

BREAKERS

STANDARD FAMILY CODE IR 3000 F SERIES L

Mounting Position	Vertical
Control Voltage Rating Uc [Vdc]	24 – 36 – 48 – 72 – 110 – 220 ¹
Auxiliary Contact Blocks	5 a1 + 6 b0
Block Type	Reed
Arc chute Material	Ceramic
Main Contacts tips Material	AgSnO ₂
Arcing Contacts tips Material	AgW

Voltage	Holding System	Thermal Current	Layout drawing	Electrical diagram	Type
900	Holding Coil	1500 A	42870728C	42870370B	IR3015 FC 09L
900	Holding Coil	3000A	42870555C	42870370B	IR3030 FC 09L
900	Permanent Magnet	1500 A	42870746C	42870579B	IR3015 FP 09L
900	Permanent Magnet	3000A	42870556C	42870579B	IR3030 FP 09L



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Description

DC single pole, magnetic blowout, trip free, air circuit breaker. The closing mechanism is motor-operated independent type while the holding mechanism is magnetic type, provided with holding coil or permanent magnet. The breaker is equipped with a direct acting over-current trip device, which may be either unidirectional or bi-directional. Reference standard IEC61992 and IEC 60947.

Insulation Characteristics	09L
Rated Operational Voltage U_r [V _{dc}]	900
Max Operational Voltage [V _{dc}]	1000
Rated Insulation Voltage [V _{dc}] @ OV3/PD3	2300

Electric Characteristics	09L	
Conventional Free Air Thermal Current [A] at 40°C ²	1500 ¹	3000 ¹
Occasional Overloads [A] for 30'	2000 / 3600	
Occasional Overloads [A] for 60''	4000 / 7200	
Rated Short Circuit Making and Breaking Capacity / Time constant [kA/ms]		
Duty F: Maximum Fault	30 / 0 (peak 42 kA)	
Duty E: Maximum Energy	19.5 / 20.5	
Duty D: Distant Fault	6 / 31.5	
Rated Duty Cycle	O-15s-CO-15s-CO-60s-CO	
Peak arc voltage [\hat{U}_{arc}]	up to 4 x U_{Nm}	
Standard Bidirectional acting trip device [kA]³		
Setting Range A ¹	1 ÷ 1.8	1 ÷ 1.8
Setting Range B ¹	1.5 ÷ 2.7	1.5 ÷ 2.7
Setting Range C ¹	N.A.	2.2 ÷ 4
Setting Range D ¹	N.A.	3.3 ÷ 6
Blow Out Circuit Type	Indirect blow out Coil with arcing contact	

Mechanical Characteristics	
Mechanical Endurance (cycles)	6 x 50.000
Electrical durability [I_r @ U_r]	4 x 200
Shock and Vibrations (IEC61373)	Cat.1 – Class B
Weight [kg]	44

Control Circuit	
Control Voltage Range	0.7 U_c ÷ 1.25 U_c
Operated by	D.C. Motor
Holding closed by	Holding Coil or Permanent Magnet
Peak closing power and time [W x s]	400 x 0.01
Nominal closing power and time [W x s]	250 x 1.5
Holding Coil version	
Nominal holding power @ 20°C [W]	15
Nominal opening power @ 20°C [W]	0
Controlled opening time: de-energize holding coil [ms]	< 50
Permanent Magnet version	
Nominal holding power @ 20°C [W]	0
Nominal opening power and time @ 20°C [Wxs]	400 x 0.02
Controlled opening time: energizing opening coil [ms]	< 20

Auxiliary Circuit

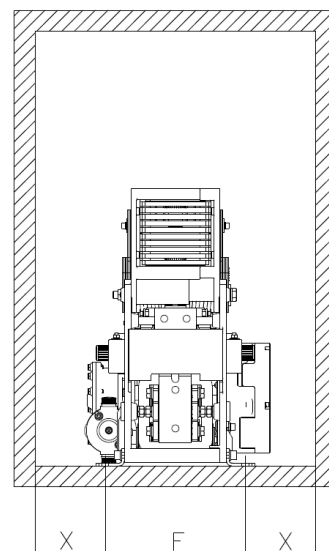
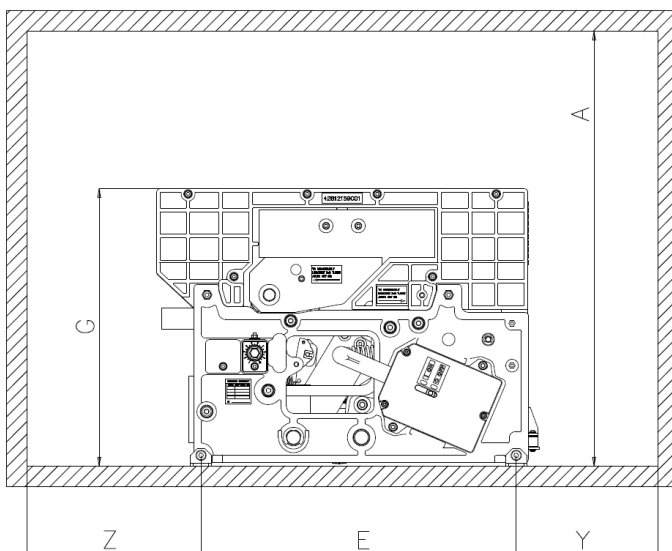
Type	Reed Contacts (Vacuum Technology)
Voltage [V _{dc}]	24 – 36 – 48 – 72 - 110 ¹
Rated Current [A]	5
Maximum Breaking Power with Inductive Load $\tau=2\text{ms}$ [W]	120
Maximum Breaking Current with Inductive Load $\tau=2\text{ms}$ [A]	3
Maximum Breaking Voltage with Inductive Load $\tau=2\text{ms}$ [V]	250
Minimum let-through Current at 24Vdc [mA]	5
Electrical Connections	Fast-on 2.5 x 0.8mm or customized LV Connection ¹

Environmental Conditions

Stock Temperature Range	-50°C ÷ +85°C
Operational Temperature Range	-30°C ÷ +70°C
Clearance in air [mm]	14
Creepage distance [mm]	32.2
Comparative Tracking Index (CTI)	>600
Max Altitude without Performance Derating [m]	2000
Humidity ⁴	10 ÷ 95% RH

Minimum clearances [mm] from⁵:

Rated Operational Voltage [V _{dc}]		A ⁶	E	F	G	X	Y ⁶	Z ⁶
900	Metal Parts	620	450	200	395	100	202	248
	Plastic Parts	520						



¹To be specified in order phase

²Device cabled according IEC 60947

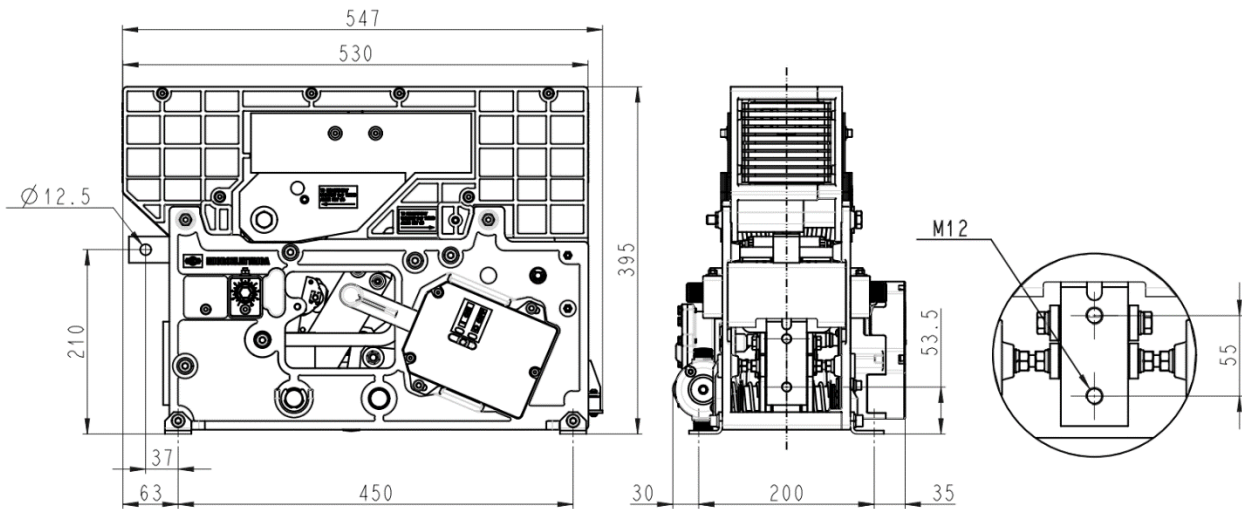
³Tripping point reached up with di/dt=200A/s. Other setting range are available on request

⁴According IEC 62498-1

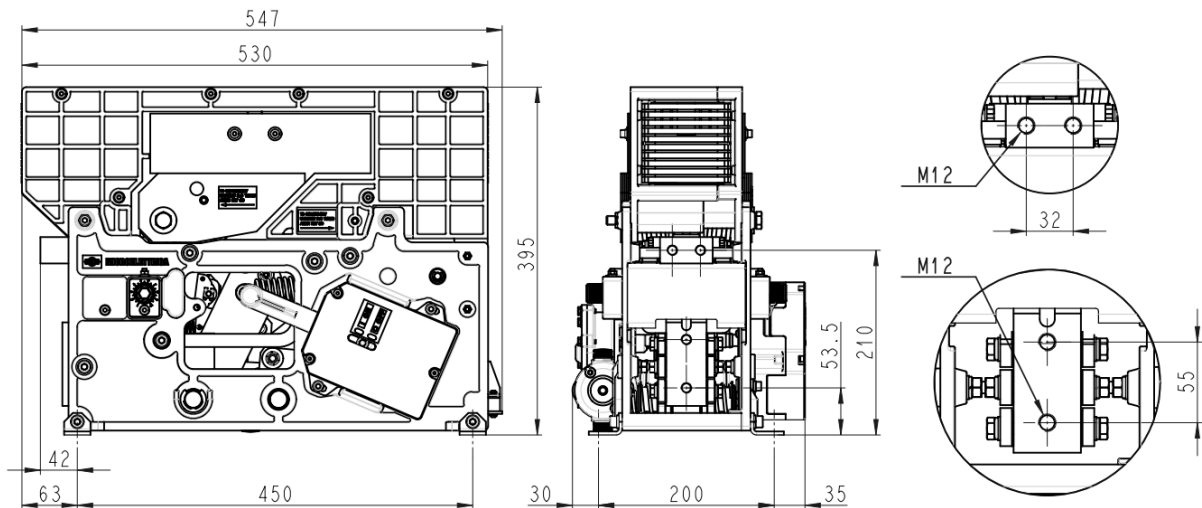
⁵reduced distances should be approved by Microelettrica

⁶these quotes are referred to a 50% surface opening grid

IR3015 FC 09L & IR3015 FP 09L



IR3030 FC 09L & IR3030 FP 09L



For further technical information on our products visit www.microelettrica.com

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