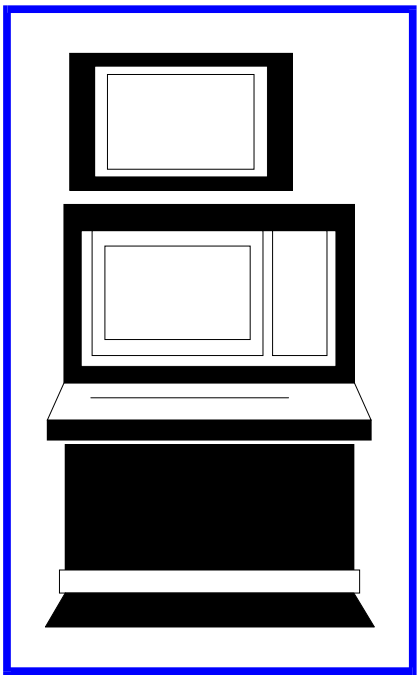
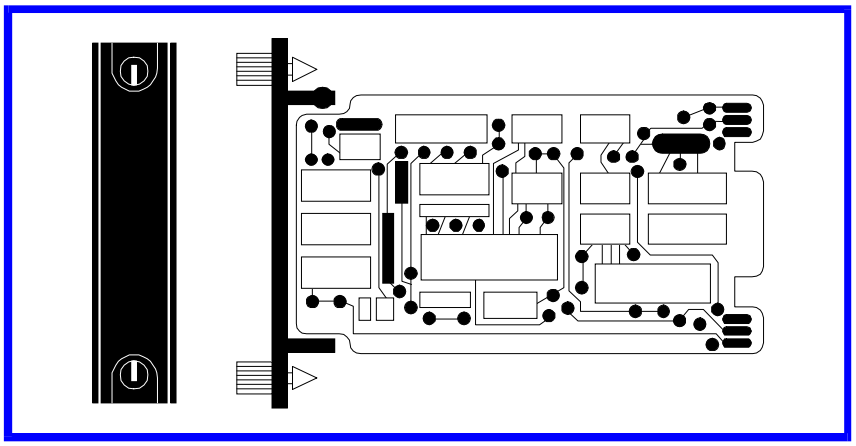
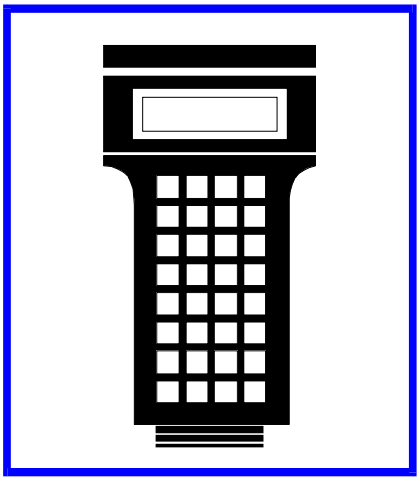
Bailey® infi 90®

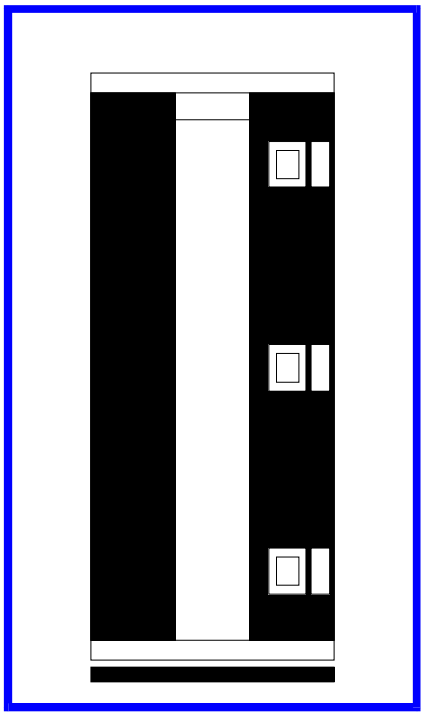
Instruction

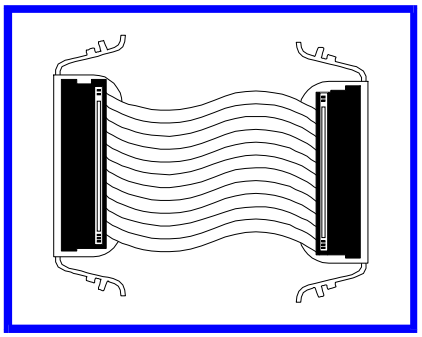
SmartLink Field Device Management Software
Release 1.0

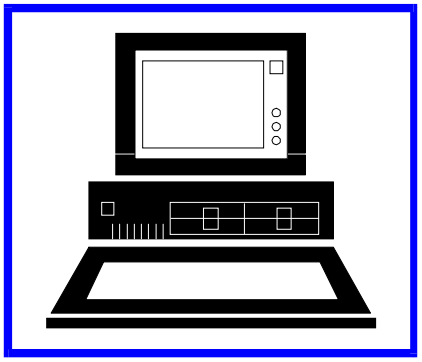












Bailey® Process Control and Automation Solutions from Elsag Bailey Group

WARNING notices as used in this instruction apply to hazards or unsafe practices that could result in personal injury or death.

CAUTION notices apply to hazards or unsafe practices that could result in property damage.

NOTES highlight procedures and contain information that assists the operator in understanding the information contained in this instruction.

WARNING

INSTRUCTION MANUALS

DO NOT INSTALL, MAINTAIN, OR OPERATE THIS EQUIPMENT WITHOUT READING, UNDERSTANDING, AND FOLLOWING THE PROPER **Elsag Bailey** INSTRUCTIONS AND MANUALS; OTHERWISE, INJURY OR DAMAGE MAY RESULT.

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MOST ELECTRONIC EQUIPMENT IS INFLUENCED BY RADIO FREQUENCY INTERFERENCE (RFI). CAUTION SHOULD BE EXERCISED WITH REGARD TO THE USE OF PORTABLE COMMUNICATIONS EQUIPMENT IN THE AREA AROUND SUCH EQUIPMENT. PRUDENT PRACTICE DICTATES THAT SIGNS SHOULD BE POSTED IN THE VICINITY OF THE EQUIPMENT CAUTIONING AGAINST THE USE OF PORTABLE COMMUNICATIONS EQUIPMENT.

POSSIBLE PROCESS UPSETS

MAINTENANCE MUST BE PERFORMED ONLY BY QUALIFIED PERSONNEL AND ONLY AFTER SECURING EQUIPMENT CONTROLLED BY THIS PRODUCT. ADJUSTING OR REMOVING THIS PRODUCT WHILE IT IS IN THE SYSTEM MAY UPSET THE PROCESS BEING CONTROLLED. SOME PROCESS UPSETS MAY CAUSE INJURY OR DAMAGE.

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L'ENTRETIEN DOIT ÊTRE ASSURÉ PAR UNE PERSONNE QUALIFIÉE EN CONSIDÉRANT L'ASPECT SÉCURITAIRE DES ÉQUIPEMENTS CONTRÔLÉS PAR CE PRODUIT. L'AJUSTEMENT ET/OU L'EXTRACTION DE CE PRODUIT PEUT OCCASIONNER DES À-COUPS AU PROCÉDÉ CONTRÔLE LORSQU'IL EST INSÉRÉ DANS UNE SYSTÈME ACTIF. CES À-COUPS PEUVENT ÉGALEMENT OCCASIONNER DES BLESSURES OU DES DOMMAGES MATÉREILS.

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Safety Summary

GENERAL WARNINGS	**Equipment Environment** All components, whether in transportation, operation or storage, must be in a noncorrosive environment. **Electrical Shock Hazard During Maintenance** Disconnect power or take precautions to insure that contact with energized parts is avoided when servicing.
SPECIFIC WARNINGS	This procedure changes the output of the device. Performing this procedure while the device is in the process can upset that process. Some process upsets can injure personnel and damage equipment. (p. 3-19, 3-25, 3-27)

Sommaire de Sécurité

AVERTISSEMENTS D'ORDRE GÉNÉRAL	**Environnement de l'équipement** Ne pas soumettre les composants à une atmosphère corrosive lors du transport, de l'entreposage ou l'utilisation. **Possibilité de chocs électriques durant l'entretien** Débrancher l'alimentation ou prendre les précautions pour éviter tout contact avec des composants sous tension durant l'entretien.
AVERTISSEMENTS D'ORDRE SPÉCIFIQUE	Cette procédure change le signal de sortie du dispositif. Si on effectue cette procédure alors que le dispositif est en commande du procédé, il est possible que le procédé soit dérangé. Certains dérangements de procédé peuvent causer des blessures au personnel ou des dommages à l'équipement. (p. 3-19, 3-25, 3-27)

Preface

This instruction documents the functions and features of SLNK01 SmartLink Field Device Management software, release 1.0. There are three versions of the SmartLink software:

- SLNK011 for use with a Smart Interface Unit (SIU).
- SLNK012 for use with an SIU or an INFI 90® OPEN interface module.
- SLNK013 for use with an IIOIS42 or IIOIS43 console with H.2 software revision and above.

SmartLink software is designed for MS-DOS® (disk operating system) platforms to run in the Windows™ environment. SmartLink software provides configuration, monitoring, and tuning capabilities for Bailey-Fischer & Porter smart devices. An SIU01 Smart Interface Unit or an INFI 90 OPEN interface module provide communications between the personal computer and the smart devices. Supported devices include:

- Type BCN Smart Electronic Transmitters.
- Type EQN Smart Temperature Transmitters.
- Type EQS Platinum Standard™ Series Temperature Transmitters.
- Type PTS Platinum Standard Series Electronic Transmitters.
- Type TBN581 pH/ORP/Specific Ion Transmitters.
- Type TBN580 Platinum Standard Smart Temperature Transmitter.
- Type TBN481 Smart Conductivity Transmitter.
- Type AVS Smart Positioner.

List of Effective Pages

Total number of pages in this instruction is 60, consisting of the following:

Page No.	Change Date
Preface	Original
List of Effective Pages	Original
iii through vii	Original
1-1 through 1-4	Original
2-1 through 2-6	Original
3-1 through 3-33	Original
4-1 through 4-4	Original
5-1	Original
A-1 through A-3	Original
Index-1 through Index-2	Original

When an update is received, insert the latest changed pages and dispose of the superseded pages.

NOTE: On an update page, the changed text or table is indicated by a vertical bar in the outer margin of the page adjacent to the changed area. A changed figure is indicated by a vertical bar in the outer margin next to the figure caption. The date the update was prepared will appear beside the page number.

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® INFI 90	Registered trademark of Elsag Bailey Process Automation.
® INFI-NET	Registered trademark of Elsag Bailey Process Automation.
™ Pentium	Trademark of INTEL corporation.
™ Platinum Standard	Trademark of Elsag Bailey Process Automation.
® MS DOS	Registered trademark of the Microsoft Corporation.
™ Windows	Trademark of the Microsoft Corporation.
™ Windows NT	Trademark of Microsoft corporation.

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SECTION 1 - INTRODUCTION

OVERVIEW

SmartLink software is designed for MS-DOS (disk operating system) platforms to run in the Windows environment. SmartLink software provides configuration, monitoring and tuning capabilities for Bailey-Fischer & Porter devices.

SmartLink software interfaces Bailey-Fischer & Porter devices via the SIU01 Smart Interface Unit (SIU) or via an INFI 90 OPEN interface module. Table 1-1 lists the supported computer interface units. The personal computer running SmartLink software is connected to the interface unit by either RS-232-C or RS-485 protocol. Communication rates are 9,600 baud when using an RS-232-C serial port and 9,600, 19,200 or 38,400 baud when using RS-485 input.

INTENDED USER

The information in this instruction is a guide for personnel responsible for the installation and operation of SmartLink software. Users should be proficient using personal computers and be familiar with Bailey-Fischer & Porter smart devices, the MS-DOS operating system and the Windows environment.

FEATURES

Easy to Use Software. SmartLink software is a menu-driven software package written for the Windows environment.

Low Cost Alternative. SmartLink software, along with the SIU01 Smart Interface Unit, provides a low cost stand-alone system that allows remote configuration, monitoring and tuning of Bailey-Fischer & Porter smart devices.

On-Line Help. SmartLink software includes on-line help for quick reference about procedures and keystrokes and supplementary information about functions.

APPLICATION

SmartLink software, together with a smart interface unit, provides a remote interface to Bailey-Fischer & Porter smart devices from a personal computer. SmartLink software also provides an interface to Bailey-Fischer & Porter smart devices from a personal computer using an INFI 90 OPEN interface module or an IIOIS42/IIOIS43 console with H.2 or later software.

SUPPORTED INTERFACE UNITS

Table 1-1 contains a list of the nomenclature and names of the supported SmartLink interface devices.

Table 1-1. SmartLink Interface Devices

Nomenclature	Name
IMSPM01	Serial Port Module
IMCPM02	Communications Port Module
CIC01	Computer Interface Command
INIPL01	INFI-NET® to Plant Loop Gateway
INICI01 and INICI03	INIFI-NET to Computer Interfaces
INPCI01	Plant Loop to Computer Interface
INPCI02	Plant Loop to Computer Interface
SIU01	Smart Interface Unit (SIU)

INSTRUCTION CONTENT

This instruction contains five sections and one appendix.

Introduction Overviews SmartLink software; contains information on how to use the overall instruction and the text conventions used. This section also includes a list of reference documents (Table 1-2) and product nomenclature (Table 1-3).

Installation Explains hardware and software requirements and software installation.

Using SmartLink Provides procedures detailing the menu functions of SmartLink software.

Troubleshooting Contains error messages along with corrective actions.

Support Services Provides training and documentation information.

Appendix Provides quick reference material for SmartLink software functions.

HOW TO USE THIS INSTRUCTION

Read and completely understand this instruction before installing the software. The section arrangement of this instruction is sequential.

1. Read Section 1 for a general overview and other associated information.

2. Read Section 2 to make sure the personal computer meets the minimum requirements listed, and to install the software.

3. Read Section 3 to perform functions on devices and configuration files.

4. Refer to Section 4 if operating difficulties occur.

5. Section 5 provides training and documentation information.

6. A reference index is located at the end of this instruction to assist in finding information.

DOCUMENT CONVENTIONS

This instruction uses standard text conventions throughout to represent keys, user data input and display items.

KEY Identifies a keyboard key.

Example: Press **Return**.

USER INPUT Indicates a fixed input that must be entered exactly as shown.

Example: Type **IDTAG**.

Display item Any item that displays on the screen appears as italic text.

Examples: *Command Line* (field)
Device not responding (message)

File name Any file names and file extensions appear as bold-italic text.

Example: ***tank1.con***

REFERENCE DOCUMENTS

Table 1-2 lists instructions related to the SmartLink software.

Table 1-2. Reference Documents

Number	Title
I-E21-31	Type BCN 1 Smart Electronic Pressure Transmitter
I-E21-32	Type BCN2/3/4/5/6/8 Smart Electronic Pressure Transmitter
I-E21-37	Type BCN7 Smart Electronic Pressure Transmitter
I-E21-50-1	Type PTSD Platinum Standard Series Smart Pressure Transmitter
I-E21-50-2	Type PTSDL Platinum Standard Series Smart Pressure Transmitter
I-E21-51	Type PTSP Platinum Standard Series Smart Pressure Transmitter
I-E21-55	Smart Interface Unit (SIU01)
I-E51-79	Type EQN Smart Temperature Transmitter
I-E51-79-1	Type EQN25/26 Smart Temperature Transmitter

Table 1-2. Reference Documents (continued)

Number	Title
I-E51-80	Type EQS Platinum Standard Series Smart Temperature Transmitter
I-E67-38	TBN580/581 Smart pH/ORP/Specific Ion Transmitter
I-E67-42	TBN480 Smart Conductivity Transmitter
I-P88-27A	AVS Smart Positioner
I-E96-217	IMSPM01 Serial Port Module
I-E96-221	IMCPM02 Communications Port Module
I-E92-504-2	Computer Interface Command (CIC01)
I-E96-602	INFI-NET to Plant Loop Gateway (INIPL01)
I-E96-610	INIFI-NET to Computer Interfaces (INICI01 and INICI03)
I-E96-620	Plant Loop to Computer Interface (INPCI01)
I-E96-621	Plant Loop to Computer Interface (INPCI02)

NOMENCLATURE

Table 1-3 lists SmartLink software nomenclature. Order software by specifying all nomenclature positions (e.g., SLNK011A0).

Table 1-3. Nomenclature

Position	1	2	3	4	5	6	7	8	9	10	
	S	L	N	K	0	1	☐	☐	☐	☐	**SmartLink Transmitter Management Software**
											Platform
							1				PC version with SIU (requires 80386 processor or greater)
							2				PC version with SIU or CIU (requires 80386 processor or greater)
							3				Console Version[1]
								0			**Reserved for future use**
									A		**Supports Types PTS, BCN, EQN, EQS,TBN480/580/581 and AVS**
										0	**Reserved for future use**

NOTE:
1. Requires H.2 or later console software.

SECTION 2 - INSTALLATION

INTRODUCTION

This section provides hardware and software requirements of the personal computer and a software installation procedure.

PROCESS OVERVIEW

The SmartLink system consists of Bailey-Fischer & Porter smart devices, SIU01 Smart Interface Units and a personal computer, or an EWS or IIOIS42/IIOIS43 console running SmartLink software. The following outlines the general tasks necessary to set up the overall SmartLink system.

- Set up and configure the SIU or INFI 90 OPEN interface module.
- Connect the interface unit to the personal computer.
- Wire the transmitters to the smart interface unit or EBPA communication system.

All of these tasks should be complete before using the Smart-Link software.

HARDWARE REQUIREMENTS

The following lists the minimum hardware requirements for the host computer (SIU or INFI-NET connection):

- 80486 processor (Pentium processor recommended).
- Eight megabytes of RAM and 20 megabytes of swapfiles for SmartLink (16 megabytes RAM and 20 megabytes of swap-files recommended).
- 20 megabytes of available hard disk space.
- High density floppy disk drive (3-½ inch).
- Two serial communication ports (one for communications and one for a mouse).
- 640 by 480 or greater VGA monitor.
- Windows compatible printer (optional).
- One parallel printer port (optional).

SMARTLINK FIRMWARE REQUIREMENTS

The smartlink software requires special module firmware to operate. Verify the SmartLink firmware with Table 2-1.

Table 2-1. SmartLink Firmware Requirements

Module	ROM	ID Number	Part Number	Revision
IMMFP02	27C4096 27C4096	U28 U29	1900242F11 1900242F21	F.1 or later
IMFBS01	27C512	XU14	1900259A15	A.15 or later

SOFTWARE REQUIREMENTS

The following software is required in order to run the Smart-Link software package (SIU or INFI-NET connection):

- MS-DOS 5.0 or later.
- Windows 95, Windows 3.1 or later or Windows NT 3.1 or later.
- Win32s (extensions to Windows 3.1 or Windows for Work-groups 3.11).

INSTALLATION

Table 2-2 lists 3-½ inch floppy disks included as part of the SmartLink software package:

Table 2-2. Included Disks

Label	Description	Quantity
SmartLink	Contains SmartLink program files. Use these floppy disks if installing from Windows 3.1.	3
SmartLink manual install	Contains manual install program for SmartLink for Windows NT. Use these floppy disks if installing from Windows NT 3.1 or later or Windows 95.	2
Win32s setup	Contains Win32s files. Use these disks if running Windows 3.1 or Windows for Workgroups 3.11. Win32s allows Windows 3.1 and 3.11 to run 32-bit applications.	
Password utility	Assigns security level privileges to SmartLink software users.	1

The installation procedures detailed in the following sections include:

Installing Win32s - optional procedure. If using Windows 3.1 or Windows for Workgroups 3.11, Win32s is required.

Installing SmartLink (Windows 3.1 or Later, or Windows 95) - installation procedure for Windows 3.1 or later or Windows 95.

Installing SmartLink (Windows NT 3.1 or Later) - installation procedure for Windows NT.

These procedures assume that the Windows environment is in operation on the personal computer.

Installing Win32s

Win32s is required to run SmartLink software from Windows 3.1 or Windows for Workgroups 3.11. Win32s is ***not*** required for Windows NT 3.1 or 3.5, or Windows 95.

To install Win32s:

1. Insert the Win32s floppy disk labeled disk 1 of 2 into the appropriate floppy disk drive.

2. From the Program Manager select *File*, then *Run*.

3. Based on the floppy disk drive being used, type **a:setup** or **b:setup** into *Command line*, then click on *Ok*:

4. Follow the setup instructions to complete the installation.

> **NOTE:** If installing Win32s on Windows 3.1, it is necessary to run the MS-DOS share utility before starting Windows. Add ***SHARE.EXE*** to the ***AUTOEXEC.BAT*** file.

It is recommended that *FILES* of the ***CONFIG.SYS*** file be set to at least 30 (*FILES=30*).

The setup program optionally installs a game called FreeCell. After Win32s installation is complete, FreeCell can be run to verify that Win32s is installed correctly. Freecell is located in the Win32s applications group.

Installing SmartLink (Windows 3.1 or Later, or Windows 95)

1. Refer to ***Installing Win32s*** to verify proper Win32s installation. Check the \Windows\System directory for the \Win32s subdirectory.

2. Insert SmartLink disk 1 of 3 into the appropriate floppy disk drive.

3. In Windows 3.1, from the Program Manager select *File*, then *Run*.

4. When using Windows 95, from the icon bar select *Start*, then *Run*.

5. Based on the floppy disk drive being used, type **a:instalit** or **b:instalit** into *Command line, then* click on *Ok*.

6. The following message appears:

SmartLink requires Windows 3.1 or later and Win32s.

Click on *Ok* to continue. If the software requirements are not met, exit and install the necessary software before running SmartLink software.

7. A dialog box appears prompting for an installation drive. From the list of available disk drives, select the desired drive, and click on *Ok*.

8. A dialog box appears asking for an installation directory. The default installation directory is SMRTLNK. The installation directory is where all SmartLink files are stored. If the default installation directory is acceptable, click on *Ok*. If not, type the name of another directory and click on *Ok*. SmartLink installation will create the specified directory and copy all SmartLink files into that directory.

SmartLink installation begins. A dialog box appears that displays the progress of the installation. Press ESC at any time to abort the installation. The installation program will prompt for subsequent disks.

9. After the installation process is complete, a dialog box appears stating details about the SmartLink icon and asks if the readme file wants to be viewed. Click on *Yes* or *No*. The ***readme.txt*** file contains last minute details about the software release. Some information listed may be important operating details.

10. To invoke SmartLink software, run the password utility program (refer to ***USING THE PASSWORD UTILITY PROGRAM*** in Section 3).

Installing SmartLink (Windows NT 3.1 or Later)

1. Go to the DOS prompt of the hard disk drive where the SmartLink software is to be installed.

   a. Type **md smrtlnk** ENTER.

   b. Type **cd smrtlnk** ENTER.

2. Insert the SmartLink manual install floppy disk into the appropriate floppy disk drive. This procedure uses floppy disk drive a:. Substitute the drive letter as necessary.

   a. Insert disk 1 in drive a:.

   b. From a:, type **pkunzip smrtlnk.zip c:\smrtlnk** ENTER.

3. For Windows NT, ***MSVCRT.NT*** may need to be copied to ***MSVCRT.DLL***.

4. Copy ***vgalusr1.vr*** to the windows directory.

5. To invoke SmartLink software, run the password utility program (refer to ***USING THE PASSWORD UTILITY PROGRAM*** in Section 3).

To create a program group for SmartLink software:

1. From the Program Manager select *File,* then *New*.

2. Select one of the following from the *New Program Object* menu, then click on *Ok:*

Personal Program Group - for single user access.

or

Common Program Group - for open access (any user).

3. Type a description for the group (i.e., SmartLink) in *Description*, then click on *Ok* when finished. The description appears in the title bar of the group. Leave *Group File* empty. Windows automatically uses the description entry as a group file name and adds a ***.grp*** extension (i.e., ***smartlin.grp***).

4. From the Program Manager select *File,* then *New*.

5. From the *New Program Object* menu select *Program Item,* and click on *Ok*. The program item properties dialog box appears.

6. In *Description*, type the name of the application (i.e., SmartLink). The description appears below the icon.

7. In *Command Line*, type **slnk.exe**.

8. In *Working Directory,* type **c:\slnk**.

NOTE: If SmartLink software is not installed on hard disk drive c:, substitute the hard disk drive letter as necessary.

9. Entry in *Shortcut Key* is optional. Enter the desired character and the control keys are automatically inserted in front of the specified character.

10. Click on *Change Icon*. The following message appears:

There are no icons available for the specified file.

You can choose an icon from those available for Program Manager.

Click on *OK*.

11. To access the SmartLink icon, type **c:\smrtlnk\sl.ico** in the *File Name* field, the click on *OK*:

> **NOTE:** If SmartLink software is not installed on hard disk drive c:, substitute the hard disk drive letter as necessary.

12. Click on *Ok* to use the SmartLink icon provided. Click on *Ok* again to complete the procedure.

SECTION 3 - USING SMARTLINK

INTRODUCTION

This section provides a process overview, Windows basics, initial start-up information, and software operating procedures. The procedures are task-oriented and grouped under three broad categories: device operations, configuration files and calibration.

SMARTLINK MENUS

Figure 3-1 shows the SmartLink main Window. Figure 3-2 details the menu structure of SmartLink software. The bold text items are main menu selections and the items below them are the available options for that menu item.

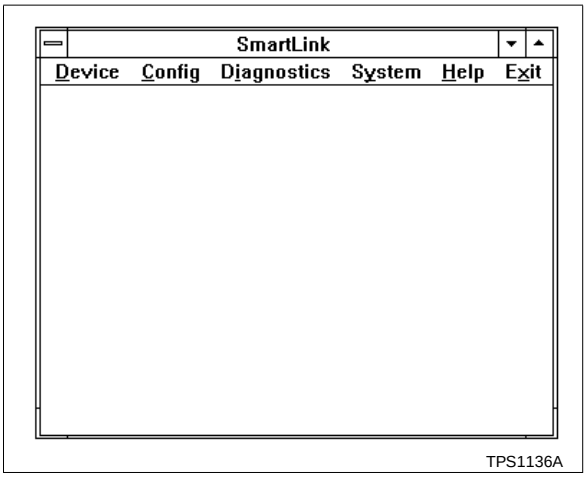

Figure 3-1. SmartLink Window

DEVICE	CONFIG	DIAGNOSTICS	SYSTEM	HELP	EXIT
NEW	NEW	SETUP	COMMUNICATIONS	CONTENTS	
OPEN	OPEN	SCAN	HARDWARE INTERFACE	ABOUT SMARTLINK	
DELETE	DELETE				
CLOSE ALL	SAVE ALL				
	CLOSE ALL				

Figure 3-2. SmartLink Menu Structure

USING THE PASSWORD UTILITY PROGRAM

An assigned user name and password are required to access SmartLink software. User names, passwords and security levels are assigned to the system using the password utility program contained on the password disk. A system access level is associated with each user name and password. Table 3-1

lists the operations available in each access level. The system access levels are supervisor, engineer and technician.

Supervisor The highest security level. The supervisor level can access all functions of SmartLink software. This level should be limited for security purposes. Only one supervisor user should have access to the password disk. The supervisor user should be familiar with the complete SmartLink system.

Engineer Allows access to all features within SmartLink software except the password utility program. An engineer level user should be familiar with the measurement capabilities of all devices interfacing SmartLink software.

Technician Provides only monitoring capabilities. Technician level users need an understanding of the devices interfacing SmartLink software.

Table 3-1. User Level Accessibility

Menu Item	Operation	Access Level		
		Supervisor	Engineer	Technician
Calibration	Bench calibration	X	X	—
	D/A adjust	X	X	—
	Fix output/ cancel fix	X	X	—
Configuration	Close All	X	X	X
	Delete	X	X	—
	Get	X	X	X
	Load	X	X	X
	New	X	X	—
	Open	X	X	X
	Send	X	X	—
Device	Close	X	X	X
	Delete	X	X	—
	New	X	X	—
	Open	X	X	X
	Print	X	X	X
Monitor	Diagnostics	X	X	X
	Scan	X	X	X
	Setup	X	X	X
	LCD display	X	X	—
	Process variables	X	X	X
System	Communications	X	X	X
	Hardware interface	X	X	X

Users can be added, deleted and listed anytime using the password utility program. However, for security reasons the password utility program should not be copied onto the hard disk drive. Only one person (a supervisor level user) should have access to the password disk.

To access the password utility program:

1. Insert the password disk into the floppy disk drive. This procedure uses floppy disk drive a:. If a different floppy disk drive is being used, substitute the appropriate letter.

2. Go to the DOS prompt and change to the directory where SmartLink files were installed. The default installation is in SMRTLNK.

3. Type **a:password** Enter.

The password security menu appears with the following options:

- Add user.
- Delete/view user.
- Exit to DOS.

Add User

All users must have a unique user name; however, more than one user can have the same password.

1. From the password security menu select *ADD USER* by typing **1**. The add user screen opens.

2. In *User Name*, type up to 15 alphanumeric characters for the user name and press Enter. Keep in mind that *User Name* is case sensitive.

3. In *Password*, type at least four and up to eight alphanumeric characters for the password and press Enter. Keep in mind that *Password* is case sensitive.

> **NOTE:** The user name and password are case sensitive. They must always be entered in the same case as they were entered in this program. Do not use spaces in the user name or password.

4. In *Security Level*, type the desired user security level: **1** for supervisor, **2** for engineer or **3** for technician and press Enter to save the user. Refer to Table 3-1 for a listing of system functions that operate at each security level.

5. Repeat Steps 2 through 4 to add additional users.

6. Press Esc to exit.

Delete/View User

1. From the password security menu, type **2** to select *Delete/View User*. The delete/view user screen opens.

2. The screen displays the *User Name* field and the *Security Level* field. Enter the name of the user to be deleted, or use Page Down to scroll through the users currently on the system.

3. To delete a selected user, press F2.

To change the security level of a user, refer to ***Add User***.

INITIAL START-UP

To get started, be sure the following is complete:

- The interface unit setup, including connection to the personal computer and devices connected to the terminals on the smart interface unit or the INFI 90 OPEN system.
- SmartLink installation.
- Exit all other software that is using the same COM port as SmartLink.

1. Open the SmartLink program group.

2. Double-click on the SmartLink icon. The window shown in Figure 3-3 appears.

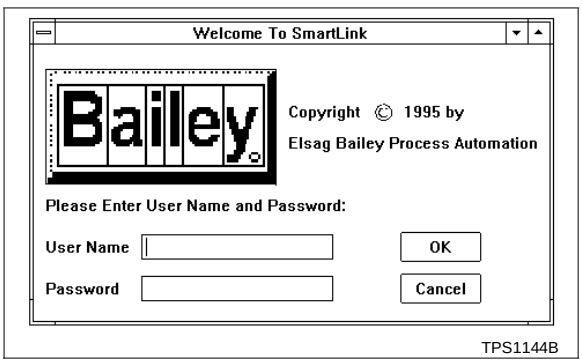

Figure 3-3. SmartLink Log-In Window

3. In *User Name,* type the user name. The user name must match identically (including the case) the name entered in the password security program.

4. In *Password,* type the password. The password must match identically (including the case) the password assigned in the password security program.

5. Click on *OK* and the window shown in Figure 3-1 appears.

6. From the main window select the system hardware interface. Refer to Table 3-7 for a description of the available interfaces.

7. From the main window select *Device*, then *New* (CTRL-N).

8. In *Device ID Tag*, type a unique ID tag (up to 12 characters for Types BCN, AVS and EQN transmitters, up to 14 characters for all others). The ID tag is the name of the device and is used to open the device.

9. In *Device Type*, select the appropriate device type.

10. In *Channel Number*, select *Analog*.

11. In *SIU Address*, select the appropriate smart interface unit (SIU) address. This field is for addressing when multiple smart interface units are connected together (maximum of eight). When only a single unit is used, select *1*.

12. In *SIU Input*, select the SIU terminals connecting the device to the smart interface unit.

13. Click on *Save*.

14. Repeat Steps 7 through 13 for other devices connected to the smart interface unit.

15. Open a device to begin monitoring or to perform other functions (refer to ***Open Device***).

If unable to communicate or open a device after performing these steps, review the following situations.

Wrong Device Type

The following error message appears:

SIU Error Not Listed

This message can occur when attempting to open a device that has the wrong device type specified. To correct this error:

1. From the main window, select *Device*, then *Open*.

2. Select the device name that has the error and click on *Edit*.

3. In *Device Type*, select the correct device type.

4. Click on *Save* and try opening the device again.

Wrong Address

The following error message appears:

Device Not Responding

This message can occur when SmartLink software is configured for the wrong SIU device input connections. To correct this error:

1. From the main window, select *Device*, then *Open*.

2. Select the device name that has the error and click on *Edit*.

3. Change the address parameters to match the device connections to the smart interface unit.

4. Click on *Save* and try opening the device again.

Wrong COM Port

The following error message appears:

Device Not Responding

This error can occur if SmartLink software is not configured for the same COM port on the personal computer to which the interface is connected. Also, make sure the baud rate selection is compatible with the communication protocol (e.g., RS-232-C can only operate at 9,600 baud).

To correct this error, change the COM port or the baud rate that SmartLink software is using (refer to ***CHANGING COMMUNICATION PORT AND BAUD RATE***).

If these steps do not solve the problem, refer to Section 4.

USING THE HELP FILE

SmartLink software contains help files to aid in its operation.

To view the help file:

1. From the main window, select *Help,* then *Contents.* The help main menu appears.

2. Navigate through the help screens by clicking the green hypertext links in the text or the buttons on the menu bar.

3. Click on *Exit* to leave the help files.

4. When *About Smartlink* is selected, a brief description of the software is displayed.

> **NOTE:** If help files will not open, increase the swapfile size. The recommended amount is 20 megabytes.

CHANGING COMMUNICATION PORT AND BAUD RATE

SmartLink software communications default to COM2 of the personal computer. If the SIU01 interface device is not connected to COM2 or the baud rate needs to be changed, perform the following procedure.

To change communications parameters:

1. From the main window, select *System*, then *Communications* (CTRL-**P**). The communications dialog box appears.

2. Select the appropriate communications port in the *Port* box, or select the appropriate baud rate.

3. Click on *Save*, then *Open*.

4. Close SmartLink software and start it again. The change takes effect after starting.

Table 3-2 describes all of the options available from the communications selection. In most cases, only the port designation and the baud rate will need to change.

Table 3-2. Communications Options

Field	Options	Description
Baud rate	9,600	9,600 baud can be used for RS-232-C and RS-485. 19,200 and 38,400 are only valid for RS-485.
	19,200	
	38,400	
Parity	None	This field ***cannot*** be changed.
Data bits	8	
Stop bits	1	
Port	Com 1	Default is Com 2. Change this designation if the SIU is connected to a port other than Com 2.
	Com 2	
	Com 3	
	Com 4	
RTS	RS-485	Control RS-485 interface.
	ON	Always ON.

EXIT

1. Select *Exit*. A confirmation prompt appears.

2. Click on *Yes* to exit or *Open* to keep SmartLink software open.

NOTE: It is recommended that all dialogs be closed before exiting.

DEVICE OPERATIONS

This section describes:

- Configuring communication parameters of a new field device.
- Changing communication parameters of a device.
- Changing the hardware interface of a device.
- Opening, closing and deleting a connected device.
- Editing a device configuration.
- Sending a configuration to a device via SIU interface.
- Sending a configuration to a device via an INFI 90 OPEN module.
- Getting and printing a device configuration.
- Monitoring process variables, fixing output and setting the LCD display of a device.

Setting an Address for a New Device

To set address parameters so SmartLink software can communicate with a new device:

1. Locate the address information for the smart device being added.

2. From the main window, select *Device*, then *New* (CTRL-N).

3. In *Device ID Tag*, type a unique ID tag (up to 12 characters for Types BCN and EQN transmitters and up to 14 characters for all others). The ID tag is the name of the device and must be unique.

4. In the other fields, select the desired options. Refer to Table 3-3 through 3-6 for field descriptions.

5. After selecting, click on *Save*.

Table 3-3. Device Fields for an SIU

Field	Options	Description
Device ID tag	Alphanumeric entries: up to 12 characters for BCN and EQN; up to 14 characters for all other devices	Identifies each device. ID tag must be unique.
Device type	Devices displayed in bold type	Devices displayed in bold are valid options. Dimmed device options are not valid.
Channel number	Analog	For analog wiring. A single device connected to a single SIU input (e.g., TB3-2 and TB3-3).
	Dig1 through Dig15	Address of a device on the field bus. Maximum of 8 devices per field bus.
SIU address	1 through 8	SIU address. Used when multiple SIUs are wired together. Maximum of 8 SIUs.
SIU input	TB3 (2-3), TB3 (5-6), TB4 (1-2), TB4 (3-4), TB4 (5-6), TB5 (1-2), TB5 (3-4), TB5 (5-6)	Device terminal block connection on SIU. Devices and field buses are wired directly to these terminals.

Table 3-4. Device Fields for a Module Bus

Field	Options	Description
Device ID tag	Alphanumeric entries: up to 12 characters for BCN and EQN; up to 14 characters for all other devices	Identifies each device. ID tag must be unique.
Device type	Devices displayed in bold type	Devices displayed in bold can be changed. Dimmed device options can not be changed.
Module	0-31	A unique identifier of a specific device or a communication channel. Refers to Controlway or module bus address.
Block	0-9998	A unique identifier of a specific function code block in an MFP or MFC.

Table 3-5. Device Fields for a Plant Loop

Field	Options	Description
Device ID tag	Alphanumeric entries: up to 12 characters for BCN and EQN; up to 14 characters for all other devices	Identifies each device. ID tag must be unique.
Device type	Devices displayed in bold type	Devices displayed in bold can be changed. Dimmed device options can not be changed.
Node	1-63	A unique identifier of a specific device or a communication channel. Refers to Plant Loop, Superloop or INFI-NET address.
Module	0-31	A unique identifier of a specific device or a communication channel. Refers to Controlway or module bus address.
Block	0-9998	A unique identifier of a specific function code block in an MFP or MFC.

Table 3-6. Device Fields for the INFI-NET

Field	Options	Description
Device ID tag	Alphanumeric entries: up to 12 characters for BCN and EQN; up to 14 characters for all other devices	Identifies each device. ID tag must be unique.
Device type	Devices displayed in bold type	Devices displayed in bold can be changed. Dimmed device options can not be changed.
Loop	1 to 250	A unique identifier of a specific loop on the INFI-NET.
Node	1 to 250	A unique identifier of a specific device or a communication channel. Refers to Plant Loop, Superloop or INFI-NET address.
Module	0-31	A unique identifier of a specific device or a communication channel. Refers to Controlway or module bus address.
Block	0-9998	A unique identifier of a specific function code block in an MFP.

Change Device Address Parameters

SmartLink software uses the device communications parameters to communicate with devices connected to the interface unit. Use this operation if any of the device parameters change.

To change interface address parameters:

1. Open a device. If the desired device is already open, go to Step 2.

   a. From the main window, select *Device*, then *Open* (CTRL-O).

   b. Select the device which had a connection parameter change.

2. Click on *Edit*.

3. In the field that changed, select the desired option. Refer to Table 3-3 through 3-6 for field descriptions.

4. After selecting, click on *Save*.

Changing the Hardware Interface

To change the hardware interface device (e.g., smart interface unit to module bus):

1. From the main window, select *System*, then *Hardware Interface* (CTRL-F). A dialog box displays the available choices. The current hardware interface is marked with a solid bullet.

2. Select the appropriate interface and click on *Save*. Click on *Close* to not have the selection take effect. Table 3-7 describes the available choices.

3. Exit SmartLink and restart for changes to take effect.

NOTE: When changing INFI-NET to Plant Loop a communication error may occur because the switch over is slow. Restart; if problem remains refer to Section 4.

Table 3-7. Hardware Interface Connections

Hardware Interface[1]	Hardware Nomenclature	Description
SIU	SIU01	SIU01 Smart Interface Unit.
Module bus	IMSPM01 IMCPM02 CIC01	Process control unit communication bus.
Plant Loop	INIPL01 INPCI01 INPCI02	Plant wide communication network.
INFI-NET®	INICI01 INICI03	

NOTE:
1. Some hardware interfaces listed may not be supported. Dimmed selections are not supported.

Open Device

1. From the main window, select *Device*, then *Open* (CTRL-**O**). A listing of available devices displays. Use the scroll bar to view a complete list of devices.

NOTE: The EWS is a slower system. The lesser amount of dialogs open at one time is better for operation on this system.

2. Select the desired device. The selected device highlights.

3. Click on *Open*. A window appears displaying connection information and configuration data (Fig. 3-4).

Configuration data fields can be changed from this window, but connection information fields cannot (refer to ***Change Device Address Parameters***).

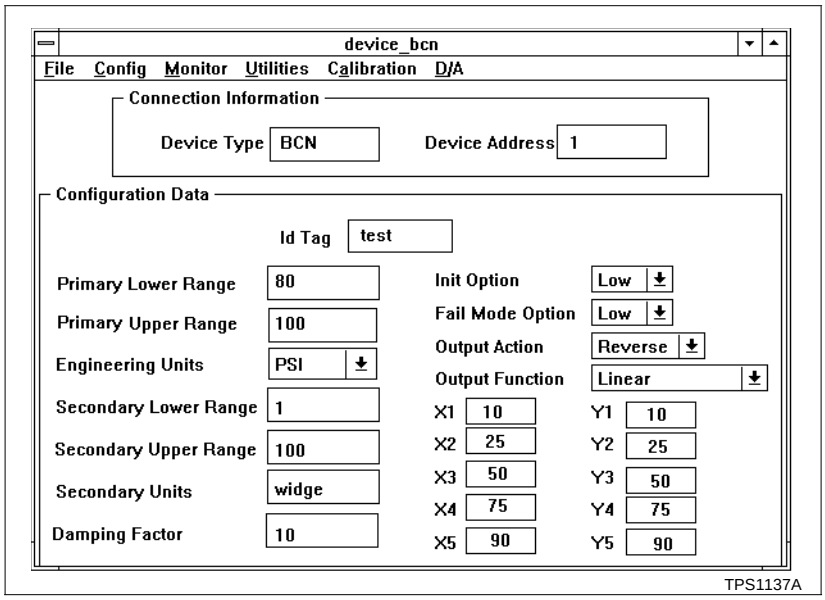

Figure 3-4. Device Data Window

Opening a Type AVS Positioner

1. From the main window, select *Device*, then *Open* (CTRL-O). A listing of available devices displays. Use the scroll bar to view a complete list of devices.

2. Select the positioner desired. The selected positioner is highlighted.

3. Click on *Open*. A window appears displaying connection information and configuration data (Fig. 3-5).

Configuration data fields can be changed from this window, but connection information fields cannot (refer to ***Change Device Address Parameters***).

Close Device

To close the current device without saving modifications, select *File*, then *Close* (CTRL-C).

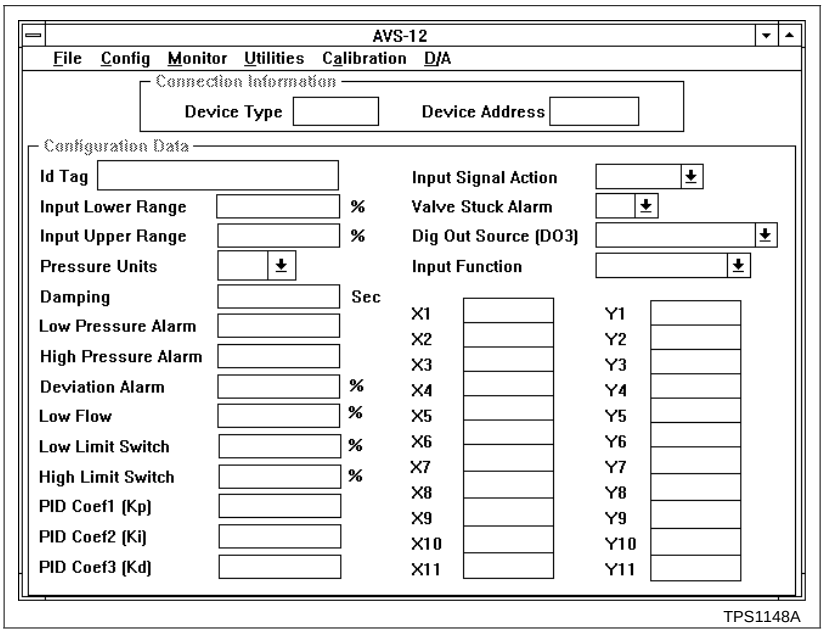

Figure 3-5. AVS Data Window

Delete Device

1. From the main window, select *Device*, then *Delete* (CTRL-**D**). A listing of available devices displays.

2. Select the desired device. The selected device is highlighted. Use the scroll bar to view a complete list of devices.

3. Select *Delete*. A confirmation dialog box appears. To delete the device, click on *OK*.

4. When finished, click on *Close*.

Close All Devices

This function is useful when multiple devices are open. Use this function to close all open devices at once rather than individually.

1. From the main window, select *Device*, then *Close All* (CTRL-**A**). A dialog box displays confirming the close all operation.

2. Confirm by clicking *Yes*.

Edit a Device Configuration

1. Open a device. If the desired device is already open, go to Step 2.

   a. From the main window, select *Device*, then *Open* (CTRL-O). A listing of available devices displays. Use the scroll bar to view a complete list of devices.

   b. Select the desired device. The selected device is highlighted. Click on *Open* and a window similar to the one shown in Figure 3-4 appears.

2. Place the cursor inside the desired field. Table 3-8 lists the fields, available options and describes the fields of the device data window. Most fields require typed entries. Fields with an arrow have specific selections from which to choose (e.g., *Engineering Units*).

3. Edit the field as desired, keeping in mind the device limits and application requirements. Edit other fields as desired. Refer to the appropriate instruction for device limits (Table 1-2).

4. Update the device with the modifications by selecting *Config*, then *Send*.

5. Verify that the device received the configuration changes by performing a get function (refer to ***Get Configuration from a Device***).

Table 3-8. Device Data Fields

Field	Options	Description
Device type	None.	Information only field. Cannot edit field from this window.
Device address		
Input mode[1]	100 pt, 385 2-wire 100 pt, 392 2-wire ohms, 2-wire 100 pt, 385 3-wire 100 pt, 392 3-wire ohms, 3-wire dual 100 pt, 385 dual 100 pt, 392 dual ohms, 2-wire dual millivolt thermocouple types N, B, E, J, K, R, S, T, C	Configures the type of temperature-sensing element the device is using. Accepts thermocouple, RTD and millivolt inputs. **NOTE**: To view all options of this field, drag down the list of options.
ID tag	Alphanumeric entries.	Identifies device. ID tag must be unique.
Primary lower range	Numeric value. Limits are device dependent.	Lower and upper range values of the device.
Primary upper range		

Table 3-8. Device Data Fields (continued)

Field	Options	Description
Engineering units	Selectable. Device type dependent.	Engineering units associated with *primary upper range* and *primary lower range*.
Secondary lower range	Numeric entry.	Secondary lower or upper range values can be any numeric value within the limits of the device. Output is based on the output function (e.g., linear) of the device.
Secondary upper range		
Secondary units	Alphanumeric entry.	User-determined free form format. Units associated with the secondary lower and upper range values.
Temperature high alarm[2]	Numeric entry between -50° and +120°C (-58° to 248°F).	Sets the alarm limits of the cell temperature.
Temperature low alarm[2]		
Damping factor	Numeric entry (0 to 32 secs)	Adjustable single time constant value between 0 and 32. Used to filter a noisy signal.
Init option	Selectable (high or low)	Initialization option. Sets the initialization value of the device (e.g., device initializes at primary upper range value if set to *high*).
Fail mode option	Selectable (low, high or last)	Sets the value of the device if a device-detected failure occurs.
Output action	Selectable (normal or reverse)	Sets the action of the output.
Output function	Selectable (device dependent)	Determines how the output is displayed (e.g., linear).
X1 through X5	Percentage of input	Enter five input points (X1 through X5) and five output points (Y1 through Y5) between and not including 0% and 100%. The function generator automatically assumes X0 and Y0 is 0% and X6 and Y6 are 100%. Enter values as normalized percentages of the input (e.g., 0.5 for a value of 50%).
Y1 through Y5	Percentage of output	

NOTES:
1. Types EQN and EQS transmitters only.
2. Types PTS and EQS transmitters only.

Configuring a Type AVS Positioner

1. Open a Type AVS positioner. If the desired positioner is already open, go to Step 2.

   a. From the main window, select *Device*, then *Open* (**CTRL-O**). A listing of available devices displays. Use the scroll bar to view a complete list of devices.

   b. Select the positioner desired. The selected positioner is highlighted. Click on *Open* and a window similar to the one shown in Figure 3-5 appears.

2. Place the cursor inside the desired field. Table 3-9 lists the fields, available options and describes the fields of the device data window. Most fields require typed entries. Fields with an arrow have specific selections from which to choose (e.g., *Pressure Units*).

3. Edit the field as desired, keeping in mind the device limits and application requirements. Edit other fields as desired. Refer to the appropriate instruction for device limits (Table 1-2).

4. Update the device with the modifications by selecting *Config*, then *Send*.

Verify that the device received the configuration changes by performing a get function (refer to ***Get Configuration from a Device***).

Table 3-9. Type AVS Configuration Options

Field	Options	Description
Device type	None	Information only field. Cannot edit field from this window.
Device address		
ID tag	Alphanumeric entries.	Identifies device. ID tag must be unique.
Input signal action	Menu selection	Only use this function to characterize the input signal according to the type of valve to which it is connected.
Input lower range	Numeric value	Lower and upper ranges of the device.
Input upper range		
Valve stuck alarm	Yes or no	Set to YES to be warned if the actuator has not moved for over 1 min. after a change in the input signal.
Dig out source (DO3)	Low pressure	Output high when the low supply pressure error condition has been detected.
	Deviation alarm	Output high when there is a deviation alarm present.
	Valve stuck alarm	Output high when there is a valve stuck alarm present.
	Status	Output high whenever STATUS is not OK.
Pressure units	Menu selection	Engineering units are in PSI or bars.
Input function	Normal action	Increase in input signal increases the port 1 pressure.
	Reverse action	Increase in input signal increases the port 2 pressure.
Damping	Numeric value	Input signal will be damped in the range of 1 to 5 secs. A value of 0 disables this function.
Low pressure alarm	Numeric value	If the supply pressure falls below this setting, the low pressure alarm is activated.
High pressure alarm	Numeric value	If the supply pressure rises above this setting, the high pressure alarm is activated.
Deviation alarm	Numeric value (%)	Deviation alarm is set to the percent of deviation allowed before the alarm will be activated.
Low flow	Numeric value (% of span)	Minimum value of span under which the AVS will take the control element to 0%.
Low limit switch	Numeric value (%)	Sets what percentage of span the digital output will be activated. The state of the outputs will be high if the unit is positioned above the low limit and below the high limit. (Available with the analog board only.)
High limit switch		
PID coef1 (Kp)	Numeric value	Proportional tuning constant. Use numbers less than 1 but greater than 0 for small drives, larger than 1 for big drives. If value is too large, the control may oscillate and not position correctly.

Table 3-9. Type AVS Configuration Options (continued)

Field	Options	Description
PID coef2 (Ki)	Numeric value	Integral tuning constant. Most values will range from 1 to 40. This sets the rate at which the positioner will try to correct for a offset. Set this value lower if the drive oscillates.
PID coef3 (Kd)	Numeric value	Derivative tuning constant. This value can range between 2 and 70. Use this value to dampen out oscillation from the integral, to position the drive more accurately and faster, and to eliminate overshoot.
X1 through X11 Y1 through Y11	Percentage of input	Enter 11 input points (X1 through X11) and 11 output points (Y1 through Y11) between and not including 0% and 100%. The function generator automatically assumes X0 and Y0 is 0% and X12 and Y12 are 100%. AVS enter 0 to 100 others enter value between 0 and 1.

Send Configuration to Device Via an SIU

This function sends the changed parameters of the device configuration to the device.

To send a configuration to a device:

1. Open a device. If the desired device is already open, go to Step 2.

   a. From the main window, select *Device*, then *Open* (CTRL-O). A listing of available devices displays. Use the scroll bar to view a complete list of devices.

   b. Select the desired device. The selected device is highlighted.

   c. Click on *Open* and the window shown in Figure 3-4 appears.

2. Edit the configuration data as desired (refer to ***Edit a Device Configuration*** for details).

   or

Open an existing configuration file or create a new file to send to the open device (refer to ***Open a Configuration File*** or ***Create a New Configuration File*** for details).

> **NOTE:** The configuration file *Device Type* (e.g., PTS) must match the target device type.

3. On the device data menu bar select *Config*, then *Send* (CTRL-N).

The configuration (as it displays) is sent to the device. A dialog box appears with the status of the device.

4. After sending, verify the send by performing a get configuration (refer to ***Get Configuration from a Device***).

NOTE: Some function generator updates for PTS and other field devices do not work with some versions of transmitters and may not update due to the field device.

Send Configuration to Device Via an INFI 90 OPEN Module.

This function sends the changed parameters of the device configuration to the device.

To send a configuration to a device:

1. Open a device. If the desired device is already open, go to Step 2.

   a. From the main window, select *Device*, then *Open* (CTRL-**O**). A listing of available devices displays. Use the scroll bar to view a complete list of devices.

   b. Select the desired device. The selected device is highlighted.

   c. Click on *Open* and the window shown in Figure 3-4 appears.

2. Edit the configuration data as desired (refer to ***Edit a Device Configuration*** for details).

   or

Open an existing configuration file or create a new file to send to the open device (refer to ***Open a Configuration File*** or ***Create a New Configuration File*** for details).

NOTE: The configuration file *Device Type* (e.g., PTS) must match the target device type.

3. On the device data menu bar select *Config*, then *Send* (CTRL-**N**).

A dialog will pop up asking whether the FC 132 block is to be updated. This is to permit having different primary upper range and primary lower range values in the FC 132 block than

in the FC 133 block. The first dialog is for upper range and the second is for lower range.

> **NOTE:** An FC 133 block will not transmit a spec value to a field device if it believes it is already there. For example. If you send an upper range value of 80 to the FC 133 and it already has a value of 80 it will not send anything to the field device. The field device may have a value of 90 from a handheld. To get around this problem send a value slightly different than the FC 133 value then send the desired value. This will synchronize the values in the FC 133 and the field device.

After sending, verify the send by performing a get configuration (refer to ***Get Configuration from a Device***).

> **NOTE:** Some function generator updates for PTS and other field devices do not work with some versions of transmitters and may not update due to the field device.

Get Configuration from a Device

1. Open a device. If the desired device is already open, go to Step 2.

   a. From the main window, select *Device*, then *Open* (CTRL-**O**). A listing of available devices displays. Use the scroll bar to view a complete list of devices.

   b. Select the desired device. The selected device is highlighted.

   c. Click on *Open*. The window shown in Figure 3-4 appears. Connection information and configuration data is displayed.

2. Select *Config*, then *Get* (CTRL-**G**).

The configuration from the device is displayed in the device data window.

Print Device Configuration

1. Open a device. If the desired device is already open, go to Step 2.

   a. From the main window, select *Device*, then *Open* (CTRL-**O**). A listing of available devices displays. Use the scroll bar to view a complete list of devices.

   b. Click on the desired device. The selected device is highlighted.

   c. Click on *Open*. The window shown in Figure 3-4 appears.

2. Click on *File*, then *Print* (CTRL-**P**).

Monitor Process Variables

1. Open a device. If the desired device is already open, go to Step 2.

   a. From the main window, select *Device*, then *Open* (CTRL-O). A listing of available devices displays. Use the scroll bar to view a complete list of devices.

   b. Select the desired device. The selected device is highlighted.

   c. Click on *Open*. The window shown in Figure 3-4 appears.

2. Select *Monitor*, then *Process Variables* (CTRL-M). The process variables window shown in Figure 3-6 displays. Table 3-10 describes the fields.

   NOTE: Do not attempt to monitor process variables of devices that are not currently connected to the smart interface unit. Do not attempt to communicate with smart interface units that are not connected to the personal computer.

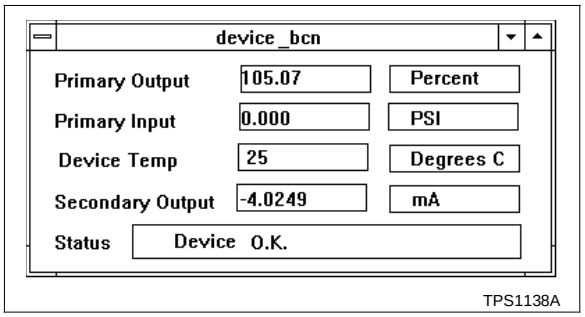

Figure 3-6. Process Variable Window

Table 3-10. Process Variable Fields

Field	Description
Primary output	Displays percentage value of output based on the calibrated range.
Primary input	Displays input value of the device in engineering units.
Device temp	Displays the ambient temperature of the electronics. For the Type PTS transmitter, this is the reference temperature of the transducer.
Secondary output	Displays secondary output value in user-defined units.
Status	Displays device status. Status items are: transducer, transducer temperature, device ambient temperature, input circuits, processor (EEPROM), NVRAM and reference voltage.

Multiple device process variables can be displayed at the same time. Up to four open device process variables can be monitored at one time without noticeable update and scan time delays. To open multiple process variables:

> **NOTE:** Monitor and scan updates are slow due to limitations of the Field Bus I/O module with the FSK communications. SmartLink gives the user a lot of information about the smart field device, but the response time is slow. It is recommended that the user limit the amount of monitoring being done at any one time.

1. Open a device and display its process variables. Minimize the device data window.

2. Open another device. The device data window covers the process variables of the previous devices. Display the current device process variables.

3. Minimize the device data window of the current device. The process variables window stays visible along with the others. Arrange and size the process variables windows as desired. Do this to view other devices.

4. To view a device data window, click on the appropriate icon at the bottom of the screen.

> **NOTE:** The EWS is a slower system. The lesser amount of dialogs open at one time is better for operation on this system.

Reset Device to Standard Configuration (Type PTS Transmitter Only)

1. Open a device. If the desired device is already open, go to Step 2.

   a. From the main window, select *Device*, then *Open* (CTRL-**O**). A listing of available devices displays. Use the scroll bar to view a complete list of devices.

   b. Select the desired device. The selected device is highlighted.

   c. Click on *Open*. The window shown in Figure 3-4 appears.

2. Select *Utilities* on the device data menu bar, then *Reset to Standard Config* (CTRL-**R**). A dialog box appears confirming the default configuration.

3. Click on *Yes*. A dialog box confirms the reset.

4. Click on *Yes*.

Fix the Output of Device (Cancel Fix Output)

This function sets the output of a device to a fixed value and maintains this output until *Cancel Fix* is performed.

> **NOTE:** Fix output and cancel fix output can also be set on a device by the Type STT02 terminal, independently of SmartLink.

To fix an output:

1. Open a device. If the device is already open, go to Step 2.

   a. From the main window, select *Device*, then *Open* (CTRL-**O**). A listing of available devices displays. Use the scroll bar to view a complete list of devices.

   b. Select the desired device. The selected device is highlighted.

   c. Click on *Open*. The window shown in Figure 3-4 appears.

2. Select *Utilities*, then *Fix Output/Cancel Fix* (CTRL-**F**). A dialog box appears.

WARNING	**This procedure changes the output of the device. Performing this procedure while the device is in the process can upset that process. Some process upsets can injure personnel and damage equipment.**
AVERTISSEMENT	**Cette procédure change le signal de sortie du dispositif. Si on effectue cette procédure alors que le dispositif est en commande du procédé, il est possible que le procédé soit dérangé. Certains dérangements de procédé peuvent causer des blessures au personnel ou des dommages à l'équipement.**

3. In *Percentage of Output*, enter the output percentage.

4. Click on *OK*. A dialog box appears warning that the output will be affected and asks to continue.

5. Click on *Yes* and the output is fixed at the specified percentage. Click on *Abort* to cancel.

To ***cancel*** fix output:

NOTE: Fix output and cancel fix output can also be set on a device by the Type STT02 terminal, independently of SmartLink.

1. Open a device. If the device is already open, go to Step 2.

   a. From the main window, select *Device*, then *Open* (CTRL-**O**). A listing of available devices displays. Use the scroll bar to view a complete list of devices.

   b. Select the desired device. The selected device is highlighted.

   c. Click on *Open*. The window shown in Figure 3-4 appears.

2. Select *Utilities*, then *Fix Output/Cancel Fix* (CTRL-**F**). A dialog box appears.

3. Select *Cancel Fix Output*. A dialog box appears warning that the output will change and asks to continue.

4. Click on *Yes* and the fixed output is canceled.

Set LCD Display Units

This operation sets what displays locally on the device LCD. Select the output in percentages and input in either engineering or secondary units.

To set the display units:

1. Open a device. If the device is already open, go to Step 2.

   a. From the main window, select *Device*, then *Open* (CTRL-**O**). A listing of available devices displays. Use the scroll bar to view a complete list of devices.

   b. Select the desired device. The selected device is highlighted.

   c. Click on *Open*. The window shown in Figure 3-4 appears. Connection information and configuration data are displayed.

2. Select *Utilities*, then *LCD Display* (CTRL-**Y**). A dialog box appears.

3. Select the display units.

4. Click on *OK*.

CONFIGURATION FILES

A configuration file is a set of operating parameters required for a device. The operating parameters vary depending on the device type. Configuration files are created independently of a device and saved on the hard disk drive of the personal computer for downloading to a device. Creating a configuration file independently of the device allows downloading a configuration to multiple devices and having multiple configurations files for the same device.

Create a New Configuration File

1. From the main window, select *Config*, then *New* (CTRL-C). A dialog box appears that prompts for a device type (e.g., PTS).

2. Select the desired device type and click on *OK*. A configuration data window appears.

3. Edit the fields as desired. Table 3-8 describes the various fields and selection options.

4. After editing the configuration, click on *Save As* to save the new configuration. A dialog box appears similar to that shown in Figure 3-7. Table 3-11 describes the dialog box.

5. Enter a file name with a ***.CON*** extension and click on *Save*. This configuration file will be saved to the hard disk. Files saved without a name are saved as ***untitled.nnn***, where ***nnn*** is the number of the untitled configuration file (e.g., ***untitled.001***).

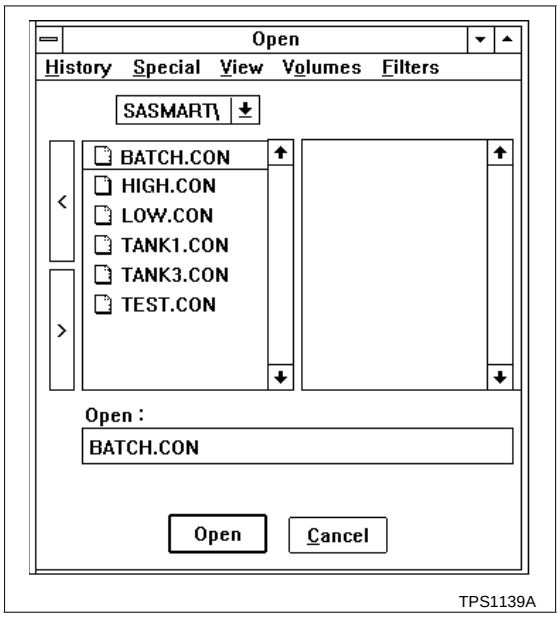

Figure 3-7. File Selection Dialog Box

Table 3-11. File Selection Dialog Box Description

Field/ Window	Menu Items	Description
Menu bar	History	Lists the previous directories selected from the current disk drive.
	Special	
	Home	Changes directory to home directory (Windows).
	Mark	Adds directories to the history selection. A convenient way to access frequently used directories.
	Unmark	Removes selected directory from history selection.
	View	
	by Name	Lists files of directory alphabetically.
	by Date Modified	Lists files of current directory in order of date modified (latest to earliest).
	by Date Created	Lists files by creation date (latest to earliest).
	Volumes	Lists available disk drives.
	Filters	
	.	Wildcard listing of files. Lists all files in current directory.
	*.con	Lists files of all names that have a ***.CON*** extension.
	untitled.*	Lists all untitled files.
Directory	—	Lists the current directory and disk drive.
File displays	—	Lists the directories and files of directories. Use the left and right arrow next to the window to change or expand directories. Maximize up to 5 display windows.
Path	—	Specify the path of the file to open or save (labeled *Save As* or *Open*).

Open a Configuration File

The following procedure details how to open a configuration file and describes the various operations that can be performed, including:

- Edit.
- Close.
- Save.
- Save As.
- Load.
- Print.

To open a configuration file:

1. From the main window, select *Config*, then *Open* (CTRL-**E**). A file selection dialog box appears similar to that shown in Figure 3-7.

2. Select the appropriate directory in the display window. The files of the selected directory appear in adjacent windows (expands up to five selection windows). If configuration files were saved without a ***.CON*** extension, select *Filters* from the menu bar and change the filter (Table 3-11).

3. Select a configuration file and click on *Open*. The configuration data window displays (Fig. 3-8). At the top of the window are operation buttons.

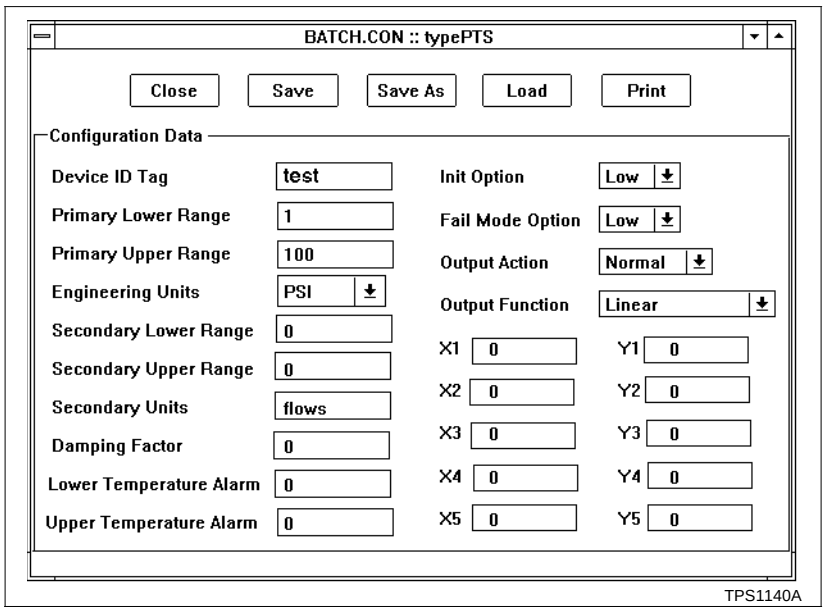

Figure 3-8. Configuration Data Window

4. Configuration data can be modified by editing the fields. Refer to Table 3-8 for a description of fields and entry and selection options. The following describes the operations that can be performed on an open configuration file by clicking the appropriate button at the top of the window:

- ***Close*** - closes the configuration file without saving any changes made to the file.

- ***Save*** - updates the configuration file with any changes made.

- ***Save As*** - copies the configuration file under a different name.

- ***Load*** - loads a configuration file into the configuration file displayed on screen.

  Click on *Load* and a dialog box similar to the one shown in Figure 3-7 appears. Table 3-11 describes how to use the dialog box.

  Select a file and click on *Load.* The parameters of the selected file are written to the configuration file that is on-screen.

- ***Print*** - prints a hard copy of the on-screen configuration file.

Delete a Configuration File

1. From the main window, select *Config*, then *Delete* (CTRL-**D**). The file selection dialog box appears (Fig. 3-7).

2. Select the appropriate directory in the display window. The configuration files (****.CON***) of the selected directory appear in the adjacent window. If configuration files were saved without a ***.CON*** extension, select *Filters* and change the filter (Table 3-11).

3. Select the configuration file to be deleted and click on *Delete*.

Save Device Configuration as File (Save As)

1. Open a device. If the desired device is already open, go to Step 2.

   a. From the main window, select *Device*, then *Open* (CTRL-**O**). A listing of available devices displays. Use the scroll bar to view a complete list of devices.

   b. Select the desired device. The selected device is highlighted.

   c. Click on *Open.* The window shown in Figure 3-4 appears. Connection information and configuration data are displayed.

2. Select *File*, then *Save As* (CTRL-**S**). The file selection window displays with the cursor in the *Save As* field.

3. Type a name for the file with a ***.CON*** extension and click on *Save*. The file is saved to the current directory.

Save All Configuration Files

To save all open configuration files, select *Config*, then *Save All* from the main window.

Close All Configuration Files

To close all open configuration files, select *Config*, then *Close All* from the main window.

NOTE: *Close All* does not save the configuration files before closing. Unsaved changes to the files will be lost.

CALIBRATION

The following subsections describe calibration and digital-to-analog adjustment.

Calibrating Types BCN and PTS Transmitters

NOTE: Refer to the device instruction for complete information about calibration.

1. Open a device. If the desired device is already open, go to Step 2.

   a. From the main window, select *Device*, then *Open* (CTRL-**O**). A listing of available devices displays. Use the scroll bar to view a complete list of devices.

   b. Select the desired device. The selected device is highlighted.

   c. Click on *Open*. The window shown in Figure 3-4 appears. Connection information and configuration data is displayed.

2. Select *Calibration*, then *Bench Calibration* (CTRL-**B**). A calibration dialog box appears similar to Figure 3-9.

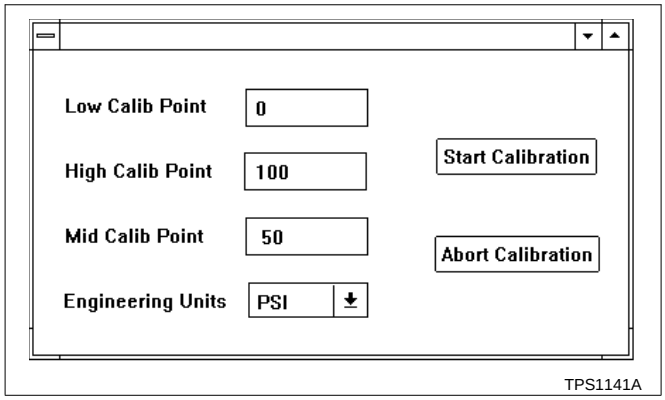

Figure 3-9. Calibration Dialog Box (BCN)

3. In *Low Calib Point*, type the desired value, or accept the displayed value which is taken from the device configuration (primary lower range).

4. In *High Calib Point*, type the desired value, or accept the displayed value which is taken from the device configuration (primary upper range).

NOTE: PTS calibration sequence does not use a midpoint value.

5. In *Mid Calib Point*, type the midpoint value between the low and high points (Type BCN transmitters only).

WARNING	**This procedure changes the output of the device. Performing this procedure while the device is in the process can upset that process. Some process upsets can injure personnel and damage equipment.**
AVERTISSEMENT	**Cette procédure change le signal de sortie du dispositif. Si on effectue cette procédure alors que le dispositif est en commande du procédé, il est possible que le procédé soit dérangé. Certains dérangements de procédé peuvent causer des blessures au personnel ou des dommages à l'équipement.**

6. Click on *Start Calibration*. A dialog box appears stating that the output will change and asks to continue. Click on *Yes*.

7. Apply the low calibration value to the transducer and click on *OK*. A dialog box states:

Output will be affected! Continue?

Click on *Yes*.

8. Apply the high calibration value to the transducer and click on *OK*. A dialog box states the status of the calibration.

Calibrating Types TBN480, TBN580 or TBN581 Transmitters

NOTE: Refer to the device instruction for complete information about calibration.

1. Open a device. If the desired device is already open, go to Step 2.

a. From the main window, select *Device*, then *Open* (CTRL-**O**). A listing of available devices displays. Use the scroll bar to view a complete list of devices.

b. Select the desired device. The selected device is highlighted.

c. Click on *Open*. The window shown in Figure 3-4 appears. Connection information and configuration data is displayed.

2. Select *Calibration*, then *Process Calibration* (CTRL-**B**). A calibration dialog box appears similar to Figure 3-10.

3. The pH of the process is displayed in *Current Value*. In *Desired Value*, type the pH value of the sample measurement.

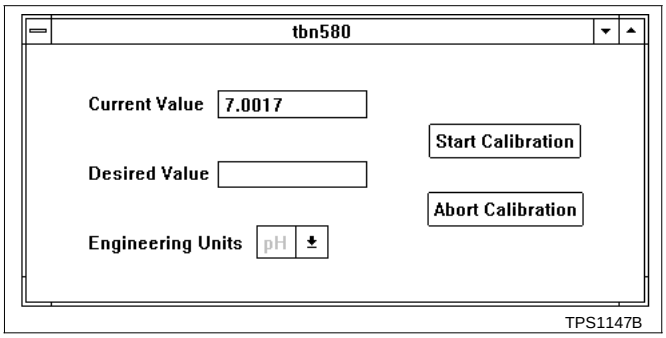

Figure 3-10. Process Calibration (TBN580)

When calibrating Types TBN581 and TBN480 transmitters, the units are in millivolts.

WARNING	**This procedure changes the output of the device. Performing this procedure while the device is in the process can upset that process. Some process upsets can injure personnel and damage equipment.**
AVERTISSEMENT	**Cette procédure change le signal de sortie du dispositif. Si on effectue cette procédure alors que le dispositif est en commande du procédé, il est possible que le procédé soit dérangé. Certains dérangements de procédé peuvent causer des blessures au personnel ou des dommages à l'équipement.**

4. Click on *Start Calibration*. The following message appears:

   Output will be affected! Continue?

5. Click on *Yes* to complete the process calibration.

Digital-to-Analog Adjust (D/A)

This operation is only available if the device is in the analog mode. This operation allows adjusting the four to 20 milliamp output of the device.

To adjust digital-to-analog (D/A):

1. Open a device. If the desired device is already open, go to Step 2.

   a. From the main window, select *Device*, then *Open* (CTRL-O). A listing of available devices displays. Use the scroll bar to view a complete list of devices.

   b. Select the desired device. The selected device is highlighted.

c. Click on *Open*. The window in Figure 3-4 appears. Connection information and configuration data is displayed.

WARNING	**This procedure changes the output of the device. Performing this procedure while the device is in the process can upset that process. Some process upsets can injure personnel and damage equipment.**
AVERTISSEMENT	**Cette procédure change le signal de sortie du dispositif. Si on effectue cette procédure alors que le dispositif est en commande du procédé, il est possible que le procédé soit dérangé. Certains dérangements de procédé peuvent causer des blessures au personnel ou des dommages à l'équipement.**

2. Select *D/A, then Adjust* (CTRL-J). A dialog box states:

Output will be affected! Continue?

3. Click on *Yes*.

4. Use a digital multimeter (or some other means) to measure the zero current value at the device. Click on the up and down arrow of the D/A screen to adjust the zero value (0 mA). Click on *Zero Ok* when the adjustment is complete.

5. Use a digital multimeter (or some other means) to measure the span current value at the device. Click the up and down arrow of the D/A screen to adjust the span value (20 mA). Click on *Span Ok* when the adjustment is complete.

DIAGNOSTICS

The diagnostics feature scans selected devices for status.

Setup

To set up the diagnostics:

1. From the main menu select *Diagnostics*, then *Setup* (CTRL-T). A dialog box similar to Figure 3-11 appears.

Available Devices lists the devices that are currently connected to the smart interface unit. To run diagnostics on an available device, it must be moved into *Selected Devices*.

2. To run diagnostics on a device, highlight the device and click on *Add*. The device appears in *Selected Device*.

3. Repeat Step 2 to run diagnostics on other devices.

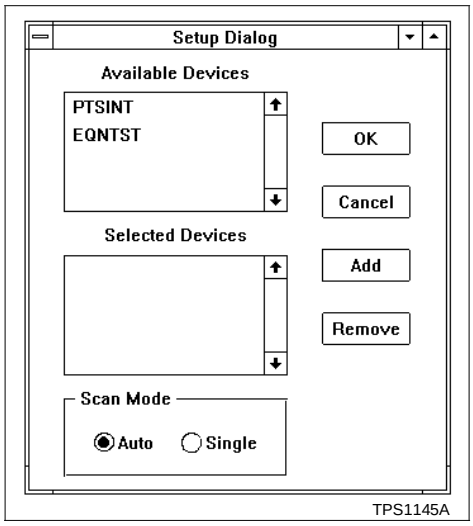

Figure 3-11. Setup Dialog Box

4. Select the desired scan mode:

   Auto - continuously scans selected devices. Begin auto scan by selecting *Diagnostics* and then choosing *Scan.*

   Single - only scans when directed. Initiate a single scan by selecting *Diagnostics* and choosing *Scan*.

To discontinue diagnostics on a device:

1. In the *Selected Devices* field, highlight the device to be removed from diagnostics and click on *Remove*.

2. Repeat Step 1 for all other devices being removed from diagnostics.

View Diagnostics

When diagnostics are selected for a device and a scan is initiated (single or auto), SmartLink software scans the selected device for status. If SmartLink software does ***not*** detect a problem in the status of the selected device, normal operations continue. If a problem is detected, a *Diagnostics Available* button displays in the upper right corner of the window (Fig. 3-12).

To view the diagnostics after a problem is detected; Click on *Diagnostics Available*. The view diagnostics window appears (Fig. 3-13).

The following describes the function buttons of the view diagnostics window.

- ***ReScan*** - scans selected devices.

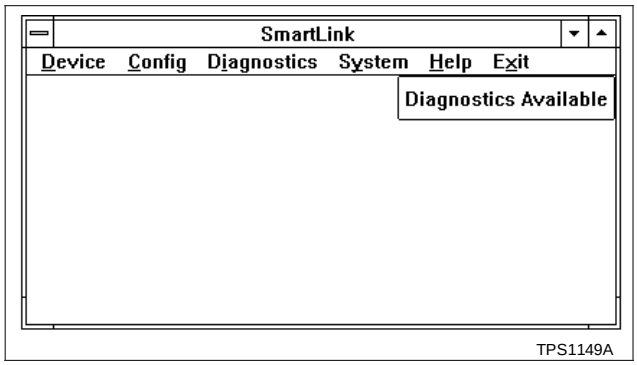

Figure 3-12. Diagnostics Available Button

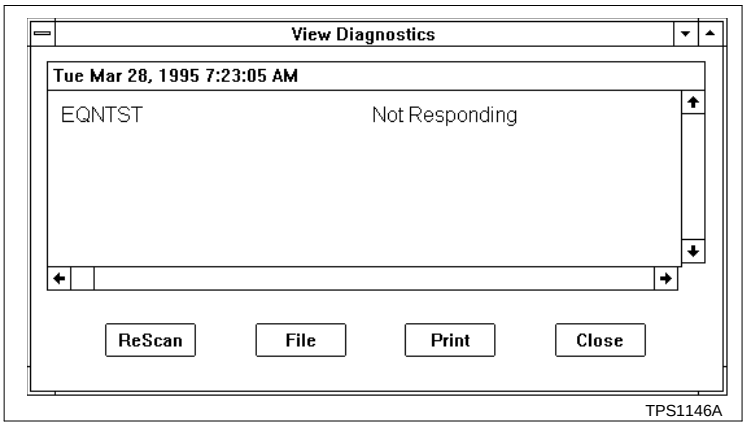

Figure 3-13. View Diagnostics Window

- ***File*** - writes the contents of the view diagnostics to a file named ***smlink.log***. Use a text editor to open and view the file.
- ***Print*** - prints the contents of the view diagnostics window.
- ***Close*** - closes the view diagnostics window.

SECTION 4 - TROUBLESHOOTING

INTRODUCTION

This section provides troubleshooting information. Perform the following steps before proceeding to ***ERROR MESSAGES***.

1. Check the following:

   a. Wiring connections between the devices and interface devices (i.e., SIU). Be sure devices are connected to the terminal block assignments as set in SmartLink.

   b. Cable connections between the personal computer and interface device (i.e., SIU). Be sure SmartLink is configured for the correct communication port on the personal computer.

2. If faulty wiring connections are not the problem, check the status of the field device by using the Type STT02 Smart Transmitter Terminal. Also consult the troubleshooting section in the SIU01 Smart Interface Unit instruction (Table 1-2).

3. If the windows on the display are cut off or run outside the limits of the system's screen, the Windows display type must be changed to small fonts. This can be done by changing the display setting to small font in the Windows Control Panel.

> **NOTE:** If SmartLink is operating erratically, it could be due to low system resources available for Windows. After applications are closed in Windows, the system resources used by that application are not released until Windows is closed and started again. To check system resources, select *Help* from Program Manager then *About Program Manager*.

ERROR MESSAGES

Table 4-1 lists and describes SmartLink software error messages. If these messages are issued, they will appear in the *Status* field of the monitor process variables and view diagnostics windows. The table has four columns:

- ***Message*** - displays the message as it appears.
- ***Affected Device*** - lists device types the message can affect.
- ***Probable Cause*** - provides a brief explanation of the potential cause of the problem.
- ***Corrective Action*** - describes corrective actions to take for each message.

Table 4-1. Error Messages

Message	Device	Probable Cause	Corrective Action
Busy processing config.	BCN, EQN, EQS, PTS, TBN, AVS	Device is busy.	Try function again.
Calibration out of range	BCN, EQN, EQS, PTS, TBN, AVS	Input signal not at specified range.	Correct signal and calibrate. Refer to Section 3.
Calibration required	PTS	Cell has not been calibrated with present amplifier assembly.	Calibrate device. Refer to device instruction for calibration information.
Cannot find pswd.txt file	BCN, EQN, EQS, PTS, TBN, AVS	Accessing password from wrong directory.	Change to the SmartLink directory (i.e., \SMRTLNK) and try again.
Cell EEPROM failure	PTS	Damage to cell characterization board.	Replace cell. Refer to repair/replacement section of device instruction.
	AVS	Pressure board EEPROM failure	Replace board. Refer to repair/replacement section of device instruction.
Cell temperature over user alarm	PTS	Cell temperature over user alarm limit.	Correct temperature problem.
Cell temperature under user alarm	PTS	Cell temperature under user alarm limit.	Change alarm value. Refer to Section 3.
Cell temperature overrange	PTS	Cell temperature input under/over factory specified limits.	Remove the source of the temperature extreme.
Cell temperature underrange			
Command conflict	PTS	Commands sent to device in wrong order.	Try function again.
Communications syntax error	EQS	Incorrect syntax.	Wrong device type selected in configuration. Match configuration device type with target device.
		Excessive line noise.	Check line noise. Use oscilloscope to determine if line noise is excessive.
		SmartLink failure.	Try communicating with another device to verify communications.
Deviation alarm	AVS	Deviation between set point and position has been above the deviation alarm setting for greater than 1 min.	Check valve and actuator for mechanical failures.
Device error not listed	BCN, EQN, EQS, PTS, TBN	Device reported error not understood by SmartLink.	Contact Bailey Controls Company technical support.
Device in fix output mode	BCN, EQN, EQS, PTS, TBN	SmartLink not connected when 4 to 20-mA adjust was performed.	Cycle the power of device.
		Device cannot execute command because of fix output.	Take device out of fix output. Refer to Section 3.
Device in fixed input mode.	AVS	SmartLink not connected when 4 to 20-mA adjust was performed.	Cycle the power of device.
		Device cannot execute command because of fix input.	Take device out of fix input. Refer to Section 3.

Table 4-1. Error Messages (continued)

Message	Device	Probable Cause	Corrective Action
Device main input channel failure	BCN, EQN, TBN	Sensor failure.	Check input board connections. Refer to repair/replacement section of device instruction.
		Damaged amplifier assembly.	Replace amplifier assembly. Refer to repair/ replacement section of device instruction.
Device not responding	BCN, EQN, EQS, PTS, TBN	Wrong FSK address.	Verify FSK address. Refer to Section 3.
		Wrong SIU address.	Verify SIU address. Refer to Section 3.
		Field device failure.	Refer to troubleshooting section of the appropriate device instruction for information.
Device is off-line	BCN, EQN, EQS, PTS, TBN, AVS	Device set off-line for adjustment with hand held	Put device back on-line
Dynamic temperature failure	PTS	Dynamic temperature input exceeded limits set at factory.[1]	Output may no longer be accurate. Remove source of temperature shift.
EEPROM failure	BCN, EQN, EQS, TBN	Memory problem.	Reconfigure and calibrate device. Refer to device instruction. The microcomputer will attempt to correct problem.
	PTS, AVS	Memory problem.	Cycle power to device. If problem persists, replace amplifier assembly. Refer to repair/ replacement section of device instruction.
Electronics temperature failure	PTS	Hardware failure of on-board temperature sensor.	Replace amplifier assembly. Refer to repair/ replacement section of device instruction.
Electronics temperature overrange/ underrange	BCN, EQN, EQS, TBN	Device not calibrated properly, or device temperature above perfor-mance specifications. Message will not affect operation but could mean temperature performance is out of range.	Recalibrate device. Refer to Section 3.
	PTS, AVS	Local heat or cold source exceeds electronics specification.	Eliminate or reduce temperature extreme of the electronics.
EZ-CAL switch failure	PTS	Misoperation of EZ-CAL.	Try again.
		Damaged EZ-CAL.	Replace EZ-CAL option. Refer to repair/ replacement section of device instruction.
		Damaged amplifier assembly.	Replace amplifier assembly. Refer to repair/ replacement section of device instruction.
FBS on-line	BCN, EQN, EQS, PTS, TBN, AVS	Field bus is busy.	Bring device off-line.
Hardware lockout installed	BCN, EQN, EQS, PTS, TBN, AVS	Unable to configure or calibrate.	Hardware lock active. Refer to device instruction for details about the lockout jumper.
High/low pressure alarms	AVS	Supply pressure too high or too low.	Check supply pressure.
Input overrange/ underrange	BCN, EQN, EQS, TBN, AVS	Input out of range.	Reduce input, or configure proper limits. To verify, refer to Section 3.
	PTS	Input exceeds cell specification.	Reduce input pressure.

Table 4-1. Error Messages (continued)

Message	Device	Probable Cause	Corrective Action
Interface not responding	BCN, EQN, EQS, PTS, TBN, AVS	No FSK communication between Field Bus Slave and Field Device.	Wrong FSK address.
		Field device failure.	Refer to troubleshooting section of the appropriate device instruction for information.
Internal reference failure	BCN, EQN, EQS, TBN, AVS	Reference problem on circuit board.	Check connections. Replace electronics assembly. Refer to repair/replacement section of device instruction.
	PTS	Reference problem on circuit board.	Replace amplifier assembly. If problem still exists, replace cell and characterization board.
Main input failure	PTS	Input board failure.	Check input board connections. Refer to repair/replacement section of device instruction.
		Characterization board or cell damage.	Replace cell/characterization board. Refer to repair/replacement section of device instruction.
Parameter out of range	BCN, EQN, EQS, PTS, TBN	Device sent data that is out of acceptable range.	Verify configuration parameters. To verify, refer to Section 3.
Position sensor failure	AVS	Position feedback transducer not functioning.	Check all connections with the transducer. If connections are good, transducer may need replaced.
RAM checksum error	BCN, EQN, EQS, PTS, TBN	Internal RAM failure.	Replace electronics. Refer to repair/ replacement section of device instruction.
SIU error not listed	BCN, EQN, PTS, AVS	Wrong device type.	Verify device parameters. Change device type using SmartLink. Refer to Section 3.
SIU not responding	SIU	Wrong SW1 settings on the SIU.	Verify the positions of SW1-1 through SW1-8 on the SIU. Refer to the SIU instruction for details.
		Loose connection between SIU and PC.	Make good connection between the SIU and PC. If connections are good, cable may be faulty.
System locks up	SIU	Windows system resources low.	Close some Windows applications to free up RAM for SmartLink software.
Temperature sensor failure	BCN, EQN, TBN	On-board temperature sensor failure.	Replace input board. Refer to repair/ replacement section of device instruction.
Valve stuck alarm	AVS	Valve position unchanged for over a minute.	Check valve and actuator for mechanical failures.

NOTE: 1. The temperature of the high side of the cell is different with respect to the low side of a Type PTSD transmitter.

SECTION 5 - SUPPORT SERVICES

INTRODUCTION

This section provides training and documentation information.

TRAINING

Bailey Controls Company has a modern training facility available for training your personnel. On-site training is also available. Contact a Bailey Controls Company sales office for information and scheduling.

TECHNICAL DOCUMENTATION

Additional copies of this instruction, or other Bailey Controls Company instructions, can be obtained from the nearest Bailey Controls Company sales office at a reasonable charge.

APPENDIX A - QUICK REFERENCE

INTRODUCTION

Table A-1 contains quick reference material for various Smart-Link software functions. The following describes the columns of the reference table:

Function - lists the functions.

Menu - provides the starting menu.

Keystrokes - provides the keystrokes of the function.

Clicks - shows the sequence of mouse clicks of the function.

Table A-2 lists and briefly describes the device data menu.

Table A-1. Quick Reference for Functions

Function	Menu	Keystrokes	Clicks
Calibrate a device	Device data	CTRL-B	*Calibration* → *Bench/Process Calibration* → *Apply Input*
Cancel fix output	Device data	CTRL-F	*Utilities* → *Fix Output/Cancel Fix* → *Cancel Fix Output*
Change communication parameters	Main	CTRL-P	*System* → *Communications*
Change device SIU communi-cations	Main	None	*Device* → *Open* → *Edit*
Change the hardware interface	Main	CTRL-F	*System* → *Hardware Interface*
Close all configuration files	Main	None	*Config* → *Close All*
Close all devices	Main	CTRL-A	*Device* → *Close All*
Close device	Device data	CTRL-C	*File* → *Close*

Table A-1. Quick Reference for Functions (continued)

Function	Menu	Keystrokes	Clicks
Create a new configuration file	Main	CTRL-C	*Config* → *New* → *Select Device Type*
Delete a configuration file	Main	CTRL-D	*Config* → *Delete* → *Select File*
Delete a device	Main	CTRL-D	*Device* → *Delete* → *Select Device*
Diagnostics	Main	CTRL-T	*Diagnostics* → *Setup* → *Scan Mode*
Digital-to-analog adjust	Device data	CTRL-J	*D/A* → *Adjust* → *Adjust Zero + Span*
Fix output of device	Device data	CTRL-F	*Utilities* → *Fix Output/Cancel Fix* → *Fixed Percentage*
Get configuration from a device	Device data	CTRL-G	*Config* → *Get*
Monitor process variables	Device data	CTRL-M	*Monitor* → *Process Variables*
Open a configuration file	Main	CTRL-E	*Config* → *Open* → *Select File*
Open a device	Main	CTRL-O	*Device* → *Open* → *Select Device*
Print device configuration	Device data	CTRL-P	*File* → *Print*
Reset device (standard config, PTS)	Device data	CTRL-R	*Utilities* → *Reset To Standard*

Table A-1. Quick Reference for Functions (continued)

Function	Menu	Keystrokes	Clicks
Save all configuration files	Main	None	*Config* → *Save All*
Save device configuration as a file	Device data	CTRL-S	*File* → *Save As*
Send configuration to a device	Device data	CTRL-N	*Config* → *Send*
Set LCD display units	Device data	CTRL-Y	*Utilities* → *LCD Display* → *Select Display Units*
Set communications, new device	Main	CTRL-N	*Device* → *New*

Table A-2. Device Data Menu

Menu Item	Options	Description
File	Open	Opens an existing configuration file.
	Save as	Saves the configuration as a file.
	Print	Prints the displayed configuration.
	Close	Closes the device.
Config	Send	Sends the configuration displayed to the device.
	Get	Gets the current configuration of the open device.
Monitor	Process variables:	
	Primary output	Displays percentage value of output based on the calibrated range.
	Primary input	Displays input value of the device in engineering units.
	Temperature	Displays the reference temperature of the transducer.
	Secondary output	Displays secondary output value in user-defined units.
	Status	Displays device status. Status items are: transducer, transducer temperature, device ambient temperature, input circuits, processor (EEPROM), NVRAM and reference voltage.
Utilities	Reset to standard config	For PTS only. Loads the Type PTS transmitter with the standard configuration.
	Fix output/cancel fix	Sets the output to a fixed value and maintains this output until cancel fix is performed.
	LCD display	Sets what displays locally on the device LCD. Select output in percentage, input in engineering units or secondary units.
Calibration	Bench calibration	Calibrates the low and high range values of the device.
D/A	Adjust	For analog devices only. Allows adjusting the 4 to 20-mA output signal of the device.

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