

May 19,2021

Press Release

The design and development of a haptic force-matching device.

maxon Group Australia designed and developed an all in one device that sensed and measured the subjective perception of pressure.

Constructed entirely in-house by maxon Australia's R&D team led by Dr Carlos Bacigalupo and working with Macquarie University PhD Candidate David McNaughton, maxon delivered a complete solution to sense and measure the subjective perception of pressure.

The device integrated haptic technology and complex electrical engineering. The haptic system is based on a maxon RE50 brushed 200W DC motor driven by a maxon EPOS 50/5 motor controller working in position control mode. The motor includes an AEDL 5810 encoder with 5000 counts per turn over 3 channels with a line driver that adds a single pulse per turn for reference.

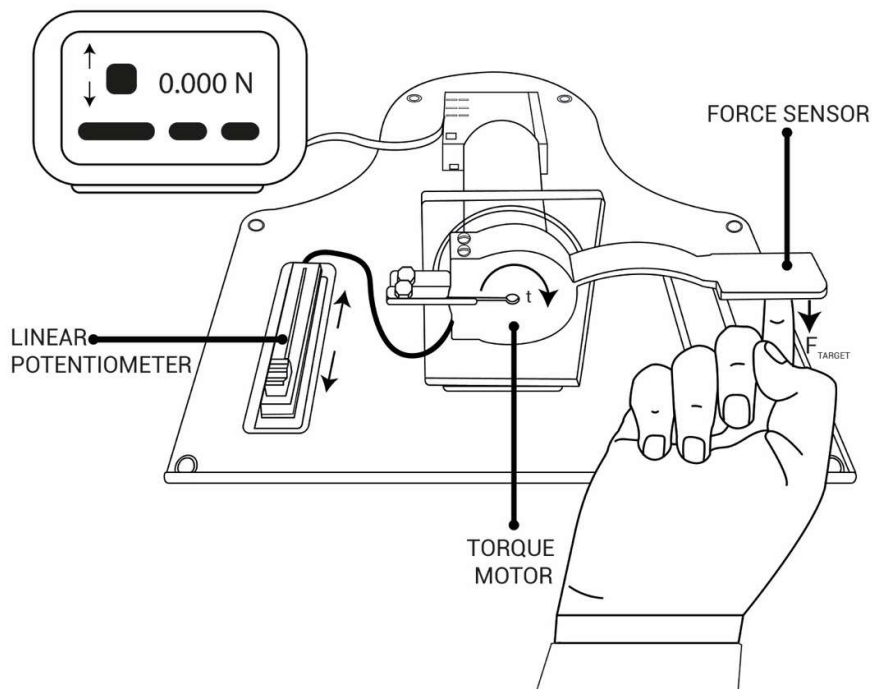
maxon's RE50 DC motor was selected because of its linear characteristics, detent free, coreless rhombic winding design, proportionally low mass inertia and a high torque constant of 242mNm/A allowing for extremely fine control over the applied pressure.

The instrument had to comply with well-defined experimental protocols and a [paper has been published](#) by PhD Candidate David McNaughton with co-authors Dr Carlos Bacigalupo from maxon Group Australia and Alissa Beath, Julia Hush and Alicia Georghiadis from Macquarie University. The paper is entitled "The Design, Development and Functionality of a Haptic Force-Matching Device for Measuring Sensory Attenuation" and describes in detail the design, development and functionality of a force-matching device used for experimental psychophysiological testing such that it could be reproduced by any other research group.

For application requirements involving system design, engineering, integration and complete drive systems please contact maxon Group Australia tel. +61 2 9457 7477.

Length of this update: 274 words

The press release is available on the internet at: www.maxongroup.net.au



*Constructed entirely in-house by maxon
Australia's R&D team is the haptic force
matching device © maxon motor*

maxon motor Australia Pty Ltd
Unit 1, 12-14 Beaumont Road
Mt Kuring-Gai NSW 2080

Tel: +61 2 9457 7477
sales.au@maxongroup.com
www.maxongroup.net.au
Twitter @maxongroupAus

The Swiss specialist for quality drives

maxon is a developer and manufacturer of brushed and brushless DC motors, as well as gearheads, encoders, controllers, and entire mechatronic systems. maxon drives are used wherever the requirements are particularly high: in NASA's Mars rovers, in surgical power tools, in humanoid robots and in precision industrial applications, for example. To maintain its leadership in this demanding market, the company invests a considerable share of its annual revenue in research and development. Worldwide, maxon has more than 3000 employees at nine production sites and is represented by sales companies in more than 30 countries.