PERTRONIC INDUSTRIES LTD
INSTALLATION NOTE
SGD7P-SM

1.0 Overview:

The SGD7P-SM (Signal Generating Device) is a digital transmitter designed to provide the transmission interface between Fire Alarm systems (PFA), and the alarm transmitters provided by ADT, Automatic Fire Alarm Monitoring (AFAM) and Alarm NZ.

2.0 SGD7P-SM Layout
The layout of the SGD7P board, identifying connectors and LEDS, is shown in figure 1. Connectors K1 and K2, K4 to K6 interface to the panel, K3 to the Alarm Transmitter.

3.0 SGD7P-SM to Fire Panel Connection
Use ribbon cable to directly connect SGD7P's K5 to the following Pertronic fire panels.

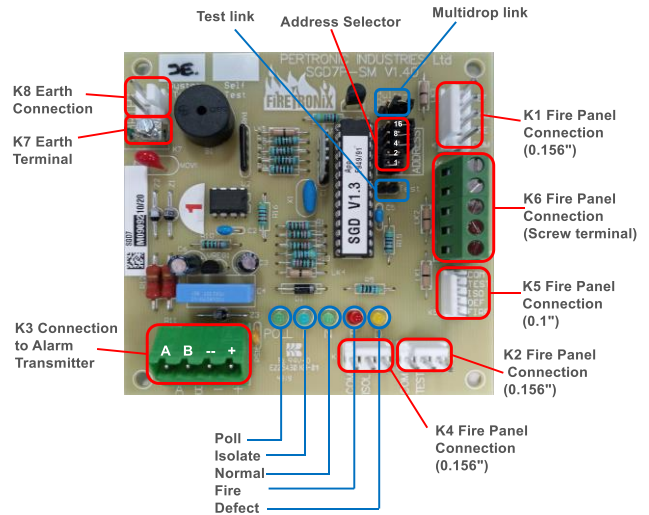| SGD7P Connector	Fire Panel	Panel Connector
K5	F4	K4
K4, K2	F16	F10, F11
K5	F16e	K12 or K7 (v2.00)
K5	F100AVR	K14
K5	F120A	K2
K5	F220	K2

Table 1: SGD7 to Fire Panel Connection

4.0 SGD to Alarm Transmitter
Four wires connect the SGD7 to the Alarm Transmitter; two data lines (A, B) and two power supply lines (+12v, 0v).

Twisted pair cable is recommended for the data lines (eg. 4 wire Pertronic SGD cable)

Recommendations for the power line cables are:

Distance SGD to Alarm Transmittter	Conductor area
Up to 100m	0.2mm sq
100 to 500m	0.5mm sq
500m to 1km	1.0mm sq

Table 2: Power Line Cable Selection
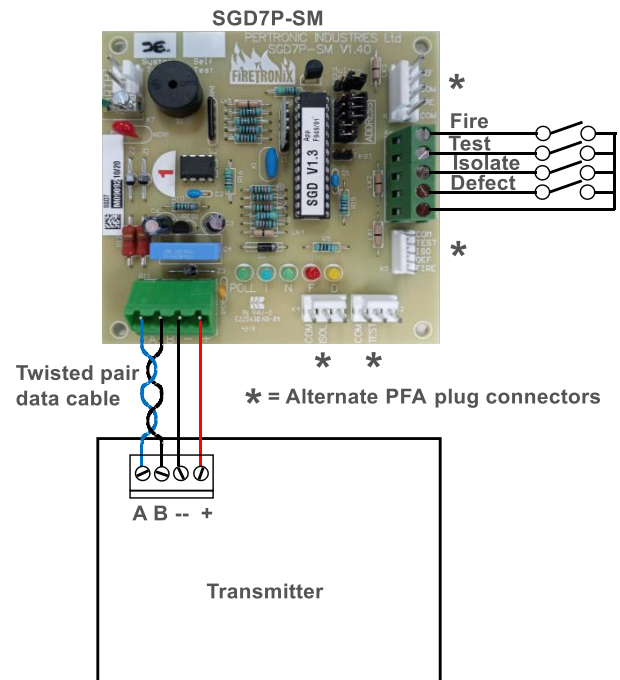

Figure 1: SGD7P-SM PCB Layout

Figure 2: Alarm Transmitter and Fire Panel Connections

5.0 SETTING UP THE SGD

5.1 Address Selection
The valid SGD address range is 1 - 16, selected by inserting links as shown below in Table 3.

SGD Address	Link 1	Link 2	Link 4	Link 8	Link 16
1	1	0	0	0	0
2	0	1	0	0	0
3	1	1	0	0	0
4	0	0	1	0	0
5	1	0	1	0	0
6	0	1	1	0	0
7	1	1	1	0	0
8	0	0	0	1	0
9	1	0	0	1	0
10	0	1	0	1	0
11	1	1	0	1	0
12	0	0	1	1	0
13	1	0	1	1	0
14	0	1	1	1	0
15	1	1	1	1	0
16	0	0	0	0	1
17	1	0	0	0	1

Table 3: Address selection ('1' indicates link inserted)

Note:
Address 17 is reserved for SGD Test mode. In Test mode the SGD reports the status of the PFA without the need for a connection to the Alarm Transmitter. Normally if there is no communication between the SGD and the Alarm Transmitter, the SGD will reset every 2.7 seconds.

5.2 Multi-drop mode
With multi-drop enabled (multi-drop link in) up to four SGD7P-SM's can be connected to a single port on the Alarm Transmitter. With the link removed, the SGD7P-SM operates as a standard SGD; one SGD per port.
When in multi-drop mode use SGD addresses 1 to 4 when connecting to port SGD 1-4 on the Alarm Transmitter and addresses 5 to 8 when connecting to port SGD 5-8 on the transmitter.

6.0 Status Indicators.
Four LEDs – Isolate, Normal, Fire and Defect - show the state of the connected Fire Panel. When the Test switch is activated, the LED's showing the state of the PFA will flash slowly. If a test signal is generated (by activating a fire, defect or isolate when in test) the 'Normal' LED will flash rapidly, after a delay of approx 1.2s, indicating that a defect has been sent to the Alarm Transmitter. When a valid test acknowledgment has been received by the SGD the LED associated with the test will flash rapidly for 3 seconds and then revert to a slow flash. (Note: The buzzer will also sound if the test was a fire test). To repeat the test the Test switch must be opened and closed again.

The Test mode will timeout after 45 minutes, and the SGD enabled.

6.1 Poll LED
The Poll LED will flash each time the SGD is polled by the Alarm Transmitter. Under normal conditions this LED will flash every 0.5 seconds in single-drop mode, and every second in multi-drop mode.

7.0 Connector Pin Designations

K1		K2		K4		K5		K6	
1	Common	1	Common	1	Common	1	Fire	1	Fire
2	Fire	2	Test	2	Isolate	2	Defect	2	Test
3	Common	3	N/C	3	N/C	3	Isolate	3	Isolate
4	Defect					4	Test	4	Defect
						5	Common	5	Common

Table 4: SGD7P-SM Connectors