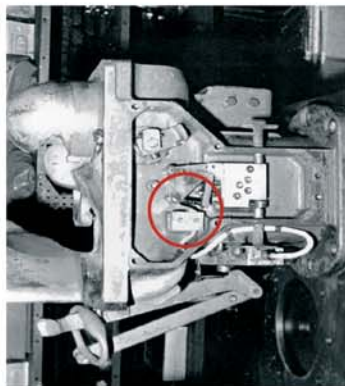


## CUSTOM MODIFIED MECHANICAL SWITCHES FOR SAFE DETECTION IN A HARSH ENVIRONMENT



The railway applications are a difficult environment for sensitive electronic sensors. If you want to detect an open/closing of doors or the proper engagement and locking of the mechanical coupler between units of a train set you are forced to find a solution which has to work under extreme temperature conditions, dust and humidity influences as well as vibrations or shock impact.

In other areas of a railway system you may even need good resistance to electromagnetic disturbances or other nasty influences. Electronic sensing solutions with their limited temperature range and sensitivity to electromagnetic fields are not reliable enough. This is an environment where a sealed mechanical switch is a definitely a better solution for a position detection system.

The flexibility of the medium sized company Microprecision Electronics allows to custom modify such a switch for the specific application of the customer. The product range of Microprecision responds to the specific need of a railway manufacturer with its IP67 protection of the switch mechanism and extended mechanical life for a robust use of the product.

To respond to the large variety of the applications and their actuating forces and directions, the mechanical actuator can be modified in a lot of different ways to the specific need, like for this door locking application, where the lever had to be extended and bent in order to fit into the already built door frame.



The coupler between train units is typically an element exposed to shock, dust and humidity. The mounted MP210 sealed switch detects the proper locking of the coupler. The wide temperature range of the switch of  $-40^{\circ}\text{C}$  /  $+130^{\circ}\text{C}$  and up to  $200^{\circ}\text{C}$  for certain models allows its use in all regions of the world and the IP67 protection keeps all dust or water off the switching circuit.

Other applications where IP67 and temperature resistance are requested can be found for brake detection, pneumatic door lock detection or sensing of the take up position ■



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