

Disconnectors FA range 750VDC 250 to 2000Amp

ON BOARD DISCONNECTOR SWITCH

750VDC ON BOARD DISCONNECTORS SWITCH



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

Mersen offers one of the largest product ranges on the market for On-Board applications under 85VDC, 750VDC, 1.500VDC, 3.000VDC and 25kVAC.

Mersen has a switch solution that will meet your unique needs.

Our standard On-Board FA disconnector range is rigorously engineered to meet your technical specifications in different configurations (Disconnector, Change-over or Earthing) which can be installed in vertical or horizontal position.

These devices offers High short-circuit currents withstand and Visible break by direct seeing of the mobile silver-plated copper contacts moreover a large isolation air and creepage distance

Operation is easy and flexible: They can be operated manually or with an adapted motor (see list) and easily connected to the circuit using Copper busbar by bolting and self-supporting also they offer Self-cleaning blade contacts, ideal for polluted environments.

This range can be studied and customised with Phase to Phase distance adaptation, Signalling, Terminal Box or Locking system functions.

Indoor use in a current less state

The Mechanical endurance is 25.000 cycles minimum warrantied for a device maintained according to the maintenance recommendations.

FEATURES & BENEFITS

- No Load operation
- Indoor Type equipment
- This technology offer various configurations
 - Disconnector or Change-over or Earthing
 - 1 to 4 different positions
 - up to 6 poles offering different ratings
- Quick acting operation
 - manual or motorized operation
 - with or without locking system

APPLICATIONS

- Main Traction circuit Change over (dual voltage) or isolation of Power Converter and traction motors
- Power control with the possible functions to disconnect, to change-over or to earth the power source of rolling stock applications (Train, Tramway, Metro)

STANDARDS

- IEC 60077-1
- IEC 60077-2
- IEC 61373
- EN 50124



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TECHNICAL DATA OVERVIEW

Size per Standard	On Board Disconnectors FA 250 to 2000 Amp for DC under 750VDC
Speed/Characteristic	Around 5 seconds with motor operation (depend on configuration)
Working Temperature	-40°C to +70°C
Number of Poles	1 to 6 poles with same or different current ratings (for more poles please consult)

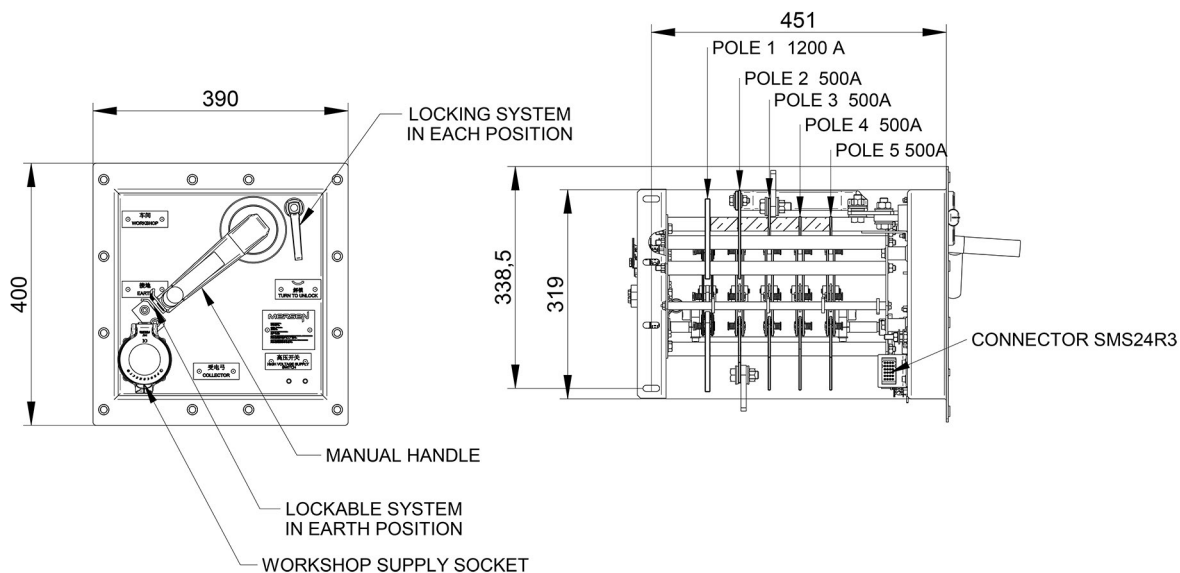
PRODUCT RANGE

On-board FA 750VDC

Catalog number	Rated peak current	RMS 20 ms short-time withstand current	Voltage drop
250 Amp 750 VDC	50 kA	30 kA	10 mV
500 Amp 750 VDC	50 kA	30 kA	10 mV
800 Amp 750 VDC	50 kA	30 kA	10 mV
1250 Amp 750 VDC	50 kA	30 kA	10 mV
2000 Amp 750 VDC	50 kA	30 kA	10 mV

DIMENSIONS

FA 750VDC Disconnector : 5 POLES - 3 POSITIONS 1-0 (Open - Closed) MANUAL OPERATION WITH FRONT PANEL 1x1200Amp; 4x500Amp; dwg 1035699

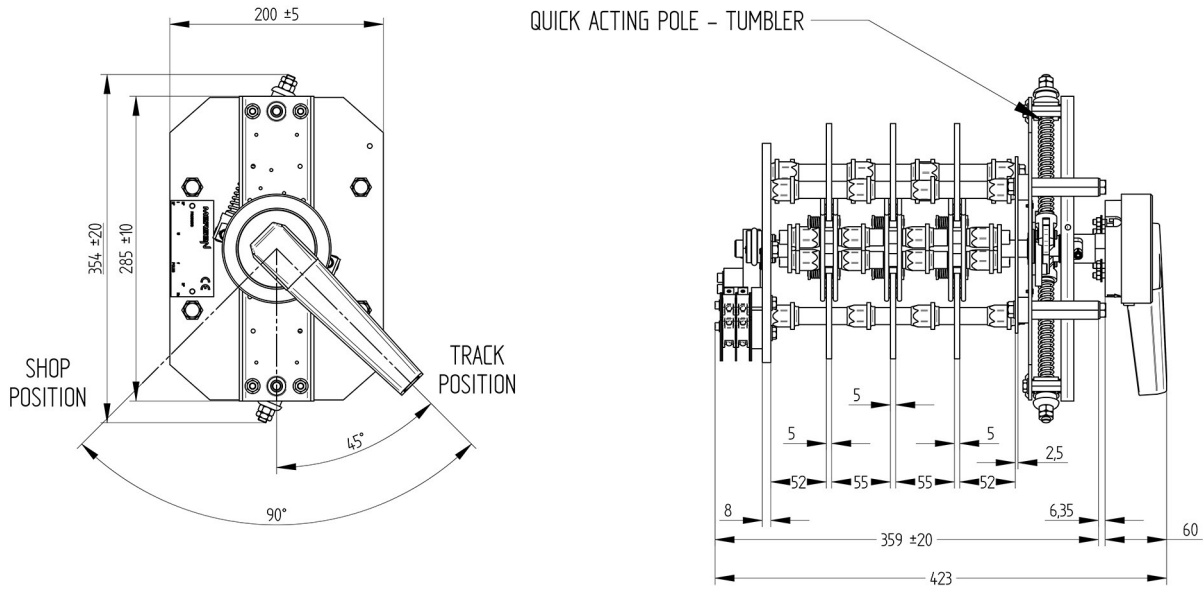


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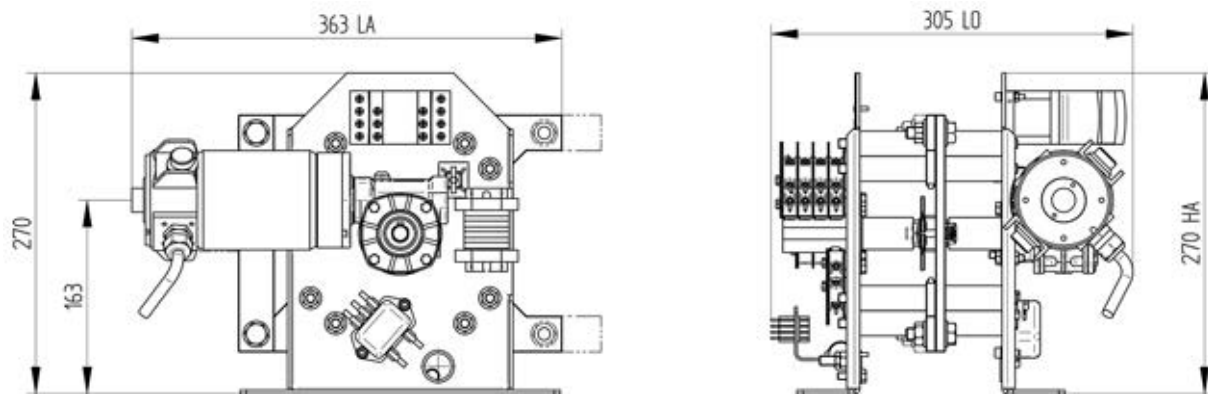
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DIMENSIONS

FA 750VDC Disconnector : 3 POLES - 2 POSITIONS 1-0 (Open - Closed) with Quick Acting Spring System Manual
Dwg 1019401



FA 750VDC Disconnector : 1 POLE - 3 POSITIONS 1-0-2 (Circuit1 - Open - Circuit2) Motorized operation
Dwg 1026317

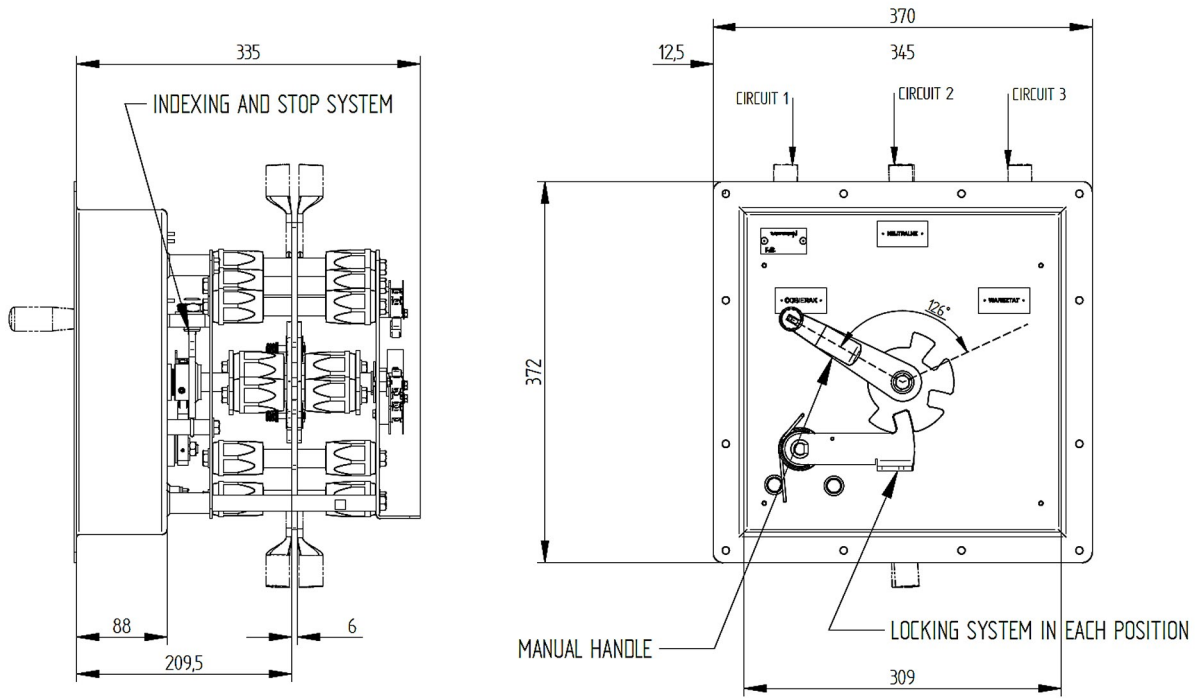


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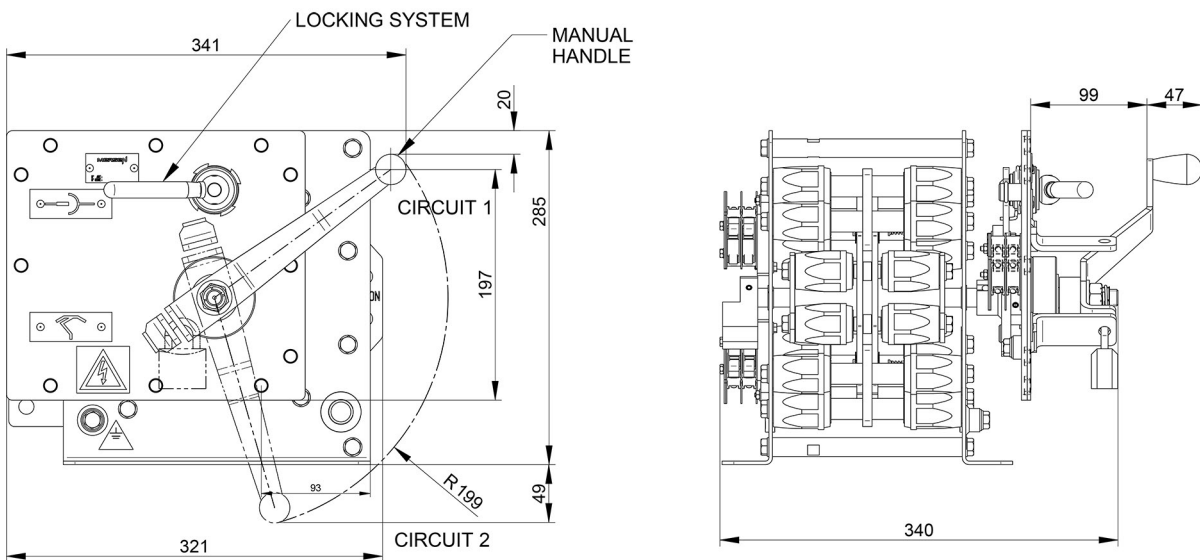
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DIMENSIONS

FA 750VDC Change_over : 1 POLE - 3 POSITIONS 1-3-2 (circuit 1 - Circuit 2 - Circuit 3) Manual Operation
dwg 1029801



FA 750VDC Change_over : 1 POLE - 2 POSITIONS 1-2 (circuit 1 - Circuit 2) Manual Operation
dwg 1042606



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MOTORS

Motor types	Motor voltage rating
DC	72VDC 110VDC 220VDC

FUNCTIONS



Salty / Laden atmosphere

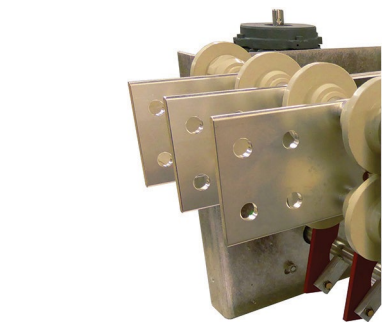
All the FA Disconnector range can withstand 96h00 (inside and outside) under salty atmosphere (more time withstand under request).



Quick Acting pole- Tumbler

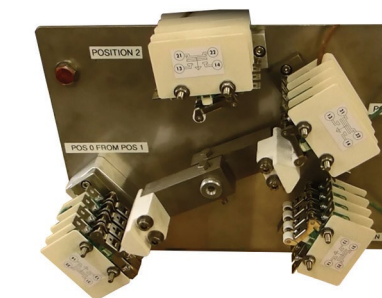
The disconnectors can be equipped with quick acting system named tumbler based on spring compression.

This system enable to close on residual current and guarantee the position of the knives even if the manual or motorized operation is uncomplete.



Connection plate adaptation

To adapt the disconnector connexion to the Busbar or cables.



Customized signaling

This range can be equipped with micro switches offering 10 Amp under 400VAC (or AC15 230VAC 1Amp; 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).

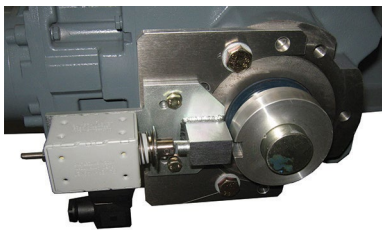
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FUNCTIONS



Manual Operation locking

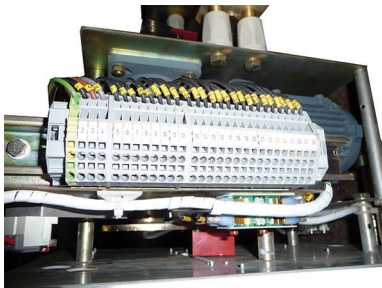
The Manual Operation disconnectors can have their position secured in Open or in Closed positions using padlocking systems (3 x diam 10mm) for complete security while maintenance operations.



Motorized Operation 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.



Mechanical Operation Counter

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



In a Cubicle

Disconnectors can be protected in made to mesure cubicles or under roofs.



Work shop Plug

Work shop plug can be installed and wired to enable your teams to supply energy to your vehicles during maintenance times.

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Colour

Mersen can paint the metal Front Panel and Cubicles to the color specified, as per the RAL chart, under your special painting process for protection and cosmetic reasons.



Training and technical support

All around the world, Mersen technical team can help you for technical support and can offer you customized training sessions for your Maintenance team.



LCC; RAMS; Type tests

Mersen teams can supply Life Cycle Costs (LCC), Reliability Availability Maintainability Safety (RAMS), and Failure Mode and Effect Analysis (FMEA) studies. They can operate Qualification type tests.

ACCESSORIES



W110902

Indication facilities

Catalog number	Item number	Length	Package	Weight
MECHANICAL OPERATION COUNTER	W110902	63 mm	1 piece	0.5 kg

Microswitches

Catalog number	Item number	Package	Weight
Microswitches			
ON BOARD AUXILARY SWITCH (NO+NC)	C1037578	1 piece	40 g

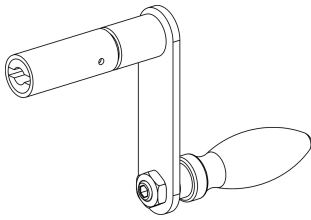
Lubricants

Catalog number	Item number	Package	Weight
Copper Grease	L108501	1 piece	1 kg

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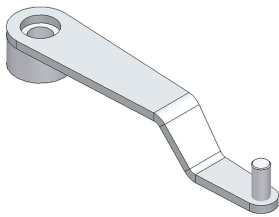
ACCESSORIES



R817113

Removable handles for emergency manual operation

Catalog number	Item number	Length	Package	Weight
ARB FLEX SSB-7 1043	P1013646	1.043 m	1 piece	0.5 kg
LIMITING TORQUE MAN D10 L170	Z819305	0.17 m	1 piece	0.46 kg
S/E MANIVELLE D10.2 170	R817113	0.17 m	1 piece	0.27 kg
S/E MANIVELLE D10.2 170 Tropical	N827782	0.17 m	1 piece	0.27 kg
S/E MANIVELLE D10.2 300	Z817143	0.3 m	1 piece	0.29 kg
S/E MANIVELLE D10.2 480	Q822103	0.48 m	1 piece	0.33 kg
S/E MANIVELLE D10.2 600	E834168	0.6 m	1 piece	0.6 kg
S/E MANIVELLE D10.2 1000	L827688	1 m	1 piece	0.6 kg
S/E SGN CDE SECOURS FLEX 1043	W1013652	1.043 m	1 piece	0.7 kg



G1042090

Manual operation handles

Catalog number	Item number	Length	Package	Weight
ON BOARD MANUAL HANDLE	G1042090	300 mm	1 piece	2 kg