

IP NOR Range 500VDC

(3kA to 25kA)

Changeovers

For more than 100 years, Mersen has been providing the market with safe, reliable and longer life time off-load disconnectors. These devices offer high performances and robustness for heavy duty requirements with very limited maintenance.

Mersen offers one of the largest product ranges on the market and is the global leader. Mersen has a switch solution that will meet your unique needs.

Our standard IP NOR High Current Change-over Switch product line is rigorously engineered to meet your technical specifications.

Operation : They can be operated manually, with a pneumatic piston or with an adapted motor (see list) up to 60.000 cycles.

Signaling, Terminal Box or Locking system can be studied and customized.

Acceptable ripple current at 2%

Indoor in a currentless state

Ambient air should not exceed +40°C (otherwise please consult)

Altitude should not exceed 1000 m

Relative humidity should not exceed 95%

Features Benefits

- No Load operation
- Indoor Type - Mobile contact blade position preferably in vertical position. it is necessary to parallel the two connections for the double face apparatus, to equalize the current on both faces as much as possible.
- Configuration with 2 poles change-over (reversing)
- Mechanical endurance 60.000 cycles (with respect to maintenance instructions)
- Connexion plates in silvered Copper
- Large customization possible with :
 - connexion plate (length, fixing holes)
 - Manual, motor or pneumatic drives
 - auxiliaries switches, blocking magnets, locking devices
 - dimension fitting
- Typical temperature rise at nominal current 15°K above busbar (with 40°Cmax.)
- Temperature rise at nominal current is less than 70°K (with 40°C max. ambient temperature)
- Visible break by direct seeing of the mobile silver-plated copper contacts
- Mechanically independant mobile contact arms with high pressure stainless springs assuring correct contact pressure
- Electrical contact with silver to silver contact which offer high short-circuit current withstand and Low and constant voltage drop
- Easy connections to Copper busbar by bolting and self-supporting (Busbar must be sized to withstand the disconnector additional weight)
- Large insulation and creepage distances
- Punctual temperature withstand without equipment damages 130°C
- For Chrome plating operations, the operation time for prior degreasing, can be relatively brief and the electrical contacts involved have a lower rating (lighter) (IP NOR CD)

Applications

- Power conversion to change-over (reversing) for Surface treatment application (degreasing, Chrome & Copper electroplating)

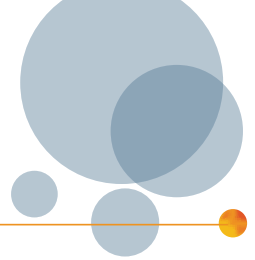


Standards

IEC 60947-3 and IEC 60077-1



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Technical data overview

Size per Standard	IP NOR 3kA to 25kA Copper type
Speed/Characteristic	Around 1 sec with pneumatic operation 3 to 12 seconds with motor operation (depend on the rating)
Number of Poles	2
Working Temperature	-20°C to +40°C

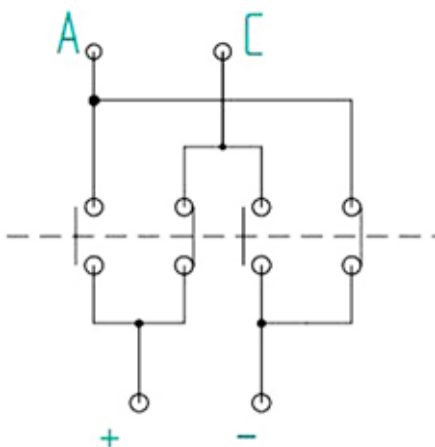
Product range

Technical Data

	IP NOR Range
Number of poles/phases	2
Degree of protection	IP 0
Rated voltage DC	500 V
Voltage drop	30 mV
Design	motorized on the right with 1 microswitch
Temperature rise at rated current (°K)	70 ° K
Dielectric withstand between live parts and earth (50 Hz - 1 min)	2.5 kV
Dielectric withstand between live parts in open position (50 Hz - 1 min)	2.5 kV
Dielectric withstand between auxiliary contacts and earth (50 Hz - 1 min)	2.5 kV
Dielectric withstand between motor and earth (50 Hz - 1 min)	2.5 kV
Peak short-circuit current withstand - One pole configuration	6 x nominal current
Deformability (Long / Tran / Axially)	0 / 0 / 0
Package	1

Dimensions

IP NOR schematic

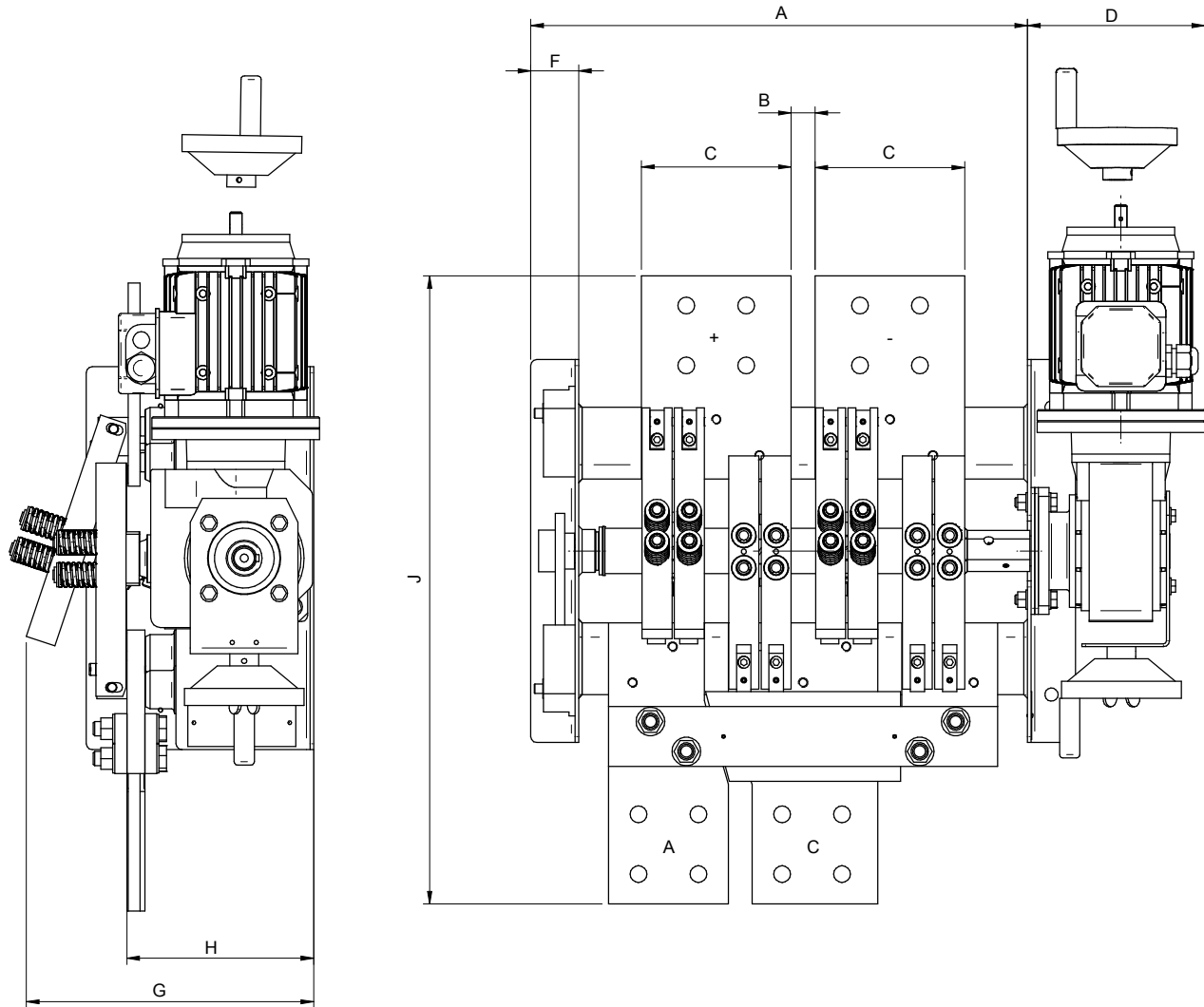


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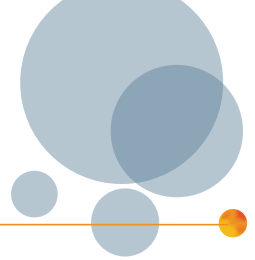
IP NOR (STANDARD): 2 POLES - CHANGE-OVER - SINGLE FACE



Rated current	A	B	C	D	F	G	H	J	Drawing N°
1250 single side	525	20	80	110	30	265	155	395	.
1600 single side	525	20	80	110	30	265	155	455	.
2000 single side	565	20	100	110	30	265	155	525	803159
3000 single side	615	20	100	110	30	285	175 (*)	525	813689
3000 CD* single side	595	20	100	110	30	285	175 (*)	525	810056
4000 single side	680	20	160	110	30	285	175 (*)	580	.
4000 CD* single side	620	20	160	110	30	285	175 (*)	565	811609
5000 single side	830	20	200	110	30	285	175 (*)	595	.
5000 CD* single side	780	20	200	110	30	285	175 (*)	580	813674
6000 single side	845	20	200	110	30	285	175 (*)	595	.
6000 CD* single side	795	20	200	110	30	285	175 (*)	580	979427
(*) CD for Chrome plating application - light version	-	-	-	-	-	-	-	-	-
(*) 155mm for manual operation	-	-	-	-	-	-	-	-	-
1000 Amp per finger	-	-	-	-	-	-	-	-	-
Higher current rating up to 25.000 Amp (double sided) under request	-	-	-	-	-	-	-	-	-

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Functions



Sacrificial contact

Sacrificial contact for residual current up to 10 Amp as total under 1'500 VDC



Customized signaling

This range can be equipped with micro switches offering 10 Amp under 400VAC (or DC13 110VDC 0,5Amp) and 10 million cycles operation.

These microswitches are used to signal the switch position and also to cut the power of the motor when it arrives at the end of its operation.

The disconnectors can be equipped with 1, 2, 3 microswitches (more under study).



Manual operation locking

The disconnector in this range have their position secured in Open and Closed (or both) positions using various locking systems for complete security.

- Padlocking (1 padlock diam 6mm)
- Key locking using preferably a Ronis Lock
- Blocking Magnets



Blocking magnets

Blocking magnets are used to guarantee electromechanically the position of the Disconnector using remote control. This operation can be done for one or both position (open and closed).

Blocking magnet can be used missing Voltage or Voltage can be 24VDC, 48VDC, 110VDC, 230VDC and 230VAC (consumption GE40; TGN15; TGN17 between 20 to 45W)

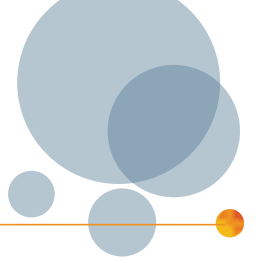


Connection box, Connection Terminal

This Disconnector range can be equipped with a wiring connection terminal or connection box.

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Control box

This Disconnecter range can be equipped with a control box to operate the disconnecter (open and close).



Mechanical Operation Counter

This Disconnecter can be equipped with a mechanical operation counter (one complete cycle (open and close) = 1) to watch maintenance operations



In a Cubicle

Disconnecters can be protected in made to measure cubicles or under roofs



Torque Limiting system

Disconnecters can be protected by torque limiting systems to save the mechanism in case of faulty operation. This system is based on a clutch system

Accessories



W110902

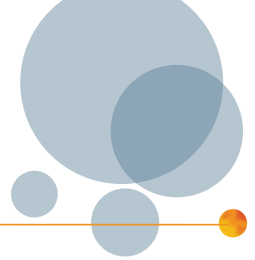
Indication facilities

Catalog number	Reference number	Length	Weight kg ¹⁾	Package
MECHANICAL OPERATION COUNTER	W110902	63 mm	0,50	1 piece

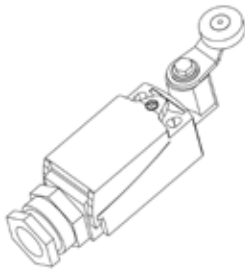
1) weight in kg per piece or set including package

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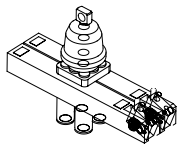
Accessories



J828422

Microswitches

Catalog number	Reference number	Weight kg ¹⁾	Package
AUXILIARY LIMIT SWITCH (NO+NC)	J828422	1,00	1 piece
AUXILIARY SWITCH (NO+NC) CONTROL POSITION SAFETY	W907714	1,00	1 piece



J912280

Supplementary poles

Catalog number	Reference number	Rated current I _n	Weight kg ¹⁾	Package
S/E NOR CONTACT FINGERS (x2)	J912280	2000 A	5,0	1 piece
S/E NOR SACRIFICIAL CONTACT	M1039220	2000 A	3,0	1 piece



D989141

Removable handles for emergency manual operation

Catalog number	Reference number	Length	Weight kg ¹⁾	Package
VOLANT D=100/14	D989141	100 mm	2,0	1 piece



J986984

Manual operation handles

Catalog number	Reference number	Length	Weight kg ¹⁾	Package
MANUAL LEVER NOR 400	A984400	400 mm	1,8	1 piece
MANUAL LEVER NOR 600	J986984	600 mm	2,0	1 piece

1) weight in kg per piece or set including package