

Thyristor control units for use with resistive and capacitive loads

The adjustment of the power is achieved by using a triac with phase angle control. The set point for the output power can be derived from a potentiometer, a signal voltage 0...10 V, DC or a signal current 0...20 mA, DC. The set point range can be adjusted to suit the load by using trimmers "Umin"/"Umax" in the front panel. (see "effects of trimmers Umin/Umax").

An enable input is provided for power free switching of the output (eg from a PLC).

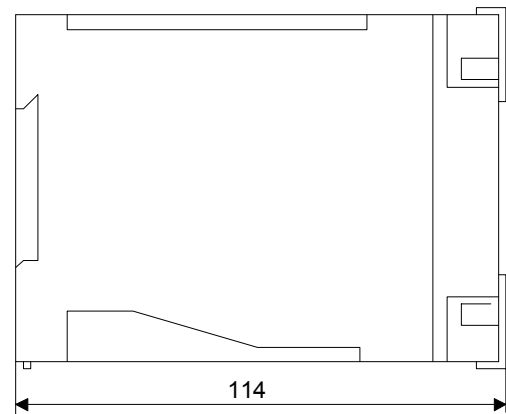
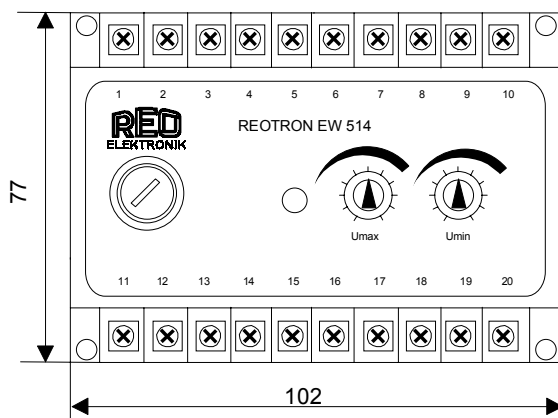
To prevent surges of the load a softstarter is provided on the thyristor control units. This softstarter becomes active with all switching (mains "ON", enable "ON") and set point adjustment.

An internal short-circuit fuse is provided to protect the semiconductors against unacceptable short-circuit currents. Line protection and thermal overload are to be provided externally. The output voltage of the unit is fed back internally over a voltage transformer and compared with the preselected set point in a regulating step. Deviations due to mains variations or load changes are controlled correspondingly.

This 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 REOTRON	EW 5143	EW 5146
Supply voltage	230 V, + 6% / - 10%, 50/60 Hz	
Output voltage	0 ... 220 V	
Output current	0,5 ... 6 A	0,5 ... 8 A
Set point source	Potentiometer 10 kΩ 0 ... 10 V, DC Ri 20 kΩ 0 ... 20 mA, DC Ri 500 Ω	
Enable input	Contact / 12 ... 24 V, DC signal voltage Ri 10 kΩ	
Ambient operating temperature	0 ... 45 °C	
Dimensions (w x h x b)	80 x 102 x 114 mm	
Enclosure standard	VBG 4	
Other standards	EN 50081-2, EN 50082-2, VDE 0160, VBG 4	
Fuse	FF 8 A	FF 10 A



Ordering Code: REOTRON EW 5143 ID-Nr. 5143
 REOTRON EW 5146 ID-Nr. 5146

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 serious injury or damage.

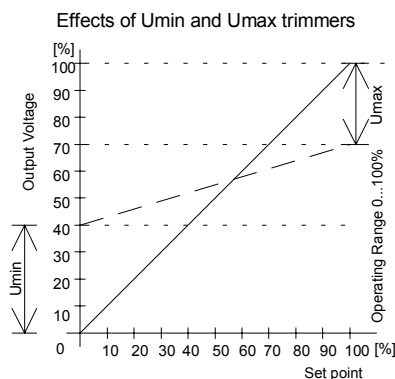
- Isolate from mains before installation or dismantling work, as well as for fuse changes or post installation modifications.
- Observe the prescribed accident prevention and safety rules for the specific application.
- Before putting into operation check if the rated voltage for the unit conforms with 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 electric connections must be covered!**
- **Earth connection must be checked for safe function after assembly!**

Use According to Destination

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

Connection Drawing

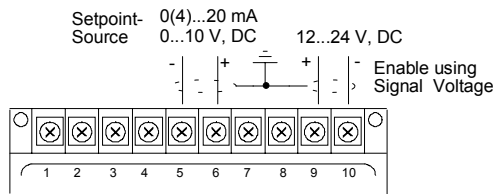
Setpoint source voltage signal
0...10 V, DC or current 0...20 mA
Enable signal voltage 12...24 V, DC
Control cables should be screened
Bond screen to earth on unit



Adjustment:
Connect controller according to diagram.
Adjust setpoint to minimum and inhibit unit.
Switch on mains supply and enable unit.
Slowly 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 FF8 semiconductor fuses as replacements.

Setpoint and enable control terminals are mains potential free



Setpoint source using 10 kOhm Potentiometer
Close contacts to enable

