VS1800

Alarm Input Monitoring Module

User's Manual / Installation Guide

Version 1.40

Visiplex, Inc. 2010

VS1800

Alarm Input Monitoring Module

Copyright

Disclaimer

The information within this document has been carefully checked and is assumed to be accurate and reliable. However, no responsibility is assumed for inaccuracies. Visiplex, Inc. reserves the right to make changes to any of the products herein to improve reliability, functionality or design.

About This Manual

This VS1800 User's Manual / Installation Guide describes the installation and setup procedures of the VS1800 for alarm and dry-contact input monitoring.

It is imperative the manual is followed in the order it is presented to prevent damage to the equipment, as well as insuring proper system functionality.

Table of Contents

Product Information

1.1 Introduction

The VS1800 offers a simple yet powerful alarm inputs monitoring capabilities and provide a serial interface to paging encoders or any other device that requires serial communication input.
The VS1800 can monitor dry-contact closure alarm inputs or voltage level alarm inputs. When the status of an alarm input changes to ON or OFF, the VS1800 provides a serial data output that can be processed by any external system. The serial data output includes a programmable subscriber number (usually pager number) and a programmable message that should be sent to the subscriber or system that has to be notified of the status change of the specific alarm input.

The VS1800 can monitor 96 individual alarm inputs and supports individual settings programming for each alarm input. Each alarm input can be programmed using the VisiDB software or using the keypad (alphanumeric messages programming require VisiDB software).

1.2 Standard Features

- Built-in 96 alarm or dry-contact closure inputs
- RS232 serial connection for serial communication to paging encoder or PC
- Dry Contact (normally open or normally closed) and Voltage Level (high voltage to low voltage or low voltage to high voltage) monitoring interface
- Numeric keypad and four Alpha menu keys
- Built-in memory backup
- 2 line by 16 character LCD display
- Desk or wall mountable

1.3 Optional Features

- Pulse / Flash Mode monitoring interface

1.4 Package Contents

The following items are included with the VS1800:
- VS1800 Alarm Input Monitoring Module
- Power adaptor
- RS232 communication cable

1.5 Key Navigation

The following keys also function in system menus as detailed below:

#	Select / Acknowledge / Enter
*****	Return to previous menu / Escape
1	On / Next
0	Off / Previous

Installation

2.1 Site Inspection and System Location

Consider the following requirements when planning system installation and choosing a location for the VS1800 and other system components:

1. Choose a location that is easily accessible in case you need to perform maintenance on VS1800.

2. Install a UPS power backup to protect the system from power outages and surges. If you are using an external encoder, place it next to the VS1800 and use the data cable provided to connect the VS1800 and the external encoder.

3. Connect the provided power supply to the **DC** jack at the back of the VS1800 and turn the **POWER** switch to **ON** position. The main menu should be displayed.

2.2 Alarm Input Connections

Alarm inputs should be connected to the DB25 connectors marked as J1, J2, J3 and J4 at the back panel of the VS1800 (refer to **Alarm Input Pin Out** on page 14 for more information).
Each alarm input requires a set of 2 wires: Dry Contact Closure monitoring requires non-polarized 2 wires while Voltage Level monitoring requires polarized 2 wires (+ and -).
All alarm inputs on a specific DB25 connector should share the same GROUND (or the - wire) by connecting them to Pin 1 of the specific DB25 connector at the back panel of the VS1800. The other wire (or the + wire) should be connected to one of the other pins on the DB25 connector (Pins 2-25). An alarm input status changes when one of the following conditions is true:

1. For Dry Contact Closure: Pin 1 is shorted with the pin corresponding to the alarm input (for normally open input type) or when Pin 1 is disconnected from the pin corresponding to the alarm input (for normally closed input type). For example, for normally open input type, if Pin 1 is shorted with Pin 5, Alarm 4 is considered to be ON.

2. For Voltage Level and Pulse / Flash Mode: The voltage level measured between Pin 1 (-) and the pin corresponding to the alarm input (+) compared to the Threshold Level settings for the alarm input determines if the alarm is ON or OFF. For example, for Voltage Low-High alarm input type, if the voltage measured between Pin 1 and Pin 5 is 12VDC and the Threshold Level for this alarm input is set to 5 VDC, Alarm 4 is considered to be ON.

2.3 Operation Modes and Serial Data Output

The VS1800 is available in two operation modes:

1. Paging Encoder Interface Mode: When an alarm input status changes, the VS1800 sends a serial data using the VISIPLEX serial protocol. The data output includes the subscriber number and the message that should be sent to the subscriber. The VISIPLEX serial protocol format is listed below:

   Command format: **PnnnM<CR>**
   P – Fixed prefix (must be capital P).
   nnn – 3 digit valid subscriber or pager number.
   M – Alphanumeric message.
   <CR> - Carriage Return (ASCII 13)

   Serial Input and Output:

VS1800 Output	Terminal Response
PnnnM<CR>	None (paging encoder is required to process the paging request according to its database)
Terminal Output	VNS1800 Response
<CR>	?99<CR>

   NOTE: Paging Encoder Interface Mode is the default operation mode and is compatible with Visiplex paging encoders.

2. Alarm Input Status Mode: This mode is reserved for specific Visiplex systems that require alarm input status only while the processing of the required response is performed by external system. This operation mode is activated only if the VS1800 is supplied for a compatible Visiplex system.

System Information

The main menu shown below appears after the VS1800 is turned on and is used for accessing the VS1800 menus.

```
BIO1800    11:55
MONITORING...
```

3.1 Alarm Input Programming Menu

Note: The VisiDB software provides an easy programming and database backup interface. It is recommended that VisiDB will be used for these tasks.

From the **Main Menu** press the **A** key. Enter **1800** as password. The prompt **Input Number** will appear on the top line.

Enter the number of the input you wish to edit as a 3-digit number (for example, "001"). Following are the settings description:

Input Type	Select the required input type and press the **#** key: **1** – Dry Contact N.O (Normally Open, alarm will be triggered when contact is closed) **2** – Dry Contact N.C (Normally Closed, , alarm will be triggered when contact is opened) **3** – Voltage High-Low (alarm will be triggered when voltage level changes to a level below the Threshold Level) **4** – Voltage Low-High (alarm will be triggered when voltage level changes to a level above the Threshold Level) **5** – Pulsing High-Low (alarm will be triggered when voltage level fluctuates between the normal voltage and the below Threshold Level, the normal voltage is higher than the Threshold Level) **6** – Pulsing Low-High (alarm will be triggered when voltage level fluctuates between the normal voltage and above Threshold Level, the normal voltage is lower than the Threshold Level) **7** – Double Mode Low (alarm will be triggered in either Voltage Low-High or Pulsing Low-High) **8** – Double Mode High (alarm will be triggered in either Voltage High-Low or Pulsing High-Low) **Note**: Input types 5-8 are optional.
Pulse Rate	**1** – 1 Per Seconds (voltage level fluctuates once per second between the normal voltage and the Threshold Level) **2** – 2 Per Seconds (voltage level fluctuates twice per second between the normal voltage and the Threshold Level) **Note**: This setting is only available for input type 5-8.
Threshold Level	Enter a value (0 to 230) representing the normal voltage level as a 3-digit number and press the **#** key. **Note**: This setting is only available for input type 5-8. Threshold value of 0 represent -25V, threshold value of 230 represent +25V. For more information, refer to the **Threshold Voltage Conversion Table** on page 15.
Activation Plan	This setting is not applicable and reserved for future use. Press **1** followed by the **#** key: **1** – Always Active **2** – Schedule Plan 2 **3** – Schedule Plan 3 **4** – Schedule Plan 4 **5** – Schedule Plan 5 **6** – Schedule Plan 6 **7** – Schedule Plan 7 **8** – Schedule Plan 8 **9** – Schedule Plan 9 **0** – Non Active
Send to Pager	Enter a value (001 to 999) representing the pager that should be activated by the paging encoder connected to the VS1800 when the alarm input changes from OFF to ON. Press the **#** key. The VS1800 will send a request to send a message to that pager using Visiplex protocol. **Note**: A value of "000" will cause the VS1800 to not send the paging request and the alarm activation will be ignored.
Alarm Message	The message that should be sent to the paging encoder connected to the VS1800 when the alarm input changes from OFF to ON. Press the **#** key. Note: The message is programmable using the VisiDB software.

Page on Cancel	Enter a value (001 to 999) representing the pager that should be activated by the paging encoder connected to the VS1800 when the alarm input changes from ON to OFF. Press the **#** key. The VS1800 will send a request to send a message to that pager using Visiplex protocol. Note: This feature is not active unless specifically requested by the customer – contact Visiplex technical support for more information. A value of "000" will cause the VS1800 to not send the paging request and the alarm deactivation will be ignored.
Cancel Message	The message that should be sent to the paging encoder connected to the VS1800 when the alarm input changes from ON to OFF. Press the **#** key. Note: This feature is not active unless specifically requested by the customer – contact Visiplex technical support for more information. The message is programmable sing the VisiDB software.
Repeat Page	This setting is not applicable and reserved for future use. Press **1** followed by the **#** key: **0** – No Repeat **1** – Up to 4 Times **2** – Up to 10 Times **3** – Until Canceled
Input Delay	The delay in seconds between the detection of a triggered alarm input and the request to send a message to the pager assigned in **Send to Pager**. If during that delay the alarm input returns to normal, no paging request will be sent.
Activate Relay	This setting is not applicable and reserved for future use. Enter **000** followed by the **#** key.

After the last step is completed, the display will change to **Update Changes ?**. Press the **#** to save changes or press ***** to cancel changes.

Press the ***** key to return to the **Main Menu**.

3.2 Administration Menu

From the **Main Menu** press the **B** key. Enter **1800** as password. The prompt **Select Option** will appear on the top line.

The **Administration Menu** provides access to the following available sub-menus:

1 - Unit ID
2 - Time Setup
3 - Serial Port Settings
8 - Reset Database

To access a specific sub-menu, press the digit key representing it.

3.2.1 Unit ID Menu

From the **Administration Menu**, select **1** followed by the **#** key. Following are the setting description:

Unit ID	Determines the assignment of the first alarm input monitored by the VS1800. Up to 10 unit of VS1800 can be connected to each other and the Unit ID setting determines the alarm input range monitored by each VS1800. Select the required unit ID and press the **#** key: **1** – Alarm Inputs 001-096 **2** – Alarm Inputs 049-144 **3** – Alarm Inputs 145-240 **4** – Alarm Inputs 241-336 **5** – Alarm Inputs 337-432 **6** – Alarm Inputs 433-528 **7** – Alarm Inputs 529-624 **8** – Alarm Inputs 625-720 **9** – Alarm Inputs 721-816
Note: Underlined values indicate default values.	

After the last step is completed, the **Administration Menu** will be displayed and the display will change to **Select Option**.

Press the ***** key to return to the **Main Menu**.

3.2.2 Time Setup Menu

From the **Administration Menu**, select **2** followed by the **#** key. The following screen will be displayed:

```
ENTER NEW TIME:
```

Enter the time in 24 hours (military) format. The display will change back to the **Administration Menu**.

3.2.3 Serial Port Settings Menu

From the **Administration Menu**, select **3** followed by the **#** key. Following are the setting description:

COM Port Mode	Determines the serial (COM) port settings that will be used to communicate with any external device using RS232 communication. Select the required serial communication settings and press the **#** key: **1** – 300-7-E-1 **2** – 300-8-N-1 **3** – 1200-7-E-1 **4** – 1200-8-N-1 **5** – 2400-7-E-1 **6** – 2400-8-N-1 **7** – 9600-7-E-1 **8** – 9600-8-N-1
Note: Underlined values indicate default values.	

After the last step is completed, the **Administration Menu** will be displayed and the display will change to **Select Option**.

Press the ***** key to return to the **Main Menu**.

3.2.4 Reset Database Menu

NOTE: This is an **IRREVERSIBLE** command - **DO NOT** select this option unless you are absolutely sure you want to clear all programmed data.
You may want to transcribe this information to paper first or use the optional PC software to backup the data to a computer.
From the **Administration Menu**, select **8** followed by the **#** key.

```
CLEAR ALL DATA..
ARE YOU SURE???
```

Press **#** to confirm the Database Reset. Press ***** or any other key to cancel and go back to the **Administration Menu** menu.

3.3 Multiple Alarm Input Programming Menu

Note: The VisiDB software provides easy programming interface and database backup. It is recommended that VisiDB will be used for these tasks.

This menu allows the user to program multiple alarm inputs as long as they are within a sequential range.

From the **Main Menu** press the **C** key. Enter **1800** as password. The prompt **From Input** will appear on the top line.

Enter the number of the first input you wish to program as a 3-digit number (for example, “001”) and press the **#** key.
Enter the number of the last input you wish to program as a 3-digit number (for example, “020”) and press the **#** key.

Follow the steps listed in **Alarm Input Programming** Menu on page **3.1** Alarm Input Programming Menu6. After the last step is completed, the display will change to **Update Changes ?**. Press the **#** to save changes or press ***** to cancel changes.

3.4 Alarm Input Monitoring Menu

This menu allows the user to monitor the status of an alarm input.

From the **Main Menu** press the **D** key. Enter **1800** as password. The prompt **Input Number** will appear on the top line.

Enter the number of the input you wish to monitor as a 3-digit number (for example, “001”).

Press the ***** key to go back to the **Alarm Input Monitoring Menu** and select a different alarm input.

Software

4.1 VisiDB

The optional VisiDB software allows you to program and backup the VS1800 database.

4.1.1 Connections

Follow these steps to connect the VS1800:

1. Connect the provided serial cable to the **RS-232** port and the other end to one of the serial ports on the PC. Make a note of the serial port used (COM1, COM2, etc.).

2. Install the programming software. Refer to **Software Installation** section for more information.

4.1.2 Software Installation

NOTE: VisiDB software must be installed by the PC administrator or by a user with administrator privileges. VisiDB software is compatible with Windows ME, XP and 2000.

Locate the VisiDB software CD-ROM and insert it to the CD-ROM drive on the PC. If the installation program doesn't start automatically within 5 seconds, use Windows Explorer to browse to the CD-ROM drive and then run the **VisiDB_Setup.exe** file.
Press **Next** on each step until the installation process is completed.

4.1.3 Software Configuration

NOTE: VisiDB software must be used by a user with full access privileges to Windows **Program Files** folder. Depending on your operating systems and PC configuration, administrator privileges may be required in some cases while in others Standard or Power user privileges may be sufficient.

Follow these steps to configure VisiDB:

1. Make sure the VS1800 is powered on and connected to the serial port on the PC.

2. Set the serial port of the VS1800 to 9600-8-N-1.

3. Press the Windows **Start** button. Select **Programs**, **VisiDB** program group and then select **VisiDB**.

4. The Serial Number dialog will be displayed. Enter the serial number shown on the CD-ROM and press **Ok**.

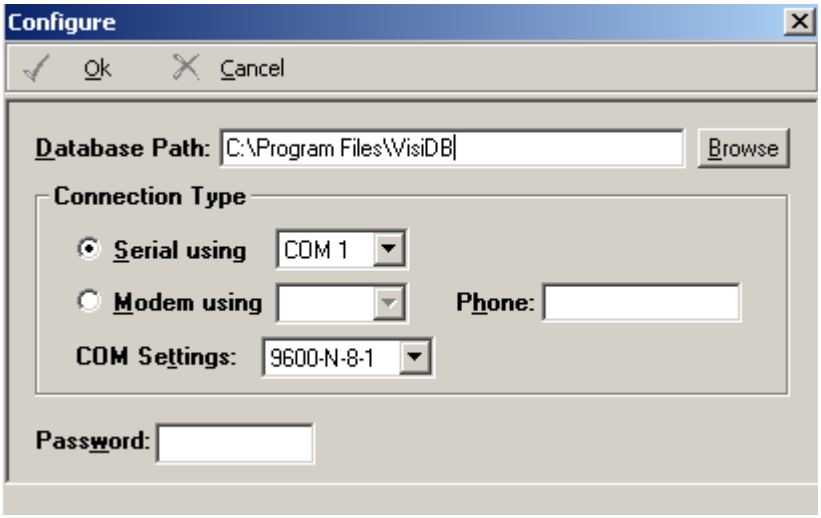
5. Press **Ok** on the next dialog box.

6. Go to **File**, **Admin Login** menu. Since the default password is blank, just press **Ok**.

7. Go to **Setup**, **Configure** menu.

8. Set the **Database Path** where all files will be stored (the default is "C:\Program Files\VisiDB").

9. Set the **Connection Type**: Select the PC serial port connected to the VS1800 (see **Connections** section). Set the **COM Settings** to **9600-N-8-1**. Press **Ok**.



10. To verify connection, go to **Help**, **About VisiDB** menu. The **Encoder Model** should show VS1800 and the **Serial Number** should show the last 5 digits of the VS1800 used. Press **Ok**.
    If this information is not displayed properly, verify all connections and go to step 6.

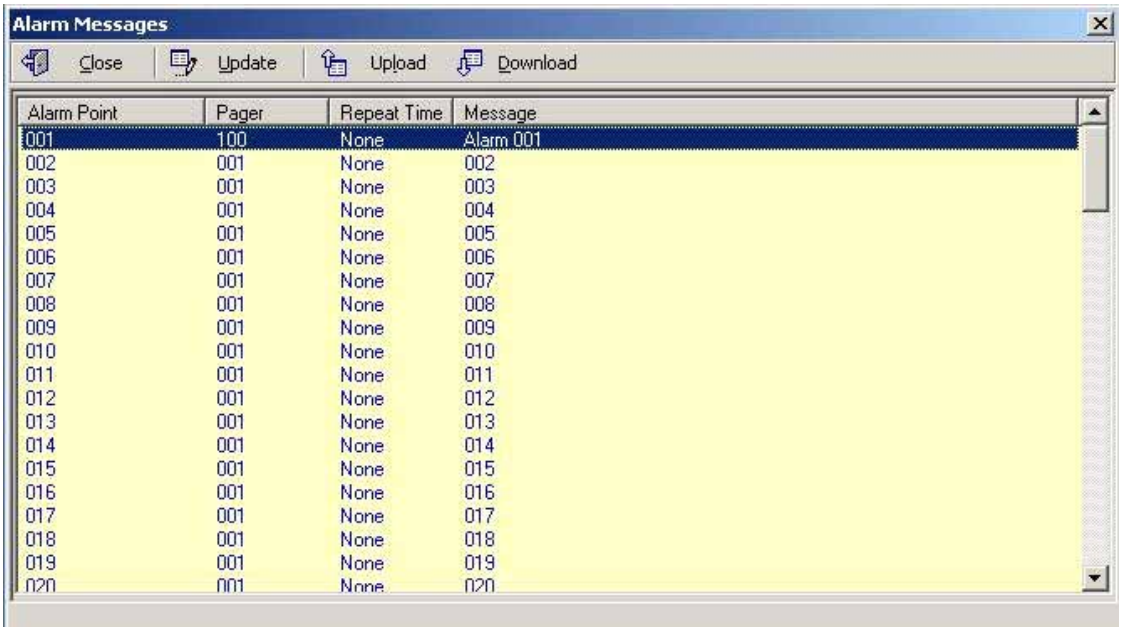
NOTE: To obtain further information and help for each screen, press F1 to display the online help.

4.1.4 Alarm Input Programming

Follow these steps to program an alarm input:

1. Make sure the VS1800 is powered on and connected to the serial port on the PC.
2. Go to **File**, **Admin Login** menu. Enter password and press **Ok** (default password is blank).
3. Go to **Messages, Alarm Messages** menu.
4. The **Alarm Messages** dialog box will be displayed. The last alarm programming file edited by the user will be retrieved from the hard drive and displayed. If this file does not exist, it will be automatically downloaded from the VS1800. Below are the fields and functions description:

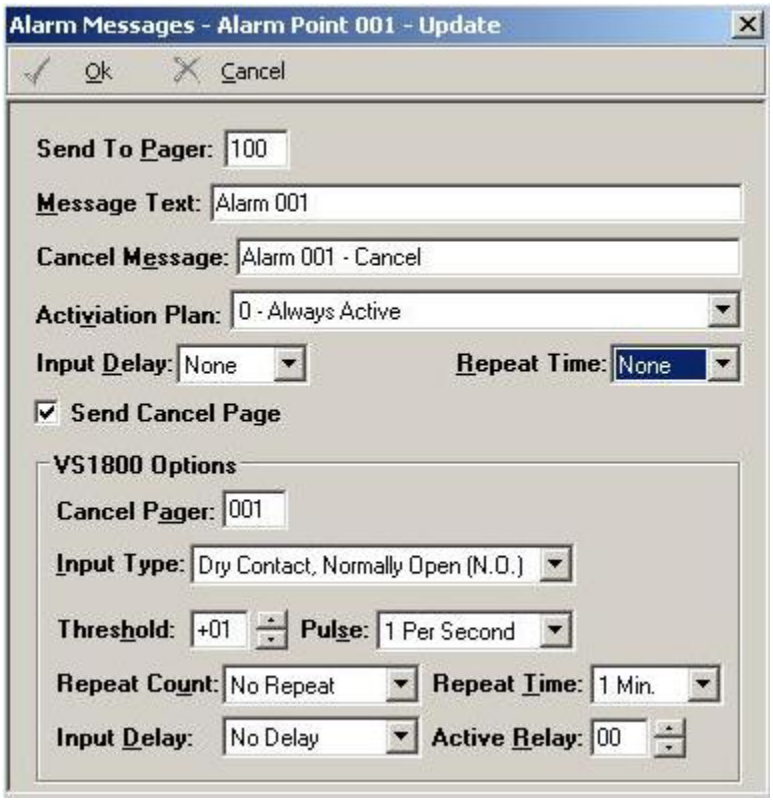
Close	Close the Alarm Message dialog box
Update	Display a dialog box that allows updating the specific highlighted alarm input on the alarm input list (see step 5)
Upload	Upload the displayed alarm input programming file in to the VS1800 memory. This command will overwrite the existing programming in the VS1800
Download	Download the alarm input programming from the VS1800 memory to the PC



5. If the **Update** command is selected, the **Alarm Messages – Update** dialog box will be displayed. Below are the fields and functions description:

Ok	Update alarm input file and VS1800 (if connected) with changes.
Cancel	Ignore all changes and exit.
Send to Pager	Enter a value (001 to 999) representing the pager that should be activated by the paging encoder connected to the VS1800 when the alarm input changes from OFF to ON. The VS1800 will send a request to send a message to that pager using Visiplex protocol. Note: A value of "000" will cause the VS1800 to not send the paging request and the alarm activation will be ignored.
Message Text	The message that should be sent to the paging encoder connected to the VS1800 when the alarm input changes from OFF to ON.
Cancel Message	The message that should be sent to the paging encoder connected to the VS1800 when the alarm input changes from ON to OFF. Note: This feature is not active unless specifically requested by the customer – contact Visiplex technical support for more information.
Activation Plan	This setting is not applicable and reserved for future use. Select **Always Active**.
Input Delay	Not applicable – see VS1800 Options section.
Repeat Time	Not applicable – see VS1800 Options section.
Send Cancel Page	Not applicable – see VS1800 Options section.
Cancel Pager	Enter a value (001 to 999) representing the pager that should be activated by the paging encoder connected to the VS1800 when the alarm input changes from ON to OFF. The VS1800 will send a request to send a message to that pager using Visiplex protocol. Note: This feature is not active unless specifically requested by the customer – contact Visiplex technical support for more information. A value of "000" will cause the VS1800 to not send the paging request and the alarm activation will be ignored.
Input Type	Assign the type of alarm input: **1** – Dry Contact N.O (Normally Open, alarm will be triggered when contact is closed) **2** – Dry Contact N.C (Normally Closed, , alarm will be triggered when contact is opened) **3** – Voltage High-Low (alarm will be triggered when voltage level changes to a level below the Threshold Level) **4** – Voltage Low-High (alarm will be triggered when voltage level changes to a level above the Threshold Level) **5** – Pulsing High-Low (alarm will be triggered when voltage level fluctuates between the normal voltage and the Threshold Level, the normal voltage is higher than the Threshold Level) **6** – Pulsing Low-High (alarm will be triggered when voltage level fluctuates between the normal voltage and the Threshold Level, the normal voltage is lower than the Threshold Level) **7** – Double Mode Low ((alarm will be triggered in either Voltage Low-High or Pulsing Low-High) **8** – Double Mode High ((alarm will be triggered in either Voltage High-Low or Pulsing High-Low) **Note**: Input types 5-8 are optional.

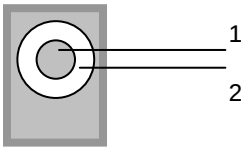
Threshold Level	Enter a value (0 to 230) representing the normal voltage level as a 3-digit number. Note: This setting is only available for input type 5-8. Threshold value of 0 represent -25V, threshold value of 230 represent +25V.
Pulse	**1** – 1 Per Seconds (voltage level fluctuates once per second between the normal voltage and the Threshold Level) **2** – 2 Per Seconds (voltage level fluctuates twice per second between the normal voltage and the Threshold Level) **Note**: This setting is only available for input type 5-8.
Repeat Count	This setting is not applicable and reserved for future use. Select **No Repeat**.
Repeat Time	This setting is not applicable and reserved for future use. Select **1 Min**.
Input Delay	The delay in seconds between the detection of a triggered alarm input and the request to send a message to the pager assigned in **Send to Pager**. If during that delay the alarm input returns to normal, no paging request will be sent.
Activate Relay	This setting is not applicable and reserved for future use. Enter **000**.



Appendices

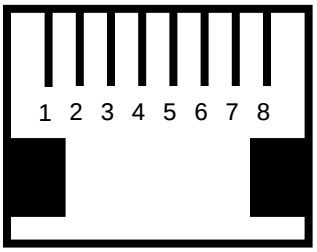
5.1 Appendix A – Connections, Wiring and Pin Out

5.1.1 Power Port Pin Out (DC)



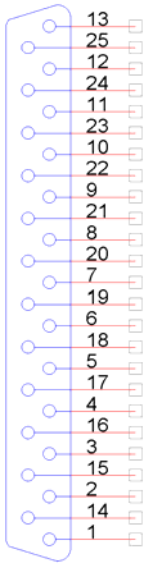
1 – POS (CENTER)
2 – GND

5.1.2 Serial Port Pin Out (RS-232)



1 – N.C. / 12V INPUT	5 – GND
2 – RX (IN)	6 – DSR (OUT)
3 – TX (OUT)	7 – GND
4 – N.C.	8 – N.C.

5.1.3 Alarm Input Pin Out (J1, J2, J3, J4)



J1-J4: 1 – GND
J1: 2 to 25 – Alarm Inputs 1 to 24 J2: 2 to 25 – Alarm Inputs 25 to 48 J3: 2 to 25 – Alarm Inputs 49 to 72 J4: 2 to 25 – Alarm Inputs 73 to 96

5.2 Appendix B – Threshold Voltage Conversion Table

Threshold Settings	Actual Voltage	Displayed Voltage	Threshold Settings	Actual Voltage	Displayed Voltage	Threshold Settings	Actual Voltage	Displayed Voltage
000	-14.130	-25	077	-8.261	-8	154	8.478	8
001	-13.913	-24	078	-8.044	-8	155	8.696	8
002	-13.696	-24	079	-7.826	-7	156	8.913	8
003	-13.478	-24	080	-7.609	-7	157	9.130	9
004	-13.261	-24	081	-7.391	-7	158	9.348	9
005	-13.044	-23	082	-7.174	-7	159	9.565	9
006	-12.826	-23	083	-6.957	-6	160	9.783	9
007	-12.609	-23	084	-6.739	-6	161	10.000	10
008	-12.391	-23	085	-6.522	-6	162	10.217	10
009	-12.174	-23	086	-6.304	-6	163	10.435	10
010	-11.957	-22	087	-6.087	-6	164	10.652	10
011	-11.739	-22	088	-5.870	-5	165	10.870	10
012	-11.522	-22	089	-5.652	-5	166	11.087	11
013	-11.304	-22	090	-5.435	-5	167	11.304	11
014	-11.087	-21	091	-5.217	-5	168	11.522	11
015	-10.870	-21	092	-5.000	-5	169	11.739	11
016	-10.652	-21	093	-4.783	-4	170	11.957	11
017	-10.435	-21	094	-4.565	-4	171	12.174	12
018	-10.217	-21	095	-4.348	-4	172	12.391	12
019	-10.000	-20	096	-4.130	-4	173	12.609	12
020	-9.783	-20	097	-3.913	-3	174	12.826	12
021	-9.565	-20	098	-3.696	-3	175	13.044	13
022	-9.348	-20	099	-3.478	-3	176	13.261	13
023	-9.130	-20	100	-3.261	-3	177	13.478	13
024	-8.913	-19	101	-3.043	-3	178	13.696	13
025	-8.696	-19	102	-2.826	-2	179	13.913	13
026	-8.478	-19	103	-2.609	-2	180	14.130	14
027	-8.261	-19	104	-2.391	-2	181	14.348	14
028	-8.044	-18	105	-2.174	-2	182	14.565	14
029	-7.826	-18	106	-1.957	-1	183	14.783	14
030	-7.609	-18	107	-1.739	-1	184	15.000	15
031	-7.391	-18	108	-1.522	-1	185	15.217	15
032	-7.174	-18	109	-1.304	-1	186	15.435	15
033	-6.957	-17	110	-1.087	-1	187	15.652	15
034	-6.739	-17	111	-0.870	0	188	15.870	15
035	-6.522	-17	112	-0.652	0	189	16.087	16
036	-6.304	-17	113	-0.435	0	190	16.304	16
037	-6.087	-16	114	-0.217	0	191	16.522	16
038	-5.870	-16	115	0.000	0	192	16.739	16
039	-5.652	-16	116	0.217	0	193	16.957	16
040	-5.435	-16	117	0.435	0	194	17.174	17
041	-5.217	-16	118	0.652	0	195	17.391	17
042	-5.000	-15	119	0.870	0	196	17.609	17
043	-4.783	-15	120	1.087	1	197	17.826	17
044	-4.565	-15	121	1.304	1	198	18.044	18
045	-4.348	-15	122	1.522	1	199	18.261	18
046	-4.130	-15	123	1.739	1	200	18.478	18
047	-3.913	-14	124	1.957	1	201	18.696	18
048	-3.696	-14	125	2.174	2	202	18.913	18
049	-3.478	-14	126	2.391	2	203	19.131	19
050	-14.130	-14	127	2.609	2	204	19.348	19
051	-13.913	-13	128	2.826	2	205	19.565	19
052	-13.696	-13	129	3.043	3	206	19.783	19
053	-13.478	-13	130	3.261	3	207	20.000	20
054	-13.261	-13	131	3.478	3	208	20.217	20
055	-13.044	-13	132	3.696	3	209	20.435	20
056	-12.826	-12	133	3.913	3	210	20.652	20
057	-12.609	-12	134	4.130	4	211	20.870	20
058	-12.391	-12	135	4.348	4	212	21.087	21
059	-12.174	-12	136	4.565	4	213	21.304	21
060	-11.957	-11	137	4.783	4	214	21.522	21
061	-11.739	-11	138	5.000	5	215	21.739	21
062	-11.522	-11	139	5.217	5	216	21.957	21
063	-11.304	-11	140	5.435	5	217	22.174	22
064	-11.087	-11	141	5.652	5	218	22.391	22
065	-10.870	-10	142	5.870	5	219	22.609	22
066	-10.652	-10	143	6.087	6	220	22.826	22
067	-10.435	-10	144	6.304	6	221	23.044	23
068	-10.217	-10	145	6.522	6	222	23.261	23
069	-10.000	-10	146	6.739	6	223	23.478	23
070	-9.783	-9	147	6.957	6	224	23.696	23
071	-9.565	-9	148	7.174	7	225	23.913	23
072	-9.348	-9	149	7.391	7	226	24.131	24
073	-9.130	-9	150	7.609	7	227	24.348	24
074	-8.913	-8	151	7.826	7	228	24.565	24
075	-8.696	-8	152	8.044	8	229	24.783	24
076	-8.478	-8	153	8.261	8	230	25.000	25

Note: This table should be used as a general reference only and actual voltage may be different than listed above. The values on this table are applicable only when Threshold Level is entered manually using the VS1800 keypad. If Threshold Level is programmed using VisiDB software, values are set in one volt increments.

General Information

6.1 Specifications

General

Data Format	Serial Data Output
Power	AC Adaptor - Input: 100-240VAC, 50/60Hz Output: 12VDC, 3A
Approvals	UL/CSA listing (power supply)
Operating Temperature	32º to 104º F / 0º to 40º C
Storage Temperature	14º to 140º F / -10º to 60º C
Operating Humidity	10%-65%
Dimensions (W x H x D)	9.75" x 2.5" x 5.5" / 248mm x 63mm x 140mm
Weight	2.10 lbs. / 2.6 lbs with power supply
Warranty	1 Year, Parts and Labor

6.2 Warranty

Unless otherwise specified at the time of original purchase, all equipment is warranted as to quality and performance for one year from the date of original shipment from our factory.

This factory warranty covers all parts, software, and/or labor (as specified at time of purchase) at our factory, as well as return shipping to you, the customer, but does not apply to any batteries or other damage resulting from abuse of the equipment. Warranty coverage excludes free replacement of cosmetic items such as clips, logos, etc.

The warranty is void if:

1. There is evidence of abuse to the equipment (i.e., corrosion, unusual physical damage, signs of exposure to temperatures outside the range of specifications, etc.)
2. The equipment contains an unauthorized modification.
3. Identification numbers on the printed circuit boards or chassis have been altered or removed.
4. Evidence of the product having been exposed to or submerged in water.
5. Equipment is damaged through acts of God, including, but not limited to: flood, lightning, hurricane, tornado, sustained high winds, acts of war, natural disasters, etc.

Should you experience problems with any product, we would suggest consulting your system or clock maintenance guide to correct any routine problems such as replacing batteries, cleaning contacts, checking AC voltage, etc.

If the problem persists, please call our technical support department for additional assistance, remote diagnostics help, etc. If your product must be returned for repair, our technical service department will provide you with a Returned Material Authorization (RMA) number and any other special instructions that will allow the repair to be handled as quickly as possible. All non-warranty products require a purchase order number in addition to an RMA number for repair work to be started.

For more information, or to obtain technical assistance on any warranty or non-warranty product, please write, call, fax or email to:

Visiplex, Inc.
100 N Fairway Drive, Suite 120
Vernon Hills, IL 60061
Phone: (847) 918-0250 or (877) 918-7243
Fax: (847) 918-0259
E-mail: support@visiplex.com
Website: www.visiplex.com
Business Hours: Monday-Friday, 9:00 AM - 5:00 PM Central Time.