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UNIVERSAL HIGH SPEED MOTOR DRIVER CONCEPT FOR PMSM & SRM

EBEC Brno 2017

Honeywell
THE POWER OF **CONNECTED**

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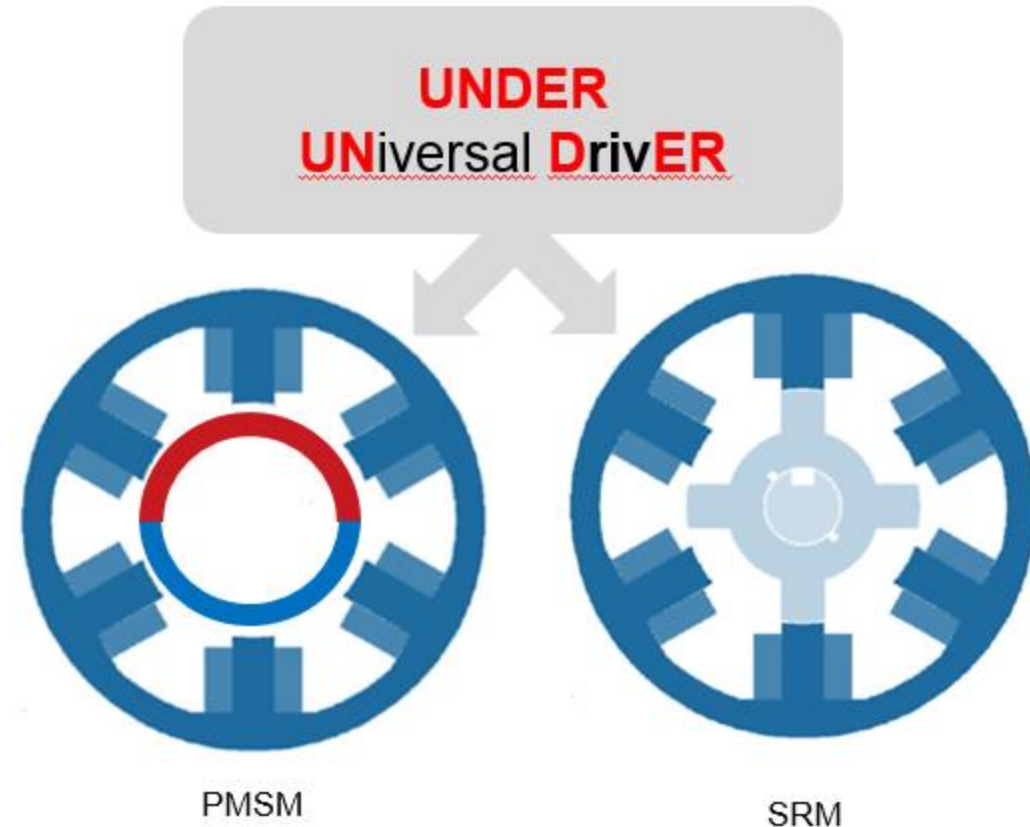
- The company is looking for a new way, how to efficiently and elegantly solve the control of the universal high speed motor driver for PMSM (Permanent Motor Synchronous Motor) and SRM (Switched Reluctance Machine) for motor testing purposes. The solution of the result doesn't have to be only a complex HW and SW solution, but an innovative solution of any partial problems will be appreciated.

Technical Specification :

- Voltage: 48 [V]
- Input Electrical Current: 87,5 [A] ;
- Input Power: 4200 [W]
- Rotational Speed 60 000 [rpm]
- Min. Switching Transistor Frequency: 20 [kHz]
- PMSM: 2 or 4 Poles Rotor / 6 Poles Stator
- SRM: 4 Poles Rotor / 6 Poles Stator
- External Cooling (Forced Air Convection)

Application

- Automotive Electric Motor Testing
- Electric Automotive Boosting Systems



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The output of this task will be a PowerPoint presentation in the length of 15 to 20 minutes

Evaluation criteria:

Every team can get up to 1000 points in the following sub criteria:

	Points
1. Critical evaluation of the present situation.	100
2. Proposal of the solution concept in view of the motors technical parameters (structural, technological and commercial evaluation).	200
3. Own invention in the area of the systematic approach to the project, or in the design of the partial problems in the field of software or hardware in the student specialization	300
4. Structural recommendations for the following development.	200
5. Approach for the solution and the level of the personal interest.	100
6. Presentation skills and impression from the presentation.	100
TOTAL	1000

Good luck with the task!