GACIA

AT/F Series

Installation Devices

www.gacia.com.cn

GACIA ELECTRICAL APPLIANCE CO., LTD.

GACIA

GACIA ELECTRICAL APPLIANCE CO., LTD.

No.1, Nanxijiang Road, Wenzhou Bridge Industrial Park, Beibaixiang Town,
Yueqing City, Zhejiang Province, China

Tel:86-577-62982555 Fax:86-577-62983555

E-mail:gacia@gacia.com.cn Http://www.gacia.com.cn

GACIA

Company Profie

Gacia Electrical Appliance Co., Ltd is an export-oriented high-tech enterprise specializing in R&D, production and sales of various low-voltage circuit breakers. The company was established in August 2002 and is headquartered in Wenzhou. After 20 years of development, it has formed a three-in-one strategic layout of Zhejiang, Jiangxi, and Shanghai. The plant area is 160,000 square meters, the company has 1,200 employees and has an annual output of 100,000,000 poles of MCB, 4,000,000 pcs of RCCB/RCBO, and 300,000 pcs of MCCB.

Gacia adhere to business principle referring to "customer-centric, Altruism and Win-win". Besides, Gacia devoted to utilize innovation to drive production improvement, take advantage of lean production to upgrade products quality and committed to become the pacemaker of the global circuit breaker industrial.The products are sold best in more than 60 countries and regions in all of the world. Long-term cooperative relations have been established with three enterprises of the world's top 500. The annual R & D investment on new products is not less than 5% of the annual sales, and has won more than 130 national patents, including 12 invention patents, and participated in the formulation of a number of industry standards that applied for the registration of international trademarks in 123 countries and regions. Overseas independent brand agents were set up in 38 countries and more than 80 international product certifications were obtained. The "GACIA" trademark was recognized as the "recommended brand of China's export products by the Ministry of Commerce".

GACIA

Smart Factory

Make manufacturing more transparent

Make delivery faster

Make decisions smarter

ISO9001 ISO14001 ISO45001 CB RoHS

GACIA

Product Content

Miniature Circuit Breaker

Residual Current Device

Miniature Circuit Breaker

ATB5,4.5kA

GACIA ATB5 4.5kA Miniature Circuit Breaker

- Miniature Circuit Breaker according to IEC/EN 60898-1
- Rated short circuit breaking capacity 4.5kA
- 1 up to 4 pole versions
- Tripping characteristics B, C, D
- Rated current up to 63A
- Rated operational voltage 230/400V AC

ATB5 miniature circuit breaker is an automatically operated electrical switch designed to protect an electrical circuit from damage caused by excess current from an overload or short circuit. Its basic function is to interrupt current flow after a fault is detected. They are common in domestic, commercial and industrial application.

It also can be used for non-frequent on-and-off switching operations under normal circumstances.

Type Key

AT	B	5	1P	C	40
Product series	Product category	Breaking capacity	Poles	Tripping curve	Rated current
Auto	MCB	4.5kA	1,1N,2,3,3N,4	B,C,D	1-63A

Certification Marks

Miniature Circuit Breaker
ATB5,4.5kA

Product Tips

1. Reversible line and load connection
2. Tripping characteristics B, C, D
3. TUV certification mark
4. Contacts position indication window
5. Rated short circuit breaking capacity 4.5kA
6. The position of handle lock

Technical Data

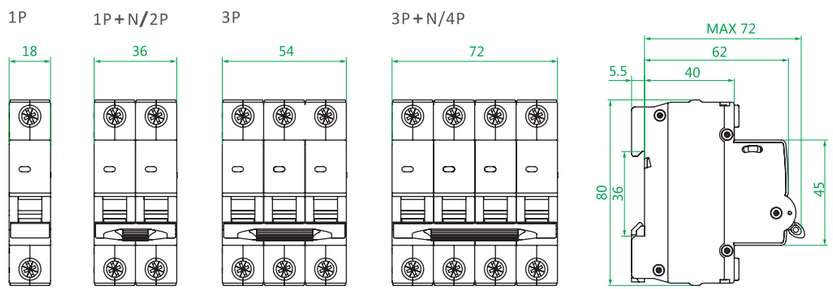
Electrical Features		
International standard		IEC/EN 60898-1
Poles		1P, 1P+N, 2P, 3P, 3P+N, 4P
Rated current		1-63A
Tripping characteristics		B, C, D
Rated breaking capacity	I_{cn}	4.5kA
Rated operational voltage	U_e	230/400V AC
Minimum operational voltage	U_{min}	12V AC
Maximum operational voltage	U_{max}	440V AC
Rated frequency		50/60Hz
Rated insulated voltage	U_i	500V AC
Rated impulse withstand voltage	U_{imp}	6kV
Dielectric test voltage		2kV
Mechanical service life		10000 operation cycles
Electrical service life		4000 operation cycles
Line voltage connection		Arbitrary above or below

Installation Parameters	
Degree of protection (IP)	IP20, IP40 (when fitted)
Operating ambient temperature	-25℃ ~+70℃
Terminal connection type	Cable
Connectable conductor cross section	1-25mm^2
Mounting	IEC/EN 60715 top-hat rail 35mm
Fastening torque of terminals	2-3.0N.m
Pollution degree	2
Reference temperature for setting of thermal element	30℃
Altitude	≤ 2000m
Relative humidity	≤ 95%
Resistance to humidity and heat	Class 2
Installation class	III

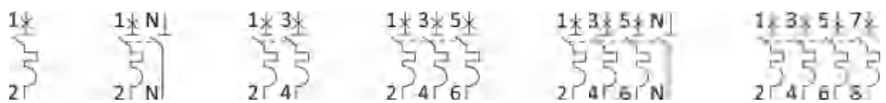
Miniature Circuit Breaker
ATB5,4.5kA

Technical Data

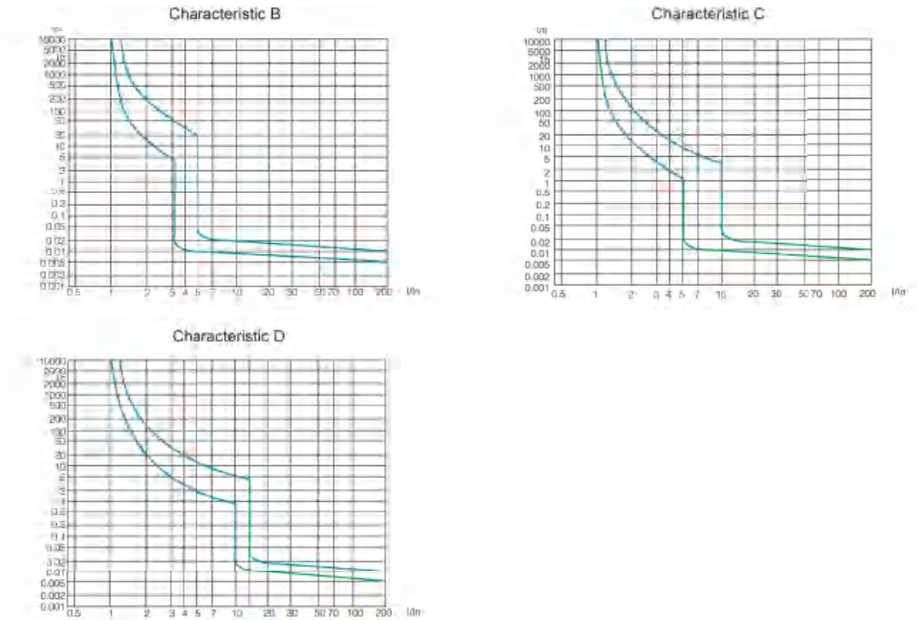
Dimensions



Wiring Diagrams



Tripping Characteristics



Miniature Circuit Breaker
ATB6-LZ,6kA

GACIA ATB6-LZ 6kA Miniature Circuit Breaker

- Miniature Circuit Breaker according to IEC/EN 60898-1
- Rated short circuit breaking capacity 6kA
- 1 up to 4 pole versions
- Tripping characteristics B, C, D
- Rated current up to 63A
- Rated operational voltage 230/400V AC

ATB6-LZ miniature circuit breaker is an automatically operated electrical switch designed to protect an electrical circuit from damage caused by excess current from an overload or short circuit. Its basic function is to interrupt current flow after a fault is detected. They are common in domestic, commercial and industrial application.

It also can be used for non-frequent on-and-off switching operations under normal circumstances.

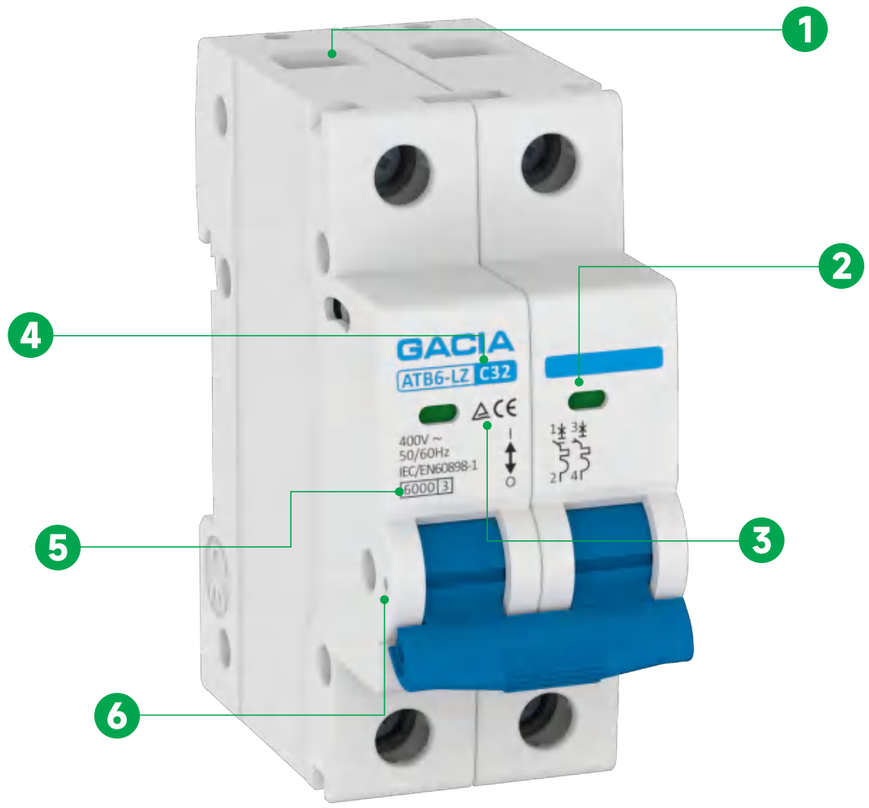
Type Key

AT	B	6-L	Z	1P	C	40
Product series	Product category	Breaking capacity	Structure code	Poles	Tripping curve	Rated current
Auto	MCB	6kA	No busbar interface	1,1N,2,3,3N,4	B,C,D	1-63A

Certification Marks

Miniature Circuit Breaker
ATB6-LZ,6kA

Product Tips



1. Reversible line and load connection
2. Contacts position indication window
3. TUV certification mark
4. Tripping characteristics B, C, D
5. Rated short circuit breaking capacity 6kA
6. The position of handle lock

Technical Data

Electrical Features		
International standard		IEC/EN 60898-1
Poles		1P, 1P+N, 2P, 3P, 3P+N, 4P
Rated current		1-63A
Tripping characteristics		B, C, D
Rated breaking capacity	I_{cn}	6kA
Rated operational voltage	U_e	230/400V AC
Minimum operational voltage	U_{min}	12V AC
Maximum operational voltage	U_{max}	440V AC
Rated frequency		50/60Hz
Rated insulated voltage	U_i	500V AC
Rated impulse withstand voltage	U_{imp}	6kV
Dielectric test voltage		2kV
Mechanical service life		10000 operation cycles
Electrical service life		4000 operation cycles
Line voltage connection		Arbitrary above or below

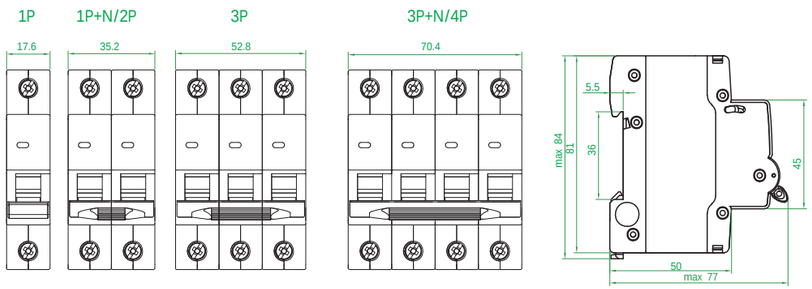
Installation Parameters	
Degree of protection (IP)	IP20, IP40 (when fitted)
Operating ambient temperature	-25°C ~+70°C
Terminal connection type	Cable/Busbar
Connectable conductor cross section	1-25mm^2
Mounting	IEC/EN 60715 top-hat rail 35mm
Fastening torque of terminals	2-3.0N.m
Pollution degree	2
Reference temperature for setting of thermal element	30°C
Altitude	≤ 2000m
Relative humidity	≤ 95%
Resistance to humidity and heat	Class 2

Combination with Accessories	
Auxiliary contact	Yes
Alarm contact	Yes
Shunt release	Yes
Shunt release + Aux	Yes
Undervoltage release	Yes
Overvoltage release	Yes
Over & under voltage release	Yes

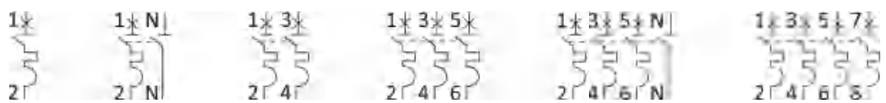
Miniature Circuit Breaker
ATB6-LZ,6kA

Technical Data

Dimensions

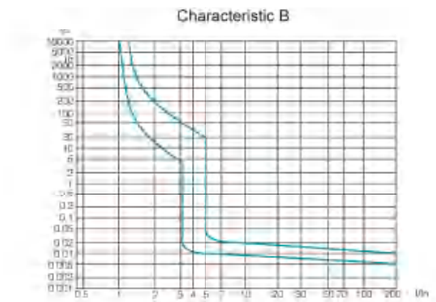


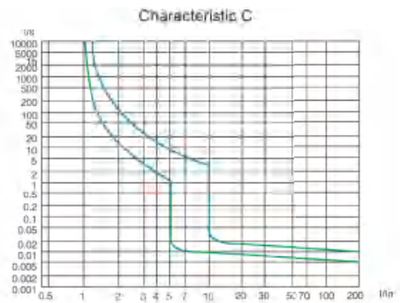
Wiring Diagrams

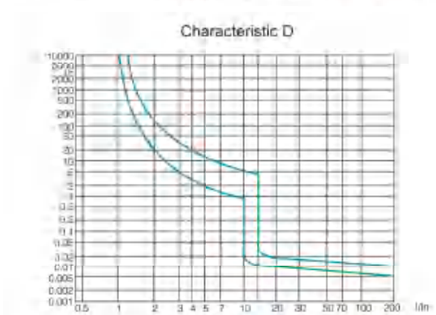


1P 1P+N 2P 3P 3P+N 4P

Tripping Characteristics







Miniature Circuit Breaker
ATB6-L,6kA

GACIA ATB6-L 6kA Miniature Circuit Breaker

- Miniature Circuit Breaker according to IEC/EN 60898-1
- Rated short circuit breaking capacity 6kA
- 1 up to 4 pole versions
- Tripping characteristics B, C, D
- Rated current up to 63A
- Rated operational voltage 230/400V AC
- Can be connected via standard busbars of both fork as well as pin type of connection

ATB6-L miniature circuit breaker is an automatically operated electrical switch designed to protect an electrical circuit from damage caused by excess current from an overload or short circuit. Its basic function is to interrupt current flow after a fault is detected. They are common in domestic, commercial and industrial application.

It also can be used for non-frequent on-and-off switching operations under normal circumstances.

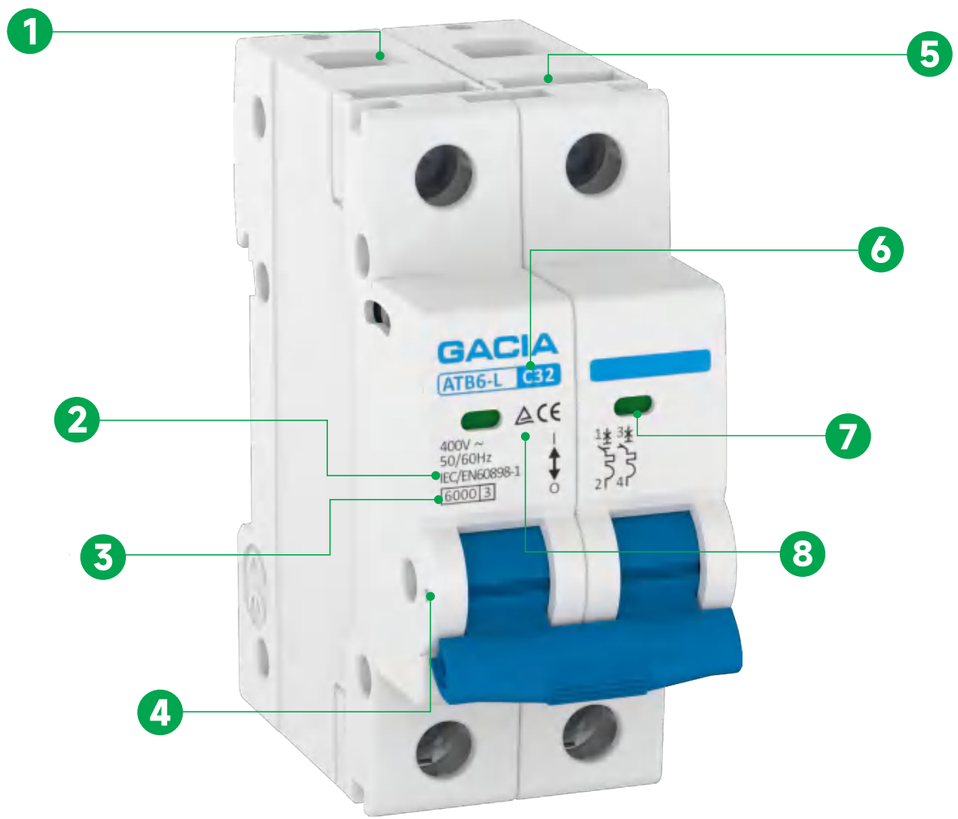
Type Key

AT	B	6-L	1P	C	40
Product series	Product category	Breaking capacity	Poles	Tripping curve	Rated current
Auto	MCB	6kA	1,1N,2,3,3N,4	B,C,D	1-63A

Certification Marks

Miniature Circuit Breaker
ATB6-L,6kA

Product Tips



1. Reversible line and load connection
2. International standards
3. Rated short circuit breaking capacity 6kA
4. The position of handle lock
5. Busbar interface
6. Tripping characteristics B, C, D
7. Contacts position indication window
8. TUV certification mark

Technical Data

Electrical Features		
International standard		IEC/EN 60898-1
Poles		1P, 1P+N, 2P, 3P, 3P+N, 4P
Rated current		1-63A
Tripping characteristics		B, C, D
Rated breaking capacity	I_{cn}	6kA
Rated operational voltage	U_e	230/400V AC
Minimum operational voltage	U_{min}	12V AC
Maximum operational voltage	U_{max}	440V AC
Rated frequency		50/60Hz
Rated insulated voltage	U_i	500V AC
Rated impulse withstand voltage	U_{imp}	6kV
Dielectric test voltage		2kV
Mechanical service life		10000 operation cycles
Electrical service life		4000 operation cycles
Line voltage connection		Arbitrary above or below

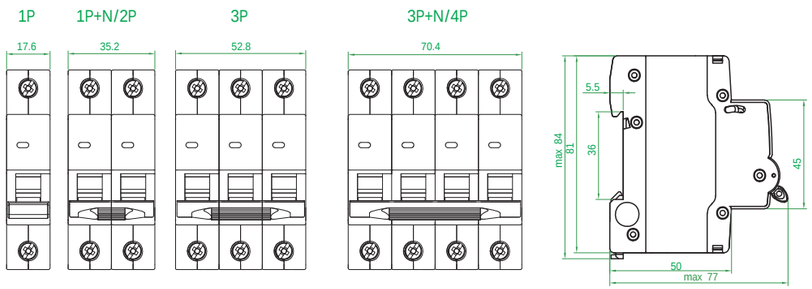
Installation Parameters	
Degree of protection (IP)	IP20, IP40 (when fitted)
Operating ambient temperature	-25°C ~+70°C
Terminal connection type	Cable/Busbar
Connectable conductor cross section	1-25mm^2
Mounting	IEC/EN 60715 top-hat rail 35mm
Fastening torque of terminals	2-3.0N.m
Pollution degree	2
Reference temperature for setting of thermal element	30°C
Altitude	≤ 2000m
Relative humidity	≤ 95%
Resistance to humidity and heat	Class 2

Combination with Accessories	
Auxiliary contact	Yes
Alarm contact	Yes
Shunt release	Yes
Shunt release + Aux	Yes
Undervoltage release	Yes
Overvoltage release	Yes
Over & under voltage release	Yes

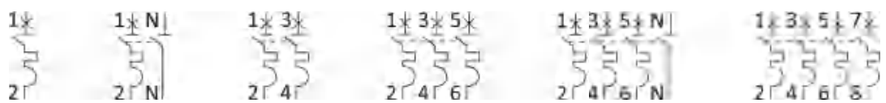
Miniature Circuit Breaker
ATB6-L,6kA

Technical Data

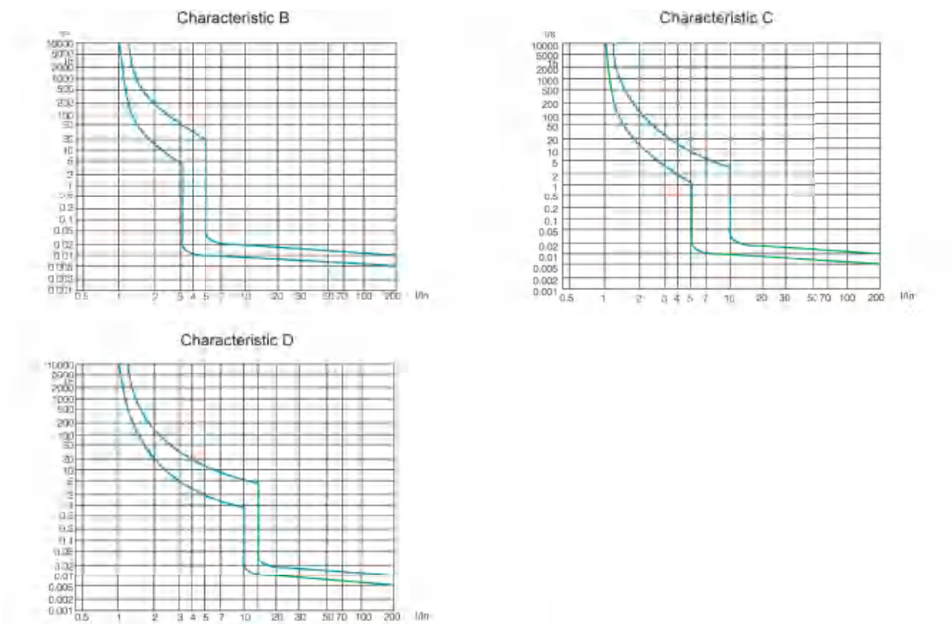
Dimensions



Wiring Diagrams



Tripping Characteristics



Miniature Circuit Breaker
ATB9N,6kA

GACIA ATB9N 6kA Miniature Circuit Breaker

- Miniature Circuit Breaker according to IEC/EN 60898-1
- Rated short circuit breaking capacity 6kA
- 1 up to 4 pole versions
- Tripping characteristics B, C, D
- Rated current up to 63A
- Rated operational voltage 230/400V AC
- Can be connected via standard busbars of both fork as well as pin type of connection

ATB9N miniature circuit breaker is an automatically operated electrical switch designed to protect an electrical circuit from damage caused by excess current from an overload or short circuit. Its basic function is to interrupt current flow after a fault is detected. They are common in domestic, commercial and industrial application.

It also can be used for non-frequent on-and-off switching operations under normal circumstances.

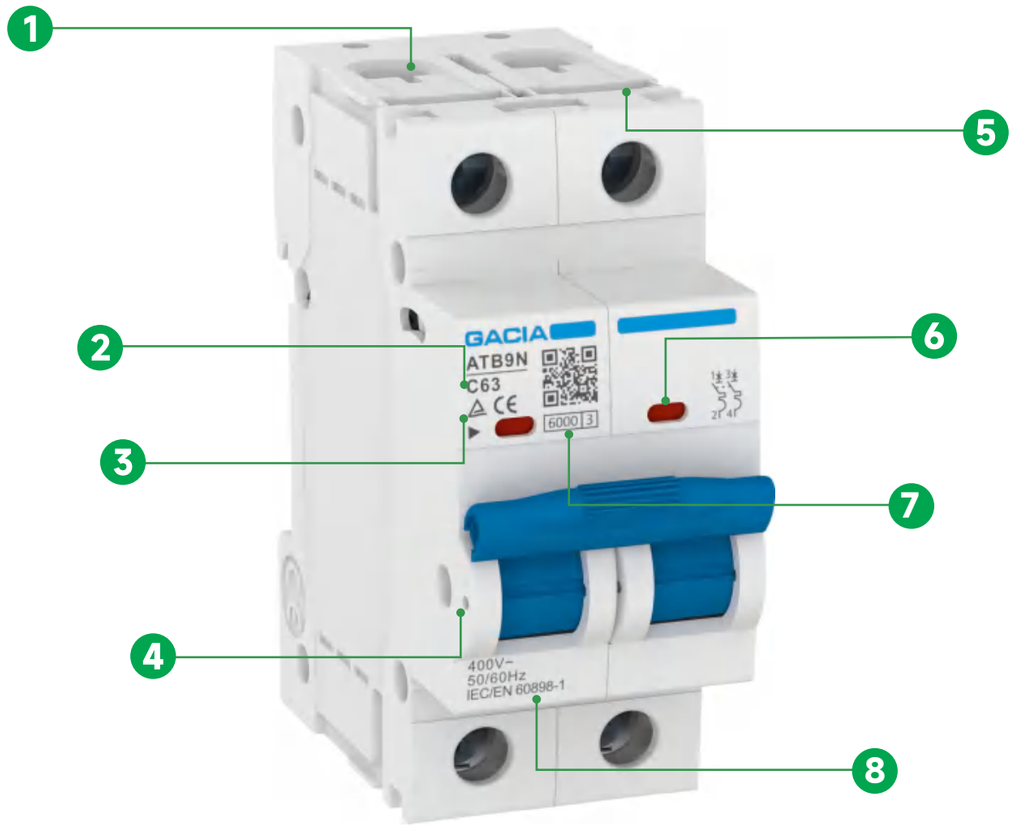
Type Key

AT	B	9	N	1P	C	40
Product series	Product category	Design code	Breaking capacity	Poles	Tripping curve	Rated current
Auto	MCB	9	6kA	1,1N,2,3,3N,4	B,C,D	1-63A

Certification Marks

Miniature Circuit Breaker
ATB9N,6kA

Product Tips



1. Reversible line and load connection
2. Tripping characteristics B, C, D
3. TUV certification mark
4. The position of handle lock
5. Busbar interface
6. Contacts position indication window
7. Rated short circuit breaking capacity 6kA
8. International standards

Technical Data

Electrical Features		
International standard		IEC/EN 60898-1
Poles		1P, 1P+N, 2P, 3P, 3P+N, 4P
Rated current		1-63A
Tripping characteristics		B, C, D
Rated breaking capacity	I_{cn}	6kA
Rated operational voltage	U_e	230/400V AC
Minimum operational voltage	U_{min}	12V AC
Maximum operational voltage	U_{max}	440V AC
Rated frequency		50/60Hz
Rated insulated voltage	U_i	500V AC
Rated impulse withstand voltage	U_{imp}	6kV
Dielectric test voltage		2kV
Mechanical service life		10000 operation cycles
Electrical service life		4000 operation cycles
Line voltage connection		Arbitrary above or below

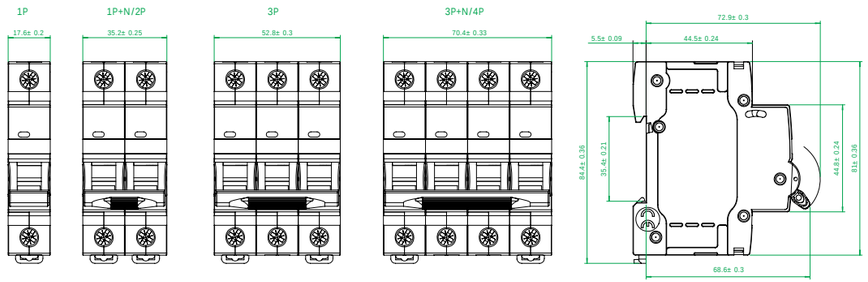
Installation Parameters	
Degree of protection (IP)	IP20, IP40 (when fitted)
Operating ambient temperature	-25°C ~+70°C
Terminal connection type	Cable/Busbar
Connectable conductor cross section	1-25mm^2
Mounting	IEC/EN 60715 top-hat rail 35mm
Fastening torque of terminals	2.5N.m
Pollution degree	2
Reference temperature for setting of thermal element	30°C
Altitude	≤ 2000m
Relative humidity	≤ 95%

Combination with Accessories	
Auxiliary contact	Yes
Alarm contact	Yes
Shunt release	Yes
Shunt release + Aux	Yes
Undervoltage release	Yes
Overvoltage release	Yes
Over & under voltage release	Yes

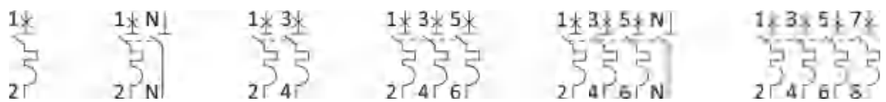
Miniature Circuit Breaker
ATB9N,6kA

Technical Data

Dimensions

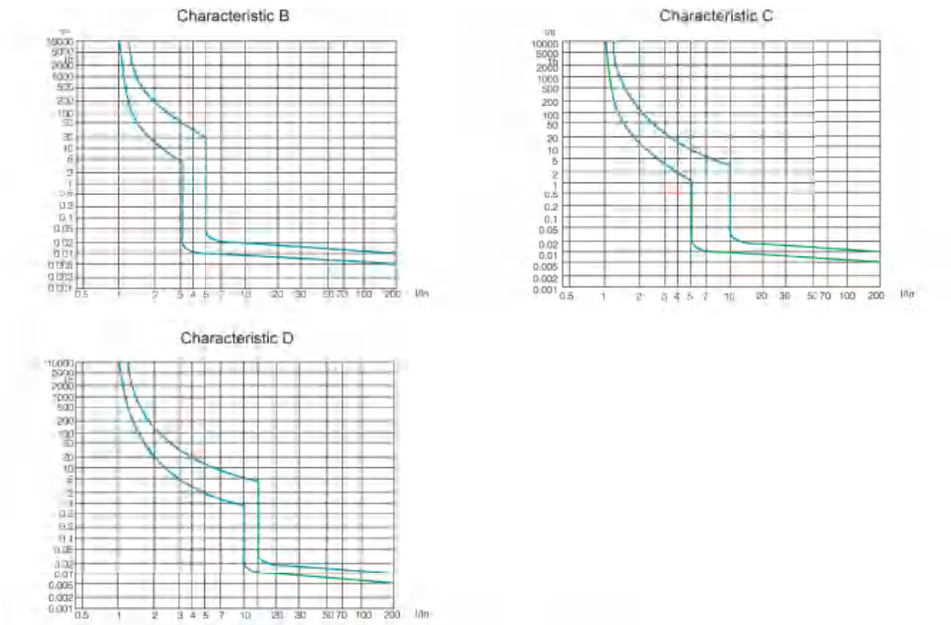


Wiring Diagrams



1P 1P+N 2P 3P 3P+N 4P

Tripping Characteristics



Miniature Circuit Breaker
FB8SZ,4.5kA

GACIA FB8SZ 4.5kA Miniature Circuit Breaker

- Miniature Circuit Breaker according to IEC/EN 60898-1
- Rated short circuit breaking capacity 4.5kA
- 1 up to 4 pole versions
- Tripping characteristics B, C, D
- Rated current up to 63A
- Rated operational voltage 230/400V AC

FB8SZ miniature circuit breaker is an automatically operated electrical switch, which is engineered to safeguard an electrical circuit against damage brought about by excessive current due to overload or short circuit. Here, "F" stands for "Forward", signifying our forward-thinking innovation and the pursuit of advanced technology. Its fundamental function is to stop the current flow once a fault is detected. These circuit breakers are extensively applied in domestic, commercial, and industrial scenarios.

Moreover, they can also be used for infrequent on-and-off switching operations under normal conditions.

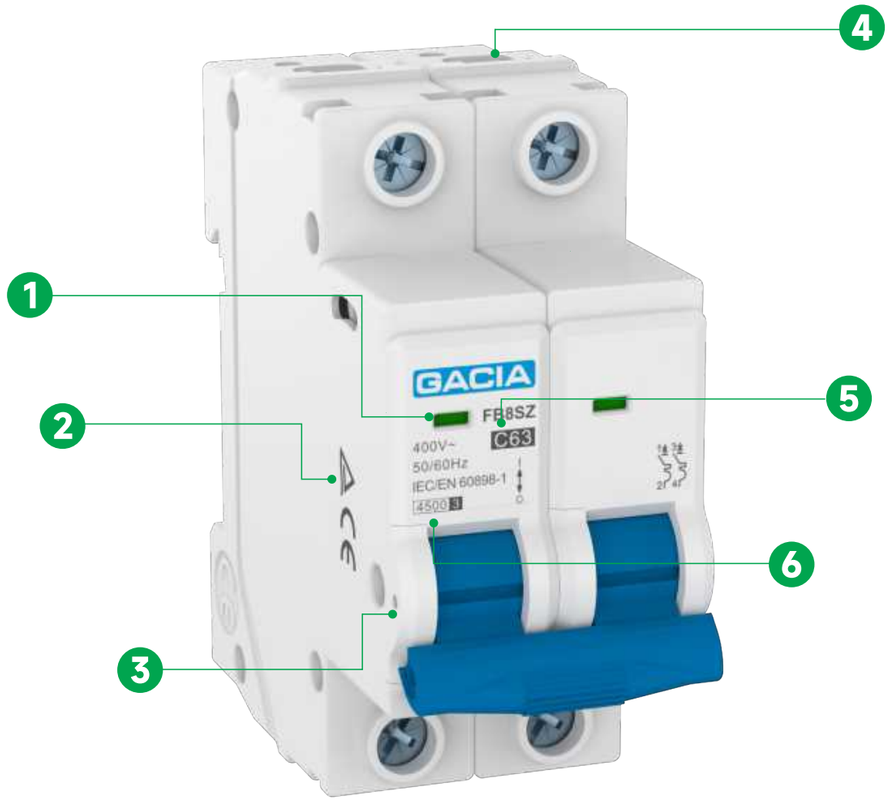
Type Key

F	B	8	S	Z	1P	C	40
Product series	Product category	Design code	Breaking capacity	Structure code	Poles	Tripping curve	Rated current
Forward	MCB	8	4.5kA	No Busbar	1,1N,2,3,3N,4	B,C,D	1-63A

Certification Marks

Miniature Circuit Breaker
FB8SZ,4.5kA

Product Tips



1. Contacts position indication window
2. TUV certification mark
3. The position of handle lock
4. Reversible line and load connection
5. Tripping characteristics B, C, D
6. Rated short circuit breaking capacity 4.5kA

Technical Data

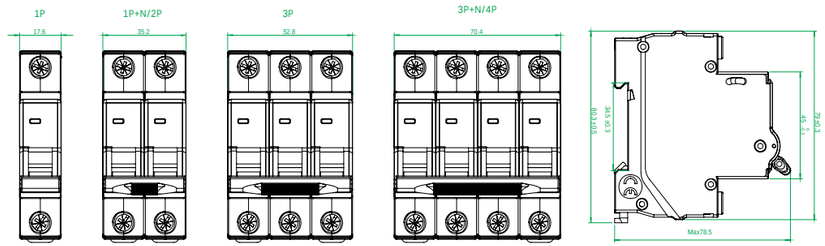
Electrical Features		
International standard		IEC/EN 60898-1
Poles		1P, 1P+N, 2P, 3P, 3P+N, 4P
Rated current		1-63A
Tripping characteristics		B, C, D
Rated breaking capacity	I_{cn}	4.5kA
Rated operational voltage	U_e	230/400V AC
Minimum operational voltage	U_{min}	12V AC
Maximum operational voltage	U_{max}	440V AC
Rated frequency		50/60Hz
Rated insulated voltage	U_i	500V AC
Rated impulse withstand voltage	U_{imp}	6kV
Dielectric test voltage		2kV
Mechanical service life		10000 operation cycles
Electrical service life		4000 operation cycles
Line voltage connection		Arbitrary above or below

Installation Parameters	
Degree of protection (IP)	IP20, IP40 (when fitted)
Operating ambient temperature	-25℃ ~+70℃
Terminal connection type	Cable
Connectable conductor cross section	1-25mm^2
Mounting	IEC/EN 60715 top-hat rail 35mm
Fastening torque of terminals	2-3.0N.m
Pollution degree	2
Reference temperature for setting of thermal element	30℃
Altitude	≤ 2000m
Relative humidity	≤ 95%

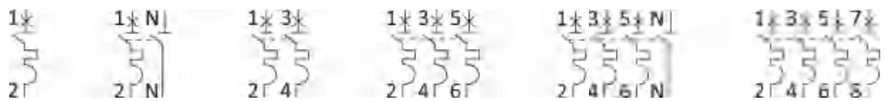
Miniature Circuit Breaker
FB8SZ,4.5kA

Technical Data

Dimensions

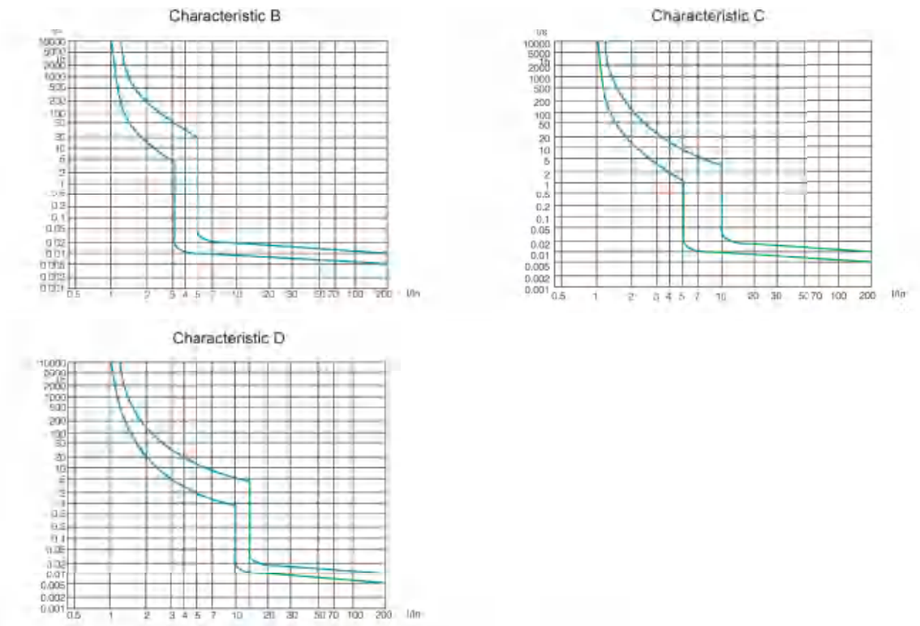


Wiring Diagrams



1P　1P+N　2P　3P　3P+N　4P

Tripping Characteristics



Miniature Circuit Breaker
FB8NZ,6kA

GACIA FB8NZ 6kA Miniature Circuit Breaker

- Miniature Circuit Breaker according to IEC/EN 60898-1
- Rated short circuit breaking capacity 6kA
- 1 up to 4 pole versions
- Tripping characteristics B, C, D
- Rated current up to 63A
- Rated operational voltage 230/400V AC

FB8NZ miniature circuit breaker is an automatically operated electrical switch, which is engineered to safeguard an electrical circuit against damage brought about by excessive current due to overload or short circuit. Here, "F" stands for "Forward", signifying our forward-thinking innovation and the pursuit of advanced technology. Its fundamental function is to stop the current flow once a fault is detected. These circuit breakers are extensively applied in domestic, commercial, and industrial scenarios.

Moreover, they can also be used for infrequent on-and-off switching operations under normal conditions.

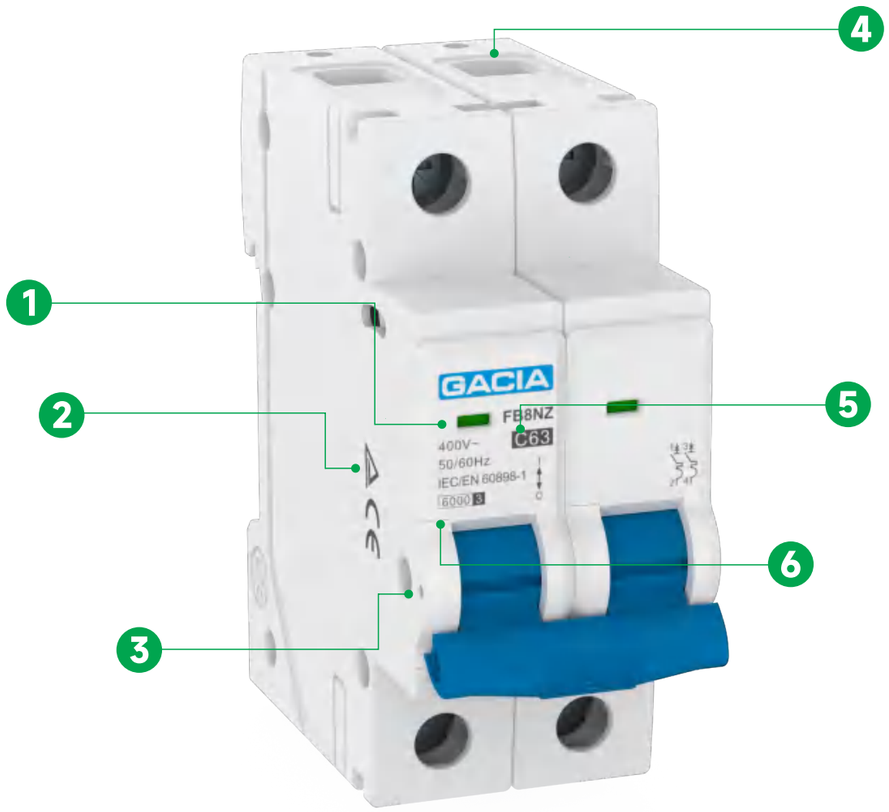
Type Key

F	B	8	N	Z	1P	C	40
Product series	Product category	Design code	Breaking capacity	Structure code	Poles	Tripping curve	Rated current
Forward	MCB	8	6kA	No Busbar	1,1N,2,3,3N,4	B,C,D	1-63A

Certification Marks

Miniature Circuit Breaker
FB8NZ,6kA

Product Tips



1. Contacts position indication window
2. TUV certification mark
3. The position of handle lock
4. Reversible line and load connection
5. Tripping characteristics B, C, D
6. Rated short circuit breaking capacity 6kA

Technical Data

Electrical Features		
International standard		IEC/EN 60898-1
Poles		1P, 1P+N, 2P, 3P, 3P+N, 4P
Rated current		1-63A
Tripping characteristics		B, C, D
Rated breaking capacity	I_{cn}	6kA
Rated operational voltage	U_e	230/400V AC
Minimum operational voltage	U_{min}	12V AC
Maximum operational voltage	U_{max}	440V AC
Rated frequency		50/60Hz
Rated insulated voltage	U_i	500V AC
Rated impulse withstand voltage	U_{imp}	6kV
Dielectric test voltage		2kV
Mechanical service life		10000 operation cycles
Electrical service life		4000 operation cycles
Line voltage connection		Arbitrary above or below

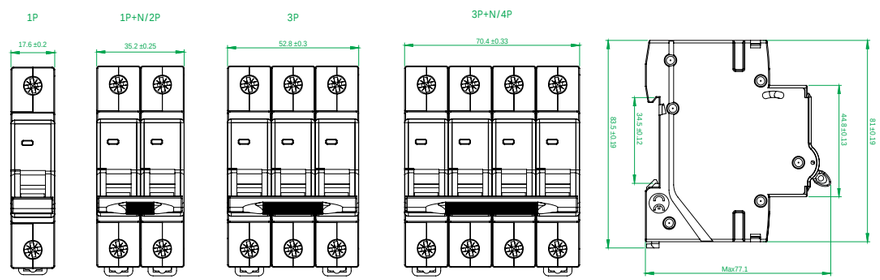
Installation Parameters	
Degree of protection (IP)	IP20, IP40 (when fitted)
Operating ambient temperature	-25°C ~+70°C
Terminal connection type	Cable/Busbar
Connectable conductor cross section	1-25mm^2
Mounting	IEC/EN 60715 top-hat rail 35mm
Fastening torque of terminals	2-3.0N.m
Pollution degree	2
Reference temperature for setting of thermal element	30°C
Altitude	≤ 2000m
Relative humidity	≤ 95%

Combination with Accessories	
Auxiliary contact	Yes
Alarm contact	Yes
Shunt release	Yes
Shunt release + Aux	Yes
Undervoltage release	Yes
Overvoltage release	Yes
Over & under voltage release	Yes

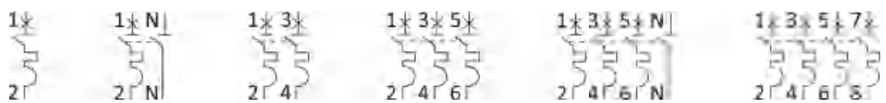
Miniature Circuit Breaker
FB8NZ,6kA

Technical Data

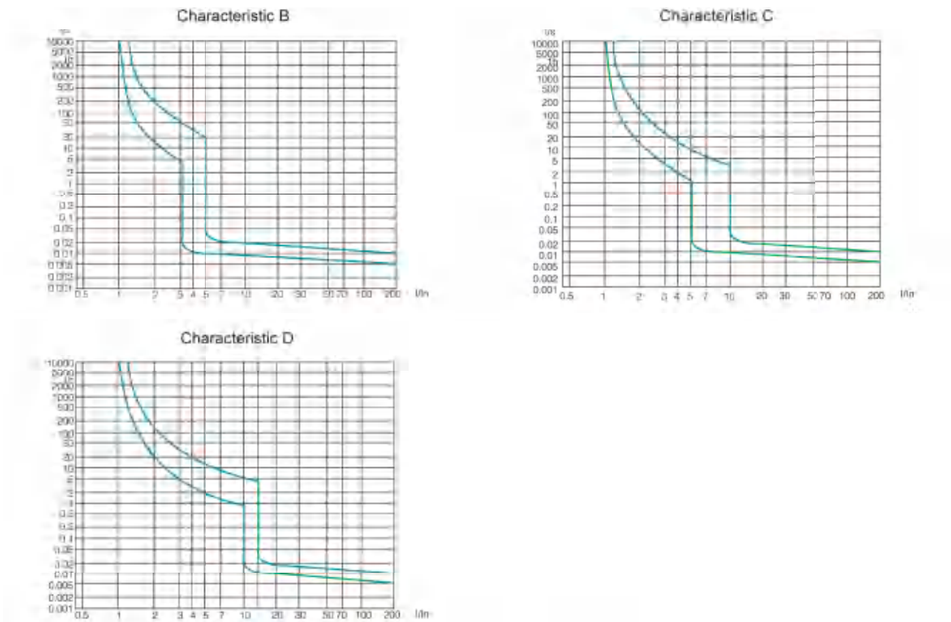
Dimensions



Wiring Diagrams



Tripping Characteristics



Residual Current Circuit Breaker
FR8NM,6kA

GACIA FR8NM 6kA Residual Current Devices

- Residual Current Circuit Breaker according to IEC/EN 61008-1
- Electromagnetic type
- Cond. rated short circuit strength I_{nc} 6kA
- 2 and 4 pole versions
- Rated residual current 10, 30, 100, 300 and 500mA
- Rated current up to 100A
- Rated operational voltage 230/400V AC
- AC, A , S and G types

FR8NM residual current circuit breaker is a safety device that quickly breaks an electrical circuit to protect equipment, they are designed to disconnect the conducting wires ("trip") quickly enough to potentially prevent serious injury to humans, and to prevent damage to electrical devices.

They are common in domestic, commercial and industrial application.

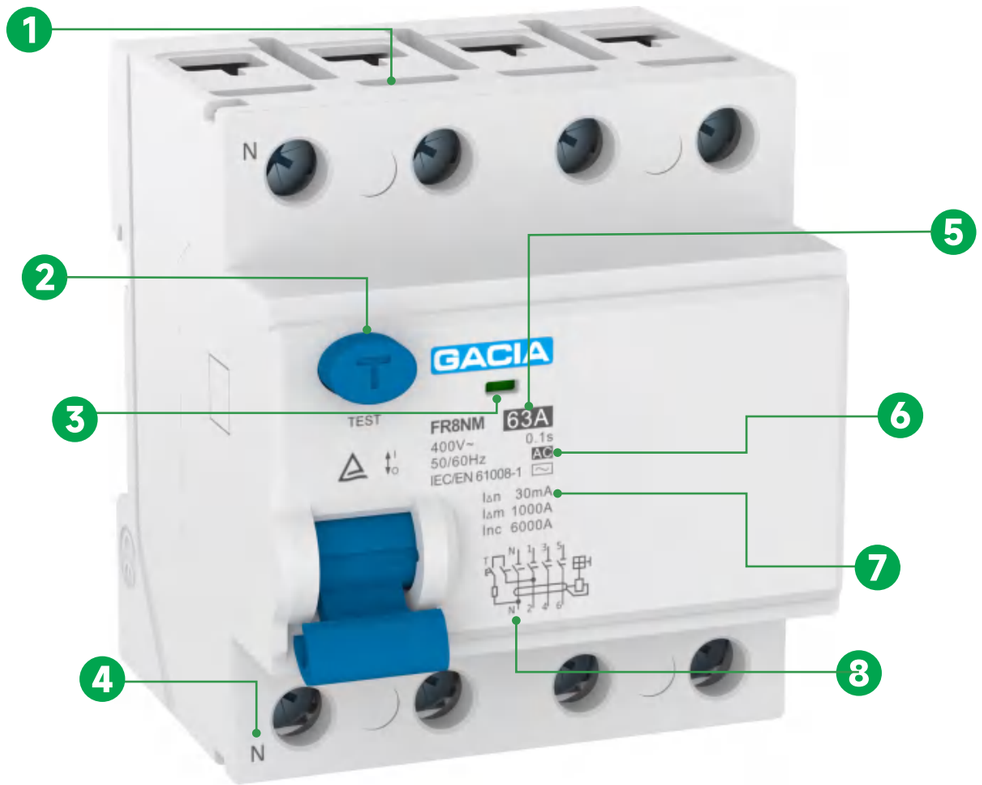
Type Key

F	R	8	N	M	2P	25A	30mA
Product series	Product category	Design code	Conditional short circuit strength	Structure code	Poles	Rated current	Rated residual current
Forward	RCCB	8	6kA	Electromagnetic	2P, 4P	25-100A	1-63A

Certification Marks

Residual Current Circuit Breaker
FR8NM,6kA

Product Tips



1. Busbar interface
2. Test button
3. Contacts position indication window
4. Neutral line interface
5. Rated current up to 100A
6. Sensitivity to residual current AC
7. Variants from 10 to 500mA $I_{\triangle n}$ available
8. Electromagnetic circuit diagram

Technical Data

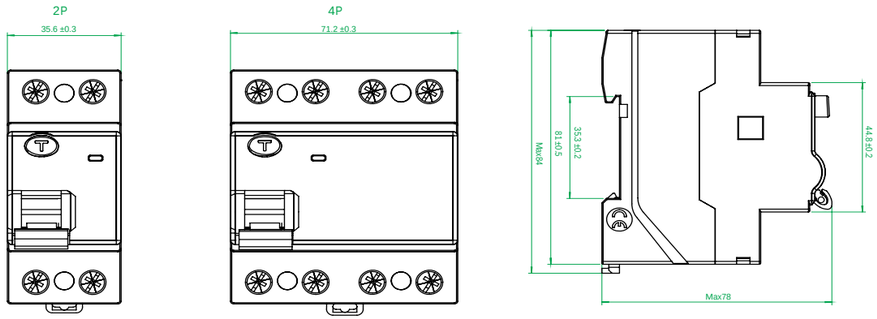
Electrical Features	
International standard	IEC/EN 61008-1
Poles	2P, 4P
Rated current	25, 40, 63, 80, 100A
Rated residual current $I_{\triangle n}$	10, 30, 100, 300, 500mA
Residual current protection type	Electromagnetic
Conditional short circuit strength I_{nc}	6kA
Rated operational voltage U_e	230/400V AC
Min.voltage for RCD function	Independent of voltage
Voltage range of the test button T	150 - 253V AC (2P) / 150 - 440V AC (4P)
Sensitivity to residual current	AC type - AC residual current SI type-residual AC and pulsating DC current Can withstand an 8/20 μs surge of 3000 A A type - residual AC and pulsating DC current
Time characteristic	AC, A - Undelayed type G - delay (insensitivity) 10 - 300 ms S - delay (insensitivity) 130 - 500 ms
Rated frequency	50/60Hz
Rated insulated voltage U_i	500V AC
Rated impulse withstand voltage U_{imp}	6kV
Dielectric test voltage	2.5kV
Mechanical service life	10000 operation cycles
Electrical service life	4000 operation cycles
Back-up fuse for overload	
I_n=25A	max, 25AgG
I_n=40A	max, 32AgG
I_n=63A	max, 50AgG
I_n=80A	max, 80AgG
I_n=100A	max, 100AgG
Back-up fuse for short circuit	
I_n=25A	max, 63AgG
I_n=40A	max, 63AgG
I_n=63A	max, 63AgG
I_n=80A	max, 80AgG
I_n=100A	max, 100AgG
Rated residual making and breaking capacity I_m/ $I_{\triangle m}$	
I_n=25A	500A
I_n=40A	500A
I_n=63A	630A
I_n=80A	800A
I_n=100A	1000A
Line voltage connection	Arbitrary above or below

Installation Parameters	
Degree of protection (IP)	IP20, IP40 (when fitted)
Operating ambient temperature	-25°C ~+70°C
Terminal connection type	Cable/Busbar
Connectable conductor cross section	1-35mm^2
Mounting	IEC/EN 60715 top-hat rail 35mm
Fastening torque of terminals	≤ 63A，2.5N.m，≥ 80 A，3.0N.m，
Pollution degree	2
Altitude	≤ 2000m
Relative humidity	≤ 95%

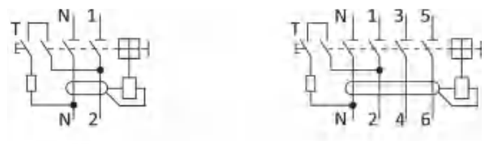
Residual Current Circuit Breaker
FR8NM,6kA

Technical Data

Dimensions

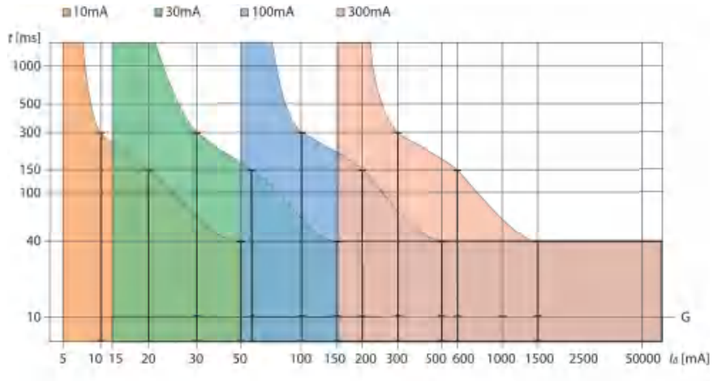


Wiring Diagrams



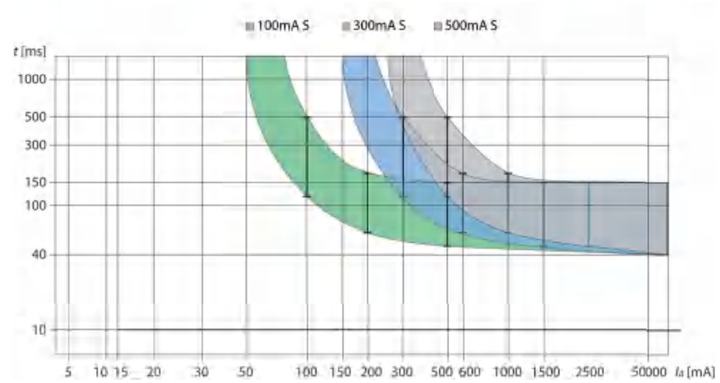
2P 4P

Tripping Characteristics



Technical Data

Tripping Characteristics



Power Loss

I_n	I_Δ	2P	4P
25A	**10mA**	3.4W	7.2W
	30mA	3.4W	7.2W
	100mA	3.4W	7.2W
	300mA	3.4W	7.2W
	500mA	3.4W	7.2W
40A	**30mA**	7.2W	15.3W
	100mA	7.2W	15.3W
	300mA	7.2W	15.3W
	500mA	7.2W	15.3W
63A	**30mA**	15W	24W
	100mA	15W	24W
	300mA	15W	24W
	500mA	15W	24W