

To: All users of System Sensor Innovair™ 4-wire duct smoke detectors
From: Systems Application Engineers
Subject: Interconnecting more than 10 Innovair 4-wire conventional duct smoke detectors

When duct detectors are interconnected, an alarm condition in one detector activates the auxiliary relay contacts in all of the interconnected units. System Sensor installation manuals specify a maximum of 10 interconnected devices. Using the method described below, it is possible to interconnect additional detectors.

The first step is to verify that the total current drawn from any one detector will not exceed its maximum allowable value. The maximum current load is calculated by combining all currents drawn from Terminals 19 (Auxiliary Power), 15 (Alarm Signal), and 12 (Interconnect). For each detector in the system, start by adding up the currents drawn by its accessories. Currents drawn by System Sensor accessories are listed in Table 1. Add in any other loads, including current drawn from Terminal 15 during alarm. Multiply the number of detectors to be interconnected by the current listed for “Each Interconnected Detector” in Table 1, and add this result to the calculation. The total current drawn from any one detector in the system must not exceed the maximum limits shown at the bottom of Table 1.

Device	Alarm Current (mA)
APA451	30
PA400	15
RA400Z	10
RTS451 OR RTS451KEY	8
SSK451	30
Other Accessories	User Defined
Terminal 15 Alarm Current	User Defined
Each Interconnected Detector	2
Maximum Current When Powered From an AC Supply (24, 120, or 220 VAC)	110 mA
Maximum Current When Powered From 24 VDC (Supply Ripple Must Not Exceed 4 Volts at Full Load)	200 mA

Table 1

The second step is to furnish and install a rectifier (1A, 200 PIV minimum, such as 1N4003) between Terminals 12 and 15 of every interconnected detector. Trim the leads of the rectifiers to an appropriate length, and be sure to observe the polarity shown in Figure 1. Complete all remaining wiring for the system in accordance with the Installation Manual.

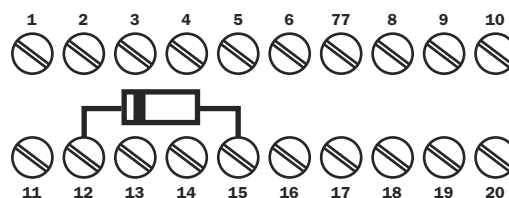


Figure 1

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