Software manual

Version. 1.1

1) Available commands

Types of commands:

- Global – Can be called everywhere. (a)
- Group – Can be called just when the correct command group is selected. (b)

After starup of the MCU no command group is sellected. To sellect command group type exact name of the group. After hitting "enter" the command group will be sellected.

```
>> [command group]
```

After command group sellection you can type desired command with argument (if specified). To exit the command group use the "back" command (a).

```
>> [command group] >> [command] [argument]
```

a) Global commands

- clear – Clears output terminal.
- back – Exits current command group.
- ~~help – Prints out all available commands~~. [Not implemented]

b) Command groups

CONTROL <ct>

- **mode <new mode>** – If second argument is given(optional: mode), then it specifies desired mode. Options:
  - **reg** – regulation mode
  - **man** – manual mode
- **start** – Starts the motor from 0 RPM. If *regulation* mode is sellected – motor spins with 100% duty up to SETPOINT_DEFAULT rpm (config.h) after which the regulation starts.
- **stop** – Stops the motor.
- ***duty <new duty>*** – Prints out currently set duty. If second argument is given(optional: number), then it specifies new duty. **(*man* mode)**
- **rpm <new rpm>** – Prints out currently set RPM. If second argument is given(optional: number), then it specifies desired RPM. **(*reg* mode)**
- **s <n>** – Sets speed saved in: (#define SPEEDS { 1440, 1596, 2100, 2800 } – config.h), where n is array index + 1. **(*reg* mode)**
- "**+**" – Increases speed from current speed index n. **(*reg* mode)**
- "**-**" – Decreases speed from current speed index n. **(*reg* mode)**

Brake <brake>

- on – Brake is acivated.
- off – Brake is deactivated.

Direction <dir>

- cw – Motor is set to turn clockwise.
- ccw – Motor is set to turn counter clockwise.
- chDir – Changes motor turn direction.

2) Configuration

Configuration is done by modifying config.h file.

3) Software limitations and known issues

- Missing help command
- PWM frequency cannot be changed (20 kHz)
- Regulation period cannot be changed (2 ms)