Medium Voltage Products

eVM1
Medium voltage magnetic actuator circuit-breaker with integrated on-board sensors, protection and control

- Vacuum interruption technique
- Vacuum interrupters embedded in epoxy resin and sealed for life
- Perfectly compatible with the VD4 and VM1 series of circuit-breakers
- Withdrawable version
- Circuit-breaker racking-out and racking-in with the door closed
- Possibility of use in all types of installation
- Simplification in preparing specifications and ordering procedures
- Circuit-breaker and panel components fully factory tested and commissioned
- Drastic reduction in cabling and the risk of errors
- Improvement of safety and service reliability
- Inductive sensors for open-closed indication
- Control of the circuit-breaker state and continuity of the opening-closing coils
- Watchdog function
- Maintenance-free
- High level of environmental and electromagnetic compatibility

Protections according to IEC 60255-3 and IEC 60255-8 Standards

The basic series includes:
- 51 Overcurrent IDMT (NI, VI, EI, LI)
- 50 Overcurrent DT1
- 50 Overcurrent DT2
- 51N Earth fault IDMT
- 50N Earth fault DT1
- 50N Earth fault DT2.

The complete series includes:
- 51MS Motor starting protection
- 66 Number of start-ups
- 51LR Locked rotor
- 49 Thermal overload
- 46 Unbalanced load.
## Technical characteristics

<table>
<thead>
<tr>
<th>Circuit-breaker</th>
<th>eVM1 12</th>
<th>eVM1 17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standards</td>
<td>IEC 62271-100</td>
<td>•</td>
</tr>
<tr>
<td>Rated insulation voltage [kV]</td>
<td>12</td>
<td>17,5</td>
</tr>
<tr>
<td>Withstand voltage at 50 Hz (1 min) [kV]</td>
<td>28</td>
<td>38</td>
</tr>
<tr>
<td>Impulse withstand voltage [kV]</td>
<td>75</td>
<td>95</td>
</tr>
<tr>
<td>Rated frequency [Hz]</td>
<td>50-60</td>
<td>50-60</td>
</tr>
<tr>
<td>Rated normal current (40 °C) [A]</td>
<td>630-1250</td>
<td>630-1250</td>
</tr>
<tr>
<td>Making capacity [kA]</td>
<td>40-50-63-80</td>
<td>40-50-63-80</td>
</tr>
<tr>
<td>Sequence of operations</td>
<td>O-0,3s-CO-3min-CO</td>
<td>O-0,3s-CO-3min-CO</td>
</tr>
<tr>
<td>Duration of: Opening / Closing [ms]</td>
<td>33 / 50</td>
<td>33 / 50</td>
</tr>
<tr>
<td>Mechanical operation cycles: Drive [Nr.]</td>
<td>100.000</td>
<td>100.000</td>
</tr>
<tr>
<td>Mechanical signalling device for circuit-breaker open/closed [kA]</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Operation cycles at rated current [Nr.]</td>
<td>30.000</td>
<td>30.000</td>
</tr>
<tr>
<td>Consumption: On stand-by / After a reclosing cycle [w]</td>
<td>≤ 15 / ≤ 110</td>
<td>≤ 15 / ≤ 110</td>
</tr>
<tr>
<td>Overall dimensions (withdrawable version) [mm]</td>
<td>624,5</td>
<td>624,5</td>
</tr>
<tr>
<td>W [mm]</td>
<td>531</td>
<td>531</td>
</tr>
<tr>
<td>D [mm]</td>
<td>662</td>
<td>662</td>
</tr>
<tr>
<td>I [mm]</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>Operating temperature [°C]</td>
<td>– 5 ... + 40</td>
<td>– 5 ... + 40</td>
</tr>
<tr>
<td>Technical catalogue Nr.</td>
<td>1VCP000168</td>
<td>1VCP000168</td>
</tr>
</tbody>
</table>

### Main components

- **A** Pole
- **B** Capacitor
- **C** Current sensor (Rogowski coil)
- **D** Truck of withdrawable circuit-breaker
- **E** Mechanical operation counter
- **F** Mechanical signalling device for circuit-breaker open/closed
- **G** Control panel
- **H** Magnetic drive
- **I** Lever coupling for manual emergency operation
- **L** Protection and control unit
- **M** Traditional I/O signals
- **N** Communication
- **O** Socket for auxiliary circuits

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