Receiver/Transmitter RX/TX Module

FEATURES

- *Monitors and Controls up to 255 SmartOne® Detectors and Addressable Devices*
- *Analog Reporting From SmartOne® Detectors*
- *FailSoft™ Operation*

- *NFPA Style 4, 6, and 7.0*
- *Supports Loop Isolator Devices*

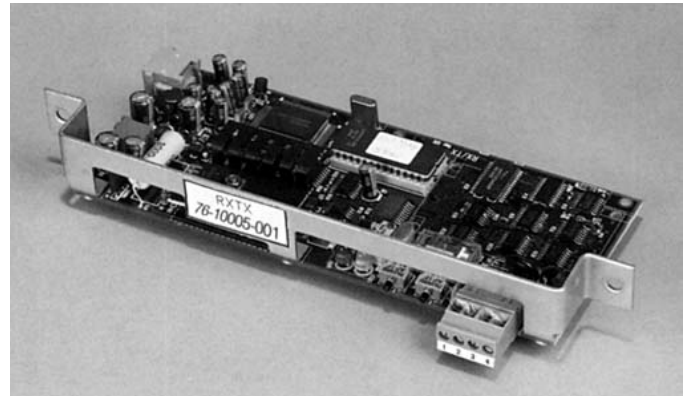## DESCRIPTION

The ReceiverTranmitter module (RX/TX) functions as a data communication interface betwen the Central Control Module (CCM) and the Loop devices. A maximum of 255 Intelligent Loop devices are supported by the RX/TX Module. The 255 addresses can be made up of any mix of SmartOne® Detection devices and Addressable Loop devices. THe PEGAsys™ system allows the installer complete control of the numbers of inout and output devices installed on the RX/TX Loop.

The Exclusive Broadcast Indexing Protocol (BIP) is used as the data transmission protocol between the RX/TX and the field devices. The entire system is scanned two times per second for status change. The BIP has two basic data transmission modes: Index Broadcast Mode and Group Broadcast Mode. Index Broadcast Mode scans the devices on the multiplex trunk in eight groups of 32 for alarm and trouble status changes of any field device in that group, and collectively reports each group status. If a status changes is detected in a group, the Group Broadcast Mode polls every device in a group and sends status change data to Central Control Module. The maximum worst caser time to report an alarm, including five verification sequences and time to display, is 2.5 seconds.

The multiplex trunk may be configured in a Style 4, 6, or 7configuration. If a break in the field wiring of a Style 6 circuit occurs, the RX/TX automatically bi-directionally transmits both data and power. If the break is in a single conductor,all devices and detectors will remain fully operational in a Style 6 configuration. In a Style 4 configuration, T-Tapping ispermitted. T-Tapping is only limited by sound installation techniques.

NFPA Style 7.0 is supported by the RX/TX Module throughthe use of Loop Isolator devices. The Loop Isolator deviceprovides detection of and protection from wire-to-wire shortcircuit conditions. Should a short occur, the two adjacent Isolator devices will activate and isolate the effected por-tion of the Loop. This will allow the remainder of the Loop to continue operating normally. The two Isolators when activated, can indicate visually the direction of the short.

Because of the PEGAsys system's remarkable FailSoft feature, the RX/TX module can receive and report alarms even if it has experienced a software or microprocessor failure.The SmartOne® field devices detect the failure in the RX/TX module and change their signaling method from addressable to zone-type reporting. Redundant circuitry in the panel, which is not dependent on microprocessor operation, will report a zone alarm. Audible and visual alarm indicating circuitry will be activated based upon field-programmed sequences.

Employing the Robust BIP communication protocol, the RX/TX is capable of communicating with 255 Loop devices on a 2-wire loop. This loop may be composed of standard conductors up to 10,000 feet in length. Shielded or twisted cable is not required provided that the cable is in a dedicated raceway, or in a raceway which contains only RX/TX field circuits. In retrofit applications, existing wiring may beused as long as it meets NEC 760 and NFPA 72-1993 requirements.

Loop Isolation devices which support NFPA Style 7.0 are available in three packages, 6-inch Base Mount, StandAlone and RX/TX mount. The base mount unit (P/N 74-200012-004) mounts in the center of the 6-inch detector base.The Stand Alone unit (P/N 74-200012-002) mounts onto a standard, single gang electrical box. The RX/TX unit (P/N 74-200012-001) mounts directly onto the RX/TX Module. The RX/TX and Stand Alone units provide yellow LEDs which indicate the direction in which the short condition lies.

INSTALLATION

The RX/TX module is mounted to the motherboard card-cage assembly in the PEGAsys cabinet. The PEGAsys accommodates 1 module.

A flat phone-type cable provides the connection between the CCM and the RX/TX Modules. Two conductors provide 24 Vdc from the power supply to power the module and all connected loop devices.

ORDERING INFORMATION

Part Number	Description	Shipping Weight
76-100005-001	Receiver/Transmitter (RX/TX) Assembly	1.1 lb.
74-200012-001	Loop Isolator – RX/TX	0.5 lb.
74-200012-002	Loop Isolator – Stand Alone	0.5 lb.
74-200012-004	Loop Isolator – 6-inch Base Mount	0.5 lb.

SPECIFICATIONS

Field Circuit Characteristics

Maximum Voltage:	26.4 Vdc
Minimum Voltage:	19.0 Vdc
Max. Line Capacitance:	1.0 mF
Max. Line Resistance:	26 Ohms
Max. Line Length:	10,000 ft.
Max. Number of Smart and Addressable Devices:	255 (with up to 255 output devices)
Baud Rate:	600 BPS
Transmission:	Asynchronous
Operating Temperature:	32° to 120ºF

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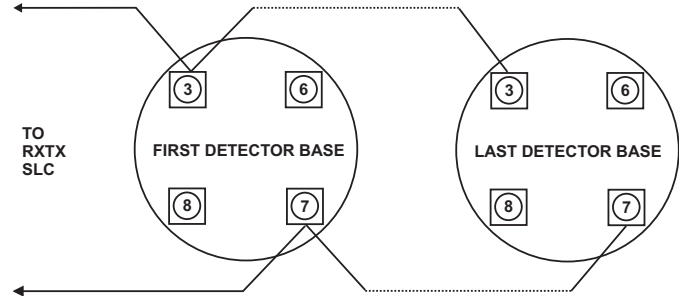
Figure 1. Style 4 Wiring (2-Wire),
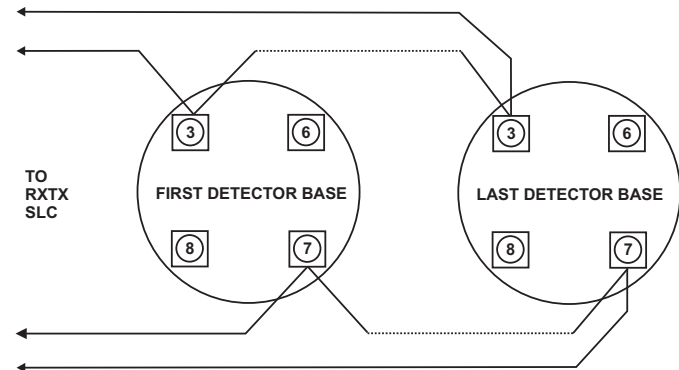6SB P/N 70-400001-100, 4SB P/N 70-400001-101

Figure 2. Style 6 Wiring (4-Wire),
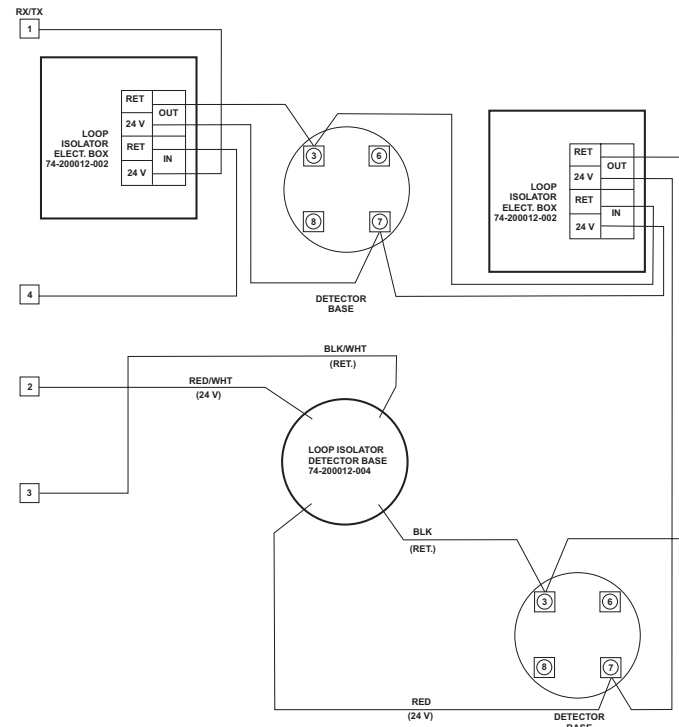6SB P/N 70-400001-100, 4SB P/N 70-400001-101

Figure 3. Style 7.0, Using Loop Isolator Modules

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