INSTALLATION INSTRUCTION

By-pass and transfer switches

OT_Y
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<td>25</td>
<td>OT315-400_Y_</td>
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<td>26</td>
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<td>27</td>
<td>OT630-800E_Y_</td>
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<td>OT600U_Y_</td>
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<td>29</td>
<td>OTM160-250E_Y_, OTM200U_Y_</td>
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<td>OTM315-400E_Y_, OTM400U_Y_</td>
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<td>31</td>
<td>OTM630-800E_Y_, OTM600U_Y_</td>
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</table>
By-pass and transfer switches OT_Y

Operation

OT_160-800_Y

OT_160-800_YL

OT_160-800_YF
Connection diagram

Mounting positions

Label
Control circuit

Only an authorised electrician may perform the electrical installation and maintenance of motorized switch. Do not attempt any installation or maintenance actions when a motorized switch is connected to the electrical mains. Before starting work, make sure that the switch is de-energised.

The control voltage (output C = 24Vdc) on the control terminal is non-isolated, see box 2 in the picture below.

When relay outputs are used with inductive loads (such as relays, contactors and motors), they must be protected from voltage spikes using varistors, RC-protectors (AC current) or DC current diodes (DC current).

1. Terminal for motor operator voltage supply
2. Control terminal push buttons or selector switch
3. Terminal for state information of locking

Do not couple power for the control terminal. See the correct terminal for the power supply in the picture above.
Manual operation

Electrical operation is prevented when the handle is attached to the switch panel. Manual control shall only be done using extension handle delivered along with the product.
Electrical operation

Never open any covers on the product. There may be dangerous external control voltages inside the motorized switch even if the voltage is turned off.

Never handle control cables when the voltage of the motorized switch or external control circuits are connected.

Exercise sufficient caution when handling the unit.

The motor operator is protected from overloading by a fuse (F1) under the motor operator. Only use the same type of fuse that is described on the label close to the fuse.
Impulse control

If a new command is given before the switch has reached the position of the previous command, the fuse (F1) may operate.

Continuous control
Locking

1. Remove

2. OTM315-400_Y OTBZV200
   OTM630-800_Y OTBZV275

3. Position I - 0 - II

4. Position 0

5. Position 0, I, II

—

Locking the manual operation

—

Locking the electrical operation

—

∅ 5...6 mm
# Locking state information

*The voltage on motor operator supply needed*
Technical data

Motor operator

Motor operator, control circuit | Value | Cabling
--- | --- | ---
Rated operational voltage U [V] | 220-240 Vac, 50-60 Hz | 
Operating voltage range | 0,85... 1,1 x U | 
Operating angle | 90° 0-I, I-0, 0-II, II-0; 180° | I-0-I
Operating time | See Table 2 | 
Protection degree | IP 20, front panel | 
Rated impulse withstand voltage U imp | 4 kV | 
Voltage supply | PE N L | 1,5 -2,5 mm²
F2 | Max. MCB 16A | 
Cable of the push-buttons (no SELV) | C II I 0 | 1,5 -2,5 mm²
Maximum cable length | 100 m | 
State information of locking (no SELV) | Handle attached or motor operator locked | 11-12-14 (C/O) | 1,5 -2,5 mm²
Locking motor operator | 23-24 (NO) | 1,5 -2,5 mm²
Operating temperature | -25... +55 °C | 
Transportation and storage temperature | -40... +70 °C | 
Altitude | Max. 2000 m | 

Table 1 General technical data of motor operators

<table>
<thead>
<tr>
<th>Type</th>
<th>Voltage U e [V]</th>
<th>Nominal current I n a) [A]</th>
<th>Current inrush a) [A]</th>
<th>Operating time a) I-0, 0-I, 0-II, II-0 [s]</th>
<th>Operating transfer time a) I-II or II-I [s]</th>
<th>OFF-time when operating a) I-II or II-I [s]</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTM160-250_Y</td>
<td>220-240 Vac</td>
<td>0,2</td>
<td>1,3</td>
<td>0,4-1,0</td>
<td>1,0-2,0</td>
<td>0,4-1,0</td>
</tr>
<tr>
<td>OTM315-400_Y</td>
<td>220-240 Vac</td>
<td>0,7</td>
<td>2,8</td>
<td>0,4-1,0</td>
<td>0,9-2,0</td>
<td>0,4-1,0</td>
</tr>
<tr>
<td>OTM600-800_Y</td>
<td>220-240 Vac</td>
<td>0,7</td>
<td>2,8</td>
<td>0,4-1,0</td>
<td>0,9-2,0</td>
<td>0,4-1,0</td>
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</table>

Table 2 Specified technical data of motor operators

a) Under nominal conditions

State information

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<th>Measurement</th>
<th>Value</th>
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<td>Handle attached or motor operator locked</td>
<td>11-12-14 (C/O): 5 A, AC-1 / 250 V</td>
</tr>
<tr>
<td>Locking motor operator</td>
<td>23-24 (NO): 5 A, AC-1 / 250 V</td>
</tr>
<tr>
<td>SCPD</td>
<td>Max. MCB C2A</td>
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</table>

Table 3 State information
Terminal clamp sets

OZX_
Bridging bars

OTZC_
Reversing bars

**OTZR**_

<table>
<thead>
<tr>
<th>OT_160-250_Y_</th>
<th>OTZR1</th>
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<tbody>
<tr>
<td>OT_315-400_Y_</td>
<td>OTZR2</td>
</tr>
<tr>
<td>OT_600-800_Y_</td>
<td>OTZR3</td>
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</table>
Auxiliary contact

OA_
Voltage sensing connectors
OMZB_
### Terminal shrouds

**OTS**

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<th>OTS250_1S</th>
<th>OTS400_1S</th>
<th>OTS800_1S</th>
<th>OTS250_1L</th>
<th>OTS400_1L</th>
<th>OTS800_1L</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image 1" /></td>
<td><img src="image2.png" alt="Image 2" /></td>
<td><img src="image3.png" alt="Image 3" /></td>
<td><img src="image4.png" alt="Image 4" /></td>
<td><img src="image5.png" alt="Image 5" /></td>
<td><img src="image6.png" alt="Image 6" /></td>
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</table>

<table>
<thead>
<tr>
<th>Terminal Shroud</th>
<th>Torque</th>
<th>Notes</th>
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<tbody>
<tr>
<td>OTS250_1L</td>
<td>M8</td>
<td>15...22 Nm 5/6DIA in. 133-195 lb.in</td>
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<tr>
<td>OTS400_1L</td>
<td>M10</td>
<td>30...44 Nm 266-390 lb.in</td>
</tr>
<tr>
<td>OTS800_1L</td>
<td>M12</td>
<td>50...75 Nm 433-664 lb.in</td>
</tr>
</tbody>
</table>

![Image 7](image7.png)
Handle for manual operation

OH_ZVX

OHBZX200-275

1

2

Remove

OHBZV95-125

1a

1b

Remove
Handles, direct mounting

OTV_

OT160-250_Y_

OTV250ECK
OTV250ECLK
OTV250ECFK

OT315-800_Y_

OTV400ECK
OTV800ECK
OTV400ECLK
OTV800ECLK
OTV400ECFK
OTV800ECFK

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<tr>
<td>Tx8</td>
<td>Tx20</td>
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<tr>
<td>0.8 Nm</td>
<td>1.0 Nm</td>
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Note: Use protection against direct contact. For example:

Remove
Handle and spare fuse storage

OTVS1

OTVS2  OTM315-800_Y

OTVS1  OTM160-250_Y

OTVS0  OTM160-250_Y

Spare Fuse

3

FUSE
Phase barriers

Phase barrier type 68838 on:

OT_600U_Y
OT_630-800E_Y

Phase barriers 68838 or shrouds must be used to maintain a clearance of 1 inch on the By-pass switch type OT_600U_Y, if lugs are wider than 39 mm/1.54 in. The Type for the package of 6 barriers is OTB600/6Y.

Phase barriers 68912 must be used on By-pass switches type OT_600-800_Y, if the voltage is > 415 V.
## UL standard switches

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<tr>
<th>Current</th>
<th>Height</th>
<th>Width</th>
<th>Depth</th>
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<td>200 A</td>
<td>406 mm/16 in</td>
<td>305 mm/12 in</td>
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<td>OT400U_Y</td>
<td>400 A</td>
<td>610 mm/24 in</td>
<td>356 mm/14 in</td>
</tr>
<tr>
<td>OT600U_Y</td>
<td>600 A</td>
<td>610 mm/24 in</td>
<td>700 mm/28 in</td>
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</table>

<table>
<thead>
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<th>Current</th>
<th>Height</th>
<th>Width</th>
<th>Depth</th>
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<tbody>
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<td>13 mm/0.5 in</td>
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</table>

<table>
<thead>
<tr>
<th>AWG</th>
<th>Cable size</th>
<th>OT200U_Y Cable size</th>
<th>OT400U_Y Cable size</th>
<th>OT600U_Y Cable size</th>
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</thead>
<tbody>
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<td>AWG</td>
<td>C</td>
<td>MCM</td>
<td>C</td>
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<td>4-3</td>
<td>2</td>
<td>100 mm/4 in</td>
<td>250</td>
<td>200 mm/8 in</td>
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<tr>
<td>2</td>
<td>1</td>
<td>100 mm/4 in</td>
<td>300</td>
<td>250 mm/10 in</td>
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<td></td>
<td>1/0</td>
<td>125 mm/5 in</td>
<td></td>
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<tr>
<td></td>
<td>2/0</td>
<td>150 mm/6 in</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3/0-4/0</td>
<td>175 mm/7 in</td>
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Mounting and dimension drawings

**OT160-250E_Y**

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**OT160-250E02-04Y**

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<tbody>
<tr>
<td>A1</td>
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**OT160-250E12-22Y**

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**OT160-250E-Y**

<table>
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<tr>
<td>B</td>
<td>159</td>
<td>194</td>
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</table>

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**OT160-250_Y**

**OT160-250_VL**

**OT160-250_VF**

---

**OXP6/12x161C**

---

**OHB65J12E011**

**OHB65J12E65**

**OHB65J12E69**

---

**OHBZX200**

---

**M00406/OT160-250E02-04Y**

**M00406/OT160-250E12-22Y**

---

**A06150**

---

**A06150**
**OT400U_Y**

**OT400U02-04Y**

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<td>216/8.51</td>
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**OT400U12-22Y**

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```
OT630-800E_Y

OT630-800E02-04Y_[mm]

OT630-800E12-22Y_[mm]

OT630-800E_Y

A 65 65 65
A1 180 180 180
A2 294 359 359
B 250 315 380

A 65 65 65
A1 180 180 180
A2 294 359 359
B 315 380 380
OTM160-250E_Y_, OTM200U_Y_

**Note:** Use protection against direct contact. For example:

OTM160-250 Y
OTM160-250 YL
OTM160-250 YF

**OTM160-250E02-04Y_[mm]**

<table>
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<td>118</td>
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<td>239</td>
<td>274</td>
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<tr>
<td>B</td>
<td>261</td>
<td>296</td>
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**OTM160-250E_Y**

**OTM200U02-04Y_[mm]**

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<td>320/12.61</td>
<td>363/14.3</td>
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OTM315-400E,Y, OTM400U,Y

Note: Use protection against direct contact. For example:

OTM160-250,Y
OTM160-250,YL
OTM160-250,YF
OHBZX200

OTM315-400E02-04Y

OTM400U02-04Y

OTM315-400E_Y

OTM400U_Y

TABLE 2

<table>
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TABLE 3

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<tr>
<td>B</td>
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</table>

Note: Use protection against direct contact. For example:

OTM160-250,Y
OTM160-250,YL
OTM160-250,YF
OHBZX200
OTM630-800E_Y_, OTM600U_Y_

Note:
Use protection against direct contact.
For example:

OTM630-800_Y
OTM630-800_YL
OTM630-800_YF

OTM600U_Y

OTM630-800E02-04Y_

OTM600U02-04Y_

OTM600U_Y

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Note:
Use protection against direct contact.
For example:
Advarsel! Farlig elektrisk spænding! Installation må kun foretages af personer med elektroteknisk ekspertise.

Warning! Gefährliche Spannung! Installation nur durch elektrotechnische Fachkraft.

Συμβουλή: Σημείωση σφίξης! Η εγκατάσταση πρέπει να γίνεται μόνο από εξειδικευμένους ηλεκτροτεχνικούς.

Warning! Hazardous voltage! Installation by person with electrotechnical expertise only.

¡Advertencia! ¡Tensión peligrosa! La instalación deberá ser realizada únicamente por electricistas especializados.

Hoitatus! Ohtlik pinge. Paigaldada võib ainult elektrotehnika-alane ekspert.

VAROITUS! Vaarallinen jännite! Asennuksen voi tehdä vain sähköalan ammattihenkilö.

Avertissement! Tension électrique dangereuse! Installation uniquement par des personnes qualifiées en électricité.

Upozorenje! Opasan napon! Postavljanje smeje samo elektrotehnički stručnjak.

Figyelmeztetés! Veszélyes feszültség! Csak elektrotechnikai tapasztaltakkal rendelkező szakember helyezheti üzembe.

Rabhadh! Voltas guaiseach! Bha chóir do dhuine ag a bhfuil saineadh leictriteicniúil, agus an t‘e sin amháin, é seo a shuítéal.

Avvertenza! Tensione pericolosa! Fare installare solo da un elettricista qualificato.

Demesio! Pavojingą įtampanę dirigėjo tik elektrotechnikai patyrę turintys asmenys instaliuoja.

Uzmanību! Bistami - elektro! Montāžas darbus drikst veikt tikai personas, kurām ir atbilstošās elektrotehniskās zināšanas.

Twissija! Valtaggio pericolou! Godau ji gi installat biss minn persuna b’kompetenza elektrotehnika.

Waarschuwing! Gevaarlijke spanning! Mag alleen geïnstalleerd worden door een deskundige elektrotechnicus.

Advarsel! Farlig spenning! Montering skal kun utføres av kvalifiserte personer med elektrokompetanse.

Ostrzeżenie! Niebezpieczne napięcie! Instalacja może dokonać wyłącznie osoba z zakwalifikowaną w dziedzinie elektrotechniki.

Aviso! Tensão perigosa! A instalação só deve ser realizada por um electricista especializado.

Avertizare! Tensiune periculoasă! Instalarea trebuie efectuată numai de către o persoană cu experiență în electrotehnică.

Oсторожно! Опасное напряжение! Монтаж должен выполняться только специалистом-электриком.

Warning! Farlig spänning! Installation får endast utföras av en elektriker.

VAROVANÍ! Nebezpečné napätí! Montáž může vykonávat iba skúsený elektrotechnik.