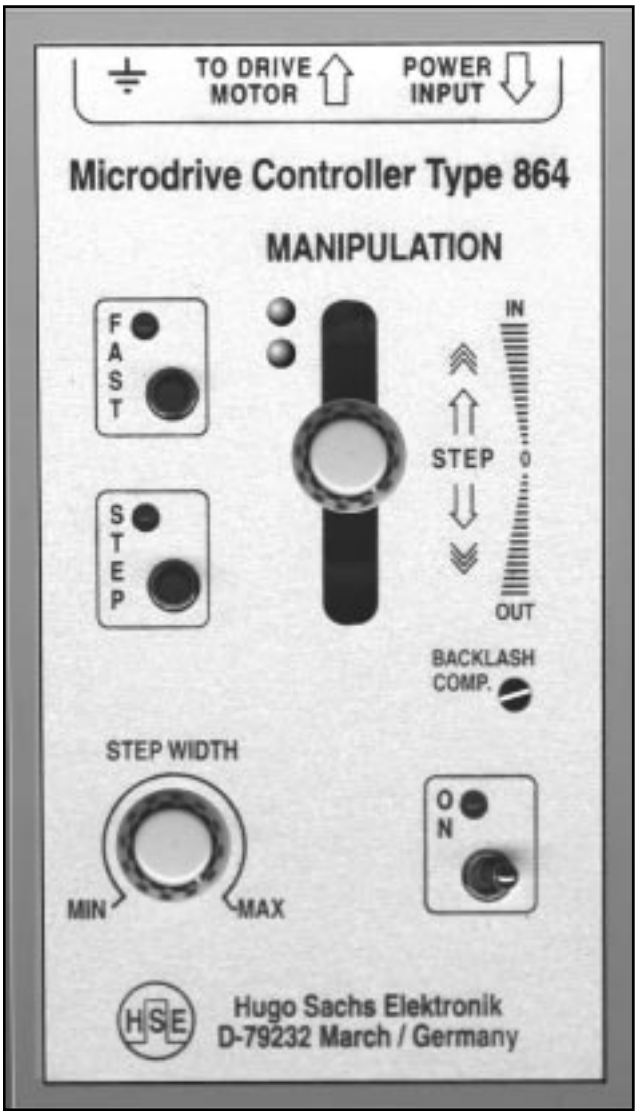
HSE-Harvard Microdrive Controller 864



- Single-axis motorized micrometer drive controller
- Alternative to hydraulically-operated micro drive

Catalog No.	Product
CGS 8082.38	Microdrive Controller 864, 115 VAC, 60 Hz
CGS 8083.38	Microdrive Controller 864, 220 VAC, 50 Hz

The HSE Microdrive Controller Type 864 is a single-axis control unit with microprocessor control for operating motorized micrometer drives (vernier controls) with DC motor. It has been specially developed to meet the requirements in physiological and pharmacological research. It is ideally suitable as control unit for the remote operation and vibration-free movement of microelectrodes or capillaries, e.g. in intracellular potential recording, patch clamp experiments or stereotaxic investigations in the brain. When used with either the micrometer drive HSE 864/1 or 864/2, the Microdrive Controller thus represents a complete alternative to hydraulic micro drives which have now become very expensive. Apart from its compact size, similar to a remote control for a TV set, a special feature is the combination of continuous and stepping linear operation. In the continuous mode the micrometer drive is operated by the joystick shift in the direction IN or OUT. The drive speed is proportional to the displacement of the joystick. In the switch mode the micrometer drive is moved by the joystick either IN or Out by a preset step. The size of the step can be adjusted continuously with the STEP WIDTH potentiometer from ~0.5 µm to approx. 0.1 mm per step. This operating mode is particularly useful when advancing glass microelectrodes into the cell membrane for intracellular potential recording. In order to reduce interference emission to a minimum, e.g. in the input circuit of a microelectrode amplifier, special attention has been paid in the design of the instrument to good electrical de-coupling and screening. The system consists of the Microdrive Controller 864, mains adapter, ground cable, foil-screened connecting cable for micrometer drive and operating instructions.

Specifications

Operating Mode	Pulse width modulation under microprocessor control
Accuracy	Real information on resolution obtainable, positioning accuracy, compensation of play and min/max displacement speed cannot be provided for controller alone; these are affected largely by drive mechanics, loading, sliding and sticking friction in guides, operating position, and manufacturing tolerances
Motor Voltage	10 to 15 V DC (depending on mains supply unit used)
Motor Current	Nominally 100 mA
Overload Protection	Output current is monitored continuously to protect drive mechanics and motor; switch-off limit can be adapted by trimmer potentiometer to suit individual micrometer drive used
Continuous Operating Mode	Manual displacement proportional to movement of joystick in IN or OUT direction
Stepping Operating Mode	Step-wise displacement by amount set on STEP WIDTH potentiometer
Fast Mode	Changes displacement speed for fast movement of micrometer drive
Backlash Compensation	Backlash in gearing is compensated by means of additional displacement pulse on change of direction; pulse length can be adjusted to individual mechanism
Monitor LEDs	Brightness-modulated indicating LED for IN and OUT directions to indicate control voltage produced
Beep	Short audible signal when triggering pulse in stepping mode or error message on over-current switch-off
Supply	230 V AC (115 V AC) through external mains adapter to suit local supply, or directly by 12-15 V DC or AC, 150 mA
Dimensions, W x H x L	45 x 130 x 70 mm (1.8 x 5.1 x 2.8 in)
Weight	250 g (8.8 oz)