



Operating Instructions
REOVIB SWM 843
Monitoring System for Vibratory Feeders

Controller Technical Safety Sheet

The descripton herein contains all of the necessary information for the correct application of the electronic controller supplied. It is intended for use by Technically Qualified Personnel

Qualified personnel are persons, who, because of their training, experience and position, knowledge of appropriate standards, regulations, health and safety requirements and working conditions are authorised to be responsible for the safety or equipment at all times, whilst carrying out their normal duties and are therefore responsible

Safety Instructions

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



Warning!

Hazardous Voltage

Failure to observe can kill, cause serious injury or damage

- Isolate from the mains supply 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 devices must inhibit any further uncontrolled operation**
- **Electrical Terminals must be fitted with a protective cover**
- **The Earth connection must be tested for safe and proper installation**

Specified Use

The units described in this document are electrical units for use in industrial applications.

They have been designed for controlling vibratory feeders.

The minimum and maximum limits may only be changed with the express consent of the vibratory system manufacturer, otherwise personal injury or equipment damage may occur.

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1.0 General

This unit is used for monitoring, measuring and displaying the parameters of a feed system. The measured values of acceleration, amplitude and frequency can be displayed on the 5 digit x seven segment display. The acceleration value can also be provided from a proportional 0/4...20mA output.

The feeder movement is measured with an accelerometer. The actual feeder measurements are compared with the selected minimum and maximum values. If either of these two limits are exceeded, a programmable time delay is activated and when this expires, the corresponding relay energises, thus signalling a fault condition on the feeder.

There is also a time delay, which can be set, to reduce the likelihood of an incorrect fault signal occurring between the time from switching on the power and the monitoring state.

2.0 Function / Initial setting up / Sensor calibration

The unit has a five digit, seven segment display and three push buttons, which are used for setting the limit values and parameter programming.

The effective acceleration value is displayed, once the unit has been put into operation. A continuous line across the display indicates that the feeder is at rest.

The arrow keys are used to step between the various values and parameters. The parameter setting is accessed with a three digit code number, to prevent unauthorised adjustment. Furthermore, the adjustable parameters can be deactivated by using a special code.

The constant values, relating to the accelerometer, must be entered in the parameter menu, when the unit is first installed or if the accelerometer is changed.

Each sensor is provided with a data sheet which states its output constant (mV/g).

The sensor input is factory set at 100mV/g and the appropriate value, in mV/g, must be entered for sensors which give other output signals.

The healthy state relay is always energised during normal operation. When a fault occurs, the relay switches off, thereby indicating a fault condition to connected equipment, such as a PLC.

In the event of a fault, the unit can be reset by using the keypad or through a reset input. A reset is cancelled and the fault signal reinstated, when a voltage is applied to the reset input, or potential free contacts are closed across terminals 2+3, e.g. from a PLC. The healthy relay then returns to its normal state.

3.0 Technical Data

Unit type	SWM843
Supply voltage	90-240V 50/60 Hz +/-10%
Signal contacts	Change over relay 1A / 250V~
Effective value input	Sensor 100mV/g +/-20% difference adjustment
	0...10V
Sensor supply	Constant current 14mA
Effective value output	4...20mA / RL < 500 Ohm
	0...10V / RL > 10 kOhm
Measuring range	0...25 * g
Reset input	24V / DC
Dimensions (HxWxD)	70x150x114
Enclosure protection	IP 00
Contact protection	VBG 4
Operating temperature	0...45 °C
Storage temperature	-20...+70 °C
Rel. Humidity	93 % without dew or condensation
Environment protection	Class 1 (IEC 664)
Fixing method	DIN rail mounting (DIN EN 50022-35)
Sensor cable length	A maximum cable length of 100 meters is recommended for the sensor type 601A01.
Power rating	10VA
Weight	0,6 Kg
Frequency accuracy	+ - 0,1Hz
Accuracy	1,5%
Standards	

4.0 Main components

All parameters are set by using the front panel components which comprise three key pads and an LED display. A menu is provided for entering settings and this is accessed with a password.

Front panel components:



7-Segment Display



Increase/Decrease Value---Programming Mode
Step-----Step

The display is increased or decreased by one step (units or tenths) by pressing the arrow key for a short time. Holding the key down causes the display to change ten steps at a time.

To prevent unauthorised adjustment of the parameters they are protected by passwords. There are different entry codes for each function group.

New settings are saved when leaving the programming mode or if the key pads are not used for 90 seconds.

5.0 Settings

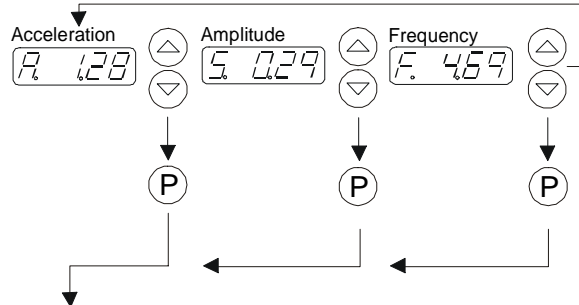
Parameter:		Code	Factory settings:	Entry-code:
• MIN - limit (*g)	0...25.0	L.	0.0	007
• MAX - limit (*g)	0...25.0	H.	25.0	007
• Switch on delay (s)	0...60.0	E.	10 sec.	007
• Warning delay (s)	0...60.0	I.	5 sec.	007
• Error - Reset		Clr.Er.		009
• Accelerometer constant (mV/g)	80...120	c.	100	008
• Output signal	0 = 0...20 mA 1 = 4...20 mA	4.20.	0	003
• Save settings		PUSH		143
• Reset factory settings		FAC.	c.=100mV/g L.=0*g H.=25*g I.=5.0 sec. E.=10.0 sec.	210
Reset to user settings		USPA		210
• Parameter hide / enable		EnC	1	117
• Display program version		Version Revision Date Year		001
•				

All settings can be changed by using the three key pads in the Front panel.

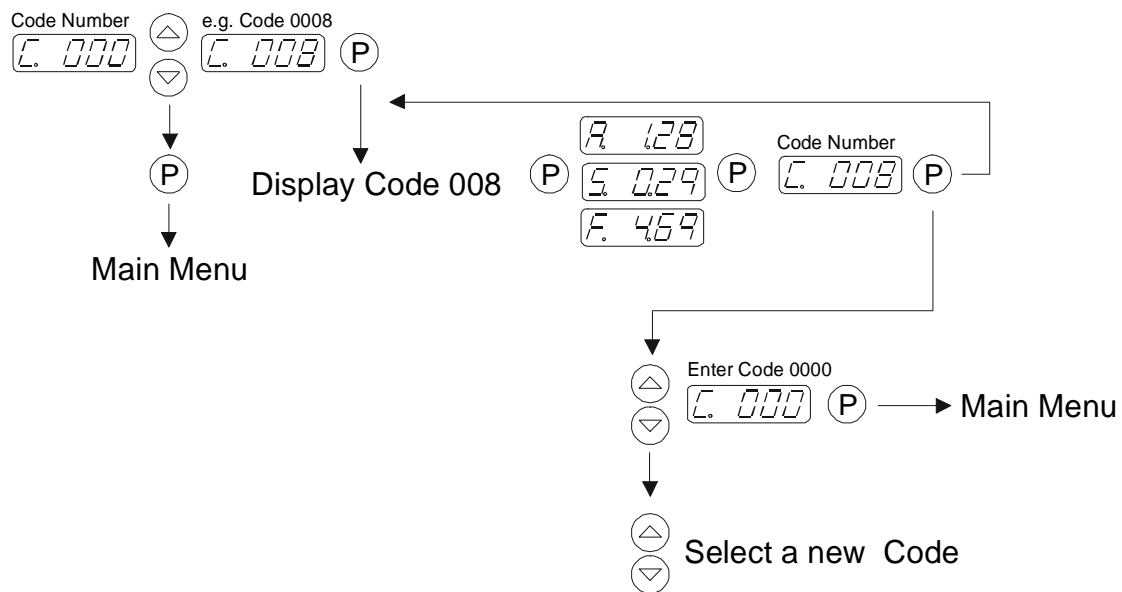
6.0 Settings

Displaying Acceleration, Amplitude and Frequency

Main Menu

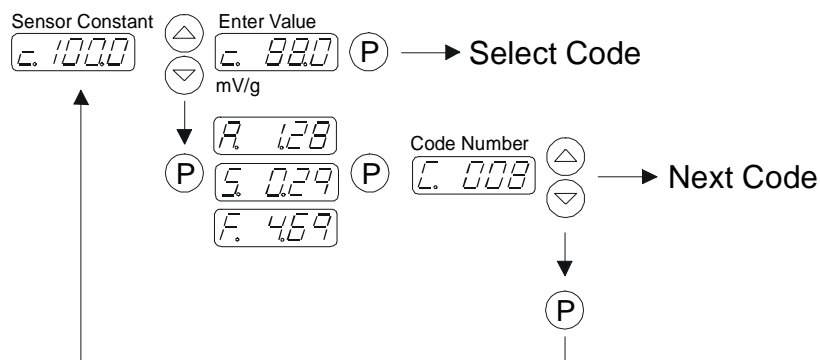


Code selection



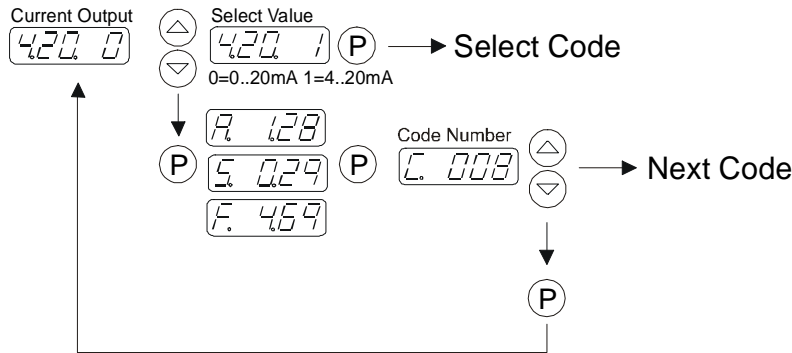
Programming the Sensor Constant

Display Code 008



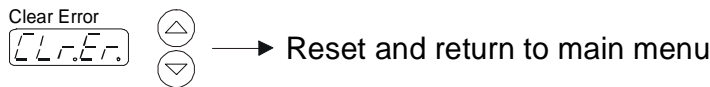
Set Analog Output => Current Range

Display Code 003



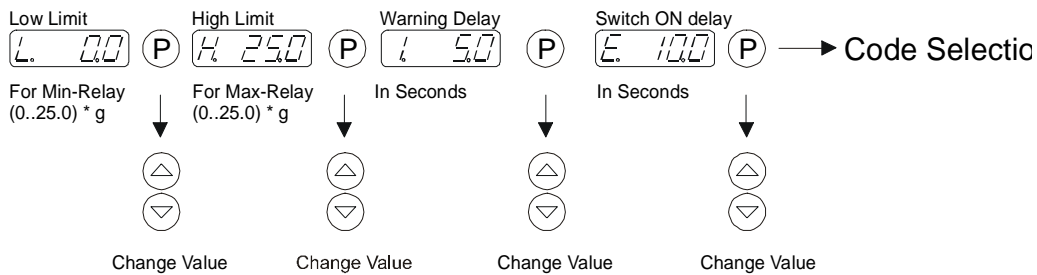
Reset after sensor fault or Min/Max alarm

Display Code 009



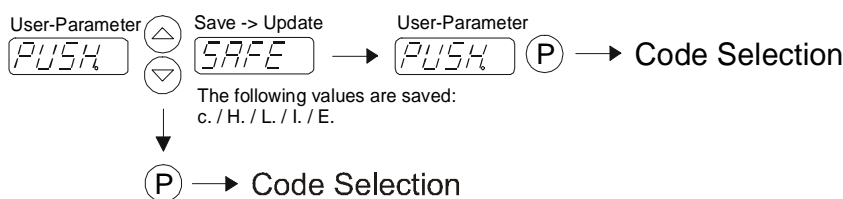
Setting the Min/Max values and times

Display Code 007



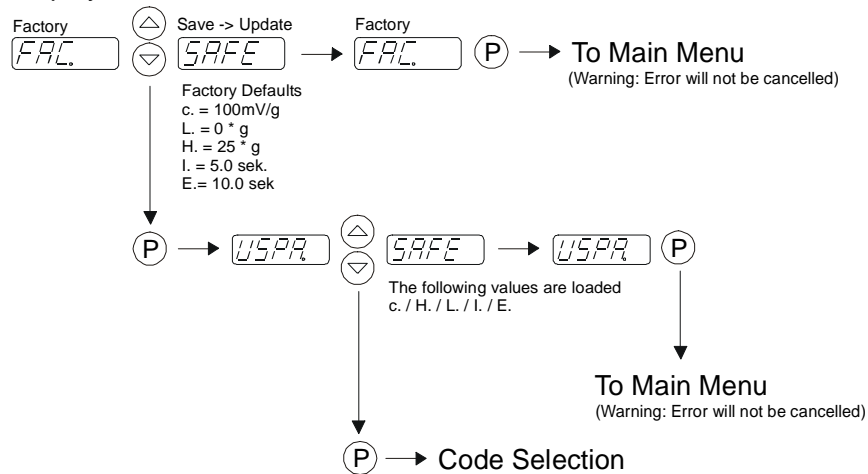
Setting and saving USER PARAMETERS

Display Code 143



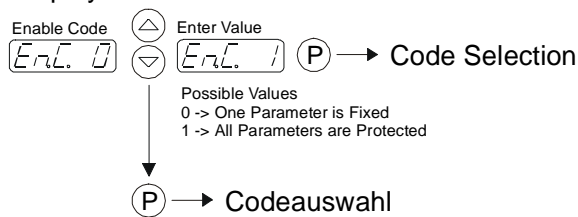
Reinstating USER or Factory Settings

Display Code 210 (Reset to factory settings)



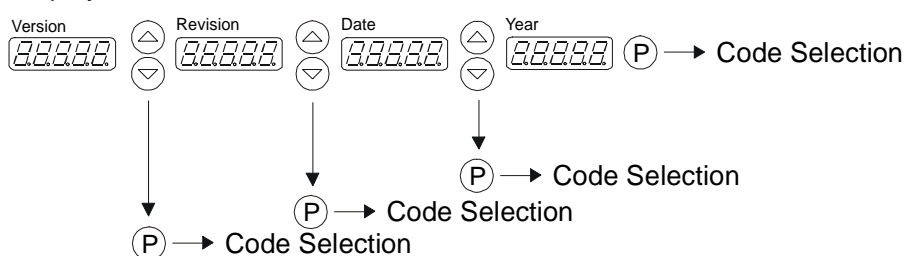
Parameter Access/Enable

Display Code 117



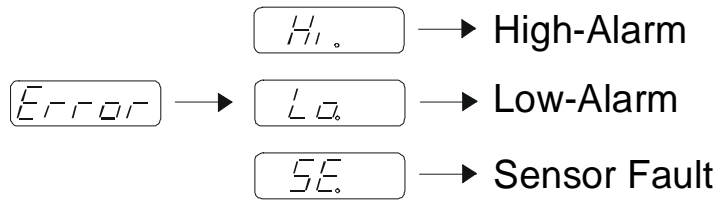
Display Program Version

Display Code 001

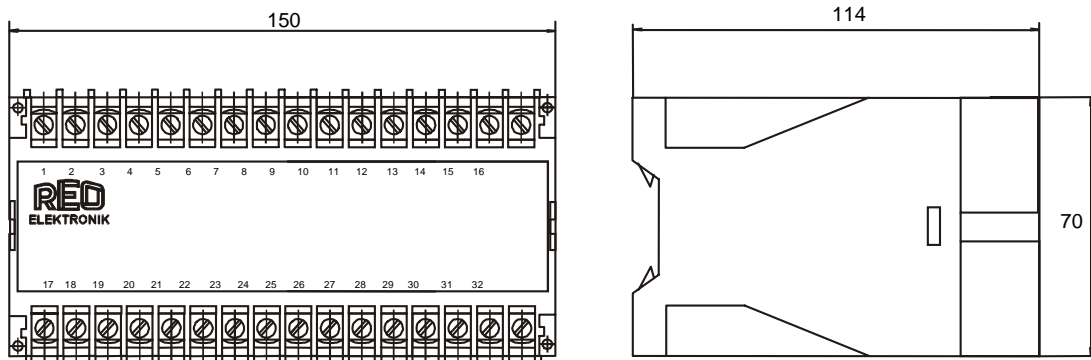


7.0 Fault Warning

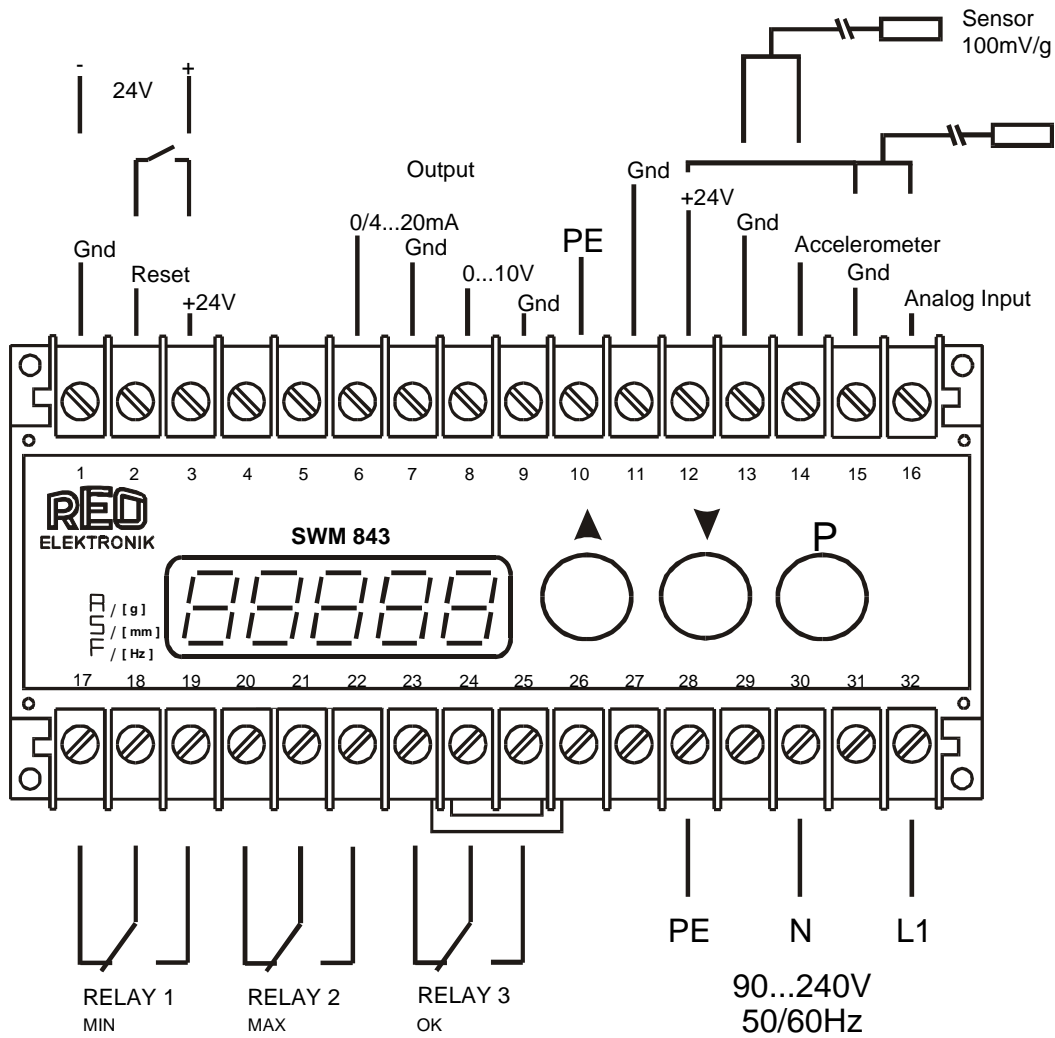
Fault/Error Message Displays



8.0 Dimensions



9.0 Connection Diagram



10.0 Ordering Codes

Monitoring Unit for Feed Systems	REOVIB SWM 843	ID-Nr.: 84301
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11.0 Accessories

Accelerometer	REOVIB Sensor 601 A	ID-Nr.: 84401
Cable for Sensor 2m long with plug		ID-Nr.: 84420