Simplex Motion SM-Comboard

simplex motion

The SM-Comboard provides a convenient way to get started with the Simplex Motion motors. Connect to a PC for setup, running and logging of the motor. Switches and potentiometer controlling inputs. Indication when motor is generating excess energy from braking.

Features
- USB mini B connector and a USB to RS485 Modbus converter (FT234XD) to provide communication to the motors.
- 1 Potentiometer connected to input IN1 and the motor 3.3V to provide an analog input.
- 4 switches connected between input IN1-4 and GND to provide digital inputs
- A 2.5x5.5mm barrel power connector. 12-24V on center pin depending on motor model.
- 2-pol terminal power connector
- Motor connector, (S14B-PHDSS)
- Expansion motor connector (S14B-PHDSS)
- Communication connector (DF13-5P-1.25H)
- Over voltage protection.

Over voltage protection
The over voltage protection is activated when the generated voltage from the motor is higher than the supply. When the over voltage protection is active, a red LED is lit and the excess power is burnt. *Note: The over voltage protection is dimensioned to be used with an unloaded motor. If breaking larger loads, an external protection is needed.*

Available cables:
- Power and communication, SE and SC series*
- Power and communication, SH series**
- Communication cable (all series)**

*default, **available upon request

Expansion connector:
The additional 14-pin connector marked EXP is used for connection an additional motor. The motor will be accessible through Modbus from the COM board. It is also possible to set up communication between the motors using CAN. The CAN bus can be terminated by shorting the solder pads marked CANbustermin.
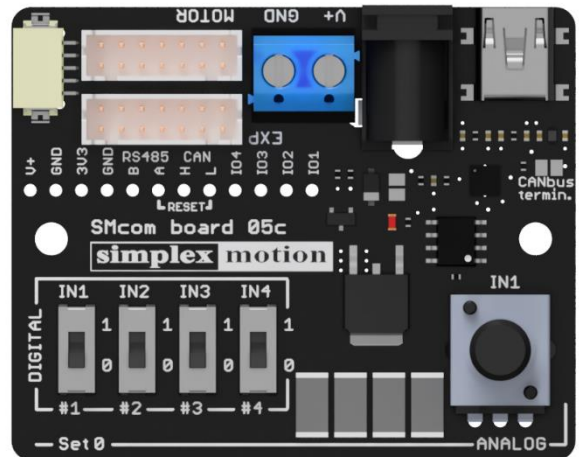
Simplex Motion Tool software:

Use the Simplex Motion Tool software to test run, monitor and configure the motors. The software is available from the Simplex Motion webpage: www.simplexmotion.com

FAQ
Unable to connect to the motor
The demo panel will appear as a serial COM port.

IN1 is always 0
The potentiometer and switch 1 are both connected to IN1.

*Motor doesn't start up when I connect the USB*
The USB is not used to power the motor. Connect external power to the 2.5x5.5mm barrel socket or the 2-pol power terminal.

The COM port doesn't show up
Make sure the driver for the FT234XD chip is installed. The driver is available from the chip manufacturer's webpage: www.ftdichip.com

How to disable the over voltage protection
The over voltage protection is disabled by short circuiting the solder pads on the board.
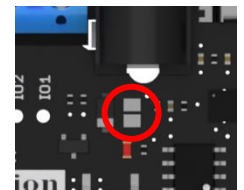
The over voltage protection keeps blinking
The motor is generating much breaking energy, resulting in over voltage in the circuit. Monitor the over voltage circuit as it becomes hot if too much energy is dissipated. Consider changing the movement parameters or implement an external voltage protection circuit for the system.