



Operating Instructions

REOVIB Type 51401

Thyristor control unit for vibratory feeders

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REOVIB
FOR VIBRATORY FEEDER SYSTEMS

Thyristor control units for use with vibratory feeder units

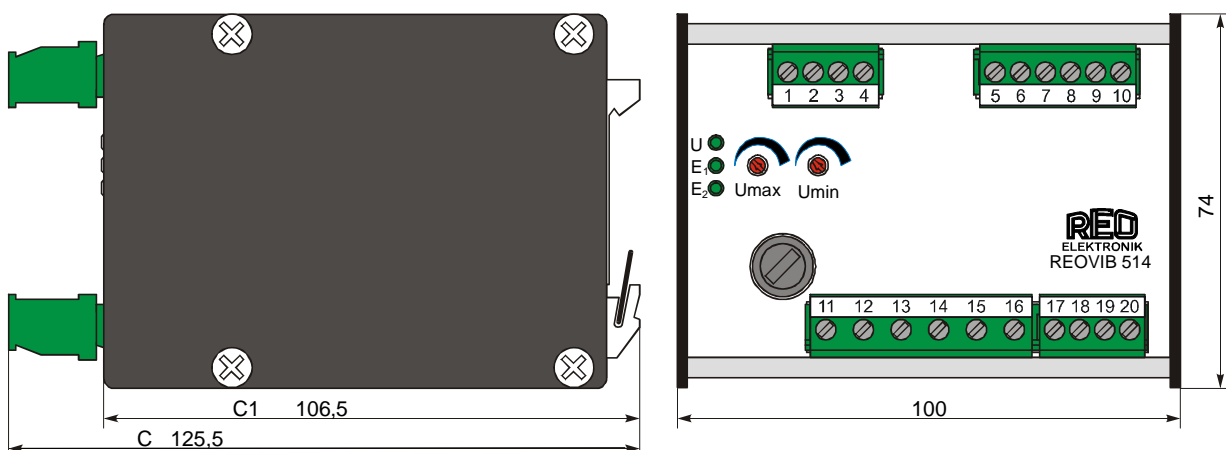
The REOVIB 514 range of control units are suitable for powering vibratory feeders which have a mechanical vibrating frequency which the same as, or double that of mains frequency. The adjustment of feeder throughput is achieved by using a triac with phase angle control. The set point for the feeder throughput can be derived from a potentiometer, a signal voltage 0...10 V or a signal current 0/4...20 mA. The set point input is isolated from live mains. The set point range can be adjusted to suit the feeder unit by using trimmers "Umin" / "Umax" (see "effects of trimmers Umin / Umax").

The units can operate with feeders which have a mechanical vibrating frequency of 50 Hz or 100 Hz, ie 3000/6000 vibs/min (for 60Hz mains supply this would be 60 Hz or 100 Hz, ie 3600/7200 vibs/min). The mechanical frequency is determined, externally, by the use of a link between terminals 19 and 20; without link = 50 Hz or 3000 vibs/min and with link = 100 Hz or 6000 vibs/min. An enable input is provided on terminals 8, 9 and 10 for power free switching of the output (eg from a PLC). This input can be operated from external contacts or with a signal voltage 12...24 V. The unit is enabled when the contacts are closed or when a signal voltage is applied. The enable input is isolated from the mains. An additional control input is provided on terminals 1 and 2 for use with other control units, such as a track controller. When these inputs are not used, then each pair of terminals 1 and 2, as well as 8 and 9 must be linked.

The unit is supplied in a simple to install modular housing which is suitable for both DIN rail mounting (EN 50022-35) and back panel mounting. The terminals have safety covers, according to VBG 4 standards.

Technical data

Type REOVIB 514	51401
Supply voltage	230 V, + 6 % / - 10 %, 50/60 Hz
Output voltage	0...210 V
Output current	0.5...6 A
Set point source	Potentiometer 10 kΩ 0...10 V, DC Ri 20 kΩ 0...20 mA Ri 500 Ω
Enable input	Contact / 12...24 V, DC signal voltage Ri 10 kΩ
Ambient operating temperature	0...45 °C
Dimensions (h x w x d)	74 x 100 x 125,5 mm
Enclosure standard	VBG 4
Other standards	EN 61000-6-2, EN 61000-6-4, VDE 0160
Fuse	FF 10 A (5 x 20 mm)



Ordering Code: REOVIB 51401 ID No.: 51401.10

Technical Safety 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 damage or serious injury

- 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 electric connections must be covered!**
- **Earth connection must be checked for safe function after assembly!**

Specified Use

The units described herein are electrical controllers for installation in industrial plant. They are **not** suitable for domestic use. Units with exposed electrical contacts are only suitable for installation in control panels.

These units conform with the standard 2004/108/EC

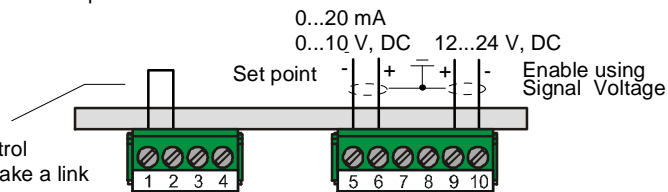
EMC Standard

Connection Drawing

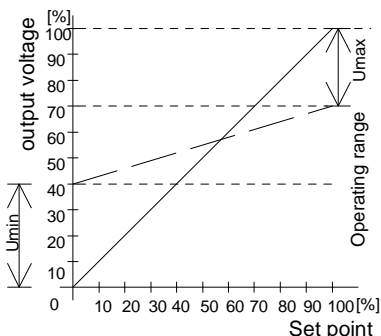
Setpoint source voltage signal
 0...10 V, DC or current 0...20 mA
 Enable signal voltage 12...24 V, DC
 Control cables should be screened
 Bond screen to earth on unit

Setpoint and enable control terminals are mains potential free

Connection for external track control
 e.g. REOVIB 513, if not using make a link



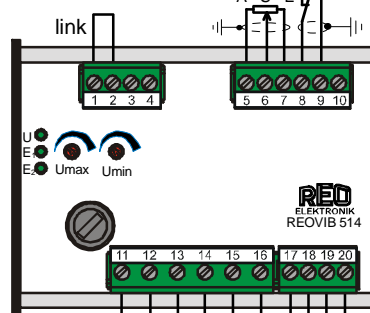
Effects of Umin and Umax trimmers



Adjustment:
 Connect controller according to diagram.
 Adjust setpoint to minimum and inhibit unit.
 Switch on mains supply and enable unit.
 Slow increase the setpoint to maximum and monitor the load condition (if possible measure the current).
 On reaching maximum, limit the output with trimmer Umax and then set the minimum set point value with trimmer Umin.

Only use type FF 10 A fuses
 (very fast acting characteristic)

Setpoint source using 10 kOhm Potentiometer
 Close contacts to enable



Selection for 3000 / 6000 cycles / min
 Fit link for 6000 cycles / min

Fit link for 0...20mA Setpoint source

230V, 50/60Hz
 L
 N
 PE

To prevent noise the earth must be bonded if possible to a flat mounting surface eg mounting plate.