EL Bay-O-Net Current-Limiting Fuse Installation Instructions

Powering Business Worldwide

DISCLAIMER OF WARRANTIES AND LIMITATION OF LIABILITY

The information, recommendations, descriptions and safety notations in this document are based on Eaton Corporation's ("Eaton") experience and judgment and may not cover all contingencies. If further information is required, an Eaton sales office should be consulted. Sale of the product shown in this literature is subject to the terms and conditions outlined in appropriate Eaton selling policies or other contractual agreement between Eaton and the purchaser.

THERE ARE NO UNDERSTANDINGS, AGREEMENTS, WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, OTHER THAN THOSE SPECIFICALLY SET OUT IN ANY EXISTING CONTRACT BETWEEN THE PARTIES. ANY SUCH CONTRACT STATES THE ENTIRE OBLIGATION OF EATON. THE CONTENTS OF THIS DOCUMENT SHALL NOT BECOME PART OF OR MODIFY ANY CONTRACT BETWEEN THE PARTIES.

In no event will Eaton be responsible to the purchaser or user in contract, in tort (including negligence), strict liability or otherwise for any special, indirect, incidental or consequential damage or loss whatsoever, including but not limited to damage or loss of use of equipment, plant or power system, cost of capital, loss of power, additional expenses in the use of existing power facilities, or claims against the purchaser or user by its customers resulting from the use of the information, recommendations and descriptions contained herein. The information contained in this manual is subject to change without notice.

Contents

Safety for life

Eaton meets or exceeds all applicable industry standards relating to product safety in its Cooper Power™ series products. We actively promote safe practices in the use and maintenance of our products through our service literature, instructional training programs, and the continuous efforts of all Eaton employees involved in product design, manufacture, marketing, and service.

We strongly urge that you always follow all locally approved safety procedures and safety instructions when working around high voltage lines and equipment, and support our "Safety For Life" mission.

Safety information

The instructions in this manual are not intended as a substitute for proper training or adequate experience in the safe operation of the equipment described. Only competent technicians who are familiar with this equipment should install, operate, and service it.

A competent technician has these qualifications:

- Is thoroughly familiar with these instructions.
- Is trained in industry-accepted high and low-voltage safe operating practices and procedures.
- Is trained and authorized to energize, de-energize, clear, and ground power distribution equipment.
- Is trained in the care and use of protective equipment such as arc flash clothing, safety glasses, face shield, hard hat, rubber gloves, clampstick, hotstick, etc.

Following is important safety information. For safe installation and operation of this equipment, be sure to read and understand all cautions and warnings.

Hazard Statement Definitions

This manual may contain four types of hazard statements:

DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in equipment damage only.

Safety instructions

Following are general caution and warning statements that apply to this equipment. Additional statements, related to specific tasks and procedures, are located throughout the manual.

DANGER

Hazardous voltage. Contact with hazardous voltage will cause death or severe personal injury. Follow all locally approved safety procedures when working around high- and low-voltage lines and equipment. G103.3

WARNING

Before installing, operating, maintaining, or testing this equipment, carefully read and understand the contents of this manual. Improper operation, handling or maintenance can result in death, severe personal injury, and equipment damage. G101.0

WARNING

This equipment is not intended to protect human life. Follow all locally approved procedures and safety practices when installing or operating this equipment. Failure to comply can result in death, severe personal injury and equipment damage. G102.1

WARNING

Power distribution and transmission equipment must be properly selected for the intended application. It must be installed and serviced by competent personnel who have been trained and understand proper safety procedures. These instructions are written for such personnel and are not a substitute for adequate training and experience in safety procedures. Failure to properly select, install or maintain power distribution and transmission equipment can result in death, severe personal injury, and equipment damage. G122.2

Product information

Introduction

Eaton's Cooper Power Series EL Bay-O-Net Current-limiting fuse assembly is designed to be used to mount the ELS current-limiting fuse in fluid-filled distribution apparatus. The fuse assembly provides the operating convenience of Eaton's Cooper Power Series' versatile Bay-O-Net expulsion fuse with the energy-limiting capabilities of the current-limiting fuse.

Read this manual first

Read and understand the contents of this manual and follow all locally approved procedures and safety practices before installing or operating this equipment.

Acceptance and Initial Inspection

Each fuse is in good condition when accepted by the carrier for shipment. Upon receipt, inspect the shipping container for signs of damage. Unpack the fuse and inspect it thoroughly for damage incurred during shipment. If damage is discovered, file a claim with the carrier immediately.

Handling and Storage

Be careful during handling and storage of the fuse to minimize the possibility of damage. If the fuse is to be stored for any length of time prior to installation, provide a clean, dry storage area.

Quality Standards

ISO 9001Certified Quality Management System.

Additional Information

These instructions cannot cover all details or variations in the equipment, procedures, or process described nor provide directions for meeting every possible contingency during installation, operation, or maintenance. For additional information, contact your representative.

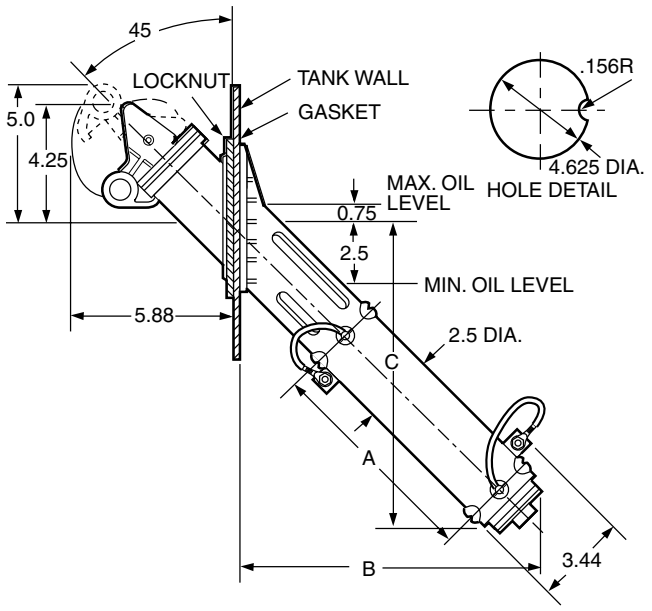

Figure 1. Bay-O-Net assembly shows application fluid level and dimensional information.

Fuse Application

When selecting the proper EL Bay-O-Net for each installation, the voltage rating, continuous current, and dimensions must be taken into account. Select the proper Bay-O-Net specifications based on Table 1.

Table 1. Specifications for EL Bay-O-Net Fuse Assembly

Voltage Rating (kV)	Catalog Number	Use Fuse Number	Dimensions Inches (mm)			Continuous Current Rating (A)	Live Spacing to Ground
			A	B	C		
8.3	4004697B01M	3533--M11	8.22	10.73	10.91	100	2 in.
15.5	4004697B03M	3534--M11	16.29	16.41	16.66	100	3 in.
23	4004697B03M	3535--M11	16.29	16.41	16.66	100	4 in.

Installation Instructions

The fuse assembly is mounted through the transformer tank wall for sidewall mount. A 4-5/8″ hole with keyed slot for use in sidewall underoil application is gasketed on the inside of the tank with an external locking nut. All inner gasket surfaces of the tank must be free of burrs. The fuse assembly is designed for use in maximum operating temperatures of (in oil) at 140 °C, and (air exposure) at 65 °C.

IMPORTANT

Accompanying decals should be prominently displayed at or near location of Bay-O-Net as a warning to service personnel. Failure to do so will constitute a waiver of all warranty and indemnity obligations which may be attributable to Eaton.

If the fuse is installed, the plastic follower assembly supplied with the housing should be installed on the lower end of the fuse. Otherwise, the follower assembly should be attached to the Bay-O-Net operating handle so the user can assemble it to the fuse.

Operation Inspection

Torque Requirements

To Seal — Sealing requirements are obtained by first handtightening the locknut, and then continuing an additional 1/4 to 1/3 revolution.

Clearances

Mechanical — External latch clear for shotgun stick operation.

Table 2. Dialectric Clearances

Dielectric (kV BIL)	Clearance to Ground or Between Phases (in oil)
96	1.1″
125	1.5″
150	2.5″

Mechanical Strength

Strip Point of Threads (housing) in excess of 400 in-lbs.

Lead Training — Connect voltage source through bottom leads of housing and transformer coil leads to upper contacts of housing. All leads should remain below the oil level. Use mounting studs fastened to housing tabs to make terminal connections.

This page is intentionally left blank.

Eaton
1000 Eaton Boulevard
Cleveland, OH 44122
United States
Eaton.com

Eaton's Power Systems Division
2300 Badger Drive
Waukesha, WI 53188
United States
Eaton.com/cooperpowerseries

Powering Business Worldwide

Printed in USA
Publication No. MN132023EN Rev. 0
November 2016

For Eaton's Cooper Power series product information
call 1-877-277-4636 or visit:
www.eaton.com/cooperpowerseries.