

Assembly instruction / User manual

Chopper controller for DC-motors, type DGS 24/03-576



Technical data under reserve technical changes

Please read these instruction before using and please keep safe for future.
You may download further technical advice under www.eph-elektronik.de.

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Amtsgericht Stuttgart HRB301477
Zertifiziert nach ISO 9001:2015

USt-IdNr.: DE145769572 | Steuer-Nr. 55001/11690
Kreissparkasse Heilbronn 005 880 005 (BLZ 620 500 00)
IBAN: DE 20 6205 0000 0005 8800 05 | SWIFT: HEIS DE 66

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1. Safety instruction and safeguarding

1.1. Installation note

An external mains adapter is required for the electrical supply of the speed controller EPH 576. If this mains adapter is itself supplied with a voltage >50V DC or >75V AC the following points have to be considered:

The unit should only be installed by qualified specialist personnel. Installation and operation of the unit should comply with the local regulations for electrical installations as well as health and safety regulations. The protection of people and property must be warranted by applying the currently applicable safety regulations (VDE, electrical safety regulations, IEC, etc.). High start-up currents can occur at the moment of tuning on a controller device / mains adapter due to charging process of the intermediate circuit. An effective safeguard is therefore required on the mains input side (e.g. a C-Rated 16A line circuit breaker). The use of RCD circuit breakers before control unit / mains adapter is not recommended because of the leakage currents generated by EMC interference suppressing devices. The regulator card / mains adapter must not be operated without an effective connection to earth! The connection to earth must comply with local regulations.

1.2. ESD-Protection / Hazard note

Attention during installation of the electronic board!	Danger to burn - Beware!	Danger to fire- Beware!	Danger to life-Beware!
<p>It must be warranted on your part that there is sufficient ESD-protection.</p> 	<p>Parts of this controller card can be reach a temperature up to 80°C. Increased risk at controller cards without protective cover.</p>	<p>Unprofessional handling and installation can cause a fire.</p>	<p>Parts of this controller card are under intermediate circuit voltage and remain energised >50VAC respectively 75VDC after turning main power off. Coming into contact with the terminals, lines and unit parts can cause serious injuries or result in death!</p>



2. Getting started DGS24/03-576 with 7/3-pole spring clamp terminal

1. Select modes: For external reference value from 0 to 5V DC or a potentiometer 10kOhm put jumper to "5V" (see connecting diagram). For external reference value from 0 to 10V DC put jumper to "10V" (see connecting diagram)
2. Connecting of the control wires see connection diagram, page 5.
3. Connect DC-Motor to terminals X1-3 and X1-4. Connect power supply to terminal X1-1 (minus) and terminal X1-2 plus (10 to 36V DC)
4. Now switch on power supply.
5. LED green (power on) illuminates on pcb.
6. With preselected target value the motor voltage can be adjusted from 0 to 24V DC, if the input enable is active (voltage 5 to 36V DC at clamp X1-7).
7. Motor direction can be changed with a voltage (5 to 36V DC) on terminal X1-6 (e.g. bridge from clamp X1-5 to X1-6)

3. Technical features

- Power supply Ue: 10V DC – 36V DC
- High frequency approx. 16kHz, this results in low-noise operation
- Electric connection via spring clamp terminals
- High level of effectiveness by using Power Mosfets
- Mounting: mounted with screws or on a 35mm mounting rail

The dispose of this product has to be done via separate electrical- and electronic equipment disposal.



4. Technical data

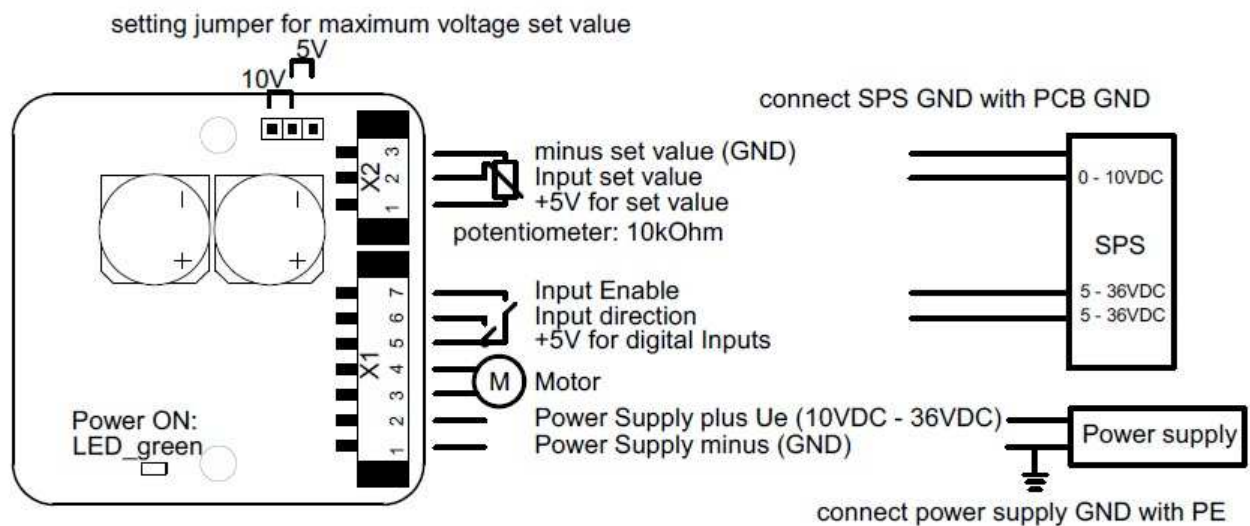
Model:	DGS 24/03 P: circuit board version DGS 24/03 M: mounting rail 35mm
Protection:	external fuse: 3AT
Environment temperature:	5° to 45°C
Relative air humidity:	18% to 85% (non-compensating)
Current limiting:	3A
Motor voltage:	max. 0,95 x Ue

5. Connecting

5.1. Control connection

- | | |
|----------|--------------------------|
| • X1 - 1 | power supply minus (GND) |
| • X1 - 2 | power supply plus (Ue) |
| • X1 - 3 | motor wire 1 |
| • X1 - 4 | motor wire 2 |
| • X1 - 5 | +5V for digital inputs |
| • X1 - 6 | signal „direction“ |
| • X1 - 7 | „enable“ signal |
| • X2 - 1 | +5V for reference value |
| • X2 - 2 | speed reference value |
| • X2 - 3 | GND for reference value |

5.2. Connecting diagram



6. CE Declaration of conformity

The manufacturer

EPH elektronik Produktions- und Handelsgesellschaft mbH
Rudolf-Diesel-Straße 18
DE-74354 Besigheim-Ottmarsheim
Tel.: +49(0)7143/81 52 - 0

herewith declares that the product:

Product:	chopper controller for DC motors
Type	DGS 24/03/P – 576 DGS 24/03/M – 576

is conform to the mentioned EC-regulation in connection with the test peripheral devices:

Regulation 2014/30/EU – EMC-directive

The following harmonised standards are applied:

DIN EN 55011 VDE 0875-11:2011-04	EMI emission
DIN EN 61000-6-2 VDE 0839-6-2:2006-03	EMI immunity

The transistor controller`s conformity to the mentioned standards doesn` t concern the complete system. An extra EMC-test would be necessary to get the conformity for the complete system.

If the transistor controller is integrated in a machine, the machine has to comply with regulation 2006/42/EG (machines directive). If not operating is not allowed.
If the supply voltage of the machine is > 50V AC respectively 75V DC, the regulation 2014/35/EC (low voltage directive) is to be observed.

Name authorised person:	Reiner Mannsperger
Address authorised person:	see address of the manufacture
Professional Competence:	manager development
Date:	30 th June 2017

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