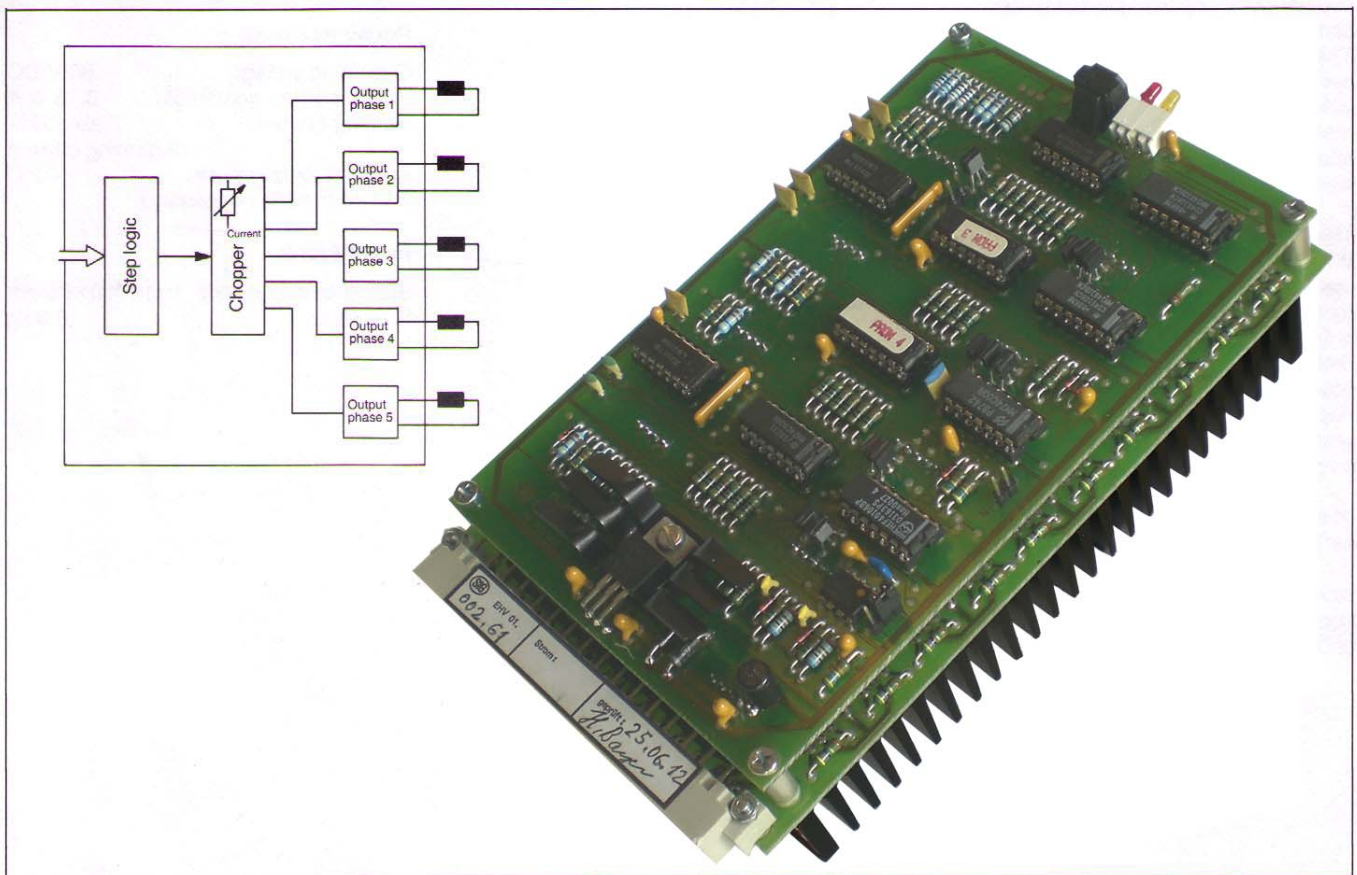




Stepping Motor Output Stage

Type **EHV 01.002**



Board in European dimensions for controlling 5-phase stepping motors

5 phase stepping motor output stage EHV 01.002

The stepping motor output stage EHV 01.002 is suitable for controlling 5-phase stepping motors with phase currents up to 3 amps in whole or half step operation (500 or 1000 steps per revolution). It comprises a logic section and an output section. The logic section transforms the control impulses into the corresponding time-staggered impulses for controlling the 5 phases. In the power section, these low-power impulses are converted to control currents for the relevant phases.

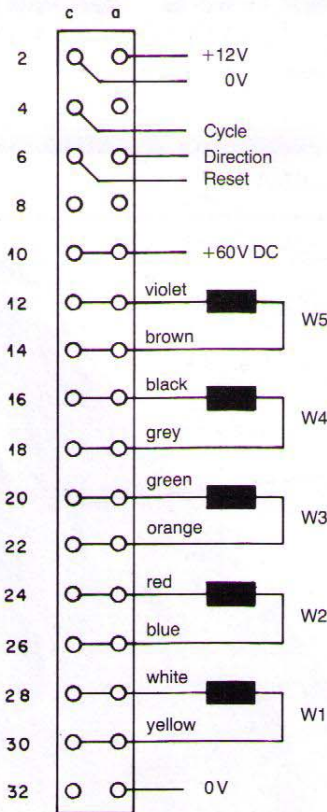
Due to the opposing current induced in the rotating motor, the dynamic torque falls steeply with rising step frequency. In order to counteract this effect, a cyclic counter-cycle constant current (chopper) control is applied to the motor windings. The voltage applied to the windings is cyclic-timed such as to produce a mean winding current of constant value. By this method of control, high torques are attained even at high operating frequencies.

The phase current is adjustable between 0.75 A and 3 A, common for all phases, with a 20 rev. trimming potentiometer. To measure the phase currents, an ammeter is incorporated in series in the stepping motor supply leads. Note that the current flow direction can be positive or negative, depending on the phase position. Clockwise rotation of the trimming potentiometer produces higher phase currents.

At standstill, the output stage has a fixed set automatic current reduction to 50% of the running current. A temperature monitor switches the output stage off at a cooling element temperature of 75°C, and on again automatically at 65°C. The

direction of rotation of the motor can be selected via a plug-in bridge on the output stage. This avoids tedious reversing of all 10 motor connections when changing direction (e.g. direction input logic H should alter from cw to ccw).

Connections:



Connector: DIN 41 612 a+c

Technical data:

Inputs:

Cycle (10 kΩ on high level)
 Direction of rotation (10 kΩ on high level)
 Reset (circuited as power-on-reset; low level means switch-off of power section).

Logic section:

Operating voltage +12V stab.
 max. current consumption 400 mA
 Input resistance 10 kΩ
 max. frequency 50 kHz
 Impulse breadth min. 10 μs
 Logic level high >8 V
 Logic level low <3 V

Power section:

Operating voltage 60 V DC
 Phase current adjustable 0,75–3 A
 Holding current abt. 50% of running current
 Ambient temperature 40°C
 (forced cooling necessary)

Dimensions:

European dimensions 100×160×65mm
 Weight 0,8 kg

All information, specifications and data in this leaflet are subject to change without notice.



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