BRNO UNIVERSITY OF TECHNOLOGY
FACULTY OF ELECTRICAL ENGINEERING AND COMMUNICATION

Master's Thesis

Master's study program **Cybernetics, Control and Measurements**

Department of Control and Instrumentation

Student: Bc. Matouš Hýbl ***ID:*** 191600

Year of study: 2 ***Academic year:*** 2020/21

TITLE OF THESIS:

Two channel stepper motor controller

INSTRUCTION:

1. Explore and describe the stepper-motor controllers currently used in DCI for the BPC-PRP course. Describe their advantages and shortcomings.
2. Research and examine various stepper motor controller chips that may be used for the design. Select the best one after a discussion with the supervisor.
3. Design and develop a new stepper motor controller with I2C and CAN bus communication interfaces.
4. Develop software that demonstrates the controller's features.
5. Demonstrate the controller in a specific application, e.g. driving a small mobile roboti with differential drive configuration.

RECOMMENDED LITERATURE:

Motors for Makers: A Guide to Steppers, Servos, and Other Electrical Machines 1st Edition, Scarpino Matthew, 2015, Que Publishing, ASIN : B018KYYDMI

Date of project specification: 8.2.2021 ***Deadline for submission:*** 17.5.2021

Supervisor: prof. Ing. Luděk Žalud, Ph.D.

doc. Ing. Petr Fiedler, Ph.D.
Chair of study program board