

ZE026-01-001



- Driving one Elliptec Motor
- USB communication on board
- Programmable via ISP
- Single +5V/1A power supply
- Sensor connector through quadrature encoder
- Two LED indicators indicating software states
- additional μC pins for external signals

Technical Data

| | | | |
|--|-----------------------------|-------------------|----------------|
| Microcontroller | ATMega644 | Power stage | IRF2302 |
| Operating Speed | 20 MHz | min. power supply | +5V / 1A |
| power supply ATMega644 | +5V via USB | max. power supply | +7V / 2A |
| Quadrature encoder connector | JST04 | | |
| power supply Encoder | +5V via USB | Dimensions | 51 x 51 x15 mm |
| USB communication | Via FT232 - USB/UART bridge | | |
| Microcontroller pin for external signals | 5 pins | | |

Product Description:

The ZE026-01-001 is a small X15G - driver kit based on an ATMega644 microcontroller and an IRF2302 power stage. The ZE026-01-001 is designed for driving one Elliptec X15G Motor via USB commands. If position feedback is required, an external quadrature encoder can be connected on the board via JST04 connector.

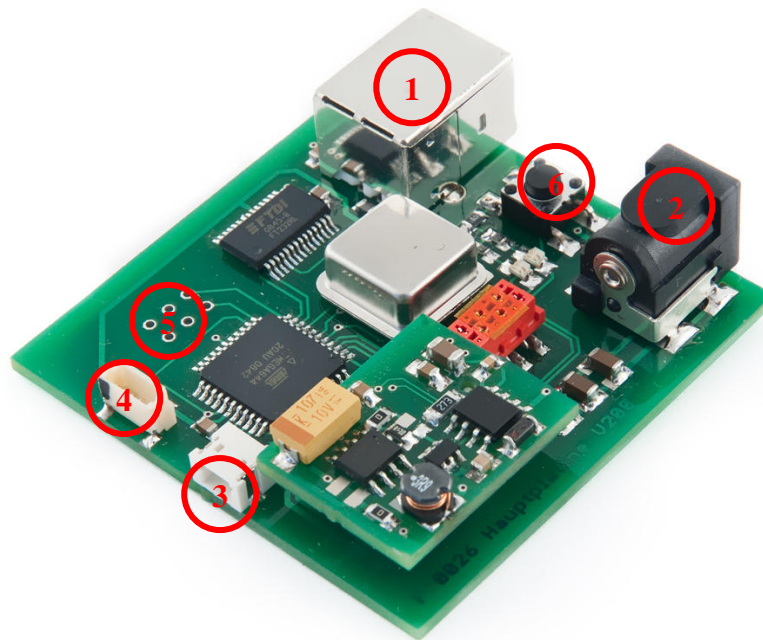
Because of the large Flash/SRAM, the fast 20MHz operating speed and the additional 5 microcontroller pins which can be accessed via a Harting connector, the ZE026-01-001 board is also suitable for building own applications.

Implemented software modules:

- Detecting the optimal driving frequencies in both directions
- Continues motion forward / backward of the X15G motor
- Stop motor motion
- Forward / backward motion of the X15G for defined time which is send via USB-commands.

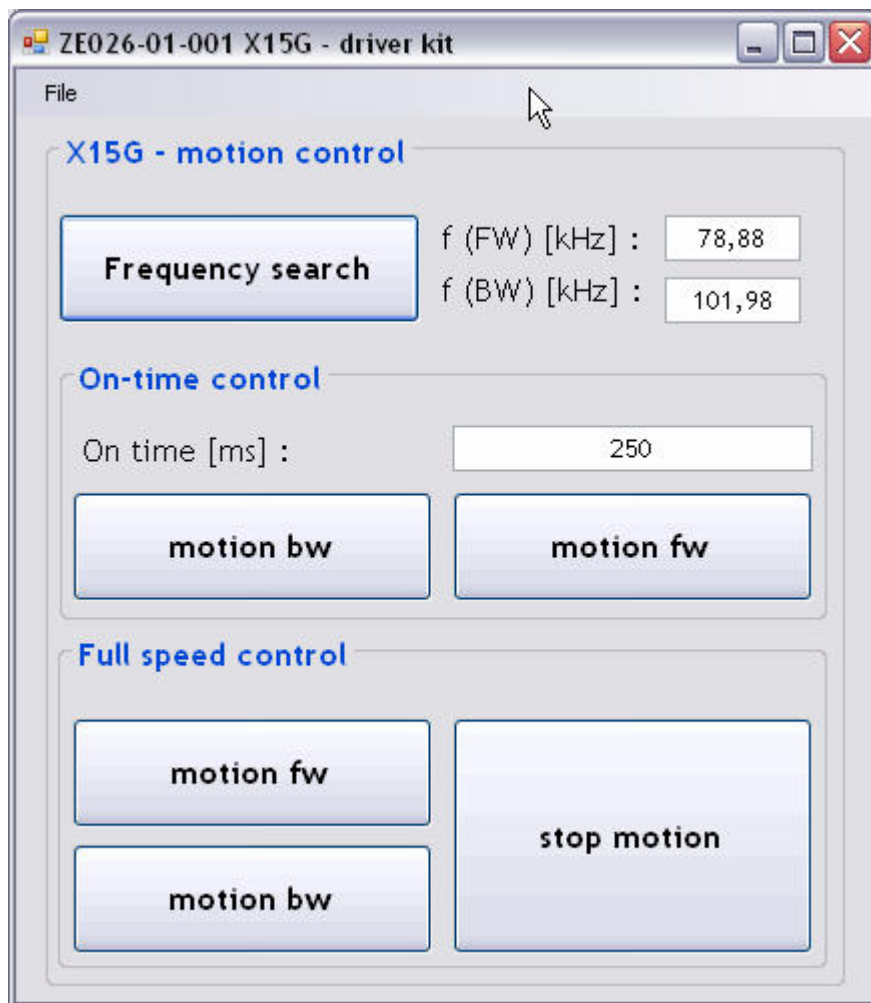
Additionally the ZE026-01-001 can be upgraded with new software modules which can be found on the Elliptec website.

Pin - Connection:



1. USB connector
2. +5V/1A Power supply for power stage
3. Motor connector
4. Quadrature encoder connector
5. additional μC pins for external signals
6. reset button

PC - Interface:



Frequency search:

- After a power on reset or simple reset the driving frequencies of each motor have to be detected. Therefore the “Frequency search” button has to be pressed.

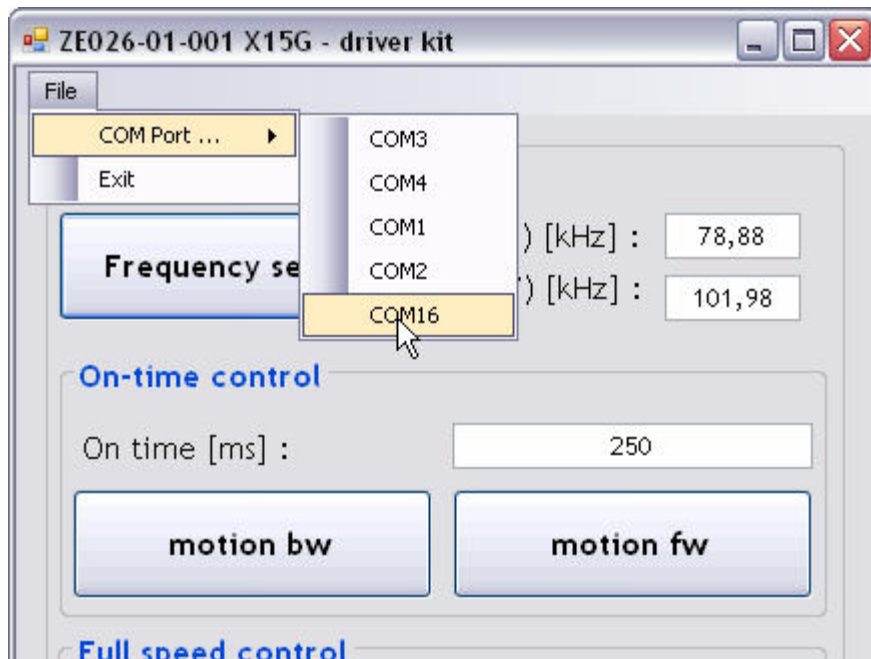
motion fw:

- By pressing the “motion fw” button in the “On-time control” section the motor is initiated to run in forward direction for the given time in the “On time [ms]” text box. In the “Full speed control” section the motor is running until the “stop motion” button is pressed.

motion bw:

- By pressing the “motion bw” button in the “On-time control” section the motor is initiated to run in backward direction for the given time in the “On time [ms]” text box. In the “Full speed control” section the motor is running until the “stop motion” button is pressed.

Initialization of the driver Kit



Before the driver kit is ready to be used, the com-port has to be selected like in the picture above.

Initialization of the driver Kit - error messages



If the wrong COM-Port is selected an error message is displayed like in the picture above.



If a wrong “On-time” value is selected an error message is displayed like in the picture above. Valid values are between 1 ... 9999 ms.

Communication parameters

| | |
|-------------|---------|
| Baud rate: | 500.000 |
| Data Bits : | 8 |
| Parity: | no |
| Stop Bits: | 1 |
| Handshake: | none |

Commands

Each command contains 10 characters and is composed as followed :

- start sign, address, motion time, xx , end sign
- each command is answered with some information's like frequencies or motion time, depending on the command and an end sign (Eot)

| | |
|-------------|---------------|
| Star sign : | 0 |
| Address : | 5 |
| Command | |
| Motion time | 0001 ... 9999 |
| | xx |
| End sign | B |

The following commands are supported by the ZE026-02-001 kit:

| | |
|---|---|
| 9 | Detecting the com port |
| 0 | Forward motion for defined time |
| 1 | Backward motion for defined time |
| 4 | Detecting the optimal driving frequencies |
| 6 | Forward motion - nonstop |
| 7 | Backward motion - nonstop |
| 5 | Stop motion |

Examples:

| Command | Description | Answer |
|---------------|----------------------------|------------|
| 054xxxxxxxxxB | Frequency search | 250;200Eot |
| 0500255xxxB | Forward motion for 255 ms | 255Eot |
| 0510255xxxB | Backward motion for 255 ms | 255Eot |
| 056xxxxxxxxxB | Forward motion - nonstop | Eot |
| 057xxxxxxxxxB | Backward motion - nonstop | Eot |
| 059xxxxxxxxxB | Detecting com port | COMEot |
| 055xxxxxxxxxB | Stop motion | Eot |