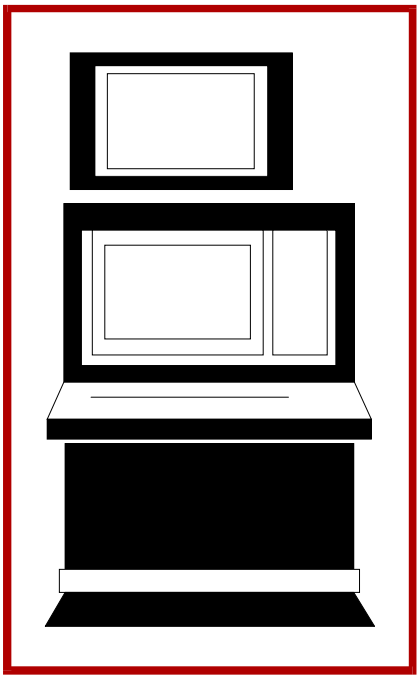
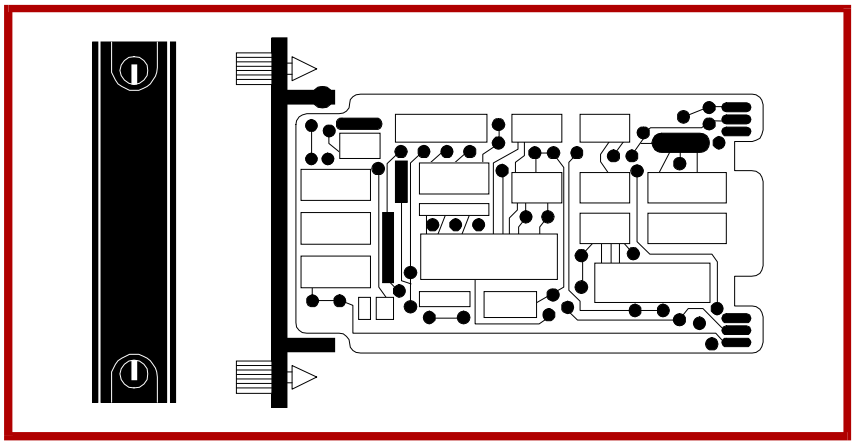
Bailey® infi 90®

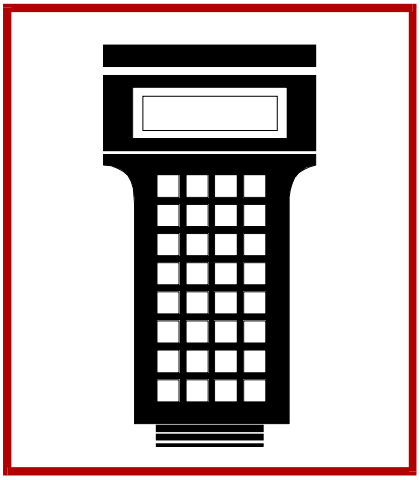
E96-410

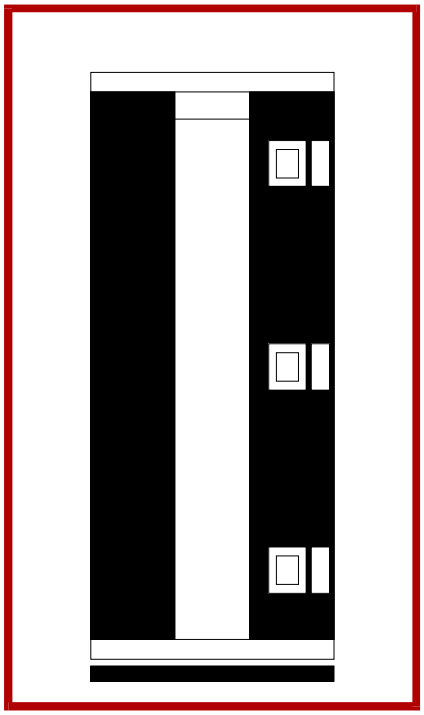
Instruction

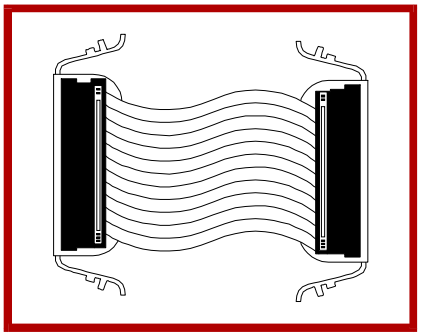
Digital Input Termination Module
(NIDI01)

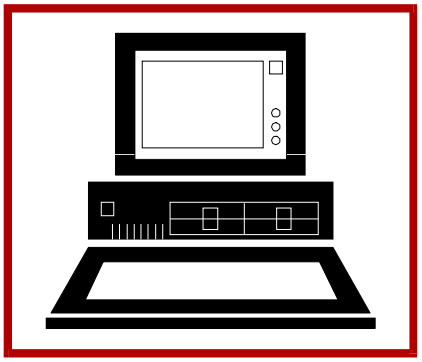












Bailey® Process Control and Automation Solutions from Elsag Bailey Group

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.

RADIO FREQUENCY INTERFERENCE

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.

AVERTISSEMENT

MANUELS D'OPÉRATION

NE PAS METTRE EN PLACE, RÉPARER OU FAIRE FONCTIONNER L'ÉQUIPEMENT SANS AVOIR LU, COMPRIS ET SUIVI LES INSTRUCTIONS RÉGLEMENTAIRES DE **Elsag Bailey**. TOUTE NÉGLIGENCE À CET ÉGARD POURRAIT ÊTRE UNE CAUSE D'ACCIDENT OU DE DÉFAILLANCE DU MATÉRIEL.

PERTURBATIONS PAR FRÉQUENCE RADIO

LA PLUPART DES ÉQUIPEMENTS ÉLECTRONIQUES SONT SENSIBLES AUX PERTURBATIONS PAR FRÉQUENCE RADIO. DES PRÉCAUTIONS DEVRONT ÊTRE PRISES LORS DE L'UTILISATION DU MATÉRIEL DE COMMUNICATION PORTATIF. LA PRUDENCE EXIGE QUE LES PRÉCAUTIONS À PRENDRE DANS CE CAS SOIENT SIGNALÉES AUX ENDROITS VOULUS DANS VOTRE USINE.

PERTURBATIONS DU PROCÉDÉ

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.

NOTICE

The information contained in this document is subject to change without notice.

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Preface

Termination modules provide an input connection from the plant equipment to the INFI 90® process modules. The NIDI01 Digital Input Termination Module terminates digital field wiring to:

- IMASO01 Analog Slave Output Module.
- IMDSI02 Digital Slave Input Module.
- IMDSM04 Pulse Input Slave Module.
- IMDSM05 Digital I/O Slave Module.
- IMDSO01, IMDSO02, IMDSO03 and IMDSO04 Digital Slave Output Module.
- IMFCS01 Frequency Counter Slave Module.
- IMHSS02 Hydraulic Servo Slave Module.
- IMLMM02 Logic Master Module.

This product instruction explains how to install and configure the NIDI01 termination module.

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List of Effective Pages

Total number of pages in this manual is 46, consisting of the following:

Page No.	Change Date
Preface	Original
List of Effective Pages	Original
iii through vii	Original
1-1 through 1-5	Original
2-1 through 2-8	Original
3-1	Original
4-1 through 4-2	Original
5-1	Original
A-1 through A-2	Original
B-1 through B-2	Original
C-1 through C-3	Original
D-1 through D-3	Original
E-1 through E-2	Original
F-1 through F-2	Original
G-1 through G-2	Original
H-1 through H-3	Original
I-1 through I-2	Original
Index-1	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.

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	If input or output circuits are a shock hazard after disconnecting system power at the power entry panel, then the door of the cabinet containing these externally powered circuits must be marked with a warning stating that multiple power sources exist. (p. 2-6)
SPECIFIC CAUTIONS	Remove modules (slave, master or termination) from their assigned slots before installing a cable to that slot. Also, remove stations from their housing before installing a cable to that housing. Failure to do so could result in damage to the module or station. (p. 2-4) It is strongly recommended that all power (cabinet, I/O, etc.) be turned off before doing any termination module wiring. Failure to do so could result in equipment damage. Do not apply power until all connections are verified. (p. 2-6, 4-1)

Sommaire de Sécurité

AVERTISSEMENTS D'ORDRE GÉNÉRAL	**Environment de l'equipement** Nes pas soumettre les composantes a une atmosphere corrosive lors du transport, de l'entreposage ou de l'utilisation. **Risques de chocs electriques lor de l'entretien** S'assurer de debrancher l'alimentation ou de prende les precautions necessaires a eviter tout contact avec des composants sours tension lors de l'entretien.
AVERTISSEMENTS D'ORDRE SPÉCIFIQUE	Si des circuits d'entree ou de sortie sont alimentes a partir de sources extrenes, ils presentent un risque de choc electrique meme lorsque l'alimentation du systeme est debranchee du panneau d'entree l'alimentation. Le cas echeant, un avertissement signalant la presence de sources d'alimentation multiples doit entre appose sur la porte de l'armoire. (p. 2-6)
ATTENTIONS D'ORDRE SPÉCIFIQUE	Retirer les modules (asservi, maître ou carte de raccordement) de leur position assignée avant d'installer un câble à cette position. Egalement, retirer les postes de commande de leur boîtier avant d'installer un câble dans ce boîtier. Des dommages au module ou au poste pourraient résulter d'un manquement à cette procédure. (p. 2-4) Il est fortement recommand, que toutes les alimentations (armoire, E/S, etc.) soient coupées avant d'effectuer quelque raccord que ce soit sur un carte de raccordement. Un manquement à ces instructions pourrait causer des dommage à l'équipement. Ne pas rebrancher les alimentations avant d'avoir vérifié tous les raccordements. (p. 2-6, 4-1)

Table of Contents

Table of Contents (continued)

List of Figures

List of Tables

SECTION 1 - INTRODUCTION

OVERVIEW

The NIDI01 Digital Input Termination Module (IDI) terminates digital input and output signals for the modules specified below. Figure 1-1 shows an example NIDI01 application.

- IMASO01 Analog Slave Output Module.
- IMDSI02 Digital Slave Input Module.
- IMDSM04 Pulse Input Slave Module.
- IMDSM05 Digital I/O Slave Module.
- IMDSO01 Digital Slave Output Module.
- IMDSO02 Digital Slave Output Module.
- IMDSO03 Digital Slave Output Module.
- IMDSO04 Digital Slave Output Module.
- IMFCS01 Frequency Counter Slave Module.
- IMHSS02 Hydraulic Servo Slave Module.
- IMLMM02 Logic Master Module.

INTENDED USER

System engineers and technicians should read this manual before installing and placing the IDI termination module into operation. Do ***not*** put the IDI termination module into operation until this instruction is read and understood.

INSTRUCTION CONTENT

This manual contains five sections and nine appendices:

Introduction — Contains an overview of the features, specifications and a description of the IDI module.

Installation — Describes precautions to observe when handling modules and setup procedures required before module operation. This section also discusses jumper settings and installation procedures.

Maintenance — Contains a maintenance schedule.

Repair/Replacement Procedures — Details how to replace an IDI module.

Support Services — Describes the support services (spare parts, training, documentation, etc.) available from Bailey Controls Company.

Appendices A through I — List the quick reference information necessary to configure IMASO01, IMDSI02, IMDSM04, IMDSM05, IMDSO01, IMDSO02, IMDSO03, IMDSO04, IMFCS01, IMHSS02 and IMLMM02 modules.

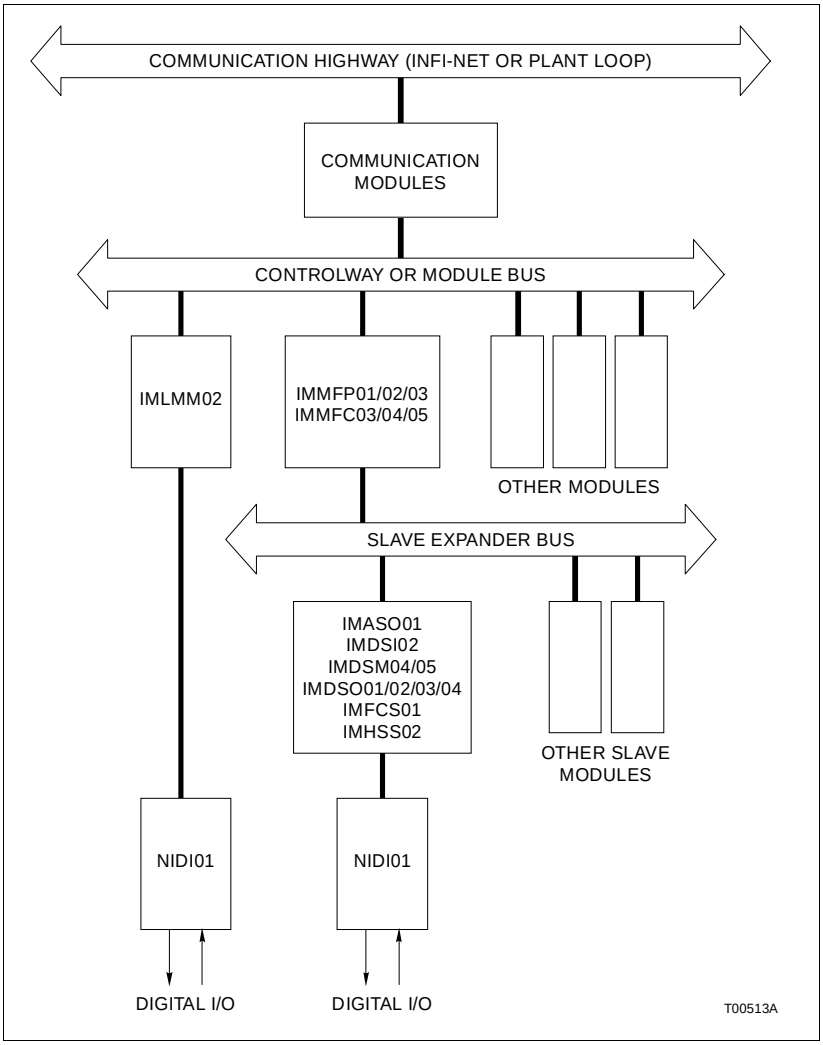

Figure 1-1. Example NIDI01 Termination Module Application

HOW TO USE THIS MANUAL

Read this manual through in sequence. Read Section 2 thoroughly. Do the steps in order. Complete all steps in Section 2 before operating the IDI termination module. Refer to the Table of Contents or Index to find specific information after the module is operating.

GLOSSARY OF TERMS AND ABBREVIATIONS

Table 1-1 lists the definitions of terms and abbreviations used in this instruction.

Table 1-1. Glossary of Terms and Abbreviations

Term	Definition
Analog	Continuously variable as opposed to discretely variable.
Bus	A channel or path for transferring data, electrical signals and power.
Digital	A discretely variable signal usually having only two states, *on* or *off*.
MFC	Multi-function controller module. A multiple loop controller with data acquisition and information processing capabilities.
MFP	Multi-function processor module. A multiple loop controller with data acquisition and information processing capabilities.
MMU	Module mounting unit. A card cage that provides electrical and communication support for INFI 90/Network 90® modules.
Termination Module (TM)	Provides input/output connection between plant equipment and INFI 90/Network 90 modules.
TMU	Termination mounting unit. A card cage that provides housing for INFI 90/Network 90 termination modules.

REFERENCE DOCUMENTS

Table 1-2 lists the documents referenced in this instruction.

Table 1-2. Reference Documents

Number	Document
I-E96-209	IMLMM02 Logic Master Module
I-E96-303	IMASO01 Analog Slave Output Module
I-E96-307	IMDSI02 Digital Slave Input Module
I-E96-308	IMDSM04 Pulse Input Slave Module
I-E96-309	IMDSM05 Digital I/O Slave Module
I-E96-310	IMDSO01/02/03 Digital Slave Output Module
I-E96-313	IMDSO04 Digital Slave Output Module
I-E96-314	IMFCS01 Frequency Counter Slave Module
I-E96-315	IMHSS02 Hydraulic Servo Slave Module

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NOMENCLATURE

Table 1-3 is a list of related hardware.

Table 1-3. Nomenclature

Nomenclature	Hardware/Description
NIDI01	Digital input termination module.
NKTU02	Termination module cable (PVC).
NKTU12	Termination module cable (non-PVC).
NKTM01	Termination module cable (ribbon).
NTMU01	Termination mounting unit, rear mounting.
NTMU02	Termination mounting unit, front mounting.
258436A1	Cable retaining kit used when at least one round cable is connected to the termination mounting unit.

SPECIFICATIONS

Refer to Table 1-4 for the specifications of the IDI termination module .

Table 1-4. Specifications

<table>
<tr><th>Property</th><th>Characteristic/Value</th></tr>
<tr><td>Power Requirements</td><td>+24 VDC from 24 VDC bus bar of the termination mounting unit (when used with IMASO01, IMDSM04 and IMDSM05 modules).</td></tr>
<tr><td>Mounting</td><td>Occupies one slot in a standard INFI 90 termination mounting unit.</td></tr>
<tr><td>Surge Protection</td><td>Meets IEEE-472-1974 Surge Withstand Capability Test[1].</td></tr>
<tr><td>Inputs and Outputs</td><td>
<table>
<tr><th rowspan="2">Module</th><th rowspan="2">Qty</th><th colspan="2">Inputs</th><th colspan="2">Outputs</th></tr>
<tr><th>Analog</th><th>Digital</th><th>Analog</th><th>Digital</th></tr>
<tr><td>IMASO01</td><td>10</td><td></td><td></td><td>1-5 VDC and 4-20 mA</td><td></td></tr>
<tr><td>IMDSI02</td><td>16</td><td></td><td>120 VAC, 125 VDC and 24 VDC</td><td></td><td></td></tr>
<tr><td>IMDSM04</td><td>8</td><td></td><td>50 mVp-p - 10 Vp-p, 0-6 VDC, and 0-27 VDC</td><td></td><td></td></tr>
<tr><td rowspan="2">IMDSM05</td><td>up to 16</td><td></td><td>24 VDC</td><td></td><td></td></tr>
<tr><td>up to 16</td><td></td><td></td><td></td><td>24 VDC</td></tr>
<tr><td>IMDSO01/ 02/03</td><td>8</td><td></td><td></td><td></td><td>24-240 VAC, 4-60 VDC, and 5-160 VDC</td></tr>
<tr><td>IMDSO04</td><td>16</td><td></td><td></td><td></td><td>24 VDC</td></tr>
<tr><td>IMFCS01</td><td>1</td><td></td><td>0.3 Vp-p - 120 VAC</td><td></td><td></td></tr>
</table>
</td></tr>
</table>

Table 1-4. Specifications (continued)

<table>
<tr><th>Property</th><th>Characteristic/Value</th></tr>
<tr><td>Inputs and Outputs
(continued)</td><td>
<table>
<tr><th rowspan="2">Module</th><th rowspan="2">Qty</th><th colspan="2">Inputs</th><th colspan="2">Outputs</th></tr>
<tr><th>Analog</th><th>Digital</th><th>Analog</th><th>Digital</th></tr>
<tr><td>IMHSS02</td><td>2</td><td>LVDT secondary inputs[2]</td><td></td><td></td><td></td></tr>
<tr><td></td><td>2</td><td></td><td></td><td>servo drive outputs[2]</td><td></td></tr>
<tr><td></td><td>1</td><td></td><td></td><td>LVDT primary drive[2]</td><td></td></tr>
<tr><td></td><td>3</td><td></td><td>raise, lower and trip bias signals[2]</td><td></td><td></td></tr>
<tr><td></td><td>1</td><td></td><td></td><td></td><td>emergency manual drive signal[2]</td></tr>
<tr><td>IMLMM02</td><td>8</td><td></td><td>125 VDC, 120 VAC and 24 VDC</td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>Environmental:</td><td></td></tr>
<tr><td>Ambient Temperature</td><td>0° to 70°C (32° to 158°F).</td></tr>
<tr><td>Relative Humidity</td><td>0% to 95% up to 55°C (131°F) (noncondensing).
0% to 45% up to 70°C (158°F) (noncondensing).</td></tr>
<tr><td>Air Quality</td><td>Noncorrosive.</td></tr>
<tr><td>Certification</td><td>CSA certified for use as process control equipment in an ordinary (nonhazardous) location.</td></tr>
</table>

NOTES:

1. Do not use the NKTM01 cable when compliance with IEEE-472-1974 is necessary.
2. Refer to the ***Hydraulic Servo Slave Module*** instruction manual for more details about input and output signal requirements.

Specifications subject to change without notice.

SECTION 2 - INSTALLATION

INTRODUCTION

This section explains how to configure and install the NIDI01 Digital Input Termination Module. Read, understand and complete the steps in order before using the IDI termination module.

SPECIAL HANDLING

Observe these steps when handling electronic circuitry:

> **NOTE:** Always use Bailey's Field Static Kit (P/N 1948385A1 - consisting of two wrist straps, ground cord assembly, alligator clip and static dissipating work surface) when working with the modules. The kit is designed to connect the technician and the static dissipating work surface to the same ground point to prevent damage to the modules by electrostatic discharge.
>
> Use the static grounding wrist strap when installing and removing modules. Static discharge may damage CMOS devices on modules in the cabinet. Use grounded equipment and static safe practices when working with modules.

1. ***Use Static Shielding Bag.*** Keep the modules in the static shielding bag until you are ready to install them in the system. Save the packaging for future use.

2. ***Ground Bags Before Opening.*** Before opening a bag containing an assembly with CMOS devices, touch it to the equipment housing or a ground to equalize charges.

3. ***Avoid Touching Circuitry.*** Handle assemblies by the edges; avoid touching the circuitry.

4. ***Avoid Partial Connection of CMOS Device.*** Verify that all devices connected to the module are properly grounded before using them.

5. Ground Test Equipment.

6. ***Use Antistatic Field Service Vacuum.*** Remove dust from the module if necessary.

7. ***Use Grounded Wrist Strap.*** Connect the wrist strap to the appropriate grounding plug on the power entry panel. The grounding plug on the power entry panel is connected to the cabinet chassis ground.

8. ***Do Not Use Lead Pencils to Set Dipswitches.*** Avoid contamination of switch contacts that can result in unnecessary circuit board malfunction.

UNPACKING AND INSPECTION

1. Examine the hardware immediately for shipping damage.

2. Notify the nearest Bailey Controls Company sales office of any such damage.

3. File a claim for any damage with the transportation company that handled the shipment.

4. Use the original packing material and container to store the hardware.

5. Store the hardware in an environment of good air quality, free from temperature and moisture extremes.

SETUP/PHYSICAL INSTALLATION

This section explains how to configure and install the IDI termination module. The required procedures are jumper configuration, installing the termination module itself, cable connections and termination wiring. See Figure 2-1 for jumper, connector and terminal strip locations.

Jumper Configuration

Configure the termination module for use with a specific master or slave module using jumpers J1 through J10. Table 2-1 shows the possible jumper configurations.

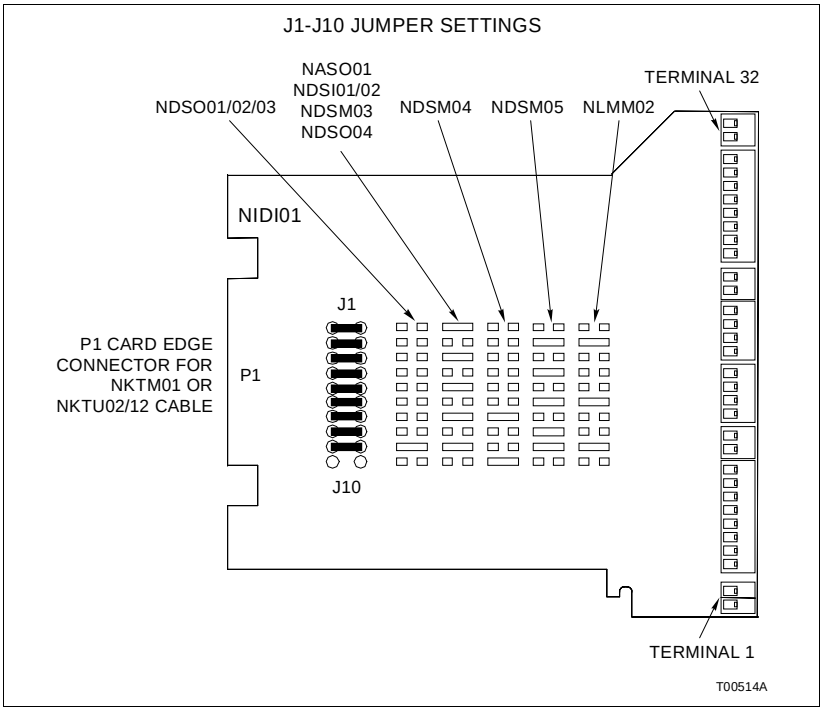

Figure 2-1. NIDI01 Termination Module Layout

Table 2-1. Jumper J1 through J10 Settings

Master/Slave Module Type	Jumper Position									
	1	2	3	4	5	6	7	8	9	10
IMASO01	1	0	1	0	1	0	1	0	1	0
IMDSI02/IMDSO04	1	0	1	0	1	0	1	0	1	0
IMDSM04	0	0	0	0	0	0	0	0	0	1
IMDSM05	0	1	0	1	0	1	0	1	1	0
IMDSO01/02/03	0	0	0	0	0	0	0	0	1	0
IMFCS01	1	1	1	1	1	1	1	1	1	1
IMHSS02	1	1	1	1	1	1	1	1	1	0
IMLMM02	0	1	0	0	0	1	0	0	1	0

NOTE: 0 = open or cut jumper (cut jumpers at both ends to completely remove), 1 = intact or shorted jumper.

Cable Connections

The NIDI01 Digital Input Termination Module terminates analog and digital I/O signals, and interfaces them directly to a master or slave module. Figure 2-2 shows the cable connection from the termination module to the master or slave module. Table 2-2 lists each cable and its applications.

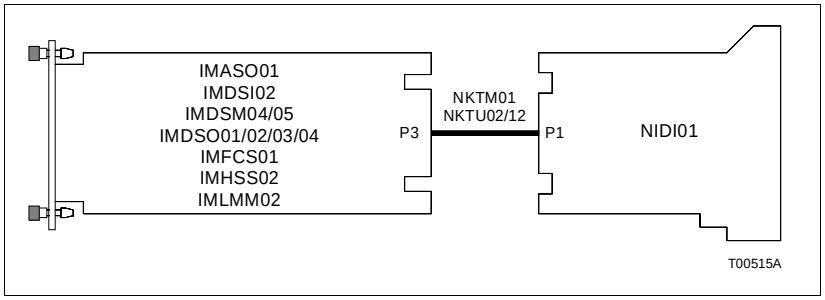

Figure 2-2. NIDI01 Cable Connections

Table 2-2. NIDI01 Cable Applications

Nomenclature/ Description	Application	Connections	Maximum Length
NKTU02 PVC Termination Cable	Connects the IDI module to the master or slave module.	P1 of the IDI module to P3 of the master or slave module.	61 m (200 ft)
NKTU12 non PVC Termination Cable			
NKTM01 Ribbon Communication Cable	Connects the IDI module to the master or slave module.	P1 of the IDI module to P3 of the master or slave module.	30 m (100 ft)
Standard 14 to 22 AWG Wire	Connects field and power (18 AWG) wiring to the IDI module.	Field or power source to the IDI terminal strip.	N/A

Cable Installation

Remove (pull off) the front cover of the termination module before trying to install cables. Use the following procedures when installing cables.

CAUTION

Remove modules (slave, master or termination) from their assigned slots before installing a cable to that slot. Also, remove stations from their housing before installing a cable to that housing. Failure to do so could result in damage to the module or station.

ATTENTION

Retirer les modules (asservi, maître ou carte de raccordement) de leur position assignée avant d'installer un câble à cette position. Egalement, retirer les postes de commande de leur boîtier avant d'installer un câble dans ce boîtier. Des dommages au module ou au poste pourraient résulter d'un manquement à cette procédure.

NKTU02, NKTU12 AND NKTM01 CABLES

This cable connects the IDI termination module to a master or slave module. To install the cable:

1. Pull the master or slave module out several inches from the MMU backplane.

2. If round type cables are already installed in the termination mounting unit, remove the cable retaining bracket.

3. Insert the J2 end (use either end of the NKTM01 cable) of the NKTU02 or NKTU12 cable into the MMU backplane slot assigned to the master or slave module. The cable should latch securely into place. Card edge connector P3 of the master or slave module connects to this end of the cable.

4. Connect the shield wire extending from the J2 end of the NKTU02 or NKTU12 cable to the shield bus bar.

5. Insert the J1 end (use the remaining end of the NKTM01 cable) of the NKTU01 or NKTU12 cable into the termination mounting unit backplane slot assigned to the IDI module. The cable should latch securely into place. Card edge connector P1 of the IDI module connects to this end of the cable.

6. Insert the master or slave module into the MMU until it locks into place.

7. Replace or add the cable retaining bracket if round type cables are installed in the termination mounting unit.

Installing the Termination Module

The IDI termination module inserts into a standard INFI 90 termination mounting unit and occupies one slot. To install:

NOTE: Insure all jumpers are configured prior to installation.

1. Verify the slot assignment of the IDI module.

2. Align the IDI module with the guide rails in the termination mounting unit and partially insert the module.

Terminal Wiring

Field and power wiring must be connected to the IDI terminal strip. See Figure 2-3 for IDI termination module terminal strip assignments. Digital inputs must be connected to the IDI module in one of two ways depending on how they are powered. Fuse system powered digital inputs with at least one fuse per IDI module. The fuse must be located between system power and the field contacts. Figure 2-4 shows an example of system powered digital input connections. Connect field powered digital inputs so that they switch the hot lead instead of the ground or common lead. Figure 2-5 shows an example of field powered digital input connections.

WARNING	**If input or output circuits are a shock hazard after disconnecting system power at the power entry panel, then the door of the cabinet containing these externally powered circuits must be marked with a warning stating that multiple power sources exist.**
AVERTISSEMENT	**Si des circuits d'entree ou de sortie sont alimentes a partir de sources extrenes, ils presentent un risque de choc electrique meme lorsque l'alimentation du systeme est debranchee du panneau d'entree l'alimentation. Le cas echeant, un avertissement signalant la presence de sources d'alimentation multiples doit entre appose sur la porte de l'armoire.**

CAUTION	**It is strongly recommended that all power (cabinet, I/O, etc.) be turned off before doing any termination module wiring. Failure to do so could result in equipment damage. Do not apply power until all connections are verified.**
ATTENTION	**Il est fortement recommand, que toutes les alimentations (armoire, E/S, etc.) soient coupées avant d'effectuer quelque raccord que ce soit sur un carte de raccordement. Un manquement à ces instructions pourrait causer des dommage à l'équipement. Ne pas rebrancher les alimentations avant d'avoir vérifié tous les raccordements.**

NOTE: Proper polarity of all signals must be maintained.

To connect field and power wiring:

1. Insure the IDI module is pulled out far enough to gain access to the terminal strip.

2. Feed the field wiring into the terminal strip area and connect them to the appropriate terminals.

3. If 24 VDC power is required, connect an 18 AWG wire from the 24 VDC bus of the termination mounting unit to the 24 VDC terminal of the IDI module.

4. If 24 VDC power is required, connect an 18 AWG wire from the common bus of the termination mounting unit to the common terminal of the IDI module.

5. Insert the IDI module until it locks securely into place.

6. Replace (snap on) the front cover.

The IDI module is ready for operation if:

1. The jumpers are configured for the type of master or slave module used.

2. All required cables are installed and verified.

3. If required, power is connected and applied to the IDI module.

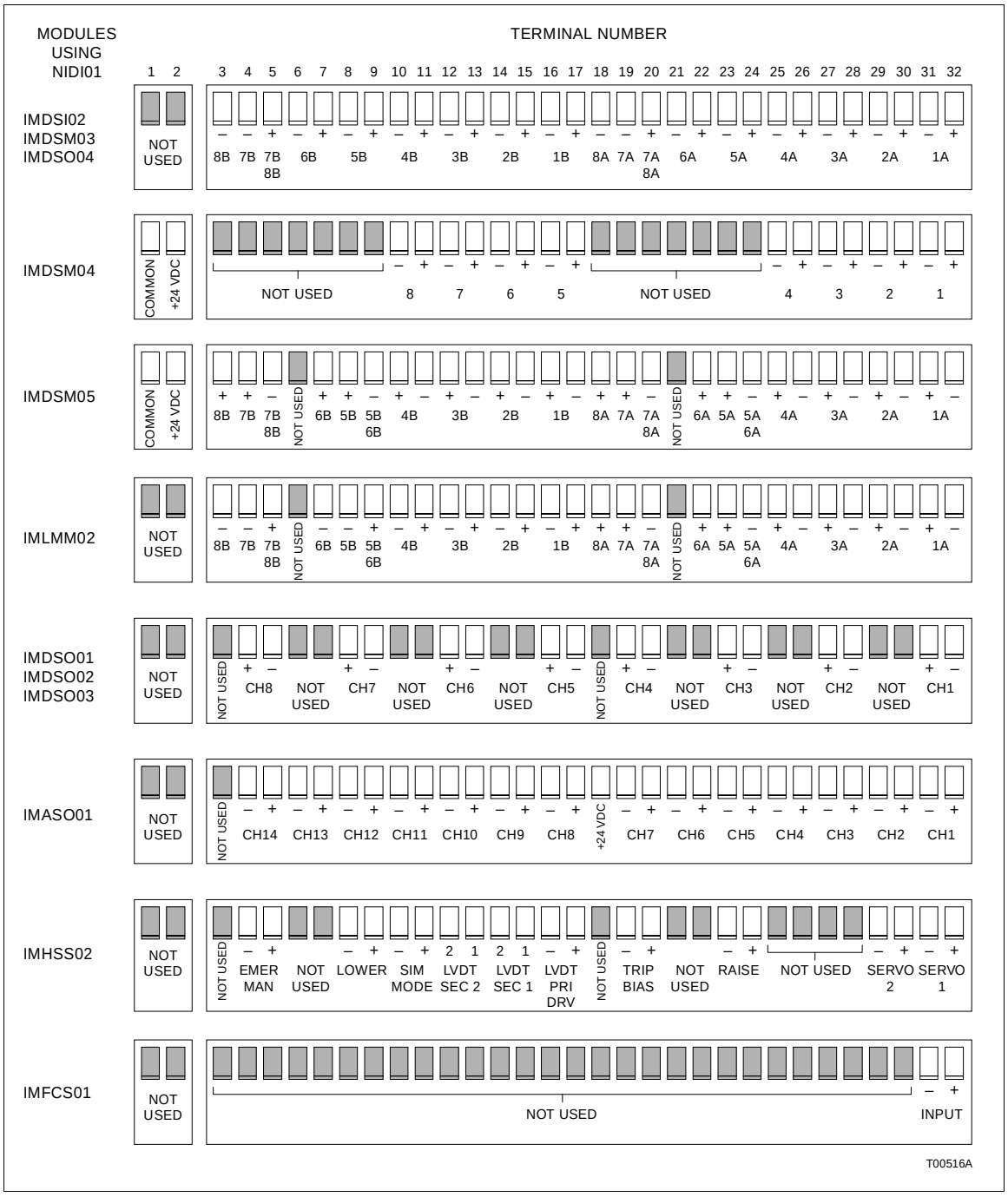

Figure 2-3. NIDI01 Terminal Strip Assignments

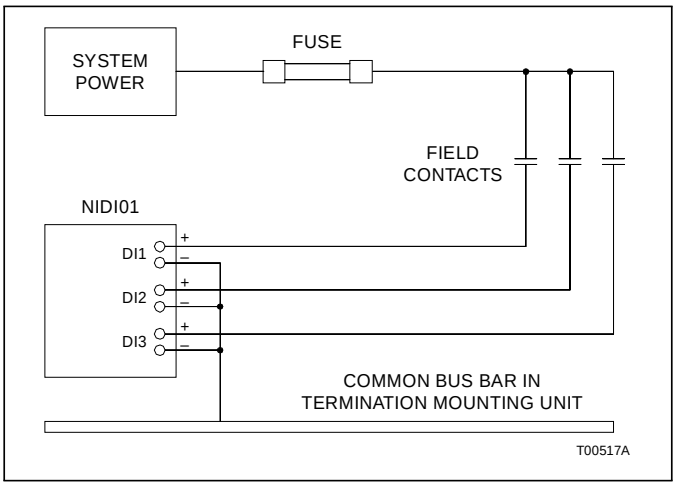

Figure 2-4. Example System Powered Digital Input Connections

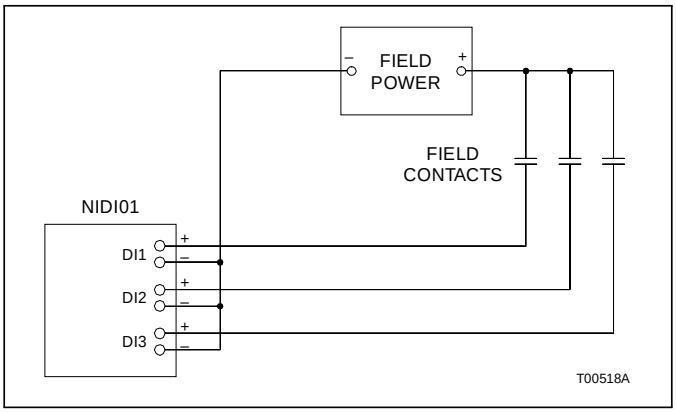

Figure 2-5. Example Field Powered Digital Input Connections

SECTION 3 - MAINTENANCE

INTRODUCTION

The digital input termination module requires limited maintenance. This section contains a maintenance schedule.

MAINTENANCE SCHEDULE

Execute the tasks in Table 3-1 at the specified intervals.

Table 3-1. Maintenance Schedule

Task	Interval
Clean and tighten all power and field wiring connections.	Every 6 months or during plant shutdown, whichever occurs first.
Use a static safe vacuum cleaner to remove dust from: Modules. Module mounting unit. Termination modules. Termination mounting unit.	

SECTION 4 - REPAIR/REPLACEMENT PROCEDURES

INTRODUCTION

This section explains how to replace a failed NIDI01 Digital Input Termination Module.

MODULE REPLACEMENT PROCEDURES

If an IDI termination module is faulty, replace it with a new one. To replace an IDI termination module:

CAUTION	**It is strongly recommended that all power (cabinet, I/O, etc.) be turned off before doing any termination module wiring. Failure to do so could result in equipment damage. Do not apply power until all connections are verified.**
ATTENTION	**Il est fortement recommand, que toutes les alimentations (armoire, E/S, etc.) soient coupées avant d'effectuer quelque raccord que ce soit sur un carte de raccordement. Un manquement à ces instructions pourrait causer des dommage à l'équipement. Ne pas rebrancher les alimentations avant d'avoir vérifié, tous les raccordements.**

1. Turn off power to the cabinet containing the defective IDI module.

2. Remove (pull off) the front cover from the defective IDI module.

3. Label and remove all wiring and cables from the defective IDI module.

4. Remove the defective IDI module from the termination mounting unit.

5. Cut the jumpers on the replacement IDI module to match the jumper settings of the defective IDI module.

6. Connect all wiring removed in Step 3 to the replacement IDI module.

7. Verify proper wiring connections to the replacement IDI module.

8. Insert the replacement IDI module until it locks securely into place.

9. Install (snap on) the front cover on the replacement IDI module.

10. Apply power to the cabinet containing the replacement IDI module.

SECTION 5 - SUPPORT SERVICES

INTRODUCTION

Bailey Controls Company is ready to help in the use, application and repair of its products. Contact the nearest sales office to make requests for sales, applications, installation, repair, overhaul and maintenance contract services.

REPLACEMENT PARTS AND ORDERING INFORMATION

When making repairs, order replacement parts from a Bailey Controls Company sales office. Provide this information:

1. Part description, part number and quantity.

2. Model and serial numbers (if applicable).

3. Bailey Controls Company instruction manual number, page number and reference figure that identifies the part.

Order parts without commercial descriptions from the nearest Bailey Controls Company sales office.

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 specific information and scheduling.

TECHNICAL DOCUMENTATION

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

APPENDIX A - IMASO01 ANALOG SLAVE OUTPUT MODULE CONFIGURATION

INTRODUCTION

Figure A-1 shows the location of dipswitches used to configure the IMASO01 Analog Slave Output Module (ASO). Tables A-1 and A-2 give the dipswitch settings to configure the module. This information is provided as a quick reference guide for personnel installing the NIDI01 termination module. Configuration consists of setting the slave module address (dipswitch S1) and the analog output mode (dipswitches S2 through S15). Refer to the ***IMASO01 Analog Slave Output Module*** instruction manual for detailed instructions.

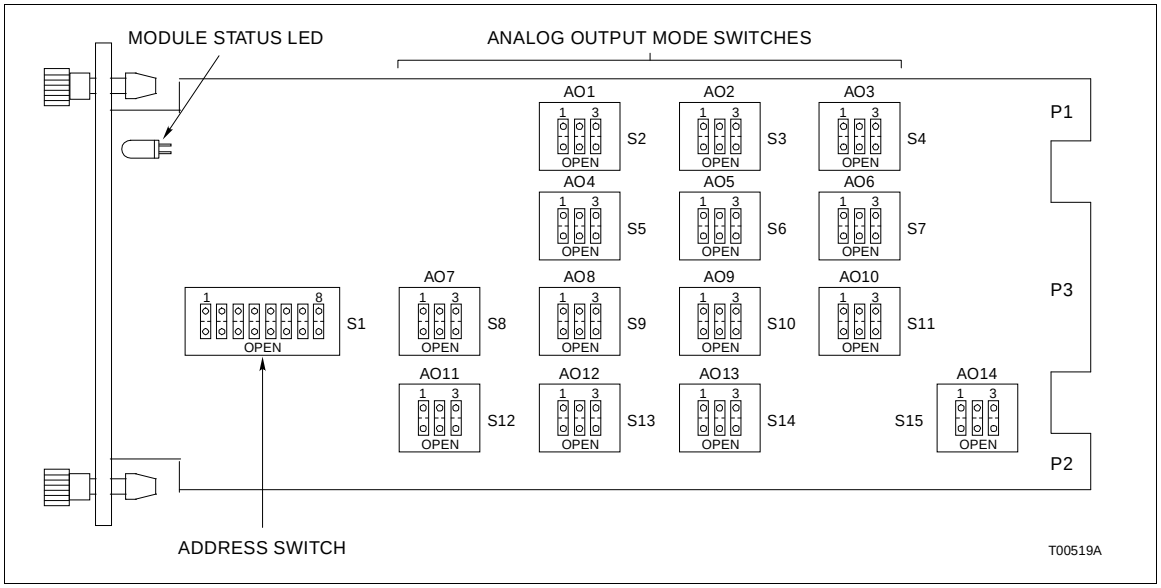

Figure A-1. IMASO01 Analog Slave Output Module

Table A-1. IMASO01 Switch S1 (Address Examples)

Address Example	Switch Position (Binary Value)							
	1[1] (128)	2[1] (64)	3 (32)	4 (16)	5 (8)	6 (4)	7 (2)	8 (1)
0	0	0	0	0	0	0	0	0
16	0	0	0	1	0	0	0	0
32	0	0	1	0	0	0	0	0
48	0	0	1	1	0	0	0	0
63	0	0	1	1	1	1	1	1

NOTES: 0 = CLOSED or ON, 1 = OPEN or OFF.
1. Switch positions 1 and 2 must remain CLOSED.

Table A-2. IMASO01 Switches S2 through S15 (Analog Output Modes)

Switch Position			Function
1	2	3	
1	0	1	Yields voltage output (1 - 5 VDC)
0	1	0	Yields current output (4 - 20 mA)

NOTE: 0 = OPEN or OFF, 1 = CLOSED or ON.

APPENDIX B - IMDSI02 DIGITAL SLAVE INPUT MODULE CONFIGURATION

INTRODUCTION

Figure B-1 shows the location of the dipswitches and jumpers used to configure the IMDSI02 Digital Slave Input Module (DSI). Tables B-1 and B-2 give the dipswitch and jumper settings to configure the module. This information is provided as a quick reference guide for personnel installing the NIDI01 termination module. Configuration consists of setting the slave module address (dipswitch S1), digital input voltage level (jumpers J1 through J16), and DC voltage response time (jumpers J17 through J32). Refer to the ***IMDSI02 Digital Slave Input Module*** instruction manual for detailed instructions.

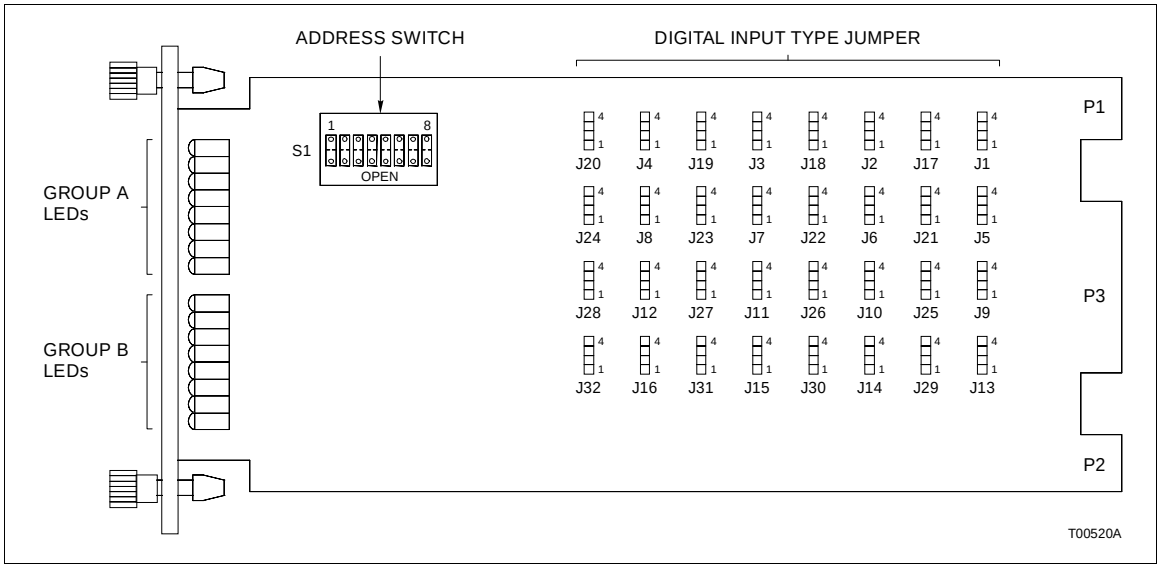

Figure B-1. IMDSI02 Digital Slave Input Module

Table B-1. IMDSI02 Switch S1 (Address Examples)

Address Example	Switch Position (Binary Value)							
	1[1] (128)	2[1] (64)	3 (32)	4 (16)	5 (8)	6 (4)	7 (2)	8 (1)
0	0	0	0	0	0	0	0	0
16	0	0	0	1	0	0	0	0
32	0	0	1	0	0	0	0	0
48	0	0	1	1	0	0	0	0
63	0	0	1	1	1	1	1	1

NOTES: 0 = CLOSED or ON, 1 = OPEN or OFF.
1. Switch positions 1 and 2 must remain CLOSED.

Table B-2. IMDSI02 Jumpers J1 through J32
(Digital Input Voltage Level and DC Voltage Response Time)

Digital Input	Jumper	120 VAC	125 VDC Slow[1]	125 VDC Fast[2]	24 VDC Slow[1]	24 VDC Fast[2]
Group A						
1	1 17	1 - 2 1 - 2	2 - 3 2 - 3	2 - 3 3 - 4	3 - 4 2 - 3	3 - 4 3 - 4
2	2 18	1 - 2 1 - 2	2 - 3 2 - 3	2 - 3 3 - 4	3 - 4 2 - 3	3 - 4 3 - 4
3	3 19	1 - 2 1 - 2	2 - 3 2 - 3	2 - 3 3 - 4	3 - 4 2 - 3	3 - 4 3 - 4
4	4 20	1 - 2 1 - 2	2 - 3 2 - 3	2 - 3 3 - 4	3 - 4 2 - 3	3 - 4 3 - 4
5	5 21	1 - 2 1 - 2	2 - 3 2 - 3	2 - 3 3 - 4	3 - 4 2 - 3	3 - 4 3 - 4
6	6 22	1 - 2 1 - 2	2 - 3 2 - 3	2 - 3 3 - 4	3 - 4 2 - 3	3 - 4 3 - 4
7	7 23	1 - 2 1 - 2	2 - 3 2 - 3	2 - 3 3 - 4	3 - 4 2 - 3	3 - 4 3 - 4
8	8 24	1 - 2 1 - 2	2 - 3 2 - 3	2 - 3 3 - 4	3 - 4 2 - 3	3 - 4 3 - 4
Group B						
1	9 25	1 - 2 1 - 2	2 - 3 2 - 3	2 - 3 3 - 4	3 - 4 2 - 3	3 - 4 3 - 4
2	10 26	1 - 2 1 - 2	2 - 3 2 - 3	2 - 3 3 - 4	3 - 4 2 - 3	3 - 4 3 - 4
3	11 27	1 - 2 1 - 2	2 - 3 2 - 3	2 - 3 3 - 4	3 - 4 2 - 3	3 - 4 3 - 4
4	12 28	1 - 2 1 - 2	2 - 3 2 - 3	2 - 3 3 - 4	3 - 4 2 - 3	3 - 4 3 - 4
5	13 29	1 - 2 1 - 2	2 - 3 2 - 3	2 - 3 3 - 4	3 - 4 2 - 3	3 - 4 3 - 4
6	14 30	1 - 2 1 - 2	2 - 3 2 - 3	2 - 3 3 - 4	3 - 4 2 - 3	3 - 4 3 - 4
7	15 31	1 - 2 1 - 2	2 - 3 2 - 3	2 - 3 3 - 4	3 - 4 2 - 3	3 - 4 3 - 4
8	16 32	1 - 2 1 - 2	2 - 3 2 - 3	2 - 3 3 - 4	3 - 4 2 - 3	3 - 4 3 - 4

NOTES:
1. Slow represents 18 msec (typical)/12 msec (minimum) response time.
2. Fast represents 1.1 msec (typical)/0.8 msec (minimum) response time.

APPENDIX C - IMDSM04 PULSE INPUT SLAVE MODULE CONFIGURATION

INTRODUCTION

Figure C-1 shows the location of the dipswitches, slide switches and jumpers used to configure the IMDSM04 Pulse Input Slave Module (DSM). Tables C-1, C-2, C-3, and C-4 give the dipswitch, slide switch and jumper settings to configure the module. This information is provided as a quick reference guide for personnel installing the NIDI01 termination module. Configuration consists of setting the slave module address (dipswitch S1), enabling/disabling input preamplifiers (slide switches S2 and S3), setting digital input voltage levels (jumpers J1 through J8), and setting voltage response times (jumpers J9 through J16). Refer to the ***IMDSM04 Pulse Input Slave Module*** instruction manual for detailed instructions.

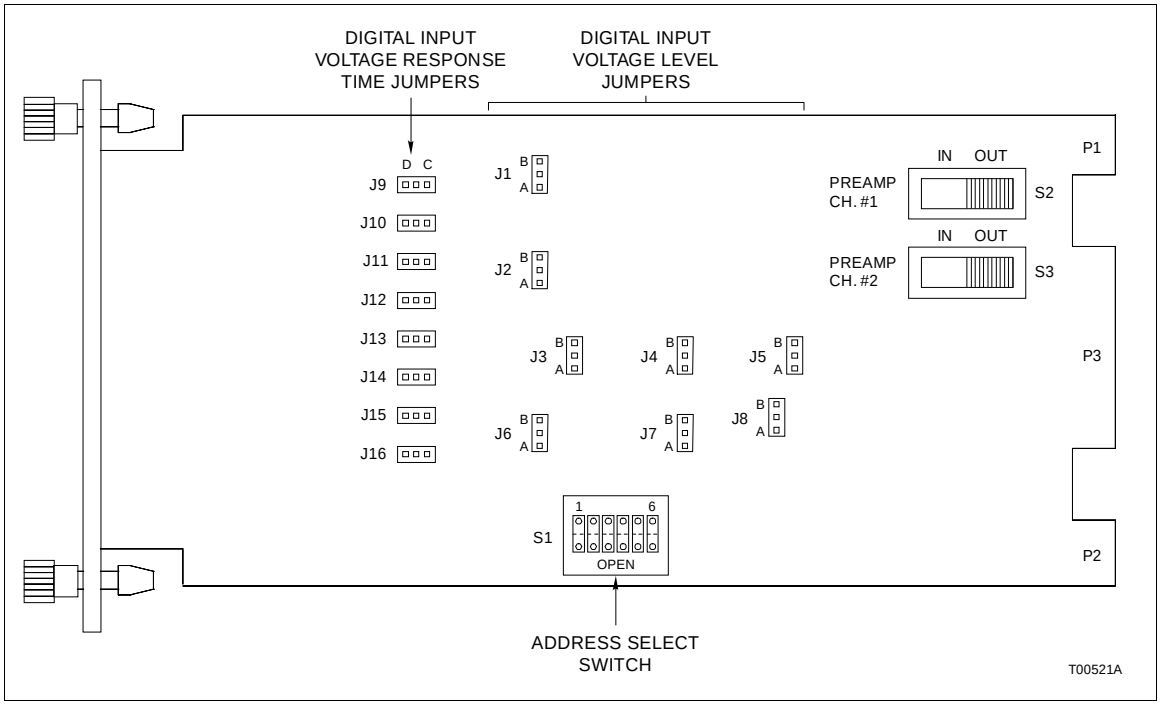

Figure C-1. IMDSM04 Pulse Input Slave Module

Table C-1. IMDSM04 Switch S1 (Address Examples)

Address Example	Switch Position (Binary Value)							
	1[1] (128)	2[1] (64)	3 (32)	4 (16)	5 (8)	6 (4)	7 (2)	8 (1)
0	0	0	0	0	0	0	0	0
16	0	0	0	1	0	0	0	0
32	0	0	1	0	0	0	0	0
48	0	0	1	1	0	0	0	0
63	0	0	1	1	1	1	1	1

NOTE: 0 = CLOSED or ON, 1 = OPEN or OFF.
1. Switch positions 1 and 2 must remain CLOSED.

Table C-2. IMDSM04 Switches S2 and S3 (Input Preamplifiers)

Switch Position	Function
IN	Channel will register a logic 1 for a differential voltage of 50 mVp-p to 10 Vp-p.
OUT	Preamplifier not used.

NOTE: Voltage range 2 must be selected when using a preamplifier.

Table C-3. IMDSM04 Jumpers J1 through J8 (Digital Input Voltage Levels)

Jumper Number	Jumper Setting	Preamplifier Condition	Current Range	Voltage Range
J1	A - □ □ - B □ - B	S2 - OUT S2 - OUT S2 - IN	Range 1 Range 2 Range 2	0 - 6 VDC 0 - 27 VDC 50 mVp-p - 10 Vp-p
J2	A - □ □ - B □ - B	S3 - OUT S3 - OUT S3 - IN	Range 1 Range 2 Range 2	0 - 6 VDC 0 - 27 VDC 50 mVp-p - 10 Vp-p
J3	A - □ □ - B	N/A N/A	Range 1 Range 2	0 - 6 VDC 0 - 27 VDC
J4	A - □ □ - B	N/A N/A	Range 1 Range 2	0 - 6 VDC 0 - 27 VDC
J5	A - □ □ - B	N/A N/A	Range 1 Range 2	0 - 6 VDC 0 - 27 VDC
J6	A - □ □ - B	N/A N/A	Range 1 Range 2	0 - 6 VDC 0 - 27 VDC
J7	A - □ □ - B	N/A N/A	Range 1 Range 2	0 - 6 VDC 0 - 27 VDC
J8	A - □ □ - B	N/A N/A	Range 1 Range 2	0 - 6 VDC 0 - 27 VDC

NOTE: Range 1 (Logic 0 = 0 to 1 VDC, Logic 1 = 4 to 6 VDC, ±25 mV),
Range 2 (Logic 0 = 0 to 2 VDC, Logic 1 = 21.6 to 27.0 VDC, ±25.0 mV),
□ = Center jumper position.

Table C-4. IMDSM04 Jumpers J9 through J16 (Voltage Response Times)

Jumper Position	DC Voltage Response Time
D - □	8.5 msecs debounce time (slow response)
□ - C	No debounce time (fast response)

NOTE: □ = Center jumper position.

APPENDIX D - IMDSM05 DIGITAL I/O SLAVE MODULE CONFIGURATION

INTRODUCTION

Figure D-1 shows the location of the dipswitches and jumpers used to configure the IMDSM05 Digital I/O Slave Module (DSM). Tables D-1 through D-7 give the dipswitch and jumper settings to configure the module. This information is provided as a quick reference guide for personnel installing the NIDI01 termination module. Configuration consists of setting the default output values (dipswitches S1 and S2), I/O configuration (dipswitch S3), slave module address (dipswitch S4), enable/disable address switch (dipswitch S5), digital input type (jumpers J1 through J16), and master module type (jumpers J17 and J18). Refer to the ***IMDSM05 Digital I/O Slave Module*** instruction manual for detailed instructions.

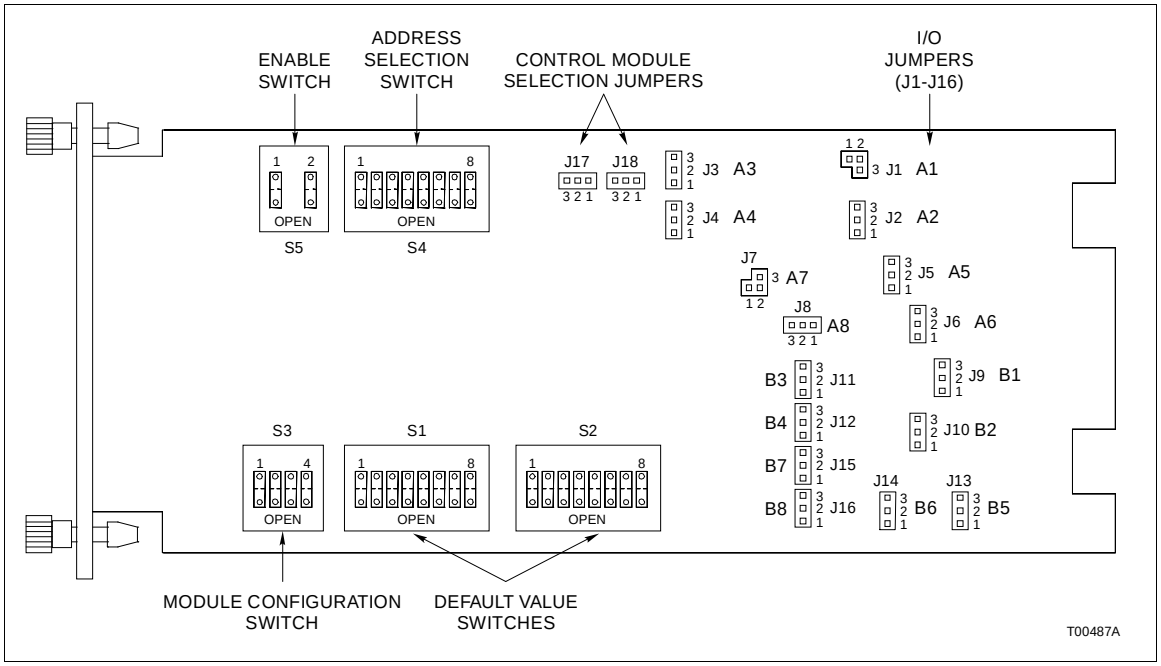

Figure D-1. IMDSM05 Digital I/O Module

Table D-1. IMDSM05 Switch S1 (Default Output Values)

Switch Position 1 - 8	Function
1	An output signal will be sent to the Group A output point corresponding to the switch position number during default conditions.
0	No output signal will be sent during default.

NOTE: 0 = CLOSED or ON, 1 = OPEN or OFF.

Table D-2. IMDSM05 Switch S2 (Default Output Values)

Switch Position 1 - 8	Function
1	An output signal will be sent to the Group B output point corresponding to the switch position number during default conditions.
0	No output signal will be sent during default.

NOTE: 0 = CLOSED or ON, 1 = OPEN or OFF.

Table D-3. IMDSM05 Switch S3 (I/O Configuration)

Switch Position				Function
1	2	3	4	
1				Set Group A I/O points to outputs.
0				Set Group A I/O points to inputs.
	1			Set Group B I/O points to outputs.
	0			Set Group B I/O points to inputs.
		1		Module is an interface between a master module and a digital logic station (switch positions 1 and 2 must be set to 1, switch position 4 must be set to 0, and switch position 8 of switch S2 must be set to 0).
		0		Module is an I/O interface between a master module and field devices.
			1	All outputs hold on master module failure.
			0	All outputs go to default value on master module failure.

NOTE: 0 = CLOSED or ON, 1 = OPEN or OFF.

Table D-4. IMDSM05 Switch S4 (Address Examples)

Address Example	Switch Position (Binary Value)							
	1[1] (128)	2[1] (64)	3 (32)	4 (16)	5 (8)	6 (4)	7 (2)	8 (1)
0	0	0	0	0	0	0	0	0
16	0	0	0	1	0	0	0	0
32	0	0	1	0	0	0	0	0
48	0	0	1	1	0	0	0	0
63	0	0	1	1	1	1	1	1

NOTES: 0 =CLOSED or ON, 1 = OPEN or OFF.
1.Switch positions 1 and 2 must remain CLOSED.

Table D-5. IMDSM05 Switch S5 (Address Switch)

Switch Position		Function
1	2[1]	
1		Enable contacts 1 - 4 of the address switch.
0		Disable contacts 1 - 4 of the address switch.
	1	Enable contacts 5 - 8 of the address switch.
	0	Disable contacts 5 - 8 of the address switch.

NOTE: 0 = CLOSED or ON, 1 = OPEN or OFF.
1.Switch position 2 must be set to a 1 for MFC and MFP modules.

Table D-6. IMDSM05 Jumpers J1 through J16 (Digital Input Type)

Jumper Position	Function
1-2	Normal input or output.
2-3	Two wire isolated output.

Table D-7. IMDSM05 Jumpers J17 and J18 (Master Module Type)

Jumper	Jumper Position	Function
J17	1-2	DSM module communicating to an NLMM01 module.
J18		
J17	2-3	DSM module communicating to an IMLMM02, MFC or MFP module.
J18		

APPENDIX E - IMDSO01/02/03 DIGITAL SLAVE OUTPUT MODULE CONFIGURATION

INTRODUCTION

Figure E-1 shows the location of the dipswitches used to configure the IMDSO01, IMDSO02 and IMDSO03 Digital Slave Output Modules (DSO). Tables E-1 and E-2 give the dipswitch settings to configure the module and the fuse ratings. This information is provided as a quick reference guide for personnel installing the NIDI01 termination module. Configuration consists of setting the slave module address (dipswitch S1). Refer to the ***IMDSO01/02/03 Digital Slave Output Module*** instruction manual for detailed instructions.

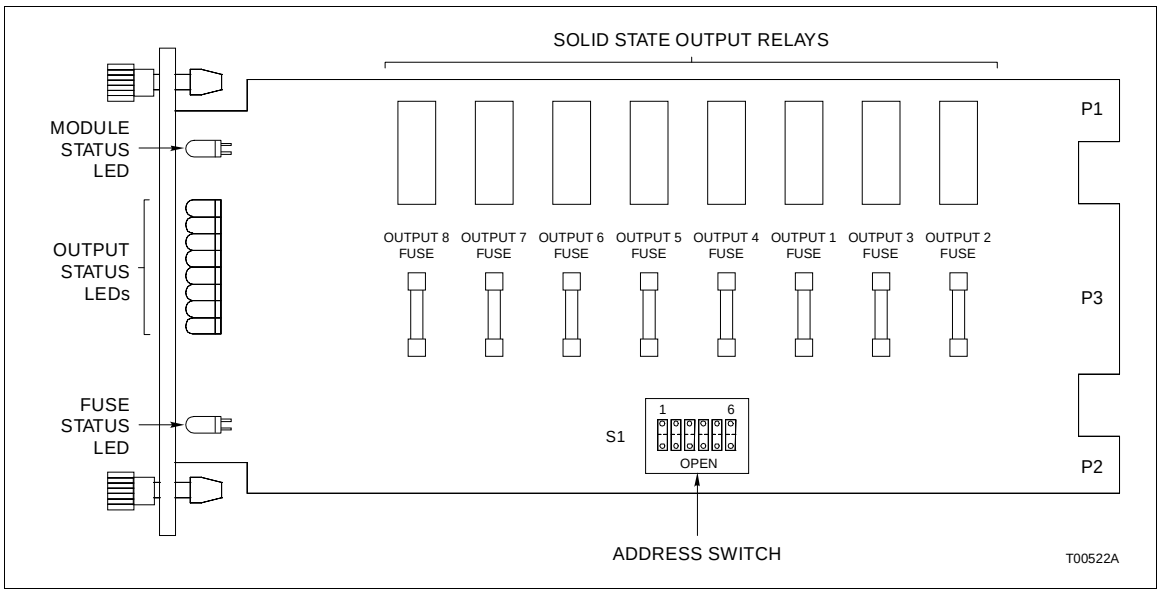

Figure E-1. IMDSO01/02/03 Digital Slave Output Module

Table E-1. IMDSO01/02/03 Switch S1 (Address Examples)

Address Example	Switch Position (Binary Value)							
	1[1] (128)	2[1] (64)	3 (32)	4 (16)	5 (8)	6 (4)	7 (2)	8 (1)
0	0	0	0	0	0	0	0	0
16	0	0	0	1	0	0	0	0
32	0	0	1	0	0	0	0	0
48	0	0	1	1	0	0	0	0
63	0	0	1	1	1	1	1	1

NOTES: 0 = CLOSED or ON, 1 = OPEN or OFF.
1. Switch positions 1 and 2 must remain CLOSED.

Table E-2. Fuse Ratings for Output Fuses F1 through F8

Fuse Rating	Module Type
4.0 A normal	IMDSO01
3.0 A normal	IMDSO02
1.5 A normal	IMDSO03

APPENDIX F - IMDSO04 DIGITAL SLAVE OUTPUT MODULE CONFIGURATION

INTRODUCTION

Figure F-1 shows the location of the dipswitch used to configure the IMDSO04 Digital Slave Output Module (DSO). Table F-1 gives the dipswitch settings to configure the module. This information is provided as a quick reference guide for personnel installing the NIDI01 termination module. Configuration consists of setting the slave module address (dipswitch S1). Refer to the ***IMDSO04 Digital Slave Output Module*** instruction manual for detailed instructions.

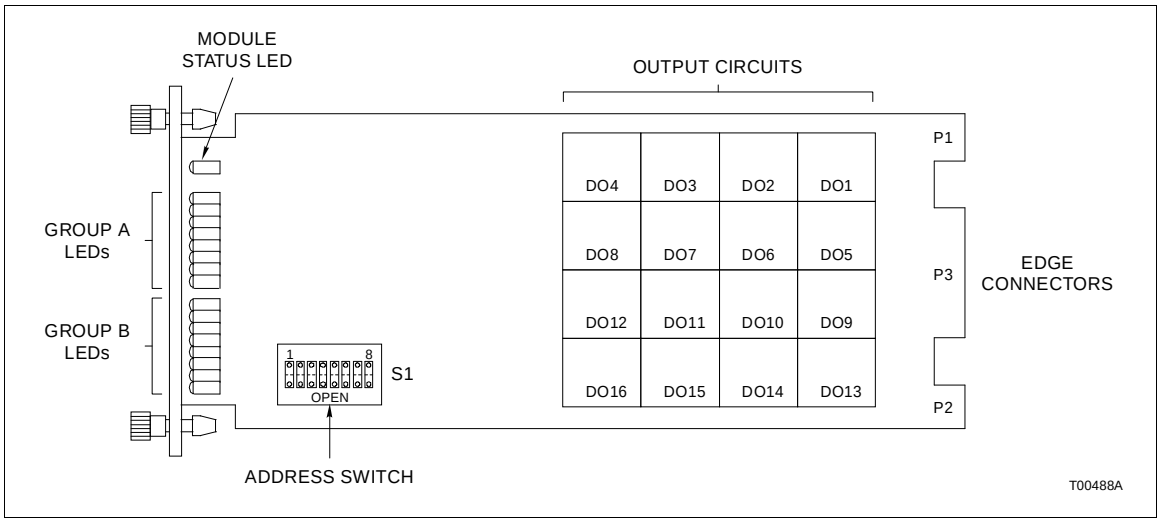

Figure F-1. IMDSO04 Digital Slave Output Module

Table F-1. IMDSO04 Switch S1 (Address Examples)

Address Example	Switch Position (Binary Value)							
	1[1] (128)	2[1] (64)	3 (32)	4 (16)	5 (8)	6 (4)	7 (2)	8 (1)
0	0	0	0	0	0	0	0	0
16	0	0	0	1	0	0	0	0
32	0	0	1	0	0	0	0	0
48	0	0	1	1	0	0	0	0
63	0	0	1	1	1	1	1	1

NOTE: 0 = CLOSED or ON, 1 = OPEN or OFF.
1. Switch positions 1 and 2 must remain CLOSED.

APPENDIX G - IMFCS01 FREQUENCY COUNTER SLAVE MODULE CONFIGURATION

INTRODUCTION

Figure G-1 shows the location of the dipswitches used to configure the IMFCS01 Frequency Counter Slave Module (FCS). Table G-1 gives the dipswitch settings to configure the module. This information is provided as a quick reference guide for personnel installing the NIDI01 termination module. Configuration consists of setting the slave expander bus address (dipswitch S1). Refer to the ***IMFCS01 Frequency Counter Slave Module*** instruction manual for detailed instructions.

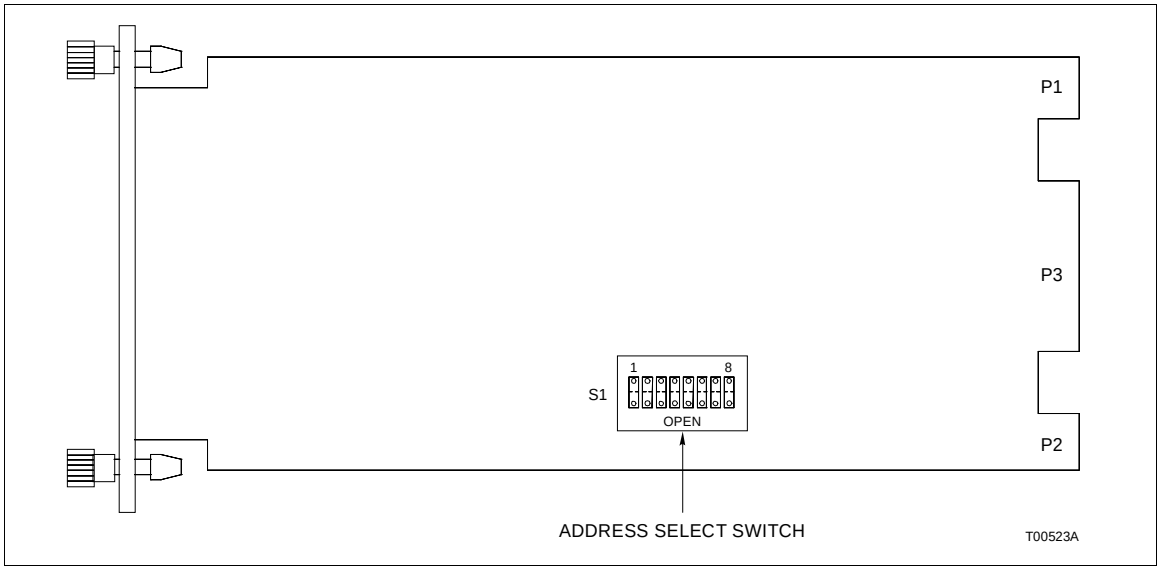

Figure G-1. IMFCS01 Frequency Counter Slave Module

Table G-1. IMFCS01 Switch S1 (Address Examples)

Address Example	Switch Position (Binary Value)							
	1 (128)	2 (64)	3 (32)	4 (16)	5 (8)	6 (4)	7 (2)	8 (1)
0	0	0	0	0	0	0	0	0
50	0	0	1	1	0	0	1	0
100	0	1	1	0	0	1	0	0
150	1	0	0	1	0	1	1	0
200	1	1	0	0	1	0	0	0
255	1	1	1	1	1	1	1	1

NOTE: 0 = CLOSED or ON, 1 = OPEN or OFF.

APPENDIX H - IMHSS02 HYDRAULIC SERVO SLAVE MODULE CONFIGURATION

INTRODUCTION

Figure H-1 shows the location of dipswitches used to configure the IMHSS02 Hydraulic Servo Slave Module (HSS). Tables H-1 through H-7 give the dipswitch settings to configure the module. This information is provided as a quick reference guide for personnel installing the NIDI01 termination module. Configuration consists of the setting the slave expander bus address (dipswitch S1), controller gain (dipswitch S2), oscillator frequency (dipswitch S3), oscillator amplitude (dipswitch S4), LVDT excitation voltage (dipswitch S5), and demodulator gain (dipswitch S6). Refer to the ***IMHSS02 Hydraulic Servo Slave Module*** instruction manual for detailed instructions.

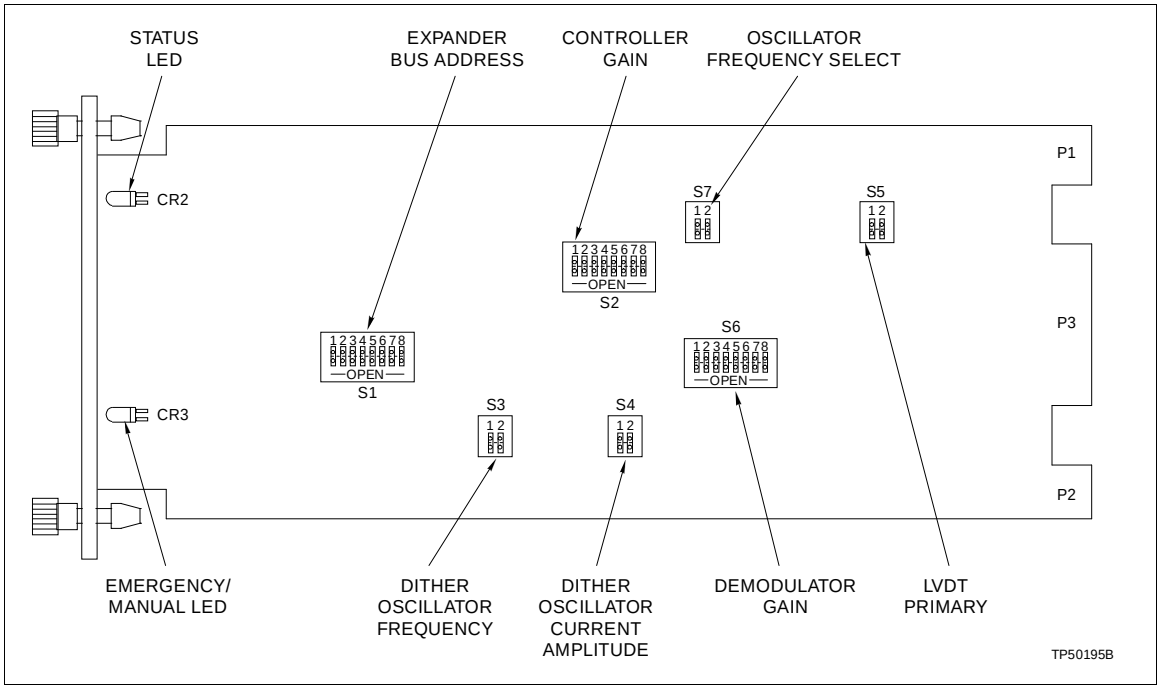

Figure H-1. IMHSS02 Hydraulic Servo Slave Module

Table H-1. IMHSS02 Switch S1 (Address Examples)

Address Example	Switch Position (Binary Value)							
	1[1] (128)	2[1] (64)	3 (32)	4 (16)	5 (8)	6 (4)	7 (2)	8 (1)
0	0	0	0	0	0	0	0	0
15	0	0	0	0	1	1	1	1
30	0	0	0	1	1	1	1	0
45	0	0	1	0	1	1	0	1
63	0	0	1	1	1	1	1	1

NOTES: 0 = CLOSED or ON, 1 = OPEN or OFF.
1. Switch positions 1 and 2 must remain CLOSED.

Table H-2. IMHSS02 Switch S2 (Controller Gain)

Switch Positions								Function
1	2	3	4	5	6	7	8	
0	1	1	1	1	1	1	1	Amplifier gain of 20.50
1	0	1	1	1	1	1	1	Amplifier gain of 18.25
1	1	0	1	1	1	1	1	Amplifier gain of 15.05
1	1	1	0	1	1	1	1	Amplifier gain of 13.10
1	1	1	1	0	1	1	1	Amplifier gain of 10.00
1	1	1	1	1	0	1	1	Amplifier gain of 5.00
1	1	1	1	1	1	0	1	Amplifier gain of 2.01
1	1	1	1	1	1	1	0	Amplifier gain of 1.10

NOTE:0 = CLOSED or ON, 1 = OPEN or OFF. Close only one switch at a time.

Table H-3. IMHSS02 Switch S3 (Oscillator Frequency)

Switch Position		Function
1	2	
1	0	Oscillator frequency of 200 Hz
0	1	Oscillator frequency of 300 Hz

NOTE: 0 = CLOSED or ON, 1 = OPEN or OFF. Do not leave both switches open or closed.

Table H-4. IMHSS02 Switch S4 (Oscillator Amplitude)

Switch Position		Function
1	2	
0	1	Oscillator amplitude of 2.4 mA
1	0	Oscillator frequency of 1.2 mA
1	1	Oscillator disabled

NOTE: 0 = CLOSED or ON, 1 = OPEN or OFF. Do not leave both switches closed.

Table H-5. IMHSS02 Switch S5 (LVDT Excitation Voltage)

Switch Position		Function
1	2	
0	0	LVDT excitation voltage of 6.0 Vp-p (typical)
1	0	LVDT excitation voltage of 8.0 Vp-p (typical)
0	1	LVDT excitation voltage of 14.0 Vp-p (typical)

NOTE: 0 = CLOSED or ON, 1 = OPEN or OFF. Do not leave both switches open.

Table H-6. IMHSS02 Switch S6 (Demodulator Gain)

Switch Positions								Function
1	2	3	4	5	6	7	8	
0	1	1	1	1	1	1	1	Amplifier gain of 150
1	0	1	1	1	1	1	1	Amplifier gain of 100
1	1	0	1	1	1	1	1	Amplifier gain of 75
1	1	1	0	1	1	1	1	Amplifier gain of 49
1	1	1	1	0	1	1	1	Amplifier gain of 20
1	1	1	1	1	0	1	1	Amplifier gain of 10
1	1	1	1	1	1	0	1	Amplifier gain of 5
1	1	1	1	1	1	1	0	Amplifier gain of 2

NOTE: 0 = CLOSED or ON, 1 = OPEN or OFF. Close only one switch at a time.

Table H-7. IMHSS02 Switch S7 (LVDT Oscillator Frequency)

Switch Position		Function
1	2	
0	1	LVDT oscillator frequency of 10.0 kHz
1	0	LVDT oscillator frequency of 2.5 kHz
1	1	LVDT oscillator frequency of 1.0 kHz

NOTE: 0 = CLOSED or ON, 1 = OPEN or OFF.

APPENDIX I - IMLMM02 LOGIC MASTER MODULE CONFIGURATION

INTRODUCTION

Figure I-1 shows the location of the dipswitch and jumpers used to configure the IMLMM02 Logic Master Module (LMM). Tables I-1, I-2, and I-3 give the dipswitch and jumper settings to configure the module. This information is provided as a quick reference guide for personnel installing the NIDI01 termination module. Configuration consists of setting the module address (dipswitch S2) and digital input type (jumpers J1 through J8). Refer to the ***IMLMM02 Logic Master Module*** instruction manual for detailed instructions.

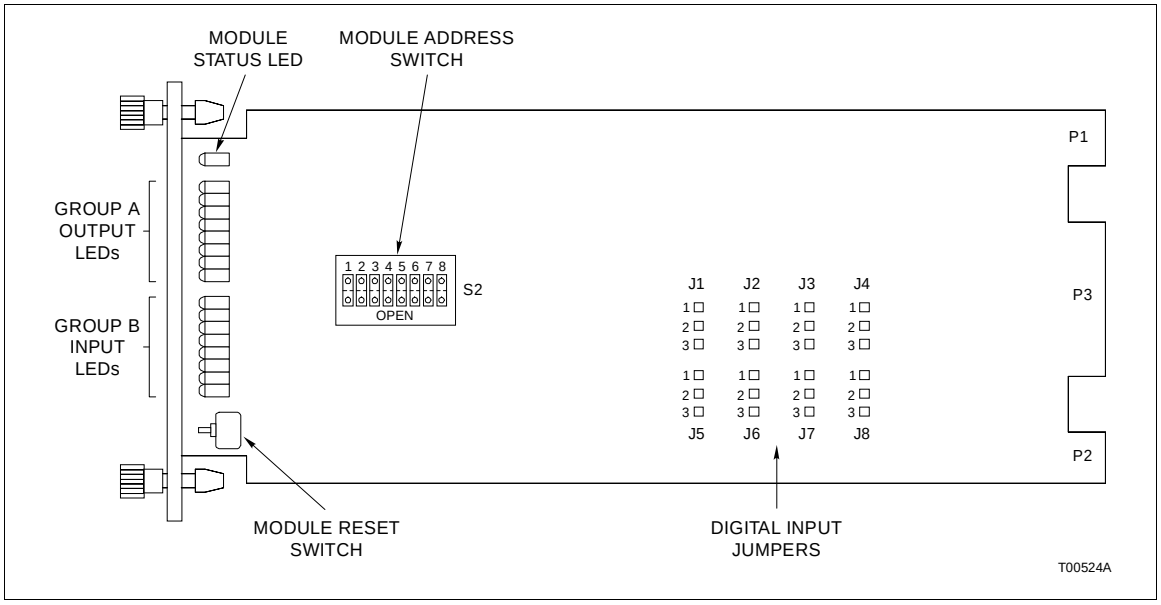

Figure I-1. MLMM02 Logic Master Module

Table I-1. IMLMM02 Switch S2 (Run Mode)

Switch Position			Function
1	2	3	
0	0	0	Normal mode, normal run

NOTE: 0 = CLOSED or ON, 1 = OPEN or OFF.

Table I-2. IMLMM02 Switch S2 (Module Address)

Address Example	Switch Position (Binary Value)				
	4 (16)	5 (8)	6 (4)	7 (2)	8 (1)
0	0	0	0	0	0
8	0	1	0	0	0
16	1	0	0	0	0
24	1	1	0	0	0
31	1	1	1	1	1

NOTE: 0 = CLOSED or ON, 1 = OPEN or OFF.

Table I-3. IMLMM02 Jumpers J1 through J8 (Digital Input Type)

Jumper Position	Digital Input Type
1-2	125 VDC or 120 VAC
2-3	24 VDC

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