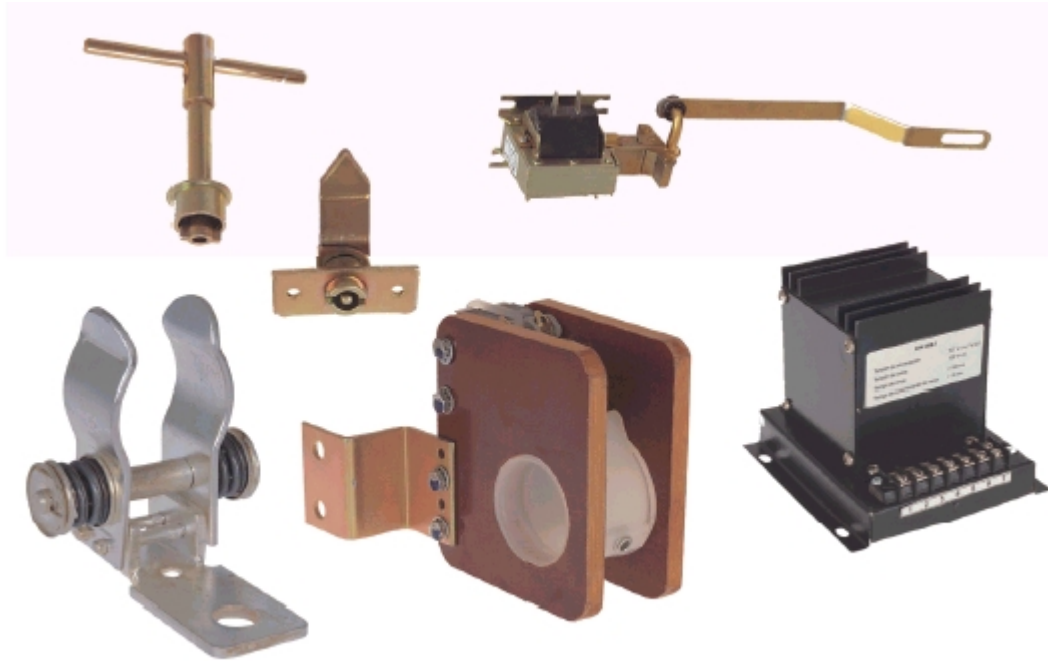


# ACCESSORIES AND SPARE PARTS FOR **DRIWISA™** EQUIPMENTS INDOOR SERVICE



## OVERVIEW



DRIESCHER Y WITTJOHANN, S.A. has always been concerned to keep a service policy to its products by means of a wide range of **DRIWISA™** spare parts', original parts' and accessories' availability with the purpose of keeping equipments always in good conditions and also offering to its customers an efficient service system and technical support through factory personnel or through an authorized representative.

The company has also developed a wide variety of accessories for medium voltage enclosures and switchgears, and for **DRIWISA™** equipments (fuse-holders, non-load break isolator switches, load break disconnecter switches and grounding switches), keeping a development and research policy to add new devices that for their features represent an added value to its products and its customer products, always keeping the quality and reliability that has distinguished **DRIWISA™** trade mark for 30 years.

**DRIWISA™** spare parts, original parts and accessories are a quality and reliability guarantee to keep equipments in good conditions for many years.

# ACCESSORIES AND SPARE PARTS FOR DRIWISA™ EQUIPMENTS INDOOR SERVICE



## SELECTION CHART

Catalog number	Description	Pages
<b>SAFETY DEVICES</b>		
DW-018	Pliers for high voltage fuses	F5
<b>INDICATORS AND INSTRUMENTS</b>		
Discontinued		
<b>MOTOR DRIVE OPERATORS</b>		
DW-760 to DW-763	Motor drive operators	F12
DW-764	Emergency manual operator (crank type) for GMG types	F12
<b>ADJUSTING DEVICES</b>		
DW-820...	Clip assembly	F18
<b>SHUNT TRIP COIL AND ACCESORIES</b>		
DW-881	Shunt trip coil	F20
DW-884	Limiter/holding resistor for 120 V AC supply	F20
DW-885	Limiter/holding resistor for 125 V DC supply	F20
DW-896-1	Auxiliary contact "S0" with arc supressor for 120 V AC	F20
DW-896-0	Auxiliary contact "S0" with arc supressor for 125 V DC	F20
DW-888	Plug-in capacitor trip unit	F21
DW-889	Support and connection base, surface mounting	F21
<b>AUXILIARY CONTACTS</b>		
DW-898...	Auxiliary contacts for signallization and control	F22
	Set of auxiliary contacts	F22
<b>OPERATORS MECHANISMS</b>		
DW-900	Disc-type operator, complete set	F23
DW-901	Loose parts for disc-type operator mechanism	F23
<b>DOOR LOCK FOR SWITCHGEAR</b>		
DW-951	Straight-type door lock	F27
DW-952	Z type door lock	F27
<b>SPARE PARTS</b>		
	Non-load break isolator sw itches spare parts	F30
	Load break unfused disconnecter sw itches spare parts	F31
	Load break fused disconnecter sw itches spare parts	F32
	Grounding sw itches spare parts	F33
<b>SPRING OPERATING MECHANISMS</b>		
	Quick make/quick break mechanism type "B"	F34
	Quick make/quick break mechanism type "C"	F34
	(stored energy and auxiliary trip)	F34
	Quick make/quick break mechanism type "D"	F34
	(stored energy, auxiliary trip and shunt trip coil)	F34
	Quick make only mechanism type "E"	F34

For further details of every accessories, consult the corresponding Selection Guide.

# DRIWISA™ PLIERS FOR HIGH VOLTAGE FUSES WITH WALL HOLDER INDOOR SERVICE



# F

## OVERVIEW



**DRIWISA™** pliers for high voltage fuses are designed taking into consideration the minimum safety distances according to international standards (IEC). This is the reason for which they only can be used in switchgear also built according to international standards and whose rated voltage ranges are defined. In any case, the user must contact the switchgear manufacturer in order to consult with him, if these pliers could be used.

**DRIWISA™** pliers should only be used from their extreme end, behind the protection ring. The user must always keep himself at the necessary security distance from live parts in the switchgear. When applying the fastening clamps on the high voltage fuses, this must be done at the largest distance possible.

By turning the handle, the fastening clamps of the plier open or close. With **DRIWISA™** pliers fuses with a diameter

between 40 and 88 mm and a maximum weight of 10 kg can be handled.

The red ring indicates the minimum security distance between the operator and the live parts of the installation. This distance must be respected, when approaching current-conducting parts. This is where the isolated part of the pliers begins.

Before using these pliers, the safety instructions should be carefully consulted. The rated voltage indicated on the pliers themselves, refer to the highest system voltage they could be use on.

**DRIWISA™** pliers can be used in indoor and outdoor service switchgear, but never when it rains or in zones with heavy fog.

# ACCESSORIES AND SPARE PARTS FOR **DRIWISA™** EQUIPMENTS

## INDOOR SERVICE



# F

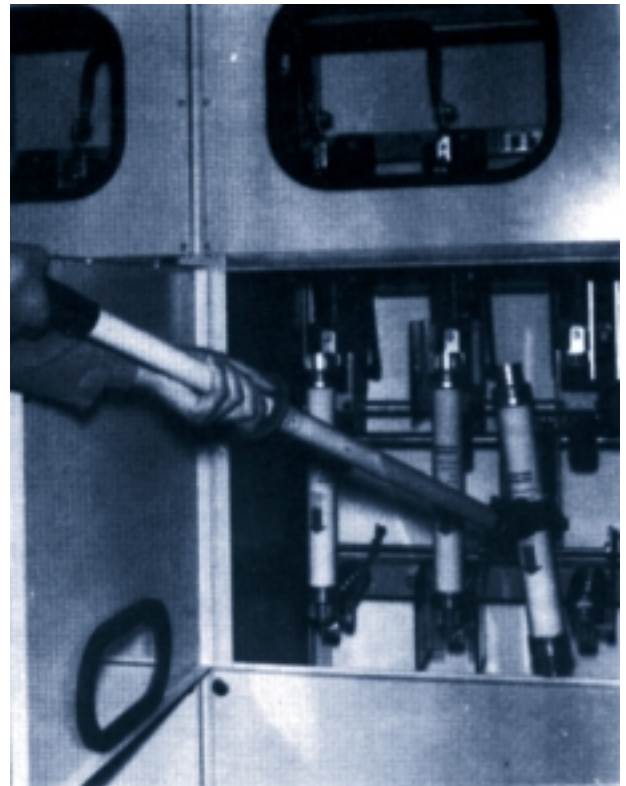
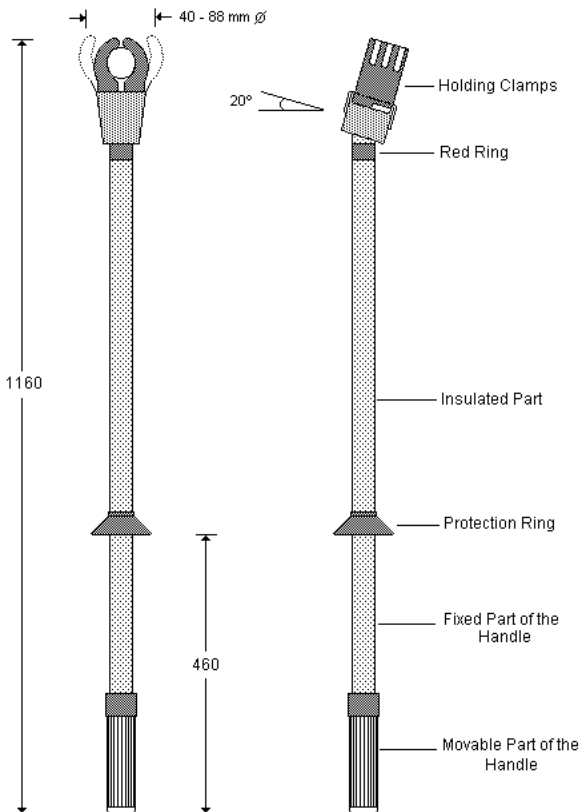
### Specifications

Catalog Nr: DW-018

Operation voltage (Vn) :	Up to 30 kV to ground
Test voltage:	80 kV
Fuse admissible diameter in the fastening clamps:	40 to 88 mm
Fuse admissible weight:	10 kg
Total length:	1160 mm
Weight:	1.5 kg

- Notes:
- The protection ring limits the isolated part of the plier from the handle. The operator should never hold the plier beyond this point.
  - **DRIWISA™** pliers should be perfectly cleaned and dried if necessary before being used and kept stored in a clean and dry place.
  - **DRIWISA™** pliers are provided with a holder to be installed on the wall nearby the switchgear or electrical installation in which it will be used.

### Dimensions



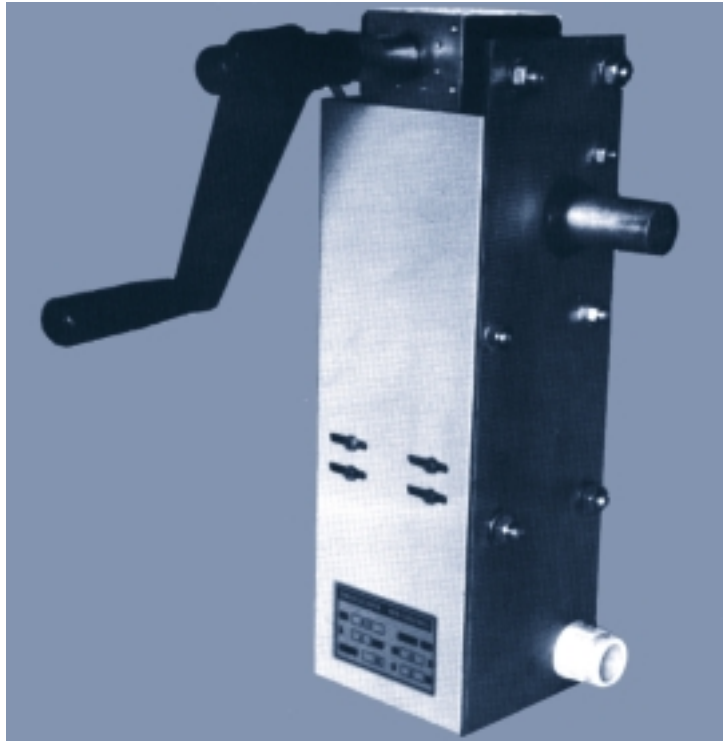
**DRIWISA™ MOTOR DRIVES TYPE GM**  
FOR NON-LOAD ISOLATORS AND LOAD-BREAK SWITCHES.



**F**

## INDOOR SERVICE

### OVERVIEW



For non-load isolator switches, load break switches and grounding switches' automatization, DRIESCHER Y WITTJOHANN, S.A. has motor drive operators available, specially designed to operate **DRIWISA™** switches.

**DRIWISA™** motor drive operators are available in two basic versions: one for installation at the input shaft of the switch (type GMD) with the possibility of acting it manually through a lever by means of a hookstick. The second version (type GMG) is installed in the inner face of the front panel of the switch cabinet, on a structural element or a beam of the cabinet's structure. It is then mechanically linked by means of a transmission rod with an articulated joint formed by a lever or tab and a yoke at each end. On top of the GMG motor drive, a small gear box with a socket for inserting a manual crank allows manual or emergency operation.

These are equipments of a strong construction and high reliability. Its mechanical dimensioning (nominal torque approximately 200 N-m), exceeds the usual torque requirements to act an equipment (around 90 to 100 N-m). This allows defeating the resistance that could show when equipments have not been operated for a long time.

Their 350 W motor is of the universal type with serial connection. They have an electromagnetic slip clutch, that assures a very good operation, and prevents damages to the motor from overloading in case of mechanic failures that hold up either the motor drive's operation or the switch. They are also provided with limit switches that are operated by a cam on the output shaft, to achieve a precise operation.

All the elements are connected to identified and easy accessible terminal boards. Due to their design a simple control circuit is required which can be built with economical and commercially approachable elements.

Due to its special lubrication with Molykote grease, **DRIWISA™** motor drive operators only require minimum maintenance.

Their reduced dimensions gives them great versatility, making handling and installation easy.

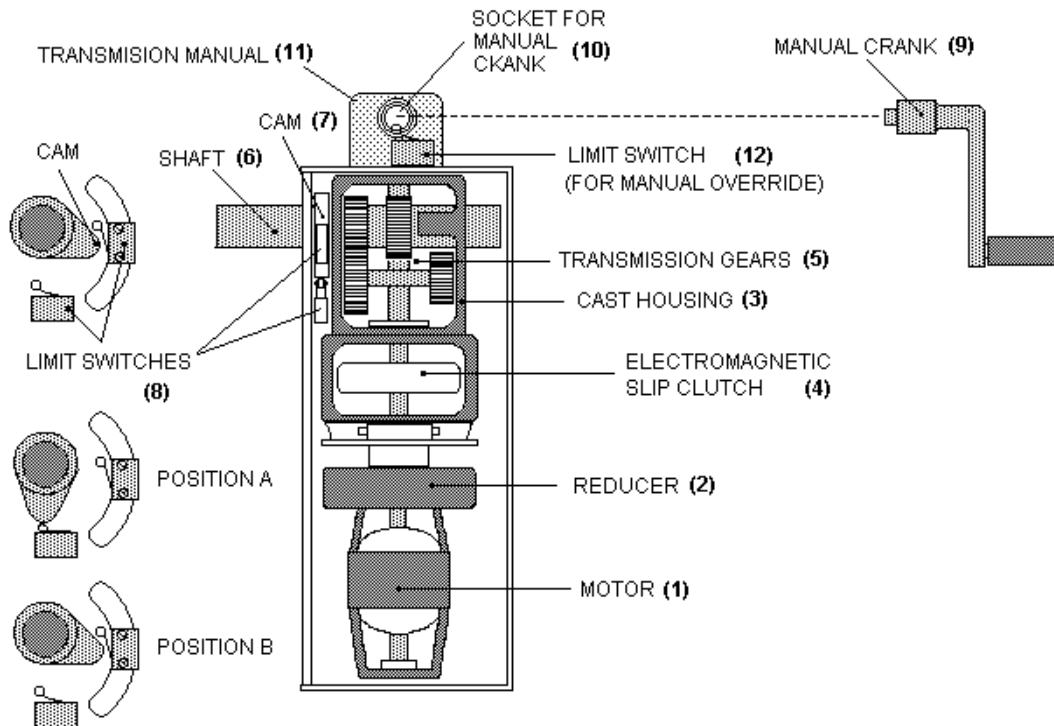
The Selection Guide shows the different options and versions available, to satisfy specific applications.

**DRIWISA™ MOTOR DRIVES TYPE GM**  
**FOR NON-LOAD ISOLATORS AND LOAD-BREAK SWITCHES.**



## INDOOR SERVICE

## CONSTRUCTION AND OPERATION



DW-7028

**DRIWISA™** type GM motor driven operator comprises a universal motor (1), which can be supplied for alternating or direct current operation. This motor has a power of 350 W for a short period of time and, combined with the reducer (2), is enclosed within a metal box (3). This box is made out of a very resistant aluminum casting. The torque is transmitted through an electromagnetic slip clutch (4) on to a shift transmission (5).

On its upper side the actuating shaft has a pinion-gear-type transmission (6) that permits the direct coupling of the motor operator, that according to the selected version, is direct (empty shaft) for GMD version or by means of levers (solid shaft) for GMG version.

An adjustable cam (7) is located on the actuating shaft to act upon the limit switches at the start and the end of the run (8). The operation angles can be continuously adjusted between 0 and 180 degrees. When the operation is concluded, the current to the motor operator and the parallel-connected electromagnetic slip clutch is interrupted through the limiting switch (8). This clutch avoids further shaft rotation once the

switch has reached either final position, due to the motor inertia.

In case of supply voltage failure to the motor drive, it is possible to operate the motor drive inserting a manual crank (9) (emergency manual operator) in a small gear box with a socket (10) located in the extreme of a manual transmission (11). When inserting the handle to perform an emergency manual operation, the current supply to the motor is blocked by means of a safety switch (12).

The emergency manual operator consists of a cone-shaped transmission gear and is coupled in the top side of the motor drive. The motor can be operated from the outside of the switchgear with the help of the auxiliary handle (approx. 20 turns for a complete run).

Motor drive operator operation time is about 5 seconds for a 90° rotation operation. The electromagnetic slip clutch uses 18 W and operates with D.C. so the alternating current (A.C.) versions include a full-wave rectifier bridge for the slip clutch. All the other elements of the motor, may operate either with D.C. or A.C.

**DRIWISA™ MOTOR DRIVES TYPE GM  
FOR NON-LOAD ISOLATORS AND LOAD-BREAK SWITCHES.**



**INDOOR SERVICE**

**SELECTION CHART**

**DW-76 -**

PRODUCT CODE

OPERATION VOLTAGE

Type GMG-L	Installation on the back of the front panel of the switchgear cabinet (for left-operated switches)	DW-760-...
Type GMG-R	Installation on the back of the front panel of the switchgear cabinet (for right-operated switches)	DW-761-...
Type GMD-L	Installation on the input shaft of the switch (for left-operated switches)	DW-762-...
Type GMD-R	Installation on the input shaft of the switch (for right-operated switches)	DW-763-...
	Emergency manual crank (for types GMG-L and GMG-R)	DW-764

4-- 110 V d.c. =  
6-- 110 V a.c. ~  
7-- 220 V a.c. ~

**General specifications**

	Unit	d.c.	a.c.
Voltage:	V	110	110   220
Maximum motor current:	A	2.25	3.4   1.5
Total power consumption:		150 W	450 VA
Maximum torque:	N-m	200	200

**Installation**

Motor drives types GMG-L (DW-760-...) or GMG-R (DW-761-...) are installed on the back of the front panel inside the switchgear cabinet, according to the driving side of the switch (left or right) and linked to the switch handle (operating tab) by means of a transmission mechanism formed by a rod or pipe with one forked yoke at each end, like the one used on the disc-type operator.

When using the emergency manual crank (DW-764), the motor operator may be manually turned in case of power failure, motor drive failure or any other emergency case.

Motor drives types GMD-L (DW-762-...) or GMD-R (DW-763-...) are mounted directly on the input shaft of the switch, on the left or right side depending on the driving side of the

switch and may be manually operated in case of emergency or failure by means of a hook-stick hooked on the emergency lever at the far end of the motor drive.

These motor drives may be used in conjunction with grounding switches and non-load isolators, regardless of the existing operating mechanism (manual or spring driven) or with load-break switches having any type of quick-make / quick-break mechanism, with or without automatic tripping. This versatility allows a wide variety of applications of the DRIWISA™ switches, since the switchgear designer, manufacturer or even the user, have at hand the possibility of building an easy electrical remote control for the switch opening and closing functions, to satisfy several requirements for control, automation and protection. Field installation of the motor drives on existing switches is easy, by just selecting the required type on the selection chart above. They are supplied with all the necessary parts.

Due to the different control modes and practices, the control circuitry is not included, but must be provided by the user.

**DRIWISA™ MOTOR DRIVES TYPE GM**  
**FOR NON-LOAD ISOLATORS AND LOAD-BREAK SWITCHES.**



**INDOOR SERVICE**

***DIMENSIONS AND INSTALLATION***

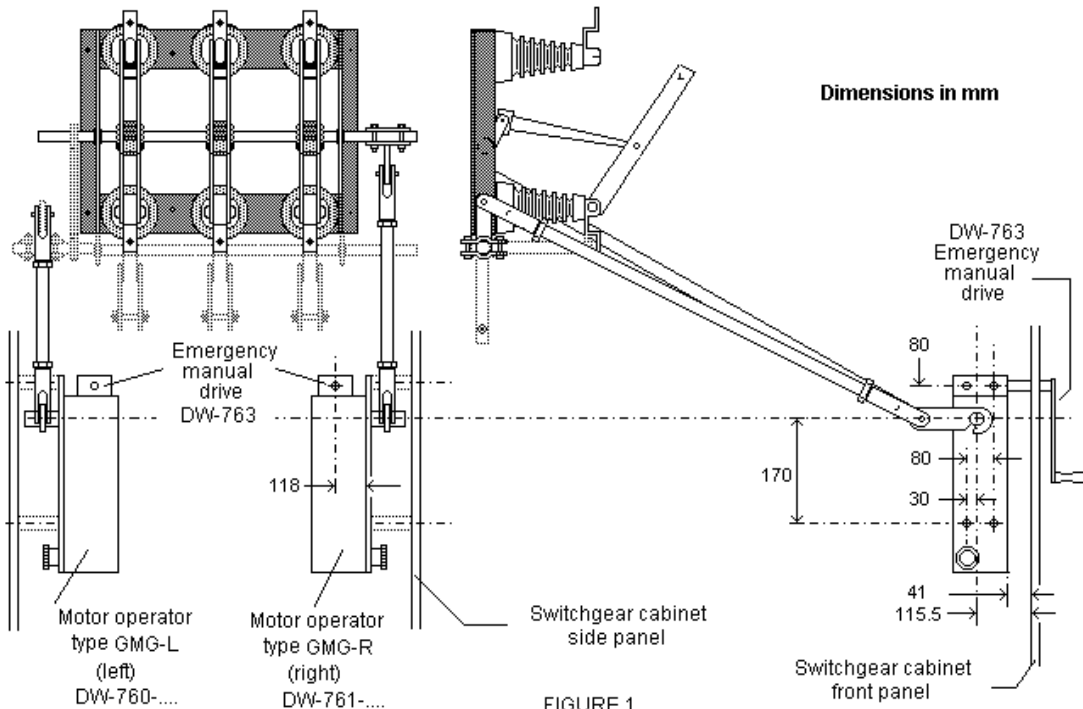


FIGURE 1

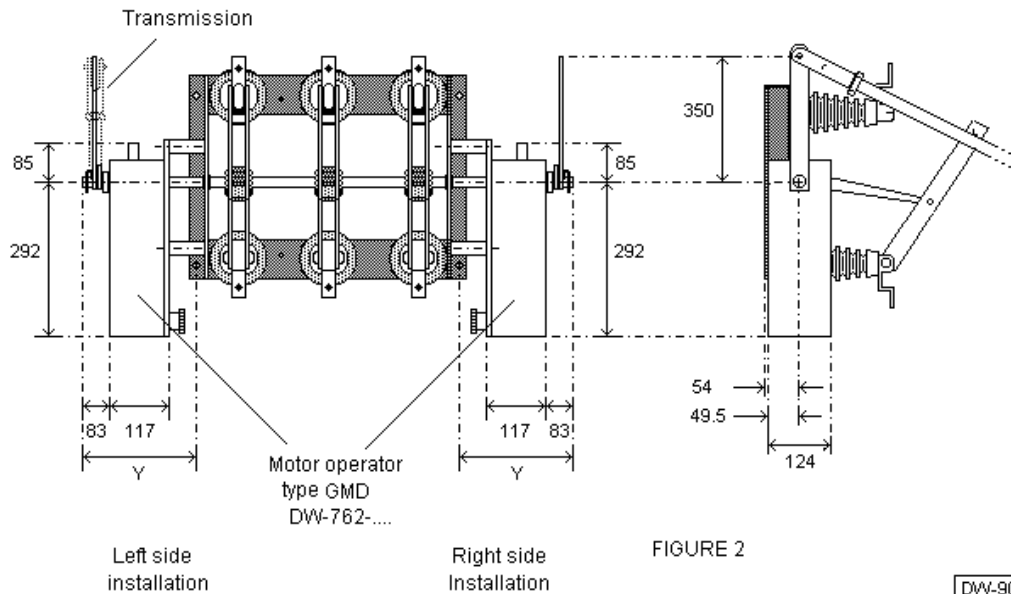


FIGURE 2

DW-9028



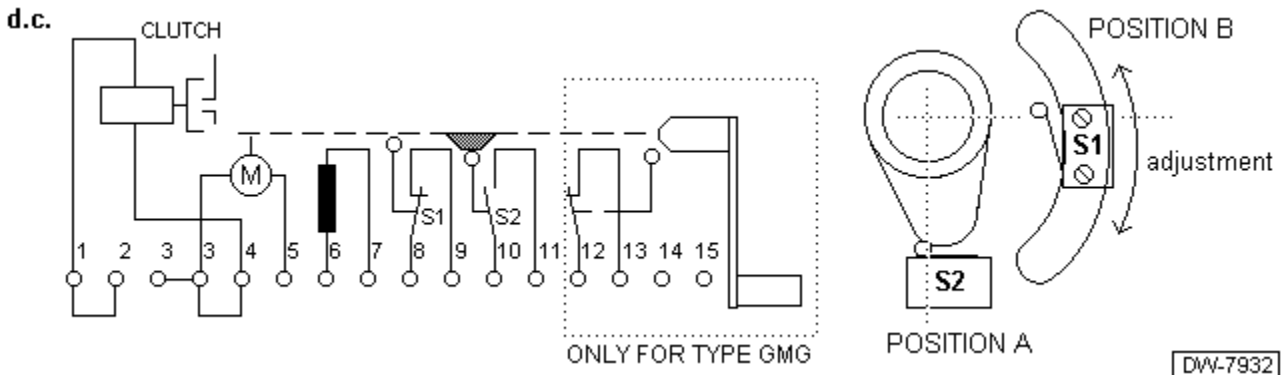
**DRIWISA™ MOTOR DRIVES TYPE GM**  
**FOR NON-LOAD ISOLATORS AND LOAD-BREAK SWITCHES.**



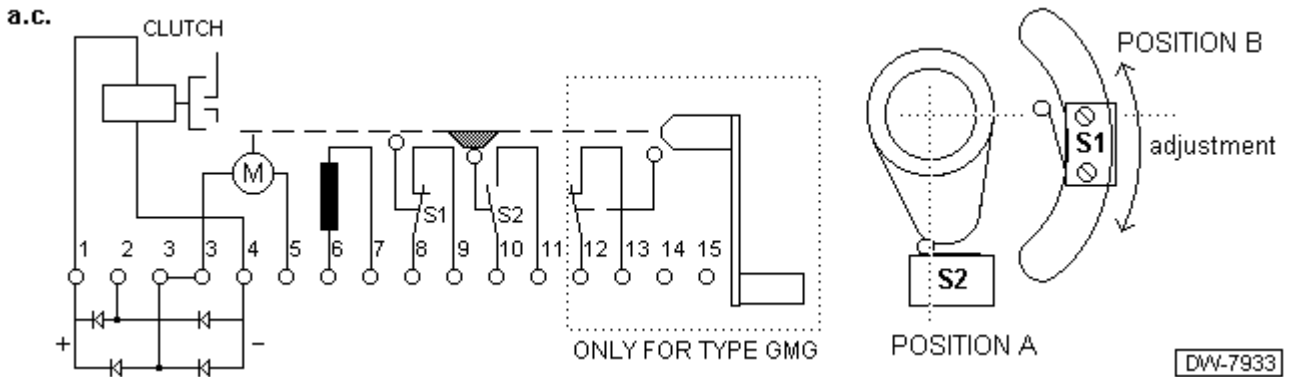
**INDOOR SERVICE**

**ELECTRIC DIAGRAMS**

**VERSIONS FOR DIRECT CURRENT**



**VERSIONS FOR ALTERNATING CURRENT**



The operating voltage of the motor drive is defined by the last digit of the catalog number.

Motor drive operators have limit switches, namely S1 and S2, operated by a cam on the output shaft. Their function is to cut power to the control circuit so that positive stopping action is obtained when the end positions are reached. The position of S1 and the cam are adjustable, whereas S2 has a fixed position. By combining the adjustment of the cam and S1, fine trimming is feasible to obtain precise stopping action in both directions.

**CONTROL CIRCUIT:**

The control and signalization circuits required for the motor drive depend on the type of switch and driving mechanism and the specific requirements.

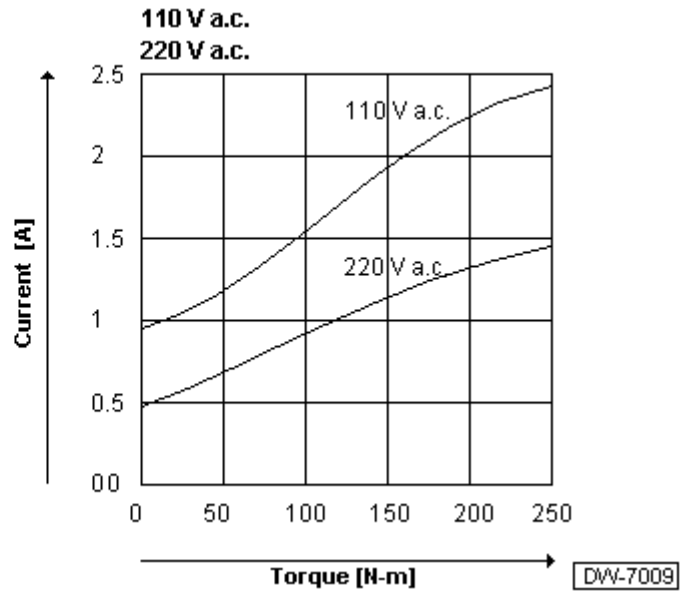
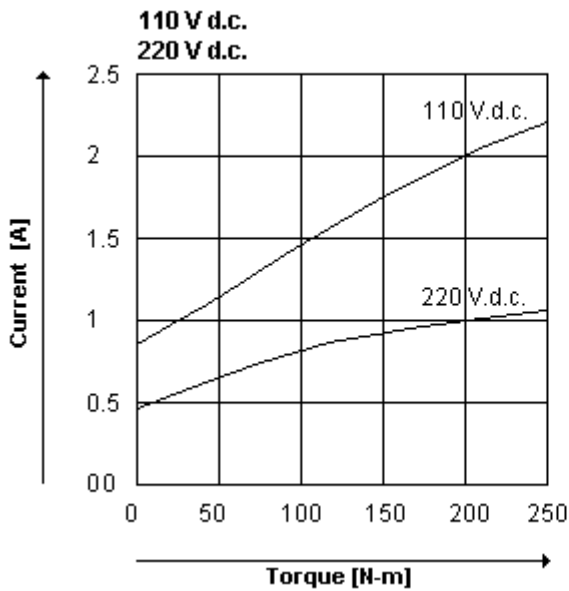
**Important note:** When using motor drive operators in combination with non-load break isolators or grounding switches, the necessary electrical and mechanical blockades must be provided to avoid their closing and opening operation in conditions which represent danger (connection or disconnection with load connected).

**DRIWISA™ MOTOR DRIVES TYPE GM**  
 FOR NON-LOAD ISOLATORS AND LOAD-BREAK SWITCHES.



**INDOOR SERVICE**

**TORQUE - CURRENT GRAPHS**

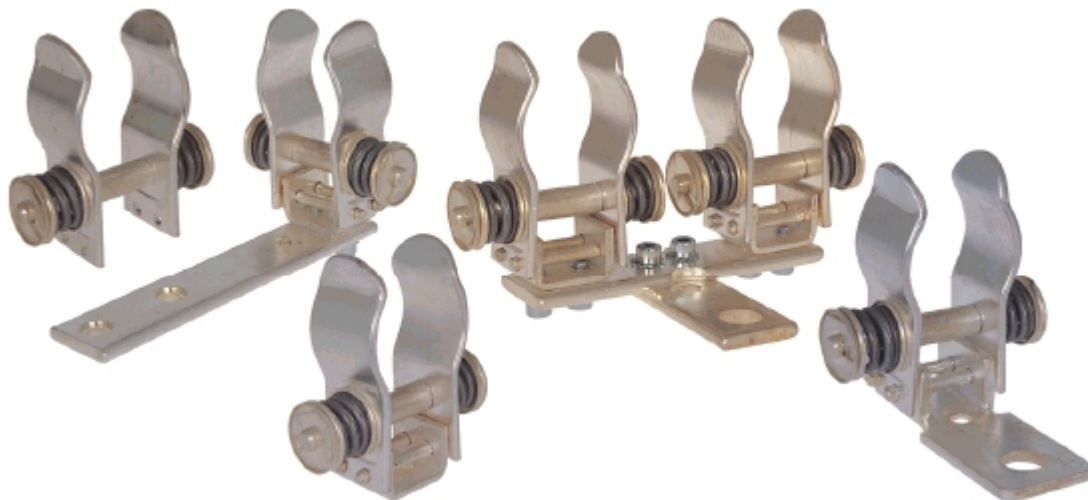


# DRIWISA™ CLIP ASSEMBLIES FOR HIGH VOLTAGE CURRENT-LIMITING FUSES INDOOR SERVICE



# F

## OVERVIEW



DRIESCHER Y WITTJOHANN, S.A. manufactures clip assemblies for current-limiting fuses with cap diameters of 43 to 46 mm which correspond to the specified diameter by international standards (IEC).

Clips for **DRIWISA™** fuses are made of pure stamped electrolytic copper (99.9%), to provide the necessary mechanical strength and with a silver-plated-finish to assure an excellent contact with a reduced ohmic resistance. They have a tempered spring system that assures the adequate pressure on the contact area, to achieve the minimum contact resistance and to supply the necessary mechanical firmness.

The assembling base has two holes that allow its mounting on **DRIWISA™** standoff insulators or on insulated supports,

buses or even on specific arrangements in starters, switches or potential transformers. The entire assembly has a terminal on one extreme, either to connect directly to a bus or a cable through a connector.

This versatility allows clips to be used in different ways and be widely used to satisfy any application.

When an insulated fuse mounting base ready to use is required, it is recommended to use a fuse-holder the way described in Section B of this catalog.

Selection guide shows the different options and available versions, as spare part or as specific parts for certain applications.

# DRIWISA™ CLIP ASSEMBLIES FOR HIGH VOLTAGE CURRENT-LIMITING FUSES INDOOR SERVICE



# F

## SELECTION GUIDE

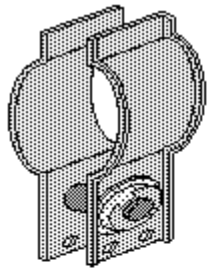


FIGURE 1

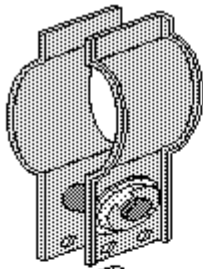


FIGURE 2

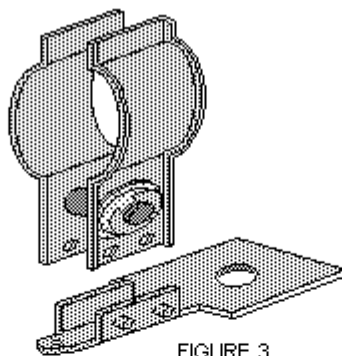


FIGURE 3

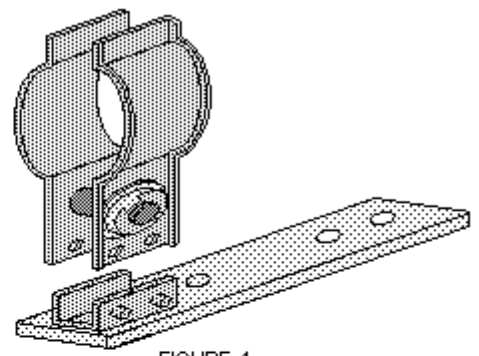


FIGURE 4

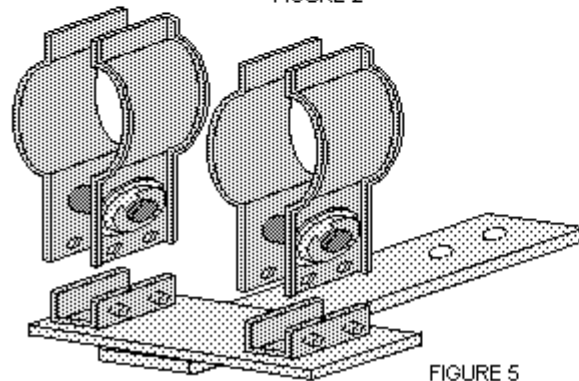


FIGURE 5

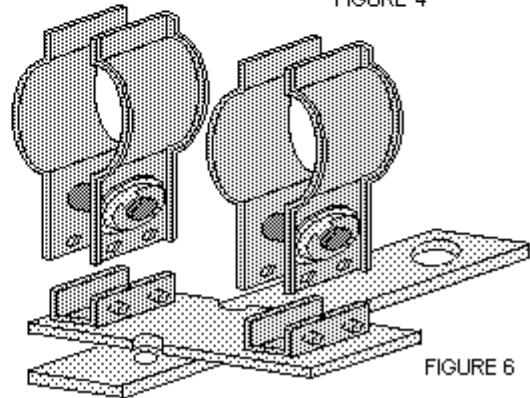


FIGURE 6

DW-8017

FIGURE	CATALOG Nr	DESCRIPTION	SUGGESTED USE
1	DW-820-0	Independent clip	Just as spare part
2	DW-820-1	Clip with clip holder	For mounting on buses and as spare part
3	DW-820-2	Clip with contact	For mounting on insulators or insulators supports and as spare part
4	DW-820-11	Clip with clip holder and single bar	As spare part for switches with single fuse holder
5	DW-820-12	Double clip and long bar T (central) f/ 2 x phase	As spare part for switches with double fuse holder (hinged side)
6	DW-820-13	Double clip and short bar T (out) f/ 2 x phase	As spare part for switches with double fuse holder (fixed contact side)

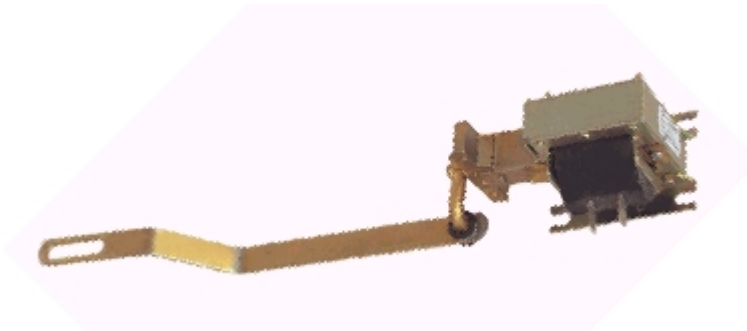
DW-8017-11

# SHUNT-TRIP COIL FOR **DRIWISA™** SWITCHES WITH STORED-ENERGY DRIVES (QUICK-BREAK)



## INDOOR SERVICE

### OVERVIEW



The shunt-trip coil is used in load-break switches with quick-open (quick-break) drive mechanism (stored energy type) with auxiliary tripping, enabling a wide variety of applications of **DRIWISA™** switches, since the opening function may be effectively controlled by electrical means, to meet several requirements both for control and protection schemes.

The tripping coil consists of a solenoid with a moving plunger armature which is strongly attracted to the core by the resulting magnetic field when energized. The moving piece is linked to a rod and a lever which pulls the pawl release of the stored-energy spring mechanism of the quick-open drive, thus tripping and opening the switch.

Among the main features are its rugged construction and a wide supply voltage range, allowing its operation even under low voltage conditions.

The **DRIWISA™** tripping coil is designed for momentary operation with DC or AC supply, during the time required for the auxiliary tripping mechanism to release and trigger the previously loaded spring drive.

An auxiliary contact (S0) is recommended to be connected in series with the coil. When the switch opens, the auxiliary contact cuts the current supply to the coil, and extends its life. In such cases when the coil must remain energized a limiter / holding resistor RL must be connected as shown in the attached schematic diagram (for example, to block closing of the switch unless the cause of tripping has been eliminated).

An arc-suppressor connected in parallel to the contact is recommended to extend the auxiliary contact life.

The tripping coil is included and installed in LDTP... / ... **D** ... switches (type D drive mechanism) or may be field-installed in switches type LDTP... / ... **C** ...

For installation in existing switches, it may be ordered by the corresponding catalog number(s) according to the attached Selection Chart. The complete kit is supplied if properly ordered for field installation.

The applications of shunt-trip coils integrated to load-break switches are diverse, such as the following protection systems:

- Protection against low voltage (27)
- Protection against phase fault (47)
- Protection against phase inversion (47)
- Protection against overloads (51)
- Protection against low power factor (55)
- Protection against overvoltages (59)
- Protection against overfrequency or low frequency (81)

The numbers between parenthesis correspond to the ANSI designations for power systems devices (ANSI C37.2-1991).

For further references consult Technical Bulletin 303.

# SHUNT-TRIP COIL FOR **DRIWISA™** SWITCHES WITH STORED-ENERGY DRIVES (QUICK-BREAK)



## INDOOR SERVICE

### SELECTION CHART

Complete shunt-trip coil kits for 120 VAC / 125 VDC with pulling rod and auxiliary contact type S0, including installation and operation hardware:

CATALOG Nr	CONTROL VOLTAGE	MAXIMUM VOLTAGE			
		7.2 KV	17.5 KV	25.8 KV	38 KV
DW-881-1	120Vac/125Vdc				
DW-881-12	24 Vcd				
DW-881-2	120Vac/125Vdc				
DW-881-22	24 Vcd				
DW-881-3	120Vac/125Vdc				
DW-881-32	24 Vcd				

The 881-x models are supplied complete with accessories and installation hardware.

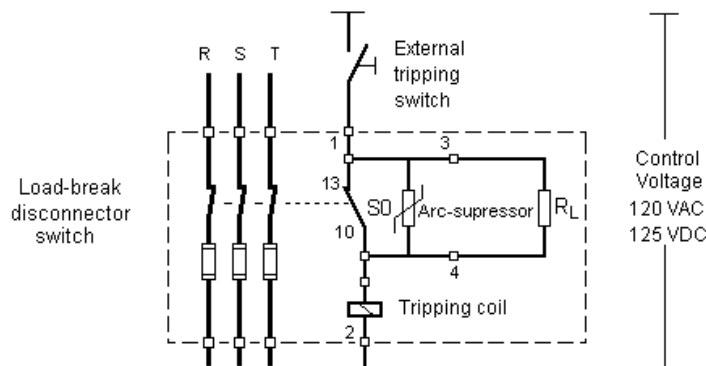
#### Other accessories:

**DW-884** Limiter / holding resistor for 127 VAC supply.  
**DW-885** Limiter / holding resistor for 125 VDC supply.

**DW-896-1** Auxiliary contact "S0" with arc supressor for 127 VAC.  
**DW-896-0** Auxiliary contact "S0" with arc supressor for 125 VDC

	DC	AC rms	
Minimum pick-up voltage ❶:	80 VDC	80 VAC	❶ 3 seconds maximum
Máximum voltage ❷:	180 VDC	150 VAC	❷ 3 seconds maximum
Holding voltage:	60 VDC	60 VAC	

#### Connection diagram



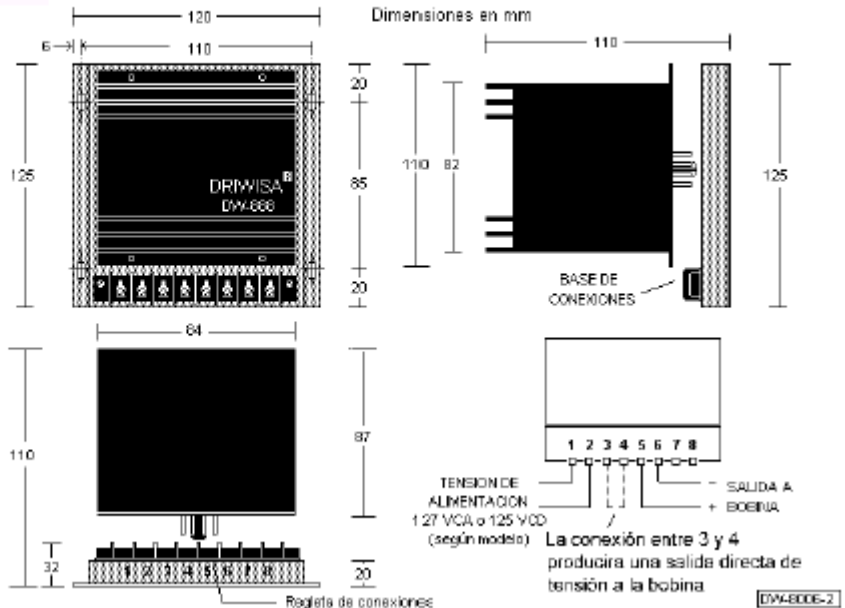
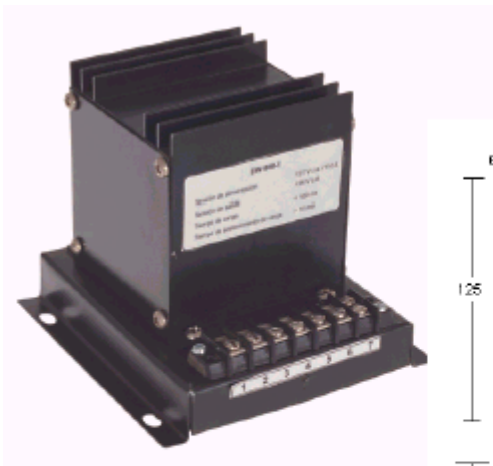
DW-8902

# SHUNT-TRIP COIL FOR **DRIWISA™** SWITCHES WITH STORED-ENERGY DRIVES (QUICK-BREAK)



## INDOOR SERVICE

### OVERVIEW



The capacitor trip unit is intended to store electric charge in a capacitor for later use in tripping a shunt-trip coil (see the corresponding Selection Chart) even when the control voltage supply has been removed, has failed or under emergency conditions.

To ease its installation, operation and maintenance, the unit is contained in a small plug-in module, mounted on a fixed support and wiring base, provided with a screw-type terminal strip for outside connection.

The unit is designed to hold charge for at least 10 minutes after power supply removal and has specially been developed to deliver enough current for one single shot operation of shunt-tripping coils used on **DRIWISA™** switches.

DC and AC main power supply versions are available. Output is 125-160 V DC in either version, adequate for one single shot operation of the shunt-trip coil. The unit may operate in any mounting position.

Further details on operation and application are contained in Technical Bulletin 302.

# SHUNT-TRIP COIL FOR **DRIWISA™** SWITCHES WITH STORED-ENERGY DRIVES (QUICK-BREAK)



## INDOOR SERVICE

### SELECTION CHART

**DW-888-1**

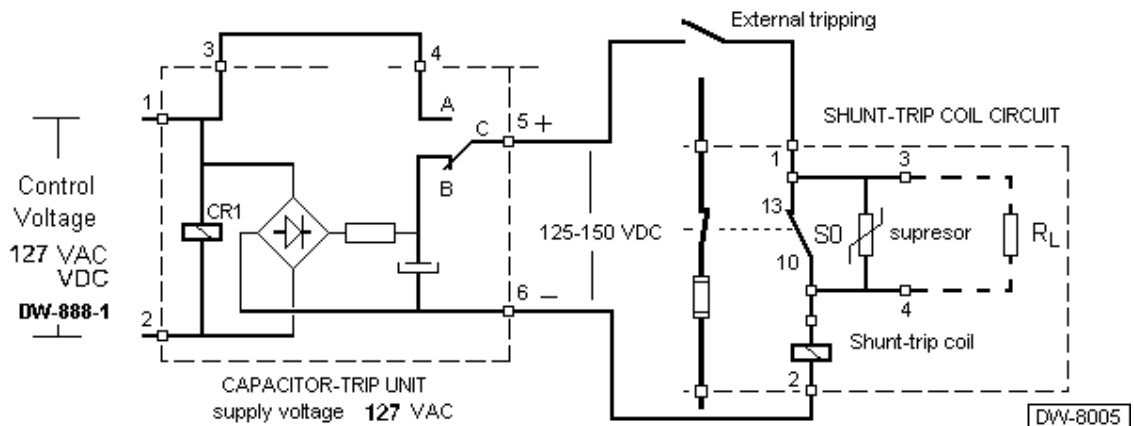
Plug-in capacitor-trip unit for 127 V AC input voltage. Output 125-150 V DC

#### Electrical specifications

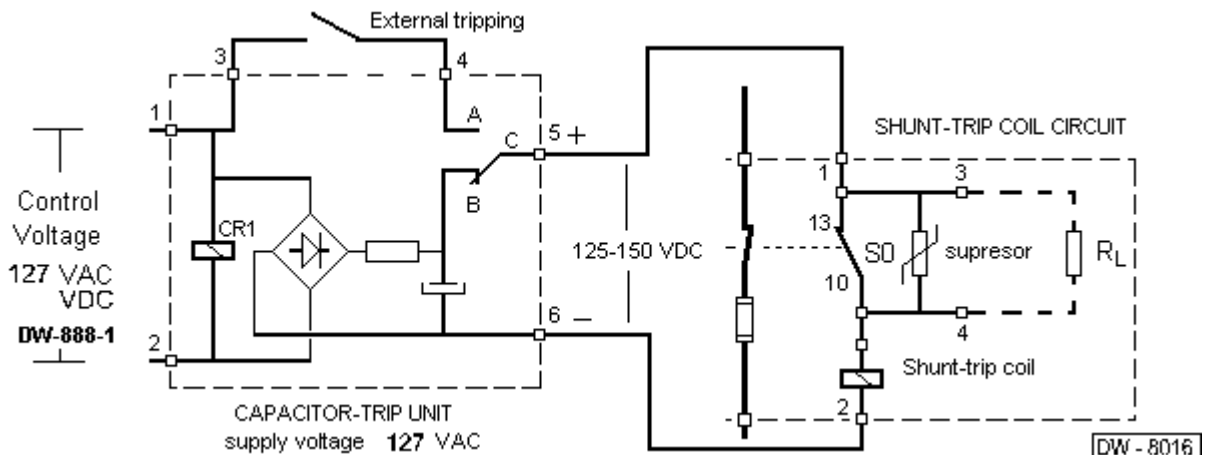
Voltage supply	127 V a.c. / V d.c.
Output voltage	125 - 150 V d.c.
Charging current	≤ 1 A
Charging time	≤ 100 ms
Charge holding time	≥ 10 min

#### Connection diagrams

##### Option A) Control by external tripping



##### Option B) Control by external tripping and automatic tripping when supply is suppressed





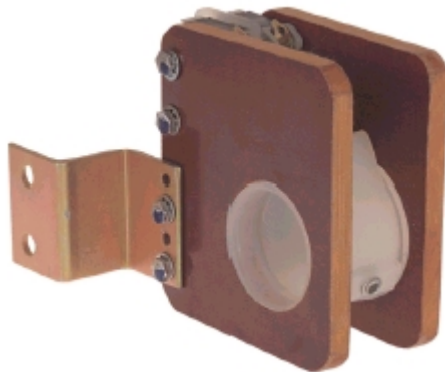
# AUXILIARY CONTACTS FOR **DRIWISA™** SWITCHES

## INDOOR SERVICE



# F

## OVERVIEW



A wide variety of applications for control and signallization in medium voltage switchgear and metal-enclosed distribution switchboards is obtained when **DRIWISA™** load-break, non-load and grounding switches are equipped with auxiliary contacts.

The design of the contact blocks, their modularity and easy installation facilitates not only factory-installed solutions, but even field installation on existing switches to meet every need.

Extending existing contact blocks when needed is extremely easy and therefore maintenance and replacement is made simple.

When selecting the switch, introduce the corresponding letter for auxiliary contacts in the code, according to the option containing the required contacts combination. When doing so, the switch will be shipped with the contacts already installed and calibrated.

The auxiliary contacts blocks are made of two contacts of each selected type. When more contacts of a certain type are required they must be ordered separately but using a code that identifies the type / position. When the switch is delivered, it will contain the basic block of two and the additional contacts already installed. The corresponding code numbers are described in the Selection Chart.

Auxiliary contacts for **DRIWISA™** switches are named S1, S2, S3, S4 and S0, as described in the attached Selection Chart. The code letters used to specify the basic blocks are P, Q, R and S. Letter N implies no auxiliary contacts on the switch.

All auxiliary contacts are 1P2T (changeover contacts) thus giving the designer the choice of using the normally open (NO) or the normally closed (NC), according to each specific need.

Summarizing, the following alternatives are available for maximum flexibility:

### FACTORY-INSTALLED AUXILIARY CONTACTS:

Use code letters P, Q, R or S in the AUXILIARY CONTACTS FIELD when filling the switch code, as described in the enclosed table and on the corresponding switch type Selection Chart. Two auxiliary contacts of each selected type S1...S4 will be installed.

If more than two contacts are required for any or all types, order them separately using the corresponding part number (code) depending on the required type / position (S1, S2, S3 or S4). The resulting combinations will be factory-installed and delivered in such fashion.

### ON-FIELD INSTALLATION OF AUXILIARY CONTACTS TO EXISTING SWITCHES:

Order them by kits, using the corresponding part number (code). All kits are field-installable and include the required hardware. Each kit contains two auxiliary contacts of the corresponding type.

### ADDITIONAL CONTACTS OR SPARE PARTS:

Under code DW-898, kits of auxiliary contacts for extensions or as spare parts are supplied.

# AUXILIARY CONTACTS FOR DRIWISA™ SWITCHES

## INDOOR SERVICE



### SELECTION CHART

SELECTED OPTION IN SWITCH CODE	TYPE AND QUANTITY OF INSTALLED AUXILIARY CONTACTS						COMMENTS
	S1	S2	S3	S4	S5	S0	
<b>N</b>							Without auxiliary contacts except S0 in D versions
<b>O</b>			2				One auxiliary contact type S0 is always provided in switches with
<b>P</b>	2	2					shunt-trip coil (Code ...D...)
<b>Q</b>				2	2		Position indication of grounding switch
<b>R</b>	2	2	2				Position indication of main contacts and fuse status
<b>S</b>	2	2	2	2	2		Position indication of main contacts, grounding sw, fuses
<b>FUNCTION</b>	Fully open switch indication	Fully closed switch indication	Tripping of any fuse indication	Grounding switch fully open indication	Grounding switch fully closed indication	Open shunt-trip coil circuit once switch has opened	
<b>LOCATION</b>	Coupled to the driving shaft of the switch		Coupled to the tripping shaft	Coupled to the driving shaft of the grounding switch indication		On the shaft of stored energy drive opened	
<b>BASIC KIT FOR INSTALLATION</b>	DW-898-0 DW-898-1		DW-893-1	DW-898-4 DW-898-5		DW-896-1	Note: Catalog Nr for installation kit DW-898-... is identified on page F22-6 according to the equipment

When options P, Q, R and S are selected, two 1P2T (changeover type) contacts types S1, S2, S3 and/or S4, S5 are factory-installed.

If more than two auxiliary contacts are required, order them by choosing the appropriate part number.

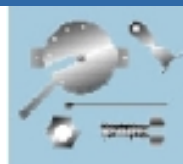
If auxiliary contacts are required for existing switches without provisions, order the corresponding part number for the basic kit for field installation (the kit contains two 1P2T changeover type contacts types S1+S2, S3, S4+S5)

#### Electrical data

CONTACT TYPE :	1P2T	
	A.C.	D.C.
MAX. OPERATION VOLTAGE :	250 V	125 V
PERMANENT CURRENT :	10 A	10 A
INTERRUPTION CURRENT :	10 A	0.5 A

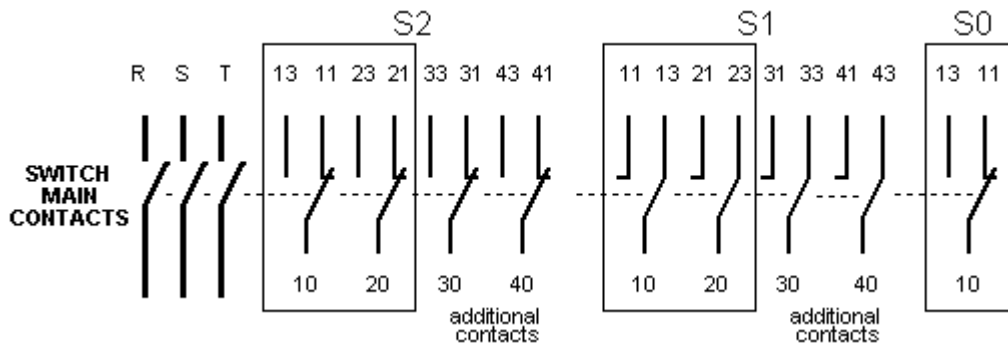
For further information consult Technical Bulletin 301.

# AUXILIARY CONTACTS FOR DRIWISA™ SWITCHES INDOOR SERVICE



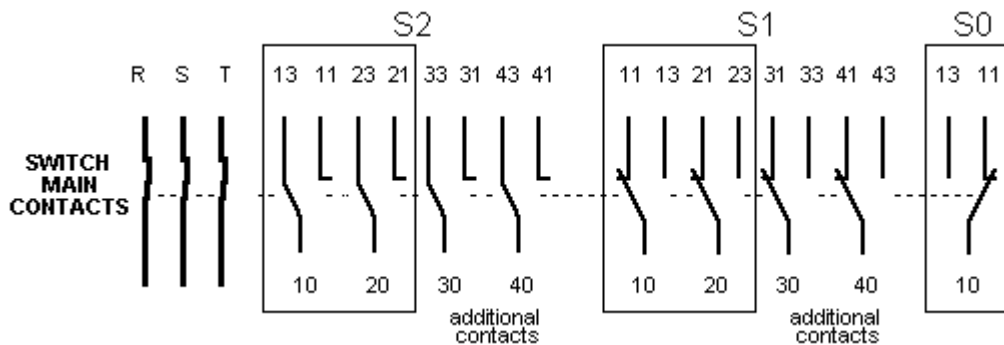
## CONTACT ARRANGEMENT

CONTACT TYPES S1 AND S2



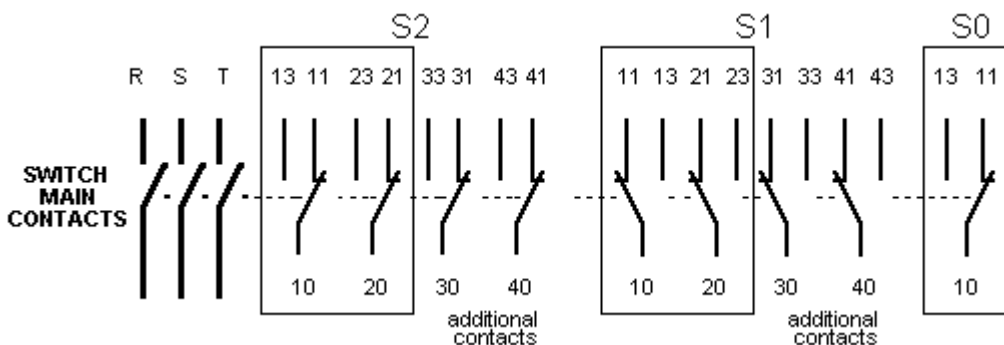
DWV-8001-1

SWITCH IN FULLY CLOSED POSITION :



DWV-8001-2

SWITCH IN ANY INTERMEDIATE POSITION:



DWV-8001-3

Auxiliary contact type **S0** is included only in switches with shunt-trip coil (drive mechanism type D).

# AUXILIARY CONTACTS FOR DRIWISA™ SWITCHES

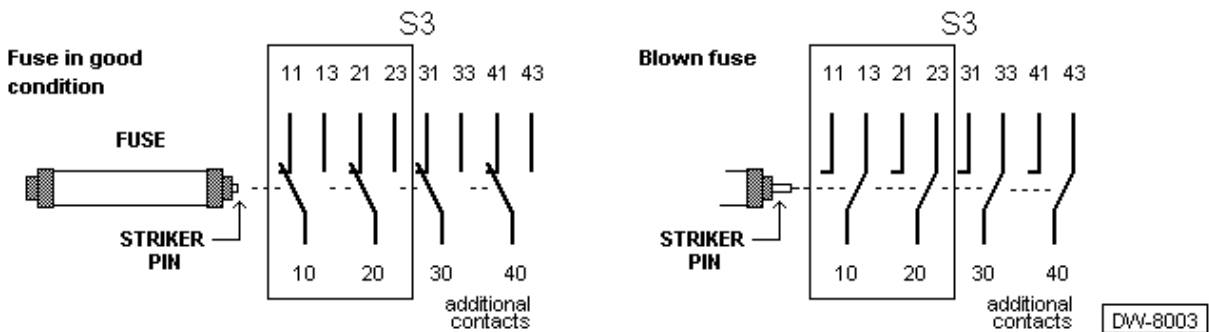
## INDOOR SERVICE



### CONTACT ARRANGEMENT

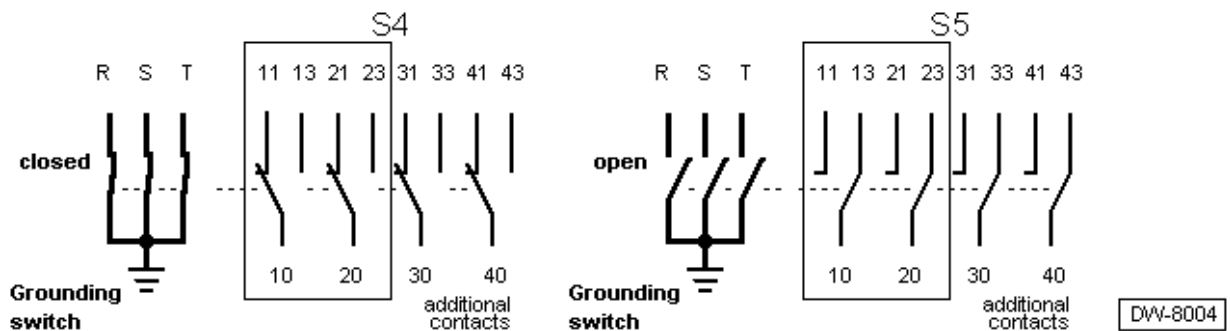
#### CONTACT TYPES S3

FOR FUSE STATUS INDICATION:



#### CONTACT TYPES S4 and S5

FOR GROUNDING SWITCH POSITION INDICATION:  
(WHEN GROUNDING SWITCH IS INTEGRATED INTO LOAD-BREAK OR NON-LOAD SWITCHES OR INDEPENDENT)

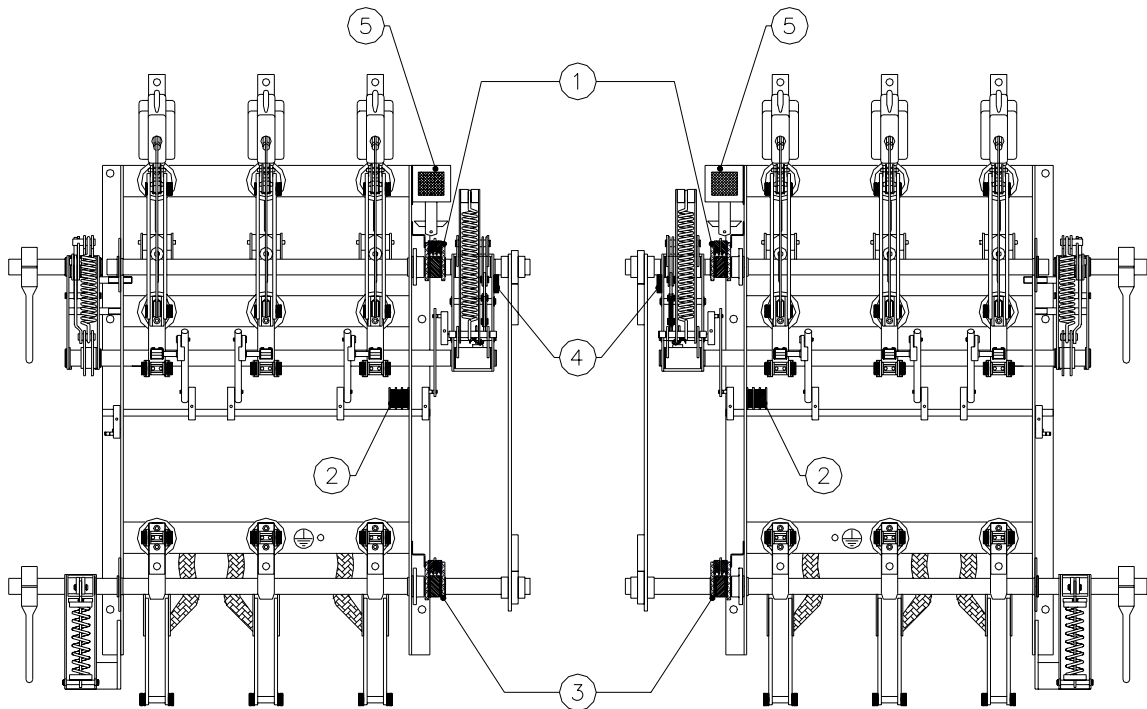


Auxiliary contacts type **S4** and **S5** are employed when grounding switch is integrated into other switches. When the grounding switch is an independent device (type DEP.../....), the same contacts are supplied when option **Q** is selected.

# AUXILIARY CONTACTS FOR DRIWISA™ SWITCHES INDOOR SERVICE



## PHYSICAL LOCATION OF AUXILIARY CONTACTS



LEFT OPERATOR SIDE

RIGHT OPERATOR SIDE

REFERENCE	DESCRIPTION	OPERATOR SIDE	
		RIGHT	LEFT
1	AUXILIARY CONTACTS S1 Y S2	DW-898-1	DW-898-0
2	AUXILIARY CONTACTS S3	DW-893-1	
3	AUXILIARY CONTACTS S4 Y S5	DW-898-5	DW-898-4
4	AUXILIARY CONTACTS S0	DW-896-.....	
5	TRIP COIL	DW-881-.....	

DIMENSIONS IN mm.

GENERAL TOLERANCES  $\pm 5.0$  mm.

DIMENSIONS AND SPECIFICATIONS MAY CHANGE WITHOUT PREVIOUS NOTICE.

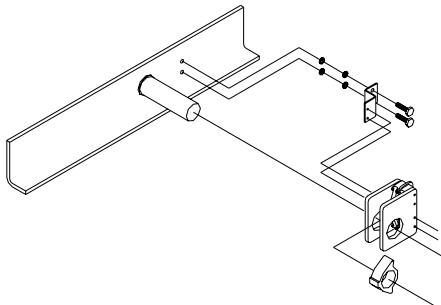
# AUXILIARY CONTACTS FOR **DRIWISA™** SWITCHES INDOOR SERVICE



# F

## KITS OF AUXILIARY CONTACTS

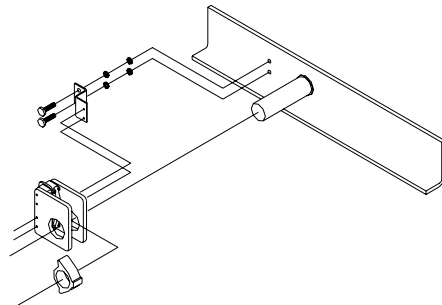
RIGHT SIDE ASSEMBLY



DW-898-0 FOR EQUIPMENT TYPE:  
DTP.../...L...  
DEP.../...L...  
LDTP.../...L...

DW-898-4 FOR GROUNDING SWITCHES  
(LEFT OPERATOR SIDE) INTEGRATED TO  
EQUIPMENT TYPE LDTP AND DTP.

LEFT SIDE ASSEMBLY



DW-898-1 FOR EQUIPMENT TYPE:  
DTP.../...J...  
DTP.../...K...  
DEP.../...K...  
LDTP.../...K...

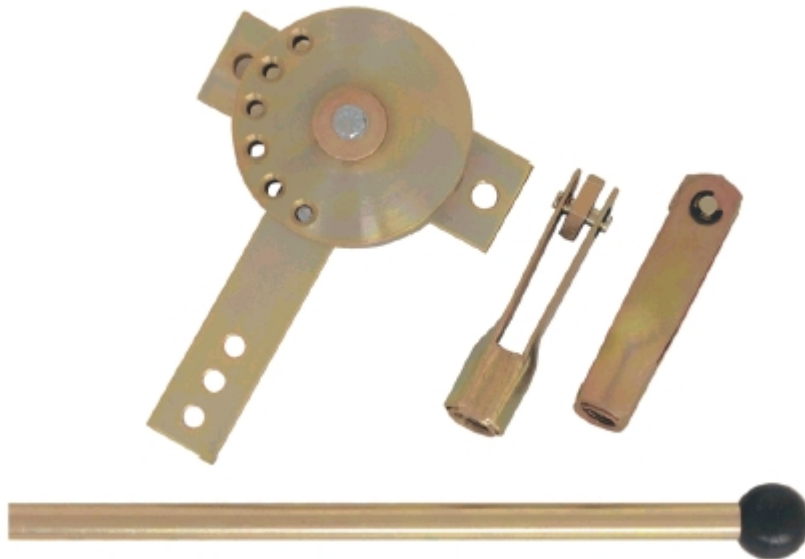
DW-898-5 FOR GROUNDING SWITCHES  
(RIGHT OPERATOR SIDE) INTEGRATED TO  
EQUIPMENT TYPE LDTP AND DTP.

# DRIWISA™ DISC-TYPE MANUAL OPERATOR INDOOR SERVICE



# F

## OVERVIEW



Manually driven **DRIWISA™** disc-type operator is used to maneuver **DRIWISA™** grounding switches, non-load isolators and load-break disconnecting switches from outside the switchgear cabinets.

The complete set consists of the following parts:

- One rotating disc mechanism with lever and a base for fixation on the switchgear cabinet wall
- One removable operator rod to be inserted into the disc
- One coupling yoke for the disc lever
- One coupling yoke for the operator tab of the switch to be operated.

The connection between the two yokes is performed through a ½" galvanized steel pipe, threaded at both ends, cut to the required length, according to the design of the switchgear.

Through the combination and adequate installation and adjustment of all parts, the right solutions for every specific case can be achieved, for right or left-side operated equipment.

Once installed, the disc drive is operated through the operator rod, which is inserted in one of the holes on the edge of the disc. The rotational motion is transmitted to the disc lever, which is adjustable in steps of 25° around the axis.

This lever is coupled to a yoke installed on one end of the galvanized pipe, which transmits the movement to another yoke located on the operating tab on the shaft of the equipment, thus achieving operating at long distance.

The disc lever is delivered without any drills on its end, to allow proper adjustment during the installation, yet to obtain the desired operation.

The corresponding Selection Guide describes the available versions, as well as optional accessories.

# DRIWISA™

## DISC-TYPE MANUAL OPERATOR

### INDOOR SERVICE



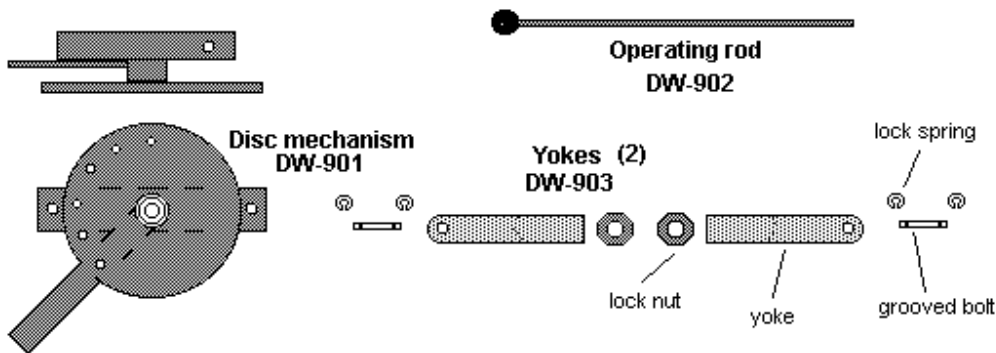
## SELECTION CHART

Cat Nr Description

**DW-900-2** **Plate Versión**  
**DW-900-0** Complete disc operator set, comprises:

- 1 Disc mechanism
- 1 Operating rod
- 2 Yokes

**DW-901 / DW-904 (Plate Versión)**  
**DW-902**  
**DW-903**

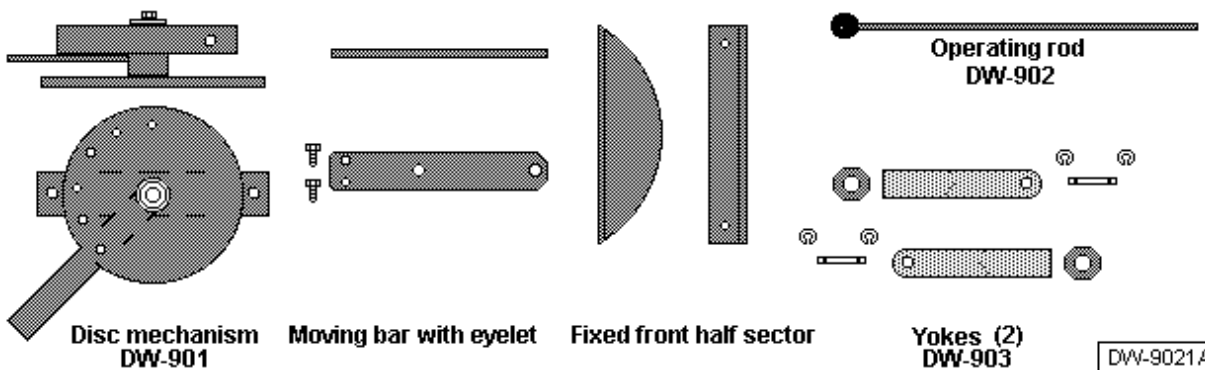


DW-9001

**DW-900-1** Complete disc operator set with devices for padlock, comprises:

- 1 Disc mechanism
- 1 Operator rod
- 2 Yokes
- 1 Moving bar with eyelet
- 1 Fixed front half sector

**DW-901**  
**DW-902**  
**DW-903**



DW-9021A

**Note 1:** The operating tab (operating lever) required for coupling to the switch input shaft is supplied with every switch.

**Note 2:** Because of dimensions of the required galvanized pipe for transmission depend on the design, switchgear dimension and assembly arrangement, it is not included in the supply.

It is recommended to use a 12.7 mm Ø (½") galvanized steel pipe threaded at both ends, cut to required length.

**Note 3:** The holes of the padlock on the fixed front half sector, must be done in field, once the disc mechanism is installed and the blockade positions are set.

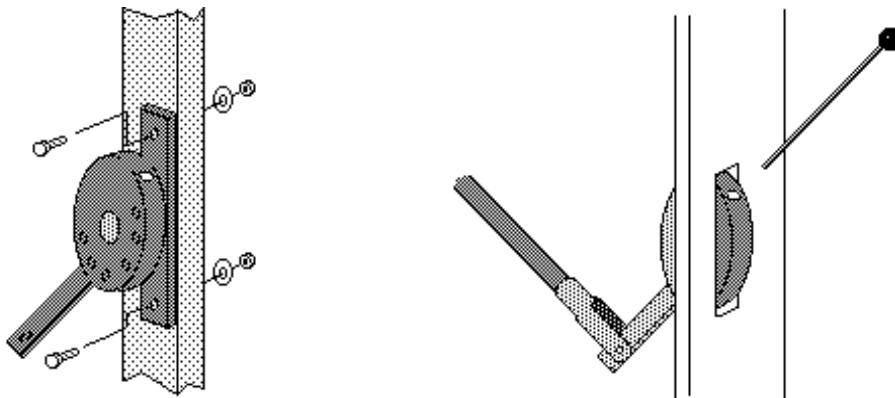


# DRIWISA™ DISC-TYPE MANUAL OPERATOR INDOOR SERVICE



## ASSEMBLY

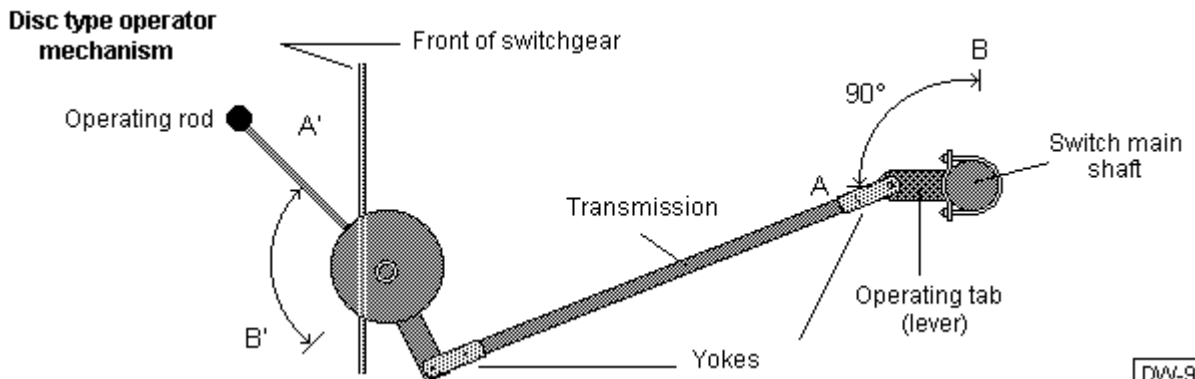
Disc type operator mechanisms are mounted on a lateral support or inner column at the front of the cabinet wall, leaving a front opening or window so a part of it can stand out and may be acted by the operating rod, inserting it in the side hole.



DW-9015

The disc type operator mechanism is coupled through the yokes and a galvanized steel pipe (not included) to the operating tab placed on the switch main shaft.

It is recommended to isolate the transmission pipe using either a thermocontractile sleeve or a high voltage isolating tape.



DW-9002

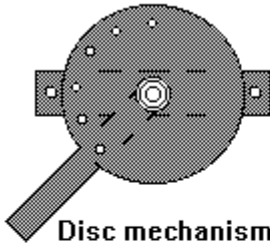
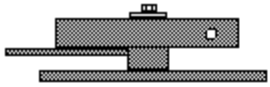
For the equipments assembly and operation it is recommended to keep the operating tab and disc type operator angles the way shown in the figure above. To achieve this, the disc has holes every 25° to make adjustment easy, while with the pipe thread and the yokes a fine adjustment can be achieved.

The disc type operator mechanism with devices for padlock, has to be mounted and adjusted before making the holes on the fixed front half sector, to achieve the required precision.

# DRIWISA™ DISC-TYPE MANUAL OPERATOR INDOOR SERVICE



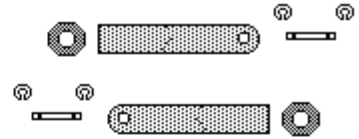
## REPRESENTATIVE DRAWINGS



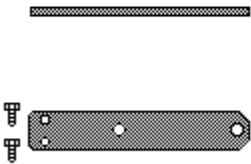
**Disc mechanism  
DW-901**



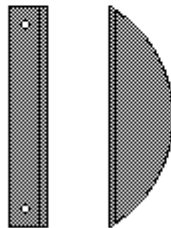
**Operating rod  
DW-902**



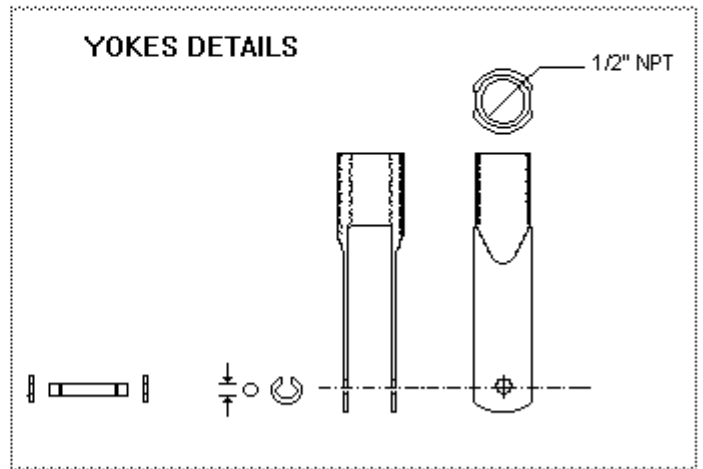
**Yokes (2)  
DW-903**



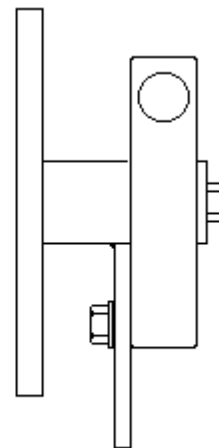
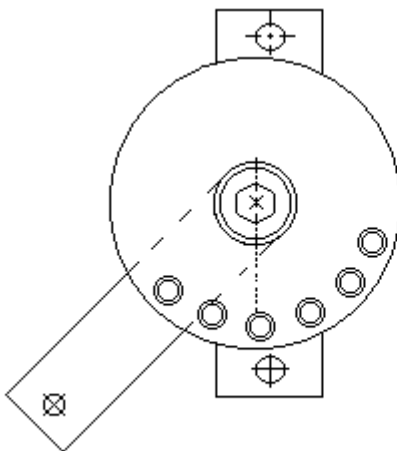
**Moving bar with eyelet**



**Fixed front half sector**



**DW-9018**

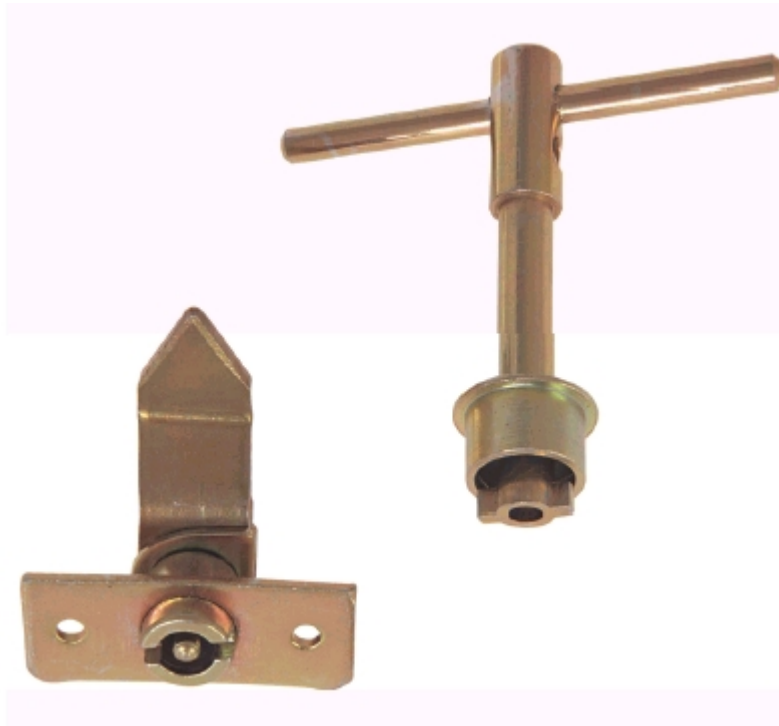


**DW-9012A**

**DRIWISA™**  
DOOR LOCK FOR SWITCHGEAR  
**INDOOR SERVICE**



## OVERVIEW



DRIESCHER Y WITTJOHANN, S.A. has two types of locks available for switchgear manufacturers, provided with security keys, to be used in doors, windows, interlocks, etc.

Their installation and operation is extremely easy, offering great security, because they cannot be operated with screw drivers or any kind of pliers.

Through the position the retaining disc is installed, the desired form of operation is achieved and the position in which the key can be taken out of the lock.

Using **DRIWISA™** locks, with a single key for all the switchgear doors, for example, a master key is obtained, which avoids that more than one door can be opened at the same time.

**DRIWISA™** locks are made out of steel and all their parts are tropicalized for a great durability and resistance to aggressive environments.

Two versions are available, one with a straight latch and a second with a "Z"-shaped latch.



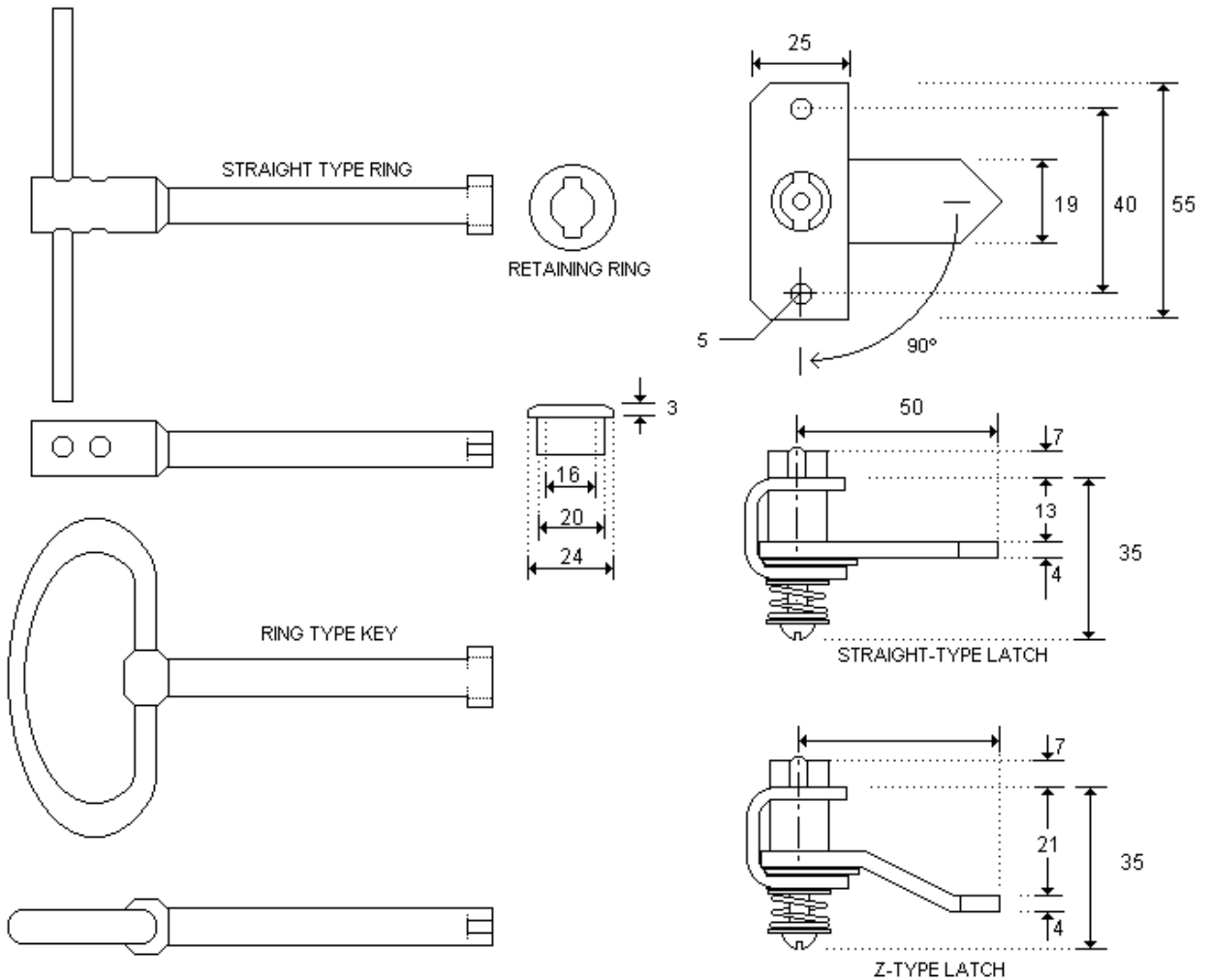
**INDOOR SERVICE**

**SELECTION CHART**

**Complete sets:**

- DW-951-0 Complete set of straight-type door-lock (straight-latch mechanism, retaining ring and ring type key)
- DW-952-0 Complete set of Z-type door-lock (Z-latch mechanism, retaining ring and ring type key)
- DW-951-1 Complete set of straight-type door-lock (straight-latch mechanism, retaining ring and straight type key)
- DW-952-1 Complete set of Z-type door-lock (Z-latch mechanism, retaining ring and straight type key)

**DIMENSIONS**



DIMENSIONS in [mm]

DW-9009B

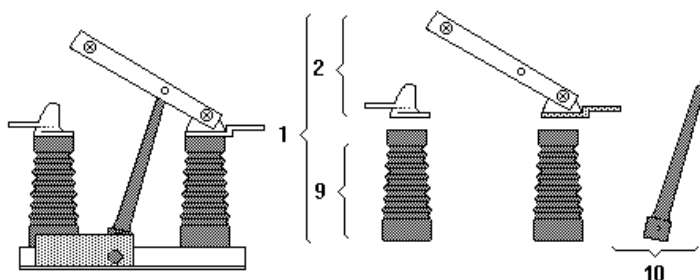
**DRIWISA™ NON-LOAD ISOLATORS**  
GROUP OPERATED



**INDOOR SERVICE, WITHOUT FUSE HOLDERS**

**SUBASSEMBLIES AND SPARE PARTS**

TYPES: **DTP / 0**



CODES: **DTP / 060** 400 and 630 Amperes

ID	DESCRIPTION	DTP07/060 7.2 kV	DTP15/060 17.5 kV	DTP20/060 25.8 kV	DTP30/060 38 kV
1	COMPLETE POLE	DW-125-0	DW-125-1	DW-225	DW-325
2	LIVE PARTS SET	DW-126	DW-126	DW-226	DW-326
9	STANDOFF INSULATOR WITH HARDWARE	DWA-07AE	DWA-15AE	DWA-20AE	DWA-30AE
10	PUSH-ROD INSULATOR WITH HARDWARE	DW-118-0	DW-118-1	DW-218	DW-318

DW-5001-22

CODES: **DTP / 120** 1200 Amperes

ID	DESCRIPTION	DTP07/120 7.2 kV	DTP15/120 17.5 kV	DTP20/120 25.8 kV	DTP30/120 38 kV
1	COMPLETE POLE	DW-130-0	DW-130-1	DW-230	DW-330
2	LIVE PARTS SET	DW-131	DW-131	DW-231	DW-331
9	STANDOFF INSULATOR WITH HARDWARE	DWA-07BE	DWA-15BE	DWA-20BE	DWA-30BE
10	PUSH-ROD INSULATOR WITH HARDWARE	DW-119-0	DW-119-1	DW-219	DW-319

DW-5001-31

CODES: **DTP / 200** 2000 Amperes

ID	DESCRIPTION	DTP07/200 7.2 kV	DTP15/200 17.5 kV	DTP20/200 25.8 kV	DTP30/200 38 kV
1	COMPLETE POLE	DW-140-0	DW-140-1	DW-240	DW-340
2	LIVE PARTS SET	DW-141	DW-141	DW-241	DW-341
9	STANDOFF INSULATOR WITH HARDWARE	DWA-07CE	DWA-15CE	DWA-20CE	DWA-30CE
10	PUSH-ROD INSULATOR WITH HARDWARE	DW-119-0	DW-119-1	DW-219	DW-319

DW-5001-41

CODES: **DTP / 300** 3000 Amperes

ID	DESCRIPTION	DTP07/300 7.2 kV	DTP15/300 17.5 kV	DTP20/300 25.8 kV	DTP30/300 38 kV
1	COMPLETE POLE	DW-150-0	DW-150-1	DW-250	DW-350
2	LIVE PARTS SET	DW-151	DW-151	DW-251	DW-351
9	STANDOFF INSULATOR WITH HARDWARE	DWA-07CE	DWA-15CE	DWA-20CE	DWA-30CE
10	PUSH-ROD INSULATOR WITH HARDWARE	DW-119-0	DW-119-1	DW-219	DW-319

DW-5001-51

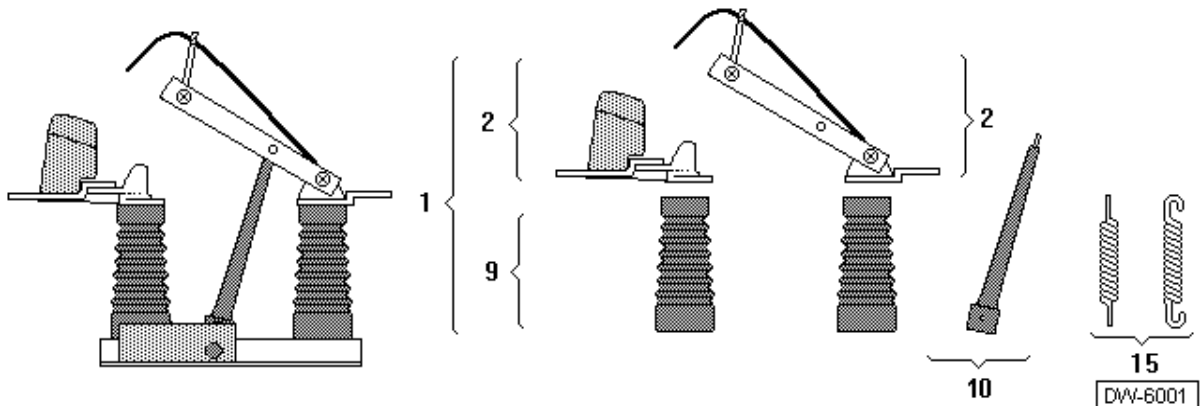
**DRIWISA™ NON-LOAD ISOLATORS**  
**GROUP OPERATED**



**INDOOR SERVICE, WITHOUT FUSE HOLDERS**

**SUBASSEMBLIES AND SPARE PARTS**

**TIPOS: LDTP / 0**



**CODES: LDTP / 060 400 and 630 Amperes**

ID	DESCRIPTION	LDTP07/060 7.2 kV	LDTP15/060 17.5 kV	LDTP20/060 25.8 kV	LDTP30/060 38 kV
1	COMPLETE POLE	DW-165-0	DW-165-1	DW-265	DW-365
2	LIVE PARTS SET	DW-166	DW-166	DW-266	DW-366
9	STANDOFF INSULATOR WITH HARDWARE	DWA-07AE	DWA-15AE	DWA-20AE	DWA-30AE
10	PUSH-ROD INSULATOR WITH HARDWARE	DW-118-0	DW-118-1	DW-218	DW-318
15	SPRING KIT FOR QUICK MAKE/QUICK BREAK MECH	DW-861-J	DW-861-J	DW-862-J	DW-862-J

DW-6001-21

**CODES: LDTP / 120 1250 Amperes**

ID	DESCRIPTION	LDTP07/120 7.2 kV	LDTP15/120 17.5 kV	LDTP20/120 25.8 kV	LDTP30/120 38 kV
1	COMPLETE POLE	DW-170-0	DW-170-1	DW-270	DW-370
2	LIVE PARTS SET	DW-171	DW-171	DW-271	DW-371
9	STANDOFF INSULATOR WITH HARDWARE	DWA-07BE	DWA-15BE	DWA-20BE	DWA-30BE
10	PUSH-ROD INSULATOR WITH HARDWARE	DW-119-0	DW-119-1	DW-219	DW-319
15	SPRING KIT FOR QUICK MAKE/QUICK BREAK MECH	DW-864-1J	DW-864-1J	DW-864-2J	DW-864-3J

DW-6001-31

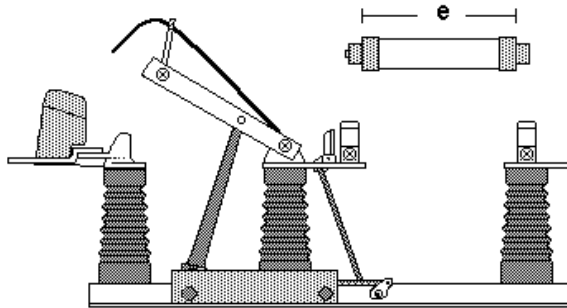
**DRIWISA™ NON-LOAD ISOLATORS**  
**GROUP OPERATED**



**INDOOR SERVICE, WITH FUSE HOLDERS**

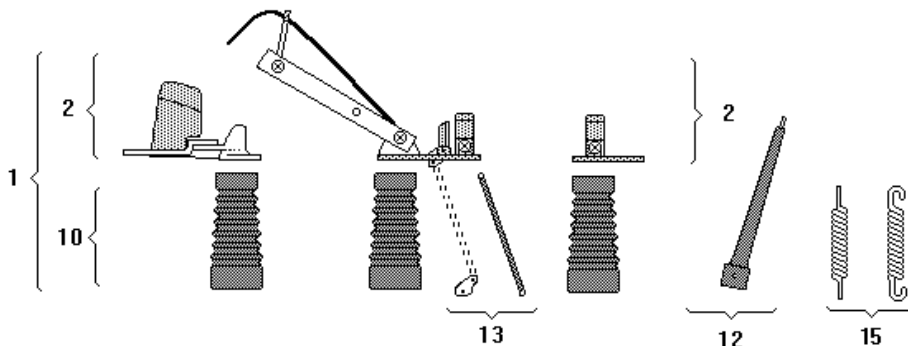
**SUBASSEMBLIES AND SPARE PARTS**

**TYPES: LDTP / x**



e	length (x)
192 mm	1
292 mm	2
442 mm	4
537 mm	5

DW-6101



DW-6101A

**CODES: LDTP / 06x 400 and 630 Amperes**

ID	DESCRIPTION	LDTP07/06x 7.2 kV	LDTP15/06x 17.5 kV	LDTP20/06x 25.8 kV	LDTP30/06x 38 kV
1	COMPLETE POLE	DW-185-0	DW-185-1	DW-285	DW-385
2	LIVE PARTS SET	DW-186	DW-186	DW-286	DW-386
10	STANDOFF INSULATOR WITH HARDWARE	DWA-07AE	DWA-15AE	DWA-20AE	DWA-30AE
12	PUSH-ROD INSULATOR WITH HARDWARE	DW-118-0	DW-118-1	DW-218	DW-318
13	TRANSMISSION SET AND TRIPPING SYSTEM f/3 POLES	DW-817-01	DW-817-11	DW-817-21	DW-817-31
15	SPRING KIT FOR QUICK MAKE/QUICK BREAK MECH	DW-861-J	DW-861-J	DW-862-J	DW-862-J

DW-6101-11

**CODES: LDTP / 12x 1250 Amperes**

ID	DESCRIPTION	LDTP07/12x 7.2 kV	LDTP15/12x 17.5 kV	LDTP20/12x 25.8 kV	LDTP30/12x 38 kV
1	COMPLETE SET	DW-170-0	DW-170-1	DW-270	DW-370
2	LIVE PARTS SET	DW-171	DW-171	DW-271	DW-371
10	STANDOFF INSULATOR WITH HARDWARE	DWA-07AE	DWA-15AE	DWA-20AE	DWA-30AE
12	PUSH-ROD INSULATOR WITH HARDWARE	DW-119-0	DW-119-1	DW-219	DW-319
13	TRANSMISSION SET AND TRIPPING SYSTEM f/3 POLES	DW-817-01	DW-817-11	DW-817-21	DW-817-31
15	SPRING KIT FOR QUICK MAKE/QUICK BREAK MECH	DW-864-1J	DW-864-1J	DW-864-2J	DW-864-3J

DW-6101-21

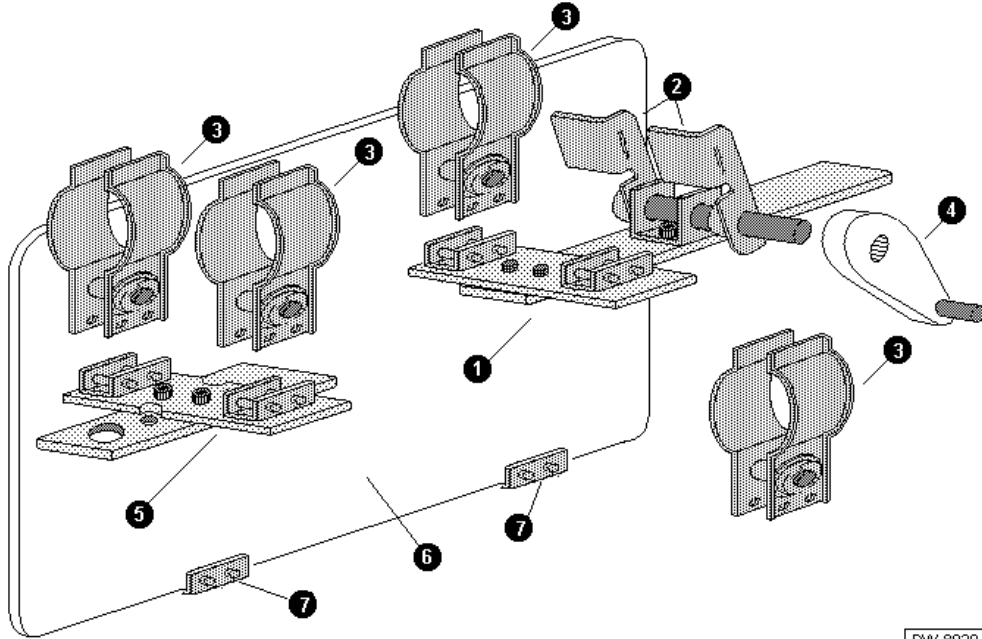
**DRIWISA™ LOAD BREAK DISCONNECTOR SWITCH  
GROUP OPERATOR**



**INDOOR SERVICE, WITH FUSE HOLDERS**

**SUBASSEMBLIES AND SPARE PARTS**

**TYPES : LDTP / x (2 fuses per phase)**



DW-8020

ID	DESCRIPTION	LDTP07/06x ... 7.2 kV	LDTP15/06x ... 17.5 kV	LDTP20/06x ... 25.8 kV	LDTP30/06x ... 38 kV
<b>COMPLETE CONVERSION KIT (to change the single fuse carrier into a double fuse carrier)</b>					
	...061 to ...066 for fuse length 1 ( e = 192 mm )	DW-870-10			
	...062 to ...067 for fuse length 2 ( e = 292 mm )	DW-870-20	DW-871-20		
	...064 to ...068 for fuse length 4 ( e = 442 mm )	DW-870-40	DW-871-40	DW-872-40	
	...065 to ...069 for fuse length 5 ( e = 537 mm )			DW-872-50	DW-873-50
1	CENTRAL CONNECTING TAB (w ith fuseholder)				
2	DUAL TRIPPING ROCKER ARM ASSEMBLY				
3	CLIP ASSEMBLY				
4	NYLON LEVER Num. 5 (50 x 9.5 mm Ø, long bolt)				
5	OUT CONNECTING TAB (w ith fuseholder)				
6	INSULATING PLATE				
	...061 to ...066 for fuse length 1 ( e = 192 mm )				
	...062 to ...067 for fuse length 2 ( e = 292 mm )				
	...064 to ...068 for fuse length 4 ( e = 442 mm )				
	...065 to ...069 for fuse length 5 ( e = 537 mm )				
7	CLIP FOR INSULATING PLATE				

DW-6101-41

**NOTE:** The conversion kits include only two clips assemblies DW-820 per phase, the other two needed are Recovered from the modified switch.

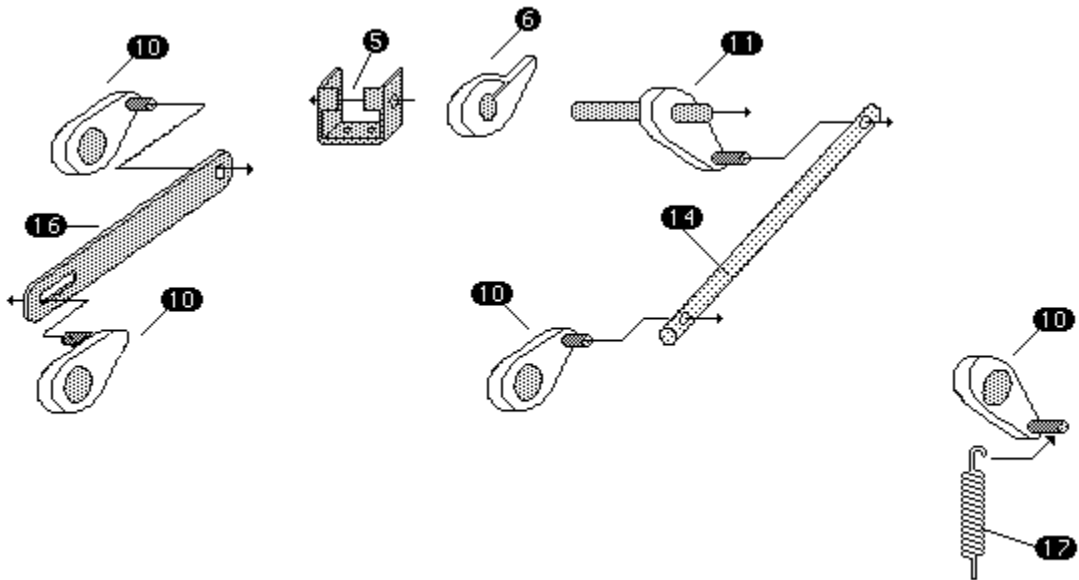


**DRIWISA™ LOAD BREAK DISCONNECTOR SWITCH  
GROUP OPERATOR  
INDOOR SERVICE, WITH FUSE HOLDERS**



**TRIPPING SYSTEM**

**TYPES: LDTP / x (1 fuse per phase)**



DW-8024

ID	DESCRIPTION	QY.	LDTP07/06x ...	LDTP15/06x ...	LDTP20/06x ...	LDTP30/06x ...
			LDTP07/12x ... 7.2 kV	LDTP15/12x ... 17.5 kV	LDTP20/12x ... 25.8 kV	LDTP30/12x ... 38 kV
5	ROCKER ARM BRACKET	3	DW-817-01	DW-817-11	DW-817-21	DW-817-31
6	TRIPPING ROCKER ARM	3				
10	NYLON LEVER WITH ONE BOLT	6				
11	NYLON LEVER WITH TWO BOLTS	3				
14	FIBERGLASS ROD	3				
16	PUSH BAR	1				
17	TENSION SPRING	1				

DW-6101-31

# DRIWISA™ GROUNDING SWITCHES

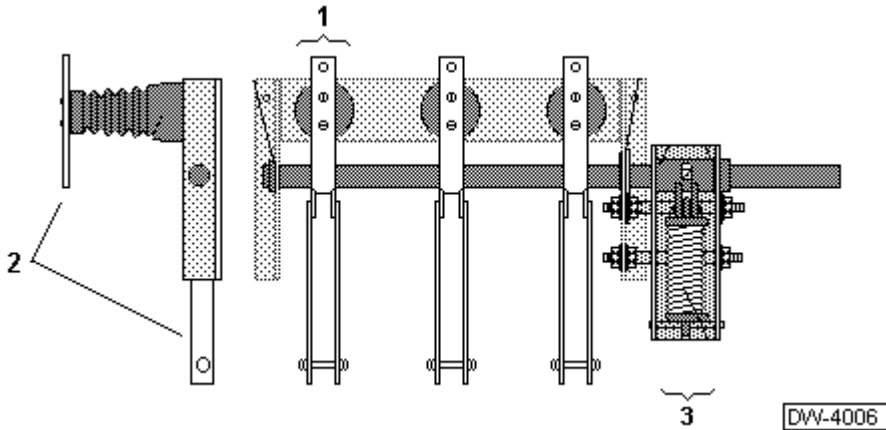
## GROUP OPERATED

### INDOOR SERVICE



## SUBASSEMBLIES AND SPARE PARTS

CODES: **DEP / 025** and DTP and LDTP integrated grounding switches



ID	DESCRIPTION	DEP07025 7.2 KV	DEP15025 17.5 KV	DEP20025 25.8 KV	DEP30025 38.0 KV
1	COMPLETE POLE	DW-190-0	DW-190-1	DW-290	DW-390
2	LIVE PARTS SET	DW-191-0	DW-191-1	DW-291	DW-391
3	QUICK MAKE DRIVE TYPE ( E )	DW-740	DW-740	DW-740	DW-740

DW-4006-21

# DRIWISA™ GROUNDING SWITCHES

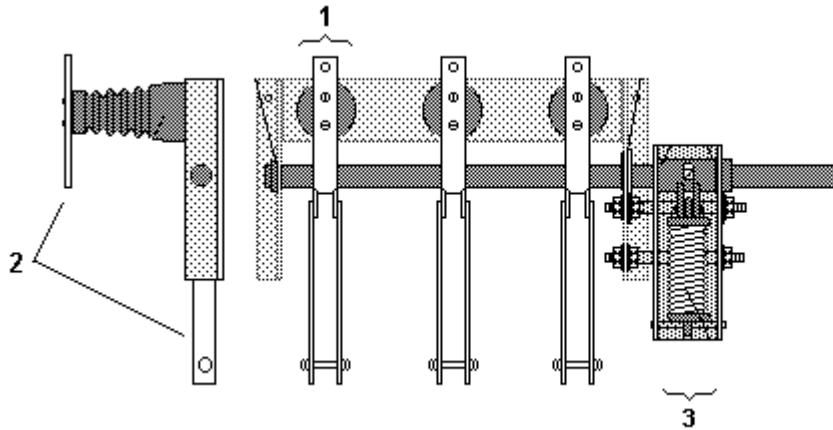
## GROUP OPERATED

### INDOOR SERVICE



## SUBASSEMBLIES AND SPARE PARTS

CODES: **DEP / 000** and DTP and LDTP integrated grounding switches



DW-4009

ID	DESCRIPTION	DEP7000 ...	DEP15000 ...	DEP20000 ...	DEP30000 ...
		7.2 kV	17.5 kV	25.8 kV	38 kV
1	COMPLETE POLE	DW-195-0	DW-195-1	DW-295	DW-395
2	LIVE PARTS SET	DW-196-0	DW-196-1	DW-296	DW-396
3	QUICK MAKE DRIVE TYPE (E)	DW-704	DW-704	DW-704	DW-704

DW-4006-31