

NIDI01

ABB Bailey INFI 90 Digital I/O Termination Module

Product scope

- Terminates supported INFI 90 digital and analog I/O signal wiring.
- Occupies one position in the standard termination mounting unit.
- Uses the documented +24 V DC bus supply with applicable I/O modules.
- Carries the environmental and compatibility tables from instruction I-E96-410A.

Manufacturer source

ABB Bailey instruction I-E96-410A

The exact product record precedes any retained manufacturer manual extracts. Only pages relevant to the current product identity and documented functions are included.

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NIDI01

ABB Bailey INFI 90 Digital I/O Termination Module

Manufacturer-source product record

This page consolidates only model-specific facts verified in the manufacturer sources listed below. It is included to identify the exact ordering code before the retained manufacturer manual pages.

Module designation	NIDI01 Digital I/O Termination Module
System	INFI 90 OPEN
Mounting	One slot in a standard INFI 90 termination mounting unit
Input supply	+24 V DC from the termination mounting unit bus bar for applicable I/O modules
Ambient temperature	0 to 70 deg C
Relative humidity	0 to 95% to 55 deg C; 0 to 45% to 70 deg C, noncondensing
Environment	Noncorrosive atmosphere
Certification	CSA certified for ordinary locations

Official references

- ABB Bailey instruction I-E96-410A, NIDI01 Digital I/O Termination Module.

No adjacent ordering option has been treated as part of this configuration. The complete label and installed-system requirements must be checked before replacement.

Function, operation and application

The following model-specific notes are limited to functions and operating relationships documented by the listed manufacturer sources.

Termination role

NIDI01 provides the field-wiring termination point for the supported INFI 90 input and output modules listed in instruction I-E96-410A. It separates permanent field wiring from the plug-in I/O module connection so a module can be serviced without rebuilding the complete field termination.

Signal path

Field conductors land on the termination-module terminals and are routed through the module and cable connection to the associated I/O module. For applicable modules, the +24 V DC termination-mounting-unit bus bar supplies the field-side circuits; the NIDI01 itself does not execute control logic.

System applications

The documented compatibility table covers analog-output, digital-input, digital-output and selected frequency-counter signal types. The actual channel behavior, voltage range and output duty are determined by the connected I/O module, so the selected module and wiring diagram must be checked together.

Installation boundary

The assembly occupies one position in a standard INFI 90 termination mounting unit and is specified for a noncorrosive environment. Wiring and surge-withstand performance depend on following the grounding, cable-routing and terminal assignments in the ABB Bailey instruction.

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.



INTRODUCTION

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

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

NOMENCLATURE

INTRODUCTION

Table 1-4. Specifications (continued)

Property	Characteristic/Value					
Inputs and Outputs (continued)	Module	Qty	Inputs		Outputs	
			Analog	Digital	Analog	Digital
	IMHSS02	2	LVDT secondary inputs ²			
		2			servo drive outputs ²	
		1			LVDT primary drive ²	
		3		raise, lower and trip bias signals ²		
		1				emergency manual drive signal ²
	IMLMM02	8		125 VDC, 120 VAC and 24 VDC		
Environmental:						
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).					
Air Quality	Noncorrosive.					
Certification	CSA certified for use as process control equipment in an ordinary (nonhazardous) location.					

NOTES:

1. Do not use the NKTMO1 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.

SPECIFICATIONS

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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.

INTRODUCTION

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