

SenseNET cabling options

This application note describes the various options available for SenseNET data cabling. The serial data used by SenseNET is normally transmitted via RS485, enabling up to 1.2km of cabling between any two Stratos-HSSD 2 detectors. The SenseNET addressing scheme allows up to 127 detectors, addressed 1 to 127, to be connected to together.

The diagram on the next page shows a SenseNET network spread between three sites and using a variety of interconnection options to illustrate the flexibility of the SenseNET bus protocol and how it may be transmitted in other formats rather than RS485.

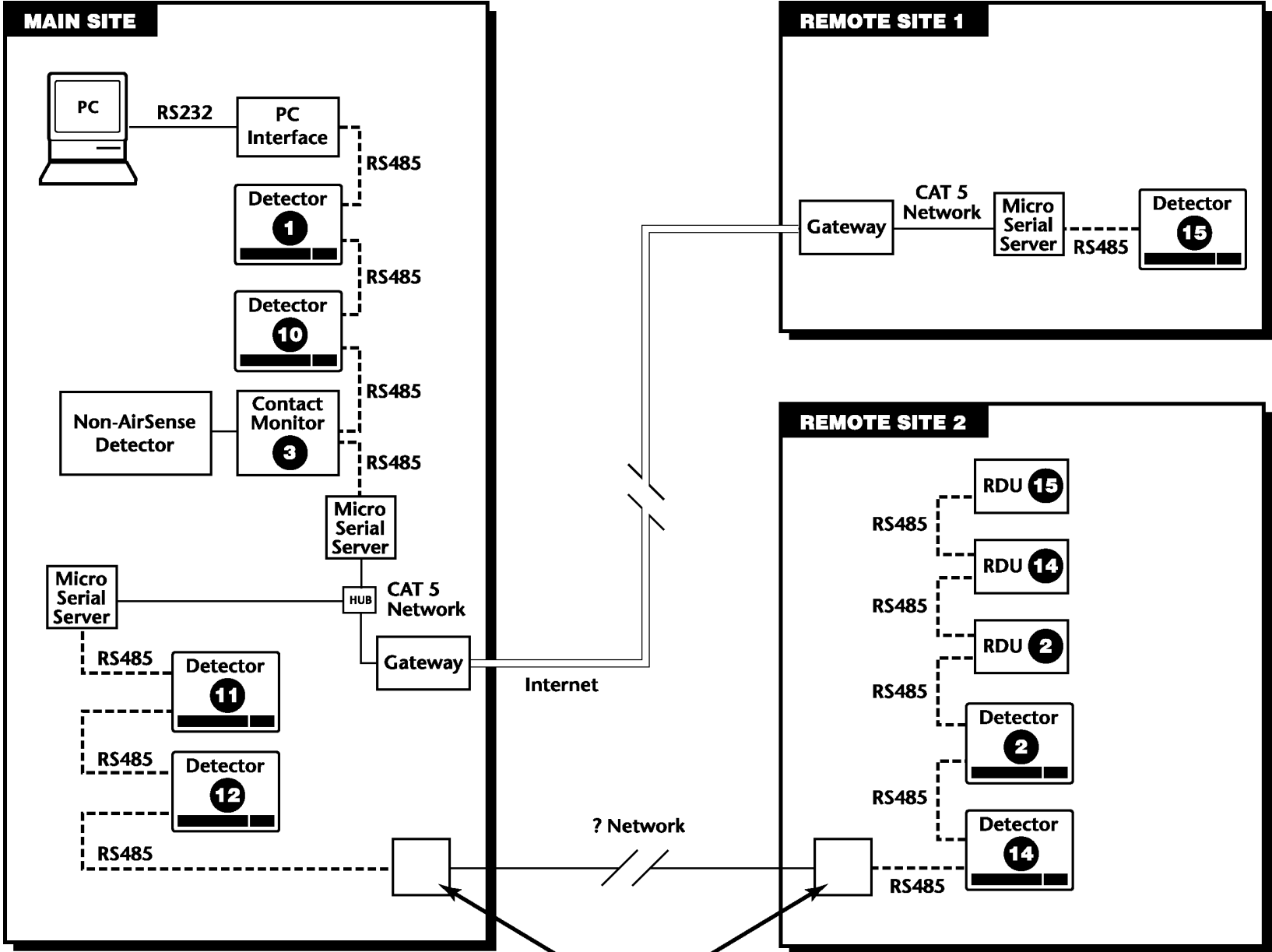
Examining the diagram starting at the PC running SenseNET. This connects to a PC Interface that converts the RS232 to the RS485 used on the SenseNET cabling. The RS485 bus then runs between two Stratos-HSSD detectors with addresses 1 and 10 and a contact monitor at address 3. The contact monitor is being used to interface a non-AirSense detector to the SenseNET bus. When a non-AirSense detector is connected in this way only alarm and fault information is available and no programming of the device is possible.

In most modern buildings an existing network will be installed and using Micro Serial Server (MSS) interface boxes the RS485 data can be converted and transmitted over the existing Category 5 (CAT 5) network cabling. The SenseNET bus is connected to the first MSS unit and is passed through a gateway to the Internet and to another MSS unit on the CAT 5 cabling. Up to eight MSS units can be connected in this way to a single SenseNET system. The Hub indicated on this part of the diagram is part of the existing CAT 5 network.

The second MSS unit is connected to two detectors with addresses 11 and 12 via the RS485 and this RS485 is also passed to a customer supplied interface, converting the RS485 to their own network.

At remote site 2 this network format is decoded and converted back to RS485 and connects to detectors with addresses 2 and 14 and also Remote Display units (RDUs) with addresses 2, 14 and 15 which show status information for these detectors. Note that RDU 15 is actually showing the status of the detector at remote site 1. This is possible because, despite all of the protocol converters in this system, the network looks like a single piece of RS485 cabling to the PC, detectors and RDU's.

Remote site 1 has an Internet connection to its internal CAT 5 network and an MSS unit on this network extracts RS485 data for a detector with address 15. Note that this must be a permanently connected link to the Internet and with a transmission rate high enough to prevent time-outs during reading and writing the SenseNET data across the Internet.



Customer supplied
RS485 ↔ ? Interfaces