Trident
Oil ring main unit
Lucy Electric has over 100 years of experience within the power distribution industry. Our Trident range of oil insulated ring main units (RMUs) has been developed over a number of years and is a leading performer in the global market. For use in both rural and industrial settings, it can be positioned in the most extreme conditions: ambient temperatures from -10°C to 55°C, humidity of up to 100%, corrosive regions, oil fields and other hostile environments.

Corrosion protection
The main body of the unit is fabricated from 4mm steel which is shot blasted, zinc sprayed and then coated with an epoxy powder paint finish for durable outdoor and indoor use.

Maintenance
The Trident range of ring main units requires very low levels of maintenance. Under normal conditions a routine inspection is required at an interval of once every seven years.

Operation
Mechanism
The operating mechanisms are of the independent manual spring type for both Main and Earth switches ensuring that speed of operation is independent of the operator.

Ring switches
Ring switches are fault make, load break three position type ‘ON’, ‘OFF’ and ‘EARTH ON’.

Fuse switch
The fused tee-off is of the fault make, fault break, three position type ‘ON’, ‘OFF’ and ‘TRANSFORMER EARTH ON’. The fuse switch has a double isolation feature for additional operational safety.

Characteristics:
- Ratings up to 15.5kV
- Long service life
- Low maintenance
- IP54 for installation outdoors
- Oil insulated
- Interlocked for safe operation
- Padlocking facilities
- Fully extensible
- Rugged design for hot and humid environments
Trident oil RMU range

FRMU
Non-extensible fused RMU

FRMUE
Extensible fused RMU

EFS
Extensible fuse switch

EOS
Extensible oil switch

DEOS
Extensible double oil switch

TMC metering unit
Transformer mounted

BMC metering unit
Freestanding
Safety
The unit has been designed to ensure maximum operator safety. Live parts are contained within an earth sheet steel enclosure. Cable termination boxes are located away from the operator – to the side and the rear, to ensure operator safety at all times. A single line diagram and mechanical indicators exist on the front of each unit to aid user safety and interlocks on all switch positions prevent incorrect operation. In addition padlocking facilities are provided for all positions and can be equipped with neon voltage indicators (live cable indication), interlocked cable test facility on tee-off and Castell interlocking.

Accessories
Lucy Electric has developed a number of accessories that can be added to a Trident RMU providing flexible solutions for our customers.

- Remote tripping
- Ring switch actuators
- RTU mounting bracket
- Earth fault indicators
- Test plug devices
- Busbar connection
- Cabling
- End cap kit

Automation
The Trident range of oil ring main units can be fully equipped with automation features to address customers' requirements for remote monitoring and control.

A variety of automation options are available:
- Retrofittable motorised actuator, available as a single left hand or right hand or double ring switch configuration. Status indicators for the ring switches are also available. The non-intrusive nature of the retrofit assembly negates the need to shut down the unit whilst the installation takes place.
- The tee-off fuse switch can be fitted with a shunt trip for remote tripping and auxiliary contacts for remote indication.
- A purposely designed Remote Terminal Unit (RTU) mounting bracket can accommodate our Gemini-RTU on either the right or the left hand side of the Trident RMU.
- Earth fault passage indicators complete the picture by providing crucial information on the location of earth faults in a MV network split ring. Our Gemini range of automation products and systems ensure an integrated solution, so that the Trident RMU can be monitored and controlled by most utility NMS/SCADA systems.

In essence, our automation solution is a factory built automation package that can be ready for immediate installation with minimal on-site works.
Trident oil RMU range

Electrical performance

<table>
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<tr>
<th>Product</th>
<th>RMU</th>
<th>Fuse Switch</th>
<th>Oil Switch</th>
<th>Double Oil Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated voltage</td>
<td>kV</td>
<td>15.5</td>
<td>15.5</td>
<td>15.5</td>
</tr>
</tbody>
</table>

Ring switch

| Rated current | A | 630 | 630 | 630 |
| Making capacity (Main/Earth) | kA Pk | 50 | 50 | 50 |
| Breaking capacity (Main) | A | 630 | 630 | 630 |
| Short time withstand (Main/Earth) | kA 3 sec | 20 | 20 | 20 |
| Basic impulse level | kV | 95/110 | 95/110 | 95/110 |

Fuse switch

| Rated current | A | 200 | 200 |
| Making capacity (Main/Earth) | kA Pk | 50kA/7.8kA Pk | 50kA/7.8kA Pk |
| Breaking capacity (Main/Earth) 95/110kV/ | kA | 20 | 20 |
| Short time withstand current (Earth) | kA 3 sec | 3.15 | 3.15 |
| Basic impulse level | kV | 95/110 | 95/110 |

General

| Rated frequency | Hz | 50/60 | 50/60 | 50/60 | 50/60 |
| Minimum operating temperature | °C | -10 to +55 | -10 to +55 | -10 to +55 | -10 to +55 |
| IP rating | IP | IP54 | IP54 | IP54 | IP54 |
| Weight (without oil) | kg | 320 | 217 | 140 | 320 |
| Standards | IEC 60420, 60265-1, 60694, 60294 |
| Dimensions | |
| Height (min) | mm | 1262 | 1116 | 1400 | 1185 |
| Width | mm | 908 | 865 | 642 | 920 |
| Depth | mm | 757 | 1050 | 600 | 750 |
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