Application Note

Fuel Pressure Monitor for Compressed Natural Gas



PROBLEM:

Fuel tank pressure variations due to ambient temperature changes can easily mislead drivers of natural gaspowered vehicles as to the amount of fuel remaining.

SOLUTION:

MLH Output Over Pressure with temperature compensation





The Honeywell MLH Series sensors are well suited for use in CNG (Compressed Natural Gas) vehicles to measure the amount of fuel in the tank. The MLH sensor measures fuel tank pressure with built in temperature compensation which provides more accurate tank-level readings. Using the graph, assume a tank is filled to 3600 psi at 26 °C [78.8 °F]. If the temperature is reduced to -18 °C [-0.4 °F], the tank pressure drops to approximately 2600 psi, however, the MLH output is unchanged because no fuel has left the tank. Signal conditioning circuitry compensates for the fuel's non-ideal behavior between -18 °C [-0.4 °F] and 82 °C [179.6 °F], minimizing span errors to less than ±8 % of reading. By changing the MLH analog compensation circuitry, the sensor can also be adapted to monitor other types of gases. Because this sensor adjusts internally for changes in temperature, it reduces the overall system-cost for OEMs (Original Equipment Manufactures). The MLH uses no moving parts; therefore, it also has longer life expectancy than sending units that use a potentiometer with a sliding contact.

A 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.

ENVIRONMENT:

Typical automotive chassis environment is subject to wide temperature swings, oil, dirt, road salt, sand and water. The MLH series sensors are protected from these types of environmental conditions by a housing designed to meet IP65 standards.

SUMMARY:

The rugged and highly dependable Honeywell MLH Series pressure sensors are a perfect choice for this type of application. The thru-wall mounting cability, 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:

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