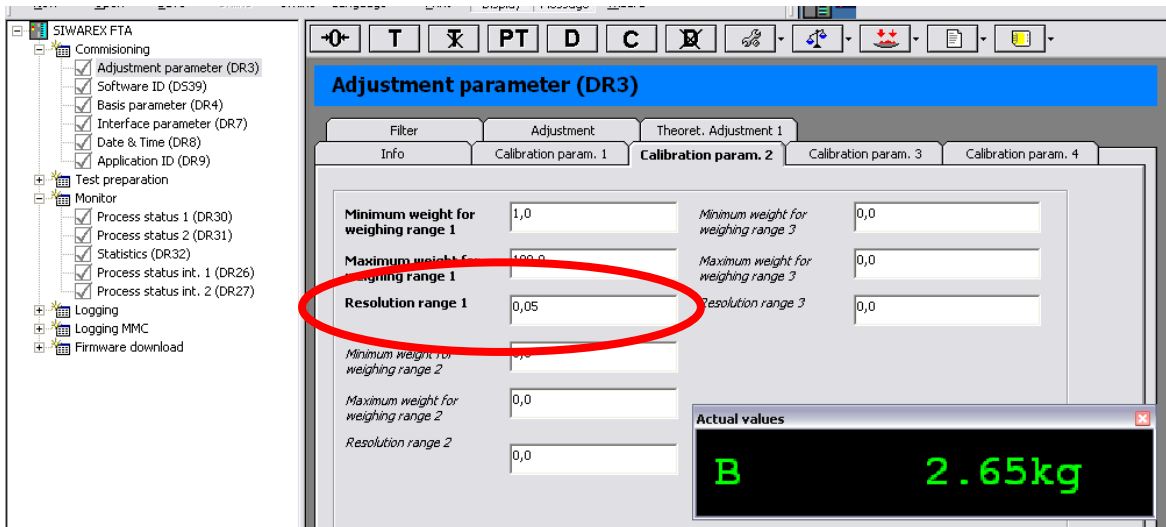
**"Resolution range 1"** is set to 0.05 kg, so the minimum change is 0.05 kg.

Whether the"**Resolution range 1**" is set to 1.0 kg the minimum change is 1 kg.

Note: the resolution is related to the weight display and is independent from the weight precision.

Set parameter **"Weight unit"** in register **"Calibration parameter 3"** and then click **"Send"**.
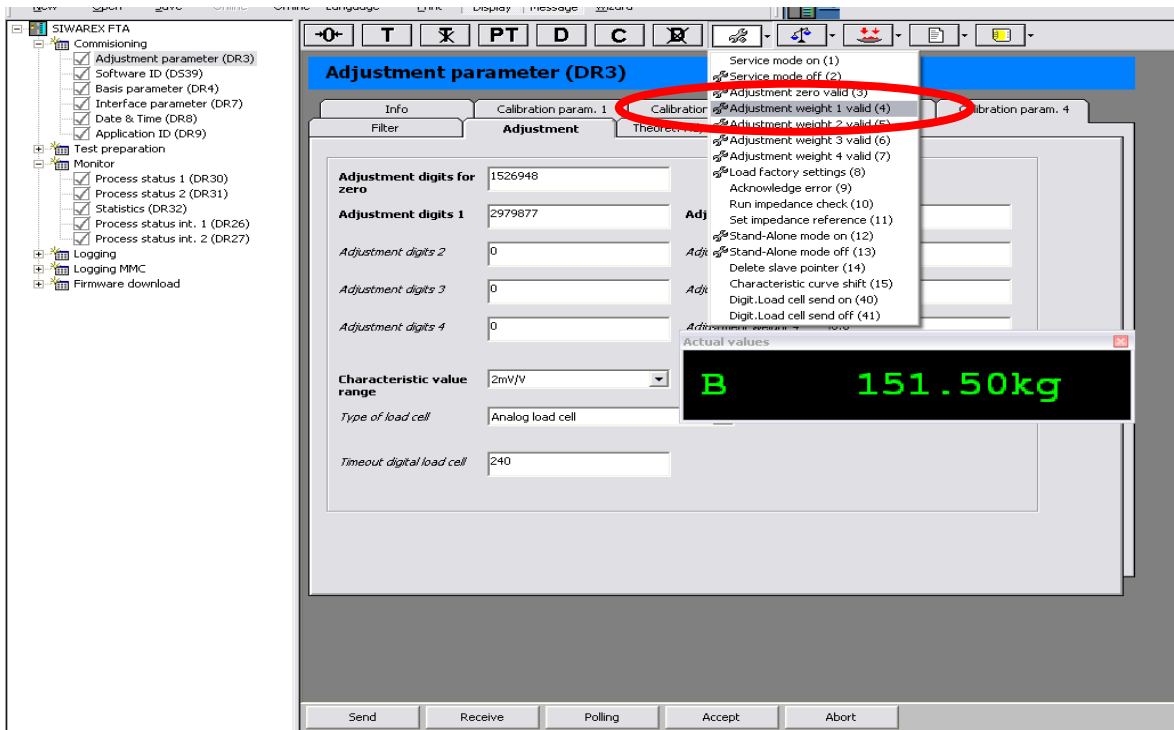
Ensure the scale is empty (not loaded) and click "**Adjustment zero valid (3)**".
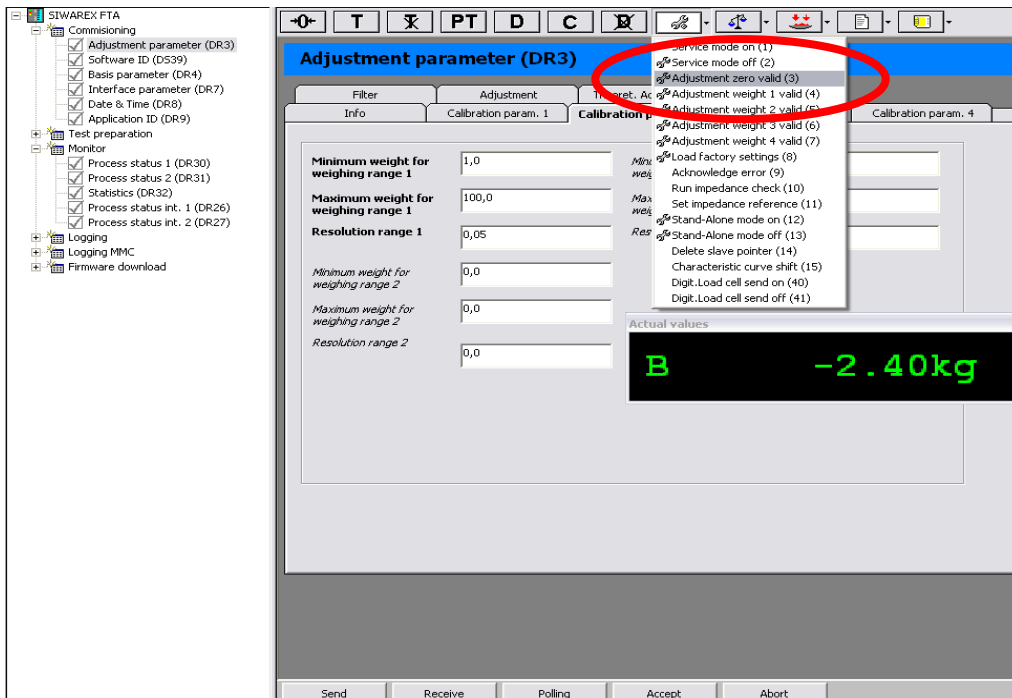
Afterwards the displayed value is as follows:

Load the scale with the calibration weight 1 (the display may show a different weight value) and then click "**Adjustment weight 1 valid (4)**".

The display shows the "**Adjustment weight 1**". The adjustment is completed now.
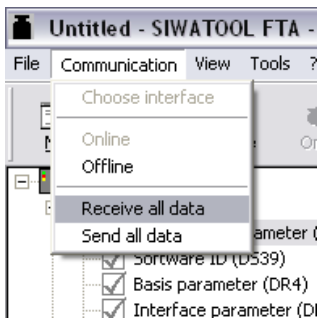

If the corresponding weight is now changed it will be according to the actual weight and exact accuracy will be achieved.
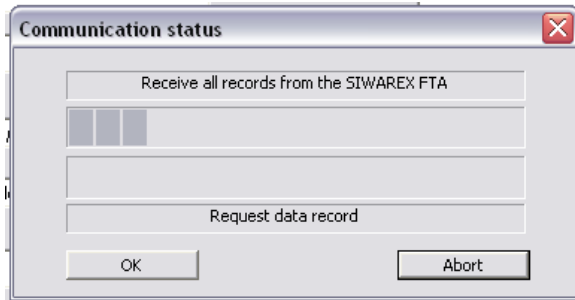
Please set "Service mode off (2)"

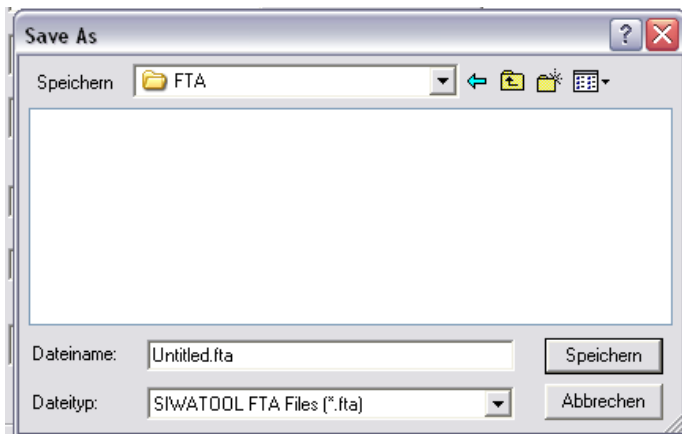Finally you may save the calibration data's into a file.
"Receive all data" from the SIWAREX FTA to the PC

During the transmission from the Siwarex FTA module to the PC the following message appears:

"Save as" a Siwatool FTA File:

If you have any issues or suggestions regarding the related products or documents, please feel free to contact:

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