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# SECTION 1 - INTRODUCTION

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## OVERVIEW

The Loop and Bus Interface Modules (LIM/BIM) provide the principal communication interface between INFI 90 Process Control Units (PCU) and Plant Loop. Plant Loop is a high speed (500 kbaud) serial communication highway that all INFI 90 modules share. A maximum of 63 nodes, in any combination, can be on the loop. The INLIM03 and INBIM02 are directly upward compatible with Network 90 NLIM02 and NBIM02.

The basic function of the BIM is to gather data from modules and transfer it to the LIM. The basic function of the LIM is to examine the data and transmit it to the assigned destination on the loop. Detailed theory of LIM/BIM operation is covered in [Section 2](#).

This instruction manual is intended to assist personnel with installation and operation of the Loop Interface/Bus Interface Modules.

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## INTENDED USER

System engineers and technicians should read this manual before installing and operating the Loop and Bus Interface Modules (LIM/BIM). The modules **SHOULD NOT** be put into operation until this instruction is read and understood. Refer to the **Table of Contents** to find specific information after the module is operating.

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## MODULE DESCRIPTION

The LIM and BIM each occupy one slot in the Module Mounting Unit (MMU). They are joined together with a ribbon cable. Two captive screws on each module secure them to the MMU. Eight LEDs on the LIM faceplate display messages and error information.

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## FEATURES

The modular design of the LIM and BIM modules, as with all INFI 90 modules, allows for flexibility when creating a process management system strategy. An optional second LIM/BIM pair can be added to provide a redundancy feature to the system. One pair performs the primary interface function, while the other LIM/BIM pair is on standby. Should a primary failure occur, the secondary pair comes on-line without interrupting the process. Other features include selectable poll rates (the time between module output block checks), on-board

diagnostics, and 32 kbytes of RAM available to the BIM user. Each LIM provides redundant loop interface and the physical media is redundant.

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## INSTRUCTION CONTENT

This document is divided into ten sections. **Introduction** is an overview of the LIM/BIM pair: features, description and specifications. **Description and Operation** explains the operation of the modules. **Installation** provides precautions and handling information. Procedures are included that detail setup and jumper settings. **Operating Procedures** provides the user with normal, everyday operating instructions. **Troubleshooting** explains possible error situations and corrective measures. **Maintenance** provides a maintenance schedule. **Repair/Replacement Procedures** lists instruction on removal and replacement of modules. **Support Services** provides replacement part ordering information. **Appendix A** and **Appendix B** explain termination unit/module wiring connections.

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## HOW TO USE THIS MANUAL

Read the introductory material first. Then, proceed to the **Section 2** to get a fundamental understanding of how the modules work. Next, read **Section 3**. This section should be read thoroughly, and all preparatory steps performed, before putting the modules into operation. After installing the modules, read **Section 4** to find out what to look for in the normal and abnormal operating modes. Refer to **Section 5** if any abnormal situations occur after putting the modules into operation.

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## NOMENCLATURE

Nomenclature	Hardware
NKLS03	Termination Unit Cable
NKLS04	Termination Module Cable
NTCL01	Termination Unit, Plant Loop
NICL01	Termination Module, Plant Loop

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## REFERENCE DOCUMENTS

Document No.	Document
I-E96-100	Operator Interface Station Operation/Configuration
I-E93-911	Termination Unit Manual