Brief product description:

The Centeron Radar Monitor is intended for remote monitoring of fuel and chemical tanks. However, the Monitor could also be used for a variety of applications including (but not limited to) oil, water, ethylene glycol, wastewater, pesticides, and fertilizers. The Centeron Radar Monitor is a member of Robertshaw's Spread Spectrum Radio Frequency (RF) family of products. The Radar Monitor measures liquid level by detecting the vertical position of a float that rides on the probe at the top of the liquid. The Monitor's electronic circuitry measures the time that it takes for an electromagnetic pulse to travel to the float and back to the Monitor. Travel time for the electromagnetic pulse is proportional to distance, allowing the Monitor to calculate fluid level. This level information is transmitted to the Centeron Controller using a spread spectrum radio signal in the 902–928 MHz ISM band.

The Radar Monitor printed circuit assembly is housed in an injection molded polypropylene enclosure. The polypropylene housing material has a 5VA flame rating, UV stabilization, and is approved for outdoor service. The lower housing has 1.5" and 2" NPT external threads for mounting directly into a tank bung. The upper housing is attached to the lower housing with three screws and this joint is sealed with two Nitrile rubber o-rings. The upper housing is removable to facilitate battery replacement in the field. The Radar Monitor is powered by 3-volt lithium battery that is located on the printed circuit assembly. The battery is a 2/3 A size (Duracell DL123A) and is not rechargeable. Removing a small magnet from a slot in the upper housing activates the Monitor. The Radar Monitor is designed to operate in ambient temperatures between –40° C and 80° C.

The Probe assembly consists of a flat cable, a float assembly, and a weight. The flat cable has two stainless steel conductor strips and is coated with extruded FEP Teflon insulation. The float is made of Nitrile foam rubber and has a two-piece stainless steel radar target inserted along its central axis. The anchor assembly consists of two identical stainless steel plates and four stainless steel screws that allow it to be clamped onto the probe cable near the bottom of the tank.

A printed circuit trace on the internal circuit board is used as the Monitor's fixed permanent antenna. No user access is provided to this antenna.