

عنوان مقاله:

Design and Manufacturing the Torque Gauge of ICaSbot and Implementing its Data Transfer Protocol

محل انتشار:

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خلاصه مقاله:

In this paper, a new approach to modify cable tension measuring mechanism is described; furthermore, the constructed boards which amplify load cell output are introduced. This approach has some advantages including of providing feedback for motors, evaluating the robot's ultimate load carrying capacity, improving the motor control system and estimating the vibrating deflections of the end effector final position. Close loop control of the robot and improvement its accuracy are of the objectives of this work. In addition, a new approach to transfer data from load cell to PC for a six Degree of Freedom (DOF) cable robot called ICaSbot is investigated. With neglecting cable mass, the value of cable length variation is estimated using cable tension theory in the specific path. The mechanism, the designed board and the sensors' output and calibration equation are validated by the aid of a comparison study with simulation results of MATLAB for two different predefined paths

کلمات کلیدی:

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