Arcflash Reduction Maintenance System available on MDL-Frame 310+ electronic trip unit

Benefits of the MDL-Frame 310+ breaker

• No rating plugs needed. The 310+ has adjustable trip settings integral to the electronic trip unit.

• Arcflash Reduction Maintenance System, also known as Maintenance Mode, is an available feature that increases worker safety by providing an accelerated instantaneous trip to reduce arc flash potential.

• Ground fault alarm, no trip, is an option. In addition to offering ground fault protection and high load alarms, the 310+ allows for ground fault alarm, no trip. This is essential for critical applications that must stay online when a ground fault is present.

• Zone selective interlocking (ZSI) is available. This feature enables the breaker to communicate with the immediate upstream and downstream ZSI-enabled breakers to clear faults in the shortest amount of time using the breaker closest to the fault.

• Available for aftermarket replacement of MDL-Frame 310 trip units when zone selective interlocking, cause of trip, ground fault alarm only or Arcflash Reduction Maintenance System is needed.

• Available fully configured from the factory or as separate frames and trip units for inventory flexibility.

A full range of world-class accessories

• No changes from current offering.

• Internal and external accessories

• The MES 310+ built-in test port allows compatibility with Eaton’s ammeter/cause of trip display, panelmount ammeter/cause of trip display, and cause of trip LED module.

Zone selective interlocking

Zone selective interlocking uses a basic communication scheme to connect line and load breaker trip units together. When a fault occurs, the trip units communicate to determine which load-side breaker is closest to the fault. The trip unit in the breaker closest to the fault overrides any customer-defined delay and opens instantaneously, clearing the fault and allowing line-side breakers to remain closed. ZSI is available on LSI and LSIG trip units, and is active for phase and ground faults.

Arcflash Reduction Maintenance System

This system, also known as Maintenance Mode, uses a separate analog trip circuit that provides faster interruption times than the standard digital instantaneous protection. Work locations downstream of a circuit breaker with an Arcflash Reduction Maintenance System unit will have a significantly lower incident energy level. In MDL breakers, the feature is enabled remotely via a switch and 24 Vdc power, and it is fixed at 2.5 times the frame rating.

Introducing the 800 A Series C® MDL-Frame equipped with the MES 310+ electronic trip unit, featuring Arcflash Reduction Maintenance System™, zone selective interlocking and ground fault alarm (no trip). The MDL breaker meets NEMA®, UL®, CSA®, and IEC standards.
Breaker optional features

- Electrical motor operators
- Shunt trip
- Auxiliary switch
- Undervoltage release
- Handle mechanism
- Plug-in adapters
- Handle blocks and key interlocks

Trip unit features

- No external rating plug required
- Available with LS, LSI, LSG, LSIG and Arcflash Reduction Maintenance System via ALSI, ALSIG
- Zone selective interlocking
- Time current curves referenced in document TD012036EN
- Adjustable long-time delay
- Adjustable short-time delay (flat response for LSI and LSIG; \(I^2t\) for LS and LSG)
- Status indicator and no trip test indicator LEDs
- Push-to-trip button
- Functional test kit available
- Wire seal available to protect settings from tampering

Technical specifications

**Additional Accessories for 310+ Trip Units**

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digiview ammeter with cause of trip indication</td>
<td>DIGIVIEW</td>
</tr>
<tr>
<td>Panelmount Digiview with 6-foot wire harness</td>
<td>DIGIVIEWR06</td>
</tr>
<tr>
<td>LED cause of trip indication</td>
<td>TRIP-LED</td>
</tr>
<tr>
<td>Wire seal for 310+ trip unit</td>
<td>5108A03H01</td>
</tr>
<tr>
<td>Functional test kit</td>
<td>MTST230V</td>
</tr>
</tbody>
</table>

**MDL and HMDL with 310+ Rating and Ampere Range**

<table>
<thead>
<tr>
<th>Specification</th>
<th>MDL/CMDDL</th>
<th>HMDL/CHMDL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-circuit current ratings (kA rms) 50–60 Hz</td>
<td>50</td>
<td>65</td>
</tr>
<tr>
<td>NEMA UL 489</td>
<td>480 Vac</td>
<td>480 Vac</td>
</tr>
<tr>
<td>Number of poles</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>I = continuous current or long delay pickup</td>
<td>A = 320, B = 400, C = 450, D = 500</td>
<td>E = 600, F = 630, G = 700, H = 800</td>
</tr>
<tr>
<td>Electronic rms</td>
<td>LS, LSI, LSG, LSIG, ALSI, ALSIG</td>
<td></td>
</tr>
<tr>
<td>Dimensions in inches (mm)</td>
<td>8.25 x 16.00 x 4.06 (209.6 x 406.4 x 103.1)</td>
<td></td>
</tr>
<tr>
<td>Approximate weight in lbs (kg)</td>
<td>30.0 (13.6)</td>
<td>30.0 (13.6)</td>
</tr>
</tbody>
</table>

For more information, please call 877-ETN-CARE (877-386-2273) or visit Eaton.com/310plus

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