FlexSeT™ Switchboards

Energy Reduction Maintenance Setting (ERMS) Operation Sequence and Installation Guide

Instruction Bulletin

Addendum to Energy Reduction Maintenance Setting (ERMS) System Installation and User Guide (NHA67346)

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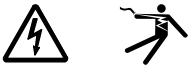
Safety Information

Read these instructions carefully and examine the equipment to become familiar with the device before attempting to install, operate, service, or maintain it. The following special messages may appear throughout this user guide or on the equipment to warn of hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of either symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

⚠WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

⚠CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

NOTE: Provides additional information to clarify or simplify a procedure.

Please Note

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

Electrical equipment should be transported, stored, installed, and operated only in the environment for which it is designed.

Introduction to FlexSeT Switchboard ERMS Application

This addendum complements and, where applicable, supersedes the instructions provided in the following documents

- Energy Reduction Maintenance Setting (ERMS) System Installation and User Guide (NHA67346)
- I-Line™ Enable Module Instruction Bulletin JYT97577
- FlexSeT™ Switchboards Instruction Bulletin (JYT1078000).

Read and understand all instruction in this addendum, and all documents listed above before beginning work.

NOTE: For additional information on other I-LEM functionalities not covered in this document, refer to the I-Line™ Enable Module Instruction Bulletin (JYT97577).

Overview of Operations

Read and understand the following precautions before performing any procedures in this guide.

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E or CSA Z462 or local equivalent.
- This equipment must be installed and serviced only by qualified personnel.
- Service only after reading and understanding all of the instructions contained in this bulletin.
- Turn off all power supplying this equipment before working on or inside equipment.
- Before performing visual inspections, tests, or maintenance on this equipment, disconnect all sources of electric power. Assume all circuits are live until they are de-energized, tested, and tagged. Pay particular attention to the design of the power system. Consider all sources of power, including the possibility of backfeeding.
- Always use a properly rated voltage sensing device to confirm power is off.
- Install, operate, and maintain the equipment for it to function properly. Neglecting fundamental installation and maintenance requirements may lead to personal injury, as well as damage to equipment or other property.
- Inspect installation area and remove any tools and objects left inside the equipment.
- Replace all devices, doors, and covers before turning on power to this equipment.
- All instructions in this manual assume that the customer has taken these measures before performing maintenance or testing.

Failure to follow these instructions will result in death or serious injury.

⚠ **WARNING:** This product can expose you to chemicals including Nickel compounds, which are known to the State of California to cause cancer, and Bisphenol A (BPA), which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

The FlexSeT ERMS feature for the main breaker in the FlexSeT switchboard is powered by the ERMS/ERM2 I-Line Enable Module (I-LEM) mounted in the I-Line section that is downstream of the main breaker. The main breaker must be in the ON position, and line side power must be present, to energize the switchboard bus and I-Line section before the ERMS function can be enabled. The ERMS function for the main breaker cannot be enabled or disabled if the main breaker is switched OFF or has TRIPPED. The ERMS/ERM2 I-LEM mounted in the I-Line section takes a few seconds after energization before it is available for use. Once the ERMS is enabled, the main breaker will retain the ERMS enabled state if the main breaker is switched OFF, has TRIPPED, or power is lost before disabling the ERMS.

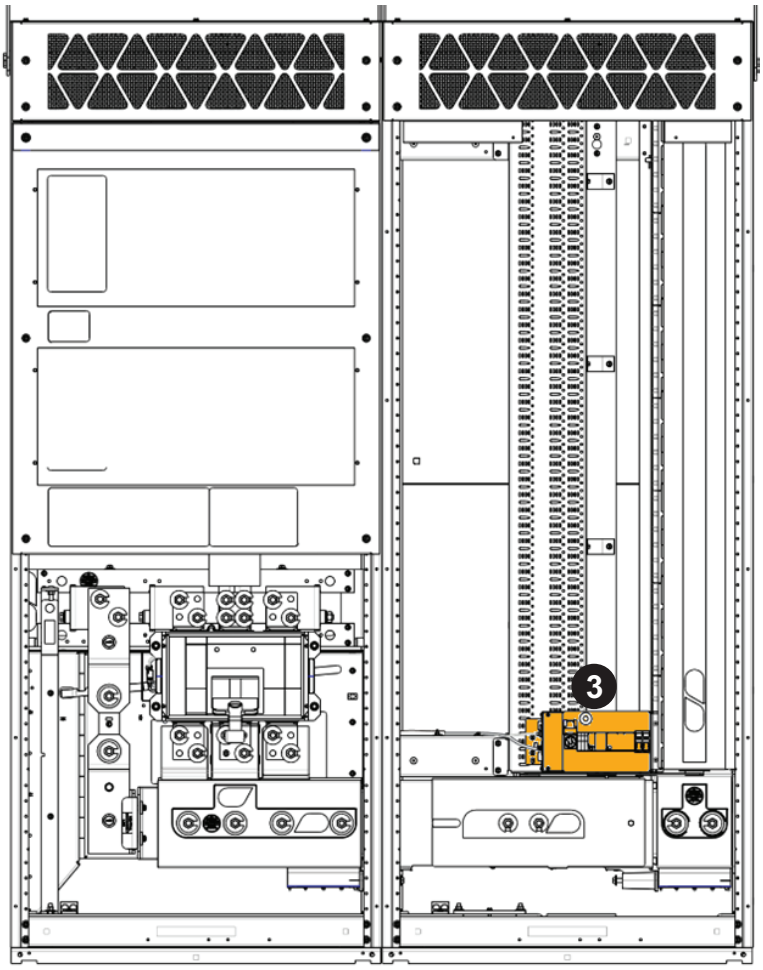
Schneider Electric™ recommends that all feeder (downstream) breakers in the switchboard be switched OFF before switching ON the main breaker for any use cases where ERMS functionality is desired, including the startup of the FlexSeT switchboard.

Schneider Electric recommends that ERMS be enabled before switching OFF the main breaker when any maintenance or service is performed on the switchboard or downstream equipment. After turning the ERMS switch to ON and waiting a few seconds, confirm that the ERMS/ERM2 I-LEM switch’s internal light is illuminated blue and the main breaker's display flashes the ERMS legend before switching OFF the main breaker. The main breaker will retain the ERMS enabled state if the main breaker is switched OFF, has TRIPPED, or power is lost. The ERMS feature can be disabled once the main breaker is switched ON and the ERMS/ERM2 I-LEM has completed its startup sequence.

Installation Instructions for the IMD Version

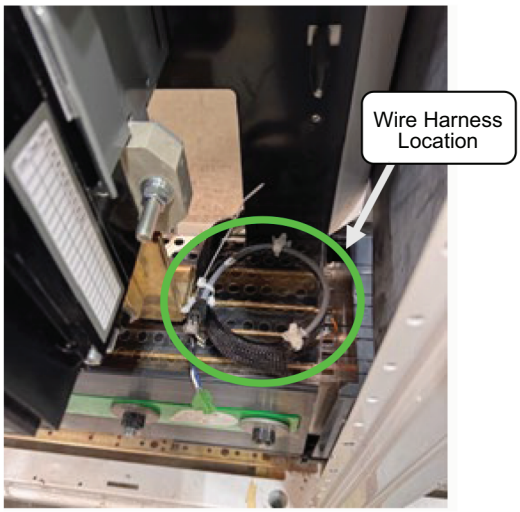
1. ERMS/ERM2 I-LEM Installation Position
   a. Following the instructions in I-Line Enable Module Instruction Bulletin (JYT97577), the ERMS/ERM2 I-LEM (item 3, of Front View of FlexSeT Switchboard with ERMS Feature: I-Line Stack Location of ERMS/ERM2 I-LEM) is factory installed in the lowest position of the I-Line section. The wire harness provided in the FlexSeT switchboard adjacent section is suitable for this location only.

Figure 1 - Front View of FlexSeT Switchboard with ERMS Feature: I-Line Stack Location of ERMS/ERM2 I-LEM



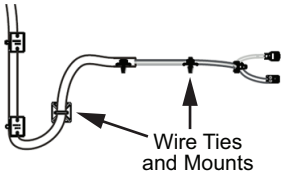
2. Wire Harness Routing
   a. Locate the harness to be installed in the main breaker section. See Shipping Location of Pre-Assembled Wire Harness.

Figure 2 - Shipping Location of Pre-Assembled Wire Harness



   b. Uncoil the pre-assembled harness to extend the length while maintaining the integrity of the factory pre-assembled portion.
   c. Identify and cut off the coiling/fixing wire-ties using suitable wire snips. Be careful not to cut off the wire-mount dedicated wire ties. See Shipping Location of Pre-Assembled Wire Harness.

Figure 3 - Mounts and Ties for Pre-Assembled Wire Harness



   d. Pass the harness underneath the section vertical barrier (item 1 of Detailed View of Wire Harness Installation in the FlexSeT Switchboard, page 11) to extend and reach the I-LEM (item 3 of Detailed View of Wire Harness Installation in the FlexSeT Switchboard, page 11 and Final Wire Mounts and Plug Connections to ERMS/ERM2 I-LEM, page 11). Secure the wire harness using the harness pre-installed adhesive mount (item 2 of Detailed View of Wire Harness Installation in the FlexSeT Switchboard, page 11) and the three push-in wire mounts (items 4, 5 and 6 of Detailed View of Wire Harness Installation in the FlexSeT Switchboard, page 11 and Final Wire Mounts and Plug Connections to ERMS/ERM2 I-LEM, page 11) within the I-Line section. Gently adjust the push-in wire mount positions along the harness length to provide a neat and professional appearance. Ensure that the wire mounts align to the specified position and matching holes.

Figure 4 - Detailed View of Wire Harness Installation in the FlexSeT Switchboard

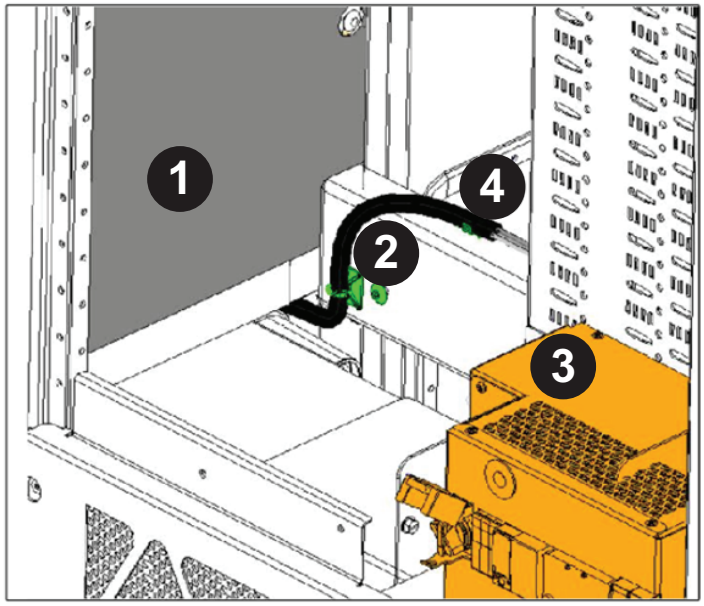
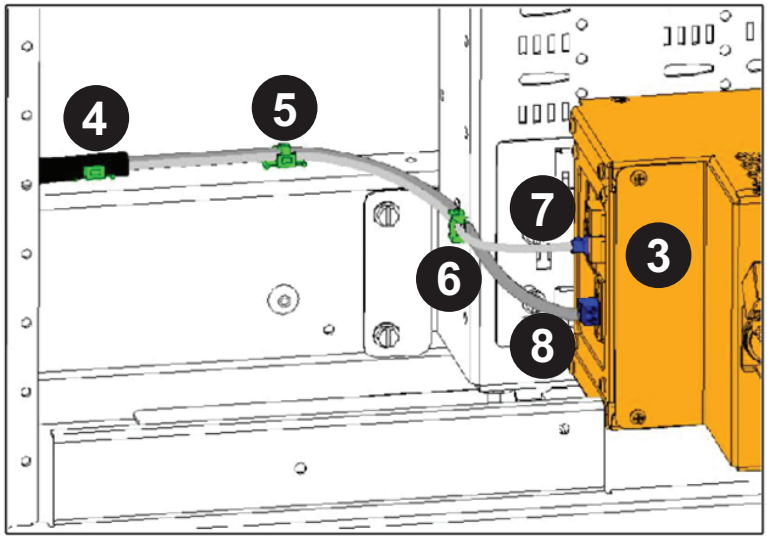


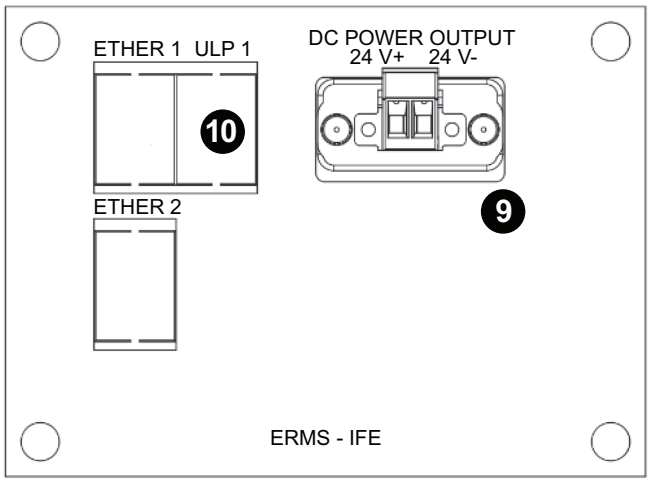
Figure 5 - Final Wire Mounts and Plug Connections to ERMS/ERM2 I-LEM



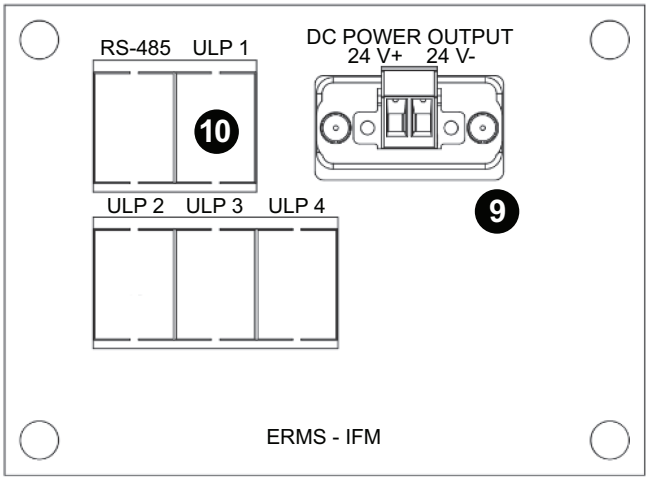
e. Connect the 24 Vdc harness 2-Pin connector (item 8 of Final Wire Mounts and Plug Connections to ERMS/ERM2 I-LEM) to the ERMS/ERM2 I-LEM port labeled as "DC POWER OUTPUT / 24V+ 24V-" (item 9 of ERMS/ERM2 I-LEM Panel for Plug Connection, page 12).

f. Connect the ULP (Universal Logic Plug) RJ45 type connector (item 7 of Detailed View of Wire Harness Installation in the FlexSeT Switchboard) to the port labeled as "ULP 1" (item 10 of ERMS/ERM2 I-LEM Panel for Plug Connection, page 12) on the ERMS/ERM2 I-LEM. Ensure that the correct ULP and 24 Vdc plug connectors are used and connected to the designated ports on the ERMS/ERM2 I-LEM.

Figure 6 - ERMS/ERM2 I-LEM Panel for Plug Connection



ERMS Connection Panel



ERM2 Connection Panel

3. Perform all functional ERMS tests per the Energy Reduction Maintenance Setting (ERMS) System Installation and User Guide (NHA67346).

FlexSeT ERMS Hazard Label

Figure 7 - Label for Remote ERMS Switch Option

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Proper use of ERMS (Energy Reduction Maintenance Setting) switch requires engineering analysis, appropriate PPE (Personal Protection Equipment), and safe electrical work practices.
- See instruction bulletin NHA67346 and FlexSeT TME91603 for additional information and hazard messages.

Failure to follow these instructions will result in death or serious injury.

⚠ PELIGRO

PELIGRO DE DESCARGA ELÉCTRICA, EXPLOSIÓN O DESTELLO POR ARQUEO

- La programación de mantenimiento para reducción de energía (ERMS) apropiada requiere de un análisis de diseño, equipo de protección personal apropiado (EPP) y el seguimiento de prácticas de seguridad en trabajos eléctricos establecidas por su Compañía.
- Consulte el boletín de instrucciones NHA67346 y FlexSeT TME91603 para obtener información adicional y los mensajes de peligro.

El incumplimiento de estas instrucciones podrá causar la muerte o lesiones serias.

⚠ DANGER

RISQUE D'ELECTROCUTION, D'EXPLOSION OU D'ÉCLAIR D'ARC

- L'utilisation adéquate de la Programmation de l'entretien pour la réduction de l'énergie (PERÉ) exige une analyse technique, un ÉPP (équipement de protection personnelle) approprié et des méthodes de travail électrique sécuritaire.
- Reportez-vous aux directives d'utilisation NHA67346 et FlexSeT TME91603 pour des informations supplémentaires et des messages de sécurité.

Si ces directives ne sont pas respectées, cela entraînera la mort ou des blessures graves.

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Glossary

B

BFM: Backfed I-Line Main section.

E

ERM2 I-LEM: I-Line mounted modular unit featuring the ERMS function along with Modbus Serial communication via IFM.

ERMS I-LEM: I-Line mounted modular unit featuring the ERMS function along with Ethernet communication via IFE.

ERMS: Energy Reduction Maintenance Setting.

I

I-LEM: I-Line Enable Module.

IMD: Individually Mounted Device switchboard.

U

ULP: Schneider Electric’s Universal Logic Plug.

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As standards, specifications, and design change from time to time, please ask for confirmation of the information given in this publication.

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