2.75kV E-Rated medium voltage fuses for feeder circuit, switchgear and transformer protection

Description:
• E-Rated, current-limiting, medium voltage fuses for feeder circuit, switchgear and transformer protection.

Features and benefits
• Current-limiting E-Rated medium voltage fuses are defined by their melting time-current characteristic that permit their electrical interchangeability with other fuses of the same E Rating.
• E-Rated fuses must have a defined current response time specified by ANSI C37.46. E-Rated fuse of 100 amps and below must melt in 300 seconds at an RMS current within the range of 200% to 240% of the fuse’s nameplate current rating. E-Rated fuses greater than 100 amps must melt in 600 seconds at an RMS current within the range of 220% to 264% of the fuse’s nameplate current rating.
• E-Rated fuses are physically dimensioned for easy installation in existing hardware.
• Current-limiting fuses provide positive interruption even on low fault currents. The fuse limits the magnitude of electromechanical stresses in the protected apparatus.
• Open fuse indicator speeds troubleshooting by providing a positive visual indication of fuse operation.
• 50/60Hz operating frequency for worldwide application.
• Mountings are available in disconnect and non-disconnect versions with porcelain or glass polyester insulators.
• Live parts and end fittings available.

Typical applications:
• Medium voltage transformer primary protection
• Medium voltage feeder circuit protection
• Medium voltage switches
• Medium voltage metal-enclosed switchgear
2.75kV E-Rated medium voltage ferrule fuses

Catalog symbols:
- 2CLE_: E
- JCX_: E

Ratings:
- Volts — 2.75kV
- Amps — 10 to 450A
- Interrupting ratings
  - 50kA RMS Sym (2CLE_: E)
  - 40kA RMS Sym (JCX_: E)

Agency information:
- E-Rated fuses meet the performance characteristics of ANSI C37.46

Recommended fuse holders:

CLE

<table>
<thead>
<tr>
<th>Amp rating</th>
<th>Fuse mounting type*</th>
<th>Voltage BIL (kV)</th>
<th>Diameter</th>
<th>Clip center</th>
<th>Length</th>
<th>Porcelain insulator</th>
<th>Glass-polyester insulator</th>
<th>Mounting (including live parts, end fittings)**</th>
<th>Live parts (including end fittings)</th>
<th>End fittings (disconnect only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15E–25E Single barrel</td>
<td>Non-disconnect</td>
<td>60</td>
<td>2 (51)</td>
<td>8.1 (206)</td>
<td>9.5 (241)</td>
<td>2CLE-PNM-C</td>
<td>2CLE-GNM-C</td>
<td>CLE-NL-C</td>
<td>—</td>
<td>CLE-DF-C</td>
</tr>
<tr>
<td></td>
<td>Disconnect†</td>
<td>60</td>
<td>3 (76)</td>
<td>7 (178)</td>
<td>10.9 (277)</td>
<td>2CLE-PDN-D</td>
<td>2CLE-GDN-D</td>
<td>CLE-NL-D</td>
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<td>CLE-DF-D</td>
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<td>10E–225E Single barrel</td>
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<td>60</td>
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<td>10.9 (277)</td>
<td>2CLE-PNM-D</td>
<td>2CLE-GNM-D</td>
<td>CLE-NL-D</td>
<td>—</td>
<td>CLE-DF-D</td>
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<tr>
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<td>Disconnect†</td>
<td>60</td>
<td>3 (76)</td>
<td>7 (178)</td>
<td>10.9 (277)</td>
<td>2CLE-PDN-D</td>
<td>2CLE-GDN-D</td>
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<td>CLE-DF-D</td>
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<tr>
<td>250E–300E Double barrel</td>
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<td>10.9 (277)</td>
<td>2CLE-PNM-D</td>
<td>2CLE-GNM-D</td>
<td>CLE-NL-D</td>
<td>—</td>
<td>CLE-DF-D</td>
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<tr>
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<td>Disconnect†</td>
<td>60</td>
<td>3 (76)</td>
<td>7 (178)</td>
<td>10.9 (277)</td>
<td>2CLE-PDN-D</td>
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<td>CLE-DF-D</td>
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<td>350X-450X Double barrel</td>
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<td>Disconnect†</td>
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<td>10.9 (277)</td>
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<td>CLE-DF-D</td>
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</table>

* See page 9 for illustrations and dimensions.
** End fittings supplied only when required.
† Disconnect mountings provide a means for fuse extraction only. Do not use a disconnect mounting for load switching or fuse removal while energized.

Recommended fuseclips:

<table>
<thead>
<tr>
<th>Description</th>
<th>Fuse diameter - in (mm)</th>
<th>Figure</th>
<th>Clip dimensions - in (mm)</th>
<th>Catalog number</th>
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<tr>
<td>Enclosed fuseclip</td>
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<td>Open fuseclip</td>
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<td>Spring loaded open fuseclip</td>
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*For single barrel applications only. Not sold in pairs.
2.75kV E-Rated medium voltage fuses for feeder circuit, switchgear and transformer protection

<table>
<thead>
<tr>
<th>Amp rating</th>
<th>Length A - (in mm)</th>
<th>Diameter B - (in mm)</th>
<th>Clip centers C - (in mm)</th>
<th>Interrupting rating kA (RMS Sym.)</th>
<th>Number of barrels</th>
<th>Installation location</th>
<th>Catalog number</th>
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<td>JCX-7E</td>
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<td>450**</td>
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<td>Indoor</td>
<td>2CLE-450X</td>
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</tbody>
</table>

* 250A and 300A ratings may also be applied at 280 and 325 amps respectively, but fuses will no longer be complaint with ANSI E Rating criteria.

** Does not comply with ANSI C37.46 for "E" rating.
2.75kV Time-current curves — minimum melt for JCX-_E
2.75kV E-Rated medium voltage fuses for feeder circuit, switchgear and transformer protection

2.75kV Time-current curves — total clear for JCX- E
2.75kV Time-current curves — minimum melt for 2CLE- E and 2CLE- X

Eaton.com/bussmannseries
2.75kV E-Rated medium voltage fuses for feeder circuit, switchgear and transformer protection

2.75kV Time-current curves — total clear for 2CLE- E and 2CLE- X

![Time-current curves graph]

- Curve 56353302 (July 2001, Reference # 563533)
- Curve 53686204 (July 2001, Reference # 536862)
- Curve 53690102 (July 2001, Reference # 536901)
# CLE Type mountings - in (mm)

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>Hole centers</th>
<th>Overall length</th>
<th>Hole Inset</th>
<th>Hole centers</th>
<th>Contact height</th>
<th>Overall height</th>
<th>BIL kV</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>G</td>
</tr>
<tr>
<td>Disconnect single barrel†</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2CLE-GDM-C</td>
<td>9.37 (238.0)</td>
<td>6 (152.4)</td>
<td>22.13 (562.1)</td>
<td>0.75 (19.0)</td>
<td>1.75 (44.4)</td>
<td>4.5 (114.3)</td>
<td>9.75 (247.6)</td>
</tr>
<tr>
<td>2CLE-GDM-D</td>
<td>8.24 (209.3)</td>
<td>6 (152.4)</td>
<td>18 (457.2)</td>
<td>0.62 (15.7)</td>
<td>1.75 (44.4)</td>
<td>4.5 (114.3)</td>
<td>11.72 (297.7)</td>
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<tr>
<td>2CLE-PDM-C</td>
<td>9.37 (238.0)</td>
<td>6 (152.4)</td>
<td>22.13 (562.1)</td>
<td>0.75 (19.0)</td>
<td>1.75 (44.4)</td>
<td>4.5 (114.3)</td>
<td>9.75 (247.6)</td>
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<td>2CLE-PDM-D</td>
<td>8.24 (209.3)</td>
<td>6 (152.4)</td>
<td>18 (457.2)</td>
<td>0.62 (15.7)</td>
<td>1.75 (44.4)</td>
<td>4.5 (114.3)</td>
<td>11.72 (297.7)</td>
</tr>
</tbody>
</table>

| Disconnect double barrel† |                   |                |            |              |                |                |        |        |
| 2CLE-GDM-E     | 8.24 (209.3) | 6 (152.4)      | 18 (457.2)  | 0.62 (15.7) | 1.75 (44.4)   | 4.5 (114.3)   | 15.28 (388.1) | 60     |
| 2CLE-PDM-E     | 8.24 (209.3) | 6 (152.4)      | 18 (457.2)  | 0.62 (15.7) | 1.75 (44.4)   | 4.5 (114.3)   | 15.28 (388.1) | 60     |

| Non-disconnect single barrel |                   |                |            |              |                |                |        |        |
| 2CLE-GNM-C     | 9.37 (238.0) | 6 (152.4)      | 18.65 (473.2) | 0.75 (19.0) | 1.75 (44.4)   | 4.5 (114.3)   | 7.25 (184.1)  | 60     |
| 2CLE-PNM-C     | 9.37 (238.0) | 6 (152.4)      | 18.65 (473.2) | 0.75 (19.0) | 1.75 (44.4)   | 4.5 (114.3)   | 7.25 (184.1)  | 60     |
| 2CLE-GNM-D     | 8.24 (209.3) | 6 (152.4)      | 18 (457.2)  | 0.62 (15.7) | 1.75 (44.4)   | 4.5 (114.3)   | 8.79 (223.3)  | 60     |
| 2CLE-PNM-D     | 8.24 (209.3) | 6 (152.4)      | 18 (457.2)  | 0.62 (15.7) | 1.75 (44.4)   | 4.5 (114.3)   | 8.79 (223.3)  | 60     |

| Non-disconnect double barrel |                   |                |            |              |                |                |        |        |
| 2CLE-GNM-E     | 8.24 (209.3) | 6 (152.4)      | 18 (457.2)  | 0.62 (15.7) | 1.75 (44.4)   | 4.5 (114.3)   | 12.48 (317.0) | 60     |
| 2CLE-PNM-E     | 8.24 (209.3) | 6 (152.4)      | 18 (457.2)  | 0.62 (15.7) | 1.75 (44.4)   | 4.5 (114.3)   | 12.48 (317.0) | 60     |

† Disconnect mountings provide a means for fuse extraction only. Do not use a disconnect mounting for load switching or fuse removal while energized.

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**CLE Type disconnect mounting**

**CLE Type non-disconnect mounting**
2.75kV E-Rated medium voltage fuses for feeder circuit, switchgear and transformer protection

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