

PERTRONIC INDUSTRIES LTD

INSTALLATION DATASHEET

SPIB-SGDAP

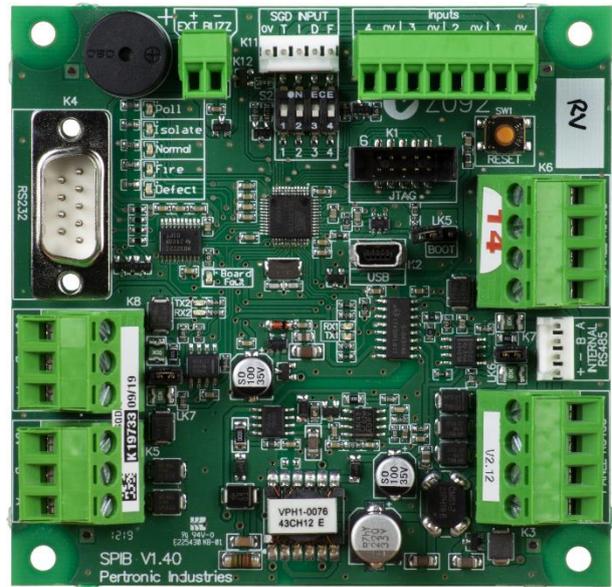


Overview:

The SPIB-SGDAP (Special Protocol Interface Board – Signal Generating Device Advanced Protocol) interfaces Pertronic F220 and Pertronic F100A fire panels with transmitting devices. The connected NZ Fire Service Alarm Transport System (ATS) transmits device information to a FENZ certified alarm monitoring company.

Features:

- Transmits full analogue addressable device information including alarm, defect, isolation and system conditions. The same information is shown on the fire panel's LCD display
- Powered by the ATS Transmitting Device (ATS-TxD) to comply with NZS4512:2010
- Monitoring system indicator LEDs : Poll, Isolate, Normal, Fire, and Defect
- In-built buzzer
- Also compatible with Pertronic F120A



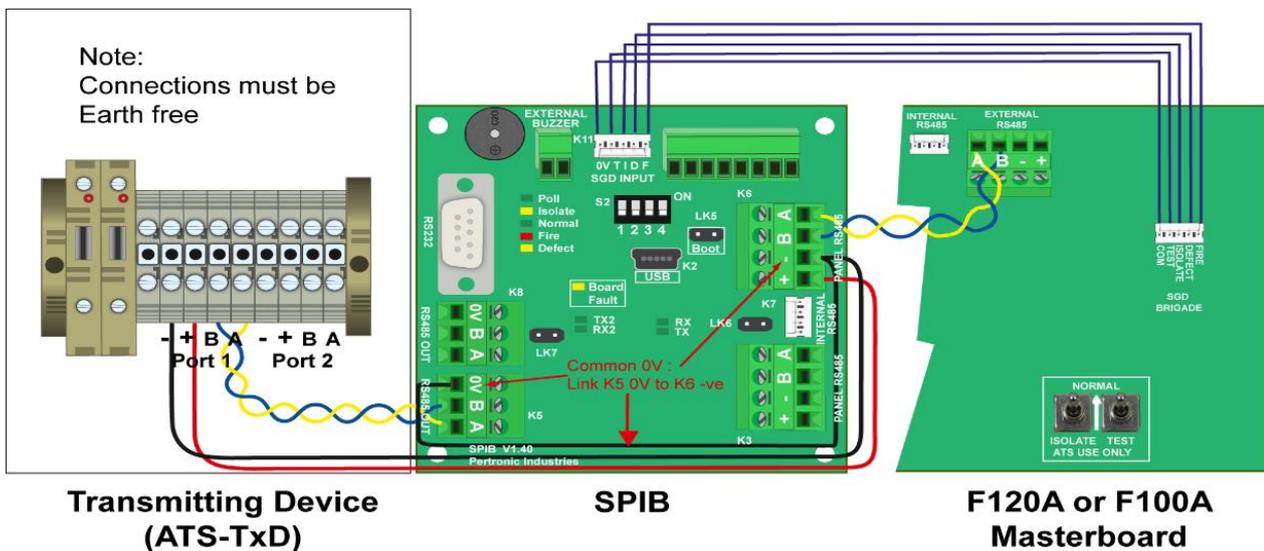
SPIB-SGDAP Board

Specifications:

PCB Dimensions	94 x 96.5 x 30 (H x W x D mm)
Mounting Holes Diameter	4 x 4 mm
Power Supply	9.6 V dc to 30 V dc from ATS - TxD
Typical Power Consumption (24 V dc)	21mA
External Buzzer Output Current Capability	50mA

Wiring Diagram:

Note: The Transmitting Device supplies power for the SPIB.



Order Code:

NZS Code	Description
SPIB-SGDAP	Signal Generating Device Advanced Protocol

Installation:

The SPIB-SGDAP connects to Pertronic F100A or F220 Fire Alarm Panels via the panel's SGD Brigade and RS485 Mimic port connections.

SGD connection: Provides Fire, Defect, Isolate and Test signals

RS485 Mimic port: Provides panel Event information to be transmitted to the SPIB-SGDAP.

The SPIB-SGDAP sends this combined information to the ATS-TxD in the required format.

DIP Switch (S2):

Ensure that all switches on the DIP Switch (S2) are set to the OFF position.

SGD Input Connection:

The SPIB-SGDAP's SGD Input (K11) connects to the Panel SGD connector with the 5-way SGD cable supplied.

SPIB-SGDAP RS485 Connections:

a) Panel:

- RS485 connector (K3 or K6) Connects to (any) one of the Panel 4-way RS485 Mimic connectors using the 2-way Data cable provided
- 'A' and 'B' terminals Must be wired to the corresponding Panel 'A' / 'B' terminal.
- RS485 '+' and '-' connections Connect to the ATS-TxD '+' and '-' terminals on either Port 1 or Port 2

	SPIB-SGDAP RS485 (K3 or K6)	Panel RS485
Data A Leg	A	A
Data B Leg	B	B

b) ATS-TxD:

- The SPIB-SGDAP RS485 connector (K5 or K8) connects to the ATS-TxD Port 1 connector.
- The SPIB-SGDAP 'A' / 'B' terminals must connect to the corresponding ATS-TxD Port 1 'A' / 'B' terminal.
- The SPIB-SGDAP RS485 0V terminal is wired into the ATS-TxD Port1 '-' terminal.

	SPIB-SGDAP RS485 (K5 or K8)	ATS-TxD (Port 1 or Port 2)
24 V dc	+	+
0 V dc	-	-
Data A Leg	A	A
Data B Leg	B	B



Configuration Jumpers:

	Not Fitted	Fitted	Note
LK5	Normal	Firmware Upgrade	Fit only to upgrade SPIB-SGDAP firmware
LK6	Normal	SPIB-SGDAP to Panel cable >500m	Do NOT fit if Panel RS485 bus already has REOL Terminates RS485 data lines 'A/B' on K3/K6 with 120Ω
LK7	Normal	SPIB-SGDAP to ATS-TxD cable >500m	Terminates RS485 data lines 'A/B' on K5/K8 with 120Ω

SPIB-SGDAP Status LED's:

The SPIB-SGDAP status LED's show the state of the SGD connection:

Panel Status	ATS Test Switch	ATS Isol Switch	Isolate LED	Normal LED	Fire LED	Defect LED	Buzzer	Board Fault LED	ATS-TxD Alarm Signal
Normal	OFF	OFF		ON Steady					<Normal>
Fire					ON Steady				<Fire>
Defect							ON Steady		
Normal	OFF	ON	ON Steady						<Isolate>

Fire					Flash-Slow				<Isolate>
Defect						Flash-Slow			<Isolate>
Normal				Flash-Slow					<Test>
Fire	ON	OFF			Flash-Fast (3 secs), then Slow			ON (3 secs)	<Test - Fire>
Defect						Flash-Fast (3 secs), then Slow			<Test - Defect>
Fire	ON->OFF	OFF		Flash (15 secs), then OFF	Flash-Fast (15 secs), then ON	Flash (15 secs), then OFF		ON (15 secs)	<Test - Fire> (15 secs), then <Fire>
RS485 A or B Disconnected	OFF	OFF						Flash-Fast	Trouble
Disconnect SGD	OFF	OFF	Single Flash		Double Flash	Double Flash			<Test - Isolate>

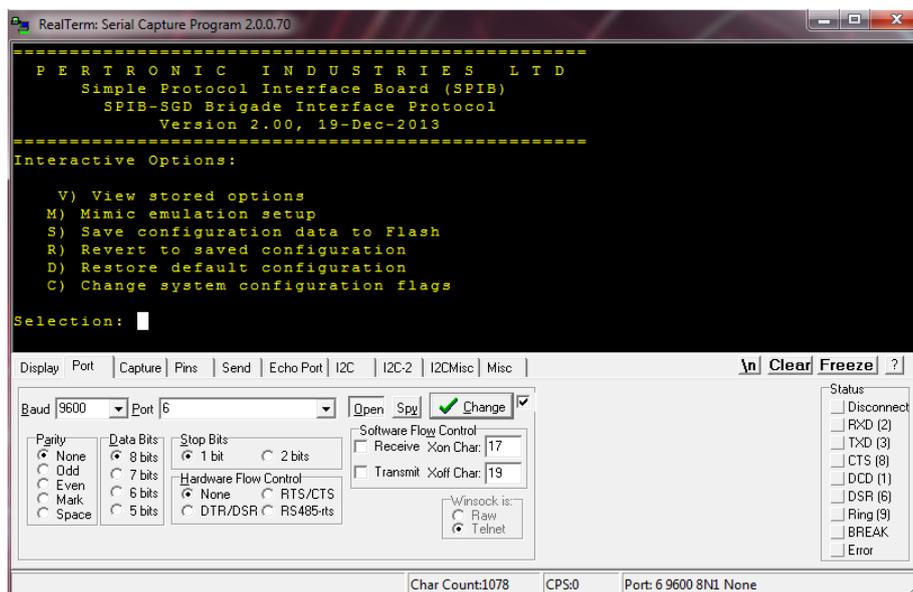
Configuring the SPIB-SGDAP

At32uc3xx_cdc.inf driver file is needed to be able to configure the SPIB-SGDAP, contact Pertronic Industries Technical Support to obtain this file or download it from the Pertronic Website and save it to known location on your PC.

1. Plug in USB – USB mini lead into socket K2 on the SPIB-SGDAP, the other end into a PC USB Socket
2. Click **Start** then **Computer** (right click)
3. Click **Manage** then **Device Manager**
4. Click on **Other Devices**
5. Right click on **Unknown Device**
6. Click on **Updater Driver Software**
7. Choose Option “**Browse my computer for driver software**”
8. Navigate to the location for the new driver file (**At32uc3xx_cdc.in**)
9. Click on the **next** button
10. Follow the instructions to complete installation of the driver
11. Ignore any “warnings” that appear-proceed to completion



Once the USB to serial driver has been installed on the PC, all that is required is a terminal program (e.g. RealTerm) to interface to the SPIB using the virtual COM port that was created. You can download RealTerm from their website for free at <http://realterm.sourceforge.net>. Open RealTerm click the Port tab and configure as below using the appropriate port number. Set the Baud to 9600, Data bits to 8, Stop bits to 1, Parity None and Flow Control to None. Connect to the SPIB, then press key ? and the SPIB generates the following message:



```

RealTerm: Serial Capture Program 2.0.0.70
-----
P E R T R O N I C   I N D U S T R I E S   L T D
Simple Protocol Interface Board (SPIB)
SPIB-SGD Brigade Interface Protocol
Version 2.00, 19-Dec-2013
-----
Interactive Options:

V) View stored options
M) Mimic emulation setup
S) Save configuration data to Flash
R) Revert to saved configuration
D) Restore default configuration
C) Change system configuration flags

Selection: █

Display Port Capture Pins Send Echo Port I2C I2C-2 I2CMisc Misc
-----
Baud 9600 Port 6 Open Spy Change
Parity Data Bits Stop Bits Software Flow Control
  None 8 bits 1 bit Receive Xon Char: 17
  Odd 7 bits 2 bits Transmit Xoff Char: 19
  Even 6 bits
  Mark 5 bits Hardware Flow Control
  Space 5 bits  None RTS/CTS
  DTR/DSR RS485-its
  Winsock is:
  Raw
  Telnet
Status
  Disconnect
  RXD (2)
  TXD (3)
  CTS (8)
  DCD (1)
  DSR (6)
  Ring (9)
  BREAK
  Error
Char Count:1078 CPS:0 Port: 6 9600 8N1 None
  
```

Multi drop mode

This allows up to 16 SPIB-SGDAP's to connect to one ASE (Alarm Signalling Equipment). To set the SPIB-SGDAP multi drop address, start RealTerm and connect to the SPIB, then press key ? and you will see the following message as above.

Press Key C

You will see 'Use RS485 output: YES', keep pressing the enter key until you see 'Multidrop address (0=disable): 0'. To set the multidrop address, enter a number from 1 to 16 then press enter. To disable multidrop set address to zero. Kept pressing the enter key until you see 'Selection:', you now have configured multidrop mode.

Lastly, press S to saved the changes.

Pressing the relevant key (V, M, S, R, D or C) will bring up the selected option. Pressing any other key will regenerate the above screen.

Option Description

Other options are available on the SPIB however are not required to configure the SPIB:

- **View Stored Options**
Display all the configuration options.
- **Mimic Emulation Setup**
The SPIB has the ability to emulate a Pertronic LED or LCD mimic device in order to provide disconnection information back to the panel.
- **Save Configuration to Flash**
This option saves the current options to Flash memory so that they are restored when the SPIB is next restarted. Otherwise, all changes are just made to RAM & will be lost upon reset. Confirmation will be given on saving of the configuration.
- **Rever to saved configuration**
Load the saved configuration from flash memory.
- **Restore Default Configuration**
Restore the Default configuration.
- **Change System Configuration Flags**
All major configuration options are made here. All Yes/No type options can be answered by just pressing Y or N as appropriate. Numeric options are sanity-checked after pressing Enter and may be repeated until an acceptable answer has been given. In all cases pressing Esc aborts the current question & leaves the option unchanged.

The information in this document must not be treated as partial or complete instructions for the design, construction, installation, commissioning, or maintenance of fire detection, fire alarm, or building evacuation systems. Fire and evacuation systems must be designed and installed by properly qualified persons, in accordance with all regulatory requirements.

Unless explicitly stated otherwise, this document provides typical specifications and nominal dimensions. Actual product performance and dimensions may vary.

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