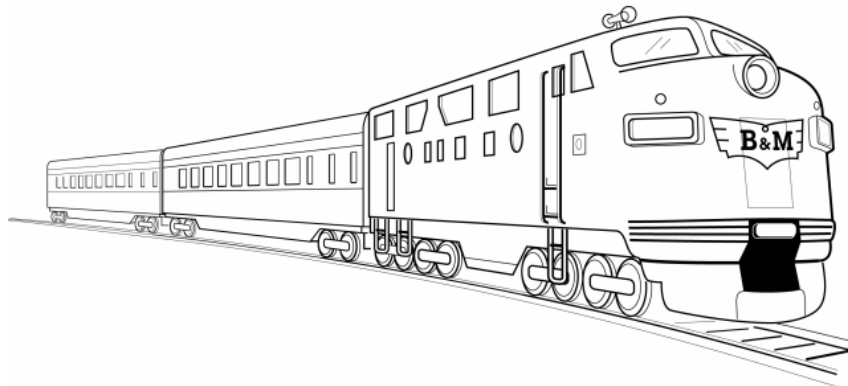


Pneumatic Brake System Pressure for Train Event Recorder

Application Note



PROBLEM:

Federal regulations mandate the use of aviation-style "black boxes" or event recorders on railroad trains. If an accident occurs, the time-referenced event recorder supplies information essential in determining the cause of the accident. The event recorder receives data from a variety of sensors, including pressure sensors, which monitor the train's pneumatic brake system. When the brake air-lines are pressurized the brakes are inactive; if braking is required, pressure is released and the high-torque brakes engage. Because the brake air-lines are connected from car to car in series, a leak in one air-line will affect all the cars in the train. To minimize the possibility of leaks the designers rejected sensors with internal o-ring seals. The event recorder design specifies a set of two sensors, one for the measurement of brake cylinder pressure (120 psi) and one for the air supply header (160 psi). Additional design requirements include integral sensor mounting brackets and a detachable water-resistant electrical connector.

SOLUTION:

Honeywell Sensing and Control worked closely with the customer to develop a sensor that meets all of the design requirements. The MLH Series pressure sensors are calibrated to the specified ranges, fitted with mounting brackets, and a DIN-approved electrical connector. The integrity of MLH construction substantially reduces the possibility of sensor-related leaks.

ENVIRONMENT:

The pressure sensors are mounted to a panel in the engine cab where temperatures vary from 10 °C to 32 °C [50 °F to 90 °F]. Vibration levels are moderate. The air supply is dirty; the ends of the brake air-lines are open when the cars are separated from one another, so windblown dust and debris can enter. The MLH series sensors are protected from many environmental conditions by a housing designed to meet IP65 standards.

⚠ WARNING

PERSONAL INJURY

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.

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SUMMARY:

The rugged and highly dependable Honeywell MLH Series pressure sensors are a perfect choice for this type of application. The thru-wall mounting capability, broad range of pressures, along with a variety of pressure ports and connector styles to choose from make this a very versatile product that can be readily adapted to a variety of applications.

WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace without charge those items it finds defective. **The foregoing is Buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose.**

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

For application assistance, current specifications, or name of the nearest Authorized Distributor, contact a nearby sales office. Or call:

1-800-537-6945 USA/Canada

1-815-235-6847 International

FAX

1-815-235-6545 USA

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