



# Application Case Study

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Product	<b>Custom Engineered Mechanical Pressure Switch</b>
Application	<b>Mass Transit Braking System</b>

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## The Application

Going fast is fun, but stopping is a good thing. This is extremely important when it comes to train travel. Mass transit trains make transportation simpler and are more environmentally friendly than most personal modes of transportation. What makes mass transit trains safe and reliable modes of transportation are their braking systems.

Braking systems on mass transit trains are typically not protected and are exposed to environmental conditions. There are railways that go out into the everyday elements and corrosion of parts is a concern. The customer had just accepted this as a given and made more aggressive efforts to protect their instruments on their braking system environmentally.



## The Solution

SOR® was able to address the customer's application needs protect the sensor from environmental conditions. The switching element could be fine-tuned, but if a different housing material was utilized, there would be an added value to the customer. The switch could be exposed to the elements without corrosion or concern for switch failure. SOR, Inc. has been meeting and exceeding customer specifications for years. In the past, it was called over-engineering a product; nowadays it is called adding value. This way of thinking allows for innovative ways to build products.



**Aluminum-Bronze  
Mechanical Pressure Switch**

The pressure switch that was custom engineered by SOR was machined from aluminum copper alloy instead of the standard aluminum housing. Using aluminum copper alloy for the housing made the switch resistant to corrosion from external conditions - a huge plus for the customer. Our machining capabilities allowed for a quick change in material that provided additional environmental protection.

## The Results

The customer is extremely pleased with its custom solution! SOR looked beyond the specs to the actual application and engineered a product to best fit the need. Not only were better materials used, but the overall quality of the switch function was also improved to fit the customer's needs. This particular customer has plans for several thousand of these switches each year. If all goes well, someday it could be added to the list of other successful products.

## Ordering Information

### Customer Specifications:

20 to 180 psig  
Electrical connection: DIN  
Process connection: 7/16" x 20  
Viton GLT o-ring  
Weathertight enclosure