



**Operating Instructions**  
**REOVIB SWM 3000**  
**Monitoring System for Vibratory Feeders**

**REO (UK) Ltd**

Units 2-4 Callow Hill Road,  
Craven Arms Business Park, Craven Arms  
Shropshire, SY7 0HP  
Tel. 01588 673411  
Fax 01588 672718  
[www.reo.co.uk](http://www.reo.co.uk)  
email: [main@reo.co.uk](mailto:main@reo.co.uk)

**REOVIB**  
FOR VIBRATORY FEEDER SYSTEMS

**Technical Information for the User**

This description contains the necessary information for the correct application of the product described below. It is intended for use by technically qualified personal.

Qualified personnel are persons who, because of their training, experience and position as well as their knowledge of appropriate standards, regulations, health and safety requirements and working conditions, are authorised to be responsible for the safety of the equipment, at all times, whilst carrying out their normal duties and are therefore aware of, and can report, possible hazards (Definition of qualified employees according to IEC 364)

**Safety Instructions**

The following instructions are provided for the personal safety of operators and also for the protection of the described product and connected equipment.



**Warning!**  
 Hazardous Voltage  
 Failure to observe can kill, cause serious injury or damage

- Isolate from mains before installation or dismantling work, as well as for fuse changes or post installation modifications.
- Observe the prescribed accident prevention and safety rules for the specific application.
- Before putting into operation check if the rated voltage for the unit conforms with the local supply voltage.
- Emergency stop devices must be provided for all applications. Operation of the emergency stop must inhibit any further uncontrolled operation.
- **The electrical connecting terminals must be covered!**
- **Earth bonding must be tested for integrity after installation.**

**Specified Use**

The units described herein are electrical controllers for installation in industrial plant.

**Contents**

Technical Information for the User .....	1
1.0 General .....	2
2.0 Technical Data.....	2
3.0 Control Elements .....	2
4.0 Mounting the accelerometer .....	3
5.0 Display .....	3
6.0 Calibrating the sensor input.....	4
7.0 Saving the measured values .....	4
8.0 Vie and clearing of single data set .....	4
9.0 Saving your own parameter .....	5
10.0 Function „only measure“ .....	5
11.0 Factory setting .....	5
12.0 Reset of error message „ACC Sensor“ .....	6
13.0 Readout the saved data sets into a PC.....	6
14.0 Power supply .....	6
15.0 Included in delivery.....	6
16.0 Sensor (Standardtype) .....	6

**1.0 General**

This portable unit is designed for installation, testing and service of vibratory feeders. Measurement of acceleration, amplitude and vibrating frequency. It is possible to store up to 40 measured values and to transfer these as „XLS“-files to a PC. The measurement is effected over an accelerometer which is mounted on the moving part. The measuring parameters (frequency, amplitude or acceleration) are shown on the LCD display.

**2.0 Technical Data**

Unit type	REOVIB SWM 3000
Supply voltage	Power supply and battery charger ACS 410, 230V , 50/60 Hz , +/-10%
Effective value input	Sensor 10 / 100 / 500 mV/g +/-20% difference adjustment (8 – 600mV/g)
Sensor supply	Constant current 14mA
Frequency	6...600Hz
Amplitude	0...30mm
Measuring range	0,2...150g
Measuring error	1,5%
Enclosure protection	IP 40
Dimensions- (HxWxD)	100 x 195 x 40 mm
Operating temperature	0...45 °C
Storage temperature	-20...+70 °C
Rel. Humidity	93 % without dew or condensation
Environment protection	Class 1 (IEC 664)
Power rating	5VA

**3.0 Control Elements**

The control panel features a blue LCD display at the top showing measurement data: Acceleration: --- g, Speed: --- cm/s, Deflection: --- mm, and Frequency: --- Hz. Below the display are six buttons: an up arrow, a button labeled 'F', a green button labeled 'I', a down arrow, a button labeled 'P', and a red button labeled '0'. The REO ELEKTRONIK logo is at the bottom of the panel.

**Display**  
 Acceleration in g  
 Speed in cm/sec  
 Deflection in mm  
 Frequency in Hz

Display if there is no measurement signal and the sensor is connected  
 Acceleration: --- g  
 Speed: --- cm/s  
 Deflection: --- mm  
 Frequency: --- Hz

- ON
- OFF
- Up
- Down
- Back
- Enter Programming

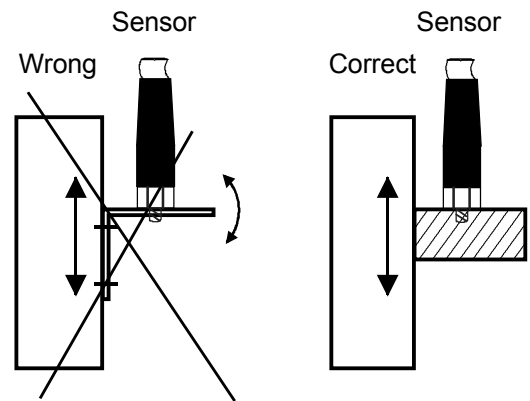
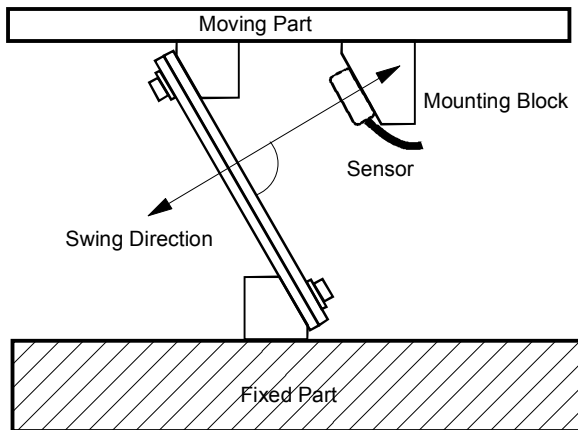
**4.0 Mounting the accelerometer**

**Important!**



**Sensor mounting:**

The accelerometer should generate signals for the movement and acceleration of the feeder, which are fed back to the regulator circuit of the control unit. Therefore it is very important that no other extraneous vibration signals are picked up by the sensor



**5.0 Display**

Acceleration: --- g  
Speed: --- cm/s  
Deflection: --- mm  
Frequency: --- Hz

No measurable vibration

Sensor error – no sensor is connected or the sensor faulty.

Error Acc. Sensor  
Speed: 0.0 cm/s  
Deflection: 0.00 mm
← Blinking
Clear error by pushing the green button  
or
▲ 🔧 Service P P P Clear error ▲

The unit switch off after clearing the error.

Existing a measurable vibration

Acceleration: 18.90g Speed: 59.1cm/s Deflection: 3.76 mm Frequency: 50.0Hz	<table border="1" style="border-collapse: collapse; width: 100%;"> <tr> <td>Acceleration</td> <td>18,90 g</td> </tr> <tr> <td>Speed</td> <td>59,1 cm/s</td> </tr> <tr> <td>Deflection / Amplitude</td> <td>3,76 mm</td> </tr> <tr> <td>Vibration frequency</td> <td>50,0 Hz</td> </tr> </table>	Acceleration	18,90 g	Speed	59,1 cm/s	Deflection / Amplitude	3,76 mm	Vibration frequency	50,0 Hz
Acceleration	18,90 g								
Speed	59,1 cm/s								
Deflection / Amplitude	3,76 mm								
Vibration frequency	50,0 Hz								

**6.0 Calibrating the sensor input**

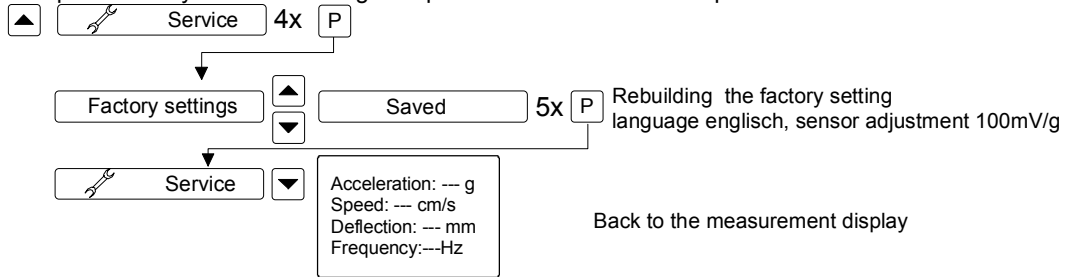


**Important**

The sensor constants deviating from the indicated sensor voltage (mV/g) must be set once on the measuring unit!

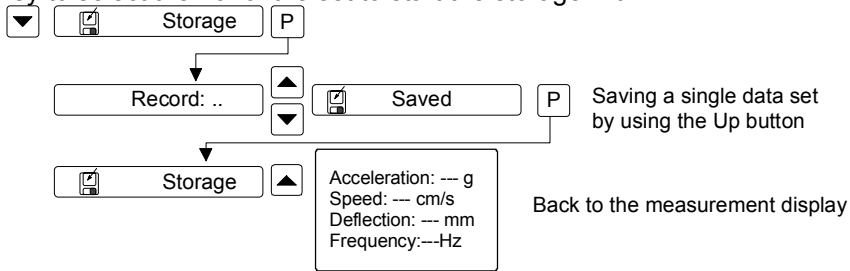
A calibration certificate is provided with each sensor supplied. This certificate shows the exact value of the sensor output voltage, for example 95 mV/g. This value must be entered in the parameter „Cal“.

The sensor input is factory-set to 100 mV/g. It is possible to set deviations upto +/- 20 %.



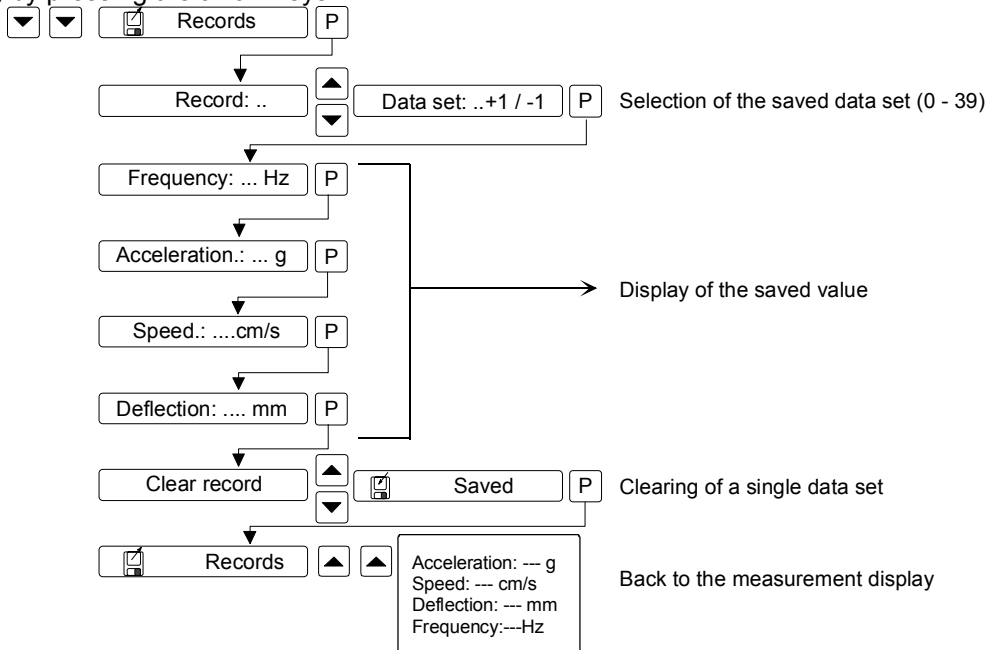
**7.0 Saving the measured values**

All four values (acceleration, speed, deflection / amplitude, frequency) are saved. Press the arrow key to select the no. of the set to start the storage with.



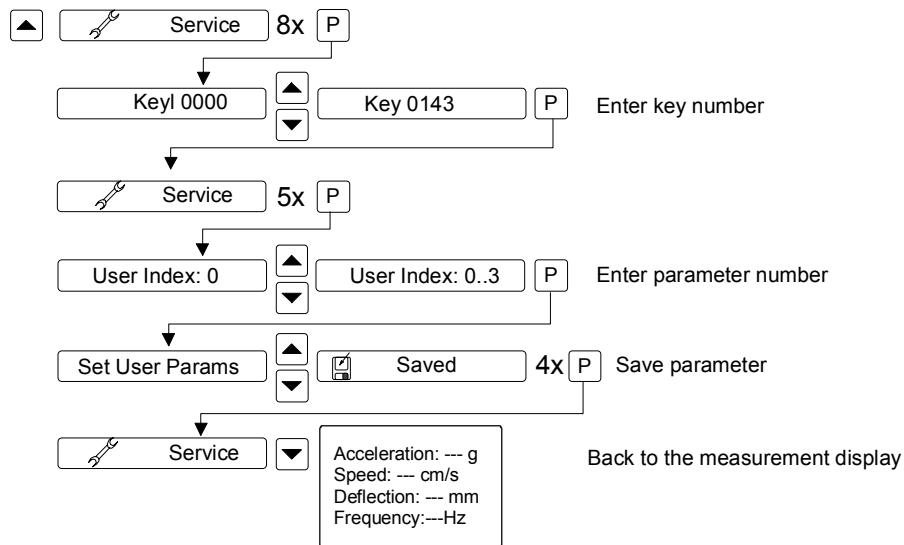
**8.0 View and clearing of single data set**

This menu serves to control the data sets stored. The individual data sets may be viewed and cleared (if necessary) by pressing the arrow keys.



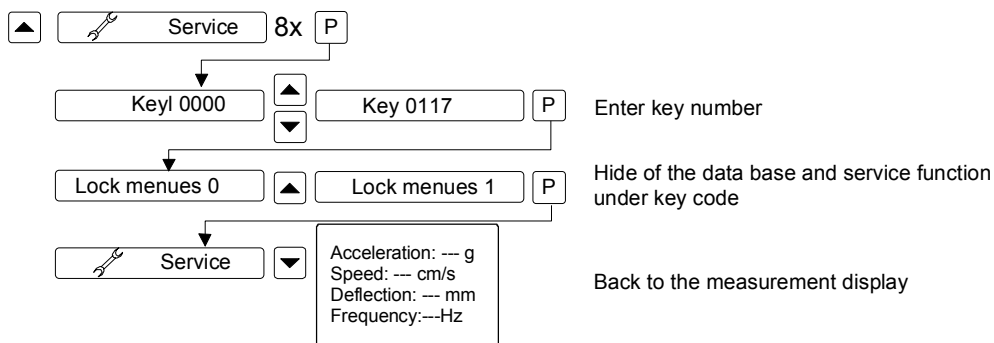
**9.0 Saving your own parameter**

You can save your own settings of the unit. E. g. if you use several accelerometer with different output voltages (10, 100, 500mV/g).



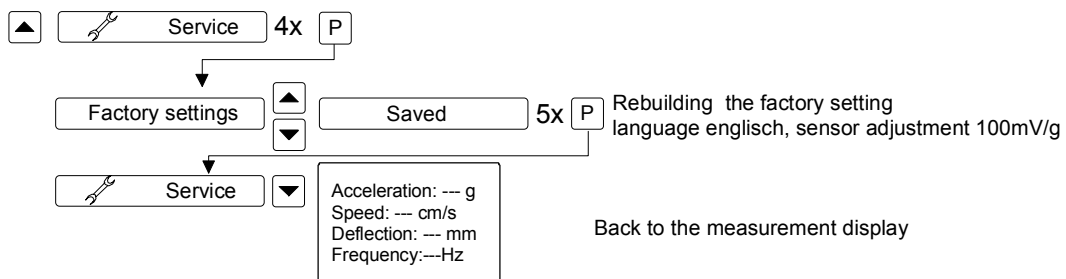
**10.0 Function „only measure“**

With this parameter you can protect the saved data sets and unit settings against unauthorised modifying.



**11.0 Factory setting**

With this parameter you can rebuild the factory settings.



**12.0 Reset of error message „ACC Sensor“**

If sensor is not connected or if the maximum acceleration is exceeded the error message „ERROR ACC SENSOR“ will be displayed.

To quit the message, the green button ( ON- button) must be pressed.

or



**13.0 Readout the saved data sets into a PC**

At this unit it is possible to load the saved data sets over a RS232 interface into a PC. For the coupling you need Microsoft EXCEL2000.

Approaching:

1. Connect measurement device with the data cable to the PC.
2. Switch on the measurement device
3. Load data file SWM300.xls over the diskette.
4. Choose the interface which the measurement is connected to (com1-4).
5. Use button „Empfangen“. After the sweep the data sets must be displayed.

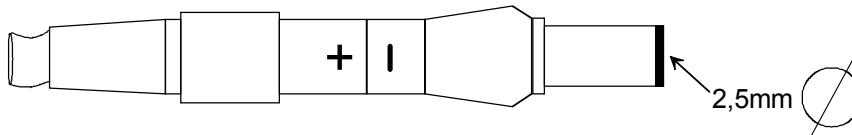
If there is no communication over the interface perform the „set up RS232“.

**14.0 Power supply**

Included in delivery is a power supply and battery charger ACS 410 with a universal plug.

Please do only use this power supply to charge the accu

Please notice at the assembly of the output plug on the polarity of the voltage.



**Use only 1.2 V rechargeable batteries for operation.**

**15.0 Included in delivery**

Quantity	Name	Order no.
1	Acceleration measuring device SWM 3000	677301
1	Power supply and battery charger ACS 410	090601
4	Accu, Mingnon AA ,NI-MH 1,2V, 1400mAh	090602
1	RS 232- Interface cable	090603
1	Diskette Excel Arbeitsblatt SWM3000	090604
1	Protective bag for SWM3000	090605

**16.0 Sensor (Standardtype)**

1	Acceleration sensor 608A11 ( 100mv/g )	084402
1	Flat magnet 16mm	090606