Installation Instructions for Eaton Surge Protective Device XXCF12060-RJ

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1.0 Setup

Verify that system voltages do not exceed those listed in Section 1.5, Specifications.

- • All voltage and current measurements should be completed with an RMS meter.
- • DO NOT INSTALL FILTER IF MEASURED VOLTAGE EXCEEDS MAXIMUM OPERATION LIMITS.

Choose filter installation location so that maximum separation can be maintained between input leads, output leads and ground leads.

1.1 Before Installation

REMOVE POWER FROM ELECTRICAL SYSTEM BEFORE MOUNTING FILTER.

- • Filter MUST be mounted within enclosure to assure personnel safety from exposed terminals.

IMPORTANT:

- • Filter should be located so that the shortest possible conductor length may be used.
- • Filter should be mounted to allow maximum separation between input and output wiring.
- • Filter contains no position-oriented components and can be mounted upside down or sideways.
- • Filter should be placed in electrical circuit so that it is the last device in the circuit before equipment to be protected.

1.2 Installation

FILTER MUST BE CONNECTED TO ELECTRICAL SYSTEM WITH A CIRCUIT BREAKER:

For AC Applications:


Note: Pre-existing breaker(s) of the rated load size may be utilized if provision for multi-conductor connections are made according to N.E.C. 110-14A.

For DC Applications:

- • DC units to be installed after an overcurrent protective device that is rated not to exceed 100% of the current rating of the unit.
- • XXCF12060-RJ Models – The device is equipped with Form C contacts. One labeled N/O is normally open and the other labeled N/C is normally closed without power applied. The contacts are rated at 5 Amps at 250 VAC or 5 Amps at 30 VDC. These connections are to be used for alarm hook up.

Table 1. Relay State When Energized

<table>
<thead>
<tr>
<th>Catalog Part Number</th>
<th>Normally Closed</th>
<th>Normally Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>XXCF12060-RJ</td>
<td>Open</td>
<td>Closed</td>
</tr>
</tbody>
</table>

REPLACE POWER FROM ELECTRICAL SYSTEM BEFORE INSTALLING FILTER.

Mechanically mount filter.

- • Mount filter using mounting flange holes or optional DIN bracket listed below.
- • Filter should be mounted to allow maximum separation between input and output wiring.
- • Filter contains no position oriented components and can be mounted upside down or sideways.
- • Filter should be placed in electrical circuit so that it is the last device in circuit before equipment to be protected.

1.2.1 DIN Rail Kits

Mounting bracket and foot adaptable to DIN Rail systems DIN EN 50022, DIN EN 50035 and DIN EN 50045 are available through Eaton Order Center and can be ordered separately.

- • Eaton Cat# DINRAILKIT-60ACF
- • Eaton Innovative Technology Cat# DINRAILKIT-60ITCF

1.3 Wiring

NOTICE

AN INSULATED GROUNDING CONDUCTOR THAT IS IDENTICAL IN SIZE AND INSULATION MATERIAL AND THICKNESS TO THE GROUNDED AND UNGROUNDED CIRCUIT SUPPLY CONDUCTORS, EXCEPT THAT IT IS GREEN WITH OR WITHOUT ONE OR MORE YELLOW STRIPES, IS TO BE INSTALLED AS PART OF THE CIRCUIT THAT SUPPLIES THE FILTER. SEE TABLE 250-122 OF THE NATIONAL ELECTRIC CODE (NEC) REGARDING THE APPROPRIATE SIZE OF THE GROUNDING CONDUCTOR.

THE GROUNDING CONDUCTOR IS TO BE GROUNDED TO EARTH AT THE SERVICE EQUIPMENT OR OTHER ACCEPTABLE BUILDING EARTH GROUND SUCH AS THE BUILDING FRAME IN THE CASE OF HIGH-RISE STEEL FRAME STRUCTURE.

ANY ATTACHMENT-PLUG RECEPTACLES IN THE VICINITY OF THE FILTER ARE TO BE GROUNDING TYPE, AND THE GROUNDING CONDUCTOR IS TO BE INSTALLED WITH OR WITHOUT ONE OR MORE YELLOW STRIPES, IS TO BE INSTALLED AS PART OF THE CIRCUIT THAT SUPPLIES THE FILTER. SEE TABLE 250-122 OF THE NATIONAL ELECTRIC CODE (NEC) REGARDING THE APPROPRIATE SIZE OF THE GROUNDING CONDUCTOR.

THE GROUNDING CONDUCTOR IS TO BE GROUNDED TO EARTH AT THE SERVICE EQUIPMENT OR OTHER ACCEPTABLE BUILDING EARTH GROUND SUCH AS THE BUILDING FRAME IN THE CASE OF HIGH-RISE STEEL FRAME STRUCTURE.

PRESSURE TERMINAL OR PRESSURE SPLICING CONNECTORS AND SOLAR DERING LUGS USED IN THE INSTALLATION OF THE FILTER SHALL BE IDENTIFIED AS BEING SUITABLE FOR THE MATERIAL OF THE CONDUCTORS. CONDUCTORS OF DISSIMILAR METALS SHALL NOT BE INTERMIXED IN A TERMINAL OR SPLICING CONNECTOR WHERE PHYSICAL CONTACT OCCURS BETWEEN DISSIMILAR CONNECTORS UNLESS THE DEVICE IS IDENTIFIED FOR THE PURPOSE AND CONDITIONS OF USE.

CONDUCTORS SHOULD BE TWISTED TOGETHER TO REDUCE IMPEDANCE FACTOR. EXCESSIVE WIRE LENGTH AND SHARP BENDS DEGRADE FILTER PERFORMANCE, THEREFORE, AVOID EXCESSIVE WIRE LENGTH AND SHARP BENDS.
1.3.1 Series Wiring Applications

Connect incoming system GROUND wire to terminal labeled GND on unprotected end (labeled as LINE).

Connect load side GROUND wire to terminal labeled GND on protected end (labeled as EQUIP).

For AC Applications

Connect incoming system NEUTRAL wire to terminal labeled L2/NEU on unprotected end (labeled as LINE).

Connect load side NEUTRAL wire to terminal labeled L2/NEU on protected end (labeled as EQUIP).

Connect incoming system HOT wire to terminal labeled L1 on unprotected end (labeled as LINE).

Connect load side HOT wire to terminal labeled as L1 on protected end (labeled as EQUIP).

1.3.2 Parallel Wiring Applications

FILTER SHOULD BE LOCATED SO THAT THE SHORTEST POSSIBLE CONDUCTOR LENGTH MAY BE USED. CONDUCTORS SHOULD BE TWISTED TOGETHER TO REDUCE IMPEDANCE FACTOR. EXCESSIVE WIRE LENGTH AND SHARP BENDS DEGRADE FILTER PERFORMANCE; THEREFORE, AVOID EXCESSIVE WIRE LENGTH AND SHARP BENDS.

Connect incoming system GROUND wire to terminal labeled GND on unprotected end (labeled as LINE).

For AC Applications

Connect incoming system NEUTRAL wire to terminal labeled L2/NEU on unprotected end (labeled as LINE).

Connect incoming system HOT wire to terminal labeled L1 on unprotected end (labeled as LINE).

For DC Applications

Connect incoming system NEGATIVE wire to terminal labeled L2/NEU on unprotected end (labeled as LINE).

Connect incoming system POSITIVE wire to terminal labeled L1 on unprotected end (labeled as LINE).

Note: For grounded or isolated control transformer secondary, DO NOT CONNECT Ground terminal on either LINE or EQUIP side.

1.3.3 Dry Contact Wiring

Connect ALARM leads to Normally Open (N/O) or Normally Closed (N/C) terminals as required.

1.3.4 Telephone Line Protection

Connecting telephone line to protection.

Assemble RJ-14 modular plugs to LINE and EQUIP telephone cables.

Connect circuit as follows: Circuit 1 = Pins 2 and 3; Circuit 2 = Pins 1 and 4.

Insert modular plugs into LINE and EQUIP modular jacks.

Assure that telephone circuits are operational.

Note: For ungrounded or isolated control transformer secondary, DO NOT CONNECT Ground terminal on either LINE or EQUIP side.

1.4 Apply Power

Apply power to system. Indicator light(s) should glow and alarm contacts should move to normal state. If the light(s) does not glow, remove power and contact supplier.
1.5 Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agency Approvals</td>
<td>UL1449 4th Edition, UL1283 7th Edition Type 2 SPD</td>
</tr>
<tr>
<td>Terminal Connection</td>
<td>Stud lug terminals. Torque 60 lb-in</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40F (-40C) to +140F (+60C)</td>
</tr>
<tr>
<td>System voltages</td>
<td></td>
</tr>
<tr>
<td>DC</td>
<td>48 - 149 Vdc</td>
</tr>
<tr>
<td>AC</td>
<td>100 - 127 Vac</td>
</tr>
<tr>
<td>Amps*</td>
<td>60A</td>
</tr>
<tr>
<td>Circuit Breaker</td>
<td>100A, 480V, 10kA Min. AIC Rating (Eaton P/N:EGC3100FFG)</td>
</tr>
<tr>
<td>Input Power Frequency</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>Warranty</td>
<td>5 Years, 10 Years if registered on <a href="http://www.eaton.com/spd">www.eaton.com/spd</a></td>
</tr>
<tr>
<td>RoHS Compliant</td>
<td>Yes</td>
</tr>
</tbody>
</table>

* Amp rating only applies to series connections.

1.6 Warranty

Eaton warrants these products for a period of 5 years from the date of delivery to the purchaser, 10 years if registered on www.eaton.com/spd, to be free from defects in both workmanship and materials. Eaton assumes no risk or liability for results of the use of the products purchased from it, including but without limiting the generality of the foregoing; (1) The use in combination with any electrical or electronic components, circuits, systems, assemblies, or any other materials or substances; (2) Unsuitability of any product for use in any circuit or assembly.

Purchaser’s right under the warranty shall consist solely of requiring Eaton to repair, or at Eaton’s sole discretion, replace, free of charge, F.O.B. factory, and defective items received at said factory or failure to give any advice or recommendations by Eaton shall not constitute any warranty by or impose any liability upon Eaton. The foregoing constitutes the sole and exclusive liability of Eaton AND IS IN LIEU OF ANY AND ALL OTHER WARRANTIES EXPRESSED, IMPLIED OR STATUTORY AS TO THE MERCHANTABILITY, FITNESS FOR PURPOSE SOLD, DESCRIPTION, QUALITY, PRODUCTIVENESS OR ANY OTHER MATTER.

In no event shall Eaton be liable for special or consequential damages or for delay in performance of the warranty.

This warranty does not apply if the product has been misused, abused, altered, tampered with, or used in applications other than specified on the nameplate. At the end of the warranty period, Eaton shall be under no further warranty obligation expressed or implied.

The product covered by this warranty certificate can only be repaired or replaced by the factory. For help on troubleshooting the Critical Protection Product, or for warranty information, call 1-800-809-2772, Option 4, sub-option 2. Repair or replacement units will be returned collect. If Eaton finds the return to be a manufacturer’s defect, the product will be returned prepaid.