

transmit more frequently than once every four hours and Monitors that are subjected to prolonged exposure to extreme temperatures will exhibit reduced battery life.

## 2.3 Environmental Specifications

The following environmental specifications should be observed when installing the Monitor:

- Operating Temperature Range: -40°C to +80°C (-40°F to +176°F)
- The Monitor housing is designed to meet or exceed NEMA 3.
- UV life: 10 years exposure to direct sunlight.
- Shock: The unit will withstand a one-meter drop test per UL 913.
- Chemical Exposure: The Centeron® Radar Monitor is designed for use in water, ethylene glycol, oil, and common hydrocarbons. For use in other liquids, contact the 16 series stainless steel, Nitrile rubber, brass, and FEP Teflon. For applications involving fluids other than those noted above contact the Robertshaw Industrial Products Technical Support Group (refer to Section 5.5) for more information.
- Pressure: The Centeron® Radar Monitor is designed for use in pressure vessels only. The maximum pressure inside the tank must be less than 150 PSI (10.3 bar). An adapter (sold separately) is required for use in pressure vessels rated at 150 PSI or less.

## 2.4 Certifications

### 2.4.1 FCC Radio Frequency Communications

The Monitor generally complies with FCC Part 15, Subpart C, Class B, limits for radio frequency emissions. If the Monitor is not properly installed and used in accordance with the manufacturer's instructions, it may cause interference to radio and television reception. The Monitor complies with the specifications in Part 15 of the FCC Rules for Class B Computing Devices.

**CAUTION:** Robertshaw Industrial Products Division does not support field changes or modifications to any of the Centeron® Level Monitoring System equipment unless they are specifically covered in this manual. All adjustments must be made at the factory under the specific guidelines set forth in our manufacturing processes. Any modification to the equipment will void the manufacturer's warranty and could void the user's authority to operate the equipment and render the equipment in violation of FCC Part 15, Subpart C, 15.247.

**CAUTION:** This device is required to comply with FCC RF exposure requirements for mobile transmitting devices. The FCC requires that the antenna(s) used for this transmitter must be installed to provide a separation of at least 20 cm (8 inches) from

all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

### 2.4.2 Safety and Regulatory

The Monitor is designed to comply with UL Standards for Intrinsically Safe Apparatus for use in Class I, Division 1, Group D locations. The Monitor conforms to UL 913 and has been certified to CAN/CSA Standard C22.2 No. 157 and Standard C22.2 No. 94.

#### SAFETY.

AVERTISSEMENT: L'INSTALLATION DE COMPOSANTS PEUT COMPRENDRE DES RISQUES D'INTERFÉRENCE ÉLECTROMAGNÉTIQUE.

The Installation Guide provides an overview of the Radar Monitor installation procedure, which is included with this product.

The following sections of this manual explain in detail the site selection and installation process:

## 3.1 Radio Installation Guidelines

The Centeron® Radar Monitor contains sensitive measurement circuitry and a radio transmitter. Large metal objects such as buildings and vehicles may affect the transmission of radio signals. Electrical equipment may produce electronic noise that could adversely affect signal quality.

- Direct line of sight between the Centeron® Monitor and Controller will provide optimum radio reception.
- The Centeron® Monitor and Controller can communicate at distances up to one mile under optimum line-of-sight conditions.
- When obstructions such as walls, buildings, and vehicles exist between the Centeron® Monitor and Controller the distance between these units should be limited to less than 500 feet.