Features

- Programmable motion
- Built-in PLC with more than 200 instructions;
- Free software for parameters setting and programming
- Communication interfaces USB and RS-485
- Real-time stepper motor control by Modbus commands;
- Autonomous operation according to a user program;
- Programmable inputs and outputs;
- Fast inputs for processing data from an encoder
- Smart morfphing function to keep torque at high speeds

Programmable Stepper Motor Controller, 1.5A, 12 → 36V, RS-485 Modbus, Step/Dir, potentiometer

RS Stock No.: 434540

RS PRO is the own brand of RS. The RS PRO Seal of Approval is your assurance of professional quality, a guarantee that every part is rigorously tested, inspected, and audited against demanding standards. Making RS PRO the Smart Choice for our customers.

Product Description

The stepper motor controller is designed to operate with motors with current per phase up to 1.5 A. This model offers program motion, real-time control via USB or RS-485 Modbus, STEP/DIR positioning, and analog speed control. Smart morphing function provides better torque at high speeds. The controller provides excellent motor dynamics and high torque performance.

Depending on the task, the controller can be used in one of the control modes – program mode to execute a customer's motion algorithm, real-time control by Modbus commands via RS-485 or USB interface, pulse position control for implementation of positioning tasks, speed control with a potentiometer - for tasks of accurately maintaining and regulating speed.

The program mode of the controller is designated for autonomous operation according to a given user program and for direct control of a stepper motor using the Modbus protocol. The controller can be pre-programmed similarly to a general industrial PLC using hundreds of motion, logic, mathematical functions, timers, cycles, interruptions, and many other possibilities. The software for adjusting the device, assembling user programs assembling and motor control is offered free of charge. The controller provides the function for debugging user programs. This function makes it easier to write long and complex operation algorithms and allows for finding errors quickly at the stage of user program debugging.

The RS PRO software is available for download from here: https://www.rs-online.com/designspark/rs-pro-software-and-manuals

General Specifications

Compatible Motor Type	2-phase or 4-phase stepper motors
Operating Modes	• Program control, • real-time control by Modbus commands via USB or RS-485, • pulse position control with logic signals Step/dir/enable, • speed control with built-in potentiometer
Communication interfaces	USB, RS-485
Communication protocol	Modbus ASCII/RTU
Applications	Industrial automation, sorting and packaging machines, robots, welding machines, laboratory and research equipment

Display	
Status operation indicator	LED indicators for displaying control mode, RUN/STOP status, error indicator, USB and RS-485 communication process, and digital I/O signals status

Basic Specifications

Stepper motors	Current per phase up to 1.5A
Supply Voltage	12VDC to 36VDC

Max Current per Phase (maximum setting)	1.5A (set independently for acceleration, deceleration, and constant speed operation)
Max Current per Phase (minimum setting)	0.15A (set independently for acceleration, deceleration, and constant speed operation)
Holding current	0.15 – 1.5A
Microstepping	1/1, 1/2, 1/4, 1/8, 1/16, 1/32, 1/128, 1/256
Steps per revolution (@1.8° motor)	200, 400, 800, 1600, 3200, 6400, 25600, 51200

Inputs/Outputs	
Digital Inputs	8 (2 fast + 6 general-purpose inputs)
Functionality Of Digital Inputs	programmable inputs (including for connecting an encoder or external sensors)
Digital Outputs	10
Functionality Of Digital Outputs	Programmable outputs

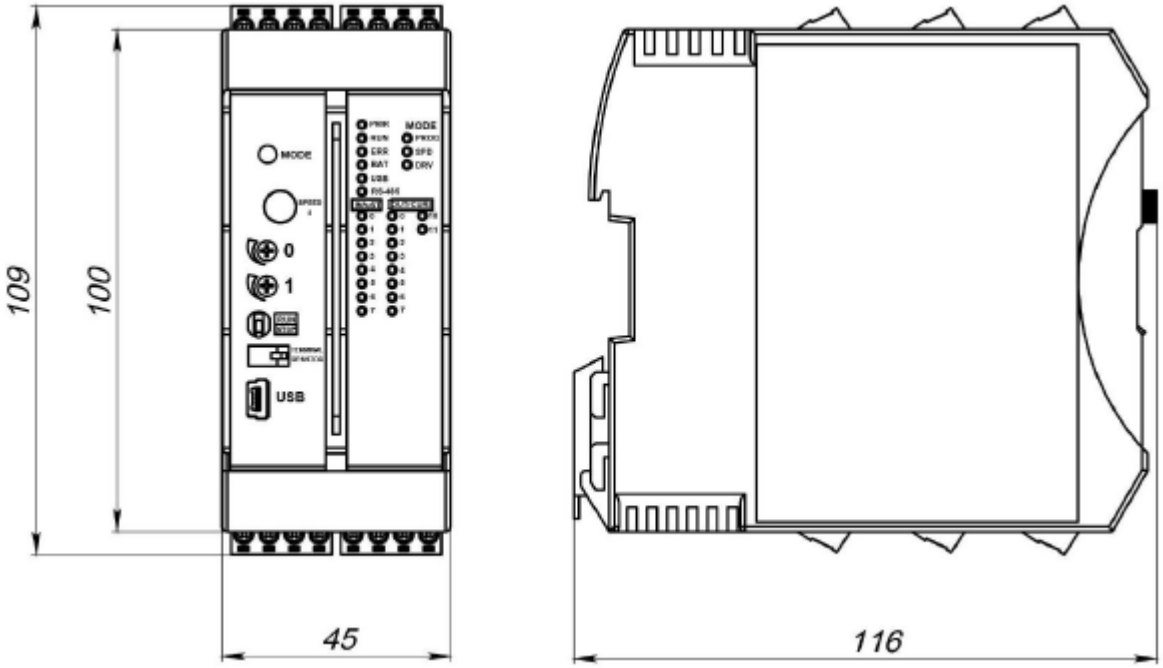
Mechanical Specifications

Mounting Style	DIN-rail Mount
Dimensions	116 mm x 45mm x 109 mm
Height	109 mm
Width	45 mm
Depth	116 mm
Weight	0.3 kg

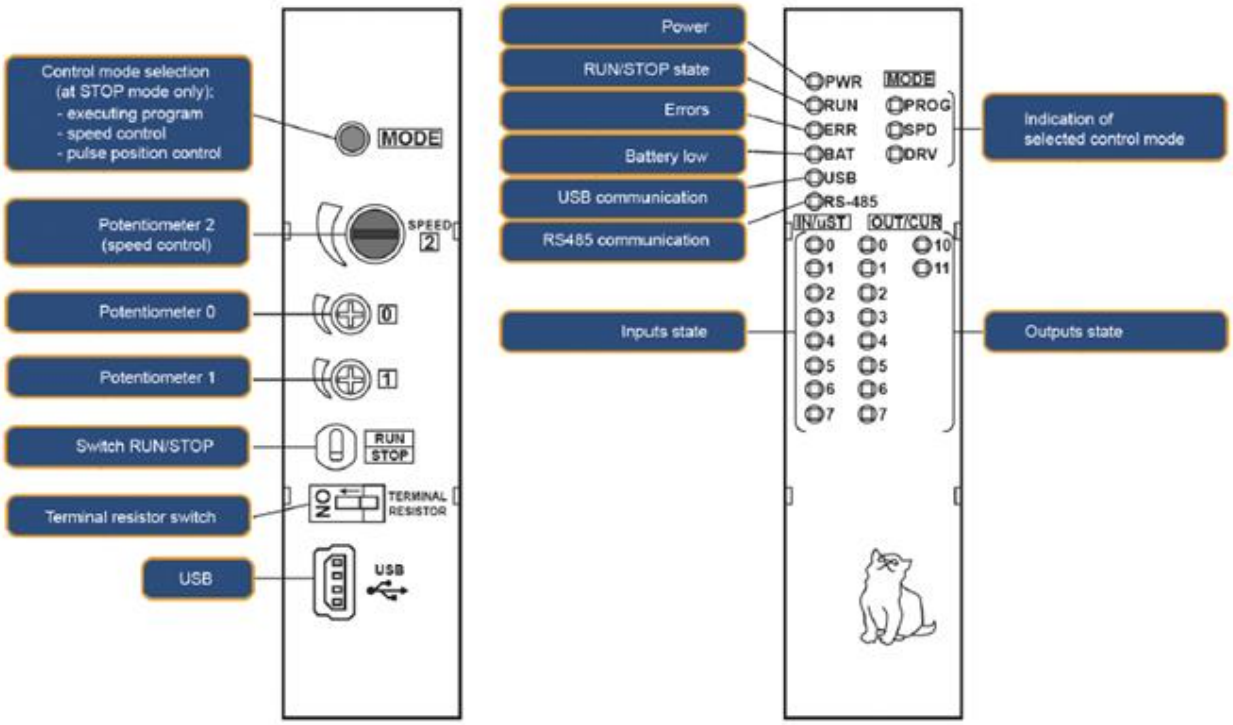
Operation Environment

Operating Temperature Range	0°C to 40°C
Humidity (non-condensing)	up to 90%

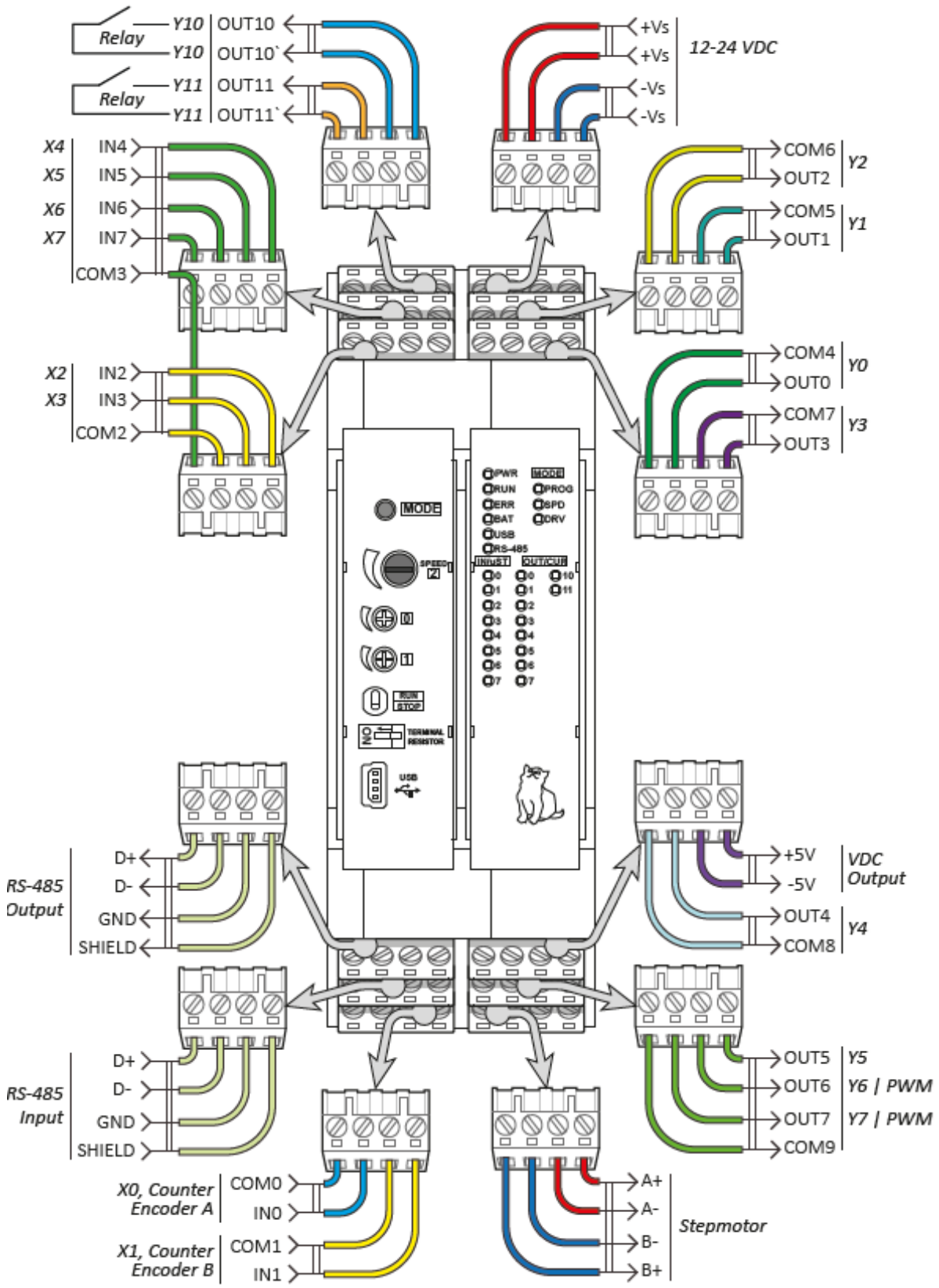
Dimensions:



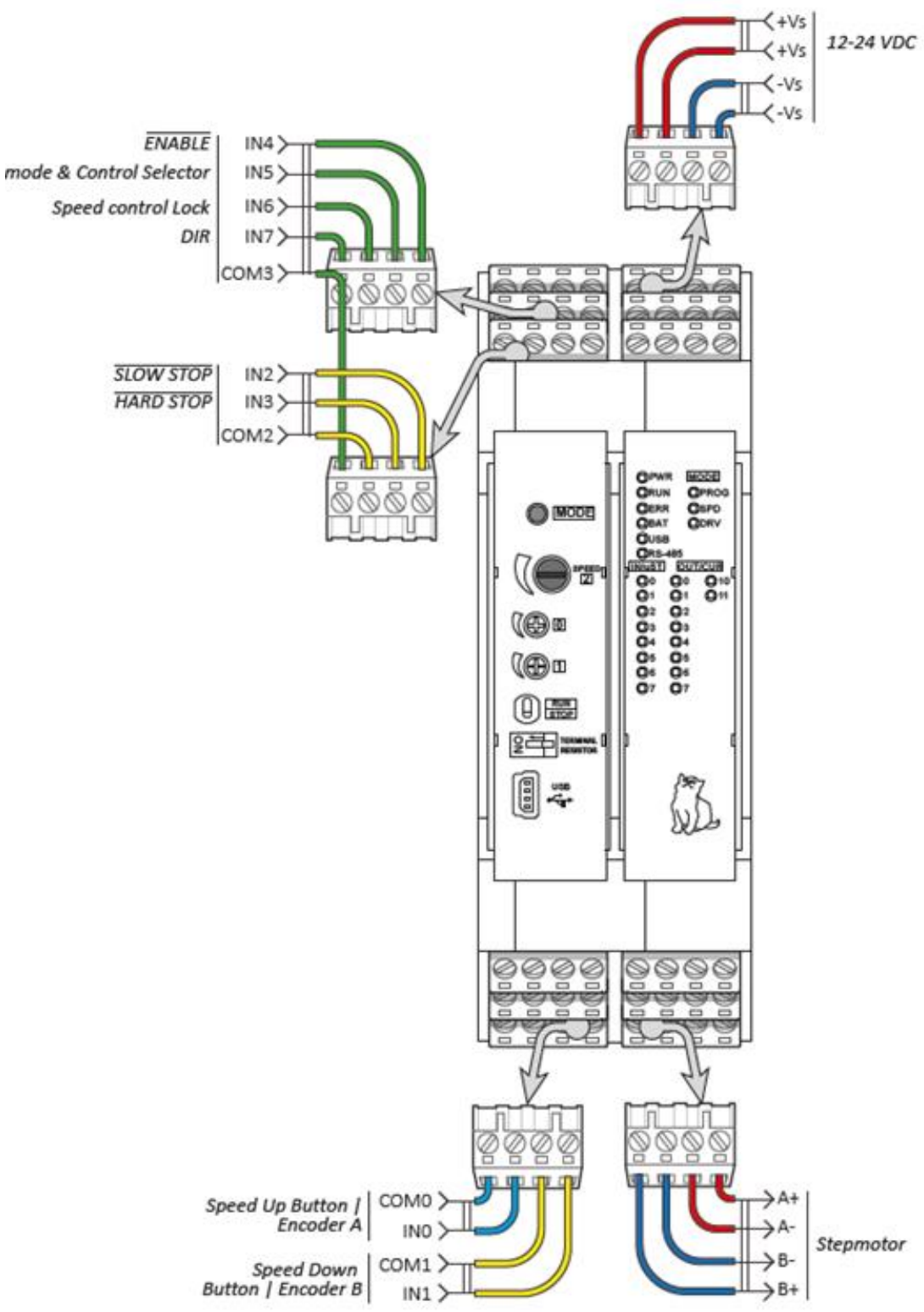
External control elements and indicators:



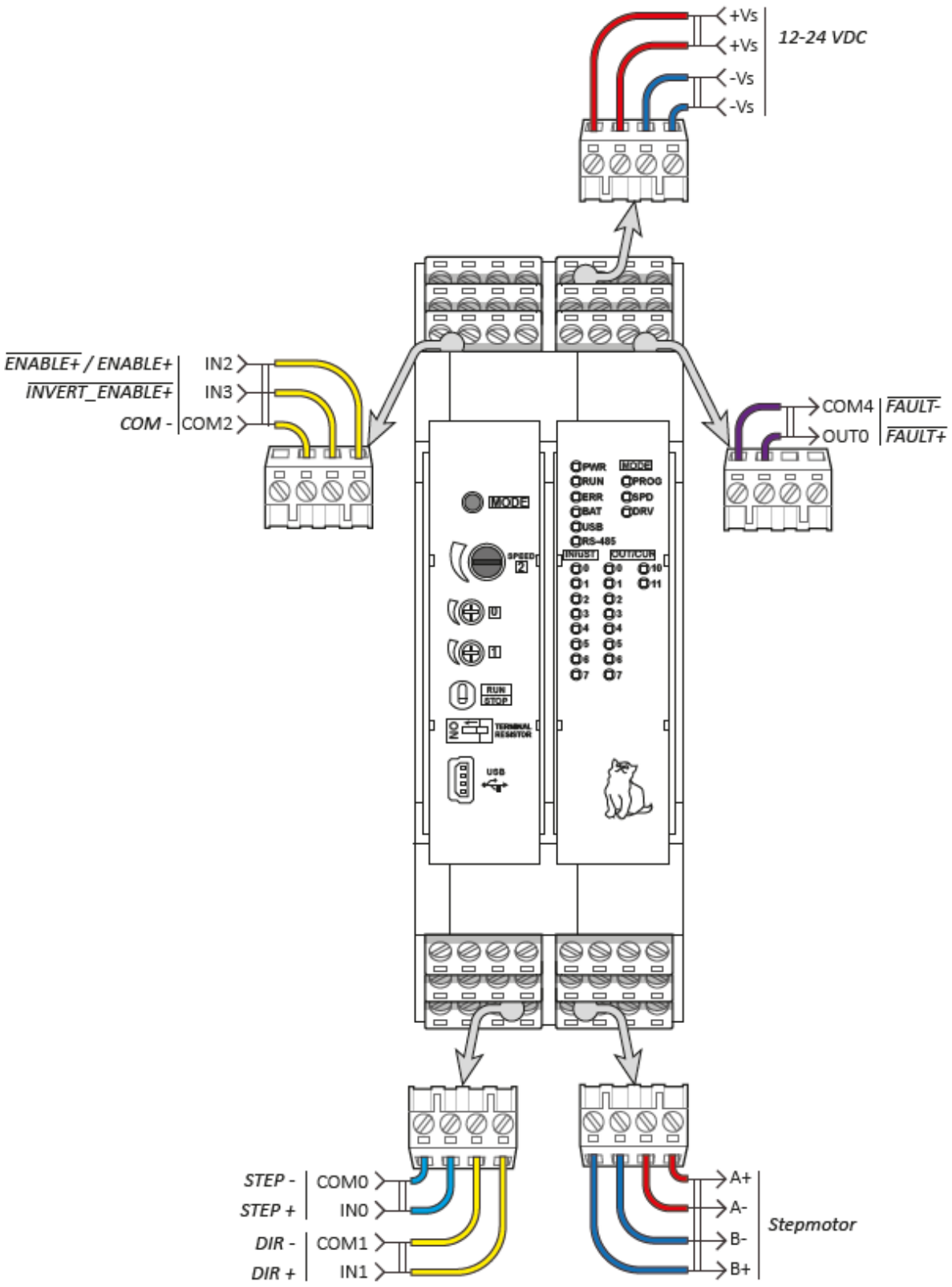
Connection:



Connection – program control mode



Connection – speed control mode



Connection - driver control mode

NOTE:

The RS PRO software is available for download from here:

https://www.rs-online.com/designspark/rs-pro-software-and-manuals