

While weather monitoring systems focus on the forecast of events like rain, a system with additional sensors for measuring ionizing radiation could characterize atypical radiation events such as those from reactor failures, weapons testing, or terrorist incidents. The professional version of the Radiation Weather Station (RWSpro) is an advanced weather monitoring station with ionizing radiation detecting capabilities including spectroscopy. Advanced data logging tools are required to efficiently interface with the RWSpro sensor suite. Radiation detection and other customized sensors often come loaded with unique interfaces and software, complicating the maintenance of monitoring systems. Selection of a data logger in widespread use across many users would mitigate such problems. Campbell Scientific (CS) has sold more than 300,000 data loggers since 1974. These dataloggers are well-supported and include expert consultations for the sensor integration. Interfacing with sensors that otherwise have unknown proprietary connections may be possible. Windspeed and direction, solar pyranometer, precipitation, temperature, pressure, humidity, soil temperature, and soil moisture sensors were readily connected to the CS CR1000X for RWSpro. This work reports on the connection of a Baker-Hughes Reuter-Stokes high-pressure ion chamber (HPIC), previously interfaced using methods that did not protect data during power losses, to the CR1000X. This advanced HPIC has a very rapid response and high sensitivity and provides low-level gamma radiation dose rate monitoring for the RWSpro system. The CR1000X provides a scripting language through CS's LoggerNet software to automate serial communications with sensors. Through the creation of LoggerNet scripts, the interface with an HPIC was automated. The work performed to automate the serial communications with the sensor suite provides a firm basis for continued integration of advanced and well-support radiation detectors for the RWSpro package.