P Series Installation Devices

Low voltage

GACIA ELECTRICAL APPLIANCE CO., LTD.

GACIA

GACIA ELECTRICAL APPLIANCE CO., LTD.

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GACIA

Company Profile

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".

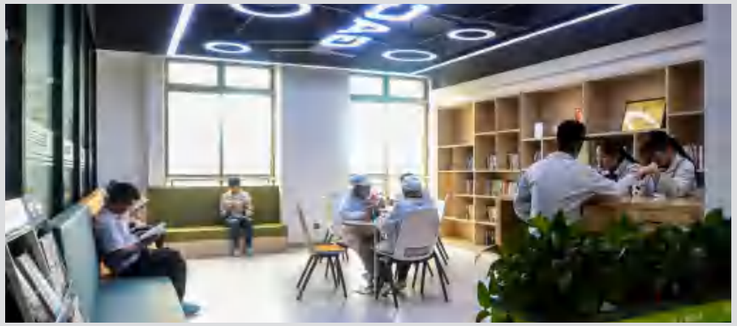
GACIA

Smart Factory

Make manufacturing more transparent

Make delivery faster

Make decisions smarter



ISO9001 ISO14001 ISO45001 CB RoHS

GACIA

Product Content

Miniature Circuit Breaker

Isolator

Residual Current Devices

Miniature Circuit Breaker

PB8N,6kA

GACIA PB8N 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
- Both fork and pin busbars connection

PB8N 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

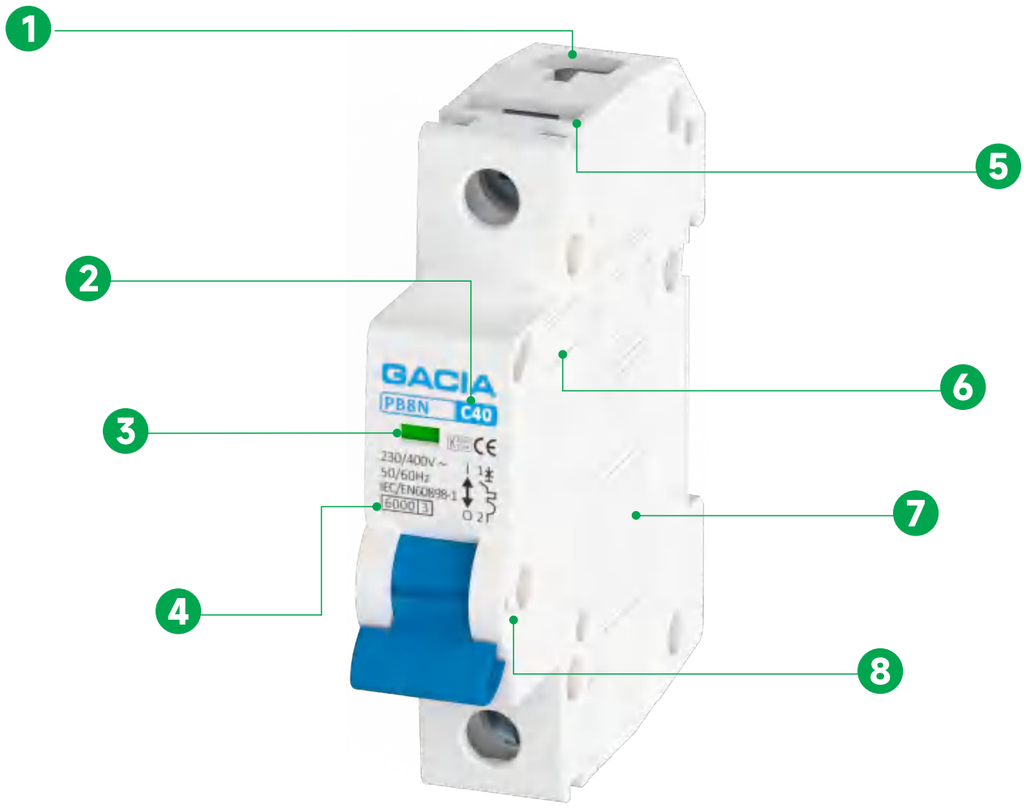
P	B	8	N	1P	B	16
Product series	Product category	Design Code	Breaking capacity	Poles	Tripping curve	Rated current
Professional	MCB	8	6kA	1,1N,2,3,3N,4	B,C,D	1-63A

Certification Marks

CE KEMA KEUR

Miniature Circuit Breaker
PB8N,6kA

Product Tips



1. Reversible line and load connection
2. Tripping characteristics B, C, D
3. Contacts position indication window
4. Rated short circuit breaking capacity 6000A
5. Busbar interface
6. Wide range of accessories
7. Modifiable modules for ODM clients
8. 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 240/415V 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

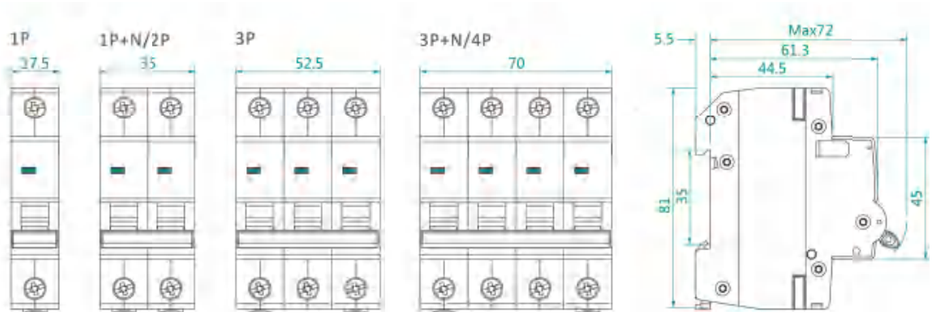
Installation Parameters	
Degree of protection (IP)	IP20, IP40 (when fitted)
Operating ambient temperature	-25°C ~+70°C
Terminal connection type	Cable/Busbar
Connectable conductor cross section	1-25mm^2
Mounting	IEC/EN 60715 top-hat rail 35mm
Fastening torque of terminals	2.5N.m
Pollution degree	2
Reference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

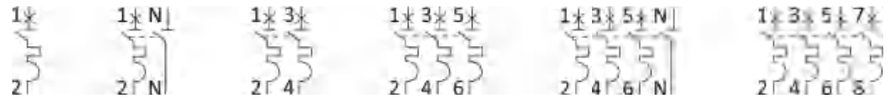
Miniature Circuit Breaker
PB8N,6kA

Technical Data

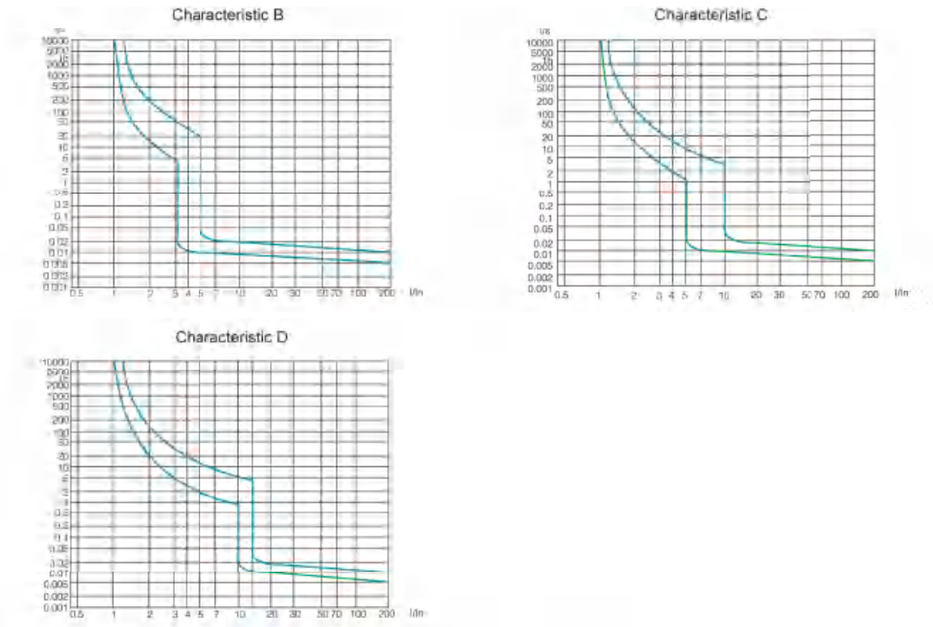
Dimensions



Wiring Diagrams



Tripping Characteristics



Technical Data

Dependence of Tripping Characteristics on Ambient Temperature

T [°C]	In (T) [A]														
	1 A	2 A	3 A	4 A	6 A	8 A	10 A	13 A	16 A	20 A	25 A	32 A	40 A	50 A	63 A
-30	1.3	2.5	3.8	5.1	7.6	10.2	13.6	16.8	20.5	25.3	31.1	40.5	51.0	64.0	82.0
-25	1.2	2.4	3.7	4.9	7.4	9.9	13.4	16.5	20.0	25.0	30.5	39.8	50.0	63.0	80.7
-20	1.2	2.4	3.6	4.8	7.3	9.7	13.1	16.3	19.8	24.5	30.0	39.2	49.2	62.0	79.2
-15	1.2	2.4	3.5	4.8	7.2	9.5	12.8	15.9	19.4	24.0	29.5	38.5	48.4	60.8	77.8
-10	1.2	2.3	3.5	4.7	7.1	9.3	12.5	15.7	19.0	23.7	29.0	37.9	47.5	59.8	76.3
-5	1.2	2.3	3.4	4.7	7.0	9.2	12.3	15.4	18.7	23.2	28.5	37.2	46.7	58.6	74.7
0	1.1	2.2	3.4	4.5	6.8	9.0	12.0	15.0	18.4	22.8	28.0	36.5	45.8	57.4	73.2
5	1.1	2.2	3.3	4.4	6.6	8.9	11.7	14.7	18.0	22.4	27.5	35.8	45.0	56.3	71.6
10	1.1	2.1	3.3	4.3	6.5	8.7	11.4	14.3	17.6	21.9	27.0	35.0	44.0	55.0	70.0
15	1.1	2.1	3.2	4.3	6.4	8.5	11.0	14.0	17.2	21.5	26.5	34.3	43.0	53.8	68.3
20	1.0	2.1	3.2	4.2	6.3	8.3	10.7	13.7	16.8	21.0	26.0	33.6	42.0	52.6	66.6
25	1.0	2.0	3.0	4.1	6.2	8.2	10.4	13.4	16.4	20.5	25.5	32.8	41.0	51.3	64.8
30	1	2	3	4	6	8	10	13	16	20	25	32	40	50	63
35	0.99	2.00	3.00	3.9	5.9	7.9	9.9	12.8	16.0	20.0	25.0	32.0	39.0	49.0	62.0
40	0.97	1.90	2.90	3.9	5.8	7.8	9.7	12.5	15.0	19.0	24.0	31.0	39.0	48.0	61.0
45	0.95	1.90	2.80	3.8	5.7	7.7	9.5	12.2	15.0	19.0	24.0	30.0	38.0	47.0	60.0
50	0.93	1.90	2.80	3.7	5.6	7.6	9.3	12.0	15.0	19.0	23.0	30.0	37.0	46.0	58.0
55	0.91	1.80	2.80	3.6	5.5	7.5	9.0	11.7	14.0	18.0	23.0	29.0	36.0	44.0	57.0
60	0.91	1.80	2.70	3.5	5.4	7.2	8.8	11.5	14.0	18.0	22.0	28.0	35.0	42.0	55.0
65	0.91	1.80	2.70	3.5	5.3	7.1	8.6	11.2	13.0	17.0	21.0	28.0	34.0	40.0	52.0
70	0.91	1.80	2.70	3.5	5.3	6.9	8.6	11.0	13.0	17.0	21.0	27.0	33.0	38.0	50.0

Power Loss Per Pole

In [A]	1 A	2 A	3 A	4 A	6 A	8 A	10 A	13 A	16 A	20 A	25 A	32 A	40 A	50 A	63 A
P[W]	1.5	2.0	1.8	2.0	2.2	2.6	1.5	1.7	1.7	2.0	2.2	2.6	2.9	3.8	4.4

Miniature Circuit Breaker
PB8H,10kA

- 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
- Both fork and pin busbars connection

PB8H 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

P	B	8	H	1P	B	16
Product series	Product category	Design Code	Breaking capacity	Poles	Tripping curve	Rated current
Professional	MCB	8	10kA	1,1N,2,3,3N,4	B,C,D	1-63A

Certification Marks

CE KEMA KEUR

Product Tips

1. Reversible line and load connection
2. Tripping characteristics B, C, D
3. Contacts position indication window
4. Rated short circuit breaking capacity 10000A
5. Busbar interface
6. Wide range of accessories
7. Modifiable modules for ODM clients
8. The position of handle lock

Miniature Circuit Breaker
PB8H,10kA

Technical Data

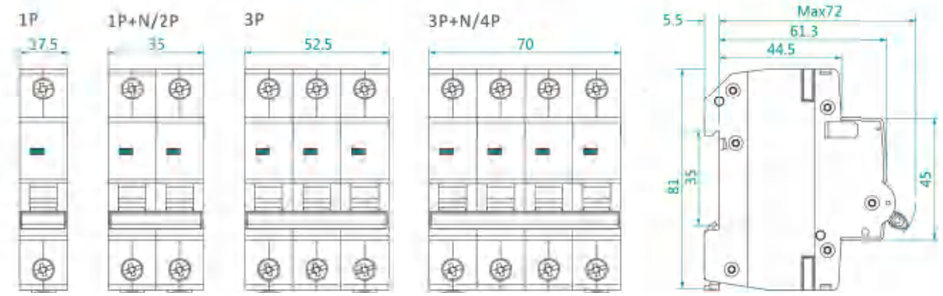
Electrical Features		
International standard		IEC/EN 60898-1
Poles		1P, 1P+N, 2P, 3P, 3P+N, 4P
Rated current		1-63A
Tripping characteristics		B, C, D
Rated breaking capacity	I_{cn}	10kA
Rated operational voltage	U_e	230/400V 240/415V AC
Minimum operational voltage	U_{min}	12V AC
Maximum operational voltage	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%

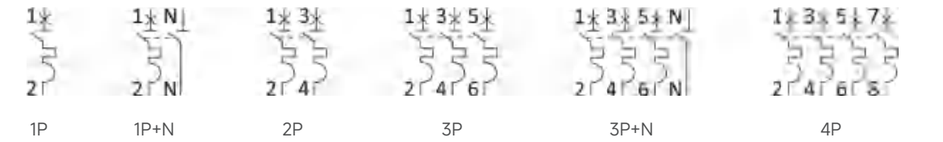
Combination with Accessories	
Auxiliary contact	Yes
Alarm contact	Yes
Shunt release	Yes
Shunt release + Aux	Yes
Undervoltage release	Yes
Overvoltage release	Yes
Over & under voltage release	Yes

Technical Data

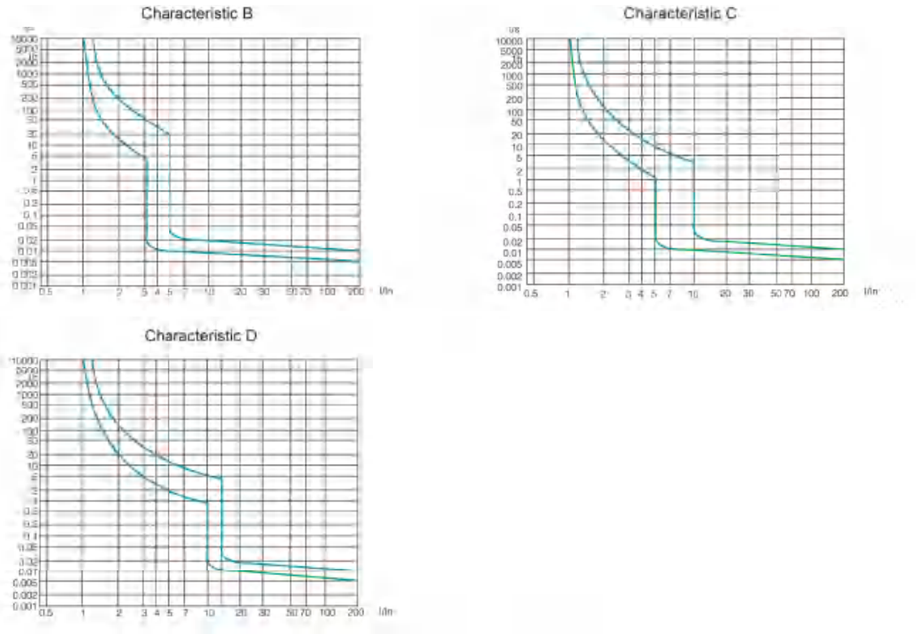
Dimensions



Wiring Diagrams



Tripping Characteristics



Miniature Circuit Breaker
PB8H,10kA

Technical Data

Dependence of Tripping Characteristics on Ambient Temperature

T [°C]	In (T) [A]														
	1 A	2 A	3 A	4 A	6 A	8 A	10 A	13 A	16 A	20 A	25 A	32 A	40 A	50 A	63 A
-30	1.3	2.5	3.8	5.1	7.6	10.2	13.6	16.8	20.5	25.3	31.1	40.5	51.0	64.0	82.0
-25	1.2	2.4	3.7	4.9	7.4	9.9	13.4	16.5	20.0	25.0	30.5	39.8	50.0	63.0	80.7
-20	1.2	2.4	3.6	4.8	7.3	9.7	13.1	16.3	19.8	24.5	30.0	39.2	49.2	62.0	79.2
-15	1.2	2.4	3.5	4.8	7.2	9.5	12.8	15.9	19.4	24.0	29.5	38.5	48.4	60.8	77.8
-10	1.2	2.3	3.5	4.7	7.1	9.3	12.5	15.7	19.0	23.7	29.0	37.9	47.5	59.8	76.3
-5	1.2	2.3	3.4	4.7	7.0	9.2	12.3	15.4	18.7	23.2	28.5	37.2	46.7	58.6	74.7
0	1.1	2.2	3.4	4.5	6.8	9.0	12.0	15.0	18.4	22.8	28.0	36.5	45.8	57.4	73.2
5	1.1	2.2	3.3	4.4	6.6	8.9	11.7	14.7	18.0	22.4	27.5	35.8	45.0	56.3	71.6
10	1.1	2.1	3.3	4.3	6.5	8.7	11.4	14.3	17.6	21.9	27.0	35.0	44.0	55.0	70.0
15	1.1	2.1	3.2	4.3	6.4	8.5	11.0	14.0	17.2	21.5	26.5	34.3	43.0	53.8	68.3
20	1.0	2.1	3.2	4.2	6.3	8.3	10.7	13.7	16.8	21.0	26.0	33.6	42.0	52.6	66.6
25	1.0	2.0	3.0	4.1	6.2	8.2	10.4	13.4	16.4	20.5	25.5	32.8	41.0	51.3	64.8
30	1	2	3	4	6	8	10	13	16	20	25	32	40	50	63
35	0.99	2.00	3.00	3.9	5.9	7.9	9.9	12.8	16.0	20.0	25.0	32.0	39.0	49.0	62.0
40	0.97	1.90	2.90	3.9	5.8	7.8	9.7	12.5	15.0	19.0	24.0	31.0	39.0	48.0	61.0
45	0.95	1.90	2.80	3.8	5.7	7.7	9.5	12.2	15.0	19.0	24.0	30.0	38.0	47.0	60.0
50	0.93	1.90	2.80	3.7	5.6	7.6	9.3	12.0	15.0	19.0	23.0	30.0	37.0	46.0	58.0
55	0.91	1.80	2.80	3.6	5.5	7.5	9.0	11.7	14.0	18.0	23.0	29.0	36.0	44.0	57.0
60	0.91	1.80	2.70	3.5	5.4	7.2	8.8	11.5	14.0	18.0	22.0	28.0	35.0	42.0	55.0
65	0.91	1.80	2.70	3.5	5.3	7.1	8.6	11.2	13.0	17.0	21.0	28.0	34.0	40.0	52.0
70	0.91	1.80	2.70	3.5	5.3	6.9	8.6	11.0	13.0	17.0	21.0	27.0	33.0	38.0	50.0

Power Loss Per Pole

In [A]	1 A	2 A	3 A	4 A	6 A	8 A	10 A	13 A	16 A	20 A	25 A	32 A	40 A	50 A	63 A
P[W]	1.5	2.0	1.8	2.0	2.2	2.6	1.5	1.7	1.7	2.0	2.2	2.6	2.9	3.8	4.4

Miniature Circuit Breaker
P8GH,10kA

GACIA P8GH 10kA Miniature Circuit Breaker

- Miniature Circuit Breaker according to IEC/EN 60947-2
- Rated short circuit breaking capacity 10kA
- 1 up to 4 pole versions
- Tripping characteristics C, D
- Rated current up to 125A
- Rated operational voltage 230/400V AC
- Both fork and pin busbars connection

P8GH 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

P	8	G	H	1P	C	125
Product series	Product category	Design Code	Breaking capacity	Poles	Tripping curve	Rated current
Professional	8	MCB	10kA	1,1N,2,3,3N,4	C, D	63-125A

Certification Marks

CE

Miniature Circuit Breaker
P8GH,10kA

Product Tips

1. Reversible line and load connection
2. Contacts position indication window
3. Rated short circuit breaking capacity 10000A
4. Wide range of accessories
5. Modifiable modules for ODM clients
6. The position of handle lock

Technical Data

Electrical Features		
International standard		IEC/EN 60947-2
Poles		1P, 1P+N, 2P, 3P, 3P+N, 4P
Rated current		63A, 80A, 100A, 125A
Tripping characteristics		C, D (IEC/EN 60898-1)
Rated breaking capacity	I_{cu}	10kA
Rated operational voltage	U_e	230/400V 240/415V AC
Minimum operational voltage	U_{min}	12V AC
Maximum operational voltage	U_{max}	440V AC
Rated frequency		50/60Hz
Rated insulated voltage	U_i	690V AC
Rated impulse withstand voltage	U_{imp}	6kV
Dielectric test voltage		2kV
Mechanical service life		10000 operation cycles
Electrical service life		5000 operation cycles
Line voltage connection		Arbitrary above or below

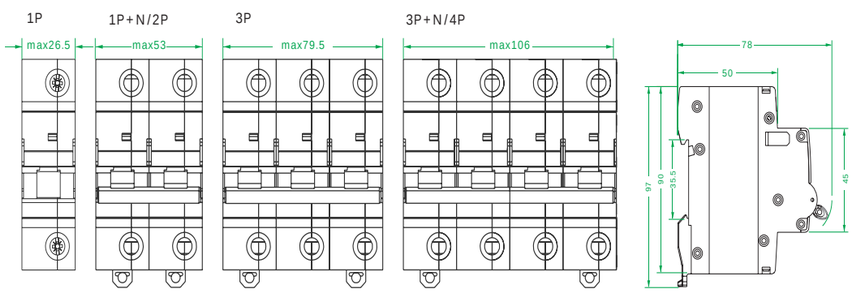
Installation Parameters	
Degree of protection (IP)	IP20, IP40 (when fitted)
Operating ambient temperature	-25°C ~+70°C
Terminal connection type	Cable/Busbar
Connectable conductor cross section	$35mm^2$ Flexible / $50mm^2$ Rigid
Mounting	IEC/EN 60715 top-hat rail 35mm
Fastening torque of terminals	3.5N.m
Pollution degree	3
Reference temperature for setting of thermal element	30°C
Altitude	≤ 2000m
Relative humidity	≤ 95%
Installation class	III

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

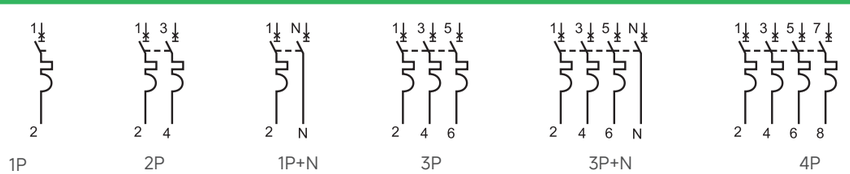
Miniature Circuit Breaker
P8GH,10kA

Technical Data

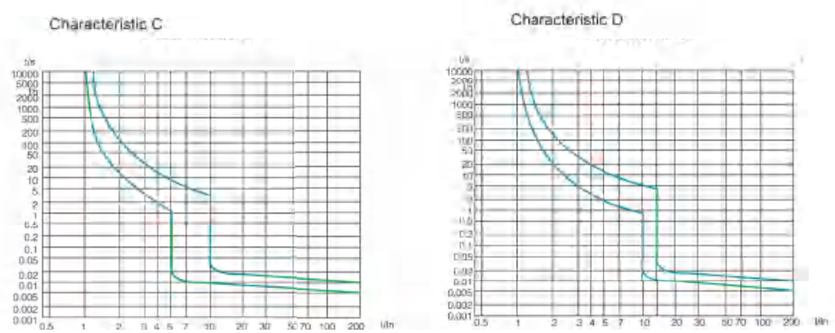
Dimensions



Wiring Diagrams



Tripping Characteristics



Power Conumption

Rated Current(A)	Voltage Drop(mV)	Consumption(W)
20	141	2.82
25	88	2.2
32	84	2.7
40	105	4.2
50	70	3.5
63	83	5.2
80	68	5.5
100	86	8.6
125	96	12

Miniature Circuit Breaker
PN8H,6kA

GACIA PN8H 6kA Miniature Circuit Breaker

- Miniature Circuit Breaker according to IEC/EN 60898-1
- Rated short circuit breaking capacity 6kA
- 1+N pole MCB in one module design
- Tripping characteristics B, C
- Rated current up to 32A
- Rated operational voltage 230/400V AC

PN8H 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.

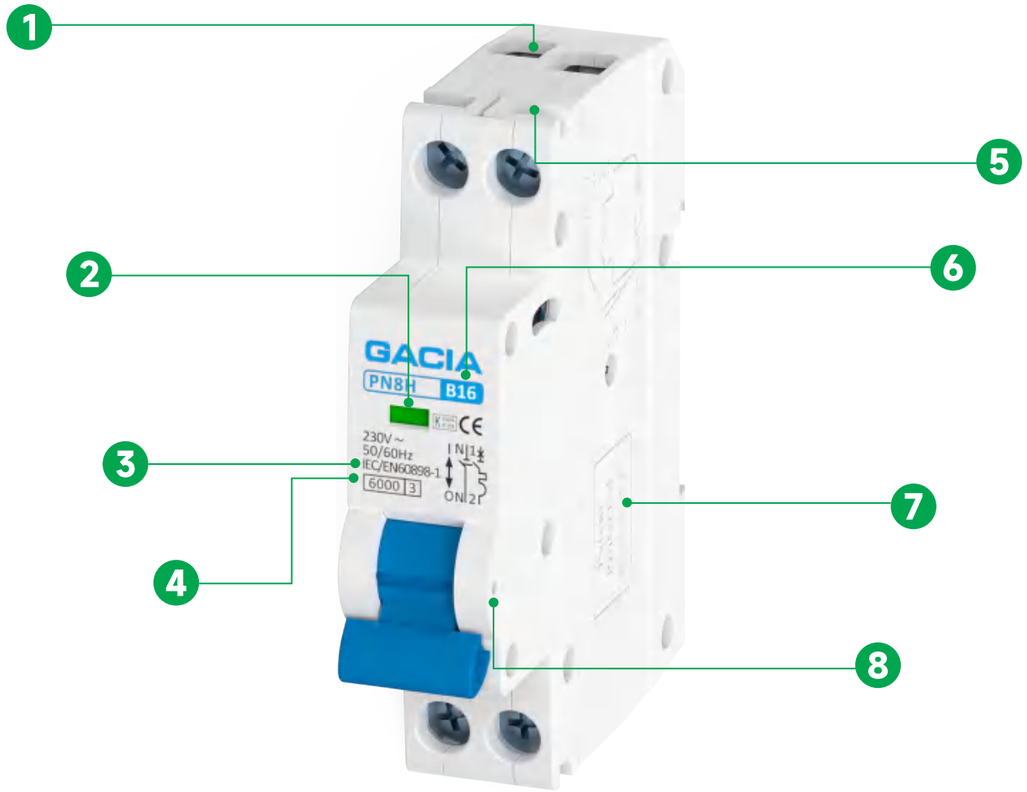
Type Key

P	N	8	H	B	16
Product series	Product category	Design Code	Breaking capacity	Tripping curve	Rated current
Professional	MCB 1P+N	8	6kA	B,C	1-32A

Certification Marks

Miniature Circuit Breaker
PN8H,6kA

Product Tips



1. Neutral line interface
2. Contacts position indication window
3. International standards
4. Rated short circuit breaking capacity 6000A
5. Live line interface
6. Tripping characteristics B, C
7. Modifiable modules for ODM clients
8. The position of handle lock

Technical Data

Electrical Features		
International standard		IEC/EN 60898-1
Poles		1P+N
Rated current		1-32A
Tripping characteristics		B, C
Rated breaking capacity	I_{cn}	6kA
Rated operational voltage	U_e	230V AC
Minimum operational voltage	U_{min}	12V AC
Maximum operational voltage	U_{max}	240V AC
Rated frequency		50/60Hz
Rated insulated voltage	U_i	400V AC
Rated impulse withstand voltage	U_{imp}	4kV
Dielectric test voltage		2kV
Mechanical service life		10000 operation cycles
Electrical service life		4000 operation cycles
Line voltage connection		Arbitrary above or below

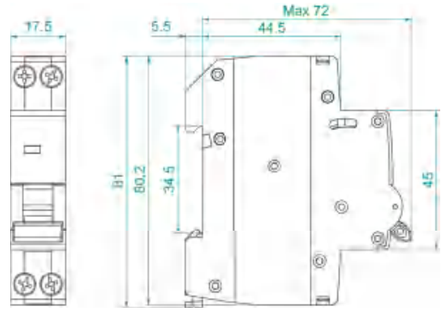
Installation Parameters	
Degree of protection (IP)	IP20, IP40 (when fitted)
Operating ambient temperature	-25°C ~+70°C
Terminal connection type	Cable
Connectable conductor cross section	1-10mm^2
Mounting	IEC/EN 60715 top-hat rail 35mm
Fastening torque of terminals	1.2N.m
Pollution degree	2
Reference 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
PN8H,6kA

Technical Data

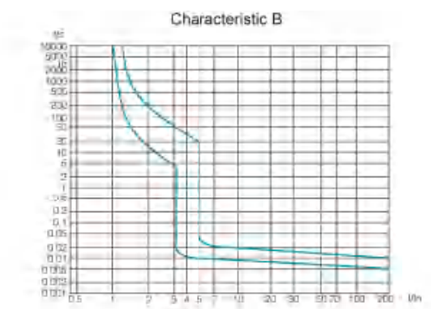
Dimensions

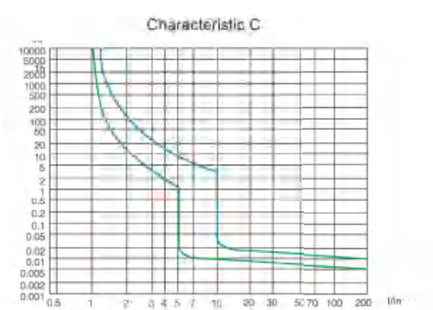


Wiring Diagrams

1P+N

Tripping Characteristics





Technical Data

Dependence of Tripping Characteristics on Ambient Temperature

T [°C]	In (T) [A]									
	1 A	2 A	3 A	4 A	6 A	10 A	16 A	20 A	25 A	32 A
-20	1.35	2.6	4.1	5.3	8	13.5	20	24.5	29.8	39.5
-15	1.28	2.53	4.05	5.15	7.8	13.3	19.8	24.3	29.7	39.3
-10	1.25	2.4	3.95	5.08	7.6	13	19.5	24	29.5	39
-5	1.2	2.33	3.9	4.98	7.3	12.7	19.2	23.8	29.3	38.8
0	1.18	2.3	3.8	4.8	7.2	12.5	19.1	23.7	29.2	38.6
5	1.15	2.28	3.6	4.72	7	12.3	18.8	23.5	29	38.4
10	1.1	2.23	3.45	4.65	6.8	12.1	18.6	23.3	28.8	38.2
15	1.08	2.18	3.35	4.52	6.6	12	18.5	23.1	28.6	38
20	1.05	2.09	3.22	4.31	6.4	11.8	18.3	22.8	28.4	37.8
25	1.05	2.03	3.08	4.22	6.2	11.5	18	22.6	28.2	37.5
30	1	2	3	4	6	10	16	20	25	32
35	0.99	1.98	2.98	3.95	6	9.9	15.7	19.7	24.6	31.5
40	0.97	1.95	2.95	3.91	5.9	9.8	15.4	19.3	24.3	31.1
45	0.95	1.91	2.91	3.85	5.83	9.8	15.1	18.8	24	30.8
50	0.91	1.88	2.88	3.8	5.72	9.6	14.9	18.5	23.8	30.1
55	0.89	1.85	2.82	3.74	5.65	9.5	14.7	18.2	23.5	29.5
60	0.86	1.81	2.77	3.71	5.5	9	14.5	17.8	23	28.5
65	0.84	1.77	2.73	3.65	5.4	8.6	14	17.5	22	27.5
70	0.81	1.71	2.65	3.52	5.2	8	13.8	17.3	21.5	27

Isolator
DL

- Modular Isolator (IEC/EN 60947-3)
- Rated short-time withstand current I_{cw}=12 x I_e,1s
- 1 up to 4 pole versions
- Rated current up to 125A
- Rated operational voltage 230/400V AC
- Both fork and pin busbars connection

DL Isolator is used to ensure that an electrical circuit is completely de-energized for service or maintenance.

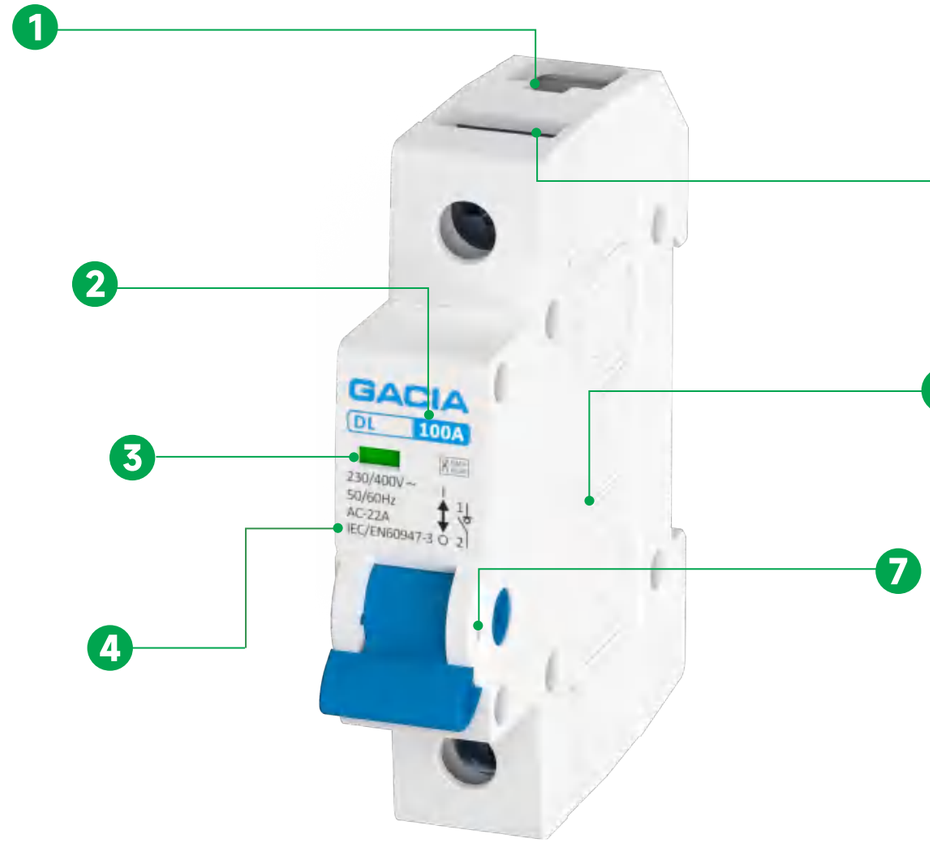
They are only used for breaking the circuit and are often found in electrical distribution and industrial applications, where machinery must have its source of driving power removed for adjustment or repair.

Type Key

DL	1P	100
Product category	Poles	Rated current
Isolator	1, 2, 3, 4	63-125A

Certification Marks

Product Tips



1. Reversible line and load connection
2. Rated current up to 125A
3. Contacts position indication window
4. International standards
5. Busbar interface
6. Modifiable modules for ODM clients
7. The position of handle lock

PAGE • 20

Technical Data

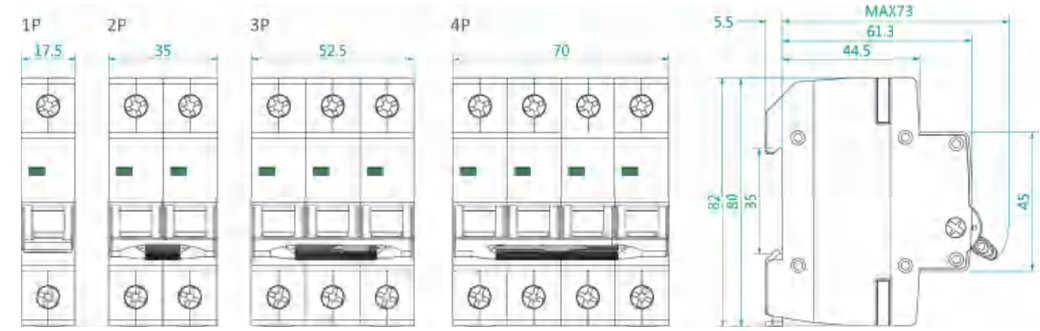
Electrical Features		
International standard		IEC/EN 60947-3
Poles		1P, 2P, 3P, 4P
Rated current		63-125A
Utilization category		AC-22A
Rated operational voltage	U_e	230/400V AC
Rated frequency		50/60Hz
Rated insulated voltage	U_i	500V AC
Rated impulse withstand voltage	U_{imp}	6kV
Rated short-time withstand current	I_{cw}, 1s	12×Ie
Rated short-time making capacity Icm	In=63A	1260A
	In=80, 100, 125A	2500A
Mechanical service life		10000 operation cycles
Electrical service life		4000 operation cycles

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	16-50mm^2
Mounting	IEC/EN 60715 top-hat rail 35mm
Fastening torque of terminals	2-3.5N.m
Pollution degree	2
Altitude	≤ 2000m
Relative humidity	≤ 95%

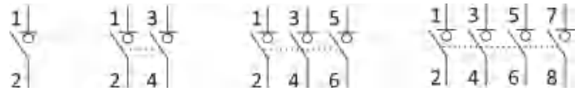
Combination with Accessories	
Auxiliary contact	NO
Alarm contact	NO
Shunt release	NO
Shunt release + Aux	NO
Undervoltage release	NO
Overvoltage release	NO
Over & under voltage release	NO

Technical Data

Dimensions



Wiring Diagrams



Residual Current Circuit Breaker
PR8NE,6kA

- Residual Current Circuit Breaker according to IEC/EN 61008-1
- Electronic type
- Cond. rated short circuit strength I_{nc} 6kA
- 2 and 4 pole versions
- Rated residual current 10, 30, 100, 300mA and 500mA
- Rated current up to 63A
- Rated operational voltage 230/400V AC
- AC and A types

PR8NE 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.

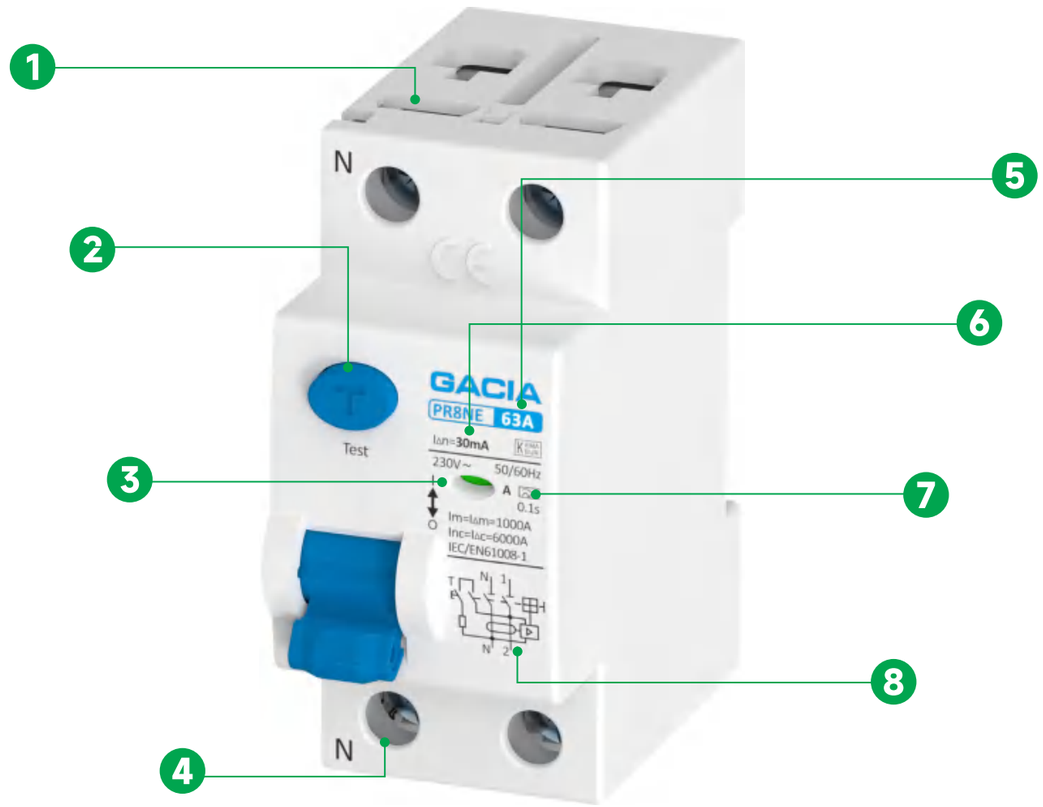
Type Key

P	R	8	N	E	2P	25A	30mA
Product series	Product category	Design code	Conditional short circuit strength	Structure code	Poles	Rated current	Rated residual current
Professional	RCCB	8	6kA	Electronic	2P, 4P	25-63A	10-500mA

Certification Marks

CE KEMA KEUR

Product Tips



1. Busbar interface
2. Test button
3. Contacts position indication window
4. Neutral line interface
5. Rated current up to 63A
6. Variants from 10 to 500mA $I_{\triangle n}$ available
7. Sensitivity to residual current A
8. Electronic circuit diagram

Residual Current Circuit Breaker
PR8NE,6kA

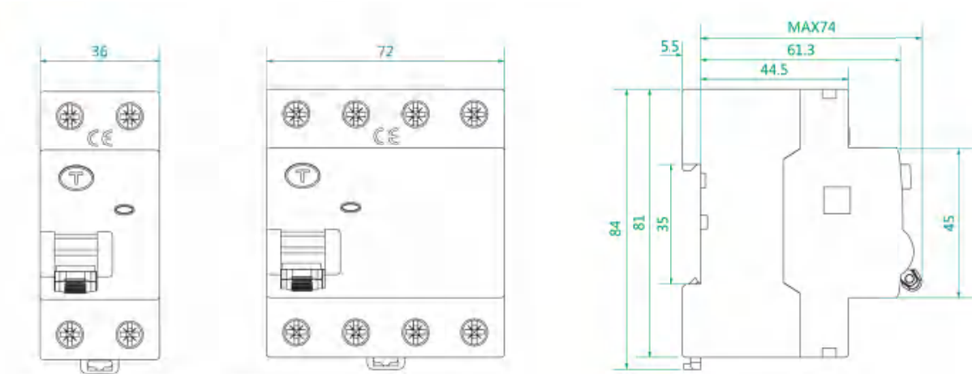
Technical Data

Electrical Features		
International standard		IEC/EN 61008-1
Poles		2P(1P+N), 4P(3P+N)
Rated current		25, 40, 63A
Rated residual current	$I_{\triangle n}$	10, 30, 100, 300, 500mA
Residual current protection type		Electronic
Conditional short circuit strength	I_{nc}	6kA
Rated operational voltage	U_e	230/400V AC
Voltage range of the test button T		195.5-253V AC (2P) / 195.5-440V AC (4P)
Sensitivity to residual current		AC type - AC residual current A type - residual AC and pulsating DC current
Time characteristic		AC, A - Undelayed type
Rated insulated voltage	U_i	500V AC
Rated impulse withstand voltage	U_{imp}	4kV
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
Back-up fuse for short circuit		
I_n=25A		max, 63AgG
I_n=40A		max, 63AgG
I_n=63A		max, 63AgG
Rated residual making and breaking capacity I_m/ $I_{\triangle m}$		
I_n=25A		1000A
I_n=40A		1000A
I_n=63A		1000A

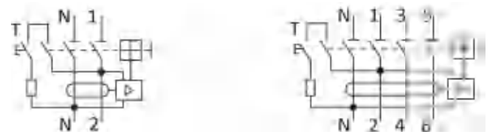
Installation Parameters	
Degree of protection (IP)	IP20, IP40 (when fitted)
Operating ambient temperature	-25°C ~+40°C
Terminal connection type	Cable/Busbar
Connectable conductor cross section	1-25mm^2
Mounting	IEC/EN 60715 top-hat rail 35mm
Fastening torque of terminals	2.5N.m
Pollution degree	2
Altitude	≤ 2000m
Relative humidity	≤ 95%

Technical Data

Dimensions

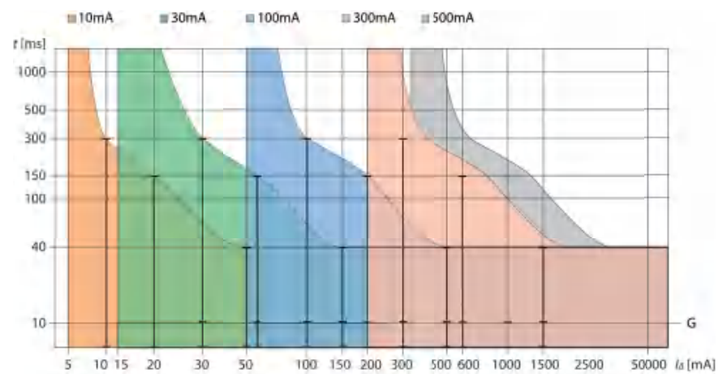


Wiring Diagrams



2P 4P

Tripping Characteristics



Residual Current Circuit Breaker
PR8NE,6kA

Technical Data

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

Residual Current Circuit Breaker
PR8NM,6kA

GACIA PR8NM 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, and 300mA
- Rated current up to 63A
- Rated operational voltage 230/400V AC
- AC and A types

PR8NM 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.

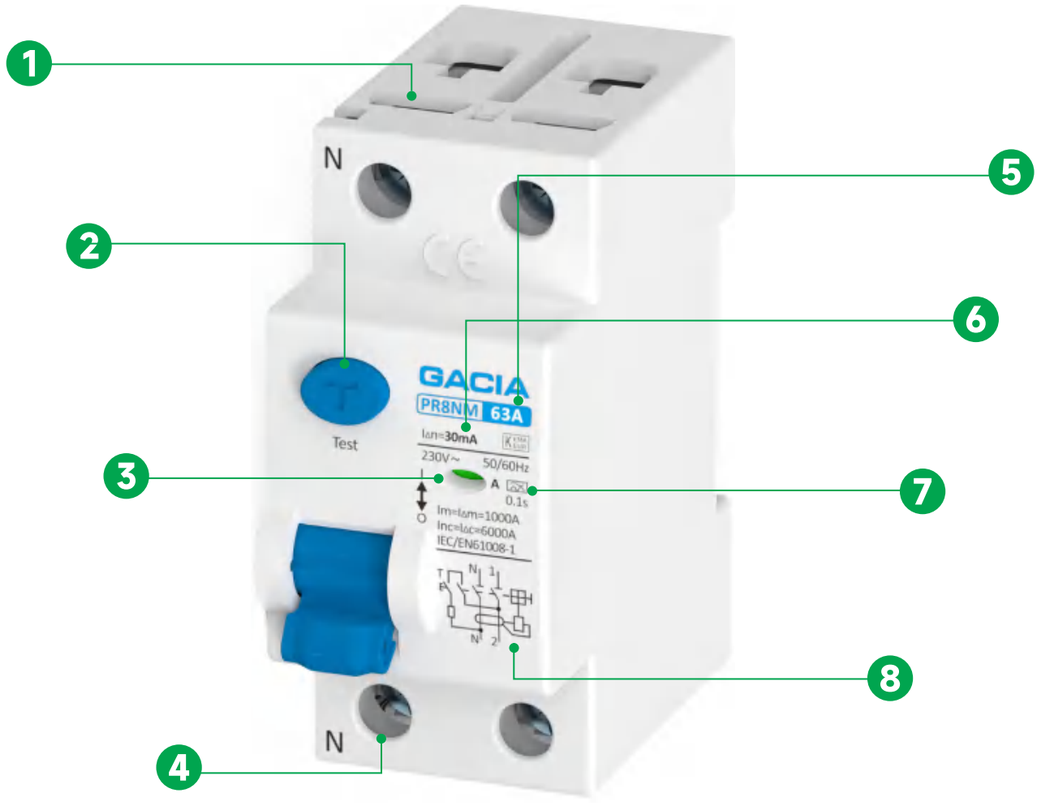
Type Key

P	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
Professional	RCCB	8	6kA	Electromagnetic	2P, 4P	25-63A	10-300mA

Certification Marks

Residual Current Circuit Breaker
PR8NM,6kA

Product Tips



1. Busbar interface
2. Test button
3. Contacts position indication window
4. Neutral line interface
5. Rated current up to 63A
6. Variants from 10 to 300mA $I_{\triangle n}$ available
7. Sensitivity to residual current A
8. Electromagnetic circuit diagram

Technical Data

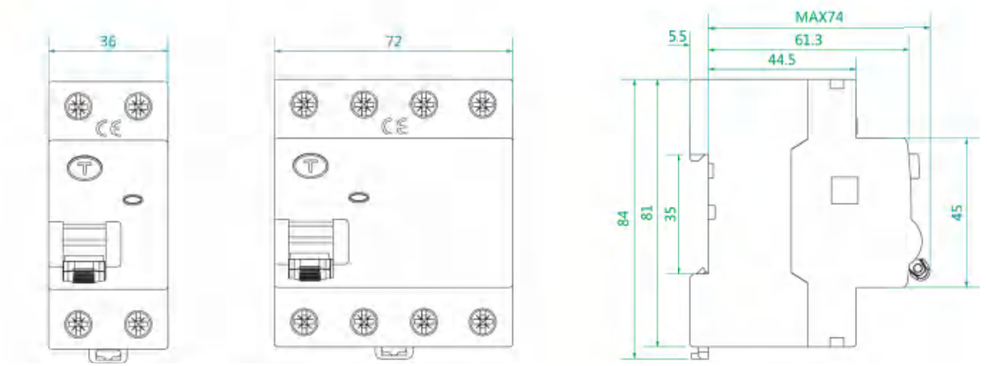
Electrical Features		
International standard		IEC/EN 61008-1
Poles		2P(1P+N), 4P(3P+N)
Rated current		25, 40, 63A
Rated residual current	$I_{\triangle n}$	10, 30, 100, 300mA
Residual current protection type		Electromagnetic
Conditional short circuit strength	I_{nc}	6kA
Rated operational voltage	U_e	230/400V 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
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
Back-up fuse for short circuit		
I_n=25A		max, 63AgG
I_n=40A		max, 63AgG
I_n=63A		max, 63AgG
Rated residual making and breaking capacity I_m/ $I_{\triangle m}$		
I_n=25A		1000A
I_n=40A		1000A
I_n=63A		1000A
Line voltage connection		Arbitrary above or below

Installation Parameters	
Degree of protection (IP)	IP20, IP40 (when fitted)
Operating ambient temperature	-25°C ~+40°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
Altitude	≤ 2000m
Relative humidity	≤ 95%

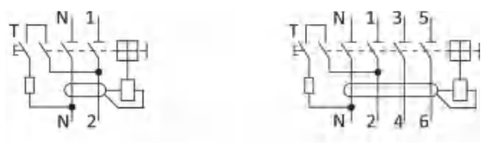
Residual Current Circuit Breaker
PR8NM,6kA

Technical Data

Dimensions



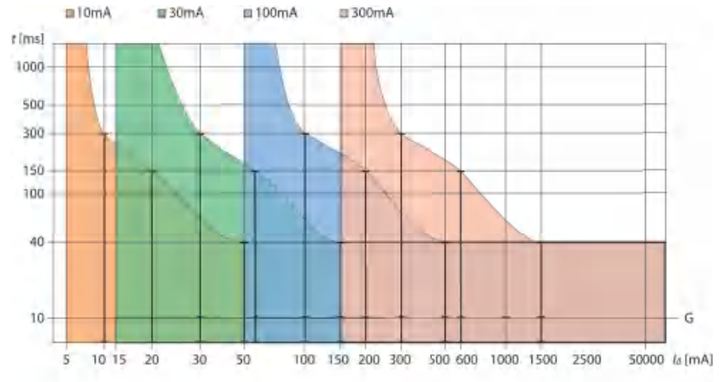
Wiring Diagrams



2P

4P

Tripping Characteristics



Technical Data

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
40A	**30mA**	7.2W	15.3W
	100mA	7.2W	15.3W
	300mA	7.2W	15.3W
63A	**30mA**	15W	24W
	100mA	15W	24W
	300mA	15W	24W

Residual Current Circuit Breaker
PR8HE,10kA

- Residual Current Circuit Breaker according to IEC/EN 61008-1
- Electronic type
- Cond. rated short circuit strength I_{nc} 10kA
- 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

PR8HE 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.

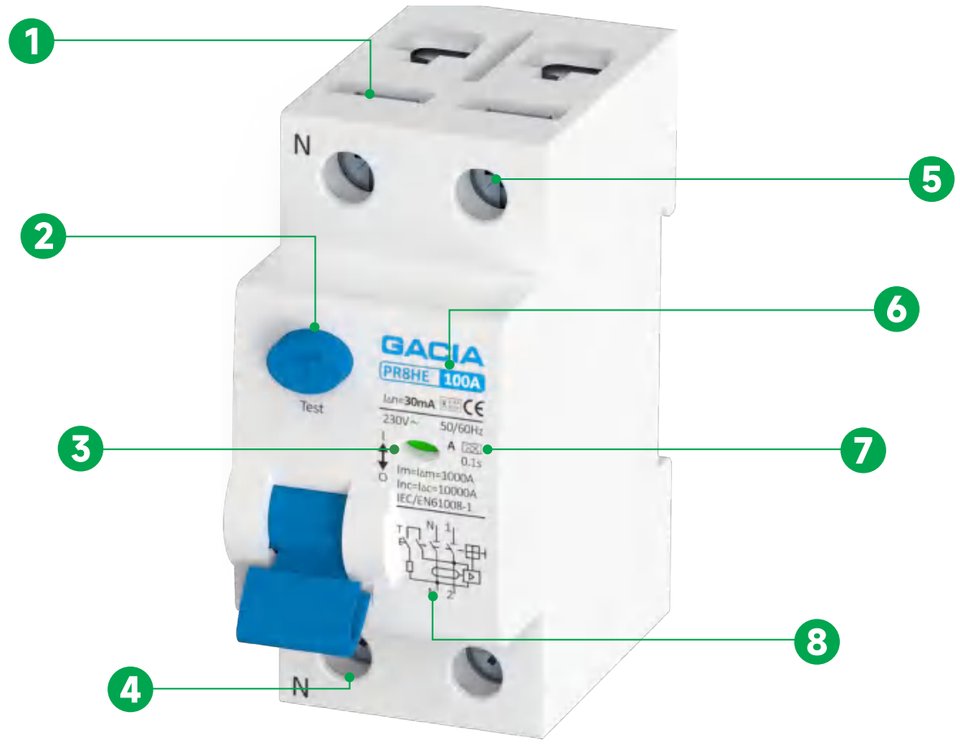
Type Key

P	R	8	H	E	2P	25A	30mA
Product series	Product category	Design code	Conditional short circuit strength	Structure code	Poles	Rated current	Rated residual current
Professional	RCCB	8	10kA	Electronic	2P, 4P	25-100A	10-500mA

Certification Marks

CE KEMA KEUR

Product Tips



1. Busbar interface
2. Test button
3. Fault Indication Window
4. Neutral line interface
5. Rated current up to 100A
6. Variants from 10 to 500mA $I_{\triangle n}$ available
7. Sensitivity to residual current A
8. Electronic circuit diagram

Residual Current Circuit Breaker
PR8HE,10kA

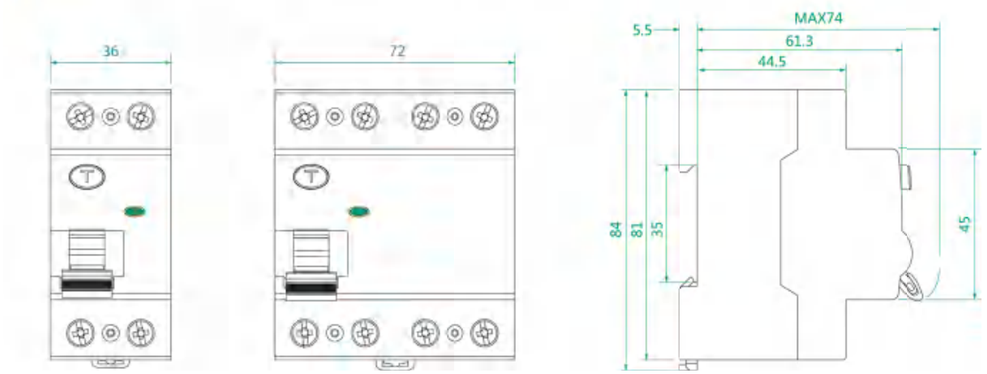
Technical Data

Electrical Features		
International standard		IEC/EN 61008-1
Poles		2P(1P+N), 4P(3P+N)
Rated current		6, 10, 16, 20, 25, 32, 40, 63, 80, 100A
Rated residual current	$I_{\triangle n}$	10, 30, 100, 300, 500mA
Residual current protection type		Electronic
Conditional short circuit strength	I_{nc}	10kA
Rated operational voltage	U_e	230/400V AC
Voltage range of the test button T		195.5-253V AC (2P) / 195.5-440V AC (4P)
Sensitivity to residual current		AC type - AC residual current 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 insulated voltage	U_i	500V AC
Rated impulse withstand voltage	U_{imp}	4kV
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		1000A
I_n=40A		1000A
I_n=63A		1000A
I_n=80A		1000A
I_n=100A		1000A

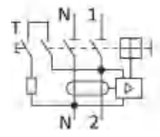
Installation Parameters	
Degree of protection (IP)	IP20, IP40 (when fitted)
Operating ambient temperature	-25°C ~+40°C
Terminal connection type	Cable/Busbar
Connectable conductor cross section	1-35mm^2
Mounting	IEC/EN 60715 top-hat rail 35mm
Fastening torque of terminals	2.5N.m
Pollution degree	2
Altitude	≤ 2000m
Relative humidity	≤ 95%
Resistance to humidity and heat	Class 2
Installation class	III

Technical Data

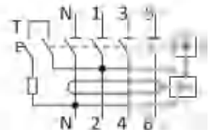
Dimensions



Wiring Diagrams

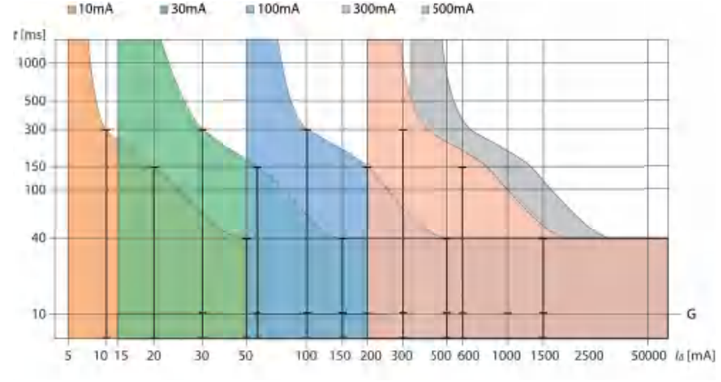


2P



4P

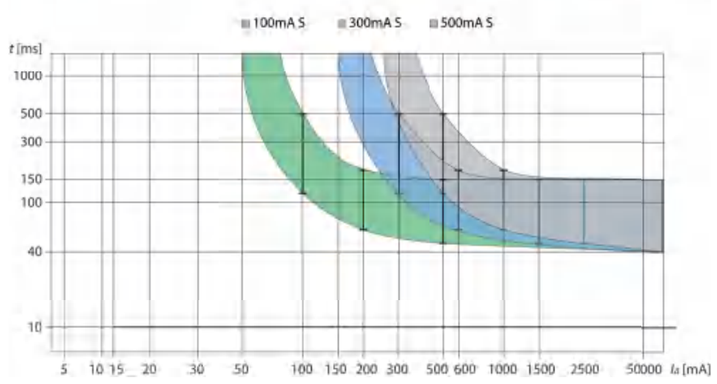
Tripping Characteristics



Residual Current Circuit Breaker
PR8HE,10kA

Technical Data

Tripping Characteristics



Power Loss			
I_n	$I_{\triangle}$	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

Residual Current Circuit Breaker
PR8HM,10kA

GACIA PR8HM 10kA Residual Current Devices

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

PR8HM 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.

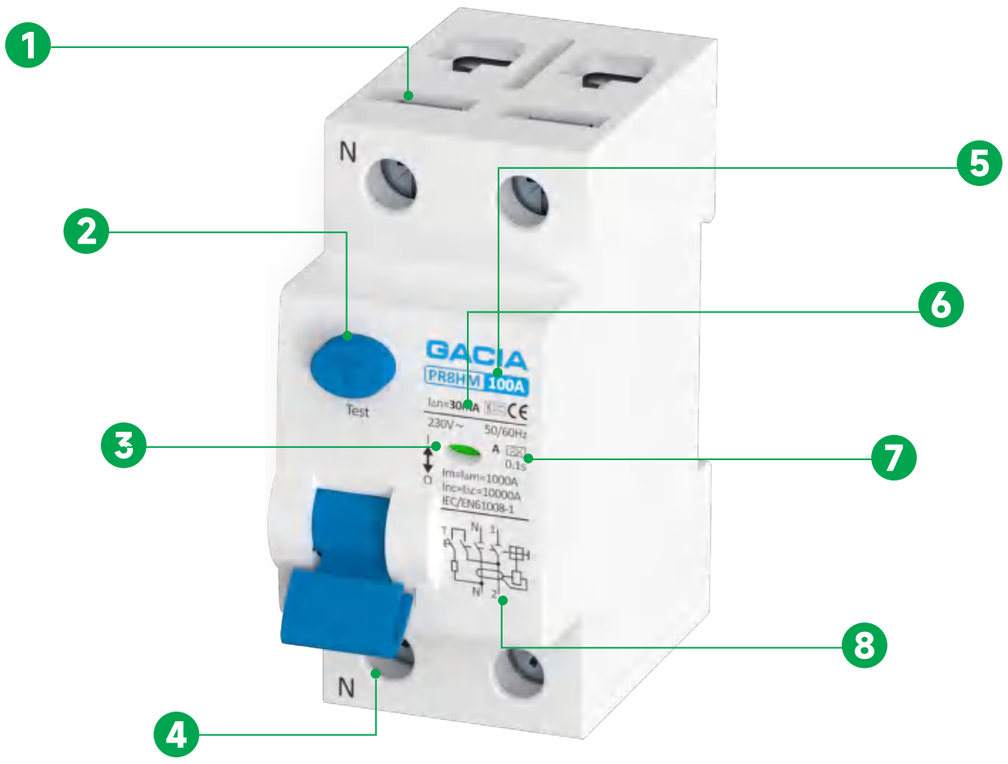
Type Key

P	R	8	H	M	2P	25A	30mA
Product series	Product category	Design code	Conditional short circuit strength	Structure code	Poles	Rated current	Rated residual current
Professional	RCCB	8	10kA	Electromagnetic	2P, 4P	6-100A	10-300mA

Certification Marks

Residual Current Circuit Breaker
PR8HM,10kA

Product Tips



1. Busbar interface
2. Test button
3. Fault Indication Window
4. Neutral line interface
5. Rated current up to 100A
6. Variants from 10 to 300mA $I_{\triangle n}$ available
7. Sensitivity to residual current A
8. Electromagnetic circuit diagram

Technical Data

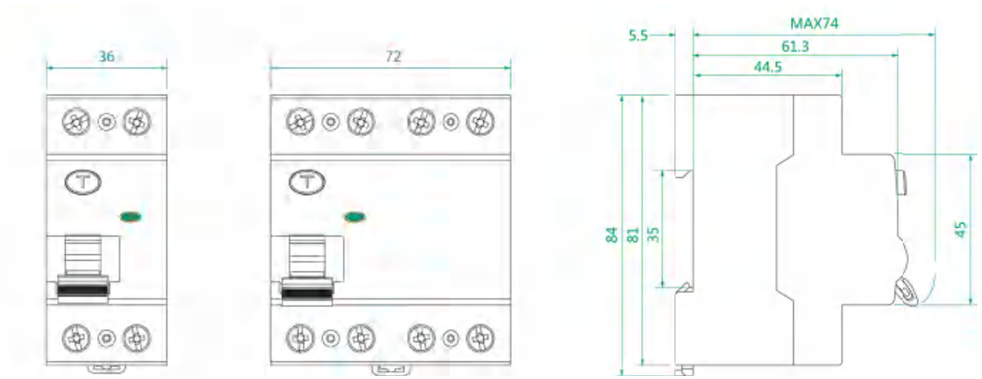
Electrical Features		
International standard		IEC/EN 61008-1
Poles		2P(1P+N), 4P(3P+N)
Rated current		6, 10, 16, 20, 25, 32, 40, 63, 80, 100A
Rated residual current	$I_{\triangle n}$	10, 30, 100, 300, 500mA
Residual current protection type		Electromagnetic
Conditional short circuit strength	I_{nc}	10kA
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		1000A
I_n=40A		1000A
I_n=63A		1000A
I_n=80A		1000A
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 ~+40°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	2.5N.m
Pollution degree	2
Altitude	≤ 2000m
Relative humidity	≤ 95%
Resistance to humidity and heat	Class 2
Installation class	III

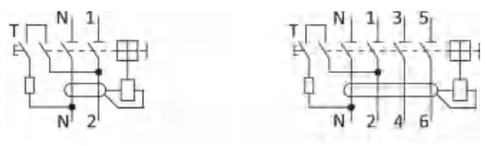
Residual Current Circuit Breaker
PR8HM,10kA

Technical Data

Dimensions

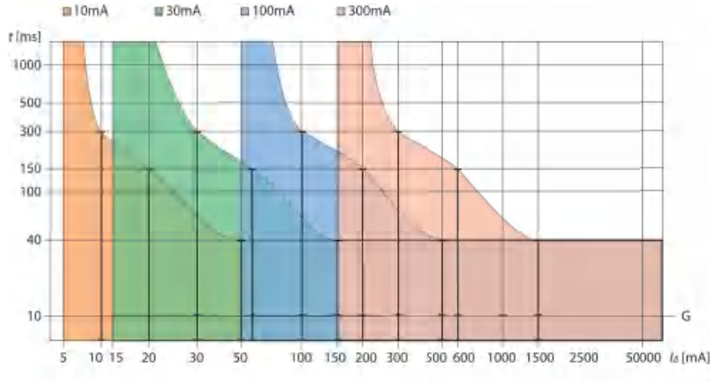


Wiring Diagrams



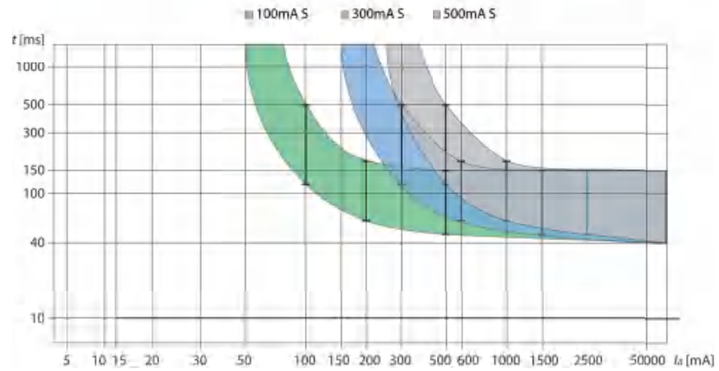
2P 4P

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

B type Residual Current Circuit Breaker

PR8HM,10kA

- Residual Current Circuit Breaker according to IEC/EN 61008-1 and IEC/EN 62423
- Cond. rated short circuit strength I_{nc} 10kA
- 2 and 4 pole versions
- Rated residual current 30, 100 300mA
- Rated current up to 63A
- Rated operational voltage 230/400V AC
- Indication of electrical tripping

Residual current circuit breakers B type PR8HM are suitable for domestic as well as industrial applications, where are used frequency inveters, PV plant, EV chargers and similar elements. B type provides a sensitivity to residual AC, pulsating and smooth DC current, together with high frequencies up to 1 kHz.

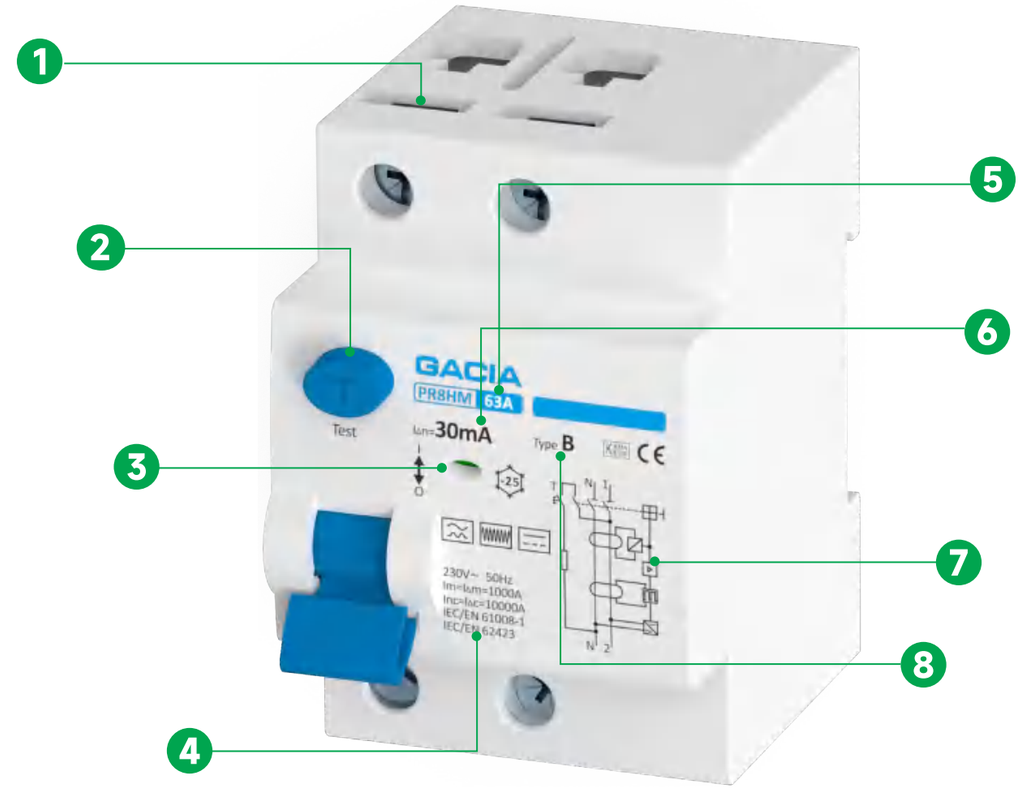
Type Key

P	R	8	H	M	2P	25A	30mA
Product series	Product category	Design code	Conditional short circuit strength	Structure code	Poles	Rated current	Rated residual current
Professional	RCCB	8	10kA	B type	2P, 4P	25-63A	30-300mA

Certification Marks

CE KEMA KEUR

Product Tips



1. Busbar interface
2. Test button
3. Fault Indication Window
4. International standards
5. Rated current up to 63A
6. Variants from 30 to 300mA $I_{\triangle n}$ available
7. Circuit diagram
8. Sensitivity to residual current B type

B type Residual Current Circuit Breaker

PR8HM,10kA

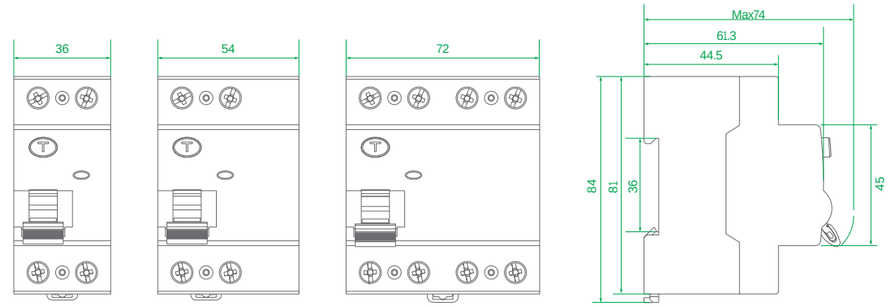
Technical Data

Electrical Features		
International standard		IEC/EN 61008-1 and IEC/EN 62423
Poles		2P(1P+N), 4P(3P+N)
Rated current		25, 40, 63A
Rated residual current	$I_{\triangle n}$	30, 100, 300mA
Residual current protection type		Electromagnetic (A type magentic and B type electronic)
Conditional short circuit strength	I_{nc}	10kA
Rated operational voltage	U_e	230/400V AC
Voltage range of the test button T		195.5 - 253V AC (2P) / 195.5 - 440V AC (4P)
Sensitivity to residual current		B type - residual AC, pulsating and smooth DC current, high frequency (1 kHz)
Rated frequency		50/60Hz
Rated insulated voltage	U_i	500V AC
Rated impulse withstand voltage	U_{imp}	4kV
Dielectric test voltage		2.5kV
Mechanical service life		10000 operation cycles
Electrical service life		2000 operation cycles
Back-up fuse for overload		
I_n=25A		max, 25AgG
I_n=40A		max, 32AgG
I_n=63A		max, 50AgG
Back-up fuse for short circuit		
I_n=25A		max, 63AgG
I_n=40A		max, 63AgG
I_n=63A		max, 63AgG
Rated residual making and breaking capacity I_m/ $I_{\triangle m}$		
I_n=25A		1000A
I_n=40A		1000A
I_n=63A		1000A
Line voltage connection		Arbitrary above or below

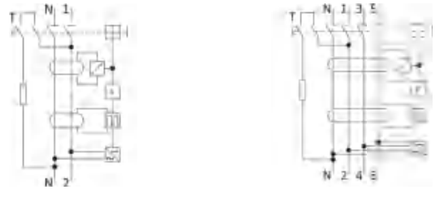
Installation Parameters	
Degree of protection (IP)	IP20, IP40 (when fitted)
Operating ambient temperature	-25°C ~+40°C
Terminal connection type	Cable/Busbar
Connectable conductor cross section	1-35mm^2
Mounting	IEC/EN 60715 top-hat rail 35mm
Fastening torque of terminals	2.5N.m
Pollution degree	2
Altitude	≤ 2000m
Relative humidity	≤ 95%
Resistance to humidity and heat	Class 2
Installation class	III

Technical Data

Dimensions

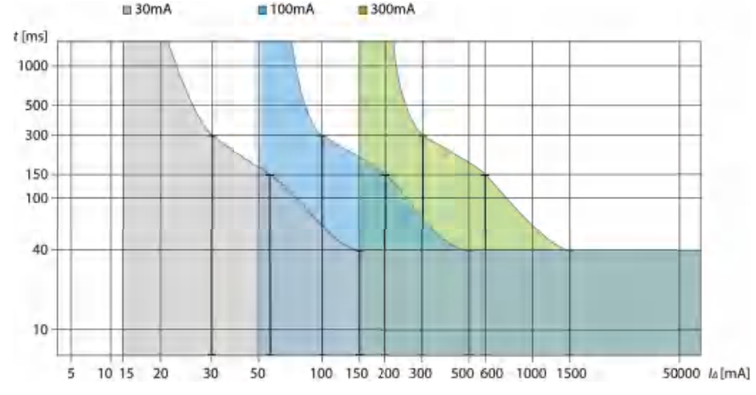


Wiring Diagrams



2P 4P

Tripping Characteristics



B type Residual Current Circuit Breaker

PR8HM,10kA

Technical Data

Power Loss			
I_n	$I_{\triangle}$	2P	4P
25A	30mA	6.6W	8.6W
	100mA	4.3W	8.6W
	300mA	4.3W	8.6W
40A	30mA	6.9W	13.7W
	100mA	10.5W	13.7W
	300mA	10.5W	13.7W
63A	30mA	16.5W	21.6W
	100mA	10.9W	21.6W
	300mA	10.9W	21.6W

Residual Current Circuit Breaker with Overload Protection

PL8HT,6kA

GACIA PL8HT 6 kA Residual Current Devices

- Residual Current Circuit Breaker with Overload Protection according to IEC/EN 61009-1
- Electronic type
- Rated short circuit breaking capacity 6kA
- 1+N pole version
- Rated residual current 30, 100, 300mA
- Rated current up to 32A
- 1-module width
- AC and A types

PL8HT residual current circuit breaker are based on combination of residual current device on the amplified signal of electronic components and circuit breaker with thermal overload release and magnetic short circuit current release.

They are common in domestic, commercial and industrial application.

Type Key

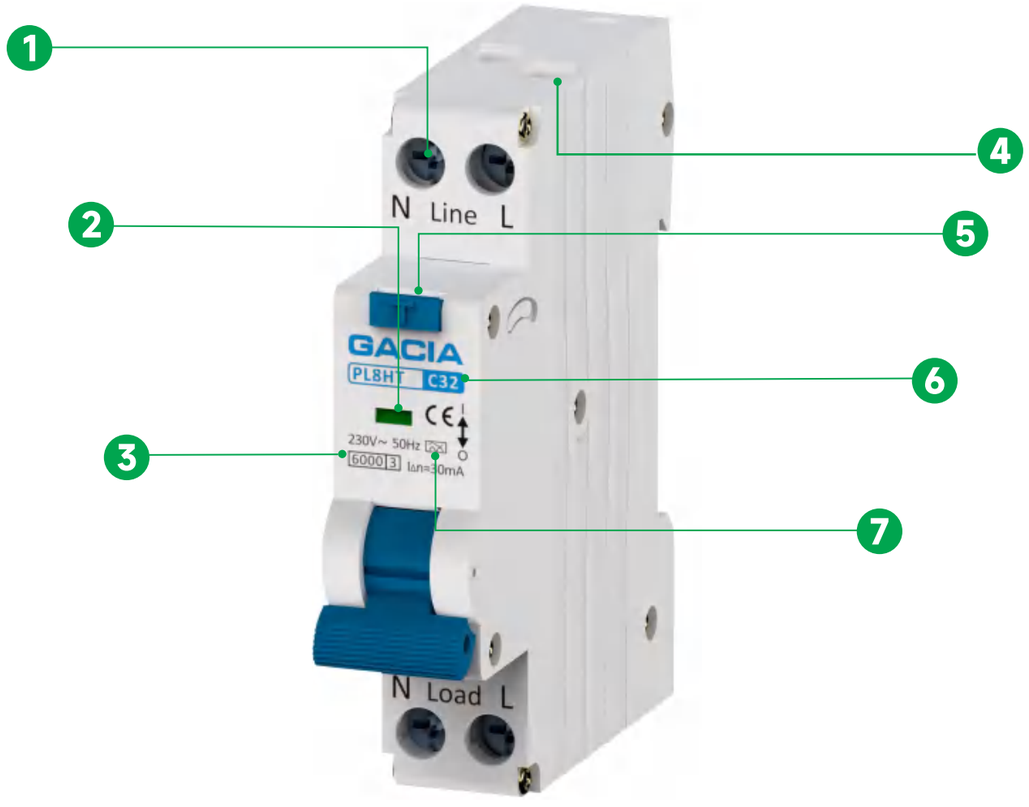
P	L	8	H	T	16A	30mA
Product series	Product category	Design code	Breaking capacity	Structure code	Rated current	Rated residual current
Professional	RCBO	8	6kA	Thin	6-32A	30-300mA

Certification Marks

CE

Residual Current Circuit Breaker with Overload Protection
PL8HT,6kA

Product Tips



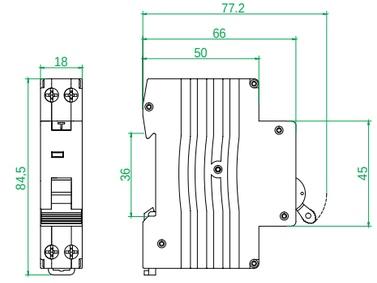
1. Neutral line interface
2. Contacts position indication window
3. Rated short circuit breaking capacity 6000A
4. Live line interface
5. Test button
6. Tripping characteristics B, C
7. Sensitivity to residual current A

Technical Data

Electrical Features		
International standard		IEC/EN 61009-1
Poles		1P+N
Tripping characteristics of MCB		B, C
Rated current		6-32A
Rated residual current	$I_{\triangle n}$	30, 100, 300mA
Residual current protection type		Electronic
Rated breaking capacity	I_{cn}	6kA
Rated operational voltage	U_e	230/400V AC
Voltage range of the test button T		195.5 - 253V AC
Sensitivity to residual current		AC type - AC residual current A type - residual AC and pulsating DC current
Rated frequency		50/60Hz
Rated insulated voltage	U_i	400V AC
Rated impulse withstand voltage	U_{imp}	4kV
Dielectric test voltage		2.5kV
Mechanical service life		10000 operation cycles
Electrical service life		4000 operation cycles
Time characteristic of RCD		Undelayed type

Installation Parameters	
Degree of protection (IP)	IP20, IP40 (when fitted)
Operating ambient temperature	-25°C ~+70°C
Terminal connection type	Cable
Connectable conductor cross section	1-10mm^2
Mounting	IEC/EN 60715 top-hat rail 35mm
Fastening torque of terminals	1.8N.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
Installation class	III

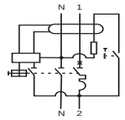
Dimensions



Residual Current Circuit Breaker with Overload Protection
PL8HT,6kA

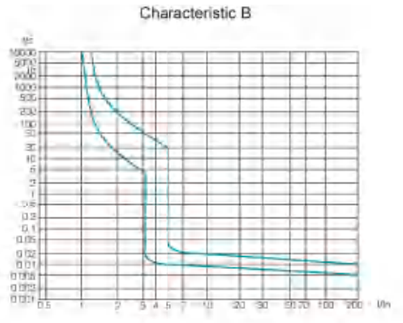
Technical Data

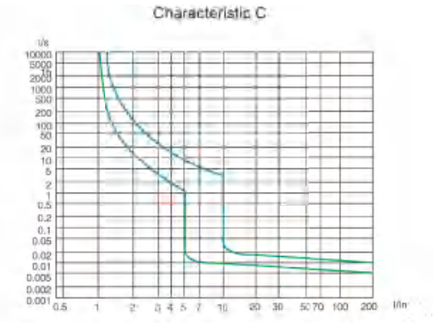
Wiring Diagrams



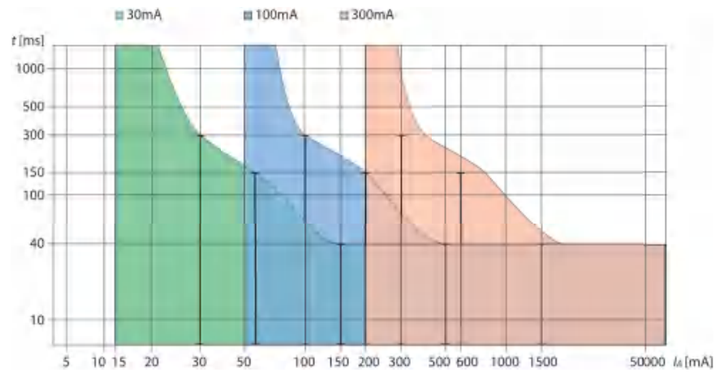
1P+N

Tripping Characteristics of MCB





Tripping Characteristics of RCD



Technical Data

Dependence of Tripping Characteristics on Ambient Temperature

T [°C]	In (T) [A]						
	6 A	10 A	13 A	16 A	20 A	25 A	32 A
-20	8	13.5	17	20	24.5	29.8	39.5
-15	7.8	13.3	16.8	19.8	24.3	29.7	39.3
-10	7.6	13	16.5	19.5	24	29.5	39
-5	7.3	12.7	16.1	19.2	23.8	29.3	38.8
0	7.2	12.5	15.8	19.1	23.7	29.2	38.6
5	7	12.3	15.5	18.8	23.5	29	38.4
10	6.8	12.1	15.2	18.6	23.3	28.8	38.2
15	6.6	12	14.9	18.5	23.1	28.6	38
20	6.4	11.8	14.7	18.3	22.8	28.4	37.8
25	6.2	11.5	14.1	18	22.6	28.2	37.5
30	6	10	13	16	20	25	32
35	6	9.9	12.8	15.7	19.7	24.6	31.5
40	5.9	9.8	12.5	15.4	19.3	24.3	31.1
45	5.83	9.8	12.2	15.1	18.8	24	30.8
50	5.72	9.6	11.7	14.9	18.5	23.8	30.1
55	5.65	9.5	11.5	14.7	18.2	23.5	29.5
60	5.5	9	11.2	14.5	17.8	23	28.5
65	5.4	8.6	11	14	17.5	22	27.5
70	5.2	8	10.8	13.8	17.3	21.5	27

Residual Current Circuit Breaker with Overload Protection
PL8HE,6kA

- Residual Current Circuit Breaker with Overload Protection according to IEC/EN 61009-1
- Electronic type
- Rated short circuit breaking capacity 6kA
- 1+N pole version
- N-pole on the right
- Rated residual current 10, 30, 100, 300mA
- Rated current up to 40A
- 2-module width
- AC and A types

PL8HE residual current circuit breaker are based on combination of residual current device on the amplified signal of electronic components and circuit breaker with thermal overload release and magnetic short circuit current release.

They are common in domestic, commercial and industrial application.

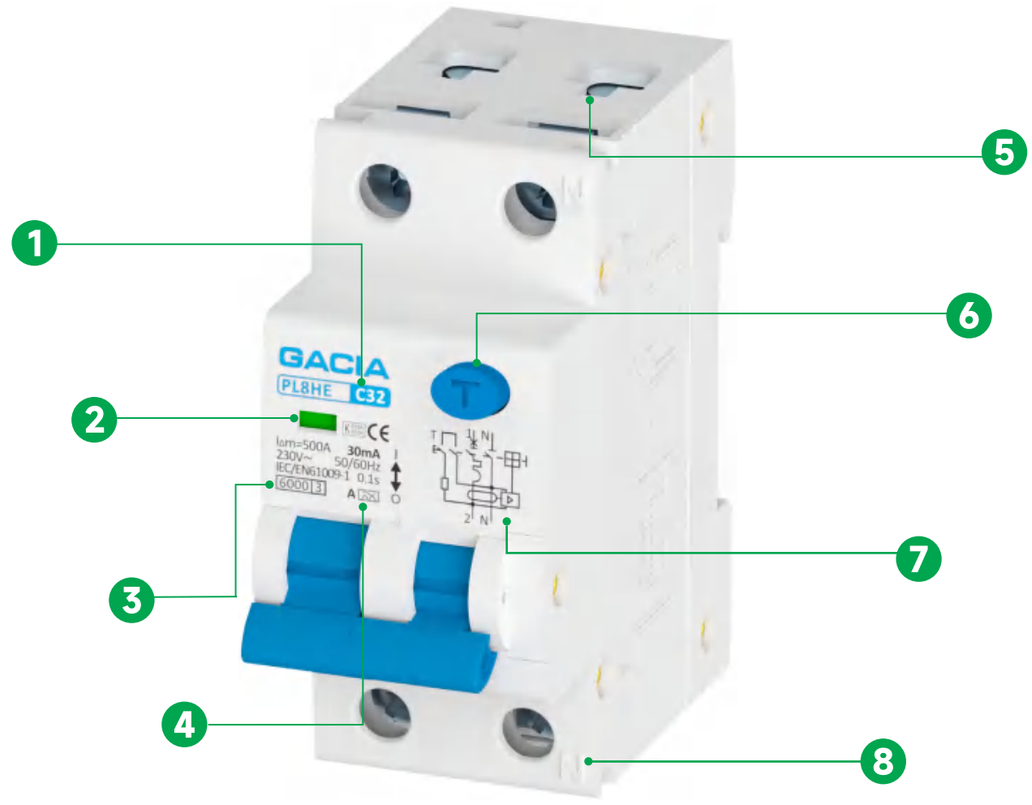
Type Key

P	L	8	H	E	16A	30mA
Product series	Product category	Design code	Breaking capacity	Structure code	Rated current	Rated residual current
Professional	RCBO	8	6kA	Electronic	6-40A	10-300mA

Certification Marks

CE KEMA KEUR

Product Tips



1. Rated current up to 40A
2. Contacts position indication window
3. Rated short circuit breaking capacity 6000A
4. Sensitivity to residual current A
5. Busbar interface
6. Test button
7. Electronic circuit diagram with overload protection
8. Neutral line interface

Residual Current Circuit Breaker with Overload Protection
PL8HE,6kA

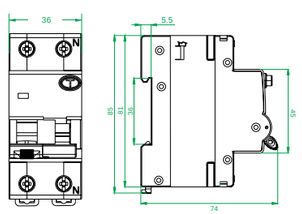
Technical Data

Electrical Features		
International standard		IEC/EN 61009-1
Poles		1P+N
Tripping characteristics of MCB		B, C
Rated current		6-63A
Rated residual current	$I_{\triangle n}$	10, 30, 100, 300mA
Residual current protection type		Electronic
Rated breaking capacity	I_{cn}	6kA
Rated operational voltage	U_e	230V AC
Voltage range of the test button T		195.5 - 253V AC
Sensitivity to residual current		AC type - AC residual current A type - residual AC and pulsating DC current
Rated frequency		50/60Hz
Rated insulated voltage	U_i	400V AC
Rated impulse withstand voltage	U_{imp}	4kV
Dielectric test voltage		2.5kV
Mechanical service life		10000 operation cycles
Electrical service life		4000 operation cycles
Time characteristic of RCD		Undelayed type

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%
Resistance to humidity and heat	Class 2
Installation class	III

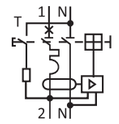
Technical Data

Dimensions



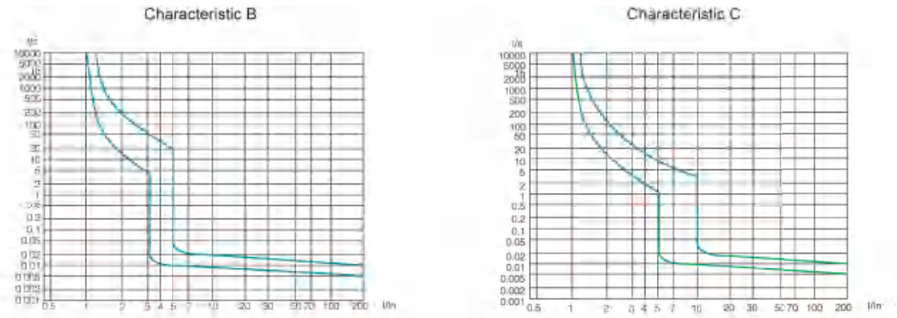
Technical Data

Wiring Diagrams

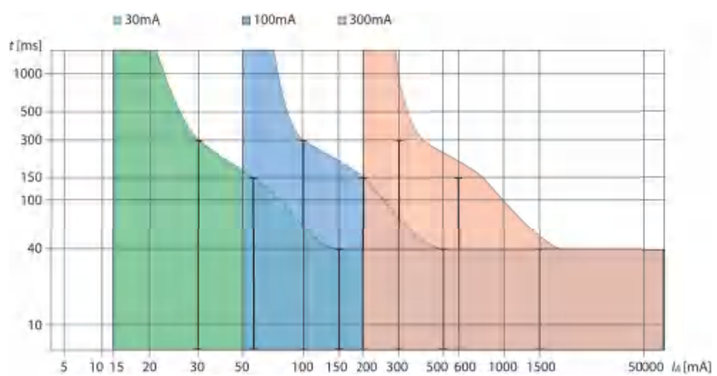


1P+N

Tripping Characteristics of MCB



Tripping Characteristics of RCD



Residual Current Circuit Breaker with Overload Protection
PL8HE,6kA

Technical Data

Dependence of Tripping Characteristics on Ambient Temperature								
T [°C]	In (T) [A]							
	6 A	10 A	13 A	16 A	20 A	25 A	32 A	40 A
-20	8	13.5	17	20	24.5	29.8	39.5	50.5
-15	7.8	13.3	16.8	19.8	24.3	29.7	39.3	50.4
-10	7.6	13	16.5	19.5	24	29.5	39	50.2
-5	7.3	12.7	16.1	19.2	23.8	29.3	38.8	50
0	7.2	12.5	15.8	19.1	23.7	29.2	38.6	48.8
5	7	12.3	15.5	18.8	23.5	29	38.4	48.6
10	6.8	12.1	15.2	18.6	23.3	28.8	38.2	48.4
15	6.6	12	14.9	18.5	23.1	28.6	38	48.1
20	6.4	11.8	14.7	18.3	22.8	28.4	37.8	47.8
25	6.2	11.5	14.1	18	22.6	28.2	37.5	47
30	6	10	13	16	20	25	32	40
35	6	9.9	12.8	15.7	19.7	24.6	31.5	39.2
40	5.9	9.8	12.5	15.4	19.3	24.3	31.1	38.8
45	5.83	9.8	12.2	15.1	18.8	24	30.8	38.3
50	5.72	9.6	11.7	14.9	18.5	23.8	30.1	38
55	5.65	9.5	11.5	14.7	18.2	23.5	29.5	36.5
60	5.5	9	11.2	14.5	17.8	23	28.5	35
65	5.4	8.6	11	14	17.5	22	27.5	34
70	5.2	8	10.8	13.8	17.3	21.5	27	32.5

Power Loss								
In [A]	6 A	10 A	13 A	16 A	20 A	25 A	32 A	40 A
P[W]	1.8	2.5	3.5	4	5	5.8	6.5	7.8

Residual Current Circuit Breaker with Overload Protection
PL8HM,6kA

GACIA PL8HM 6kA Residual Current Devices

- Residual Current Circuit Breaker with Overload Protection according to IEC/EN 61009-1
- Electromagnetic type
- Rated short circuit breaking capacity 6kA
- 1+N pole version
- N-pole on the right
- Rated residual current 30, 100, 300mA
- Rated current up to 40A
- 2-module width
- AC and A types

PL8HM residual current circuit breaker are based on combination of residual current device with permanent magnet principle and circuit breaker with thermal overload release and magnetic short circuit current release. It brings the advantage of voltage independent function of the residual current device.

They are common in domestic, commercial and industrial application.

Type Key

P	L	8	H	M	16A	30mA
Product series	Product category	Design code	Breaking capacity	Structure code	Rated current	Rated residual current
Professional	RCBO	8	6kA	Electromagnetic	6-40A	30-300mA

Certification Marks

Residual Current Circuit Breaker with Overload Protection
PL8HM,6kA

Product Tips

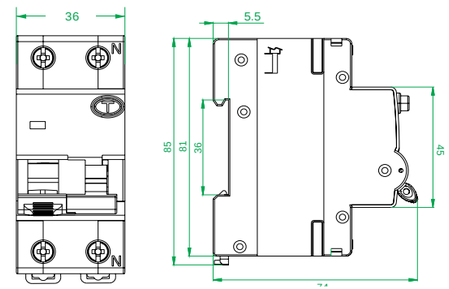
1. Rated current up to 40A
2. Contacts position indication window
3. Rated short circuit breaking capacity 6000A
4. Sensitivity to residual current A
5. Busbar interface
6. Test button
7. Electromagnetic circuit diagram with overload protection
8. Neutral line interface

Technical Data

Electrical Features		
International standard		IEC/EN 61009-1
Poles		1P+N
Tripping characteristics of MCB		B, C
Rated current		6-40A
Rated residual current	$I_{\triangle n}$	30, 100, 300mA
Residual current protection type		Electromagnetic
Rated breaking capacity	I_{cn}	6kA
Rated operational voltage	U_e	230/400V AC
Voltage range of the test button T		195.5 ~ 253V AC
Sensitivity to residual current		AC type - AC residual current A type - residual AC and pulsating DC current
Rated frequency		50/60Hz
Rated insulated voltage	U_i	400V AC
Rated impulse withstand voltage	U_{imp}	4kV
Dielectric test voltage		2.5kV
Mechanical service life		10000 operation cycles
Electrical service life		4000 operation cycles
Time characteristic of RCD		Undelayed type
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
Installation class	III

Dimensions

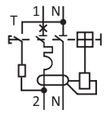


Residual Current Circuit Breaker with Overload Protection

PL8HM,6kA

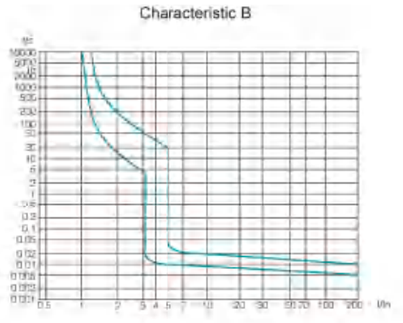
Technical Data

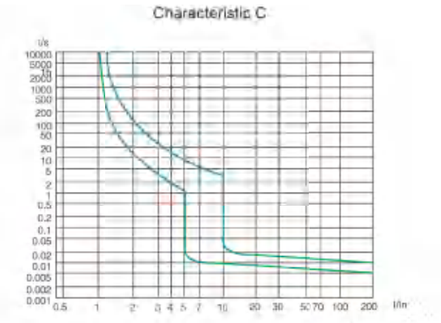
Wiring Diagrams



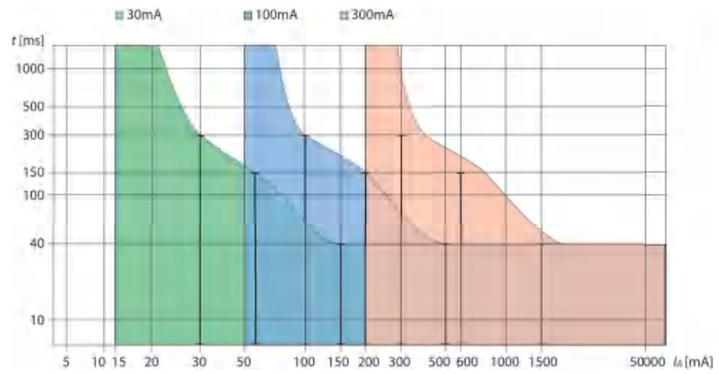
1P+N

Tripping Characteristics of MCB





Tripping Characteristics of RCD



Technical Data

Dependence of Tripping Characteristics on Ambient Temperature

T [°C]	In (T) [A]							
	6 A	10 A	13 A	16 A	20 A	25 A	32 A	40 A
-20	8	13.5	17	20	24.5	29.8	39.5	50.5
-15	7.8	13.3	16.8	19.8	24.3	29.7	39.3	50.4
-10	7.6	13	16.5	19.5	24	29.5	39	50.2
-5	7.3	12.7	16.1	19.2	23.8	29.3	38.8	50
0	7.2	12.5	15.8	19.1	23.7	29.2	38.6	48.8
5	7	12.3	15.5	18.8	23.5	29	38.4	48.6
10	6.8	12.1	15.2	18.6	23.3	28.8	38.2	48.4
15	6.6	12	14.9	18.5	23.1	28.6	38	48.1
20	6.4	11.8	14.7	18.3	22.8	28.4	37.8	47.8
25	6.2	11.5	14.1	18	22.6	28.2	37.5	47
30	6	10	13	16	20	25	32	40
35	6	9.9	12.8	15.7	19.7	24.6	31.5	39.2
40	5.9	9.8	12.5	15.4	19.3	24.3	31.1	38.8
45	5.83	9.8	12.2	15.1	18.8	24	30.8	38.3
50	5.72	9.6	11.7	14.9	18.5	23.8	30.1	38
55	5.65	9.5	11.5	14.7	18.2	23.5	29.5	36.5
60	5.5	9	11.2	14.5	17.8	23	28.5	35
65	5.4	8.6	11	14	17.5	22	27.5	34
70	5.2	8	10.8	13.8	17.3	21.5	27	32.5

Power Loss

In [A]	6 A	10 A	13 A	16 A	20 A	25 A	32 A	40 A
P[W]	1.8	2.5	3.5	4	5	5.8	6.5	7.8

Residual Current Circuit Breaker with Overload Protection
PL8M2,6kA/10kA

- Residual Current Circuit Breaker with Overload Protection according to IEC/EN 61009-1
- Electromagnetic type
- Rated short circuit breaking capacity 6kA/10kA
- 2P version
- Rated residual current 30, 100, 300mA
- Rated current up to 40A
- 4-module width
- AC and A types

PL8M2 residual current circuit breaker are based on combination of residual current device with permanent magnet principle and circuit breaker with thermal overload release and magnetic short circuit current release. It brings the advantage of voltage independent function of the residual current device.

They are common in domestic, commercial and industrial application.

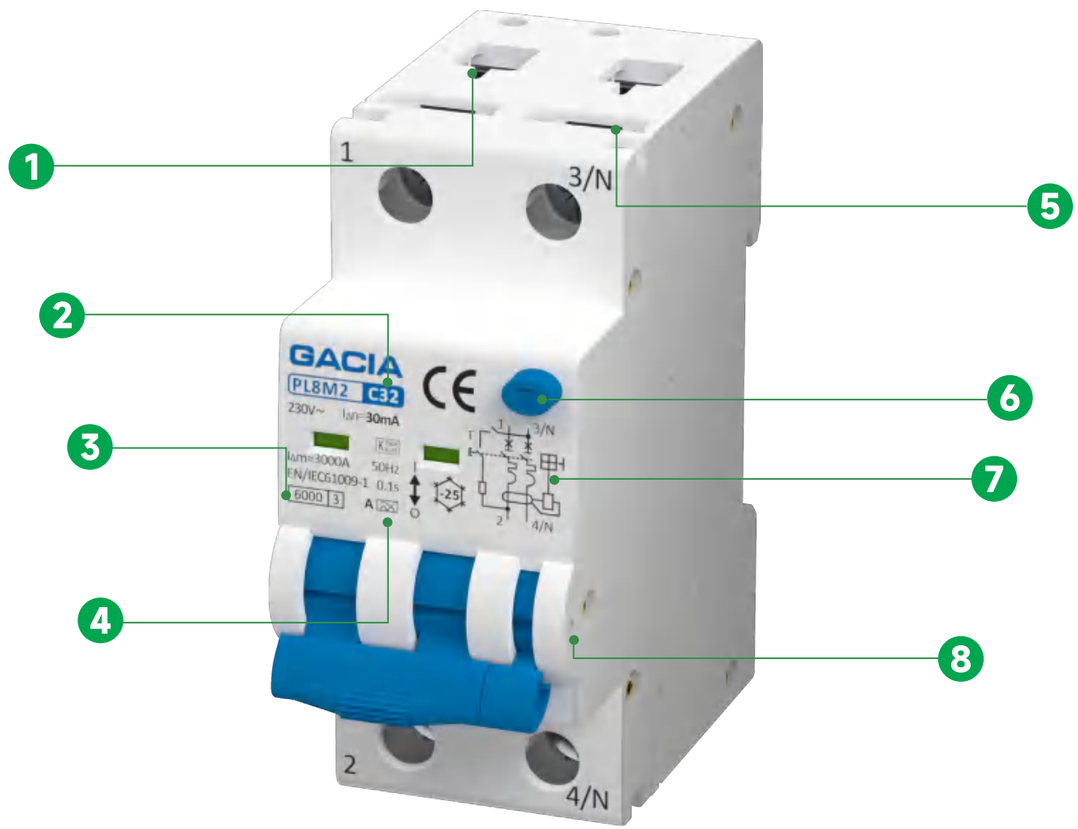
Type Key

P	L	8	M	2	16A	30mA
Product series	Product category	Design code	Structure code	Poles	Rated current	Rated residual current
Professional	RCBO	8	Electromagnetic	2P	6-40A	30-300mA

Certification Marks

CE KEMA KEUR

Product Tips



1. Neutral line interface
2. Rated current up to 40A
3. Rated short circuit breaking capacity 6000A
4. Sensitivity to residual current A
5. Busbar interface
6. Test button
7. Electromagnetic circuit diagram with overload protection
8. The position of handle lock

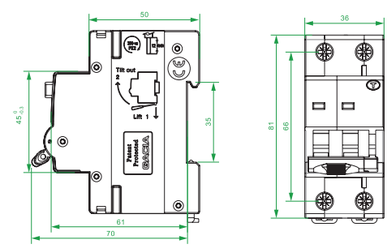
Residual Current Circuit Breaker with Overload Protection
PL8M2,6kA/10kA

Technical Data

Electrical Features		
International standard		IEC/EN 61009-1
Poles		2P
Tripping characteristics of MCB		B, C
Rated current		6-40A
Rated residual current	$I_{\triangle n}$	30, 100, 300mA
Residual current protection type		Electromagnetic
Rated breaking capacity	I_{cn}	6kA(25-40A), 10kA(6-20A)
Rated residual making and breaking capacity(A)	$I_{\triangle m}$	3000A
Rated operational voltage	U_e	230/400V AC
Sensitivity to residual current		AC type- AC residual current A type- residual AC and pulsating DC current
Rated frequency		50/60Hz
Rated insulated voltage	U_i	500V AC
Rated impulse withstand voltage	U_{imp}	4kV
Dielectric test voltage		2.5kV
Mechanical service life		10000 operation cycles
Electrical service life		4000 operation cycles
Time characteristic of RCD		Undelayed type
Line voltage connection		Arbitrary above or below

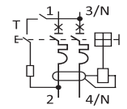
Installation Parameters	
Degree of protection (IP)	IP20, IP40 (when fitted)
Operating ambient temperature	-25°C ~+70°C
Terminal connection type	Cable/Busbar
Connectable conductor cross section	1-25mm^2
Mounting	IEC/EN 60715 top-hat rail 35mm
Fastening torque of terminals	2.5N.m
Pollution degree	2
Reference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

Dimensions



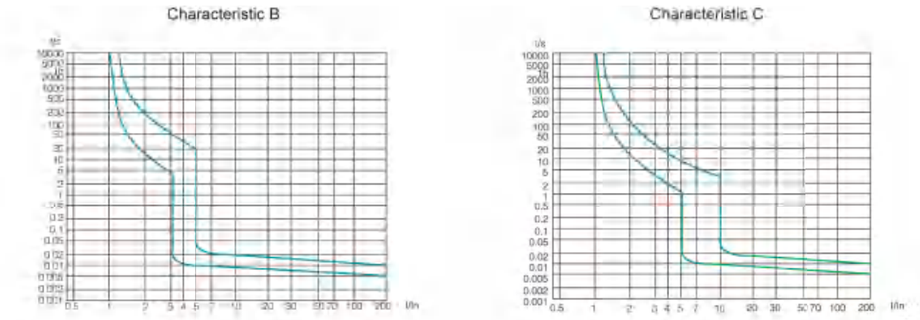
Technical Data

Wiring Diagrams

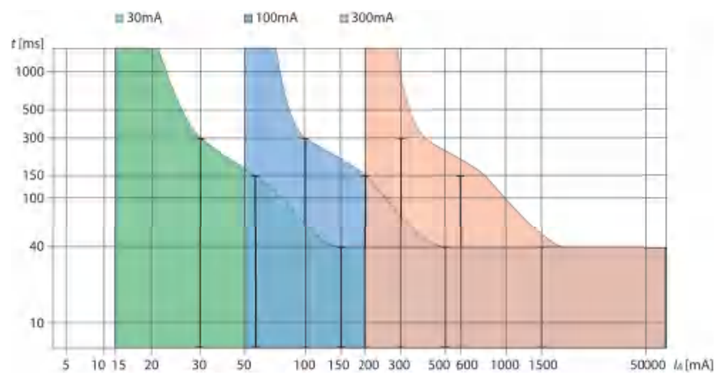


2P

Tripping Characteristics of MCB



Tripping Characteristics of RCD



Residual Current Circuit Breaker with Overload Protection
PL8M4,6kA/10kA

- Residual Current Circuit Breaker with Overload Protection according to IEC/EN 61009-1
- Electromagnetic type
- Rated short circuit breaking capacity 6kA/10kA
- 4P version
- Rated residual current 30, 100, 300mA
- Rated current up to 40A
- 4-module width
- AC and A types

PL8M4 residual current circuit breaker are based on combination of residual current device with permanent magnet principle and circuit breaker with thermal overload release and magnetic short circuit current release. It brings the advantage of voltage independent function of the residual current device.

They are common in domestic, commercial and industrial application.

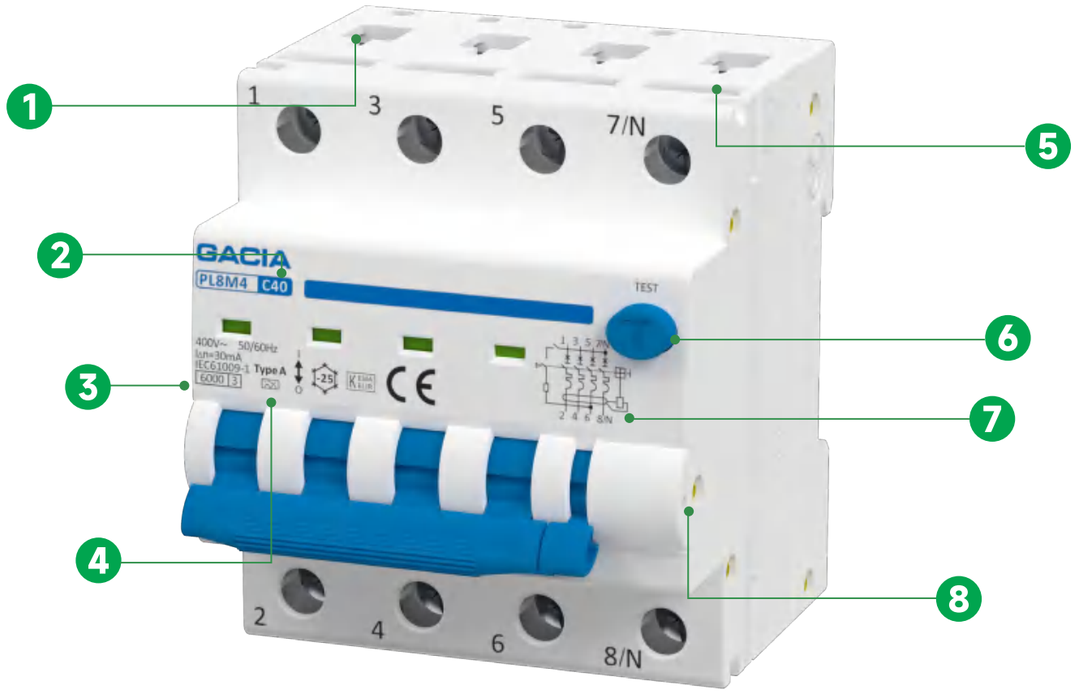
Type Key

P	L	8	M	4	16A	30mA
Product series	Product category	Design code	Structure code	Poles	Rated current	Rated residual current
Professional	RCBO	8	Electromagnetic	4P	6-40A	30-300mA

Certification Marks

CE KEMA KEUR

Product Tips



1. Neutral line interface
2. Rated current up to 40A
3. Rated short circuit breaking capacity 6000A
4. Sensitivity to residual current A
5. Busbar interface
6. Test button
7. Electromagnetic circuit diagram with overload protection
8. The position of handle lock

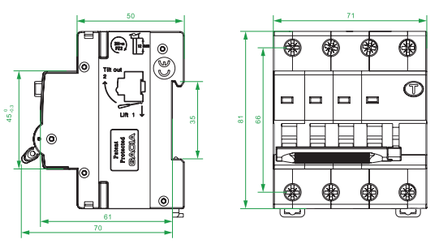
Residual Current Circuit Breaker with Overload Protection
PL8M4,6kA/10kA

Technical Data

Electrical Features		
International standard		IEC/EN 61009-1
Poles		4P
Tripping characteristics of MCB		B, C
Rated current		6-40A
Rated residual current	$I_{\triangle n}$	30, 100, 300mA
Residual current protection type		Electromagnetic
Rated breaking capacity	I_{cn}	6kA(25-40A), 10kA(6-20A)
Rated residual making and breaking capacity(A)	$I_{\triangle m}$	3000A
Rated operational voltage	U_e	230/400V AC
Sensitivity to residual current		AC type- AC residual current A type- residual AC and pulsating DC current
Rated frequency		50/60Hz
Rated insulated voltage	U_i	500V AC
Rated impulse withstand voltage	U_{imp}	4kV
Dielectric test voltage		2.5kV
Mechanical service life		10000 operation cycles
Electrical service life		4000 operation cycles
Time characteristic of RCD		Undelayed type
Line voltage connection		Arbitrary above or below

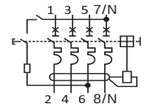
Installation Parameters	
Degree of protection (IP)	IP20, IP40 (when fitted)
Operating ambient temperature	-25°C ~+70°C
Terminal connection type	Cable/Busbar
Connectable conductor cross section	1-25mm^2
Mounting	IEC/EN 60715 top-hat rail 35mm
Fastening torque of terminals	2.5N.m
Pollution degree	2
Reference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

Dimensions



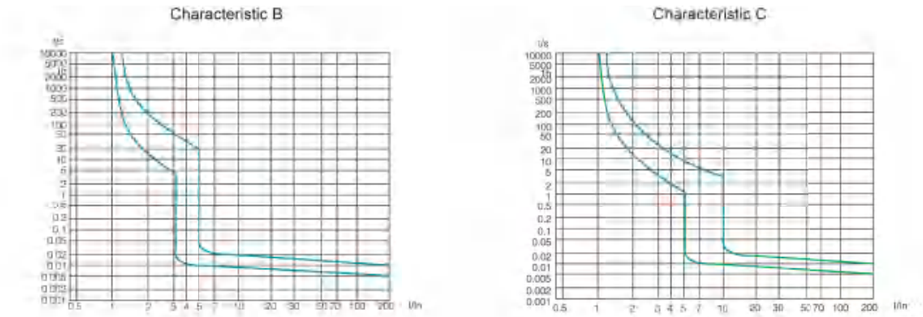
Technical Data

Wiring Diagrams

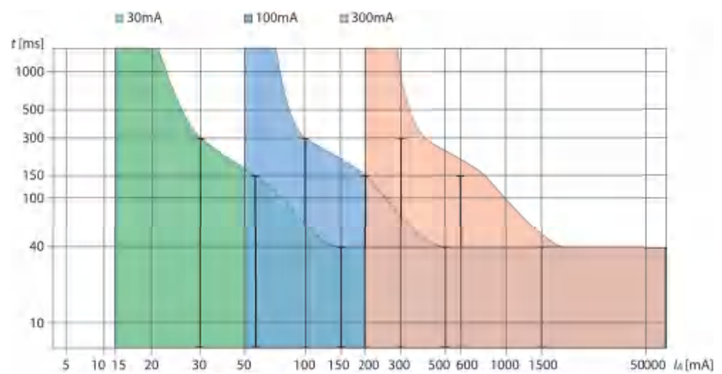


4P

Tripping Characteristics of MCB



Tripping Characteristics of RCD



Residual Current Circuit Breaker with Overload Protection

PL8M2/PL8M4,6kA/10kA

Technical Data

Dependence of Tripping Characteristics on Ambient Temperature

T [°C]	In (T) [A]							
	6 A	10 A	13 A	16 A	20 A	25 A	32 A	40 A
-20	8	13.5	17	20	24.5	29.8	39.5	50.5
-15	7.8	13.3	16.8	19.8	24.3	29.7	39.3	50.4
-10	7.6	13	16.5	19.5	24	29.5	39	50.2
-5	7.3	12.7	16.1	19.2	23.8	29.3	38.8	50
0	7.2	12.5	15.8	19.1	23.7	29.2	38.6	48.8
5	7	12.3	15.5	18.8	23.5	29	38.4	48.6
10	6.8	12.1	15.2	18.6	23.3	28.8	38.2	48.4
15	6.6	12	14.9	18.5	23.1	28.6	38	48.1
20	6.4	11.8	14.7	18.3	22.8	28.4	37.8	47.8
25	6.2	11.5	14.1	18	22.6	28.2	37.5	47
30	6	10	13	16	20	25	32	40
35	6	9.9	12.8	15.7	19.7	24.6	31.5	39.2
40	5.9	9.8	12.5	15.4	19.3	24.3	31.1	38.8
45	5.83	9.8	12.2	15.1	18.8	24	30.8	38.3
50	5.72	9.6	11.7	14.9	18.5	23.8	30.1	38
55	5.65	9.5	11.5	14.7	18.2	23.5	29.5	36.5
60	5.5	9	11.2	14.5	17.8	23	28.5	35
65	5.4	8.6	11	14	17.5	22	27.5	34
70	5.2	8	10.8	13.8	17.3	21.5	27	32.5

MCB Accessories

- Accessories for installation devices PB8N,PB8H
- Auxiliary contacts synchronnous with main contacts of the device
- Signal contacts active on electrical tripping of the circuit breaker
- Shunt release
- Undervoltage release
- Overvoltage release
- According to IEC/EN 60947-1 and IEC/EN 60947-5-1

Accessories are designed in the way to be possible to combine different types with one installation device. It can be used up to two releases plus up to two units of auxiliary or signal contacts.

Release units are mounted from the left to the installation device. Auxiliary and signal contact units must be mounted from the left to the device or to the release unit(s) when installed.

Type Key

AUX8	ALT8	SHT8	SHTA8	UVT8	OVT8	OUVT8
Auxiliary contact	Alarm contact	Shunt release	Shunt release + AUX	Undervoltage release	Overvoltage release	OVT+UVT
AUX8	ALT8	SHT8	SHTA8	UVT8	OVT8	OUVT8

Combination of MCB Accessories

Auxiliary Contact

■ Function

Indicating the on/off state of circuit breaker.

■ Application

Distant indication of circuit breaker state.

Order Code		AUX8
Voltage Ue	AC	230/400V
	DC	120V
Rated Frequency		50/60Hz
Red Mechanical Indication		-
Testing Function		Yes
Working Current		230V AC 6A
		400V AC 3A
		120V DC 1A
Contact Number		1NO/NC
Working Temperature		-35~+70°C

Wiring Diagrams

Alarm Contact

■ Function

-Sending signal at the time of fault tripping of circuit breaker.

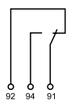
-On the front panel, there is mechanical indication which can indicate fault tripping.

■ Application

Sending singnals at the time of fault tripping.

Order Code		ALT8
Voltage Ue	AC	230/400V
	DC	120V
Rated Frequency		50/60Hz
Red Mechanical Indication		Yes
Testing Function		Yes
Working Current		230V AC 6A
		400V AC 3A
		120V DC 1A
Contact Number		1NO/NC
Working Temperature		-35~+70°C

Wiring Diagrams



Shunt Release

■ Function

When it gets signal, it triggers the circuit breaker to trip.

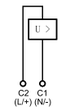
■ Application

-Distant control can achieve emergency breaking.

-Distant indication of circuit breaker state.

Order Code		SHT8-230	SHT8-24	SHT8-12
Voltage Ue	AC	230/400V	24V	12V
	DC	120V	24V	12V
Rated Frequency		50/60Hz		
Red Mechanical Indication		Yes		
Testing Function		-		
Working Current		-		
Contact Number		-		
Working Temperature		-35~+70°C		

Wiring Diagrams



Shunt Release+Aux

■ Function

-When it gets signal, it triggers the circuit breaker to trip.

-SHTA6: It includes a condition indication contact to indicate the on/off state of cirucit breaker.

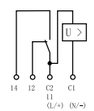
■ Application

-Distant control can achieve emergency breaking.

-Distant indication of circuit breaker state.

Order Code		SHTA8-230	SHTA8-24	SHTA8-12
Voltage Ue	AC	230/400V	24V	12V
	DC	120V	24V	12V
Rated Frequency		50/60Hz		
Red Mechanical Indication		Yes		
Testing Function		-		
Working Current		230V AC 6A		
		400V AC 3A		
		120V AC 1A		
Contact Number		1NO/NC		
Working Temperature		-35~+70°C		

Wiring Diagrams



Undervoltage Release

■ Function

-When power voltage lowers(35%~70%Un), it makes circuit breaker trip;When power is not supplied normally, it prevents circuit breaker from reconnecting to the circuit.

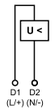
-0.2S time delay prevents the temporary lowering of voltage from causing mistrip.

■ Application

Preventing machine from restarting without control signal, ensuring safety.

Order Code		UVT8-230	UVT8-230S
Voltage Ue	AC	230V	230V
	DC	-	-
Rated Frequency		50/60Hz	
Red Mechanical Indication		Yes	
Testing Function		-	
Working Current		-	
Contact Number		-	
Working Temperature		-35~+70℃	

Wiring Diagrams



Overvoltage Release

■ Function

Monitor voltage between phase line and neutral line, When voltage rises(for example, neutral line is broken), it triggers circuit breaker to trip.

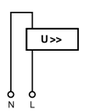
Rated tripping voltage range: 280V AC±5%

■ Application

Preventing over-voltage from damaging circuit and equipment.

Order Code		OVT8-230
Voltage Ue	AC	230V
	DC	-
Rated Frequency		50/60Hz
Red Mechanical Indication		Yes
Testing Function		-
Working Current		-
Contact Number		-
Working Temperature		-35~+70℃

Wiring Diagrams



Over&Under-Voltage Release

■ Function

-It has function of over-voltage release, and function of making circuit breaker trip when power voltage lowers.

-Rated tripping voltage range: 280V AC±5%.

-Rated under-voltage tripping range: 55~160V.

■ Application

Preventing over-voltage and under-voltage from damaging circuit and equipment.

Order Code		OUVT8-230
Voltage Ue	AC	230V
	DC	-
Rated Frequency		50/60Hz
Red Mechanical Indication		Yes
Testing Function		-
Working Current		-
Contact Number		-
Working Temperature		-35~+70℃

Wiring Diagrams

Accessories Dimensions