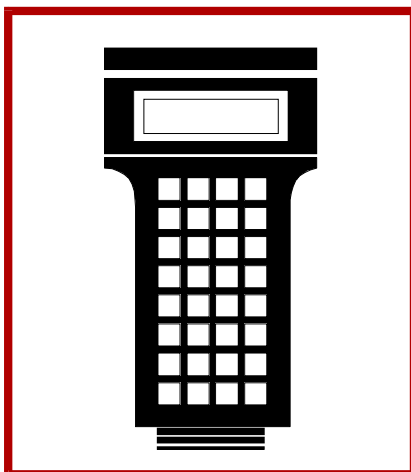
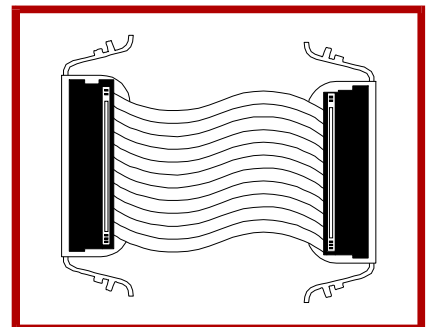
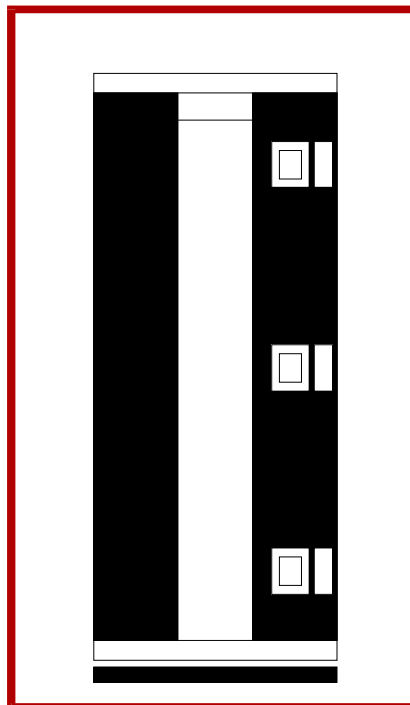
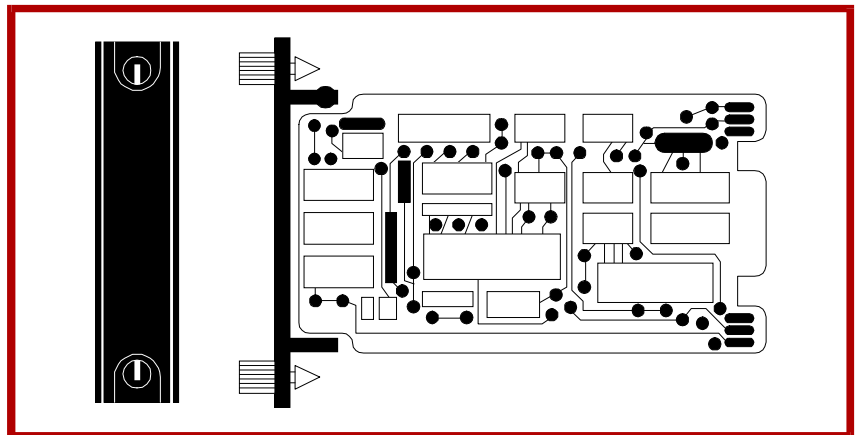
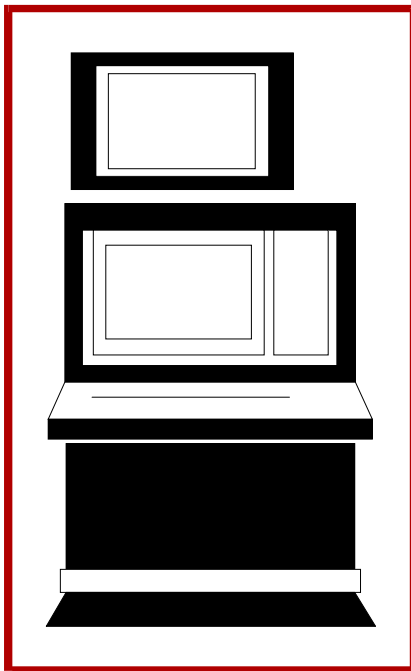


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infi 90

Instruction

Translator Termination Unit (NTTA01)



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 MATÉRIELS.

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Preface

Termination units provide a connection from the plant equipment to the INFI 90[®] process modules. The NTTA01 Translator Termination Unit provides an interface between high level analog signals and an IMASIO2 Analog Slave Module. This product instruction explains how to install and use the NTTA01 Translator Termination Unit.

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List of Effective Pages

Total number of pages in this instruction is 26, consisting of the following:

Page No.	Change Date
Preface	Original
List of Effective Pages	Original
iii through vi	Original
1-1 through 1-4	Original
2-1 through 2-8	Original
3-1	Original
4-1 through 4-2	Original
5-1	Original
A-1	Original
B-1 through B-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.

Special Handling

This module uses Electrostatic Sensitive Devices (ESD).

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. 2-2)

SPECIFIC CAUTIONS

It is strongly recommended that all power (cabinet, I/O, etc.) be turned off before doing any termination unit wiring. Failure to do so could result in equipment damage. Do not apply power until all connections are verified. (p. 2-7, 4-1)

Remove modules from their assigned module mounting unit slots before installing or removing a cable connected to that slot. Failure to do so could result in damage to the module. (p. 4-1)

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.

Precautions de Manutention

Ce module contient des composants sensibles aux decharges electro-statiques.

**AVERTISSEMENTS
D'ORDRE
SPÉCIFIQUE**

Si des circuits d'entree ou de sortie sont alimentes a partir de sources extremes, 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. 2-2)

**ATTENTIONS
D'ORDRE
SPÉCIFIQUE**

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 raccorde-ments. (p. 2-7, 4-1)

Retirer le module de son emplacement dans le chassis de montage des modules avant d'installer ou de retirer un cable assigne a cet emplacement. Un manquement a cette procedure pourrait endom- mager le module. (p. 4-1)

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SECTION 1 - INTRODUCTION

OVERVIEW

The NTTA01 Translator Termination Unit interfaces high level signals (four to 20 milliamps and one to five VDC) to a low level signal (15 to 73 millivolts) IMASM02 Analog Slave Module for up to 250 VDC common mode rejection. The IMASM02 Analog Slave Module is a slave to the IMAMM03 Analog Master Module.

The translator termination unit (TTA) has eight analog inputs. Translator termination units can be interconnected for configurations requiring more than eight inputs. Each termination unit requires an IMASM02 module. Figure 1-1 shows an example TTA application.

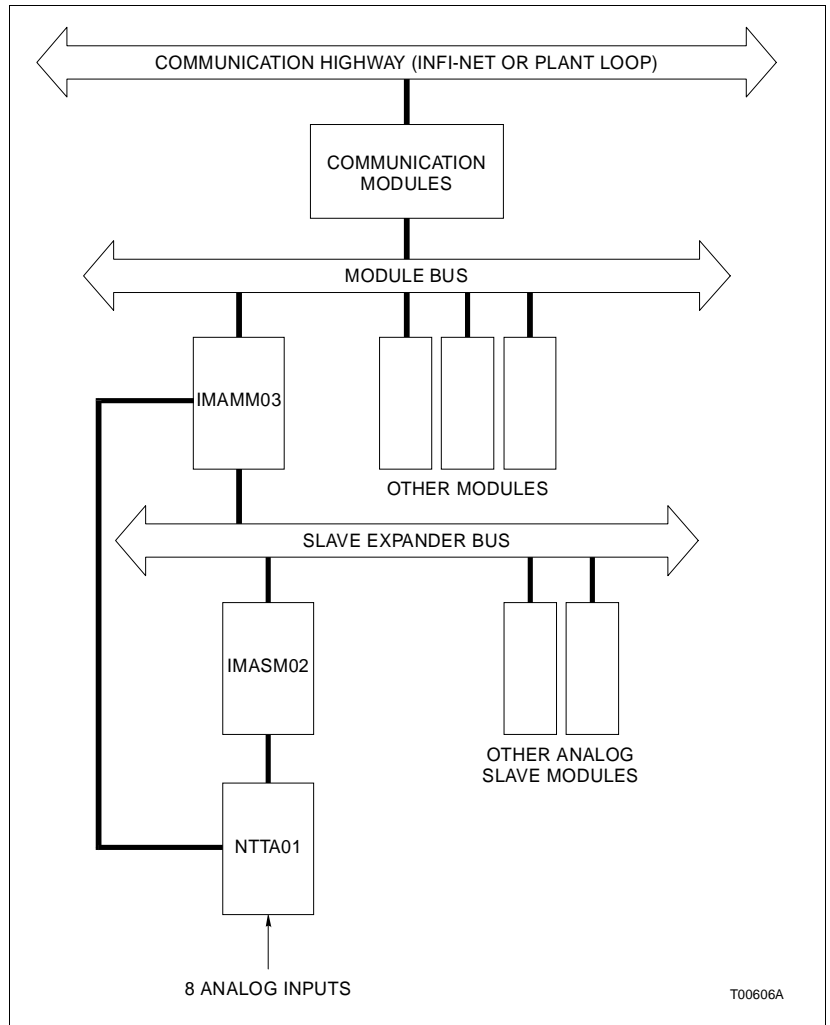


Figure 1-1. Example NTTA01 Termination Unit Application

INTENDED USER

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

UNIT DESCRIPTION

The NTTA01 termination unit is a single printed circuit board that attaches to an NFTP01 Field Termination Panel inside the INFI 90 cabinet. The termination unit has four socket connectors: P1, P2, P3 and P4.

P1 carries the converted high level inputs from the field device to the IMASM02 slave module through an NKTU01 Termination Unit Cable.

P2 and P4 are used for connecting the IMAMM03 module and for interconnecting TTA termination units. The IMAMM03 module is connected to P2 of the first termination unit in an interconnecting configuration. P4 of the first termination unit is connected to P2 of the second when interconnecting termination units. Only four termination units can be interconnected for internal calibration voltage routing.

The P3 socket is used for internal calibration. When calibrating, move the NKTU01 cable in the P1 socket to the P3 socket.

INSTRUCTION CONTENT

This manual consists of five sections and two appendices.

- | | |
|--------------------------------------|--|
| Introduction | Contains an overview of the features, specifications and a description of the TTA termination unit. |
| Installation | Describes precautions to observe when handling modules and setup procedures required before unit operation. This section discusses dipshunt settings and installation procedures. |
| Maintenance | Provides a maintenance schedule. |
| Repair/Replacement Procedures | Details how to replace a termination unit. |
| Support Services | Describes the support services (spare parts, training, documentation, etc.) available from Bailey Controls Company. |
| Appendix A | Contains data to connect the termination unit to the IMASM02 Thermocouple/Millivolt Input Slave. Appendix A shows the switch settings and cabling requirements for the IMASM02 module. |
| Appendix B | Contains data to connect the termination unit to the IMAMM03 Analog Master Module. Appendix B shows the switch settings and cabling requirements for the IMAMM03 module. |

HOW TO USE THIS MANUAL

Read this manual through in sequence. Read the installation section thoroughly. Do the steps in order. Complete all steps in the installation section before using the TTA termination unit. Refer to the Table of Contents or Index to find specific information after the unit is operating.

GLOSSARY OF TERMS AND ABBREVIATIONS

Table 1-1 lists definitions of the 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.
Common Mode Isolation	Indicates the ability to isolate common mode voltages between inputs and outputs and protect a measurement circuit from damage up to a maximum specified voltage level.
Common Mode Voltage	A voltage applied equally to both ungrounded inputs of a balanced amplifier stage or other differential device.
Configuration	The act of setting up equipment to accomplish specific functions or a list of parameters associated with such a setup.
Dipshunt	Dual in-line package with shorting straps.
Dipswitch	A dual in-line package that contains switches.
FTP	Field termination panel. A panel inside the INFI 90 cabinet on which to mount termination units.
INFI-NET®	Advanced data communication highway.
Module Bus	Peer to peer communication link used to transfer information between intelligent modules within a process control unit.
Plant Loop	Network 90® data communication highway.
Termination Unit	Provides input/output connection between plant equipment and the INFI 90/ Network 90 modules.

REFERENCE DOCUMENTS

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

Table 1-2. Reference Documents

Number	Document
I-E96-205	IMAMM03 and IMASM01/02/03/04 Analog Master Module and Analog Slave Modules

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NOMENCLATURE

Table 1-3 is a list of related hardware.

Table 1-3. Nomenclature

Nomenclature	Description
IMAMM03	Analog master module.
IMASM02	Analog slave module (T/C, millivolt).
NKAI01	Cold junction compensation1 cable, PVC.
NKAI11	Cold junction compensation1 cable, non-PVC.
NKTU01	Termination unit cable, PVC.
NKTU11	Termination unit cable, non-PVC.

NOTE:

1. In a TTA termination unit configuration, the NKAI01 and NKAI11 Cold Junction Compensation Cables are used for termination unit interconnection, not cold junction compensation.

SPECIFICATIONS

Refer to Table 1-4 for the specifications of the NTTA01 termination unit.

Table 1-4. Specifications

Property	Characteristic/Value
Surge Protection	Meets IEEE-472-1974 surge withstand capability test.
Wire Size:	
Minimum	22 gauge
Maximum	12 gauge
Power Consumption	5 mA
Mounting	Occupies one slot in a standard field termination panel.
Environmental:	
Electromagnetic/Radio Frequency Interference	No values available at this time. Keep cabinet doors closed. Do not use communication equipment closer than 2 meters from the cabinet.
Ambient Temperature	0° to 70°C (32° to 158°F)
Relative Humidity	0% to 95% up to 55°C (131°F) noncondensing 0% to 45% up to 70°C (158°F) noncondensing
Atmospheric Pressure	Sea level to 3 km (1.86 mi.)
Air Quality	Bailey equipment should be operated and stored in a noncorrosive environment.
Cooling Requirements	No cooling is necessary when used in Bailey cabinets and operated within stated environmental limits.
Certification	CSA certified for use as process control equipment in an ordinary (nonhazardous) location.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

SECTION 2 - INSTALLATION

INTRODUCTION

This section explains how to configure and install the NTTA01 Translator Termination Unit. Read, understand and complete the steps in the order they appear before using the TTA termination unit.

SPECIAL HANDLING

Observe these steps when handling electronic circuitry:

NOTE: Always use Bailey's Field Static Kit (part number 1948385A1 - consisting of two wrist straps, ground cord assembly, alligator clip and static dissipative work surface) when working with the modules. The kit grounds a technician and the static dissipative work surface to the same ground point to prevent damage to the modules by electrostatic discharge.

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 bag for future use.
2. **Ground Bag 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 modules 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 earth grounding electrode system through the AC safety ground.
8. **Do Not Use Lead Pencils to Set Dipswitches.** To avoid contamination of switch contacts that can result in unnecessary circuit board malfunction, do not use a lead pencil to set a dipswitch.

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
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 extremes, 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.

This section explains how to configure and install the TTA termination unit. The required procedures are fuse installation, dipshunt configuration, installing the termination unit, cable connection and termination wiring.

Fuse Installation

One fuse is installed with every termination unit. Verify that the fuse is installed in fuse clip F1 (see Figure 2-1 for the fuse clip location). Fuse F1 is a 0.25 amp/250 volt fuse (part number 194776A12500).

Dipshunt Configuration

The dipshunts select the analog input type (voltage or current) for the field device connected to the termination unit. Each channel is independent. Configure a dipshunt by either cutting straps or leaving straps uncut in certain sequences. Cut the dipshunt straps using a standard shunt cutting tool (Amp Inc. part number 435862-1). Always cut straps completely and insure they do not touch adjacent straps. Install the configured dipshunt into the desired socket (XU1 through XU8) on the TTA circuit board.

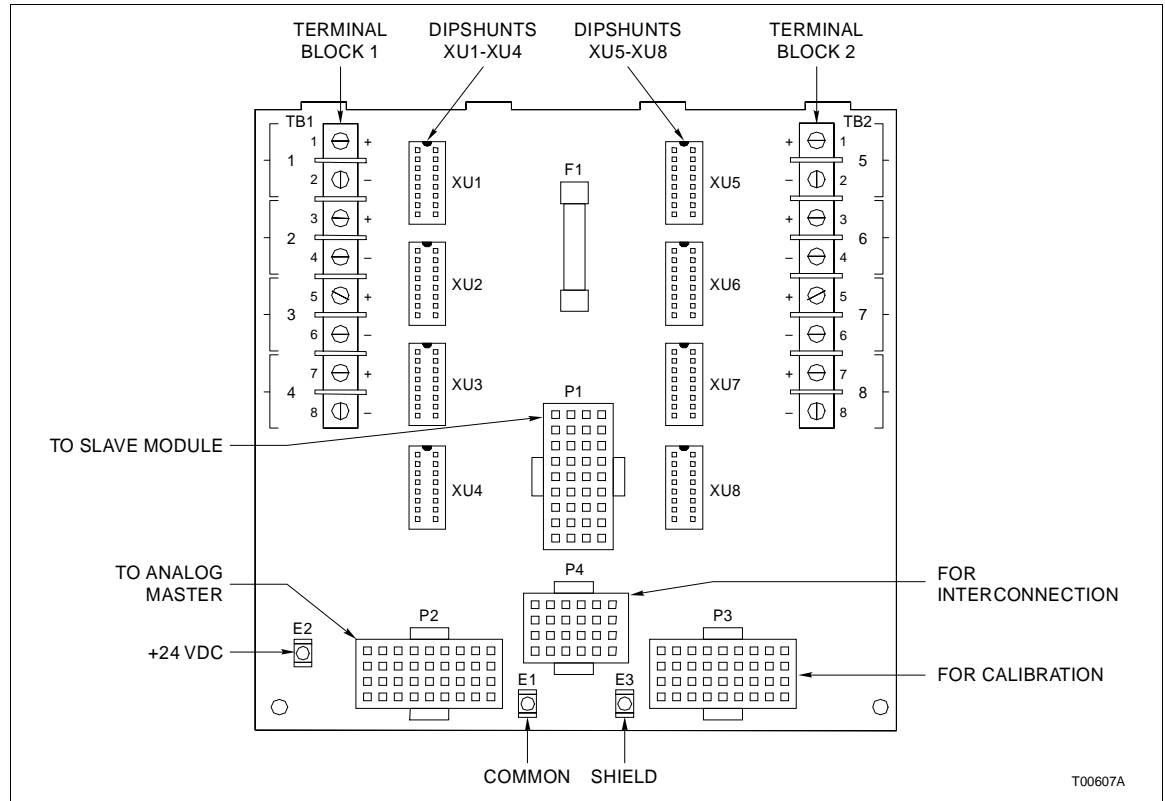


Figure 2-1. NTA01 Termination Unit Layout

To install a dipshunt, align the end of the dipshunt identified with the silver dot (position one) to the end of the socket having an identification mark (for position one) and push the dipshunt into the socket. Be careful not to bend any pins during insertions. Table 2-1 shows dipshunt configurations for the various input signal types. Dipshunts one through eight correspond to analog inputs one through eight respectively. Figure 2-2 shows a typical input circuit. Refer to [Appendix A](#) to find the dipswitch settings for the IMASM02 slave module and [Appendix B](#) for the IMAMM03 module.

Installing the Termination Unit

The TTA termination unit mounts on a standard field termination panel. To install:

1. Insert the tabs of the circuit board into the proper slots of the field termination panel standoff (see Figure 2-3) and slide the circuit board into position.
2. Secure the termination unit circuit board to the field termination panel with two number ten self-tapping screws (see Figure 2-3).

Table 2-1. NTTA01 Dipshunt Settings

Application/Signal Type	Dipshunt XU1 - XU8 Configuration
1 - 5 VDC differential input	
Externally powered 4 - 20 mA	
System powered 4 - 20 mA	

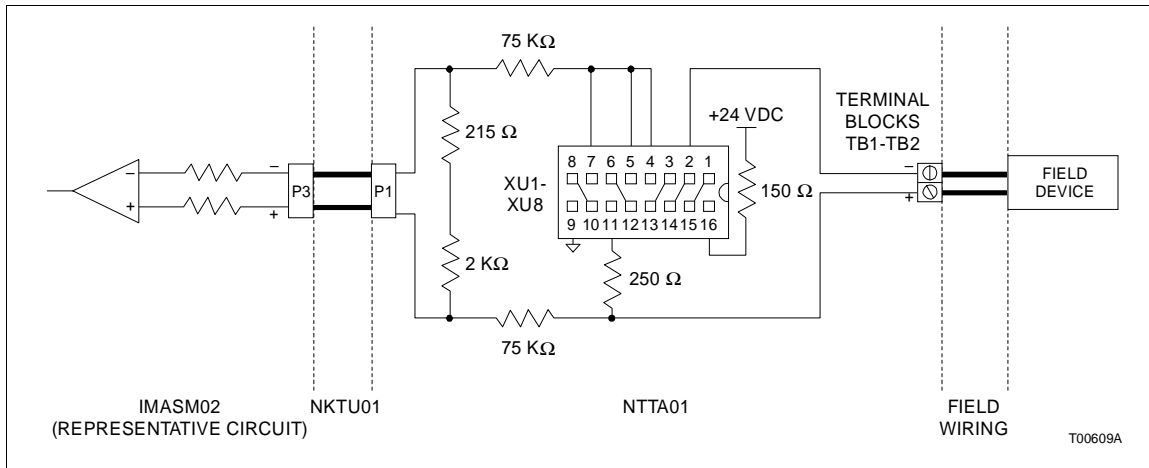


Figure 2-2. NTTA01 Termination Unit Internal Input Circuit

Cabling Connections

The TTA termination unit has connections to the IMAMM03 Analog Master Module and the IMASM02 Thermocouple/Millivolt Input Slave. Figure 2-4 shows the cable connections for normal operation with interconnected termination units. Figure 2-5 shows the cabling configuration required for calibration.

Cable Installation

The NKTU01 Termination Unit Cable (KTU) connects the TTA termination unit to the IMAMM03 and IMASM02 modules. The KTU cable is a round cable (61 meters/200 feet maximum). The termination units are interconnected with a cold junction compensation¹ (KAI) cable. The cables are shielded.

1. In a TTA configuration, the KAI cold junction compensation cable is used for termination unit interconnection, not cold junction compensation.

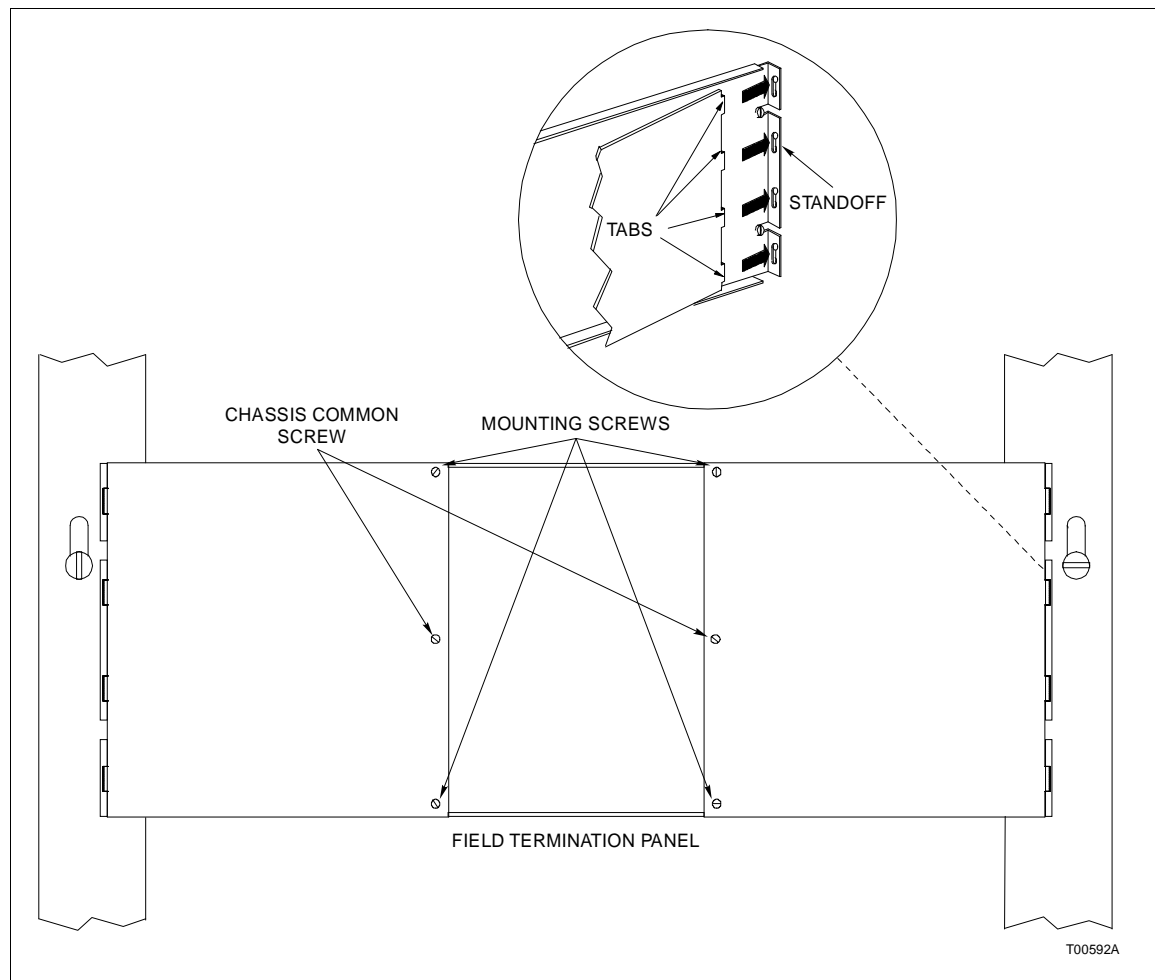


Figure 2-3. Termination Unit Mounting Diagram

Figures 2-4 and 2-5 show the cable connections. To install the cables:

NOTES:

1. Properly mount the TTA termination unit on the field termination panel **before** installing the cables.
2. If a module is installed, pull it several inches from the backplane before inserting the cable into the module mounting unit backplane.

1. Insert the hooded end of a KTU cable into the module mounting unit backplane slot assigned to the IMAMM03 module. The cable should latch securely in place. Card edge connector P3 of the IMAMM03 module connects to this end of the cable.

2. Insert the male 36-pin connector end of the KTU cable from the IMAMM03 module into the P2 connector of the first (or only) TTA termination unit. The cable should latch securely in place.

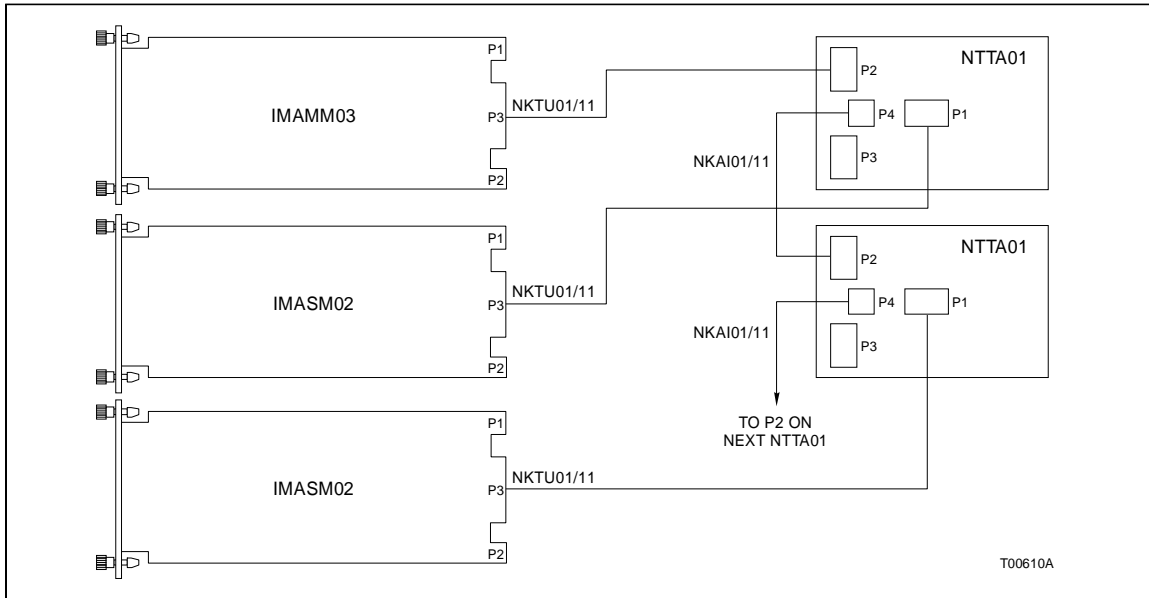


Figure 2-4. Cable Connections for Normal Operation

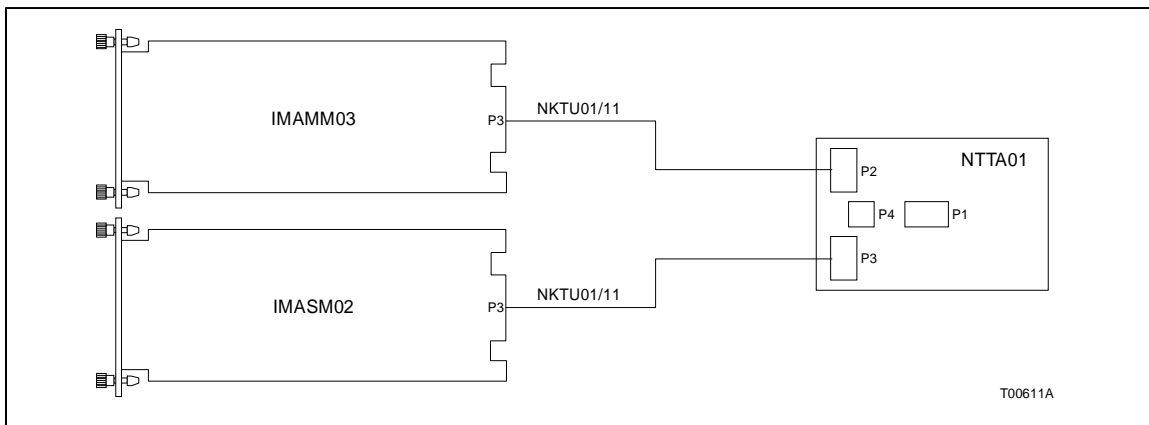


Figure 2-5. Cable Connections for Calibration

3. Insert the hooded end of a KTU cable into the module mounting unit backplane slot assigned to the IMASM02 slave module. The cable should latch securely in place. Card edge connector P3 of the IMASM02 slave module connects to this end of the cable.

4. Insert the male 36-pin connector end of the KTU cable from the IMASM02 slave module into the P1 connector of the termination unit. The cable should latch securely in place. When calibrating, move this cable to the P3 connector.
5. When interconnecting termination units, use a KAI cable. Connect the 24-pin connector to P4 of the first termination unit and the 36-pin connector of the same cable to P2 of the next termination unit.

Power Wiring

CAUTION	It is strongly recommended that all power (cabinet, I/O, etc.) be turned off before doing any termination unit wiring. Failure to do so could result in equipment damage. Do not apply power until all connections are verified.
ATTENTION	Il est fortement recommandé, 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 dommages à l'équipement. Ne pas rebrancher les alimentations avant d'avoir vérifié tous les raccordements.

There are three terminals that provide power and ground connections. Terminal E2 connects to +24 VDC. Terminal E1 connects to system common. Terminal E3 is the shield connection. Figure 2-1 shows their locations on the TTA circuit board.

To connect power to the termination unit in a system using modular power supplies:

1. Attach a 14 AWG wire from a +24 VDC source within the cabinet to the E2 terminal on the termination unit.
2. Attach a 14 AWG wire from the DC common bus bar at the bottom of the cabinet to the E1 terminal of the termination unit.
3. Attach a 14 AWG wire from the shield bus bar in the cabinet to the E3 terminal of the termination unit.

Terminal Wiring

See Figure 2-6 for TTA terminal block assignments and wiring polarity. Field wiring should be 22 to 12 AWG wire.

NOTE: Proper polarity of all signals must be maintained.

The NTTA01 termination unit is ready for operation if:

1. The fuse is installed.
2. The dipshunts are installed.
3. The cables are installed and verified.
4. All field wiring is complete.
5. Power is connected and applied to the termination unit.

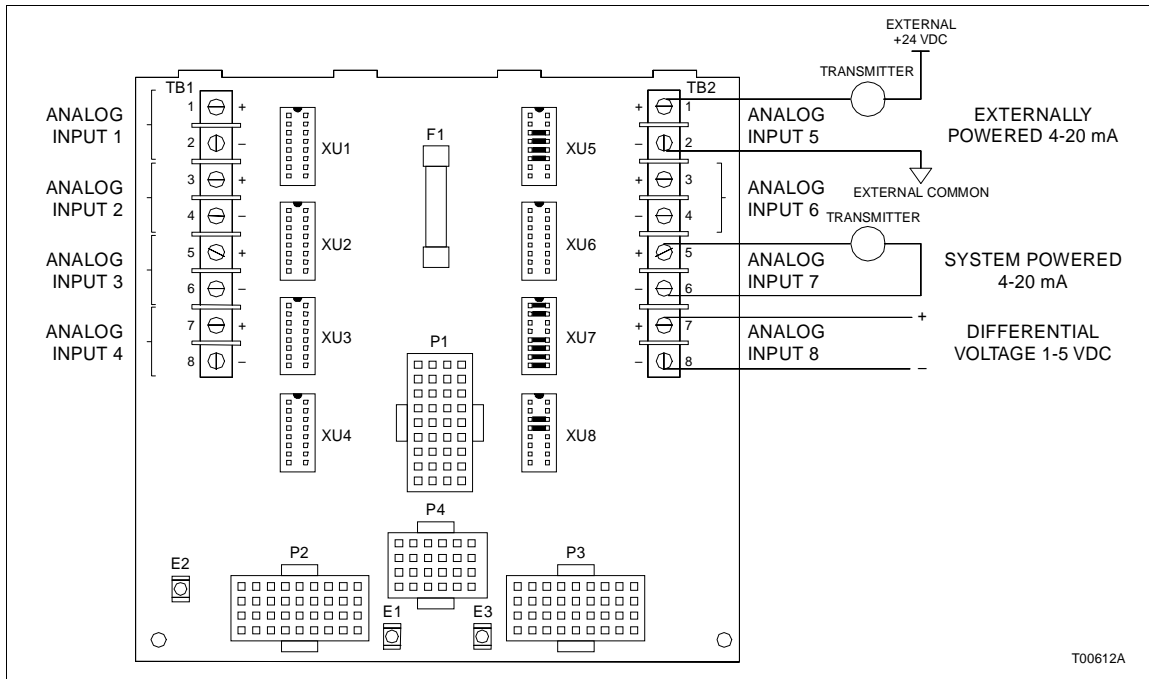


Figure 2-6. NTTA01 Terminal Assignments and Application Examples

SECTION 3 - MAINTENANCE

INTRODUCTION

The translation termination unit (TTA) 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: Termination units. Field termination panel.	

SECTION 4 - REPAIR/REPLACEMENT PROCEDURES

INTRODUCTION

This section explains the replacement procedures for the translator (TTA) termination unit. Repair procedures are limited to fuse and termination unit replacement. If the TTA termination unit fails, remove and replace it with a known good unit.

FUSE REPLACEMENT

If the fuse opens, replace it with a fuse having an equivalent rating. Table 4-1 describes the fuses and lists the Bailey part numbers. To replace a fuse:

1. Turn off power to the cabinet.
2. Remove the blown fuse from its holder.
3. Replace the blown fuse.
4. Turn on power to the cabinet.

TERMINATION UNIT REPLACEMENT PROCEDURES

CAUTION	<p>It is strongly recommended that all power (cabinet, I/O, etc.) be turned off before doing any termination unit wiring. Failure to do so could result in equipment damage. Do not apply power until all connections are verified.</p>
ATTENTION	<p>Il est fortement recommandé, 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 dommages à l'équipement. Ne pas rebrancher les alimentations avant d'avoir vérifié tous les raccordements.</p>

CAUTION	<p>Remove modules from their assigned module mounting unit slots before installing or removing a cable connected to that slot. Failure to do so could result in damage to the module.</p>
ATTENTION	<p>Retirer le module de son emplacement dans le châssis de montage des modules avant d'installer ou de retirer un câble assigné à cet emplacement. Un manquement à cette procédure pourrait endommager le module.</p>

If a TTA termination unit is faulty, replace it with a new one. **Do not** try to repair the unit; replacing components may affect the

performance and certification of the unit. When replacing a termination unit, verify that:

1. The proper fuse has been installed on the replacement termination unit.
2. All dipshunts are configured on the replacement termination unit the same as on the failed unit.
3. The module terminated by the faulty termination unit should be disconnected from the termination unit cable before the KTU cable is disconnected from the termination unit. Pull the module out of its module mounting unit slot so that its edge connector is not in contact with the termination cable connected to the module mounting unit backplane.

NOTE: Turn off power to the cabinet before removing the +24 VDC and grounding connection to the termination unit.

To replace the termination unit:

1. Label and remove all field wiring from the terminal blocks (TB1 and TB2).
2. Label and disconnect the cables connected to the termination unit.
3. Label and disconnect system I/O power, common and shield wires from the terminals.
4. Remove the two screws securing the termination unit to the field termination panel and slide out the termination unit.
5. Insert the tabs of the circuit board into the proper slots of the field termination panel standoff and slide the new circuit board into position.
6. Secure the termination unit circuit board to the field termination panel with two screws.
7. Connect all wiring.
8. Connect the cables that were removed in Step 2.
9. Verify all connections to the termination unit.
10. Energize the cabinet power supply that provides power to the termination unit.

Table 4-1. Recommended Spare Parts List

Description	Part Number
Fuse (F1) 0.25 A/250 V	194776A12500

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 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 - IMASM02 ANALOG SLAVE MODULE (THERMOCOUPLE/MILLIVOLT)

INTRODUCTION

The IMASM02 Analog Slave Module (Thermocouple/Millivolt) accepts eight millivolt signals from the NTTA01 Translation Termination Unit. Refer to the IMAMM03, IMASM01, IMASM02, IMASM03 and IMASM04 Analog Master Module and Analog Slave Modules product instruction manuals for more information.

Figure A-1 shows the IMASM02 module. Switch S1 is the slave address switch. Table A-1 shows example address switch settings.

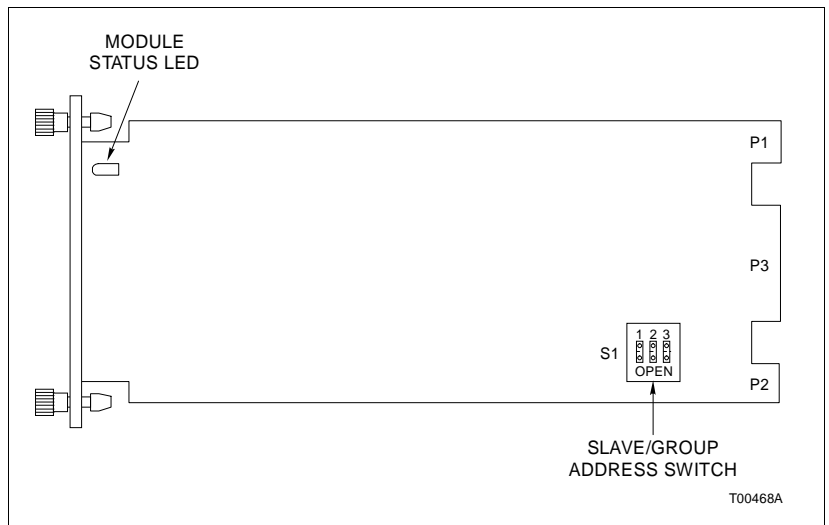


Figure A-1. IMASM02 Module Layout

Table A-1. Example ASM Module Address Switch Settings (S2)

Address Example	Dipswitch Position (Binary Value)		
	1 (4)	2 (2)	3 (1)
1	0	0	1
3	0	1	1
7	1	1	1

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

APPENDIX B - IMAMM03 ANALOG MASTER MODULE

INTRODUCTION

The IMAMM03 Analog Master Module processes up to 64 analog input signals from termination units through slave modules. Refer to the IMAMM03, IMASM01, IMASM02, IMASM03 and IMASM04 Analog Master Module and Analog Slave Modules product instruction manuals for more information.

Figure B-1 shows the analog master module layout. Figure B-2 shows switch S2. Switch S2 is the hardware and address configuration switch. Table B-1 lists example module address switch settings.

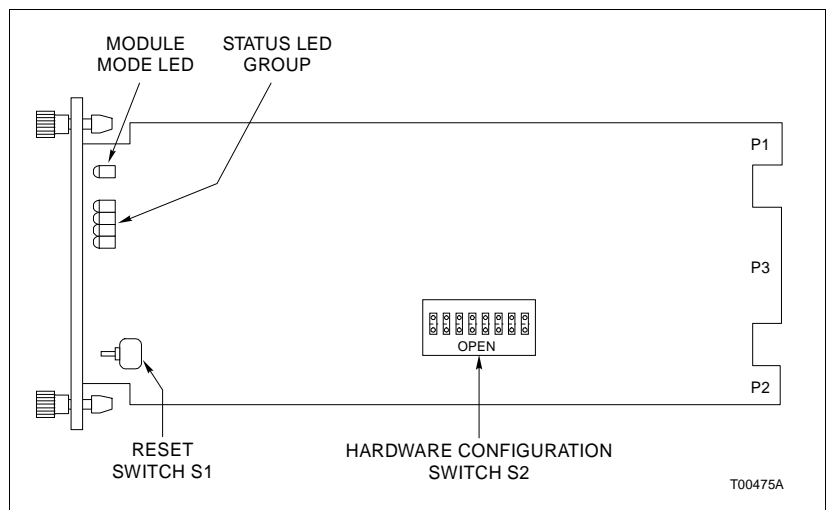


Figure B-1. IMAMM03 Module Layout

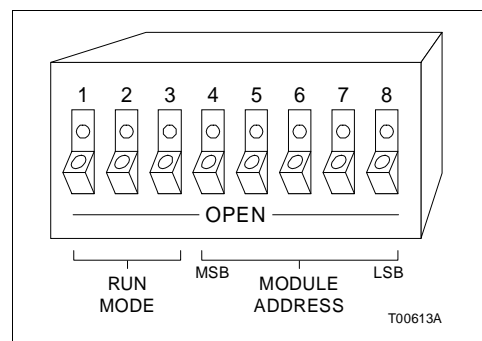


Figure B-2. Hardware/Address Configuration Switch

Table B-1. Example Module Address Switch Settings (S2)

Address Example	Dipswitch Position (Binary Value)				
	1 (16)	2 (8)	3 (4)	4 (2)	5 (1)
7	0	0	1	1	1
15	0	1	1	1	1
31	1	1	1	1	1

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

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