| Press Release | | | |
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| MCD Elektronik GmbH Hoheneichstr. 52 – 75217 Birkenfeld Tel. +49-7231 78405-0 – Fax: +49-7231 78405-10 Managing Director: Bruno Hörter | Release Date: 22.03.2017 Document Version: V 1.0 | Page 1 of 3 Editor: Tatje | ELEKTRONIK GMBH Summary Title: MCD_17_002 |
| For immediate publication | Queries to: Verena Hörter, Verena.Hoerter@mcd-elektronik.de | | |

Delivery of an Inline System to Canada

FES label of the Canadian Standard Association was received immediately

Birkenfeld, Germany, March 22, 2017: MCD Elektronik has developed an end-of-line test system for electrical flap actuators of a manufacturer of customer-specific drive technology from Canada. This Inline System is going to be a applied for the assembly of sealing rings, as well for tightness tests and functional tests of mechatronical components. The measurement and testing specialist had not only to solve very specific technical challenges like vacuum technology, it also had to deal with canadian bureaucracy. An import authorisation to Canada is not granted without the FES label of the "Field Evaluation Service". This Field Evaluation is a unique verification program for small production series. The institution "TÜV Süd" acts as a canadian certified "Nationally Recognized Testing Lab" (NRTL) in Germany. CEO Bruno Hörter: "MCD Elektronik delivers to 48 countries around the world. Canada was missing on our list, but we were pretty sure that MCD would comply even with the strict safety regulations of the "Canadian Standard Association" (CSA). At the end, we received the FES label without complaince from the ",Special Inspector" of the institution "TÜV Süd".

The application, consisting of two test stations, acts as an end-of-line test system and can be adjusted to different DUT types by manually replaceable components.

Tightness tests of the flap actuator housings are performed by a differential pressure measuring device at the first station. After an automated assembly and pressing of a shaft seal, its tightness is tested by some more measurements.

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Functional testing of mechatronic components takes place at the second station. A specifically developed load machine simulates external stops and delivers braking torques with angle measurement and repeat accuracy of < 0,1°. Depending on the type of DUT, the values of current flows, torques, angles, PWM feedback as well as signals of the hall sensors are checked and evaluated.

The DUTs that are stored on good carriers reach both stations fully automatically via a transfer belt. Data of good carriers, DUTs and measurements are collected and saved in a database by MCD's test software TestManager Classic Edition and the MCD Data Manager.

Pictures:

Image 1: End-of-Line test system for electrical flap actuators

Image 2: Functional test station

Image 3: The desired label of the CSA that is a precondition for the import of devices to Canada.

Image 4: MCD's Hard- and Software applikation team member Frank Schumacher points to where a new MCD spot is set.

Image 5: Two of these motor-driven flaps are responsible for the sporty sound of the AMG 4.0 Liters V8 BiTurbo engine (© mbpassionblog)

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About MCD Elektronik GmbH:

MCD Elektronik GmbH was founded in 1983 and currently employs 80 people. The owner- managed company is headquartered in Birkenfeld, near Pforzheim, Germany. MCD Elektronik is active in Germany, Hungary, and China, and delivers to 48 countries around the world.

MCD Elektronik GmbH manufactures measurement and test systems for electronic production for their customers, who include OEMs in the automotive sector, companies in machine and systems design, medical technology, defense and security systems, quality technology, sensor manufacturing, and aerospace. The company relies consistently on zero tolerance in quality control.