

Energy-efficient rectifier for powering laboratory simulation devices in virtual robotic systems comprises grid, transformer, secondary winding of which is connected to first and second diodes, first, second, third, fourth, fifth and sixth thyristors and to second resistor. Cathodes and control electrodes of the thyristors are connected to outputs of first and second control systems. Capacitor is connected, respectively, to third and sixth, and fourth and fifth thyristors. Inputs of the control systems are connected to third diode and, via comparator and current sensor, to third resistor in circuit of primary winding of the transformer connected to first, second, third and fourth normally closed switches, inputs of "AND" logic element, one input of which is connected to third diode, and output is connected to pulse amplifier. Switch control system, second comparator, grid voltage sensor are connected in series. Both terminals of grid voltage are connected to the voltage sensor and to parallel-connected third switch, fourth diode and fourth normally closed switch, fifth diode.