

To: Users of System Sensor smoke detectors
From: Systems Application Engineers
Subject: Smoke detectors – 2- or 4-wire compatibility?

Underwriters Laboratories (UL) requires that smoke detectors be compatible when used with a listed fire alarm control panel (FACP). This compatibility of smoke detectors with control panels is only an issue where 2-wire smoke detectors (power and signaling line circuit (SLC) on the same two conductors) are concerned. This is due to the requirements, restrictions, and limitations of electrical current needed to cause the detectors to alarm and for the control panel to “see” that alarm. Detectors are not required to be listed when they draw their power for operation from source other than the SLC. The National Fire Alarm Code, NFPA 72, 2002 edition, states in chapter 4:

4.4.2 Compatibility.

All fire detection devices that receive their power from the initiating device circuit or signaling line circuit of a fire alarm control unit shall be listed for use with the control unit.

Because of this, UL requirements do not include 4-wire smoke detectors or any notification devices. **Notification devices must verify that the power and signal being supplied through the notification connections are sufficient for operation. Some notification devices require either coded or non-coded signals for proper operation. The FACP manual should be consulted for specifications.**

If you have any questions concerning System Sensor products or their application, please contact Technical Services at 1-800-SENSOR2 (736-7672), extension 2.