

BREAKERS

STANDARD FAMILY CODE IR 3000 F SERIES L

Mounting Position	Vertical
Control Voltage Rating Uc [Vdc]	24 - 36 - 48 - 72 - 110 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
Electric Diagram HC	42870370B
Electric Diagram PM	42870579B
Layout Drawing HC	42870555C
Layout Drawing PM	42870556C

Type			
Voltage	Holding System	Thermal Current	
		1500 A	3000 A
900 V	Holding Coil	IR 3015 FC 09L	IR 3030 FC 09L
	Permanent Magnet	IR 3015 FP 09L	IR 3030 FP 09L



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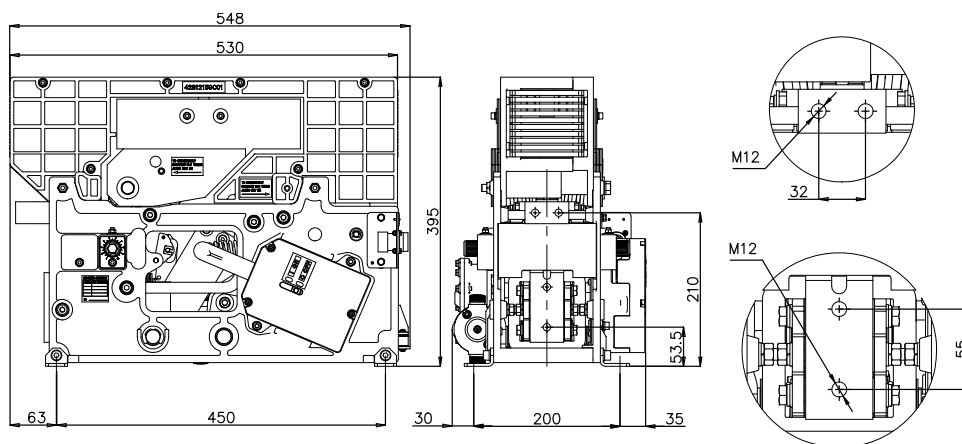
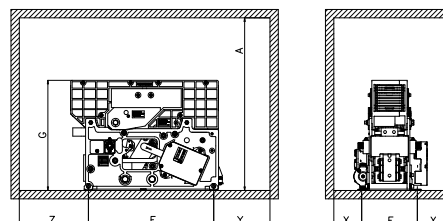
Description

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 IEC 61992, and IEC 60947.

Insulation Characteristics		09L
Rated Operational Voltage U_{Ne} [V _{dc}]		900
Max Operational Voltage [V _{dc}]		1000
Rated Insulation Voltage U_{Nm} [V _{dc}] @ OV4/PD3		2300
Electrical Characteristics		09L
Conventional Free Air Thermal Current I_{th} [A] at 40°C ²		1500 / 3000 ¹
Occasional Overloads [A] for 30'		2000 / 3600
Occasional Overloads [A] for 60''		4000 / 7200
Breaking Capacity [kA/ms]		
Rated Short Circuit		30 / 31.5
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		0-15s-CO-15s-CO-60s-CO
Peak arc voltage [\hat{U}_{arc}]		up to 4 x U_{Nm}
Standard Bidirectional direct acting trip device [kA] ³		
Setting Range A1		1 ÷ 1.8
Setting Range A2		1.5 ÷ 2.7
Setting Range B3		2.2 ÷ 4
Setting Range B4		3.3 ÷ 6
Blow Out Circuit Type		Coil
Mechanical Characteristics		
Mechanical Endurance (cycles)		6 x 50000
Electrical durability [I_{Ne} @ U_{Ne}]		4x200
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 [ms]		< 50
Permanent Magnet version		
Nominal holding power @ 20°C [W]		0
Nominal opening power and time @ 20°C [W x s]		400 x 0.02
Controlled opening time [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 24V _{dc} [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 ⁵	10 ÷ 95% RH

Minimum clearances [mm] from ⁶ :								
Rated Operational Voltage [V _{dc}]		A ⁷	E	F	G	X	Y	Z
900	Metal Parts	620	450	200	396	100	202	248
	Plastic Parts	520						



¹ To be specified in order phase

² Device cabled according IEC 60947

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

⁵ According to IEC 62498-1

⁶ Reduced distances should be approved by Microelettrica

⁷ These quotes are referred to a 50% surface opening grid

The technical specifications reported are not binding and they should be agreed in the contract.

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

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