NEWS AND MODIFICATIONS
DRIVE HANDLES AND BEVEL GEARS SERIES 070

EDITION 070_2019_Rev_00 – 14/01/2019


Drives 070-1.12.208, 209, 212, 212BE, 501, 502 modified mechanical block with hole Ø9,5 mm (3/8”).

EDITION 070_2019_Rev_01 – 31/05/2019

NEW wheel for drives 070-1.12.130, 408, 409 with hole for padlock Ø 9,5.
### SUMMARY

**DRIVE AND BEVEL GEARS FOR LDT, SPT TAP CHANGERS**

<table>
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<tr>
<th>CODE</th>
<th>REV.</th>
<th>SUITABLE FOR DETC Models</th>
<th>HANDLE</th>
<th>WHEEL</th>
<th>SIDE WALL</th>
<th>COVER</th>
<th>MECH. LOCK</th>
<th>PADLOCK</th>
<th>µS FOR EL. LOCK</th>
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µS: Micro-switch

Tap-changers can be controlled by manual drive on transformer cover, on tank wall at man’s height or by motor drive on tank wall. The pad lockable handle control boxes with or without electric contacts are of sturdy aluminum casting and MDU (motor drive unit) box is made of painted steel. The application of the following components depends on the type of tap changers and on the assembling diagram.
C) Hole ø6 for padlock.
D) Hole for pin ø6 to be drilled during the final assembling of the transformer.
E) N°2 gasket OR 3056.
F) Steel stuffing box to be welded to the lid of transformer.

- Handle is composed by stuffing box, inox-steel index disc and aluminium handle with mechanical block on the position.
C) Hole ø9,5 for padlock with shackle thickness Ø min: 5, Ø Max: 9.
D) Hole for pin ø6 to be drilled during the final assembling of the transformer.
E) N°2 gasket OR 3056.
F) Steel stuffing box to be welded to the lid of transformer.

- Handle is composed by stuffing box, inox-steel index disc and aluminium handle with mechanical block on the position.
DRIVE TYPE 070-1.12.212

- DRIVE LOCATED ON THE TRANSFORMER LID OR ON TOP OF TANK WALL

- Standard drive can be used at max. 12 positions.
- Standard type with 1 turn of 360° for each position.
- Special type with 2 or more turns.
- Standard paint RAL 7031.

A) Transformer tank lid.
B) Mechanical block with padlock.
C) Flat gasket 6 mm thickness.
D) Hole ø9,5 for padlock.
E) Numbering window.
F) Signs +/- (or others) for raising and lowering tap position have to be engraved by transformer manufacturer.

Weight: ~4.6 kg
- Standard drive can be used at max. 12 positions.
- Standard type with 1 turn of 360° for each position.
- Special type with 2 or more turns.
- Standard paint RAL 7031.

A) Transformer tank lid.
B) Mechanical block with padlock.
C) Flat gasket 6 mm thickness.
D) Hole ø9,5 for padlock.
E) Numbering window.
F) Terminal box with electric contacts for opening the high and low voltage switch actuated turning the wheel.
G) Signs +/- (or others) for raising and lowering tap position have to be engraved by transformer manufacturer.
H) Cable gland PG 13,5
DRIVE TYPE 070-1.12.101

- DRIVE WITH MECHANICAL BLOCK AND PADLOCK

- Standard drive can be used at max. 9 positions.
- Standard type with 1 turn of 360° for each position.
- Special type with 2 or more turns.
- Standard paint RAL 7031.

D) Hole for pin ø6 to be drilled during the final assembling of the transformer

E) Hole ø6.5 for padlock.

F) Mechanical block with padlock.
DRIVE TYPE 070-1.12.101BE

- DRIVE WITH CHANGEOVER CONTACT AND FACILITIES FOR LOCKING LOCATED ON TRANSFORMER TANK WALL

- Standard drive can be used at max. 9 positions.
- Standard type with 1 turn of 360° for each position.
- Special type with 2 or more turns.
- Standard paint RAL 7031.

D) Hole for pin ø6 to be drilled during the final assembling of the transformer.
E) Hole ø6,5 for padlock.
F) Mechanical block with padlock.
G) Microswitch 6 A - 250V (NO - NC) for consent switches handling cables exit DIN 43650/PG9. It starts working at the initial handling wheel.
- Standard drive can be used at max. 9 positions.
- Standard type with 1 turn of 360° for each position.
- Special type with 2 or more turns.
- Standard paint RAL 7031.

D) Hole for pin ø6 to be drilled during the final assembling of the transformer.
E) Hole ø6,5 for padlock.
F) Mechanical block with padlock.
G) Terminal board box for electrical block and positions transmitter.
DRIVE TYPE 070-1.12.201

- DRIVE WITH MECHANICAL BLOCK AND PADLOCK

- Standard drive can be used at max. 9 positions.
- Standard type with 1 turn of 360° for each position.
- Special type with 2 or more turns.
- Standard paint RAL 7031.

B) Precision joints.

C) Rubber protections.

D) Hole for pin ø6 to be drilled during the final assembling of the transformer.

E) Hole ø6,5 for padlock.

F) Mechanical block with padlock.
DRIVE TYPE 070-1.12.201BE

- DRIVE WITH CHANGEOVER CONTACT AND FACILITIES FOR LOCKING LOCATED ON TRANSFORMER TANK WALL

- Standard drive can be used at max. 9 positions.
- Standard type with 1 turn of 360° for each position.
- Special type with 2 or more turns.
- Standard paint RAL 7031.

B) Precision joints.

C) Rubber protections.

D) Hole for pin ø6 to be drilled during the final assembling of the transformer.

E) Hole ø6,5 for padlock.

F) Mechanical block with padlock.

G) Microswitch 6 A - 250V (NO - NC) for consent switches handling cables exit DIN 43650/PG9.

It starts working at the initial handling wheel.
DRIVE TYPE 070-1.12.202 and 070-1.12.202BE

- DRIVE WITH CHANGEOVER CONTACT, FACILITIES FOR LOCKING AND POSITION TRANSMITTER

- Standard drive can be used at max. 12 positions.
- Standard type with 1 turn of 360° for each position.
- Special type with 2 or more turns.
- Standard paint RAL 7031.

FITTINGS ON REQUEST:
1) Electromagnet locking the handwheel.
2) Green lamp for auxiliary voltage.
3) Micro-switches series connected to electrical block in case of 3 or more turns for each position (070-1.12.202BE).
4) Second micro-switch for electrical block.
5) Special accessories.

C) Cable gland 3/4" GAS.
D) Hole for pin ø6 to be drilled during the final assembling of the transformer.
E) Hole ø6,5 for padlock.
F) Mechanical block with padlock.
G) Earthing terminal hole.
H) Condensate drain plug.

- Dimension in mm
- DRIVE WITH CHANGEOVER CONTACT, FACILITIES FOR LOCKING AND POSITION TRANSMITTER
- SPECIFIC FOR TAP-CHANGER WITH TWO TURNS OF WHEEL FOR EACH POSITION

FITTINGS ON REQUEST:
1) Green lamp for auxiliary voltage.
2) Special accessories.

C) Cable gland 3/4” GAS.
D) Hole for pin ø6 to be drilled during the final assembling of the transformer.
E) Hole ø6,5 for padlock.
F) Mechanical block with padlock.
G) Earthing terminal hole.
H) Condensate drain plug.

- Standard drive can be used at max. 12 positions.
- Standard type with 2 turns of 360° for each position.
- Standard paint RAL 7031.
Standard drive can be used at max. 12 positions.
Standard type with 1 turn of 360° for each position.
Special type with 2 or more turns.
Standard paint RAL 7031.

A) Transformer tank wall.
B) Mechanical block with padlock.
C) Flat gasket 4 mm thickness.
D) Hole Ø9.5 for padlock.
E) Numbering window.
F) Transformer active part can be removed after unscrewing the M8 four bolts "E" and pulling out, for 120 mm, wheel and numbering box.
G) Signs +/- (or others) for raising and lowering tap position have to be engraved by transformer manufacturer.
DRIVE TYPE 070-1.12.209

- CONTROL BOX DETAIL LOCATED ON TRANSFORMER TANK WALL WITH CHANGEOVER CONTACT

- Standard drive can be used at max. 12 positions.
- Standard type with 1 turn of 360° for each position.
- Special type with 2 or more turns.
- Standard paint RAL 7031.

A) Transformer tank wall.
B) Mechanical block with padlock.
C) Flat gasket 4 mm thickness.
D) Hole ø9,5 for padlock.
E) Transformer active part can be removed after unscrewing the M8 four bolts "E" and pulling out, for 120 mm, wheel and numbering box.
F) Terminal board box for micro-switch of electrical block.
G) Numbering window.
H) Signs +/- (or others) for raising and lowering tap position have to be engraved by transformer manufacturer.
I) Cable gland PG 13,5.

Weight: ~9,8 kg

Dimension in mm

Rev. 07 - 08/01/2019
DRIVE TYPE 070-1.12.210

- DRIVE WITH CHANGEOVER CONTACT, FACILITIES FOR LOCKING AND POSITION TRANSMITTER

- Standard drive can be used at max. 9 positions.
- Standard type with 1 turn of 360° for each position.
- Special type with 2 or more turns.
- Standard paint RAL 7031.

B) Precision joints.
C) Rubber protections.
D) Hole for pin ø6 to be drilled during the final assembling of the transformer.
E) Hole ø6,5 for padlock.
F) Mechanical block with padlock.
G) Terminal board box for electrical block and positions transmitter.

070-1.12.210
Rev. 03 - 07/02/2017

070
Pag. 16/31
DRIVE TYPE 070-1.12.408
- DRIVE WITH EXIT ON UPPER PART OF TRANSFORMER TANK WALL

- For the angle of movement of a position see its design of the switch.
- Standard paint RAL 7031.

A) Transformer tank wall.
B) Inox steel numbered disc ø100 mm.
C) Hole Ø9.5 for padlock with shackle thickness Ø min: 5, Ø Max: 9.
D) Hole for pin ø6 to be drilled during the final assembling of the transformer.
E) Flat gasket 6 mm thickness.

Positioning disk supplied numbered on both sides.

Weight: ~2.2 kg
- For the angle of movement of a position see its design of the switch.
- Standard paint RAL 7031.

A) Transformer tank wall.
B) Inox steel numbered disc ø100 mm.
C) Hole Ø9.5 for padlock with shackle thickness Ø min: 5, Ø Max: 9.
D) Hole for pin ø6 to be drilled during the final assembling of the transformer.
E) Flat gasket 6 mm thickness.
**DRIVE TYPE 070-1.12.501**

- **DRIVE WITH FACILITIES FOR LOCKING LOCATED ON THE TRANSFORMER TANK WALL**

- Drive can be used at max. 12 positions.
- Standard type with 1 turn of 360° for each position.
- Special type with 2 or more turns.
- Standard paint RAL 7031.

C) Hole ø9.5 for padlock.
D) Hole for pin ø6 to be drilled during the final assembling of the transformer.
E) Numbering window.
F) Mechanical block with padlock.
G) Signs +/- (or others) for raising and lowering tap position have to be engraved by transformer manufacturer.
- Drive can be used at max. 12 positions.
- Standard type with 1 turn of 360° for each position.
- Special type with 2 or more turns.
- Standard paint RAL 7031.

C) Hole ø9.5 for padlock.
D) Hole for pin ø6 to be drilled during the final assembling of the transformer.
E) Numbering window.
F) Mechanical block with padlock.

G) Microswitch 6 A - 250V (NO - NC) for consent switches handling cables exit DIN 43650/PG9. It starts working at the initial handling wheel.

H) Signs +/- (or others) for raising and lowering tap position have to be engraved by transformer manufacturer.
A) Holes Ø9 for fixing to the bracket linked at the magnetic core clamp.

Alignment: drive shaft and tap changer shaft axis can be radial displaced maximum 23 mm (INSULATED).
Angle: tap changer shaft can have an angle error of 10° maximum.
Gap: standard distance between tank wall and friction cone is 60 mm. This friction permit a tolerance of ±10 mm.
- Bevel gear, made of aluminium casting.
- Fixing on tap-changer support or with separate clamp.
A) Slots for the alignment correction of transmissions.
- Bevel gear, made of aluminium casting - Guards for seal rings - With two precision joints with rubber protections.
- Standard paint RAL 7031.

A) Slots for the alignment correction of transmissions.
B) Precision joints.
C) Rubber protections.
BEVEL GEAR TYPE 070-1.12.204

- BEVEL GEAR 90° WITH POSITION REPEATER LOCATED ON THE TRANSFORMER COVER

- Standard bevel gear can be used at max. 12 positions.
- Standard type with 1 turn of 360° for each position.
- Special type with 2 or more turns.
- Standard paint RAL 7031.

A) Transformer tank lid.
B) Flat gasket 6 mm thickness.
C) Slots for the alignment correction of transmissions.
D) Precision joints.
E) Rubber protections.
F) Numbering window.
BEVEL GEAR TYPE 070-1.12.205

- BEVEL GEAR 90° WITH POSITION REPEATER LOCATED ON TRANSFORMER TANK WALL

- Standard bevel gear can be used at max. 12 positions.
- Standard type with 1 turn of 360° for each position.
- Special type with 2 or more turns.
- Standard paint RAL 7031.

A) Transformer tank wall.
B) Rubber protections.
C) Precision joints.
D) Flat gasket 6 mm thickness.
E) Numbering window.
F) Transformer active part can be removed after unscrewing the M8 four bolts "F" and pulling out, for 120 mm, bevel gear and numbering box.
BEVEL GEAR TYPE 070-1.12.405

- BEVEL GEAR 90° FOR ASSEMBLING ON COVER AND ON WALL

A) Transformer tank lid / wall.

B) Slots for the alignment correction of transmissions.

C) Flat gasket 6 mm thickness.

D) The dimension is 55 mm when assembled on lid. It's 70 mm, like drawing, when assembled on vertical wall for the clutch into friction cone 1.12.211.

- Standard paint RAL 7031.
- Bevel gear, made of aluminium casting - Guards for seal rings.
- Standard paint RAL 7031.

A) Slots for the alignment correction of transmissions.
BEVEL GEAR TYPE 070-1.12.506

- BEVEL GEAR 90° LOCATED ON TRANSFORMER TANK WALL

- Standard paint RAL 7031.

A) Transformer tank wall.

B) Slots for the alignment correction of transmissions.

C) Flat gasket 6 mm thickness.
MOTOR DRIVE TYPE 070-1.12.310

- STANDARD DRIVE CAN BE USED AT MAX. 15 POSITIONS
- STANDARD PAINT RAL 7035
- STANDARD POWER SUPPLY THREE PHASE 400 V - 50/60 Hz
- TOTAL WEIGHT 110 Kg

Dimension in mm

NAMEPLATE DETAIL

A) Self braking motor
B) Gear motor made by C.A.P.T.
C) Numbering window

DETAIL OF CONTROL PANEL

1) Main breaker
2) Main power signaling red lamp
3) Auxiliary voltage signalling white lamp
4) Out of position signaling red lamp
5) Phase cyclic sense signaling red lamp
6) Maneuvere counter
7) Emergency pushbutton
8) Selector (Local / Remote)
9) Green luminous pushbutton (Lower)
10) Green luminous pushbutton (Raise)
REMOTE CONTROL BOX TYPE 070-1.12.350

- FOR MOTOR DRIVE 070-1.12.310

**Box material:** Aluminum alloy

**Box paint:** RAL 7040