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Product Data

SLC™ Programmable Controllers Personal Computer Interface Kit Bulletin 1745

(Cat. No. 1745-PCK)

Description

The SLC Personal Computer Interface Kit allows communication between SLC 100 and SLC 150 Programmable Controllers and a personal computer. The kit includes IBM compatible software on a 5-1/4" floppy diskette and 3-1/2" micro disc (Cat. No. 1745-PCD), an interface converter (Cat. No. 1745-PCC), and a 6 ft. interconnect cable (Cat. No. 1745-C1). The kit components are also sold separately.

SLC Personal Computer Software on 3-1/2" micro disk is compatible with Allen-Bradley's 1784-T50 Industrial Computer.

The SLC Personal Computer Software features:

- Prompt messages and selection menus to make program development easy and user friendly. Ladder diagram programming format allows easy system troubleshooting for maintenance personnel.
- Programs can be clearly documented with rung comments and instruction labels. Ladder diagrams can be printed along with sequencer tables, cross reference tables and contact histograms.
- Software that is compatible with industry standard hardware. Your personal computer becomes a multi-purpose tool. You can purchase software packages for other production control functions or for programming other Allen-Bradley programmable controllers.



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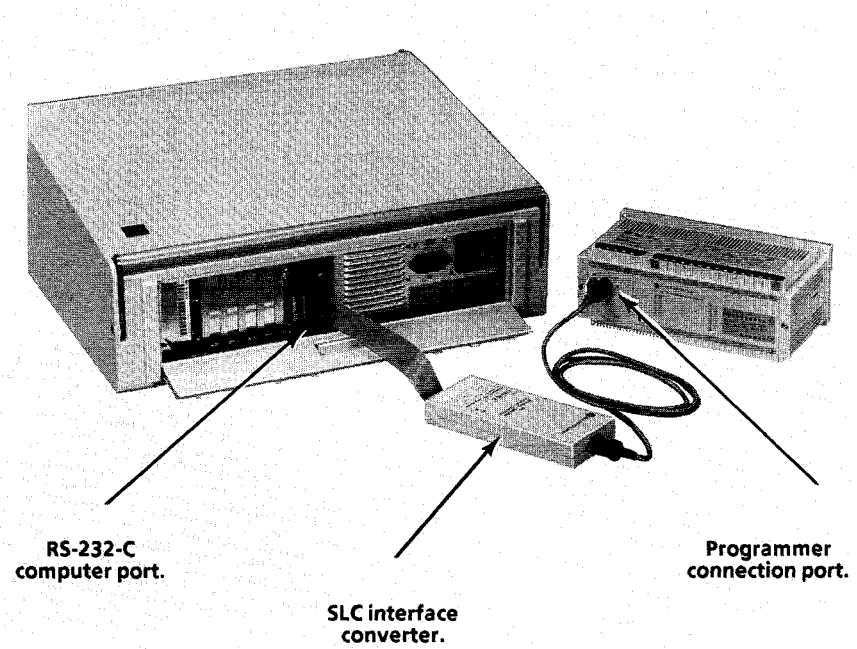
Hardware Description

The interface converter will convert RS-422 signals transmitted by the SLC processor to RS-232-C signals that are compatible with your computer. The interface converter also isolates the SLC processor from the RS-232-C port which will minimize the chance of damage due to noise transients. The interface converter connects to a 25 pin RS-232-C serial port on the back of your computer with the ribbon cable that is attached. Personal computers with 9 pin serial adapter ports will require a 9 pin to 25 pin adapter cable. Information and part numbers for 9 pin to 25 pin adapter cables is provided in the SLC Personal Computer Software User's Manual (Pub. No. 1745-825). The software allows you to select COM 1 or COM 2 operation.

The interface converter connects to the SLC processor unit via the 6 ft. interconnect cable. Remote communication up to 4,000 feet is possible with SLC 150 Series A or later processor units and SLC 100 Series B or later processor units. Remote communication requires a plug-in power supply, Catalog No. 1745-PCP. **SLC 100 Series A processor units are limited to remote communications of 100 feet maximum.** You must supply your own cable for remote communication.

Connection Procedure – Local Communication

1. Connect the ribbon cable connector of the interface converter to the RS-232-C serial port on your computer. Connectors are keyed to prevent improper connection.
2. Connect the 6 foot interconnect cable on the interface converter to the SLC processor unit programming port. Connectors are keyed to prevent improper connection.



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Connection Procedure – Remote Communication

1. Remote communication via the interface converter requires a plug-in power supply (Cat. No. 1745-PCP). The power supply is pre-wired to a DIN connector compatible with the SLC interface converter. An additional DIN connector is provided for connection to the SLC processor unit. You must assemble the connectors and cables yourself. Assembly instructions are provided with the power supply kit.
2. After you assemble the remote communications cable, follow the same connection procedures described in local connection.

SLC Personal Computer Software

The following paragraphs discuss DOS Requirements, IBM compatibility, and software features.

DOS Requirements

SLC Personal Computer Software must be used on personal computers using MS-DOS version 2.0 (version 3.0 for the IBM AT) or later. Procedures for installing DOS are given in Section 2, Getting Started, of the User's Manual. Your personal computer must have a minimum of 256 Kbytes of memory in order to run SLC Personal Computer Software. We recommend 384 Kbytes.

The computers listed below are IBM compatible. There are other IBM compatible computers that are not listed here.

Allen-Bradley 6120 Industrial Computer
Allen-Bradley 6121 Industrial Computer
IBM PC XT
IBM PC AT
IBM PC
IBM Portable
IBM 5531 Industrial Computer
Compaq Portable
Compaq Plus

Features

SLC personal computer software includes the following features:

Program Transfer – Your personal computer can be used to store a library of SLC user programs. These programs can then be individually selected and transferred to an SLC Programmable Controller for program execution. Program transfer functions include Program Upload/ Download, File – save/read, EEPROM – save/read, Print, and Clear.

Hard Copy Generation – Ladder diagrams, including sequencer and cross reference tables can be printed via your personal computer printer interface. Rung comments, instruction comments, and labels are also printed.

Program Development and Documentation – SLC programs can be developed off-line. Rung comments and instruction labels can be created to clearly document ladder diagrams. The Data Display Table can also be

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Features (continued)

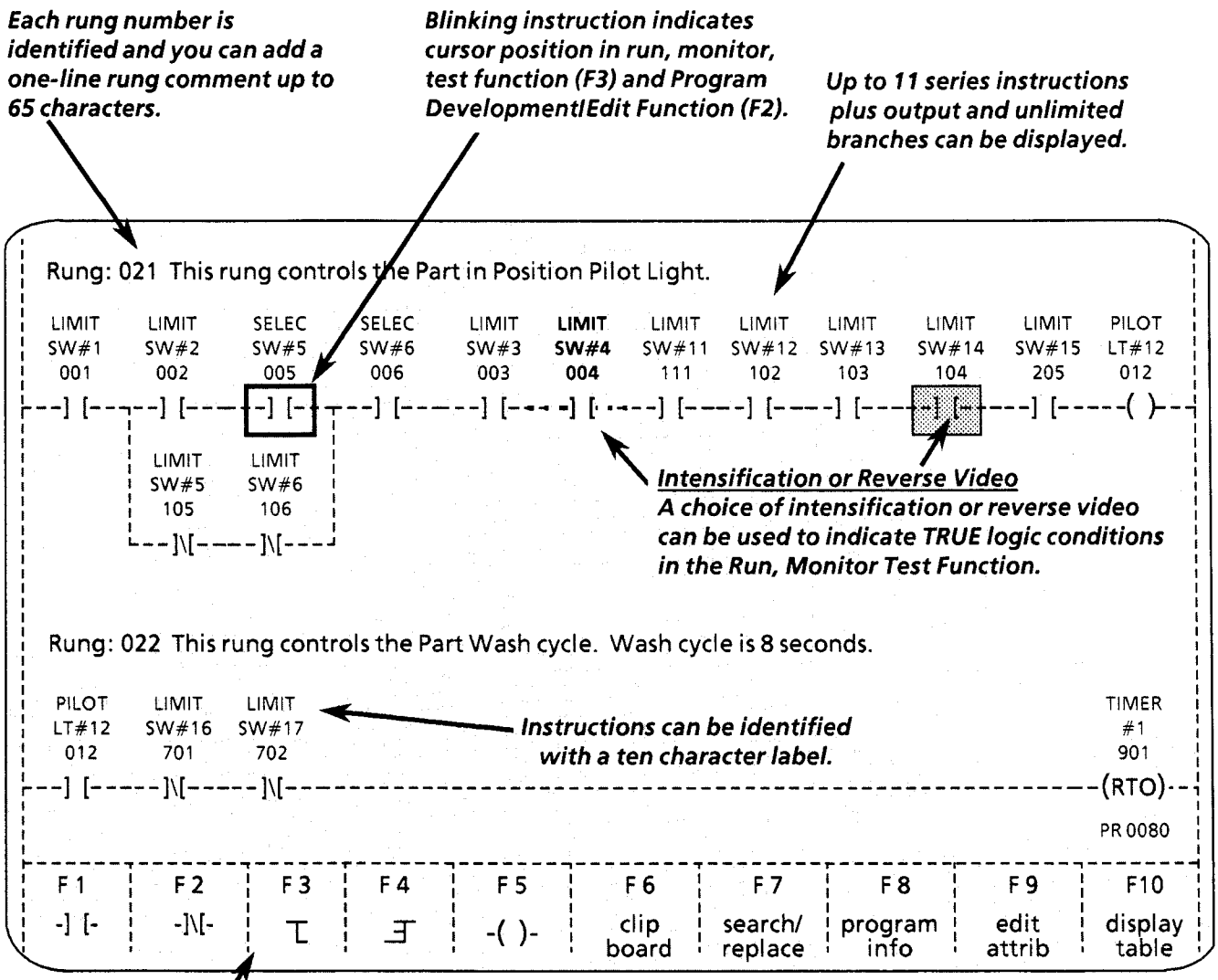
enhanced to include comments. Cross reference tables automatically organize instructions, addresses, rung numbers, and comments so that the inter-relationships can be easily identified.

On-Line Monitoring – SLC programs can be monitored via the ladder diagram format or data display table. TRUE status of instructions is shown by screen intensification. Timer/counter/sequencer parameters can be adjusted.

User Configurability – SLC personal computer software can be easily configured to select communication baud rate, computer serial port (COM 1, COM 2), computer parallel port (LPT 1, LPT 2, LPT 3), screen colors for color monitors, and fast video option.

Typical Displays

Typical displays are shown below and on Page 5.



Typical Ladder Diagram Display.

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ELEMENT	ACCM	PRESET	STEP #	DATA	GROUP#	TABLE COMMENT
T901 -(SQO)-	004	0099	01	7A	00	TIME SQO#1: This sequencer controls the staging lights for ramp 1.
E902 -(SQI)-	prot 0000	prot 0001	00	0A	07	EVENT SQI#1: This sequencer checks the ramp staging positions.
003 -] [-	----	----	--	--	--	LIMIT SW#3: This switch controls the ramp closed light.
004 -] [-	----	----	--	--	--	LIMIT SW#4: This switch controls the ramp open light.
902 -(CTU)-	0808	9999	--	--	--	CNTR #1 : This counter counts the number of parts on ramp.
903 -(CTU)-	prot 0001	prot 9999	--	--	--	CNTR #2 : This counter counts the number of parts off ramp.

Screen intensification or reverse video is used in the monitor mode to show instruction status.

Any instruction can be inserted into the display table for selective monitoring of parameters and status.

Comments can be added in the program mode to document the function of an instruction. These comments will also appear in cross reference table printouts.

Typical data table .

I/O Address :							Time Driven			CON 1 905 -(SQO)- GRP 00
Hex Mask :				3			F			
Binary Mask:	0	0	1	1	1	1	1	1		
STEP #	Hex Data	Binary Data								Preset Value
00	00	–	–	0	0	0	0	0	0	0010 P
01	01	–	–	0	0	0	0	0	1	0005 P
02	03	–	–	0	0	0	0	1	1	0010 P
03	07	–	–	0	0	0	1	1	1	0005 P
04	0F	–	–	0	0	1	1	1	1	0010 P
05	1F	–	–	0	1	1	1	1	1	0005 P
06	3F	–	–	1	1	1	1	1	1	0010 P
07	00	–	–	0	0	0	0	0	0	0005 P
08	3F	–	–	1	1	1	1	1	1	0010 P
09	01	–	–	0	0	0	0	0	1	0005 P

Step number and binary data makes monitoring and programming sequencers easy.

Typical sequencer table.

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