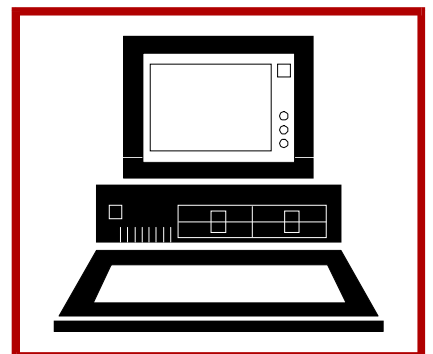
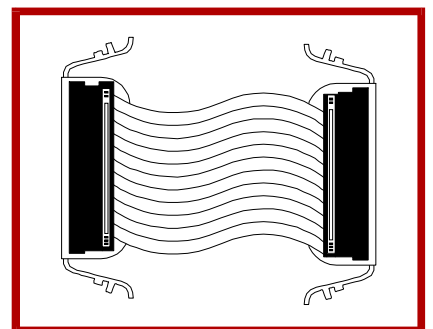
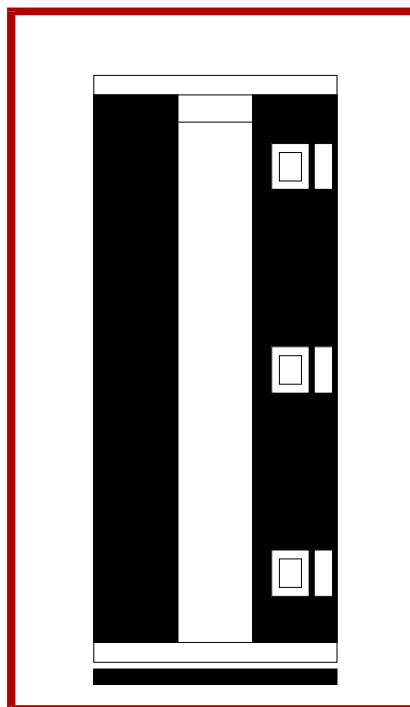
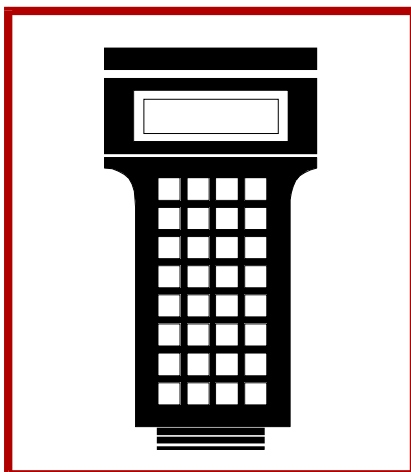
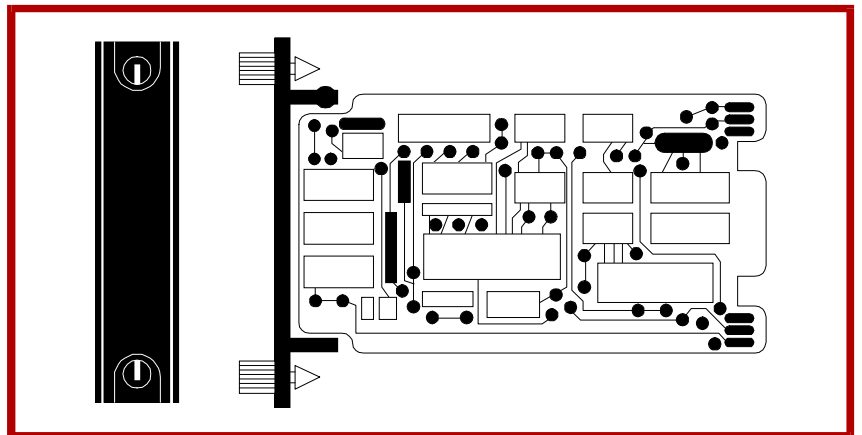
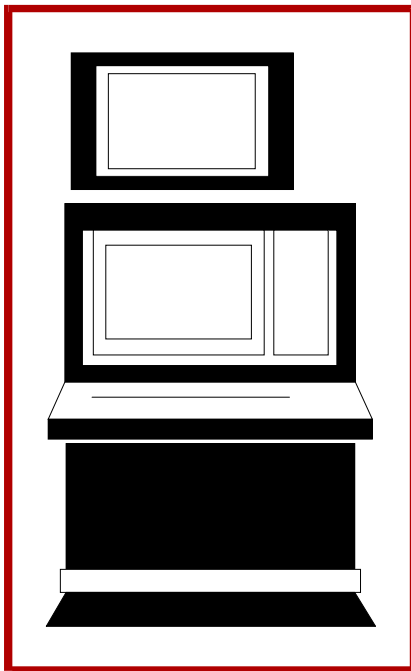


Bailey®
infi 90

Instruction

Relay Assembly Part No. 6642016□2



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

Relay Assembly part number 6642016□2 allows a Multi-Function Processor (MFP) module, through the IMDSO04/14 Digital Output Module, to control a process using standard relays. The outputs can be used for switching, annunciation, etc. This relay assembly is a direct replacement for the existing standard relay panel part number 6639890□□.

This product instruction explains how to install and maintain the relay assembly.

List of Effective Pages

Total number of pages in this instruction is 24, 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 2-7	Original
3-1 through 3-2	Original
4-1 through 4-2	Original
5-1	Original
Index-1 through Index-2	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 CAUTIONS

Remove a module from its assigned slot before installing or removing a cable assigned to that slot. Failure to do so could result in damage to the module. (p. 2-3)

Use only Elsag Bailey approved relays on the relay assembly. Using unapproved relays could improperly route signals and damage equipment connected to the relay and the relay itself. CSA certification is voided when unapproved relays are used. (p. 2-4, 4-1)

It is strongly recommended that all power (cabinet, I/O, etc.) be turned off before doing any wiring. Verify all connections before applying power. Failure to observe these precautions could result in equipment damage. (p. 2-5)

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.

**ATTENTIONS
D'ORDRE
SPÉCIFIQUE**

Avant de retirer ou de brancher un câble, retirez le module logé dans la coulisse correspondante. Autrement, le module risque d'être endommagé. (p. 2-3)

N'utilisez que des relais approuvés par Elsag Bailey les panneaux de relais standard. Sinon, les signaux risquent d'être acheminés de façon inadéquate et ainsi endommager l'équipement relié au relais ou le relais lui-même. La certification CSA n'est pas valable lorsqu'on utilise des relais non approuvés. (p. 2-4, 4-1)

Il est fortement recommandé de débrancher toute source d'alimentation (armoire, E/S, etc.) avant d'effectuer du travail au câblage. Vérifiez toutes les connexions avant de rétablir l'alimentation. Ces précautions permettent d'éviter des dommages à l'équipement. (p. 2-5)

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SECTION 1 - INTRODUCTION

OVERVIEW

The INFI 90® OPEN Relay Assembly (part number 6642016□2) provides a conventional process interface for INFI 90 OPEN system applications. Sixteen electromechanical relays, each providing two Form C contacts, operate in conjunction with standard INFI 90 OPEN IMDSO04/14 I/O modules. These outputs can be used for switching, annunciation, etc.

INTENDED USER

Personnel installing, operating, or maintaining the standard relay assembly should read this manual before performing any installation, operation, or maintenance procedures. Installation requires an engineer or technician with experience in handling electronic circuitry.

HARDWARE DESCRIPTION

The relay assembly circuit board is 189 millimeters (7.43 inches) wide by 356 millimeters (14 inches) high. It is mounted on a back panel that is 483 millimeters (19 inches) wide by 356 millimeters high. Two relay assembly circuit boards can mount on one back panel. The assembly fits into an INFI 90 OPEN cabinet and other standard 483-millimeter (19-inch) wide electronics racks. The relay assembly is equipped with 16 relays. Each relay is socketed for easy, plug-in replacement. Connector P1 accepts NKTU01 or NKTU11 cables connected to an IMDSO04/14 Digital Output Module.

INSTRUCTION CONTENT

This manual contains five sections:

- | | |
|--------------------------------------|--|
| Introduction | Contains an overview of the features, specifications and a description of the standard relay assembly. |
| Installation | Describes precautions to observe when handling the relay assembly and installation procedures required for assembling the relay assembly on the back panel and wiring connections for power and fuse monitoring. |
| Maintenance | Provides a maintenance schedule. |
| Repair/Replacement Procedures | Details how to replace a defective relay or relay assembly. |

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

HOW TO USE THIS MANUAL

Read this manual through in sequence. Read the installation section thoroughly. It is important to become familiar with the entire contents of this instruction before using the relay assembly. Refer to the table of contents or index to find specific information after the standard relay assembly is operating.

1. Read and perform all steps in the installation section.
2. Refer to the maintenance section for scheduled maintenance requirements.
3. Go to the repair/replacement procedures section to find instructions on how to replace the relays or relay assembly.
4. Refer to the support services section for replacement part and warranty information.

GLOSSARY OF TERMS AND ABBREVIATIONS

Table 1-1 lists definitions of abbreviations used in this instruction that are unique to Elsag Bailey.

Table 1-1. Glossary of Terms and Abbreviations

Term	Definition
IMDSO04/14	Digital output module

REFERENCE DOCUMENTS

Table 1-2 lists the documents referenced in this instruction. Refer to it as needed.

Table 1-2. Reference Documents

Number	Document
I-E96-285	Rail Termination System
I-E96-313	IMDSO04 Digital Output Module

NOMENCLATURE

Table 1-3 is a list of related hardware.

Table 1-3. Nomenclature

Nomenclature	Description
6641067□1	Termination back panel
IMDSO04/14	Digital output module
NKTU01	Termination unit cable (PVC)
NKTU11	Termination unit cable (non-PVC)

SPECIFICATIONS

Table 1-4 lists the specifications for the relay assembly. Table 1-5 lists the specifications for just the relay.

Table 1-4. Relay Assembly Specifications

Property	Characteristic/Value
Power requirements	+24 VDC at 895 mA; 21.1 W typical (all relays energized)
Outputs	2 Form C contacts per relay (maximum of 16 relays)
Socket material and flame rating	Nylon. Socket flame rating UL 94-V2
Socket CTI (comparative tracking index) ¹	260-399
Mounting	Requires 356-mm (14-in.) vertical space of an INFI 90 OPEN cabinet or standard electronics mounting rack. Two relay assemblies can be mounted side-by-side on a back panel, part number 6641067□1
Ambient temperature	When mounted in an enclosure or cabinet, the temperature rating within the enclosure or cabinet shall apply. INFI 90 OPEN internal cabinet rating: 0° to 70°C (32° to 158°F)
Relative humidity	5% to 95% up to 55°C (131°F), noncondensing 5% to 45% above 55°C (131°F), noncondensing
Air quality	Noncorrosive
Accessories	Relay hold down spring for securing the relay to the relay assembly printed circuit board connector. Order by part number: 1949479□1
Certification (pending)	CSA certified for use as process control equipment in an ordinary (nonhazardous) location

NOTE:

1. Refer to UL746C and IEC664A for CTI (comparative tracking index) information.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

Table 1-5. Relay Specifications¹

Property	Characteristic/Value
Contact data	
Type	2 Form C (2PDT)
Material	Silver cadmium oxide
Rating	10 A
Load switching	<u>120 VAC, 24 VDC</u> <u>125 VDC</u> 10 A @ 80% PF 3A
	NOTE: Blow out magnet for switching high voltage direct current (125 VDC) loads.
Coil data	
Voltage (nominal)	24 VDC
Voltage range	18 VDC to 26 VDC
Power	1.8 W @ 24 VDC
Resistance	320 Ω @ 25°C (77°F)
Operating time	15 ms (excluding bounce)
Release Time	10 ms (excluding bounce)
Temperature range	-45° to +50°C (-49° to 122°F)
Dielectric strength	
Between open contacts	1200 V rms
Between adjacent contacts	2200 V rms
Between contacts and coil	2200 V rms
Life expectancy	100,000 operations (within specifications)
Cover material and flame rating	Clear polycarbonate. Flame rating UL 94-V2
Cover CTI (comparative tracking index) ²	600

NOTES:

1. Relay specifications apply to Elsag Bailey part number 1949480□1.
2. Refer to UL746C and IEC664A for CTI (comparative tracking index) information.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

SECTION 2 - INSTALLATION

INTRODUCTION

This section explains how to install a relay assembly (part number 6642016□2). Read, understand, and complete the steps in the order they appear before operating a relay assembly.

UNPACKING AND INSPECTION

1. Examine the hardware immediately for shipping damage.
2. Notify the nearest Elsag Bailey 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.

INSTALLATION

The required installation steps are installing the relay assembly on to the back panel, installation of the back panel into the cabinet, and terminal block wiring.

Relay Assembly to Back Panel

The relay assembly with back panel requires 356 millimeters (14 inches) of vertical space in an INFI 90 OPEN cabinet or standard electronics mounting rack. The back panel sides are slotted for mounting onto any standard 483-millimeter (19-inch) EIA mounting rails. One or two relay assemblies can be mounted vertically on one relay back panel (Fig. 2-1).

To install a relay assembly, use the following procedure.

1. Verify that the power is removed from the cabinet or rack receiving the relay assembly.
2. Align the protrusions on the relay assembly board with the slots in the back panel. Slide into position. Install two screws in the holes marked for ground on the relay assembly board and tighten to secure the board to the back panel. Repeat this step if a second relay assembly is being installed.

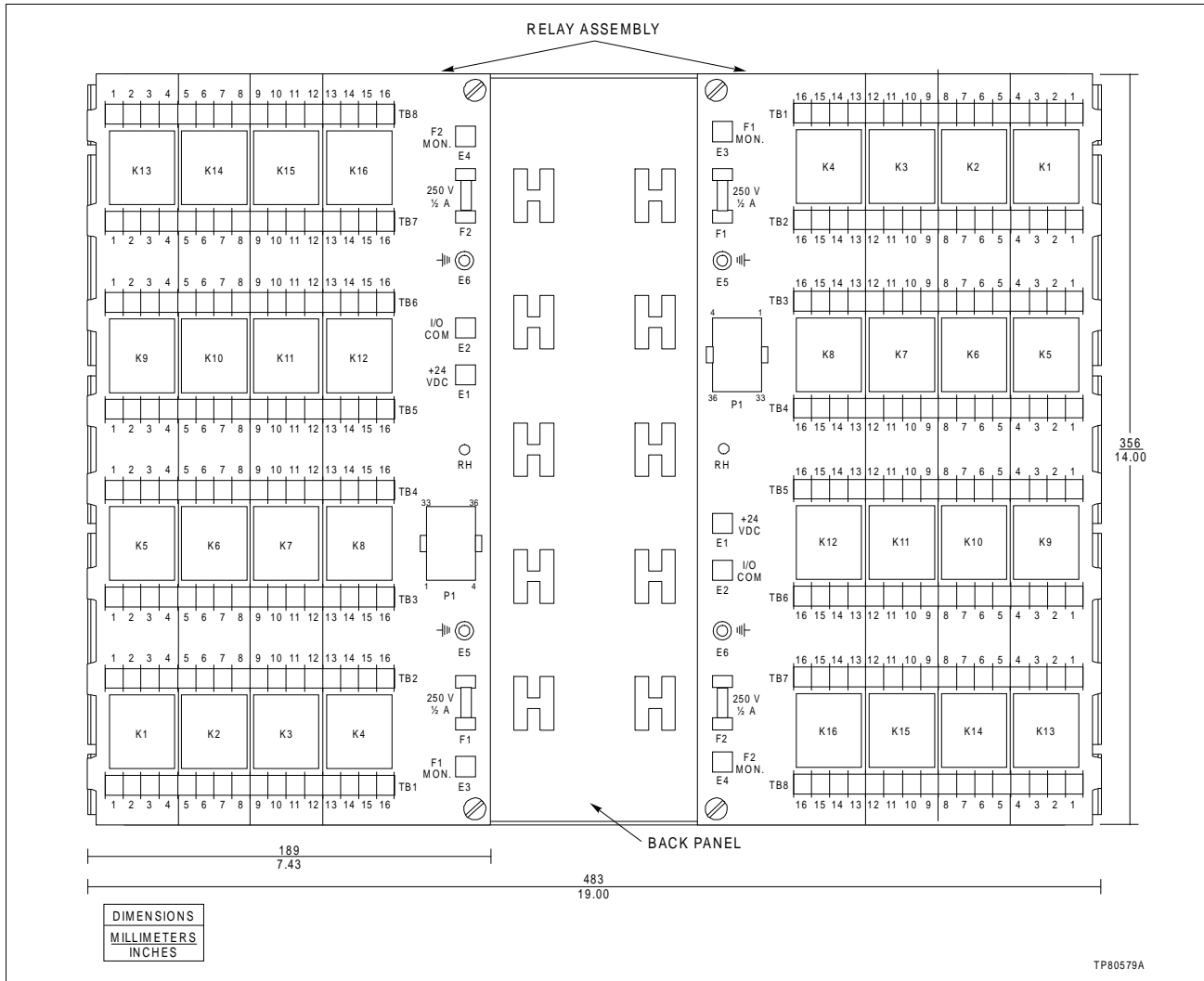


Figure 2-1. Relay Assembly and Back Panel Dimensions

3. Position the relay assembly and back panel in the desired location in the cabinet or rack.
4. Align the mounting bolt cutouts, located on both sides of the back panel, with the nearest mounting holes in the vertical mounting rails of the cabinet or rack.
5. Secure the relay assembly and back panel to the mounting rails with the hardware supplied.

NKTU01 and NKTU11 Cable

The relay assembly connects to the IMDSO04/14 Digital Output Module using the NKTU01 or NKTU11 termination unit cable. This cable passes the digital output signals of the IMDSO04/14 module to the relays on the relay assembly. Refer to Table 2-1 and Figure 2-2 for additional information.

CAUTION Remove a module from its assigned slot before installing or removing a cable assigned to that slot. Failure to do so could result in damage to the module.

ATTENTION Avant de retirer ou de brancher un câble, retirez le module logé dans la coulisse correspondante. Autrement, le module risque d'être endommagé.

Table 2-1. Relay Assembly Cable Applications

Cable	Connections				Maximum Length	
	From		To		m	ft
	Device	Connector	Device	Connector		
NKTU01 (PVC)	IMDSO04/14	P3	Relay assembly	P1	70.2	230
NKTU11 (non PVC)						
Standard 12 to 20 AWG wire	Field and power wiring	Field device or power source	Relay assembly	Appropriate terminal blocks	N/A	N/A

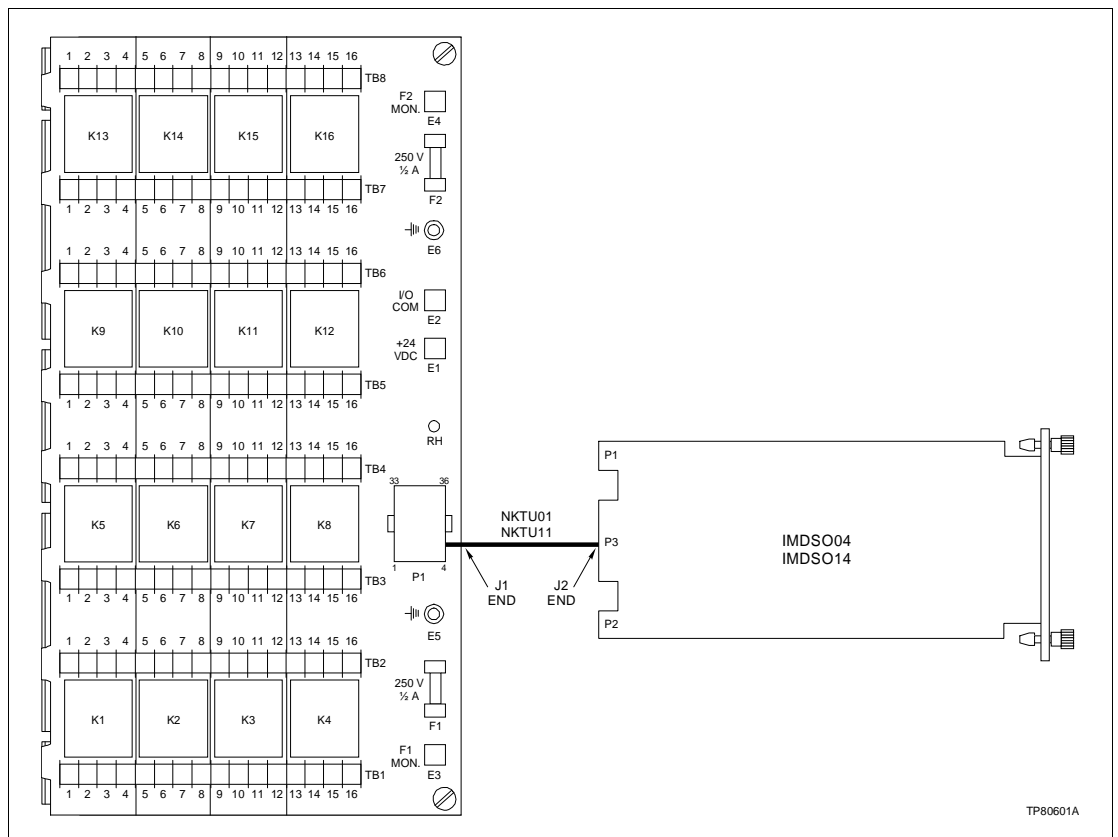


Figure 2-2. Relay Assembly Cable Connection

To install the cable:

1. Turn the IMDSO04/14 module latching screws ½-turn either way to release them.
2. Pull the IMDSO04/14 module out several inches from the module mounting unit backplane.
3. Insert the J2 end of the cable into the module mounting unit backplane slot assigned to the IMDSO04/14 module.
4. Insert the J1 end of the cable into the P1 connector on the relay assembly board.
5. Insert the IMDSO04/14 module into the module mounting unit until the rear edges are firmly seated in the backplane connectors.
6. Turn the two latching screws ½-turn either way to lock the module into the module mounting unit.

Relay

Relays are included with the relay assembly and should already be installed.

CAUTION	<p>Use only Elsag Bailey approved relays on the relay assembly. Using unapproved relays could improperly route signals and damage equipment connected to the relay and the relay itself. CSA certification is voided when unapproved relays are used.</p>
ATTENTION	<p>N'utilisez que des relais approuvés par Elsag Bailey sur les panneaux de relais standard. Sinon, les signaux risquent d'être acheminés de façon inadéquate et ainsi endommager l'équipement relié au relais ou le relais lui-même. La certification CSA n'est pas valable lorsqu'on utilise des relais non approuvés.</p>

To install a relay:

1. Verify the relay is the same type listed in Table 5-1.
2. Align the keyed center prong of the relay with the keyed center hole of the relay socket.
3. Push the relay into the relay socket until it is firmly seated.
4. If the optional hold down spring is installed, position the wire clip over the relay to secure the relay to the board.

WIRING

Wiring for the relay assembly consists of connecting the power wiring, fuse monitor wiring and relay contact wiring.

CAUTION	It is strongly recommended that all power (cabinet, I/O, etc.) be turned off before doing any wiring. Verify all connections before applying power. Failure to observe these precautions could result in equipment damage.
ATTENTION	Il est fortement recommandé de débrancher toute source d'alimentation (armoire, E/S, etc.) avant d'effectuer du travail au câblage. Vérifiez toutes les connexions avant de rétablir l'alimentation. Ces précautions permettent d'éviter des dommages à l'équipement.

Coil Power

NOTE: Proper polarity of all signals must be maintained.

To connect coil power wiring:

1. Feed the power wiring into cabinet or rack and to the area of the relay assembly circuit board.
2. Connect a 14 AWG wire from the +24 VDC source within the cabinet to the +24 V terminal (E1) of the relay assembly.
3. Connect a 14 AWG wire from the DC common bus bar at the bottom of the cabinet to the I/O COM terminal (E2) of the relay assembly.

Fuse Monitor

The fuse monitor output terminals F1 MON and F2 MON allow the condition of fuses F1 and F2 to be monitored. The condition of the fuses is monitored by connecting these terminals to a power sensing device such as a 24 VDC input circuit. The relay panel supplies a logic 1 (fuse good and power present) or logic 0 (fuse blown or no power) signal. To connect fuse monitor wiring:

1. Feed the fuse monitor wiring into the area of the relay assembly.
2. Connect the appropriate positive (+) fuse monitor wire (customer wiring) to the F1 MON terminal (E3) of the relay assembly.
3. Connect the appropriate positive (+) fuse monitor wire (customer wiring) to the F2 MON terminal (E4) of the relay assembly.

4. Connect the negative (-) fuse monitor wires (customer wiring) for both fuses to the SYS COM bus bar.

Relay

NOTE: Elsag Bailey strongly recommends that the appropriate safety precautions be observed when connecting field wiring to a relay assembly.

Wiring of the relay contacts is dependent on how the field devices are to be controlled. This is the responsibility of the customer. Figure 2-3 shows an example of wiring for two field devices connected to the relay assembly with power and device wiring supplied by the customer. Refer also to the following notes that apply to Figure 2-3.

NOTES:

1. Maximum wire size for relay board connections is 12 AWG.
2. Maximum current from the relay assembly is 10 A.
3. All inductive loads to be suppressed with the suppressor installed at the field device.

Refer to Figure 2-4 for a schematic diagram of the relay assembly.

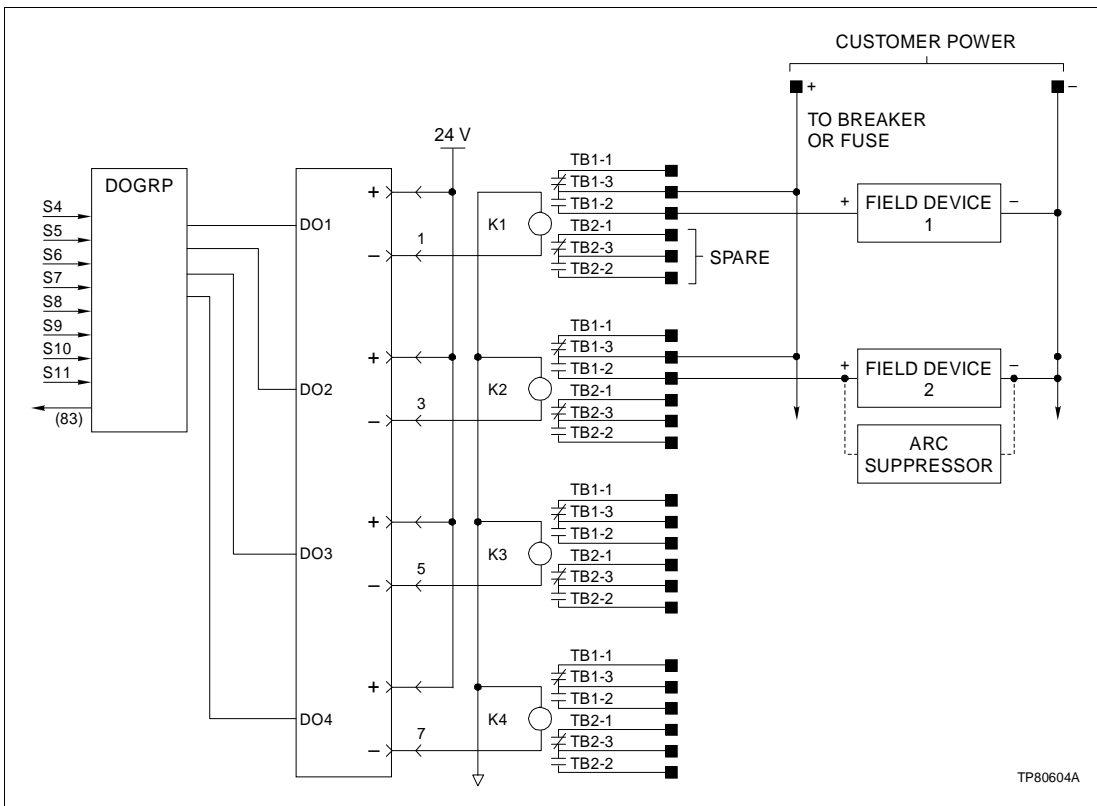


Figure 2-3. Typical Relay Application

The relay assembly is ready for operation if:

1. Fuses are installed and verified good.
2. Relays are properly installed.
3. All required cables and wires are installed and verified.
4. Power is connected and applied to the relay assembly.

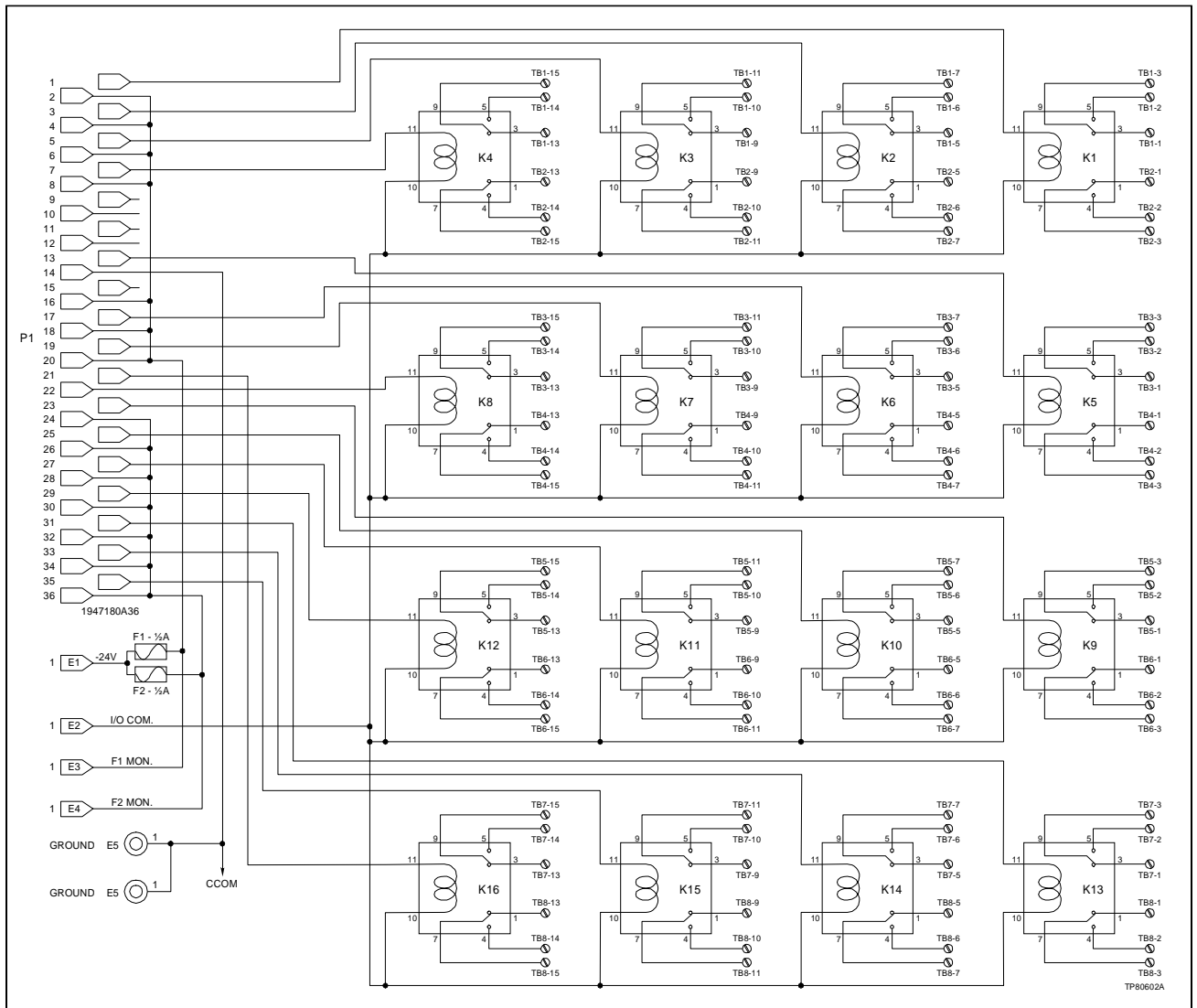


Figure 2-4. Relay Assembly Schematic

SECTION 3 - MAINTENANCE

INTRODUCTION

The reliability of any stand-alone product or control system is affected by the maintenance of the equipment. Elsas Bailey recommends that all equipment users practice a preventive maintenance program that will keep the equipment operating at an optimum level.

This section presents procedures that the customer should be able to perform on site. These preventive maintenance procedures should be used as a guideline to assist in establishing good preventive maintenance practices. Select the minimum steps required to meet the cleaning needs of the system.

Personnel performing preventive maintenance should meet the following qualifications.

- Maintenance personnel should be qualified electrical technicians or engineers that know the proper use of test equipment.
- Maintenance personnel should be familiar with the relay assembly, have experience working with process control systems, and know what precautions to take when working on live AC systems.

PREVENTIVE MAINTENANCE SCHEDULE

Table 3-1 is the preventive maintenance schedule for the relay assembly. The table lists the preventive maintenance tasks in groups according to their specified maintenance interval. Some tasks in Table 3-1 are self explanatory. Instructions for tasks that require further explanation are covered under **PREVENTIVE MAINTENANCE PROCEDURES**.

NOTE: The preventive maintenance schedule is for general purposes only. Your application may require special attention.

EQUIPMENT AND TOOLS REQUIRED

The tools and equipment required for maintenance procedures are:

- Antistatic vacuum.
- Bladed screwdriver suitable for terminal blocks.

Table 3-1. Preventive Maintenance Schedule

Task	Frequency
Check cabinet air filters. Clean or replace them as necessary. Check the air filter more frequently in excessively dirty environments.	3 months
Check cabinet and relay assembly for dust. Clean as necessary using an antistatic vacuum.	
Check all signal, power and ground connections within the cabinet that are associated with the relay assembly. Verify that they are secure. Refer to procedure.	
Complete all tasks in this table.	Shutdown

PREVENTIVE MAINTENANCE PROCEDURES

This section contains specific instructions on checking signal, power, and ground connections.

CHECKING CONNECTIONS

Check all signal wiring, power and ground connections within the cabinet to verify their integrity. When checking connections, always turn a screw, nut or other fastening device in the direction to tighten only. If the connection is loose, it will be tightened. If the connection is tight, the tightening action will verify that it is secure. There must not be any motion done to loosen the connection.

NOTE: Power to the cabinet must be turned off while performing this preventive maintenance task.

Check and verify that all cabling and wiring connections to the relay panel are secure.

SECTION 4 - REPAIR/REPLACEMENT PROCEDURES

INTRODUCTION

This section explains how to replace a failed relay, fuse, and the relay assembly circuit board.

RELAY

CAUTION	Use only Elsag Bailey approved relays on the relay assembly. Using unapproved relays could improperly route signals and damage equipment connected to the relay and the relay itself. CSA certification is voided when unapproved relays are used.
ATTENTION	N'utilisez que des relais approuvés par Elsag Bailey sur les panneaux de relais standard. Sinon, les signaux risquent d'être acheminés de façon inadéquate et ainsi endommager l'équipement relié au relais ou le relais lui-même. La certification CSA n'est pas valable lorsqu'on utilise des relais non approuvés.

If a relay is faulty, replace it with a new one.

1. Remove power from the cabinet containing the relay assembly and from the circuits controlled by the relay being replaced.
2. If the optional hold down spring is securing the relay, pull the spring forward. Slowly pull the defective relay from the socket in the circuit board.
3. Slowly insert the replacement relay into the socket in the circuit board. Position the optional hold down spring over the relay to secure the relay to the board.
4. Apply power to the cabinet containing the relay assembly and to the circuits controlled by the replacement relay.

FUSE

If the fuse is faulty, replace it with a new one.

1. Remove power from the cabinet containing the relay assembly.
2. Remove the faulty fuse.
3. Install the replacement fuse (250 V, ½ A) into the appropriate fuse holder.
4. Apply power to the cabinet containing the relay assembly.

RELAY ASSEMBLY

If the relay assembly is faulty, replace it with a new relay assembly circuit board.

1. Remove power from the cabinet or rack containing the defective relay assembly and from the circuits controlled by the relay assembly.
2. Label and remove all wiring (power, ground, fuse monitoring, I/O COM) and disconnect the cable at P1 from the defective relay assembly.
3. Remove the two screws securing the circuit board to the back panel. Remove the relay assembly.
4. Verify the fuses on the replacement relay assembly panel are properly installed and not blown.
5. Position the replacement relay assembly so that the protrusions on the circuit board line up with the slots in the back panel. Install the two screws and tighten.
6. Connect all wiring and cables removed in Step 2.
7. Apply power to the cabinet containing the replacement relay assembly and to the circuits controlled by the relay assembly.

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 sales office. Provide:

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.

Refer to Table 5-1 for a list of recommended spare parts.

Table 5-1. Spare Parts List

Part Number	Description
1949479□1	Optional relay hold down spring
1949480□1	Relay
1948182□15000	Fuse

TRAINING

Bailey Controls Company has a modern training facility available for training your personnel. On-site training is also available. Contact a Bailey Controls 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.

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