

M=SLED Modular: New deceleration sled for battery testing

MESSRING lightweight sled enable safe testing of heavy traction batteries / Optimization of test operations and ability to run series of tests through modular concept with quick platform change

Munich, 19. Nov. 2020 - Hybrid and all-electric drive technologies are expected to continue to gain market share, which will also increase the need for suitable test tools of the energy storage systems used. Lithium-ion packs which are typically used in electric cars usually weigh between 200 and 700 kg or even more. This high mass in combination with the potential fire hazard of the batteries has prompted the crash test experts at MESSRING to develop the all-new M=SLED Modular. As the name suggests, the solution to the challenge of "battery tests on deceleration sled systems", presented by MESSRING is a modular concept. The sled has a carriage consisting of two parts and can carry various modules in its center, each compatible with the chassis in both longitudinal and transverse direction.

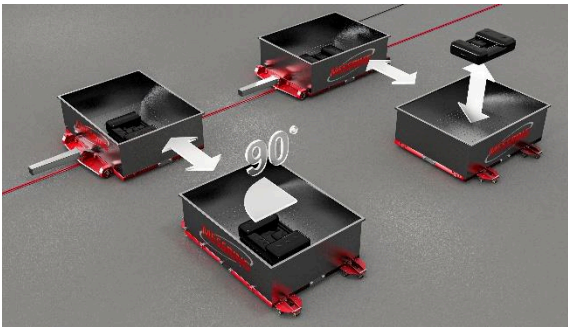
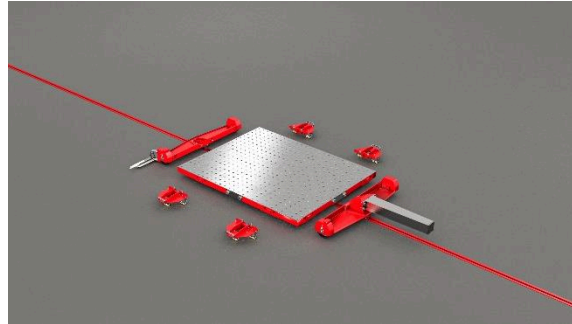
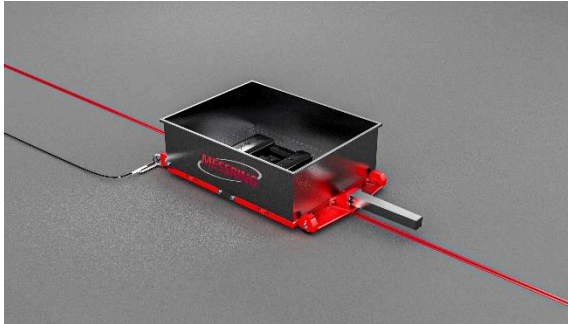
Testing batteries safely

A container module is provided for battery tests to determine whether batteries do not suffer critical internal damage even at high acceleration. The entire sled - including the stainless steel container integrated in the module - has been trimmed for lightweight construction in order to handle the high payload of the battery packs. The lightweight construction allows the necessary speeds and deceleration pulses to be achieved with PU and bending bar brakes without overloading the facility equipment. Furthermore, the container prevents an uncontrolled spread of the fire in case of emergency and in addition, the fire can be controlled by flooding the container with extinguishing water and the related cooling and oxygen removal. The entire module can then be easily and quickly separated from the chassis and transported to a suitable location for further extinguishing or controlled burning. The required testing of the batteries in the X and Y axis is also easy to implement thanks to the option of mounting the module in longitudinal and transverse direction.

Optimized facility operations

Besides the container module, a standard module with the common mounting grid and dimensions of 2.800 mm x 1.800 mm is available. This allows the sled to be used for tests away from batteries and offers completely new options in the test operation on deceleration sled systems thanks to the quick and easy module exchange. The sensors and loggers can be prepared in parallel for test series or different setups on the modules and only need to be connected to the data acquisition system which remains on the sled. The transportation of the modules is easy and uncomplicated with the attachable transport roller

"With the M=SLED Modular we offer a strong solution to make battery testing significantly more efficient and safer in terms of fire protection, and at the same time a completely new approach for an optimized use of limited facility capacities," states Wolfgang Rohleder, Head of Sales, MESSRING GmbH.



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About MESSRING:

MESSRING GmbH is the world market leader for crash test technology. Innovative products and specialized expertise are the foundation of MESSRING's long-standing success. Based in the southwest of Munich, the mid-sized company's product offerings range from the realization of large, turnkey and multifunctional crash test facilities to the delivery of compact crash simulation test systems. In close cooperation with automotive engineers and manufacturers, MESSRING develops application specific solutions that enable the automotive industry to test their active and passive vehicle safety systems. With more than 130 employees and over 120 crash and sled test facilities installed worldwide, MESSRING has been contributing to making traffic and transportation safer for over 50 years.

As a pioneer in the field of passive safety, MESSRING has set itself the goal of also playing a leading role in active safety. For this reason, MESSRING Active Safety GmbH was founded in 2018, whose core competence is in the development of test systems for driver assistance systems and autonomous vehicles.

Further information can be found at www.messring.de.

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