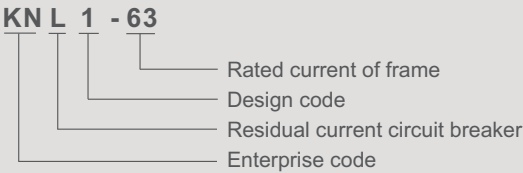




KNL1-63

RESIDUAL CURRENT CIRCUIT BREAKER

1. Model and meaning



2. Sphere of application

KNL1 series Residual current circuit breaker(without over-current protection) is suitable for the line of AC 50/60Hz, voltage 240V(2pole)/ 415V(4pole), rated current up to 63A. When there is human electricity shock or if the leakage current of the line exceeds the prescribed value, it will cut off the power rapidly to protect human safety and prevent the accident due to the current leakage. It can be used as infrequent changeover of the line in normal situation.It is applicable to industrial site, commercial site, tall building and civil house.

It complies with standard of IEC/EN61008-1 and GB16916.1.

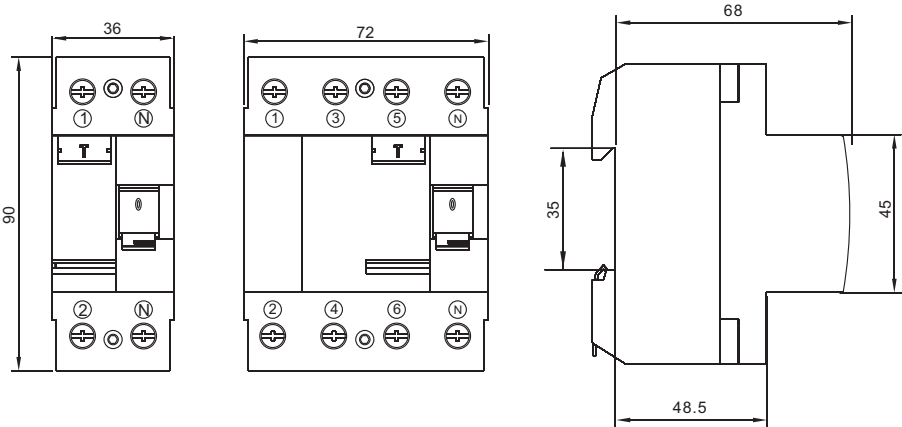
3. Basic specification and main parameters

Frame class	63A
Rated working voltage	240/415V
Rated frequency	50/60Hz
Rated working current	16, 20, 25, 32, 40, 50, 63A
Rated residual operating current	0.03,0.1,0.3,0.5A
Rated residual un-operating current	0.015,0.05,0.15,0.25A
Sensibility	A Type、AC Type
Maximum operating time	$I_{\Delta n} \ t \leq 0.3s$, $5I_{\Delta n} \ t \leq 0.04s$
Rated making and breaking capacity	$I_n \leq 50A$ 500A, $I_n=63A$ 630A
Rated limiting short-circuit current	3000A
Pole number	2, 4P
Mechanical life	10000
Electric life	4000

4. Operation principle

Each phase of conductor at the circuit breaker passes through the zero-sequence current transformer, and the secondary side of coil connects with the electromagnetic tripper. Under normal condition, the vector sum of each phase of current passing through zero-sequence current transformer is zero. The flux of the zero-sequence current transformer is zero. And the secondary output voltage is zero and the circuit breaker doesn't zero, and the zero-sequence current transformer would produce the magnetic flux, and the secondary side of coil would output the voltage. Once the leak current increases to drive the output voltage at the secondary side to grow to certain level, the electromagnetic release would activate to drive the operation mechanism to act to break the contact that connects the power, finally to realize the leak protection.

5. Dimensions(mm)

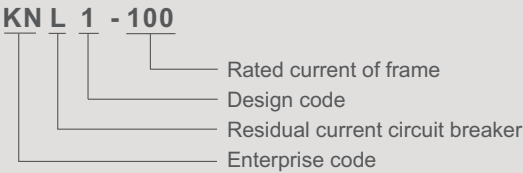




KNL1-100

RESIDUAL CURRENT CIRCUIT BREAKER

1. Model and meaning



2. Sphere of application

KNL1 series Residual current circuit breaker(without over-current protection) is suitable for the line of AC 50/60Hz, voltage 240V(2pole)/ 415V(4pole), rated current up to 100A. When there is human electricity shock or if the leakage current of the line exceeds the prescribed value, it will cut off the power rapidly to protect human safety and prevent the accident due to the current leakage. It can be used as infrequent changeover of the line in normal situation. It is applicable to industrial site, commercial site, tall building and civil house.

It complies with standard of IEC/EN61008-1 and GB16916.1.

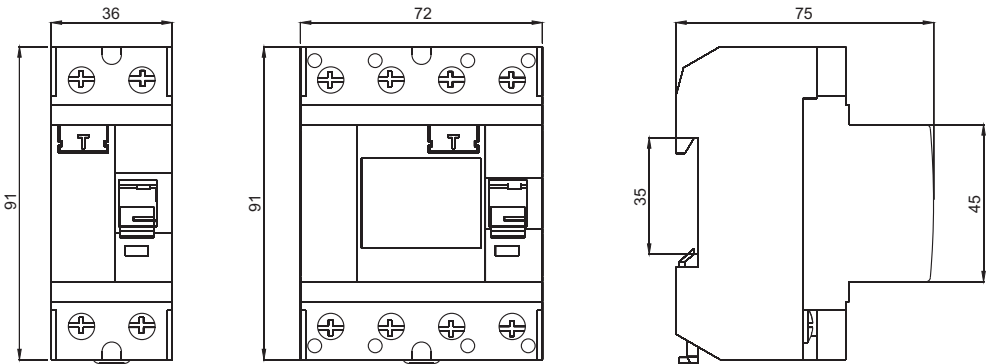
3. Basic specification and main parameters

Frame class	100A
Rated working voltage	240/415V
Rated frequency	50/60Hz
Rated working current	63, 80, 100A
Rated residual operating current	0.03,0.1,0.3,0.5A
Rated residual un-operating current	0.015,0.05,0.15,0.25A
Sensibility	A Type
Maximum operating time	$I_{\Delta n} \ t \leq 0.3s, 5I_{\Delta n} \ t \leq 0.04s$
Rated making and breaking capacity	1500A
Rated limiting short-circuit current	3000A
Pole number	2, 4P
Mechanical life	10000
Electric life	4000

4. Operation principle

Each phase of conductor at the circuit breaker passes through the zero-sequence current transformer, and the secondary side of coil connects with the electromagnetic tripper. Under normal condition, the vector sum of each phase of current passing through zero-sequence current transformer is zero. The flux of the zero-sequence current transformer is zero. And the secondary output voltage is zero and the circuit breaker doesn't zero, and the zero-sequence current transformer would produce the magnetic flux, and the secondary side of coil would output the voltage. Once the leak current increases to drive the output voltage at the secondary side to grow to certain level, the electromagnetic release would activate to drive the operation mechanism to act to break the contact that connects the power, finally to realize the leak protection.

5. Dimensions(mm)





KNL5-63/63H

RESIDUAL CURRENT CIRCUIT BREAKER

1. Model and meaning



2. Sphere of application

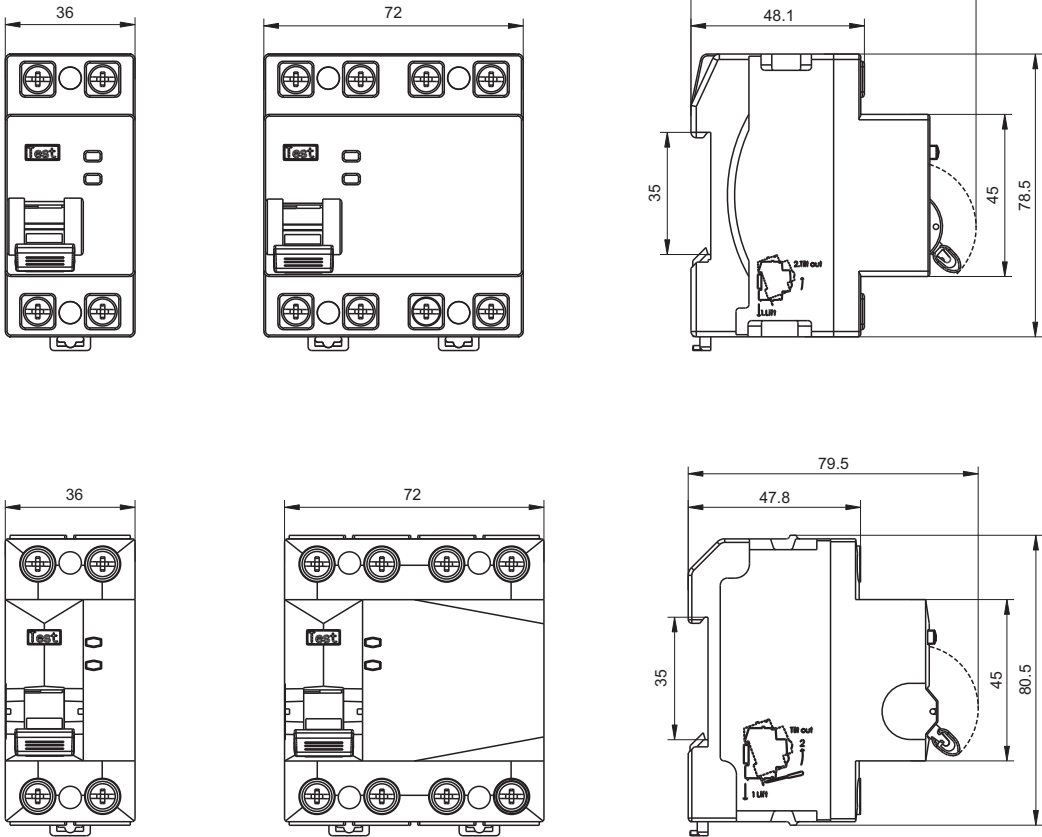
KNL5 series Residual current circuit breaker(without over-current protection) is suitable for the line of AC 50/60Hz, voltage 240V(2pole) /415V(4pole), rated current up to 63A. When there is human electricity shock or if the leakage current of the line exceeds the prescribed value, it will cut off the power rapidly to protect human safety and prevent the accident due to the current leakage. It can be used as infrequent changeover of the line in normal situation. It is applicable to industrial site, commercial site, tall building and civil house.

It complies with standard of IEC/EN61008-1 and GB16916.1.

3. Basic specification and main parameters

Frame class	63A
Rated working voltage	240/415V
Rated frequency	50/60Hz
Rated working current	16, 20, 25, 32, 40, 50, 63A
Rated residual operating current	0.03,0.1,0.3,0.5A
Rated residual un-operating current	0.015,0.05,0.15,0.25A
Sensibility	Type AC, Type A, Type F, Type S, Type B
Maximum operating time	$I\Delta n \leq 0.3s$, $5I\Delta n \leq 0.04s$
Rated making and breaking capacity	$I_n \leq 50A$ 500A, $I_n=63A$ 630A
Rated limiting short-circuit current	6000A/10000A
Pole number	2, 4P
Mechanical life	10000
Electric life	4000

4. Dimensions(mm)





KNL5-63/63H

RESIDUAL CURRENT CIRCUIT BREAKER

1. Model and meaning

KN L 5 - 63/63H

- 63:6000A,63H:10000A
- Design code
- Residual current circuit breaker
- Enterprise code

2. Sphere of application

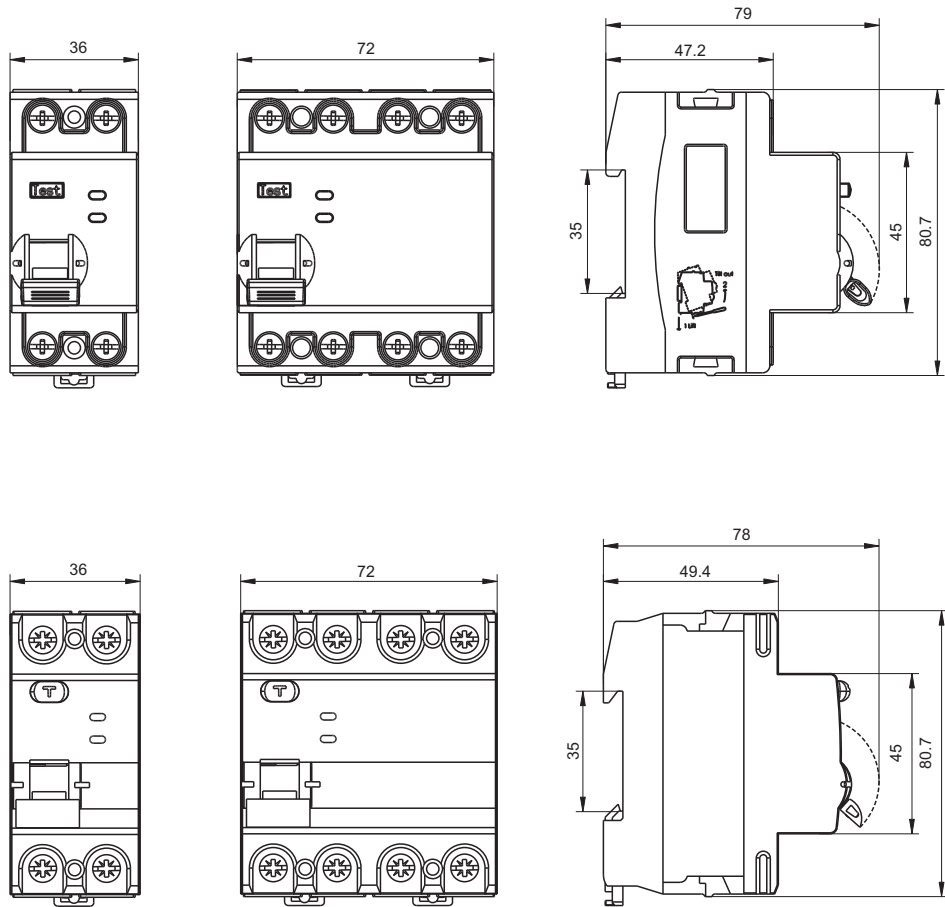
KNL5 series Residual current circuit breaker(without over-current protection) is suitable for the line of AC 50/60Hz, voltage 240V(2pole) /415V(4pole), rated current up to 63A. When there is human electricity shock or if the leakage current of the line exceeds the prescribed value, it will cut off the power rapidly to protect human safety and prevent the accident due to the current leakage. It can be used as infrequent changeover of the line in normal situation. It is applicable to industrial site, commercial site, tall building and civil house.

It complies with standard of IEC/EN61008-1 and GB16916.1.

3. Basic specification and main parameters

Frame class	63A
Rated working voltage	240/415V
Rated frequency	50/60Hz
Rated working current	16, 20, 25, 32, 40, 50, 63A
Rated residual operating current	0.03,0.1,0.3,0.5A
Rated residual un-operating current	0.015,0.05,0.15,0.25A
Sensibility	Type AC, Type A, Type F, Type S, Type B
Maximum operating time	$I \Delta n \ t \leq 0.3s$, $5I \Delta n \ t \leq 0.04s$
Rated making and breaking capacity	$I_n \leq 50A$ 500A, $I_n=63A$ 630A
Rated limiting short-circuit current	6000A/10000A
Pole number	2, 4P
Mechanical life	10000
Electric life	4000

4. Dimensions(mm)





KNL5-63/63H

RESIDUAL CURRENT CIRCUIT BREAKER

1. Model and meaning

KN L 5 - 63/63H

- 63:6000A,63H:10000A
- Design code
- Residual current circuit breaker
- Enterprise code

2. Sphere of application

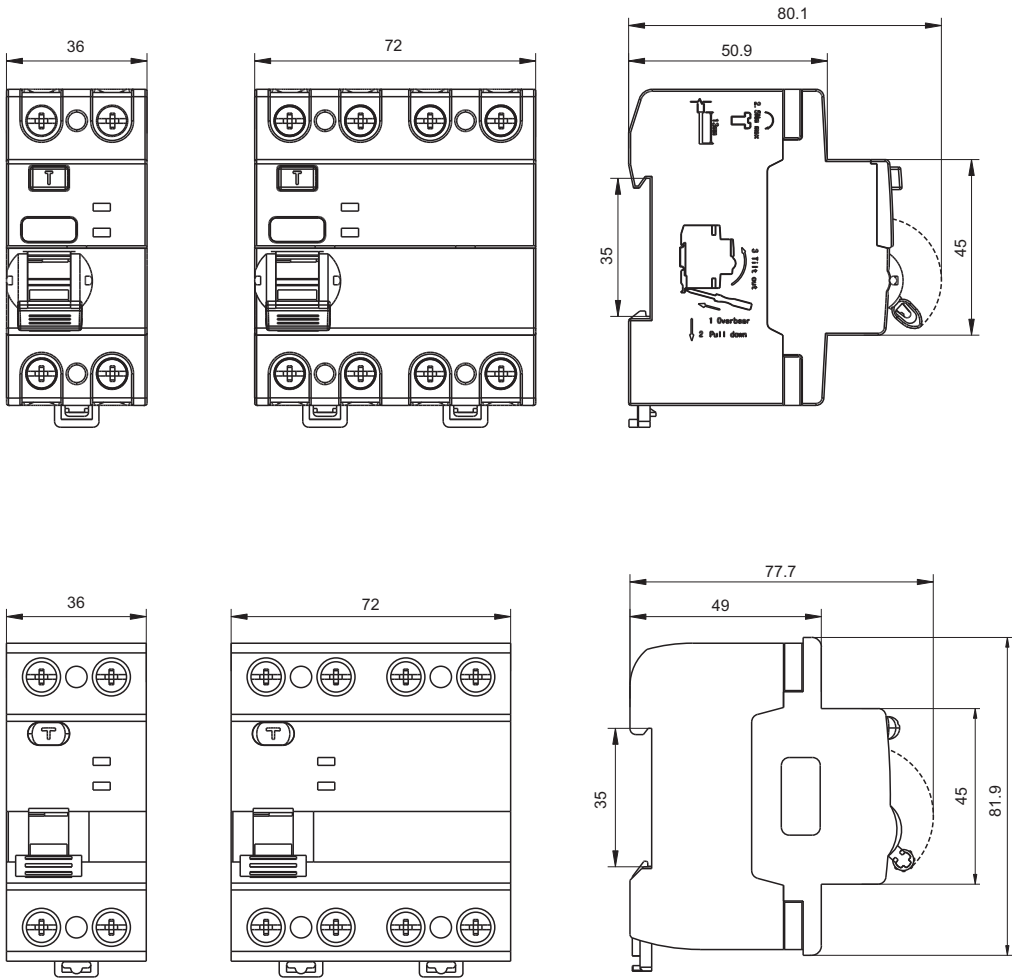
KNL5 series Residual current circuit breaker(without over-current protection) is suitable for the line of AC 50/60Hz, voltage 240V(2pole) /415V(4pole), rated current up to 63A. When there is human electricity shock or if the leakage current of the line exceeds the prescribed value, it will cut off the power rapidly to protect human safety and prevent the accident due to the current leakage. It can be used as infrequent changeover of the line in normal situation. It is applicable to industrial site, commercial site, tall building and civil house.

It complies with standard of IEC/EN61008-1 and GB16916.1.

3. Basic specification and main parameters

Frame class	63A
Rated working voltage	240/415V
Rated frequency	50/60Hz
Rated working current	16, 20, 25, 32, 40, 50, 63A
Rated residual operating current	0.03,0.1,0.3,0.5A
Rated residual un-operating current	0.015,0.05,0.15,0.25A
Sensibility	Type AC, Type A, Type F, Type S, Type B
Maximum operating time	$I \Delta n \leq 0.3s$, $5I \Delta n \leq 0.04s$
Rated making and breaking capacity	$I_n \leq 50A$ 500A, $I_n=63A$ 630A
Rated limiting short-circuit current	6000A/10000A
Pole number	2, 4P
Mechanical life	10000
Electric life	4000

4. Dimensions(mm)



Patent Protected



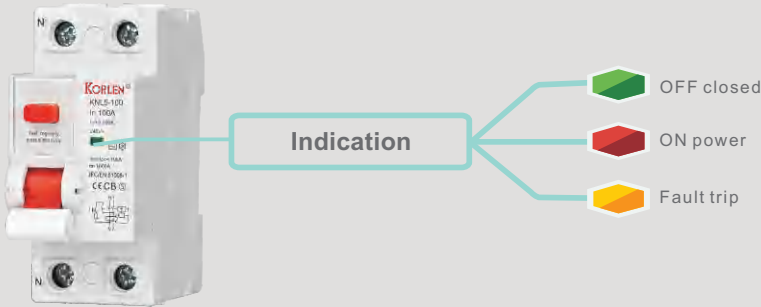
KNL5-100

RESIDUAL CURRENT CIRCUIT BREAKER

1. Model and meaning

KN L 5 - 100

- Rated current of frame
- Design code
- Residual current circuit breaker
- Enterprise code



2. Sphere of application

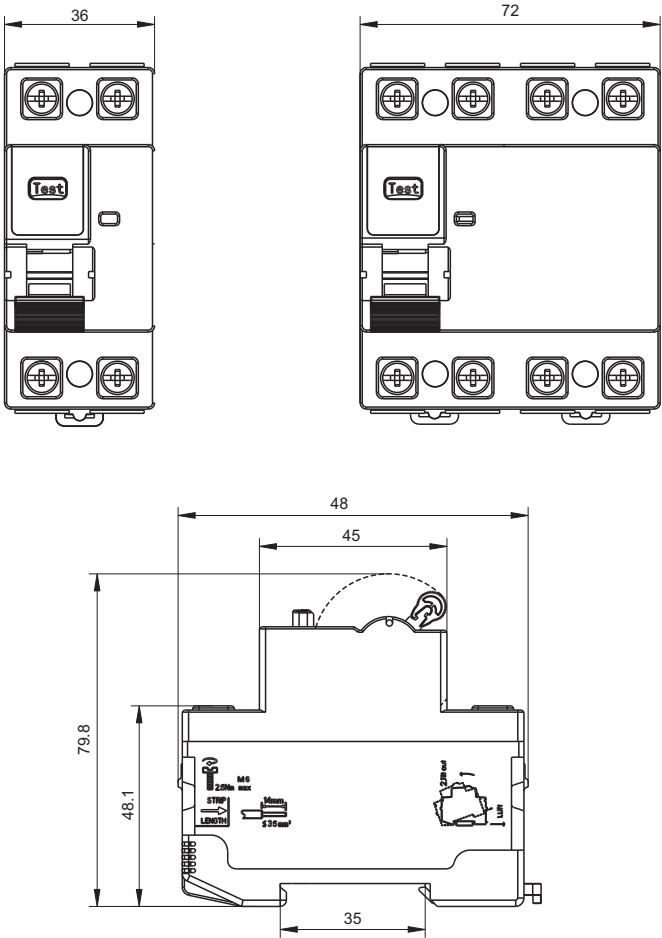
KNL5 series Residual current circuit breaker(without over-current protection) is suitable for the line of AC 50/60Hz, voltage 240V(2pole) /415V(4pole), rated current up to 100A. When there is human electricity shock or if the leakage current of the line exceeds the prescribed value, it will cut off the power rapidly to protect human safety and prevent the accident due to the current leakage. It can be used as infrequent changeover of the line in normal situation. It is applicable to industrial site, commercial site, tall building and civil house.

It complies with standard of IEC/EN61008-1 and GB16916.1.

3. Basic specification and main parameters

Frame class	100A
Rated working voltage	240/415V
Rated frequency	50/60Hz
Rated working current	16,20,25,32,40,50,63,80,100A
Rated residual operating current	0.03,0.1,0.3,0.5A
Rated residual un-operating current	0.015,0.05,0.15,0.25A
Sensibility	Type AC, Type A, Type F, Type S, Type B
Maximum operating time	$I\Delta n \leq 0.3s$, $5I\Delta n \leq 0.04s$
Rated making and breaking capacity	$I_n \leq 50A$, 500A $I_n \leq 63A$, 630A $I_n \leq 100A$, 1000A
Rated limiting short-circuit current	10000A
Pole number	2, 4P
Mechanical life	10000
Electric life	4000

4. Dimensions(mm)



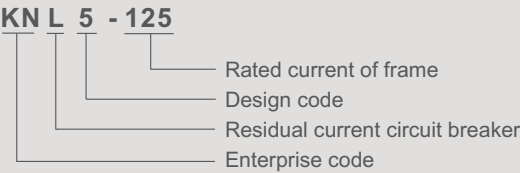
Patent Protected



KNL5-125

RESIDUAL CURRENT CIRCUIT BREAKER

1. Model and meaning



2. Sphere of application

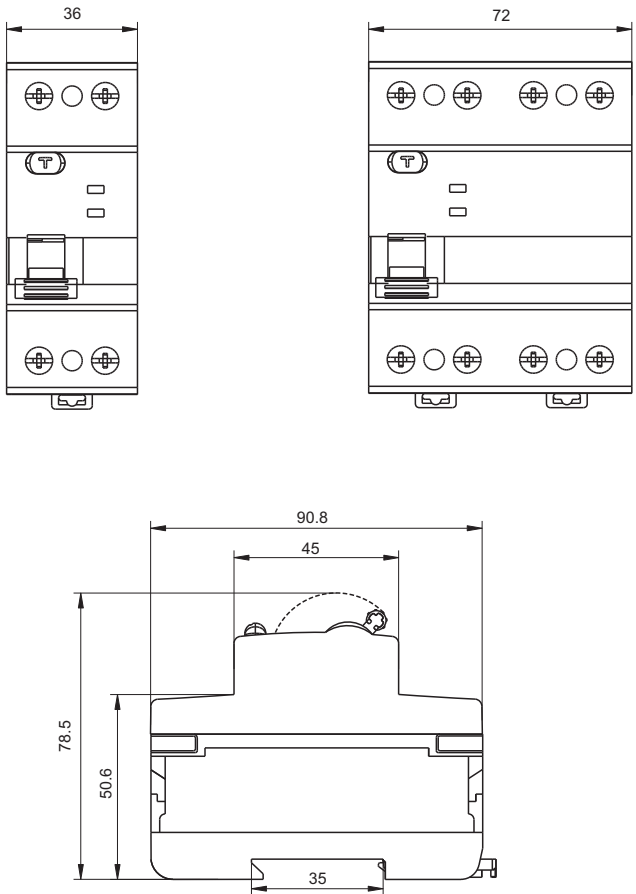
KNL5 series Residual current circuit breaker(without over-current protection) is suitable for the line of AC 50/60Hz, voltage 240V(2pole) /415V(4pole), rated current up to 125A. When there is human electricity shock or if the leakage current of the line exceeds the prescribed value, it will cut off the power rapidly to protect human safety and prevent the accident due to the current leakage. It can be used as infrequent changeover of the line in normal situation. It is applicable to industrial site, commercial site, tall building and civil house.

It complies with standard of IEC/EN61008-1/62423 and GB16916.1/22794.

3. Basic specification and main parameters

Frame class	125A
Rated working voltage	240/415V
Rated frequency	50/60Hz
Rated working current	63, 80, 100, 125A
Rated residual operating current	0.03,0.1,0.3,0.5A,2,.4I _{Δn} ^a ,6I _{Δn} ^a ,14I _{Δn} ^{a,b}
Rated residual un-operating current	0.015,0.05,0.15,0.25A
Sensibility	Type AC, Type A, Type F, Type S, Type B
Maximum operating time	I _{Δn} t≤0.3s , 5I _{Δn} t≤0.04s
Rated making and breaking capacity	63A<I _n ≤100A , 1000A
Rated limiting short-circuit current	10000A
Pole number	2, 4P
Mechanical life	10000
Electric life	4000

4. Dimensions(mm)

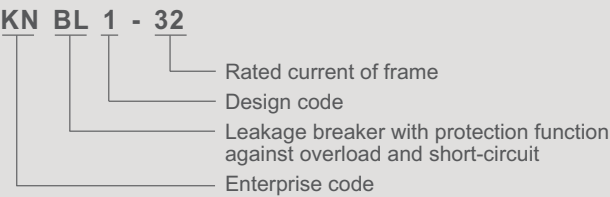




KNBL1-32

RCBO

1. Model and meaning



2. Application

KNBL1-32 series leakage breaker is suitable for the leakage protection of the line of AC 50/60Hz, rated voltage single phase 240V, rated current up to 63A. When there is human electricity shock or if the leakage current of the line exceeds the prescribed value, it will automatically cut off the power within 0.1s to protect human safety and prevent the accident due to the current leakage.

KNBL1-32 series leakage breaker can protect against overload and short-circuit. It can be used to protect the line from being overloaded and short-circuited as well as infrequent changeover of the line in normal situation. It complies with standard of IEC/EN61009-1 and GB16917.1.

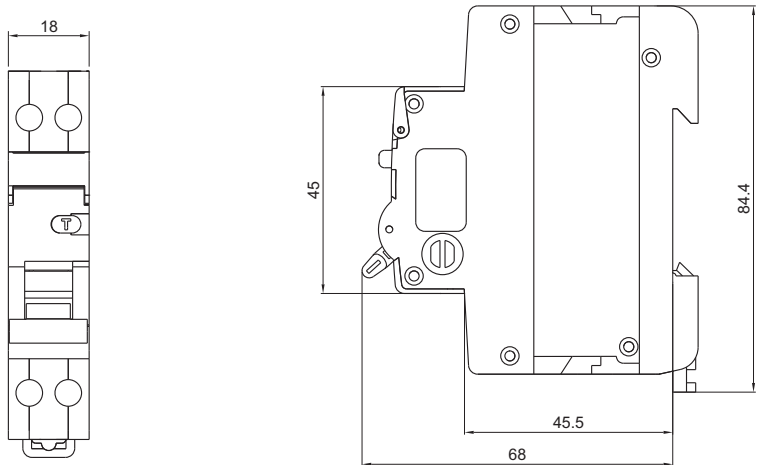
3. Basic specification and main parameters

Frame class	32A
Rated working voltage	240V
Rated frequency	50/60Hz
Rated working current	6, 10, 16, 20, 25, 32A
Rated residual operating current	30mA, 10mA
Sensibility	A Type, AC Type
Maximum operating time	$I\Delta n \ t \leq 0.3s$, $5I\Delta n \ t \leq 0.04S$
Making and breaking capacity	4500A
Release type	B, C, D
Poles	1P+N
Mechanical life	8000
Electric life	4000

4. The over-current tripping unit protection feature

Sequence NO.	Release	Test current I/I_n	Start state	Tripping time	Expected result
1	C	$1.13I_n$	Cold state	$t \leq 1h$	Not tripping
2	C	$1.45I_n$	Start right after the serial NO. 1 test	$t < 1h$	Tripping
3	C	$2.55I_n$	Cold state	$1s < t < 60s$	Tripping
4	C	$5I_n$	Cold state	$t \leq 0.1s$	Not tripping
5	C	$10I_n$	Cold state	$t < 0.1s$	Tripping

5. Dimensions(mm)

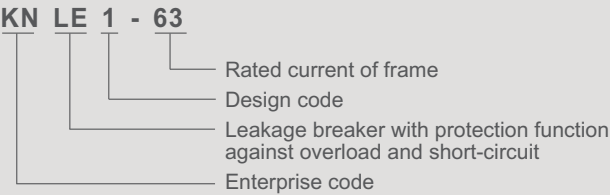




KNLE1-63

RCBO

1. Model and meaning



2. Application

KNLE1-63 series leakage breaker is suitable for the leakage protection of the line of AC 50/60Hz, rated voltage single phase 240V, rated current up to 63A. When there is human electricity shock or if the leakage current of the line exceeds the prescribed value, it will automatically cut off the power within 0.1s to protect human safety and prevent the accident due to the current leakage.

KNLE1-63 series leakage breaker can protect against overload and short-circuit. It can be used to protect the line from being overloaded and short-circuited as well as infrequent changeover of the line in normal situation. It complies with standard of IEC/EN61009-1 and GB16917.1.

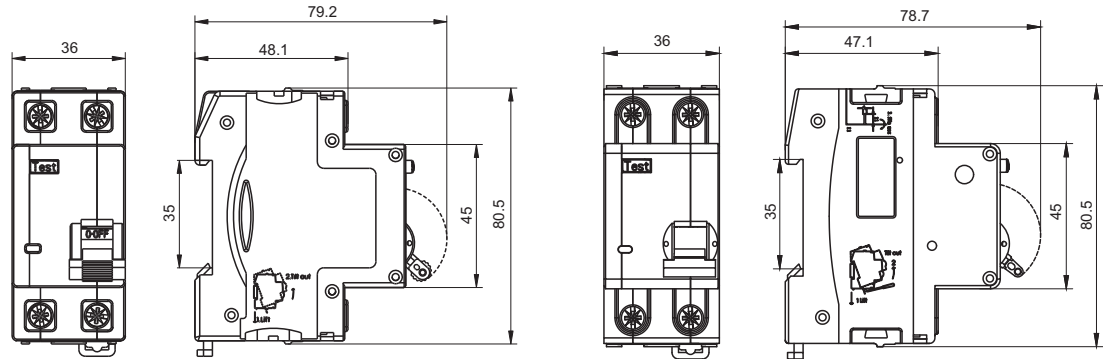
3. Basic specification and main parameters

Frame class	63A
Rated working voltage	240V
Rated frequency	50/60Hz
Rated working current	6, 10, 16, 20, 25, 32, 40, 50, 63A
Rated residual operating current	0.01, 0.03A
Rated residual un-operating current	0.005, 0.015A
Sensibility	A Type, AC Type
Maximum operating time	$I_{\Delta n} \ t \leq 0.3s$, $5I_{\Delta n} \ t \leq 0.04s$
Instant release type	B, C, D
Rated limiting short-circuit current	6000A
Pole number	1P+N
Mechanical life	8000
Electric life	4000

4. The over-current tripping unit protection feature

Sequence NO.	Release	Test current I/I _n	Start state	Tripping time	Expected result
1	C	1.13I _n	Cold state	$t \leq 1h$	Not tripping
2	C	1.45I _n	Start right after the serial NO. 1 test	$t < 1h$	Tripping
3	C	2.55I _n	Cold state	$1s < t < 60s$	Tripping
4	C	5I _n	Cold state	$t \leq 0.1s$	Not tripping
5	C	10I _n	Cold state	$t < 0.1s$	Tripping

5. Dimensions(mm)

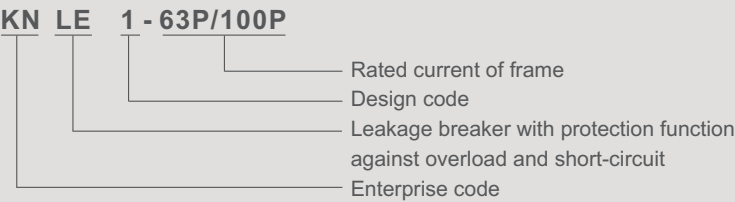




KNLE1-63P/100P

SERIES LEAKAGE CIRCUIT BREAKER

1. Model and meaning



2. Sphere of application

KNLE1-63P/100P series leakage breaker is suitable for the leakage protection of the line of AC 50/60Hz, rated voltage single phase 240V, three phase 240/415V and below, rated current up to 100A. When there is human electricity shock or if the leakage current of the line exceeds the prescribed value, it will automatically cut off the power within 0.1s to protect human safety and prevent the accident due to the current leakage.

KNLE1 series leakage breaker can protect against overload and short-circuit. It can be used to protect the line from being overloaded and short-circuited as well as infrequent changeover of the line in normal situation. It complies with standard of IEC/EN61009-1 and GB16917.1.

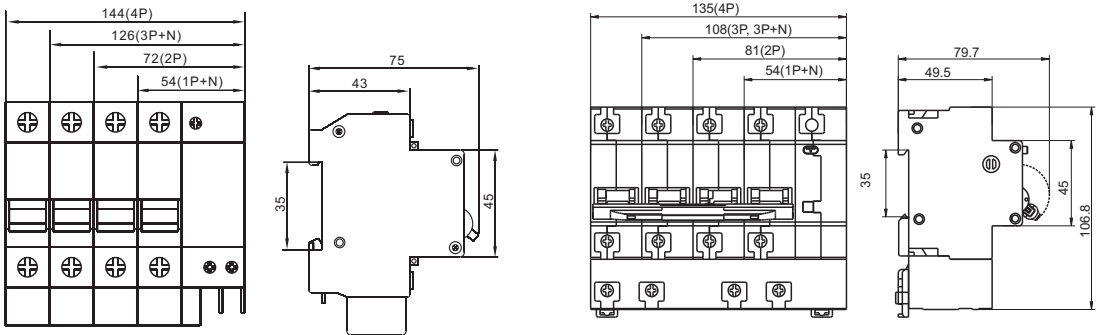
3. Basic specification and main parameters

Frame class	63A, 100A
Rated working voltage	240/415V
Rated frequency	50/60Hz
Rated working current	6, 10, 16, 20, 25, 32, 40, 50, 63, 80, 100A
Rated residual operating current	0.03,0.1,0.3,0.5A
Rated residual un-operating current	0.015,0.05,0.15,0.25A
Sensibility	A Type, AC Type
Maximum operating time	$I\Delta n \ t \leq 0.3s$, $5I\Delta n \ t \leq 0.04s$
Instant release type	B, C, D
Rated limiting short-circuit current	4500A/6000A
Pole number	1P+N, 2P, 3P, 3P+N, 4P
Mechanical life	8000
Electric life	4000

4. The over-current tripping unit protection feature

Sequence NO.	Release	Test current I/I_n	Start state	Tripping time	Expected result
1	C	$1.13I_n$	Cold state	$t \leq 1h$	Not tripping
2	C	$1.45I_n$	Start right after the serial NO. 1 test	$t < 1h$	Tripping
3	C	$2.55I_n$	Cold state	$1s < t < 60s$	Tripping
4	C	$5I_n$	Cold state	$t \leq 0.1s$	Not tripping
5	C	$10I_n$	Cold state	$t < 0.1s$	Tripping

5. Dimensions(mm)

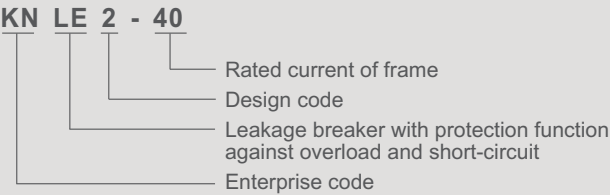




KNLE2-40

RCBO

1. Model and meaning



2. Application

KNLE2-40 series leakage breaker is suitable for the leakage protection of the line of AC 50/60Hz, rated voltage single phase 240V, rated current up to 40A. When there is human electricity shock or if the leakage current of the line exceeds the prescribed value, it will automatically cut off the power within 0.1s to protect human safety and prevent the accident due to the current leakage.

KNLE2-40 series leakage breaker can protect against overload and short-circuit. It can be used to protect the line from being overloaded and short-circuited as well as infrequent changeover of the line in normal situation. It complies with standard of IEC/EN61009-1 and GB16917.1.

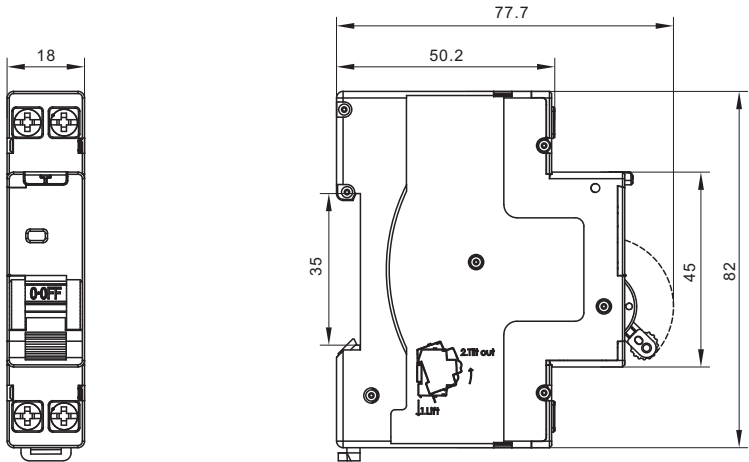
3. Basic specification and main parameters

Frame class	40A
Rated working voltage	240V
Rated frequency	50/60Hz
Rated working current	6, 10, 16, 20, 25, 32, 40A
Rated residual operating current	30mA, 10mA
Sensibility	A Type, AC Type
Maximum operating time	$I\Delta n \ t \leq 0.3s$, $5I\Delta n \ t \leq 0.04S$
Making and breaking capacity	6000A
Release type	C
Poles	1P+N
Mechanical life	8000
Electric life	4000

4. The over-current tripping unit protection feature

Sequence NO.	Release	Test current I/In	Start state	Tripping time	Expected result
1	C	1.13In	Cold state	$t \leq 1h$	Not tripping
2	C	1.45In	Start right after the serial NO. 1 test	$t < 1h$	Tripping
3	C	2.55In	Cold state	$1s < t < 60s$	Tripping
4	C	5In	Cold state	$t \leq 0.1s$	Not tripping
5	C	10In	Cold state	$t < 0.1s$	Tripping

5. Dimensions(mm)

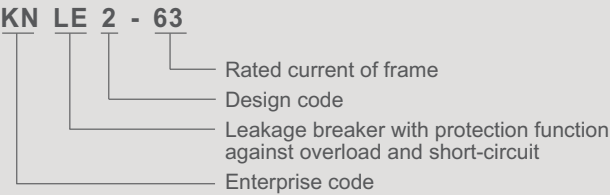




KNLE2-63

RCBO

1. Model and meaning



2. Application

KNLE2-63 series leakage breaker is suitable for the leakage protection of the line of AC 50/60Hz, rated voltage single phase 240V, rated current up to 63A. When there is human electricity shock or if the leakage current of the line exceeds the prescribed value, it will automatically cut off the power within 0.1s to protect human safety and prevent the accident due to the current leakage.

KNLE2-63 series leakage breaker can protect against overload and short-circuit. It can be used to protect the line from being overloaded and short-circuited as well as infrequent changeover of the line in normal situation. It complies with standard of IEC/EN61009-1 and GB16917.1.

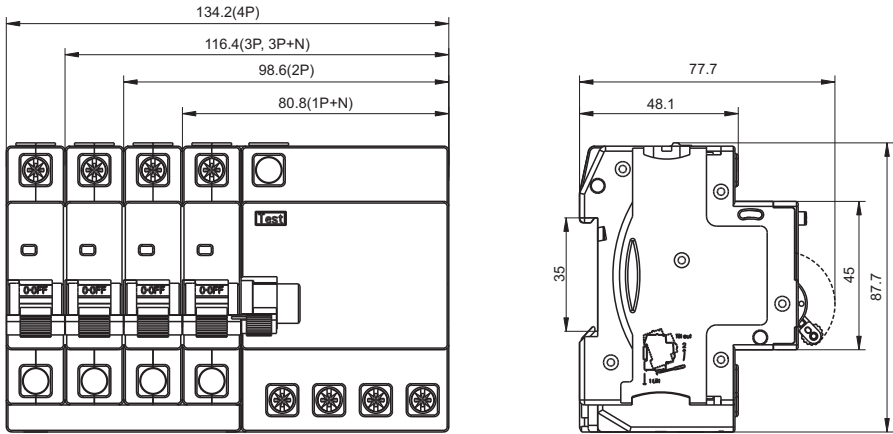
3. Basic specification and main parameters

Frame class	63A
Rated working voltage	240/415V
Rated frequency	50/60Hz
Rated working current	6, 10, 16, 20, 25, 32, 40, 50, 63A
Rated residual operating current	0.01, 0.03A
Rated residual un-operating current	0.005, 0.015A
Sensibility	A Type, AC Type, B Type
Maximum operating time	$I \Delta n \leq 0.3s$, $5I \Delta n \leq 0.04s$
Instant release type	B, C, D
Rated limiting short-circuit current	6000A
Pole number	1P+N, 2P, 3P, 3P+N, 4P
Mechanical life	8000
Electric life	4000

4. The over-current tripping unit protection feature

Sequence NO.	Release	Test current I/In	Start state	Tripping time	Expected result
1	C	1.13In	Cold state	$t \leq 1h$	Not tripping
2	C	1.45In	Start right after the serial NO. 1 test	$t < 1h$	Tripping
3	C	2.55In	Cold state	$1s < t < 60s$	Tripping
4	C	5In	Cold state	$t \leq 0.1s$	Not tripping
5	C	10In	Cold state	$t < 0.1s$	Tripping

5. Dimensions(mm)

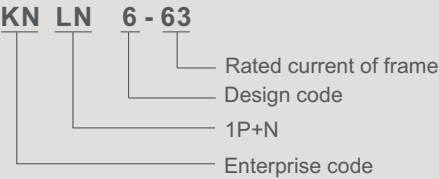




KNLN6-63

RCBO

1. Model and meaning



2. Application

KNLN6-63 series leakage breaker is suitable for the leakage protection of the line of AC 50/60Hz, rated voltage single phase 240V, rated current up to 63A. When there is human electricity shock or if the leakage current of the line exceeds the prescribed value, it will automatically cut off the power within 0.1s to protect human safety and prevent the accident due to the current leakage.

KNLN6-63 series leakage breaker can protect against overload and short-circuit. It can be used to protect the line from being overloaded and short-circuited as well as infrequent changeover of the line in normal situation. It complies with standard of IEC/EN61009-1 and GB16917.1.

3. Basic specification and main parameters

Frame class	63A
Rated working voltage	240V
Rated frequency	50/60Hz
Rated working current	2, 3, 6, 10, 16, 20, 25, 32, 40, 50, 63A
Rated residual operating current	0.01, 0.03, 0.1, 0.3A
Rated residual un-operating current	0.5I _{Δn}
Sensibility	A Type, AC Type
Maximum operating time	I _{Δn} t<0.3s, 5I _{Δn} t<0.04s
Instant release type	B, C, D Type
Rated limiting short-circuit current	10000A
Pole number	1P+N
Mechanical life	20000
Electric life	4000

4. The over-current tripping unit protection feature

Sequence NO.	Release	Test current I/I _n	Start state	Tripping time	Expected result
1	C	1.13I _n	Cold state	t≤1h	Not tripping
2	C	1.45I _n	Start right after the serial NO. 1 test	t<1h	Tripping
3	C	2.55I _n	Cold state	1s<t<60s	Tripping
4	C	5I _n	Cold state	t≤0.1s	Not tripping
5	C	10I _n	Cold state	t<0.1s	Tripping

5. Dimensions(mm)

