

# BREAKERS

## SPECIAL FAMILY CODE IR6040 EVO Omologated RFI (Cat. 794-428)

### Product configuration

Rated Voltage	3600Vdc
Thermal current	4000A
Holding sistem	Holding coil
Control Voltage Rating Uc [Vdc]	132
Auxiliary Contact Blocks	6 NO + 6 NC
Block Type	sliding contact
Arc chute Material	Ceramic
Main Contacts tips Material	AgSnO <sub>2</sub>
Arcing Contacts tips Material	AgW
Mounting Position	Horizontal

### Type

MODEL	ORDERING CODE	Rated short circuit current peak/steady state [kA]	Layout drawing	Electrical diagram
IR6040 EVO 70kA	2805A3A3LA4LN13	70/50	42870585C sheet 1	42870633B
IR6040 EVO 100kA	2805A3D3LA4LN13	100/70	42870585C sheet 2	42870633B



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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.  
Reference standard IEC 61992 and IEC60947.

Insulation Characteristics	IR6040 EVO 70kA	IR6040 EVO 100kA
Rated Operational Voltage $U_{Ne}$ [V <sub>dc</sub> ]	3600	3600
Max Operational Voltage [V <sub>dc</sub> ]	4000	4000
Rated Insulation Voltage [V <sub>dc</sub> ] @ OV3/PD3	3600	3600

Electrical Characteristics	IR6040 EVO 70kA	IR6040 EVO 100kA
Conventional Free Air Thermal Current [A] at 40°C <sup>2</sup>		4000
Occasional Overloads [A] for 120'		4800
Occasional Overloads [A] for 30'		5800
Occasional Overloads [A] for 7'		8000
Occasional Overloads [A] for 40"		15000
Tripping device Current direction	Unidirectional	
Making and Breaking Capacity <sup>8</sup> [kA/ms]		
Rated Short Circuit	70/50	100 / 70
Duty F: Maximum Fault	50 / 0 (peak 70KA)	70 / 0 (peak 100KA)
Duty E: Maximum Energy	35 / 31.5	35 / 31.5
Duty D: Distant Fault	8 / 63	8 / 63
Rated Duty Cycle	0-15s-CO-15s-CO-60s-CO	
Peak arc voltage [ $\hat{U}_{arc}$ ]	up to 4 x $U_n$	
Blow Out Circuit Type	Coil	

Acting trip device	IR6040 EVO 70kA	IR6040 EVO 100kA
Setting Range (Low setting) [A]		1400 ÷ 2800
Setting Range (High setting) [A]		1800 ÷ 4000
Setting Range (Emergency setting) [A]		5000
The setting range is remote controlled by „MC-IRx“ device that is a programmable device that control both setting range and setting point		



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Mechanical Characteristics	
Mechanical Endurance (cycles)	20000
Electrical durability [In @ Un ]	200
Weight [kg]	208

Control Circuit	
Control Voltage Range	0.8Uc ÷ 1.1Uc
Operated by	D.C. Motor
Holding closed by	Holding coil
Peak closing power and time [W x s]	400 x 0.01
Nominal closing power and time [W x s]	250 x 1.5
Nominal holding power @ 20°C [W]	50
Nominal opening power @ 20°C [W]	0
Controlled opening time: de-energize holding coil [ms]	<50

Auxiliary Circuit	
Type	Sliding Contact
Voltage [Vdc]	132
Rated Current [A]	10
Maximum Breaking Power with Inductive Load $\tau=2ms$ [W]	120
Maximum Breaking Current with Inductive Load $\tau=2ms$ [A]	3
Maximum Breaking Voltage with Inductive Load $\tau=2ms$ [V]	250
Minimum let-through Current at 24Vdc [mA]	20
Electrical Connections	Fast-on 2.5 x 0.8mm

Environmental Conditions	
Stock Temperature Range	-50°C ÷ +85°C
Operational Temperature Range	-30°C ÷ +70°C
Pollution Degree - Overvoltage Category (EN 50124-1)	PD3 - OV3
Clearance in air [mm]	32
Creepage distance [mm]	50.4
Comparative Tracking Index (CTI)	>600
Max Altitude without Performance Derating [m]	2000
Humidity <sup>5</sup>	10 ÷ 95% RH

<sup>1</sup>To be specified in order phase

<sup>2</sup>Device cabled according IEC 60947

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

<sup>8</sup>Rated short circuit performance refer to an high speed opening of the device after failure detection

<sup>4</sup> For optional fast opening device (FOD) information please contact Microelettrica Sales Department

<sup>5</sup> According to EN 50125-1

<sup>6</sup> Reduced distances should be approved by Microelettrica

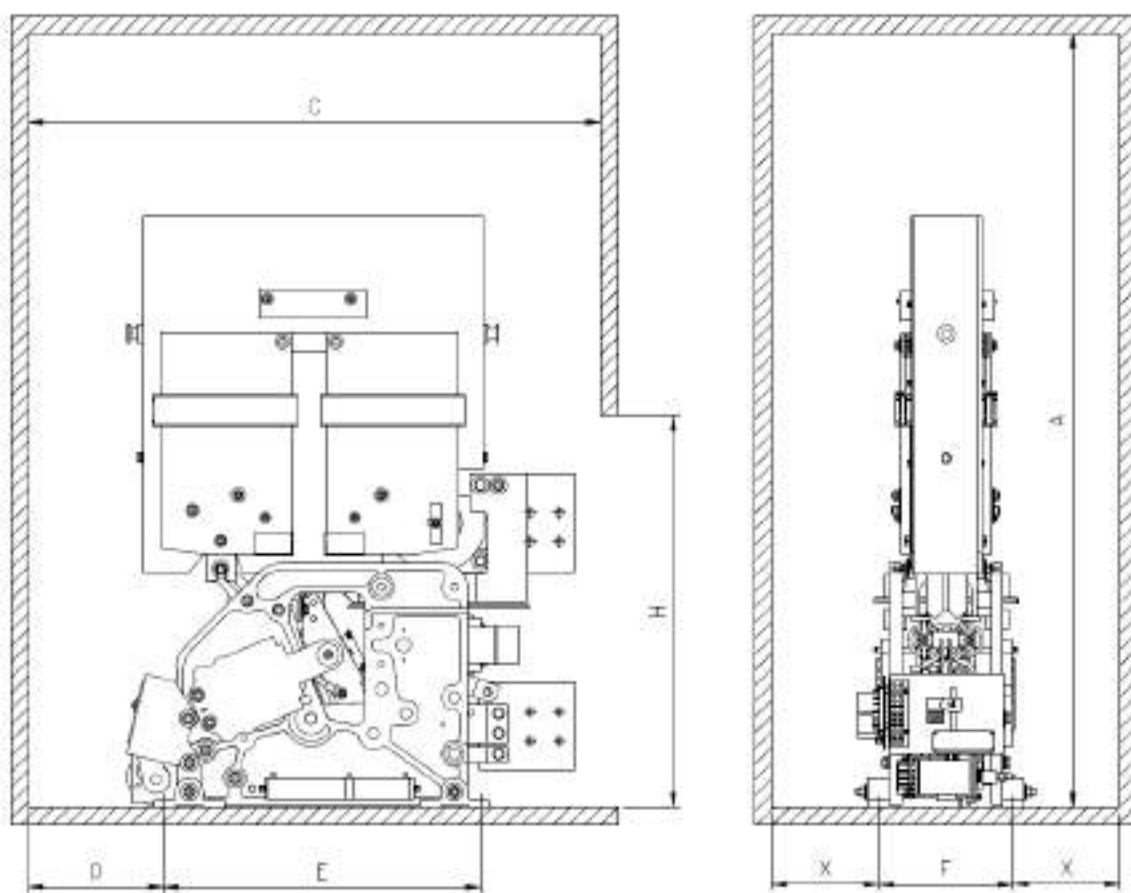
<sup>7</sup> These quotes are referred to a 50% surface opening grid



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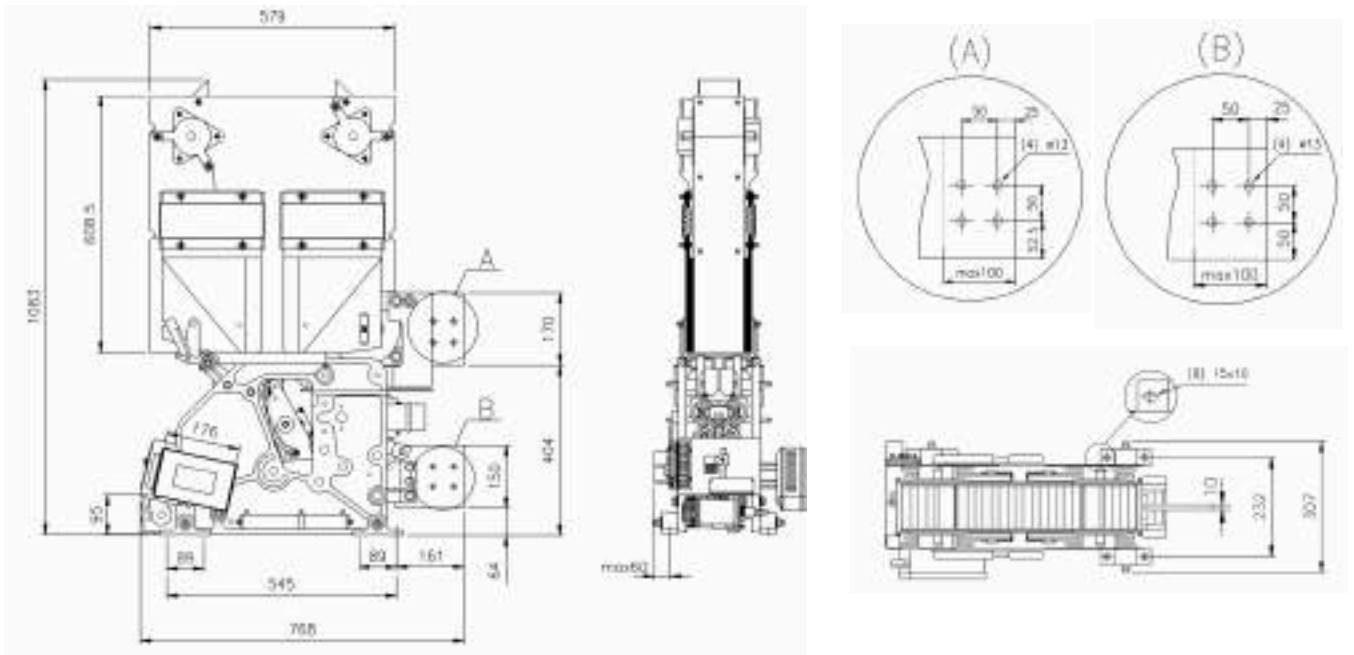
**Minimum clearances [mm] from<sup>6</sup>:**

Rated Operational Voltage [V <sub>dc</sub> ]		A <sup>4</sup>	C	D	E	F	H	X
3600	Metal Parts	1330	984	232	545	232	673	184
	Plastic Parts	1230	934	182				134

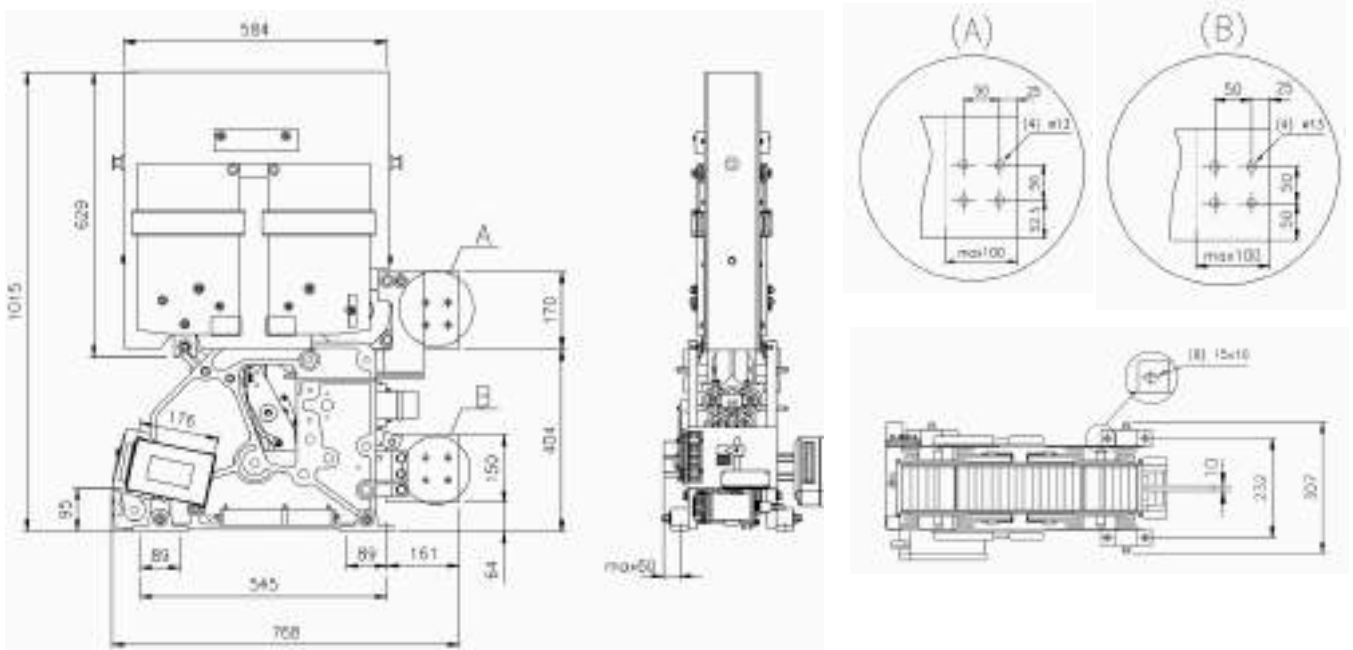


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IR6040 EVO 70kA - 2805A3A3LA4LN13



IR6040 EVO 100kA - 2805A3D3LA4LN13



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](http://www.microelettrica.com)

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