OJON  Indoor type Disconnectors

Catalogue
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General

Compact dimensions, direct current paths, double-knife construction and cast resin insulators are common to all OJON-type disconnectors. The high short circuit strength of these disconnectors is a result of these features. Contact pressure is achieved by spiral springs which compress the knives.

Silver-plating prevents the contact area of the contact and knives from ageing, and keeps the temperature rise within the limits set by the standards. Owing to the double-knife construction, forces needed to operate the disconnectors remain moderate even at high rated currents.

The operating levers of the disconnectors can be mounted on a flat base. Busbar joints OJON–ZWJ 5 and 6 may be used for disconnectors rated 2500 A and 4000 A. The frames and levers of the disconnectors are painted green, and the shaft terminals are treated with anti-rust varnish. The knives are painted red, which makes their position clearly visible and gives a pleasant look to the whole disconnecter.

The contacts of the disconnectors are made of copper bar for 630 A and of cast copper for 1000...4000 A. Aluminium busbars can be connected, using jointing grease, to 630...1600 A, disconnectors, OJON–ZWJ 5 and 6 terminals and earthing switches.

Special features of OJON disconnectors
- high short-circuit strength
- versatile control devices
- suitable for aluminium busbars
- compact dimensions
- silver-plated contacts
- cast resin insulators
- direct current paths
- double-knife construction
- red knives – position clearly indicated
Indoor type Disconnectors

Technical data and ordering information

Standards and operating conditions

The disconnectors meet the requirements of IEC Publ. 129 (1984) and the Safety Regulations of the Finnish Electrical Inspectorate (Sähköturvallisuusmääräykset). In accordance with the standards, the ambient site temperature for indoor disconnectors, must be $-25 \degree C \ldots +35 \degree C$, and the access of unusually high quantities of dust, smoke, caustic gasses and humidity to the site must be prevented.

Disconnectors OJON 3–1 A 1000, OJON 3–1/1600, OJON 3–1 A 2500 and OJON 3–1 A 4000 have been approved by the Register of Shipping of the U.S.S.R.

Mounting

Normally the disconnectors are mounted in the upright position with the hinges at the bottom. Other positions are also possible provided that the operating or locking device ensure that the knives stay in the open or closed position. Wall mounting with the knives in a horizontal position must, however, be avoided, as the knives may bend down sideways from the bearings.

Ordering information

1. Type and quantity.
2. Rated voltage $U_r$.
   See tables 1 and 2, pages 4 and 5.
3. Rated current $I_r$.
4. Rated peak withstand current $I_p$.
   $I_p$ of the disconnector $\geq$ network impulse short-circuit current $I_s$.
   The distance of the nearest post insulator is shown in table 2.
5. Rated short-time withstand current $I_k$.
   $I_k$ of the disconnector $\geq$ network $I_{1s}$. $I_k$ is given in table 2 as 1 s value. Any other length of continuous short-circuit current $I_{k2}$ of the network is reduced to 1 s value with the formula below.
   The formula is valid when the duration of $t_{k2} > 1$ s.
   $I_k = I_{k2} \sqrt{t_{k2}/s}$. $t_k$ is the duration of $I_{k2}$.

Operating voltage and voltage withstand levels

In accordance with IEC 694 (1980)

Table 1

<table>
<thead>
<tr>
<th>Withstand voltages</th>
<th>1 kV</th>
<th>3.6 kV</th>
<th>12 kV</th>
<th>24 kV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest permissible</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>operating voltage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lighting impulse voltage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2/50 $\mu$s</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Across the isolating distance</td>
<td>23</td>
<td>46</td>
<td>85</td>
<td>145</td>
</tr>
<tr>
<td>Between phases and to earth</td>
<td>20</td>
<td>40</td>
<td>75</td>
<td>125</td>
</tr>
<tr>
<td>Power-frequency voltage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 min</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Across the isolating distance</td>
<td>12</td>
<td>12</td>
<td>32</td>
<td>60</td>
</tr>
<tr>
<td>Between phases and to earth</td>
<td>10</td>
<td>10</td>
<td>28</td>
<td>50</td>
</tr>
</tbody>
</table>
## Technical data

### Table 2

<table>
<thead>
<tr>
<th>Type</th>
<th>Rated voltage</th>
<th>Rated normal current</th>
<th>Rated short-time current r.m.s. kA</th>
<th>Rated peak withstand current kA</th>
<th>Distance of nearest post insulator from disconnector post insulator Nm</th>
<th>Control torque mm</th>
<th>Isolating distance mm</th>
<th>Weight kg</th>
<th>Commercial code</th>
</tr>
</thead>
<tbody>
<tr>
<td>OJON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3–1A1000</td>
<td>1</td>
<td>1000/1250</td>
<td>2) 50</td>
<td>100</td>
<td>360 mm</td>
<td>40 ± 20</td>
<td>60</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>3–1/1600</td>
<td>1</td>
<td>1600/2000</td>
<td>2) 80</td>
<td>120</td>
<td>400 mm</td>
<td>50 ± 20</td>
<td>70</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>3–1A2500</td>
<td>1 (1)</td>
<td>2500/2900</td>
<td>2) 90</td>
<td>150</td>
<td>350 mm</td>
<td>70 ± 30</td>
<td>70</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>3–1A4000</td>
<td>1 (1)</td>
<td>4000/4600</td>
<td>2) 90</td>
<td>150</td>
<td>350 mm</td>
<td>130 ± 40</td>
<td>65</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>3–10/630</td>
<td>12</td>
<td>630</td>
<td>31.5</td>
<td>80</td>
<td>3 x a</td>
<td>40 ± 10</td>
<td>145</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>3–10/1000</td>
<td>12</td>
<td>1000</td>
<td>40</td>
<td>100</td>
<td>3 x a</td>
<td>45 ± 15</td>
<td>165</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>3–10/1600</td>
<td>12</td>
<td>1600</td>
<td>50</td>
<td>100</td>
<td>3 x a</td>
<td>60 ± 20</td>
<td>160</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>3–12A2500</td>
<td>12</td>
<td>2500</td>
<td>60</td>
<td>150</td>
<td>3 x a</td>
<td>150 ± 30</td>
<td>140</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td>3–12A4000</td>
<td>12</td>
<td>4000</td>
<td>60</td>
<td>150</td>
<td>3 x a</td>
<td>160 ± 30</td>
<td>155</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>3–24A630</td>
<td>24</td>
<td>630</td>
<td>20</td>
<td>50</td>
<td>3 x a</td>
<td>45 ± 15</td>
<td>265</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>3–20/1000</td>
<td>24</td>
<td>1000</td>
<td>30</td>
<td>75</td>
<td>3 x a</td>
<td>60 ± 20</td>
<td>270</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>3–20/1600</td>
<td>24</td>
<td>1600</td>
<td>40</td>
<td>100</td>
<td>3 x a</td>
<td>100 ± 20</td>
<td>265</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>3–24A2500</td>
<td>24</td>
<td>2500</td>
<td>60</td>
<td>150</td>
<td>3 x a</td>
<td>180 ± 30</td>
<td>240</td>
<td>87</td>
<td></td>
</tr>
<tr>
<td>3–24A4000</td>
<td>24</td>
<td>4000</td>
<td>60</td>
<td>150</td>
<td>3 x a</td>
<td>200 ± 40</td>
<td>260</td>
<td>109</td>
<td></td>
</tr>
</tbody>
</table>

a = phase distance

(1) Highest permissible operating voltage 3.6 kV, see table 1 page 4.
(2) Higher value in acc. with IEC Publ. 408 (1972) when Un ≤ 660 V.

Note: We can also deliver disconnectors with larger phase distances than detailed in the dimension drawings.

Single pole disconnector current values are the same as the corresponding three phase unit detailed in the table.
## Table 3

<table>
<thead>
<tr>
<th>Description</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Terminals</strong></td>
<td></td>
</tr>
<tr>
<td>OJON–ZWJ 5 1)</td>
<td>0</td>
</tr>
<tr>
<td>OJON–ZWJ 6 1)</td>
<td>0</td>
</tr>
<tr>
<td>Earthing switches</td>
<td></td>
</tr>
<tr>
<td>OJO–ZMA 10</td>
<td>0</td>
</tr>
<tr>
<td>OJO–ZMA 38</td>
<td>0</td>
</tr>
<tr>
<td>Operating arm</td>
<td></td>
</tr>
<tr>
<td>YASKA 25</td>
<td>0</td>
</tr>
<tr>
<td>Insulated operating rod</td>
<td></td>
</tr>
<tr>
<td>NWA–ZS 5</td>
<td>0</td>
</tr>
<tr>
<td>NWA–ZS 6</td>
<td>0</td>
</tr>
<tr>
<td>Operating hook</td>
<td></td>
</tr>
<tr>
<td>NWA–ZH 6</td>
<td>0</td>
</tr>
<tr>
<td>Manual operating mechanism</td>
<td></td>
</tr>
<tr>
<td>OJO–ZA 1 2)</td>
<td>0</td>
</tr>
<tr>
<td>UEKO 2C3</td>
<td>0</td>
</tr>
<tr>
<td>Auxiliary switch</td>
<td></td>
</tr>
<tr>
<td>OLAN_AL 1</td>
<td>0</td>
</tr>
<tr>
<td>OLAN + OLAN-ZT4</td>
<td>0</td>
</tr>
<tr>
<td>Connecting levers + frame</td>
<td></td>
</tr>
<tr>
<td>OJO–ZAY 11 4)</td>
<td>0</td>
</tr>
<tr>
<td>Locking device</td>
<td></td>
</tr>
<tr>
<td>OJO–ZE 1 3)</td>
<td>0</td>
</tr>
<tr>
<td>OJO–ZE 2 5)</td>
<td>0</td>
</tr>
<tr>
<td>Locking coil</td>
<td></td>
</tr>
<tr>
<td>OJO–ZLA 3 4)</td>
<td>0</td>
</tr>
<tr>
<td>OJO–ZLA 6 5)</td>
<td>0</td>
</tr>
<tr>
<td>UEKO–ZL 1 6)</td>
<td>0</td>
</tr>
<tr>
<td>Extension shaft</td>
<td></td>
</tr>
<tr>
<td>BDAM 25 x L</td>
<td>0</td>
</tr>
<tr>
<td>Joint sleeve for extension shaft</td>
<td>0</td>
</tr>
<tr>
<td>Support bearing</td>
<td></td>
</tr>
<tr>
<td>OJO–ZU 3</td>
<td>0</td>
</tr>
</tbody>
</table>

1) Also applicable for aluminium busbars.
2) Depending on the mounting of the operating mechanism, the operating lever may turn below the mounting level.
3) Prevents the horizontally mounted disconnector from closing under its own weight.
4) For manual operating mechanism OJO-ZA 1.
5) Mounted on the side plate of the disconnector.
6) For use with manual operating mechanism UEKO 2C3.
Earthing Knives

As shown in table 3 (page 6) the 630 A OJON disconnectors can be supplied with either an upper or lower earthing knives. Earthing knives have the same short-circuit strength as the corresponding disconnectors.

The main switch and earthing knives are interlocked with a locking device so that they cannot be closed simultaneously. The locking device is normally on the left side of the disconnectors. A locking device prevents the earthing knife from opening and closing under its own weight.

Disconnecter control

The following can be used as an operating mechanism for the disconnectors:
- operating rod NWA–ZS 5 (>1 kV) or NWA–ZS 6 (<1 kV) and hook end NWA–ZH 6 and arm YASKA 25
- manual operating mechanism OJO–ZA 1 or UEKO 2C3
- motor-operated control mechanism UEMC 40_. Refer to catalogue 34 UEMC 36_ and 34 UEMC 44_.

Motor Operating device UEMC 40_

The type and construction of motor operating device depends on the location and accessories required. The device can be fitted to the disconnecter shaft or the front of the cubicle. When mounting on the shaft, check that there is enough space between the disconnecter shaft and mounting surface. When the motor operating device is fitted on the front of the cubicle, the drive is transferred using a lever system. Local electrical control (Pushbuttons) of the operating device is available. Manual operation is also possible by using an operating rod or control handle when a motor operating device is fitted.

Operating arm

The simplest control mechanism is an operating arm and an operating rod. Opening of the disconnecter can be prevented with locking coil OJO–ZLA 6.

Manual operating mechanism, alternative A, OJO–ZA 1

The manual operating mechanism OJO–ZA 1 for mounting on the front wall of the cubicle, interlocks the disconnecter in the extreme positions with the help of a stall lever. A suspended pin ensures retention in these positions. The end that comes through the front panel of the cubicle is covered with a protective cover that can be locked with a padlock. The manual operating mechanism can be supplied both with locking coil OKO–ZLA 3 and auxiliary switch OLAN–AL 1. When there is no auxiliary voltage, the interlock (of the locking coil) can be opened manually. In accordance with the standards, the closing movement of the disconnecter is from down-position to up-position.
Manual operating mechanism, alternative B, UEKO 2C3

This manual operating mechanism comprises of a beveled gear on the end of a shaft from the disconnector, a joint fitted with a position indicator on the front panel and a control tube joining the two parts. Due to the joint, the control tube can be moved through an angle of ±40 degrees from the vertical position. The tube is to be cut to a suitable length when installing. The indicator locks the disconnector in the extreme positions. The operating mechanism may also be locking with a locking coil UEKO-ZL 1 and padlock. By turning the angle of the beveled gears the operating direction of the disconnector can be adjusted to always be the same.

Ordering information

**Alternative A**
1. Quantity and type designation.
2. Types of shaft and intermediate rods.
   (Dimensions for A and B given in the table below and in drawing on page 35).
3. Type of support bearing.
4. Accessories (e.g. operating handle) see page 6.

**Alternative B**
1. Quantity and type designation.
2. Tube length 2500 mm if the standard length of 1500 mm is too short.

**Delivery lengths**

<table>
<thead>
<tr>
<th>Dimension A</th>
<th>Alternatives:</th>
</tr>
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<tbody>
<tr>
<td>OJO–ZAA</td>
<td>1 x 1200 shaft, A max = 1200 mm</td>
</tr>
<tr>
<td></td>
<td>1 x 1800</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dimension A</th>
<th>Alternatives:</th>
</tr>
</thead>
<tbody>
<tr>
<td>OJO–ZAW</td>
<td>1 x 150 flat intermediate bar, B max = 230 mm</td>
</tr>
<tr>
<td></td>
<td>1 x 700</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dimension B</th>
<th>Alternatives:</th>
</tr>
</thead>
<tbody>
<tr>
<td>OJO–ZAW</td>
<td>2 x 1300 flat intermediate bar, &quot; = 1380 mm</td>
</tr>
<tr>
<td></td>
<td>2 x 1800</td>
</tr>
<tr>
<td></td>
<td>2 x 2800</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dimension B</th>
<th>Alternatives:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2 x 1800</td>
</tr>
<tr>
<td></td>
<td>2 x 2800</td>
</tr>
</tbody>
</table>

**NOTE!** If dimensions A and B differ from the standard dimensions the next standard size will be cut to a suitable length when mounting. Fine adjustment of the intermediate bars is between ± 20 mm.
## Support bearing

<table>
<thead>
<tr>
<th>Description</th>
<th>Type</th>
<th>Application</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support bearing</td>
<td>OJO–ZU3</td>
<td>OJON 3–10 ... 24_</td>
<td>32</td>
</tr>
</tbody>
</table>

## To be ordered separately

<table>
<thead>
<tr>
<th>Description</th>
<th>Type</th>
<th>Application, OJO-ZA 1 (UEKO 2C3)</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auxiliary switch</td>
<td>OLAN 6 AL 1</td>
<td>6 change-over contacts</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>OLAN 9 AL 1</td>
<td>9 change-over contacts</td>
<td>35</td>
</tr>
<tr>
<td>Power reduction levers and frame</td>
<td>OJO–ZAY 11</td>
<td>For auxiliary switch</td>
<td>35</td>
</tr>
<tr>
<td>Locking coil</td>
<td>OJO–ZLA3</td>
<td>Locks the manual operating mechanism (UEKO 2C3) into the extreme positions</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>UEKO-ZL 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Angle link</td>
<td>YAEWK 3</td>
<td></td>
<td>26</td>
</tr>
<tr>
<td>Tubular intermediate bar</td>
<td>OJ–ZDU 7 x 1500</td>
<td>Cut off to a suitable length when mounting. C can be min. 550 mm.</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>OJ–ZDU 7 x 2500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating handle</td>
<td>OJO–ZAK 1</td>
<td>OJO ZA 1</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>OJO–ZAK 2</td>
<td>OJO-ZA 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UEKO-ZK 1</td>
<td>(UEKO 2C3)</td>
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</tr>
</tbody>
</table>
Auxiliary switches

Technical data and ordering information

Auxiliary switches

Auxiliary switch OLAN-AL 1 can be fixed to the cubicle wall, in connection with manual operating mechanism or to the frame of the disconnector. The movement is transmitted from the shaft of the disconnector or manual mechanism to the switch with levers and intermediate bars. Switches are available with 6 or 9 change-over contacts. The contacts are silver-plated and are double breaking. Protection class is IP20.

Technical details of auxiliary switches

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulation class</td>
<td>500 V</td>
</tr>
<tr>
<td>Continuous load current</td>
<td>16 A</td>
</tr>
<tr>
<td>Breaking capacity over 5000 breaks when L/R &lt; 40 ms</td>
<td></td>
</tr>
<tr>
<td>24 V–</td>
<td>16 A</td>
</tr>
<tr>
<td>60 V–</td>
<td>10 A</td>
</tr>
<tr>
<td>110 V–</td>
<td>5 A</td>
</tr>
<tr>
<td>220 V–</td>
<td>2 A</td>
</tr>
<tr>
<td>Mechanical life</td>
<td>10 000 operations</td>
</tr>
</tbody>
</table>

Position indication

The auxiliary switch has a position indicator which can be used when adjusting the movement transmission levers. The contact diagram shows the operation of the contacts as the function of the turning angle of the control lever.

To be ordered separately

- Terminals and cable glands MRRNL 16 tai 21
- Universal tube terminal MRPA 16 tai 21
- Pica sensor RPLA 16 tai 23
- For additional parts see page 11

Connection diagram

The largest conductor size that can be connected is 4 square mm.
## Additional Parts

<table>
<thead>
<tr>
<th>Mounting of auxiliary switch</th>
<th>Parts</th>
<th>Note</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>To manual operating mechanism OJO–ZA 1</td>
<td>Transmission levers with frame OJO–ZAY 11</td>
<td>Models of installation p.20</td>
<td>35</td>
</tr>
</tbody>
</table>
| For fixing on OJON 3–10...24 kV disconnector | Adjustable lever YAWAS 6                   | 1. 630...4000 A  
2. 630...4000 A  
3. 630...1000 A on the left or the right side. Chois of mode of installation as effect by the placing of the earthing switches, locking coil and chock absorber. OJON 3–10 + OLAN 9– only mode 3 and 4 of installation. | 29   |
| For separate mounting | Support and intermediate link OLAN–ZT 4 |                                                                      | 28   |
|                              | Intermediate bar OJ–ZDU 3x2000 OJ–ZDU 4x2000 | The bar is to be cut to a suitable length when mounting             | 28   |
|                              | Adjustable lever YAWAS 6                   | For shaft diam. 25                                                   |      |
Interlocking

The use of locking devices in connection with different disconnectors is detailed in table 3, page 6.

A. Disconnector interlocking when subject to gravity or short-circuit and other disturbances

When operating arm controlled, the disconnectors are interlocked with locking device OJO–ZE_ or locking coil OKO–ZLA 6. When the disconnector is mounted in a horizontal plane, locking device OJO–ZE_ must always be used to prevent the knives from closing under their own weight. Manual operating mechanism OJO–ZA 1 locks the disconnector in the closed and the open position with no additional equipment.

B. Disconnector interlocking to prevent unintentional operation

When operating arm controlled, locking coil OJO–ZLA 6, which is fixed to the frame of the disconnector is used. Manual operating mechanism OJO–ZA 1 can be locked with a padlock or locking coil OJO–ZLA 3. Manual operating mechanism type UEKO 2C3 can be locked with a padlock or locking coil UEKO-ZL 1.

Locking coils

The auxiliary control voltage of locking coils (OJO–ZLA 3 and 6) is either DC or full-wave rectified alternating current. In the absence of voltage, the interlock can be opened by pulling the armature with the operating rod or by hand. Locking coil OJO–ZLA 3 is used with the operating mechanism while locking coil used OJO–ZLA 6 is fixed to the left or right side of the disconnector. Locking coil UEKO-ZL1 is to be fitted to the manual operating mechanism UEKO 2C3 position indicating device on the inside of the cubicle.

Voltage of interlockup coil

<table>
<thead>
<tr>
<th>Voltage</th>
<th>OJO–ZLA 3, 6</th>
<th>UEKO ZL 1</th>
<th>Coil consumption and time constant</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 VDC</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>30 VDC</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>48 VDC</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>60 VDC</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>110 VDC</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>125 VDC</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>220 VDC</td>
<td>X 1)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>230 VAC</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1) Rectifier included

Ordering information

1. Type and quantity
2. Coil voltage
3. Is locking coil OJO–ZLA 6 on the right or the left side of the disconnector.
Interlocking

Technical data and ordering information

Extension shaft and support bearing

When needed, the shaft of the disconnector can be extended with extension shaft BDAM 25 x L. Extension sleeve OJE-ZAA 25 with its spring bolt pin and 1 or 2 support bearings OJO-ZU 3 are then needed.

To be ordered separately

Extension shaft dim. 25 x L
Dimension L must be given when ordering.
Weight: 3.85 kg per meter

Fuse-bases

The frame of the fuse-bases is made of steel plate and the insulators of cast resin. Fuse-links in accordance with DIN 43625 are suitable for the bases.

The fuse bases can be fitted with fuse blown auxiliary contacts. The auxiliary contacts are 1 NC rated at 10A.

To be ordered separately

Fuse cartridges -EBD CEF_. Refer to brochure CEF_CMF 1.
Fuse changing handle O-ZHPA 5
Indoor type disconnector
OJON 1–1
Dimension drawings

OJON 1–1/1000
1 kV 1000 A

OJON 1–1 A 2500
1 kV 2500 A
Indoor type disconnectors
OJON 1–1
Dimension drawings

OJON 1–1 A 2500/E3
1 kV 2500 A

OJON 1–1 A 4000/E2
1 kV 4000 A

To be ordered separately

OJON ZWJ 5
OJON ZWJ 6
Indoor type disconnectors
OJON 1–1
Dimension drawings

OJON 1–10/630 E1
12 kV 630 A

OJON 1–24/630/E
24 kV 630 A
Indoor type disconnectors
OJON 3–1
Dimension drawings

OJON 3–1A 1000
1 kV 1000 A

OJON 3–1/1600
1 kV 1600 A
Load type disconnectors
OJON 3–1
Dimension drawings

OJON 3–1 A 2500
1 kV 2500 A

![Dimension drawing of OJON 3–1 A 2500]

OJON 3–1 A 4000
1 kV 4000 A

![Dimension drawing of OJON 3–1 A 4000]
Indoor type disconnectors
OJON 3–10
Dimension drawings

**OJON 3–10/630**
12 kV 630 A

**OJON 3–10/1000**
12 kV 1000 A
Indoor type disconnectors
OJON 3–10
Dimension drawings

**OJON 3–10/1600**

12 kV 1600 A

![Dimension drawing of OJON 3–10/1600](image1)

**OJON 3–12 A 2500**

12 kV 2500 A

![Dimension drawing of OJON 3–12 A 2500](image2)
Indoor type disconnectors
OJON 3–12
Dimension drawings

OJON 3–12 A 4000
12 kV 4000 A

OJON 3–24 A 630
24 kV 630 A
Indoor type disconnectors
OJON 3–20
Dimension drawings

OJON 3–20/1000
24 kV 1000 A

OJON 3–20/1600
24 kV 1600 A
Indoor type disconnectors
OJON 3–24
Dimension drawings

OJON 3–24 A 2500
24 kV 2500 A

OJON 3–24 A 4000
24 kV 4000 A
**Terminals**

**Dimension drawings**

**2500 A terminal**
**OJON-ZWJ 5**

To be ordered as required for 2500 A disconnectors.

Silver plated electrolytic copper.

Weight: 2.1 kg

**4000 A terminal**
**OJON-ZWJ 6**

To be ordered as required for 4000 A disconnectors.

Silver plated electrolytic copper.

Weight: 4.45 kg
Earthing knives

Dimension drawing

Disconnecter earthing knives

<table>
<thead>
<tr>
<th>Earthing knife type</th>
<th>Disconnector type</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>kg</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>OJO-ZMA 10</td>
<td>OJON 3-10/630</td>
<td>185</td>
<td>750</td>
<td>173</td>
<td>9,0</td>
<td>When ordering the position of the earthing knife is to be stated (above or below).</td>
</tr>
<tr>
<td>OJO-ZMA 38</td>
<td>OJON 3-24 A 630</td>
<td>255</td>
<td>1090</td>
<td>258</td>
<td>10,1</td>
<td></td>
</tr>
</tbody>
</table>
Disconnector control
Dimension drawings

**Operating arm**
YASKA 25

**Operating rod**
NWA-ZS 5

**Operation hook**
NWA-ZH 6

**Operating handle**
OJO-ZAK_

**Operating handle**
UEKO-ZK 1

**Angle link**
YAEWK 3

<table>
<thead>
<tr>
<th>Type</th>
<th>A</th>
<th>Weight kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>OJO-ZAK 1</td>
<td>330</td>
<td>1.2</td>
</tr>
<tr>
<td>OJO-ZAK 2</td>
<td>500</td>
<td>1.6</td>
</tr>
</tbody>
</table>

Weight: 0.9 kg  
Weight: 1.5 kg  
Weight: 0.9 kg  
Weight: 1.8 kg
Auxiliary switches

Dimension drawings

**Auxiliary switch**

**OFC-ZA1**

**Auxiliary switch**

**OFC-ZA2**

**Auxiliary switch**

**OLAN-AL 1**

<table>
<thead>
<tr>
<th>Type</th>
<th>Change-over contacts</th>
<th>A</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>OLAN 6AL1</td>
<td>6</td>
<td>136</td>
<td>1,5</td>
</tr>
<tr>
<td>OLAN 9 AL1</td>
<td>9</td>
<td>172</td>
<td>1,8</td>
</tr>
</tbody>
</table>
Methods of mounting
Dimension drawing

Intermediate rod
OJ-ZDU 3 x 2000

Intermediate rod
OJ-ZDU 4 x 2000

Adjustment margin ± 15 mm
Weight: 1.6 kg

Adjustment margin ± 15 mm
Weight: 1.7 kg

Auxiliary switch support (right)
OLAN-ZT 4

If the mounting position is not mentioned it is fitted in position 4.

Weight: 0.8 kg
Methods of mounting and interlocking

Dimension drawings

Adjustable lever

YAWAS 6

![Diagram of YAWAS 6]

To be drilled when fitting $\varnothing 5 \pm 0.1$

Weight: 0.8 kg

Locking device

OJO-ZE_

![Diagram of OJO-ZE_]

$\varnothing 12$ hole drilled when fitting

$\varnothing 8$ hole drilled when fitting

<table>
<thead>
<tr>
<th>Type</th>
<th>A (mm)</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OJO-ZE 1</td>
<td>187</td>
<td>1.1</td>
</tr>
<tr>
<td>OJO-ZE 2</td>
<td>237</td>
<td>1.3</td>
</tr>
</tbody>
</table>
Locking

Dimension drawing

Locking coil
OJO-ZLA3

Weight: 1,1 kg

Incoming cable gland can also be turned upwards.

Weight: 2,3 kg

Locking coil
OJO-ZLA6

Position indicator

AMP No. 180909

Position indicator

+0
Ø8 +0.1 Drill when fitting

Drilled when fitting
Locking
Dimension drawings

Locking coil
UEKO ZL1
Extension bushing and support bearing

Dimension drawings

Extension bushing

OJE-ZAA 25

To be used for 10...24 kV OJON-disconnector extension shaft support bearing.

Angle iron not included.

Weight: 0,52 kg

Support bearing

OJO-ZU 3

To be used for 10...24 kV OJON-disconnector extension shaft support bearing.

Angle iron not included.

Weight: 0,35 kg
Fuse base for indoor use

Dimension drawing

Fuse base

OFCRN 12 A 3

By moving one insulator 3,6/7,2 kV e = 192 mm fuses can be fitted.
The fuse base can be fitted with a blown fuse auxiliay contact, see page 27.
The auxiliary switch is one NC contact.

Fuse base

OFCRN 24 A 3
Fuse base
OFCRN 36 A 3
Manual operating mechanism

OJO-ZA 1

Drilling the front plate
For removing the interlocking coil we recommend a covered hole of 100 mm diameter for service access. Diagram for cover plate fixing with 8 mm holes.

Manual operating mechanism

UEKO 2C3

Drill Ø 11

Ø 25 splined

180° closed

90° closed

Transmission tube Ø 33.5 x 1500 mm
Tube length = A - 150 mm

Shaft of the disconnector
Motor operating mechanism UEMC 40 A, B ja D-types mounted on the front of the cubicle.

Motor operating mechanism UEMC 40 K6 types mounted on the body of the disconnector.