Overfill Protection

Redundant High Level Alarm Switch

GSI 4100 HLAS "High Level Alarm Switch" with Redundancy

The GSI HLAS 4100 "High Level Alarm Switch" is an independent secondary instrument for Overfill Protection in accordance with API 2350. Under API 2350 the primary overfill protection is provided by the "tank gauge." If the primary system (tank gauge) fails, the secondary device (GSI 4100 HLAS) provides an independent alarm as required within the API 2350 standard.

The GSI 4100 HLAS is available with one or two actuation points. Each actuation point can be supplied with one or optional Redundant (2) relay switches. The relays are configured with a normally open (N/O) and a normally closed (N/C) contact available for each alarm point. This means that each alarm point can have up to four (4) contacts per alarm point if the optional redundant relays are used. The redundant reed relays change state at all activation points, providing both redundancy and self-checking capability.

The GSI-HLAS is a mechanically activated displacer switch. As the product level in-creases to the alarm point level, the displacer will be 1) lifted by an external or internal floating roof, or 2) gains buoyancy within the product. When the weight of the displacer is reduced, a spring lifts the rod to which the displacers are attached. The spring rod has a magnet attached to the rod, thus, when the rod lifts it moves the magnet past the reed relay switch to activate the status contact / alarm. The GSI-HLAS uses buoyant displacers instead of lead weights or ceramic weights on external and internal floating roof tanks as an additional safety measure. If the floating roof happens to sink the GSI-HLAS will still function when product reaches the displacers.

The HLAS comes with an optional Stainless Steel Checker Assembly that allows for the testing of the switch locally at the tank (ground level or on top) prior to an incoming transfer into the tank. The Checker Assembly is a pull cable that physically lifts the displacer independently of the spring rod. This allows for the testing of the spring, the reed switches and the wiring. The Stainless Steel Checker doesn't corrode or bind, thus it doesn't bind the checker handle and fork as with other manufacturers switches.