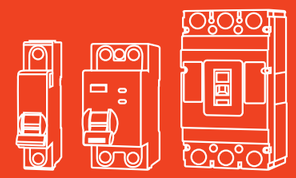


KORLEN®
electrical shares

MCB RCCB RCBO MCCB MMS SPD

KORLEN®
electrical shares

Gaonenggele Electrical Shares Co.,Ltd.
Add: No.258 Wei 20 Road,Yueqing Economic & Development Zone, Zhejiang,China.
Tel:0086-577-62207777 62870277
Fax:0086-577-62661666
Http://www.korlen.com
E-mail:korlen@korlen.com

GAONENGGELE ELECTRICAL SHARES CO.,LTD.
Product Selection

KORLEN®
electrical shares

1985

Development Production Export

1000+
workers

38000+
square meters of the modern industrial zone

50+
national patents

GAONENGGELE ELECTRICAL SHARES CO.,LTD.

Established in 1985, it covers a floor area of nearly 38000 square meters and employs about 1000 employees. It is specialized in the independent research and development, manufacturing and sales of mini circuit breakers(MCB), residual current circuit breakers(RCCB), AC contactors, molded case circuit breakers (MCCB) and many other electrical safety devices.

In line with the business concept of “quality and customers come first”, we have always taken product quality as priority and established honest business, for which reason we are well recognized by all our customers. Our products are sold as far as Malaysia, Russia, Turkey, Argentina, Brazil, Pakistan, Indonesia and France. We sincerely welcome all customers to establish closer contact with us and become our good friends and partners so that we can work together for a better future!

Number of years in business

Since 1985, we have been developing and producing low voltage electrical products and exporting them globally.

Quality

All of our products are in conformity with international standards and our production line is in full compliance with the following international certificates ISO,NF,SIRIM, SEMKO,CE,CB,SNI,TSE,PCT etc.

Production Capacity

We have more than 1000 workers and 100 expert engineers who can produce one container of our products in less than 5 days.

Pricing

We offer the best price to meet the requirement of all customers depending on the quality and the number of quantity demanded.

Service

We provide satisfactory service to all stakeholders across the globe. Our frequent and reliable responds to customers are in less than 24 hours after receiving an enquiry.

Delicate Production

Standard building, spacious workshops, clean environment, meticulous production, provide a quality assurance for each piece product of production processes.

Positive upgrading creating perfect The customer is the center point, pursuing the highest quality and lowest cost are the two basic points.

We take pride in our superior quality and our products have gained international accreditations and recognition, including ISO 9001, ISO 14001, CB, CE, Semko, NF, SNI and TSE certifications.

2000+

MCB 20 million units

200+

RCCB 2 million units

1000+

Production of other low-voltage products are also more than 10 million units

Quality Control

QC/Technical Support
Accurate Testing equipment
Strict QC owing to ISO9001
Procedure /Testing Details




KORLEN®

electrical shares

Quality Management

www.korlen.com


ISO9001

QUALITY MANAGEMENT SYSTEM CERTIFICATE

Certificate No.: 20224Q2555R2M

We hereby certify that the organization:

GAONENGGELE ELECTRICAL SHARES CO., LTD.

Unified social credit code: 91330300MA2NE4B3L

is in conformity with Quality Management System Standard:

GB/T 19001-2016/ISO 9001:2015

The certificate is valid to the following products/service:

Design, production, and sales of isolation switches, circuit breakers within the scope of qualification permits, AC contactors, and motor switches (100% export) ; Sales of low-voltage electrical appliances and lighting fixtures.

Registration Address/Audit Address: No. 259, Wei Ershi Road, Yueqing Economic & Development Zone, Yueqing, Zhejiang, China

Date of Issue: 29-07-2024
Date of Expiry: 31-07-2027
Date of Initial: 01-08-2018

Issued By:

IAF CNAS

MANAGEMENT SYSTEM
CNAS C197-M

Certificate Appropriate

ZHEJIANG QUANPIN CERTIFICATION CO.,LTD.


ISO14001

ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATE

Certificate No.: 20224E2557R2M

We hereby certify that the organization:

GAONENGGELE ELECTRICAL SHARES CO., LTD.

Unified social credit code: 91330300MA2986YR5L

is in conformity with Environmental Management System Standard:

GB/T 24001-2016/ISO 14001:2015

The certificate is used in the following products/service:

Design, production, sales, and related management activities of isolation switches, circuit breakers within the scope of qualification permits, AC contactors, and motor switches (100% export) ; Sales and related management activities of low-voltage electrical appliances and lighting fixtures.

Registration Address/Audit Address: No. 259, Wei Ershi Road, Yueqing Economic & Development Zone, Yueqing, Zhejiang, China

Date of Issue: 29-07-2024
Date of Expiry: 31-07-2027
Date of Initial: 01-08-2018

Issued By:

IAF CNAS

MANAGEMENT SYSTEM
CNAS C197-M

Certificate Appropriate

ZHEJIANG QUANPIN CERTIFICATION CO.,LTD.


ISO45001

OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM CERTIFICATE

Certificate No.: 20224S2033R2M

We hereby certify that the organization:

GAONENGGELE ELECTRICAL SHARES CO., LTD.

Unified social credit code: 91330300MA299ER8L

is in conformity with Occupational Health Safety Management System Standard:

GB/T 45001-2020/ISO 45001:2018

The certificate is valid to the following products/service:

Design, production, sales, and related management activities of isolation switches, circuit breakers within the scope of qualification permits, AC contactors, and motor switches (100% export) ; Sales and related management activities of low-voltage electrical appliances and lighting fixtures

Registration Address/Audit Address: No. 259, Wei Ershi Road, Yueqing Economic & Development Zone, Yueqing, Zhejiang, China

Date of Issue: 29-07-2024
Date of Expiry: 31-07-2027
Date of Initial: 01-08-2018

Issued By:

IAF CNAS

MANAGEMENT SYSTEM
CNAS C197-M

Certificate Appropriate

ZHEJIANG QUANPIN CERTIFICATION CO.,LTD.


intertek Total Quality. Assured.

Test Verification of Conformity

Verification Number: 2405B08055SHA-V1

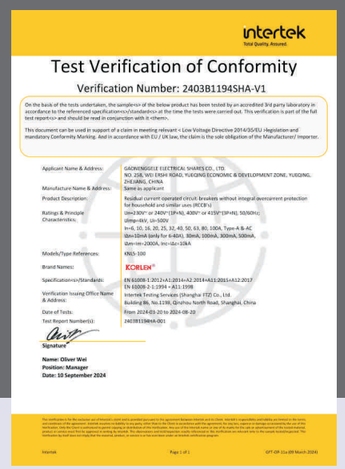
On the basis of the referenced test report(s), sample(s) tested of the below product have been found to comply with the standards harmonized with the directives listed on this verification at the time the tests were carried out. Other standards and Directives may be relevant to the product. This verification is part of the full test report(s) and should be read in conjunction with it <there>.

Once compliance with all product relevant CE mark directives are verified, including any relevant e.g. risk assessment and production control, the manufacturer may indicate compliance by signing a Declaration of Conformity themselves and applying the mark to products identical to the tested sample(s).

Applicant Name & Address:	Gaonenggele Electrical Shares Co., Ltd. No. 259, Wei Ershi Road, Yueqing Economic & Development Zone, Yueqing, Zhejiang, China
Manufacturing site Name & Address:	Gaonenggele Electrical Shares Co., Ltd. No. 259, Wei Ershi Road, Yueqing Economic & Development Zone, Yueqing, Zhejiang, China
Product Description:	Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs)
Ratings & Principle Characteristics:	Un=240V~(1P+N); 415V~(3P+N), interrupted neutral In= 16, 20, 25, 32, 40, 50, 63A IΔn= 0.01A(for In=16, 20, 25, 32, 40A, 1P+N); type A and AC, IΔn= 0.03, 0.1, 0.3, 0.5A; type A and AC, Icn=Ics=6000A, 50/60Hz
Models/Type References:	KN3-616
Brand Name:	KORLEN®
Relevant Standards/Directives:	EN 61008-1:2012+A1:2014+A2:2014+A11:2015+A12:2017 EN 61008-2-1:1994+A11:1998 Low Voltage Directive 2014/35/EU
Verification Issuing Office Name & Address:	Intertek Testing Services Shanghai Building No.86, 1198 Qinzhou Road (North), Shanghai 200233, China
Date of Tests:	2024-04-12 to 2024-06-26
Test Report Number(s):	240588055HA-001

Signature

Name: Oliver Wei
Position: Manager
Date: 03 July 2024


intertek Total Quality. Assured.

Test Verification of Conformity

Verification Number: 2403B1194SHA-V1

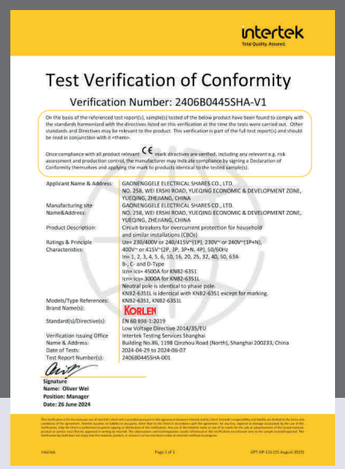
On the basis of the tests undertaken, the sample<s> of the below product has been tested by an accredited 3rd party laboratory in accordance to the referenced specifications<s/standards> at the time the tests were carried out. This verification is part of the full test report<s> and should be read in conjunction with it <there>.

This document can be used in support of a claim in meeting relevant < Low Voltage Directive 2014/35/EU >legislation and mandatory Conformity Marking. And in accordance with EU / UK law, the claim is the sole obligation of the Manufacturer/ Importer.

Applicant Name & Address:	GAONENGGELE ELECTRICAL SHARES CO., LTD. NO. 259, WEI ERSHI ROAD, YUEQING ECONOMIC & DEVELOPMENT ZONE, YUEQING, ZHEJIANG, CHINA
Manufacturer Name & Address:	Same as applicant
Product Description:	Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCB's)
Ratings & Principle Characteristics:	Ue=230V~ or 240V~(2P+N), 400V~ or 415V~(3P+N), 50/60Hz; Ue=6kV, Ui=500V ; In=6, 10, 16, 20, 25, 32, 40, 50, 63, 80, 100A, Type A & AC IΔn=10mA (only for 6-40A), 30mA, 100mA, 300mA, 500mA; Icm =In <2000A, Ics =Icu =10kA
Models/Type References:	KN3S-100
Brand Names:	KORLEN®
Specifications<s/Standards:	EN 61009-1:2012+A1:2014+A2:2014+A11:2015+A12:2017 EN 61009-2-1:1994 + A11:1998
Verification Issuing Office Name & Address:	Intertek Testing Services (Shanghai ITZ) Co., Ltd. Building B6, No.1198, Qinzhou North Road, Shanghai, China
Date of Tests:	From 2024-09-20 to 2024-09-29
Test Report Number(s):	240981194HA-001

Signature

Name: Oliver Wei
Position: Manager
Date: 10 September 2024


intertek Total Quality. Assured.

Test Verification of Conformity

Verification Number: 2406B0445SHA-V1

On the basis of the referenced test report(s), sample(s) tested of the below product have been found to comply with the standards harmonized with the directives listed on this verification at the time the tests were carried out. Other standards and Directives may be relevant to the product. This verification is part of the full test report(s) and should be read in conjunction with it <there>.

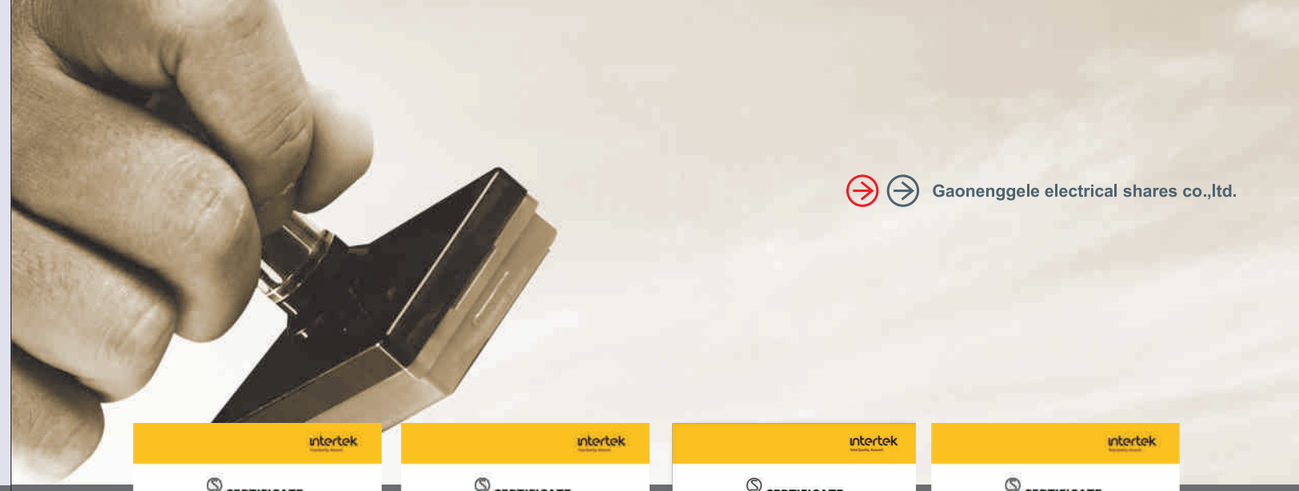
Once compliance with all product relevant CE mark directives are verified, including any relevant e.g. risk assessment and production control, the manufacturer may indicate compliance by signing a Declaration of Conformity themselves and applying the mark to products identical to the tested sample(s).

Applicant Name & Address:	GAONENGGELE ELECTRICAL SHARES CO., LTD. NO. 259, WEI ERSHI ROAD, YUEQING ECONOMIC & DEVELOPMENT ZONE, YUEQING, ZHEJIANG, CHINA
Manufacturing site Name&Address:	GAONENGGELE ELECTRICAL SHARES CO., LTD. NO. 259, WEI ERSHI ROAD, YUEQING ECONOMIC & DEVELOPMENT ZONE, YUEQING, ZHEJIANG, CHINA
Product Description:	Circuit-breakers for overcurrent protection for household and similar installations (CBOs)
Ratings & Principle Characteristics:	Ue= 230/400V or 240/415V~(1P, 2P/N or 3P+N, 4P), 50/60Hz 400V~ or 415V~(2P , 3P , 3P+N, 4P), 50/60Hz In= 1, 2, 3, 4, 5, 6, 10, 13, 16, 20, 25, 32, 40, 50, 63A B-,C- and D-type Icn=Ics= 4500A for KN82-63S1 Icn=Ics= 3000A for KN82-63S1L Neutral pole is identical to phase pole. KN82-63S1L is identical with KN82-63S1 except for marking.
Models/Type References:	KN82-63S1, KN82-63S1L
Brand Name(s):	KORLEN
Standard(s)/Directive(s):	EN 60 898-1:2019 Low Voltage Directive 2014/35/EU
Verification Issuing Office Name & Address:	Intertek Testing Services Shanghai Building No.86, 1198 Qinzhou Road (North), Shanghai 200233, China
Date of Tests:	2024-04-29 to 2024-06-07
Test Report Number(s):	240680445HA-001

Signature

Name: Oliver Wei
Position: Manager
Date: 26 June 2024

“Quality is the life of enterprise”, KORLEN staff always persist on this tenet, whole production course are controlled by ISO9001 quality assurance system, we assure that every material for product is inspected on selection, processing, production and debugging. In order that the factory percent of pass can reach 100%.



Gaonenggele electrical shares co.,ltd.


intertek

CERTIFICATE
FOR EUROPEAN PRODUCT SAFETY

Moulded Case Circuit-breakers (MCCB)


intertek

CERTIFICATE
FOR EUROPEAN PRODUCT SAFETY

Type B RCCB and Type F RCCB


intertek

CERTIFICATE
FOR EUROPEAN PRODUCT SAFETY

Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs)


intertek

CERTIFICATE
FOR EUROPEAN PRODUCT SAFETY

Low-voltage switchgear and controlgear - Part 2: Circuit-breakers


intertek

CERTIFICATE
FOR EUROPEAN PRODUCT SAFETY

Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs)


intertek

CERTIFICATE
FOR EUROPEAN PRODUCT SAFETY

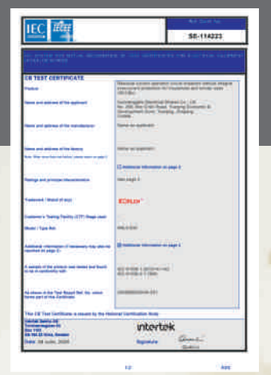
Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs)


SE-114882


SE-114886


SE-114103


SE-112971


SE-114223


FR_719940

PROFESSIONAL DEDICATED
GAONENGGELE ELECTRICAL

KORLEN®
electrical shares

Product Catalog

KORLEN®
electrical shares

KNB□-32

MINIATURE CIRCUIT BREAKER

1. Model and meaning

KN B □ - 32

- Rated current of frame
- 1 means 3000A, 2 means 4500A, 6 means 6000A
- Mini circuit breaker
- Enterprise code

2. Application

KNB□-32 series Miniature Circuit Breaker is nice in appearance, reasonable in structure, sound in feature and high in breaking capacity. Installed with standard din rail, it is convenient and easy in usage. It is mainly used in the line of AC 50/60Hz, rated working voltage to 240V, and rated currentto 32A as protection against overload and short-circuit. It can be used as infrequent on-and-off operation and changeover.

It complies with standard of IEC/EN60898-1.

MCB
intertek CE CB RoHS ISO9001

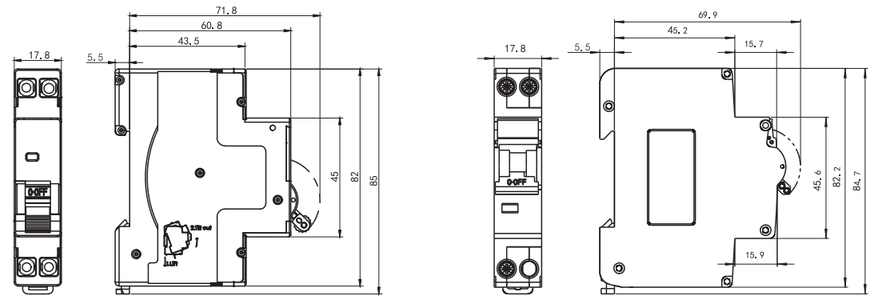
3. Basic specification and main parameters

Frame class	40A
Rated working voltage	240V
Rated frequency	50/60Hz
Rated working current	1,2,3,4,5,6,10,16,20,25,32,40A
Making and breaking capacity	3000/4500/6000A
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/In	Start state	Tripping time	Expected result
1	C	1.13In	Cold state	t≤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≤0.1s	Not tripping
5	C	10In	Cold state	t<0.1s	Tripping

5. Dimensions(mm)



KORLEN®
electrical shares

KNB1-63

MINIATURE CIRCUIT BREAKER

1. Model and meaning

KN B 1 - 63

- 63 — Rated current of frame
- 1 — Desige Code
- B — Mini circuit breaker
- KN — Enterprise code

2. Application

KNB1-63 series Miniature Circuit Breaker is nice in appearance, reasonable in structure, sound in feature and high in breaking capacity. Installed with standard din rail, it is convenient and easy in usage. It is mainly used in the line of AC 50/60Hz, rated working voltage to 240V/415V, and rated current to 63A as protection against overload and short-circuit. It can be used as infrequent on-and-off operation and changeover.

It complies with standard of IEC/EN60898-1 and IEC/EN60947-2.

MCB
intertek CE CB RoHS ISO9001

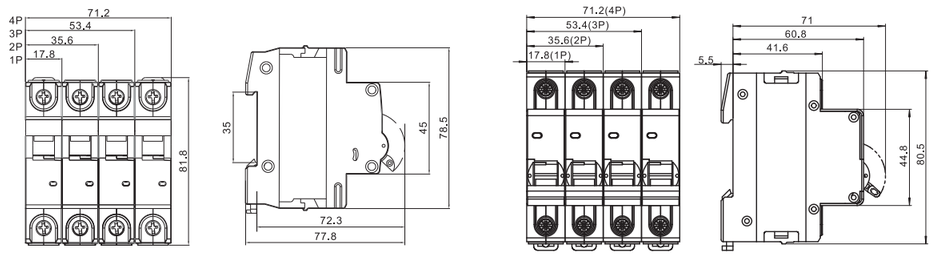
3. Basic specification and main parameters

Frame class	63A
Rated working voltage	240V/415V
Rated frequency	50/60Hz
Rated working current	1,2,3,4,5,6,10,16,20,25,32,40,50,63A
Making and breaking capacity	6000A(6~40A), 4500A(50, 63A)
Release type	B, C, D
Poles	1, 2, 3, 4P
Mechanical life	20000
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	B、C、D	1.13In	Cold state	t≤1h	Not tripping
2	B、C、D	1.45In	Start right after the serial NO. 1 test	t<1h	Tripping
3	B、C、D	2.55In	Cold state	1s<t<60s(In≤32A) 1s<t<120s(In>32A)	Tripping
4	B C D	3In 5In 10In	Cold state	t≤0.1s	Not tripping
5	B C D	5In 10In 20In	Cold state	t<0.1s	Tripping

5. Dimensions(mm)



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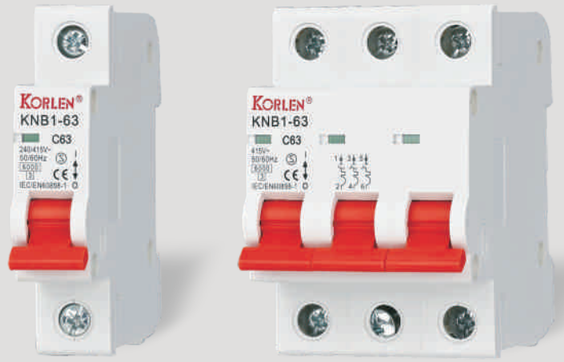
electrical shares



KNB1-63

MINIATURE CIRCUIT BREAKER

1. Model and meaning

KN B 1 - 63

- 63 — Rated current of frame
- 1 — Design code
- B — Mini circuit breaker
- KN — Enterprise code

2. Application

KNB1-63 series Miniature Circuit Breaker is nice in appearance, reasonable in structure, sound in feature and high in breaking capacity. Installed with standard din rail, it is convenient and easy in usage. It is mainly used in the line of AC 50/60Hz, rated working voltage to 240V/415V, and rated current to 63A as protection against overload and short-circuit. It can be used as infrequent on-and-off operation and changeover.

It complies with standard of IEC/EN60898-1 and IEC/EN60947-2.

MCB
intertek CE CB RoHS ISO9001

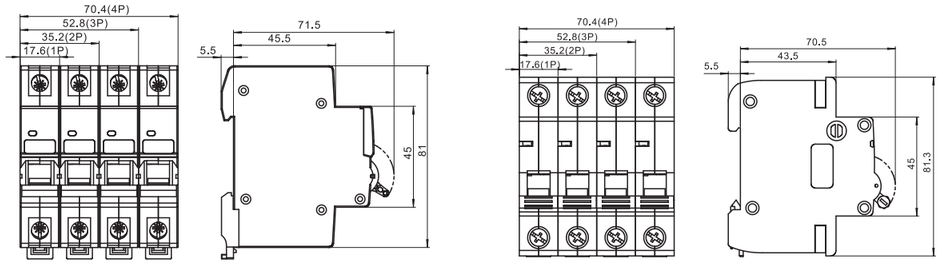
3. Basic specification and main parameters

Frame class	63A
Rated working voltage	240V/415V
Rated frequency	50/60Hz
Rated working current	1,2,3,4,5,6,10,16,20,25,32,40,50,63A
Making and breaking capacity	6000A(6~40A), 4500A(50, 63A)
Release type	B, C, D
Poles	1, 2, 3, 4P
Mechanical life	20000
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	B、C、D	1.13In	Cold state	t≤1h	Not tripping
2	B、C、D	1.45In	Start right after the serial NO. 1 test	t<1h	Tripping
3	B、C、D	2.55In	Cold state	1s<t<60s(In≤32A) 1s<t<120s(In>32A)	Tripping
4	B C D	3In 5In 10In	Cold state	t≤0.1s	Not tripping
5	B C D	5In 10In 20In	Cold state	t<0.1s	Tripping

5. Dimensions(mm)



KORLEN®
electrical shares

KNB□-125

MINIATURE CIRCUIT BREAKER

1. Model and meaning

KN B □ - 125

- 125 — Rated current of frame
- □ — Design code
- B — Mini circuit breaker
- KN — Enterprise code

2. Application

KNB□ -125 series Miniature Circuit Breaker is nice in appearance, reasonable in structure, sound in feature and high in breaking capacity. Installed with standard din rail, it is convenient and easy in usage. It is mainly used in the line of AC 50/60Hz, rated working voltage to 240V/415V, and rated current to 125A as protection against overload and short-circuit. It can be used as infrequent on-and-off operation and changeover.

It complies with standard of IEC60898-1 and IEC60947-2.

MCB

intertek CE CB RoHS ISO9001

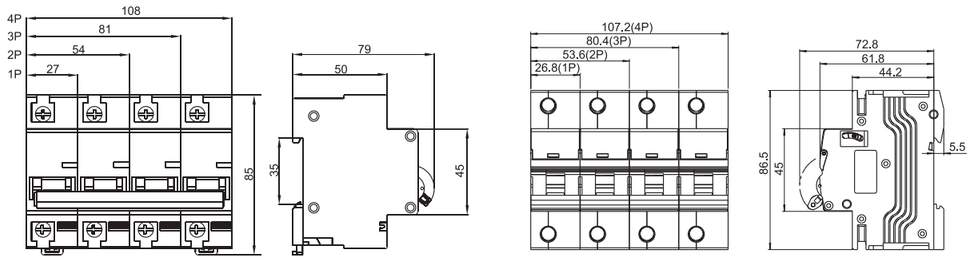
3. Basic specification and main parameters

Frame class	125A
Rated working voltage	240V/415V
Rated frequency	50/60Hz
Rated working current	63, 80, 100, 125
Making and breaking capacity	10KA(63,80,100A), 6KA(125A)
Release type	B, C, D
Poles	1, 2, 3, 4P
Mechanical life	20000
Electric life	2000

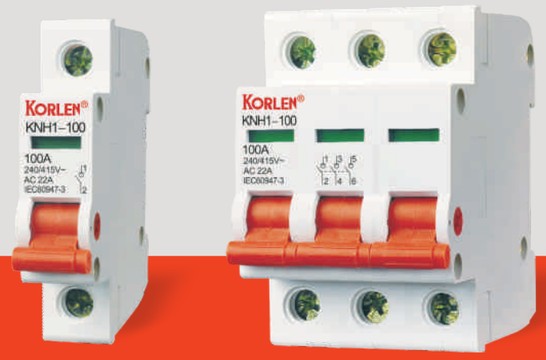
4. The over-current tripping unit protection feature

Sequence NO.	Release	Test current I/In		Start state	Tripping time		Expected result
	IEC60898-1	IEC60898-1	IEC60947-2		IEC60898-1	IEC60947-2	
1	C、D	1.13In	1.05In	Cold state	t≤1h(In≤63A) t≤2h(In>63A)	t≤1h(In≤63A) t≤2h(In>63A)	Not tripping
2	C、D	1.45In	1.3In	Start right after the serial NO.1 test	t<1h(In≤63A) t<2h(In>63A)	t<1h(In≤63A) t<2h(In>63A)	Tripping
3	C、D	2.55In		Cold state	1s<t<60s (In≤32A) 1s<t<120s (In>32A)		Tripping
4	C D	5In 10In	8In	Cold state	t≤0.1s	t≤0.2s	Not tripping
5	C D	10In 20In	12In	Cold state	t<0.1s	t<0.2s	Tripping

5. Dimensions(mm)



KORLEN®
electrical shares



KNH1-100

ISOLATING SWITCH

1. Model and meaning

KN H 1 -100

- Rated current of frame
- Design code
- Isolating switch
- Enterprise code

2. Application

KNH1-100 series isolating switch is suitable for AC 50/60Hz, rated current up to 100A, rated voltage to 415V power distribution and control circuit, mainly used as the main switch in the terminal combination, can also be used to infrequently control various types of low power Electrical appliances and lighting are widely used in industrial and mining enterprises, high-rise buildings, businesses and homes.

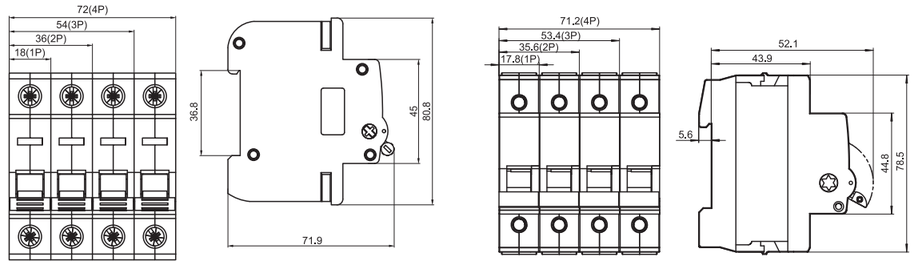
ISOLATOR

intertek CE CB RoHS ISO9001

3. Technical data

	Standard		IEC/EN 60947-3
Electrical features	Rated voltage	V	240/415
	Ue Rated current	A	32, 40, 63, 80, 100
	Ie Rated	Hz	50/60
	Rated impulse withstand voltage	V	4,000
	Rated short-time withstand current Icw		12Ie, 1s
	Rated making and breaking capacity		3Ie, 1.05Ue, cosΦ=0.65
	Rated short circuit making capacity		20Ie, t=0.1s
	Dielectric test voltage at ind. Freq. for 5s	kV	1.89
	Insulation voltage Ui	V	500
	Pollution degree		2
	Ulization category		AC-22A
Mechanical features	Electrical life		2000
	Mechanical life		10000
	Protection degree		IP20
	Ambient temperature (with daily average≤35℃	℃	-5...+40
	Storage temperature	℃	-25...+70
Installation	erminal size top/bottom for cable	mm^2	50
		AWG	18-1/0
	Terminal size top/bottom for busbar	mm^2	35
		AWG	18-2
	Tightening torque	N • m	2.5
		In-lbs	22
	Connection		From top and bottom

4. Dimensions(mm)



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electrical shares

KNH□-100

ISOLATING SWITCH

1. Model and meaning

KN H □ - 100

- Rated current of frame
- Design code
- Isolating switch
- Enterprise code

2. Application

KNH□-100 series isolating switch is suitable for AC 50/60Hz, rated current up to 100A, rated voltage to 415V power distribution and control circuit, mainly used as the main switch in the terminal combination, can also be used to infrequently control various types of low power Electrical appliances and lighting are widely used in industrial and mining enterprises, high-rise buildings, businesses and homes.

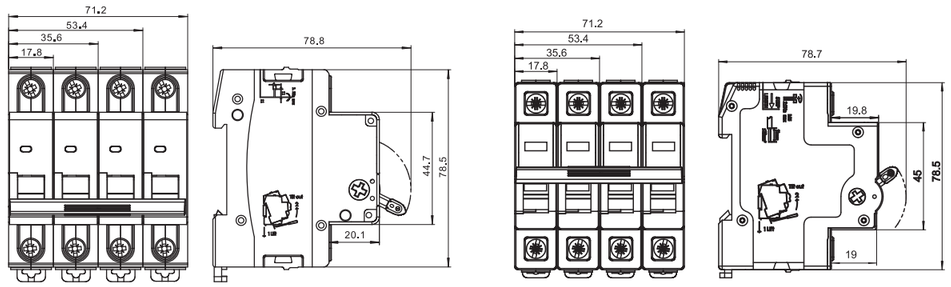
ISOLATOR

intertek CE CB RoHS ISO9001

3. Technical data

	Standard		IEC/EN 60947-3
Electrical features	Rated voltage	V	240/415
	Ue Rated current	A	32, 40, 63, 80, 100
	Ie Rated	Hz	50/60
	Rated impulse withstand voltage	V	4,000
	Rated short-time withstand current Icw		12Ie, 1s
	Rated making and breaking capacity		3Ie, 1.05Ue, cosΦ=0.65
	Rated short circuit making capacity		20Ie, t=0.1s
	Dielectric test voltage at ind. Freq. for 5s	kV	1.89
	Insulation voltage Ui	V	500
	Pollution degree		2
	Ulization category		AC-22A
Mechanical features	Electrical life		2000
	Mechanical life		10000
	Protection degree		IP20
	Ambient temperature (with daily average≤35℃	℃	-5...+40
	Storage temperature	℃	-25...+70
Installation	erminal size top/bottom for cable	mm^2	50
		AWG	18-1/0
	Terminal size top/bottom for busbar	mm^2	35
		AWG	18-2
	Tightening torque	N • m	2.5
		In-lbs	22
	Connection		From top and bottom

4. Dimensions(mm)



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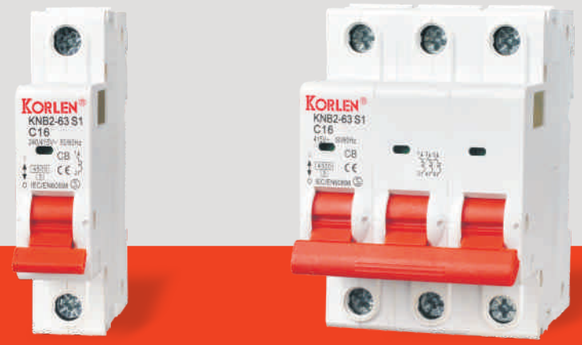


KNB2-63S1

MINIATURE CIRCUIT BREAKER

1. Model and meaning

KN B 2 - 63 S1

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

OF SD MX MN+MV

2. Application

KNB2-63 series Miniature Circuit Breaker is nice in appearance, reasonable in structure, sound in feature and high in breaking capacity. Installed with standard din rail, it is convenient and easy in usage. It is mainly used in the line of AC 50/60Hz, rated working voltage to 240V/415V, and rated current to 63A as protection against overload and short-circuit. It can be used as infrequent on-and-off operation and changeover.

It complies with standard of IEC/EN60898-1 and IEC/EN60947-2.

MCB
intertek CE CB RoHS ISO9001

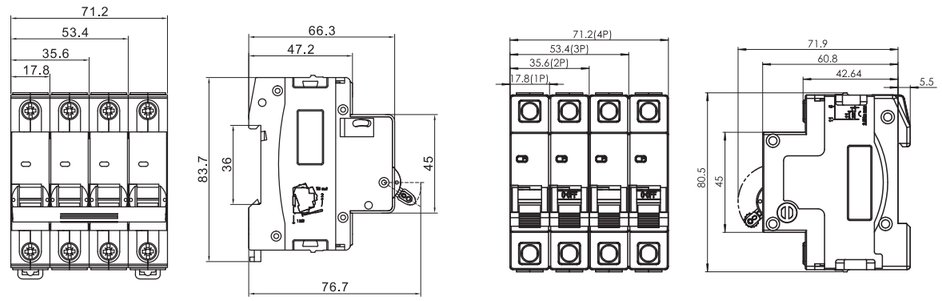
3. Basic specification and main parameters

Frame class	63A
Rated working voltage	240V/415V
Rated frequency	50/60Hz
Rated working current	1,2,3,4,5,6,10,16,20,25,32,40,50,63A
Making and breaking capacity	4500A
Release type	B, C, D
Poles	1, 2, 3, 4P
Mechanical life	20000
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	B、C、D	1.13In	Cold state	t≤1h	Not tripping
2	B、C、D	1.45In	Start right after the serial NO. 1 test	t<1h	Tripping
3	B、C、D	2.55In	Cold state	1s<t<60s (In≤32A) 1s<t<120s(In>32A)	Tripping
4	B C D	3In 5In 10In	Cold state	t≤0.1s	Not tripping
5	B C D	5In 10In 20In	Cold state	t<0.1s	Tripping

5. Dimensions(mm)



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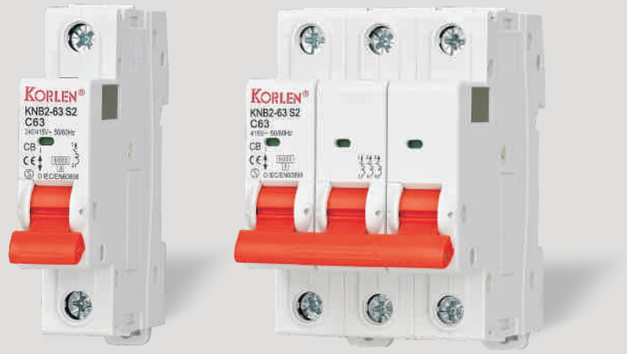


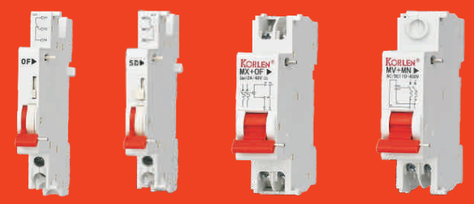
KNB2-63S2

MINIATURE CIRCUIT BREAKER

1. Model and meaning

KN B 2 - 63 S2

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



2. Application

KNB2-63 series Miniature Circuit Breaker is nice in appearance, reasonable in structure, sound in feature and high in breaking capacity. Installed with standard din rail, it is convenient and easy in usage. It is mainly used in the line of AC 50/60Hz, rated working voltage to 240V/415V, and rated current to 63A as protection against overload and short-circuit. It can be used as infrequent on-and-off operation and changeover.

It complies with standard of IEC/EN60898-1 and IEC/EN60947-2.

MCB

intertek CE CB RoHS ISO9001

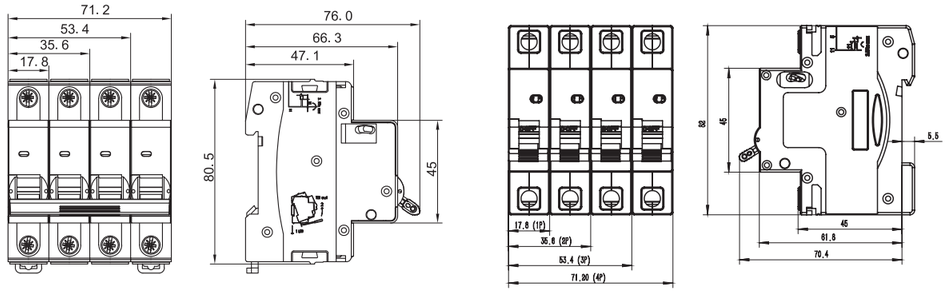
3. Basic specification and main parameters

Frame class	63A
Rated working voltage	240/415V
Rated frequency	50/60Hz
Rated working current	1,2,3,4,5,6,10,16,20,25,32,40,50,63A
Making and breaking capacity	6000A
Release type	B, C, D
Poles	1, 2, 3, 4P
Mechanical life	10000
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	B、C、D	1.13In	Cold state	t≤1h	Not tripping
2	B、C、D	1.45In	Start right after the serial NO. 1 test	t<1h	Tripping
3	B、C、D	2.55In	Cold state	1s<t<60s(In≤32A) 1s<t<120s(In>32A)	Tripping
4	B C D	3In 5In 10In	Cold state	t≤0.1s	Not tripping
5	B C D	5In 10In 20In	Cold state	t<0.1s	Tripping

5. Dimensions(mm)



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Patent Protected

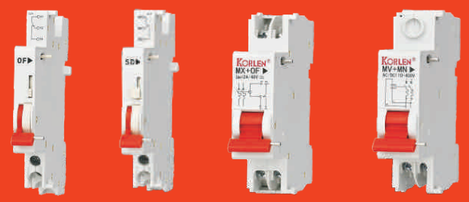
Indication
- OFF closed
- ON power
- Fault trip

KNB2-63S2

MINIATURE CIRCUIT BREAKER

1. Model and meaning

KN B 2 - 63 S2
- Rated current of frame
- Design code
- Mini circuit breaker
- Enterprise code



OF SD MX MN+MV

2. Application

KNB2-63 series Miniature Circuit Breaker is nice in appearance, reasonable in structure, sound in feature and high in breaking capacity. Installed with standard din rail, it is convenient and easy in usage. It is mainly used in the line of AC 50/60Hz, rated working voltage to 240V/415V, and rated current to 63A as protection against overload and short-circuit. It can be used as infrequent on-and-off operation and changeover.

It complies with standard of IEC/EN60898-1 and IEC/EN60947-2.

MCB
intertek CE CB RoHS ISO9001

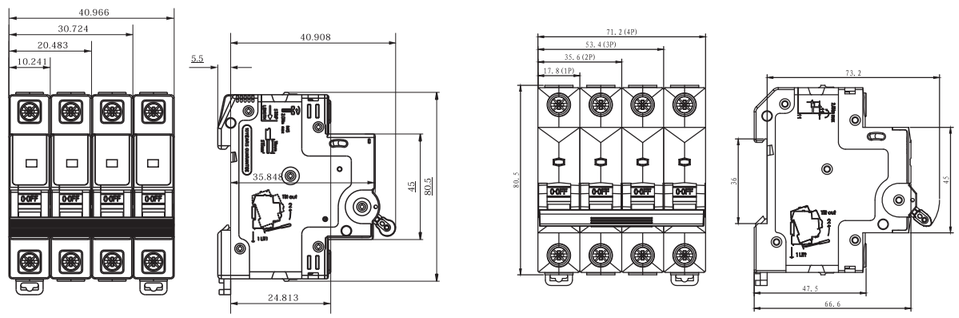
3. Basic specification and main parameters

Frame class	63A
Rated working voltage	240/415V
Rated frequency	50/60Hz
Rated working current	1,2,3,4,5,6,10,16,20,25,32,40,50,63A
Making and breaking capacity	6000A
Release type	B, C, D
Poles	1, 2, 3, 4P
Mechanical life	10000
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	B、C、D	1.13In	Cold state	t≤1h	Not tripping
2	B、C、D	1.45In	Start right after the serial NO. 1 test	t<1h	Tripping
3	B、C、D	2.55In	Cold state	1s<t<60s（In≤32A） 1s<t<120s(In>32A)	Tripping
4	B C D	3In 5In 10In	Cold state	t≤0.1s	Not tripping
5	B C D	5In 10In 20In	Cold state	t<0.1s	Tripping

5. Dimensions(mm)



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KNB2-63S3

MINIATURE CIRCUIT BREAKER

1. Model and meaning

KN B 2 - 63 S3

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

OF SD MX MN+MV

2. Application

KNB2-63 series Miniature Circuit Breaker is nice in appearance, reasonable in structure, sound in feature and high in breaking capacity. Installed with standard din rail, it is convenient and easy in usage. It is mainly used in the line of AC 50/60Hz, rated working voltage to 240V, and rated current to 63A as protection against overload and short-circuit. It can be used as infrequent on-and-off operation and changeover.

It complies with standard of IEC/EN60898-1 and IEC/EN60947-2.

MCB
intertek CE CB RoHS ISO9001

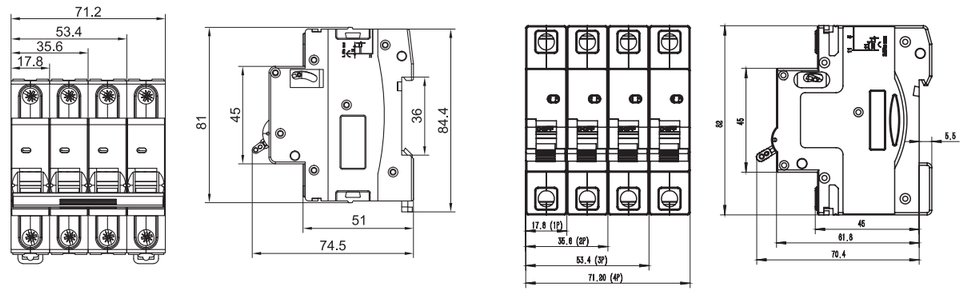
3. Basic specification and main parameters

Frame class	63A
Rated working voltage	240/415V
Rated frequency	50/60Hz
Rated working current	1,2,3,4,5,6,10,16,20,25,32,40,50,63A
Making and breaking capacity	10000A
Release type	B, C, D
Poles	1, 2, 3, 4P
Mechanical life	10000
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	B、C、D	1.13In	Cold state	t≤1h	Not tripping
2	B、C、D	1.45In	Start right after the serial NO. 1 test	t<1h	Tripping
3	B、C、D	2.55In	Cold state	1s<t<60s (In≤32A) 1s<t<120s(In>32A)	Tripping
4	B C D	3In 5In 10In	Cold state	t≤0.1s	Not tripping
5	B C D	5In 10In 20In	Cold state	t<0.1s	Tripping

5. Dimensions(mm)



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High performance MCB 15KA

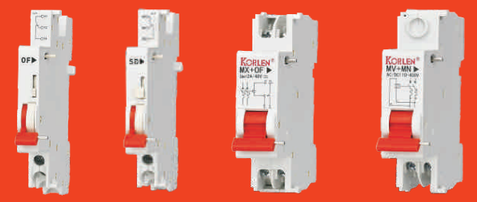
KNB2-63S6

MINIATURE CIRCUIT BREAKER

1. Model and meaning

KN B 2 - 63 S6

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



OF SD MX MN+MV

2. Application

KNB2-63 series Miniature Circuit Breaker is nice in appearance, reasonable in structure, sound in feature and high in breaking capacity. Installed with standard din rail, it is convenient and easy in usage. It is mainly used in the line of AC 50/60Hz, rated working voltage to 240V, and rated current to 63A as protection against overload and short-circuit. It can be used as infrequent on-and-off operation and changeover.

It complies with standard of IEC/EN60898-1 and IEC/EN60947-2.

MCB

intertek CE CB RoHS ISO9001

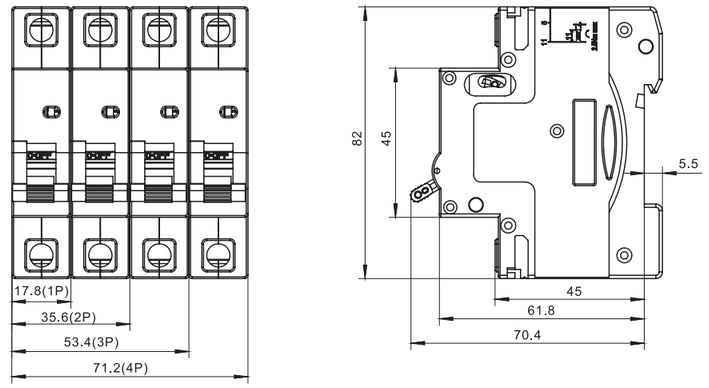
3. Basic specification and main parameters

Frame class	63A
Rated working voltage	240/415V
Rated frequency	50/60Hz
Rated working current	1,2,3,4,5,6,10,16,20,25,32,40,50,63A
Making and breaking capacity	15000A
Release type	B, C, D
Poles	1, 2, 3, 4P
Mechanical life	10000
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	B、C、D	1.13In	Cold state	t≤1h	Not tripping
2	B、C、D	1.45In	Start right after the serial NO. 1 test	t<1h	Tripping
3	B、C、D	2.55In	Cold state	1s<t<60s(In≤32A) 1s<t<120s(In>32A)	Tripping
4	B C D	3In 5In 10In	Cold state	t≤0.1s	Not tripping
5	B C D	5In 10In 20In	Cold state	t<0.1s	Tripping

5. Dimensions(mm)



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KNB2-63DC

MINIATURE CIRCUIT BREAKER

1. Model and meaning

KN B 2 - 63 DC

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

2. Application

KNB2-63 DC circuit-breakers are used in communication systems and PV DC systems.KNB2-63 series Miniature Circuit Breaker is nice in appearance, reasonable in structure, sound in feature and high in breaking capacity.Installed with standard din rail, it is convenient and easy in usage. It is rated working voltage to 250/500/1000V, and rated current to 63A as protection against short-circuit. It can be used as infrequent on-and-off operation and changeover.

It complies with standard of IEC/EN60947-2 .

MCB

intertek CE CB RoHS ISO9001

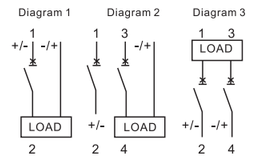
3. Basic specification and main parameters

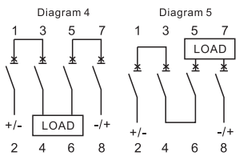
Frame class	63A
Rated working voltage	250/500/1000V
Rated working current	1, 2, 3, 4, 6, 10, 13, 16, 20, 25, 32, 40, 50, 63A
Making and breaking capacity	6000A
Poles	1, 2, 4P
Mechanical life	20000
Electric life	1500

4. The over-current tripping unit protection feature

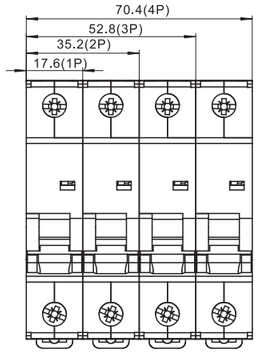
Sequence	Test current I/In	Start state	Tripping time	Expected result
1	1.05In	Cold state	t≤1h	Not tripping
2	1.3In	Start right after NO. 1 test	t<1h	Tripping
3	8In	Cold state	t<0.1s	Not tripping
4	12In	Cold state	t<0.1s	Tripping

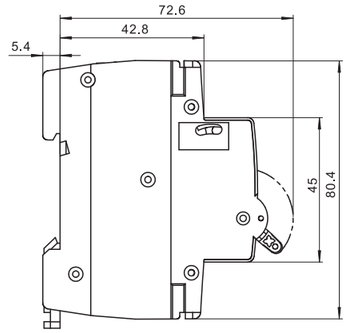
5. Operation principle





6. Dimensions(mm)





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KNB2-63S6Z

MINIATURE CIRCUIT BREAKER

1. Model and meaning

KN B 2 - 63 S6Z

- 63 — Rated current of frame
- 2 — Design code
- B — Mini circuit breaker
- KN — Enterprise code

2. Application

KNB2-63 S6Z circuit-breakers are used in communication systems and PV DC systems.KNB2-63 series Miniature Circuit Breaker is nice in appearance, reasonable in structure, sound in feature and high in breaking capacity.Installed with standard din rail, it is convenient and easy in usage. It is rated working voltage to 250/500/1000V, and rated current to 63A as protection against short-circuit. It can be used as infrequent on-and-off operation and changeover.

It complies with standard of IEC/EN60947-2 .

MCB
intertek CE CB RoHS ISO9001

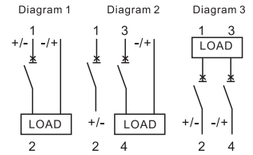
3. Basic specification and main parameters

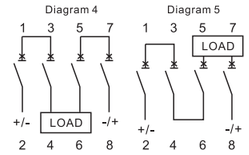
Frame class	63A
Rated working voltage	250/500/1000V
Rated working current	1, 2, 3, 4, 6, 10, 13, 16, 20, 25, 32, 40, 50, 63A
Making and breaking capacity	15000A
Poles	1, 2, 4P
Mechanical life	20000
Electric life	1500

4. The over-current tripping unit protection feature

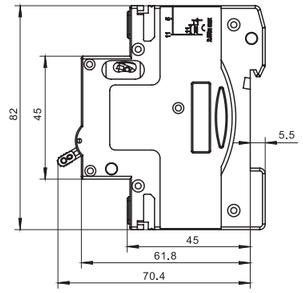
Sequence	Test current I/In	Start state	Tripping time	Expected result
1	1.05In	Cold state	t≤1h	Not tripping
2	1.3In	Start right after NO．1 test	t<1h	Tripping
3	8In	Cold state	t≤0.1s	Not tripping
4	12In	Cold state	t<0.1s	Tripping

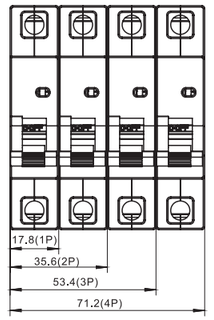
5. Operation principle





6. Dimensions(mm)





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KNB6-63

HIGH-BREAKING MINIATURE CIRCUIT BREAKER

1. Model and meaning

KN B 6 - 63

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

2. Application

KNB6-63 High-breaking Miniature Circuit Breaker is nice in appearance, reasonable in structure, sound in feature and high in breaking capacity. Installed with standard din rail, it is convenient and easy in usage. It is mainly used in the line of AC 50/60Hz, rated working voltage to 415V, and rated current to 63A as protection against overload and short-circuit. It can be used as infrequent on-and-off operation and changeover.

It complies with standard of IEC/EN60898-1 and IEC/EN60947-2.

MCB
intertek CE CB RoHS ISO9001

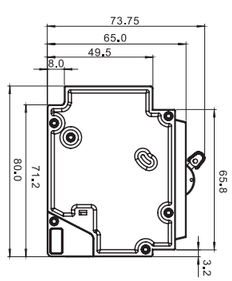
3. Basic specification and main parameters

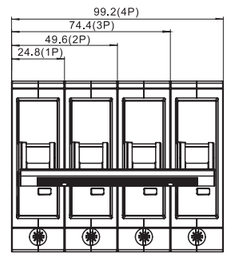
Frame class	63A
Rated working voltage	240/415V
Rated frequency	50/60Hz
Rated working current	6, 10, 16, 20, 25, 32, 40, 50, 63A
Making and breaking capacity	10000A
Release type	B, C, D
Poles	1, 2, 3, 4P
Mechanical life	10000
Electric life	4000

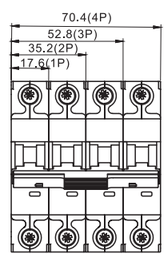
4. The over-current tripping unit protection feature

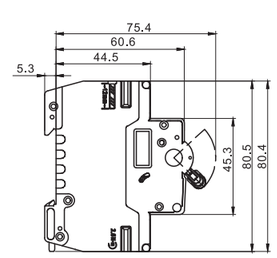
Sequence NO.	Release	Test current I/In	Start state	Tripping time	Expected result
1	B、C、D	1.13In	Cold state	t≤1h	Not tripping
2	B、C、D	1.45In	Start right after the serial NO. 1 test	t<1h	Tripping
3	B、C、D	2.55In	Cold state	1s<t<60s(In≤32A) 1s<t<120s(In>32A)	Tripping
4	B C D	3In 5In 10In	Cold state	t≤0.1s	Not tripping
5	B C D	5In 10In 20In	Cold state	t<0.1s	Tripping

5. Dimensions(mm)









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KNL1-63

RESIDUAL CURRENT CIRCUIT BREAKER

1. Model and meaning

KN L 1 - 63

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

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.

RCCB

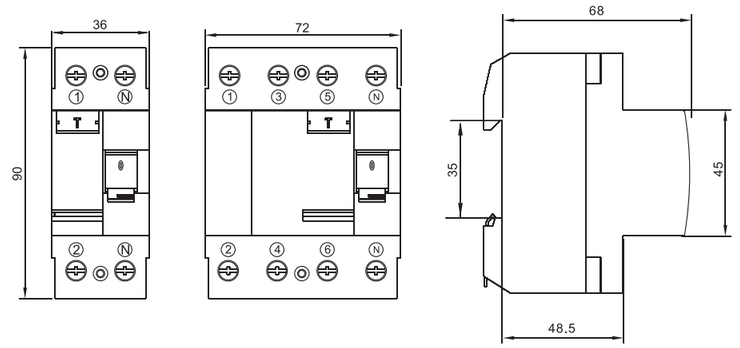
3. Basic specification and main parameters

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△n t≤0.3s , 5I△n t≤0.04s
Rated making and breaking capacity	In≤50A 500A,In=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)



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KNL1-100

RESIDUAL CURRENT CIRCUIT BREAKER

1. Model and meaning

KN L 1 -100

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

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.

RCCB

intertek CE CB RoHS ISO9001

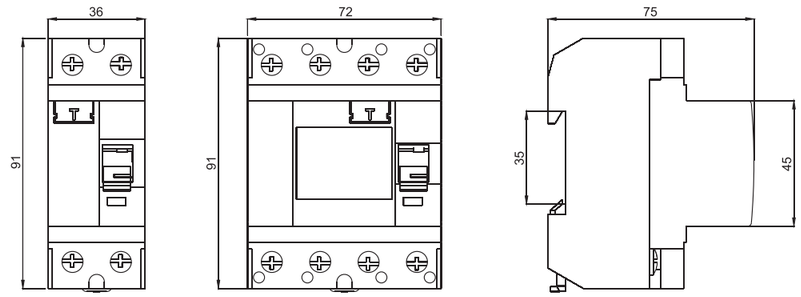
3. Basic specification and main parameters

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△n t≤0.3s , 5I△n t≤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)



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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.

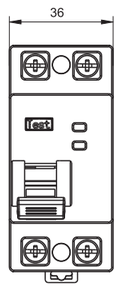
RCCB

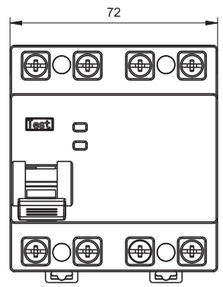
intertek CE CB RoHS ISO9001

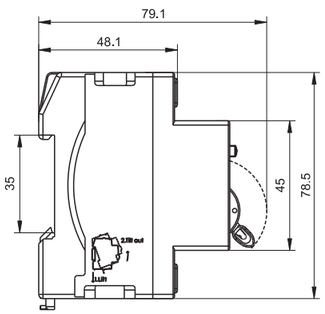
3. Basic specification and main parameters

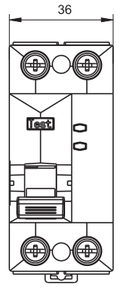
Frame class	63A
Rated working voltage	240/415V
Rated frequency	50/60Hz
Rated working current	16, 20, 25, 32, 40, 50, 63A
Rated residual operating current	0.03,0.1,0.3,0.5A
Rated residual un-operating current	0.015,0.05,0.15,0.25A
Sensibility	Type AC, Type A, Type F, Type S, Type B
Maximum operating time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

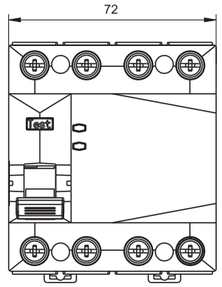
4. Dimensions(mm)

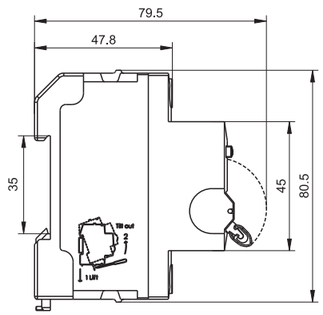












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KNL5-63/63H

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.

RCCB
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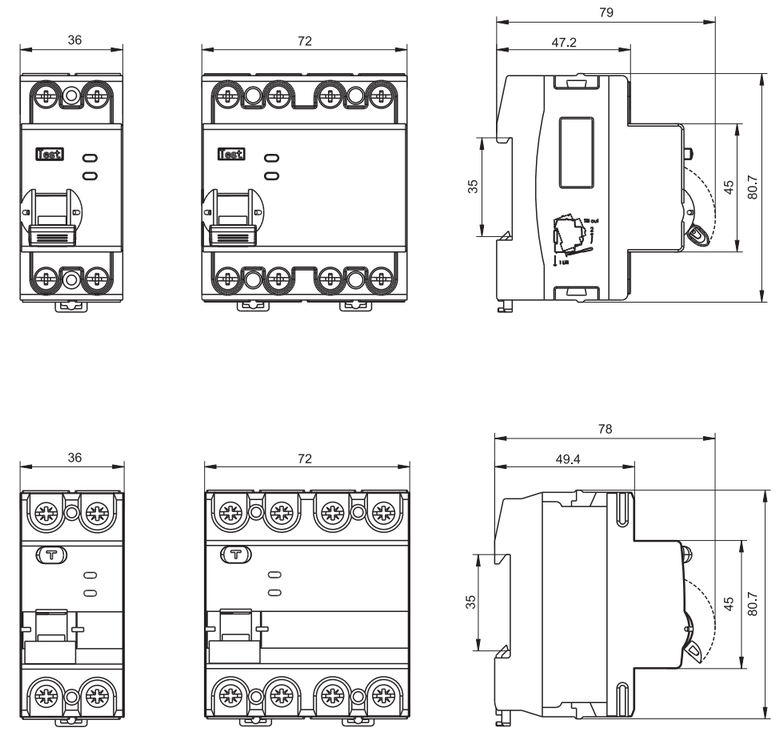
3. Basic specification and main parameters

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△n t⩽0.3s , 5I△n t⩽0.04s
Rated making and breaking capacity	In⩽50A 500A, In=63A 630A
Rated limiting short-circuit current	6000A/10000A
Pole number	2, 4P
Mechanical life	10000
Electric life	4000

4. Dimensions(mm)



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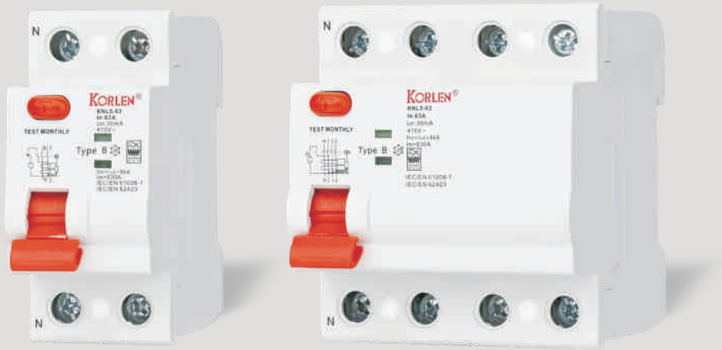


KNL5-63/63H

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.

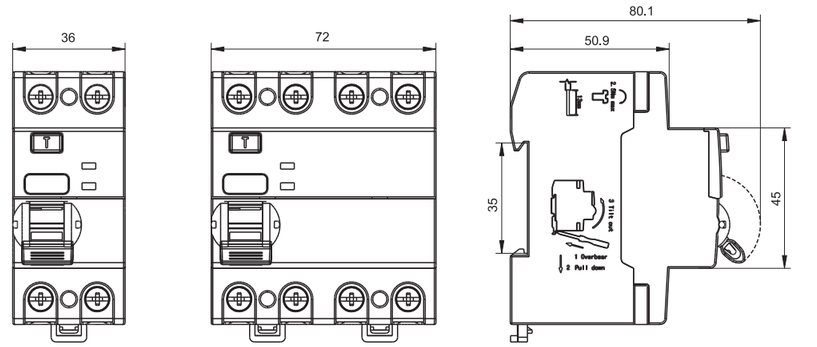
RCCB

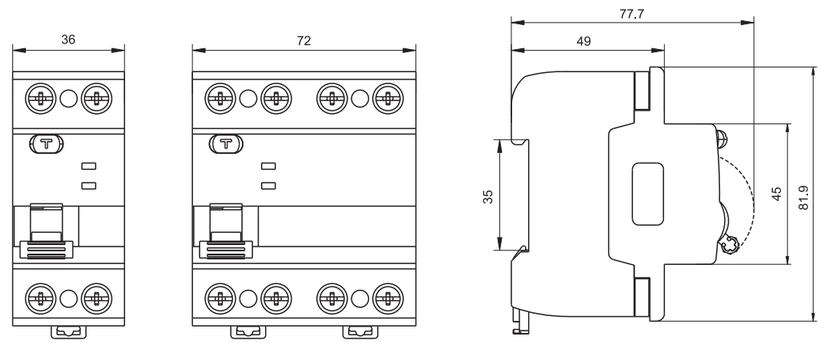
intertek CE CB RoHS ISO9001

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△n t⩽0.3s , 5I△n t⩽0.04s
Rated making and breaking capacity	In⩽50A 500A, In=63A 630A
Rated limiting short-circuit current	6000A/10000A
Pole number	2, 4P
Mechanical life	10000
Electric life	4000

4. Dimensions(mm)





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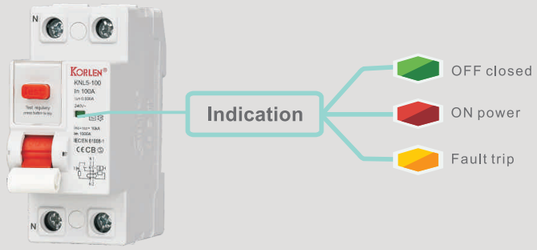
KNL5-100

RESIDUAL CURRENT CIRCUIT BREAKER

1. Model and meaning

KN L 5 - 100

- 100 — Rated current of frame
- 5 — Design code
- L — Residual current circuit breaker
- KN — 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.

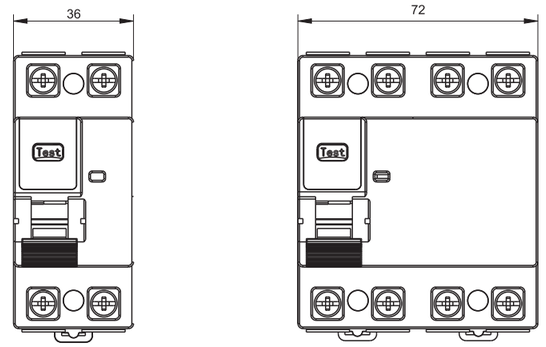
It complies with standard of IEC/EN61008-1 and GB16916.1.

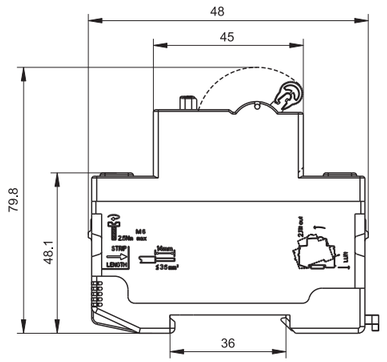
RCCB

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△n t≤0.3s , 5I△n t≤0.04s
Rated making and breaking capacity	In≤50A , 500A In≤63A , 630A In≤100A , 1000A
Rated limiting short-circuit current	10000A
Pole number	2, 4P
Mechanical life	10000
Electric life	4000

4. Dimensions(mm)





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Patent Protected

KNL5-125

RESIDUAL CURRENT CIRCUIT BREAKER

1. Model and meaning

KN L 5 - 125

- 125 — Rated current of frame
- 5 — Design code
- L — Residual current circuit breaker
- KN — 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 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.

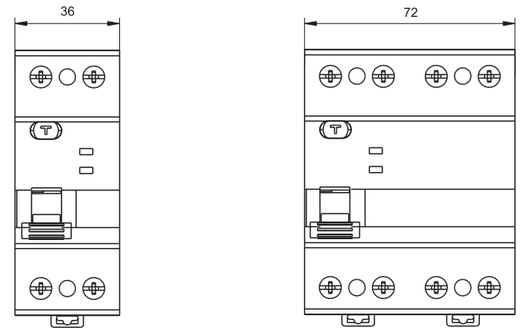
It complies with standard of IEC/EN61008-1/62423 and GB16916.1/22794.

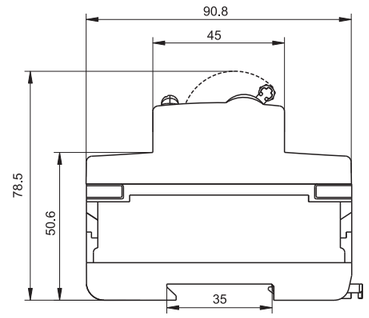
RCCB
intertek CE CB RoHS ISO9001

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,.4$I_{\Delta n}^{a}$,6$I_{\Delta n}^{a}$,14$I_{\Delta n}^{a,b}$
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△n t⩽0.3s , 5I△n t⩽0.04s
Rated making and breaking capacity	63A<In⩽125A , 1250A
Rated limiting short-circuit current	10000A
Pole number	2, 4P
Mechanical life	10000
Electric life	4000

4. Dimensions(mm)





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KNBL1-32

RCBO

1. Model and meaning

KN BL 1 - 32

- 32 — Rated current of frame
- 1 — Design code
- BL — Leakage breaker with protection function against overload and short-circuit
- KN — Enterprise code

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 as well as infrequent changeover of the line in normal situation. It complies with standard of IEC/EN61009-1 and GB16917.1.

RCBO
intertek CE CB RoHS ISO9001

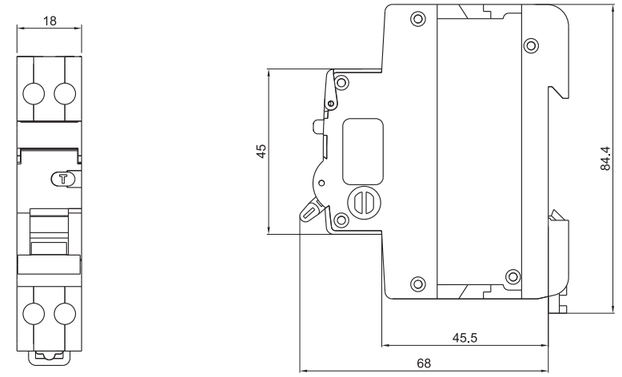
3. Basic specification and main parameters

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△n t≤0.3s , 5I△n t≤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/In	Start state	Tripping time	Expected result
1	C	1.13In	Cold state	t≤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≤0.1s	Not tripping
5	C	10In	Cold state	t<0.1s	Tripping

5. Dimensions(mm)



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KNLE1-63

RCBO

1. Model and meaning

KN LE 1 - 63

- 63 — Rated current of frame
- 1 — Design code
- LE — Leakage breaker with protection function against overload and short-circuit
- KN — Enterprise code

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 as well as infrequent changeover of the line in normal situation. It complies with standard of IEC/EN61009-1 and GB16917.1.

RCBO

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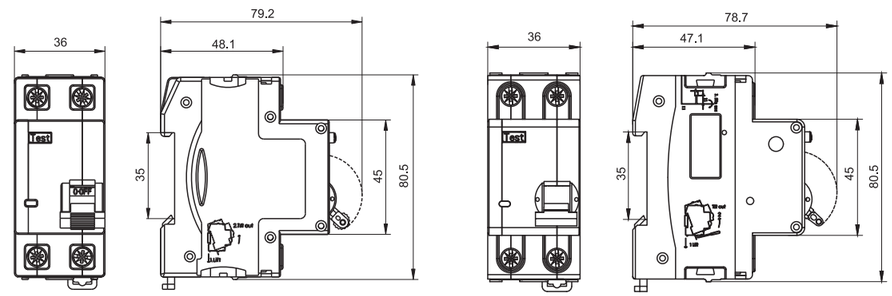
3. Basic specification and main parameters

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△n t≤0.3s , 5I△n t≤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/In	Start state	Tripping time	Expected result
1	C	1.13In	Cold state	t≤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≤0.1s	Not tripping
5	C	10In	Cold state	t<0.1s	Tripping

5. Dimensions(mm)



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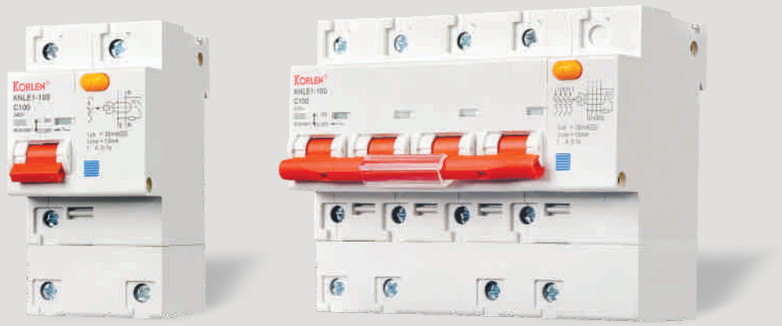


KNLE1-63P/100P

SERIES LEAKAGE CIRCUIT BREAKER

1. Model and meaning

KN LE 1 - 63P/100P

- 1 — Rated current of frame
- LE — Design code
- KN — Leakage breaker with protection function against overload and short-circuit
- Enterprise code

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 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 as well as infrequent changeover of the line in normal situation. It complies with standard of IEC/EN61009-1 and GB16917.1.

RCBO

intertek CE CB RoHS ISO9001

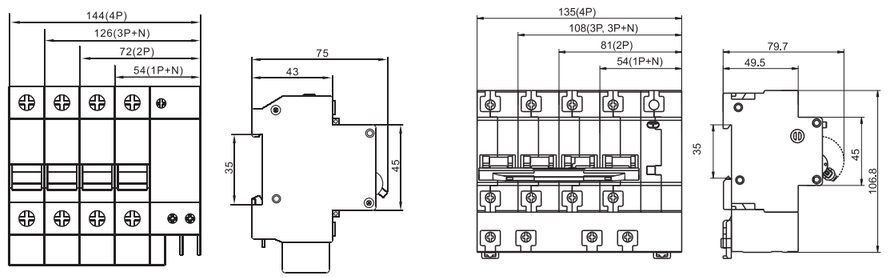
3. Basic specification and main parameters

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△n t≤0.3s , 5I△n t≤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/In	Start state	Tripping time	Expected result
1	C	1.13In	Cold state	t≤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≤0.1s	Not tripping
5	C	10In	Cold state	t<0.1s	Tripping

5. Dimensions(mm)



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KNLE2-40

RCBO

1. Model and meaning

KN LE 2 - 40

- 40 — Rated current of frame
- 2 — Design code
- LE — Leakage breaker with protection function against overload and short-circuit
- KN — Enterprise code

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 as well as infrequent changeover of the line in normal situation. It complies with standard of IEC/EN61009-1 and GB16917.1.

RCBO

intertek CE CB RoHS ISO9001

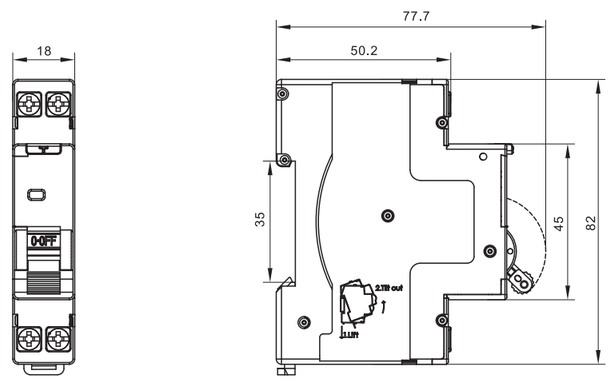
3. Basic specification and main parameters

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△n t≤0.3s , 5I△n t≤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≤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≤0.1s	Not tripping
5	C	10In	Cold state	t<0.1s	Tripping

5. Dimensions(mm)



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KNLE2-63

RCBO

1. Model and meaning

KN LE 2 - 63

- 63 — Rated current of frame
- 2 — Design code
- LE — Leakage breaker with protection function against overload and short-circuit
- KN — Enterprise code

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, three phase 415V and below 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 as well as infrequent changeover of the line in normal situation. It complies with standard of IEC/EN61009-1 and GB16917.1.

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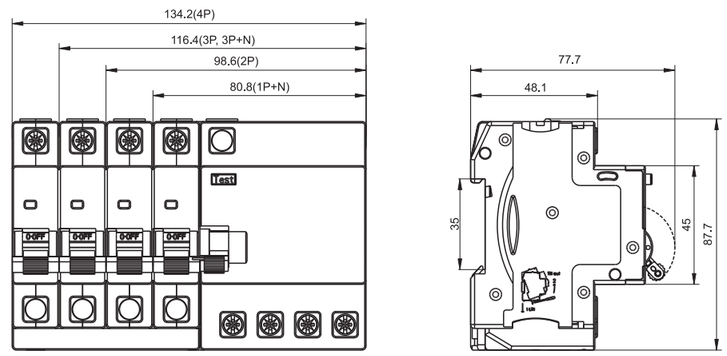
3. Basic specification and main parameters

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△n t≤0.3s , 5I△n t≤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≤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≤0.1s	Not tripping
5	C	10In	Cold state	t<0.1s	Tripping

5. Dimensions(mm)



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KNLN2-40

RCBO

1. Model and meaning

KN LN 2 - 40

- 40 — Rated Current of frame
- 2 — Design code
- LN — Leakage breaker with protection function against overload and short-circuit
- KN — Enterprise code

2. Application

KNLN2-40 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.

KNLN2-40 series leakage breaker can protect against overload and short-circuit. It can be used as well as infrequent changeover of the line in normal situation. It complies with standard of IEC/EN61009-1 and GB16917.1.

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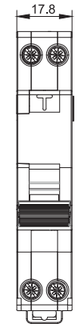
3. Basic specification and main parameters

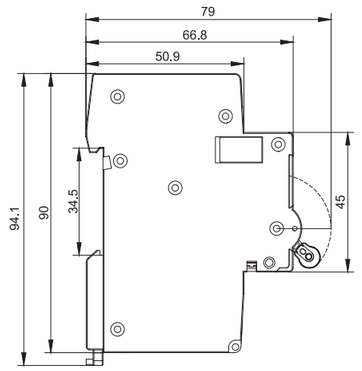
Frame class	40A
Rated working voltage	240V
Rated frequency	50/60Hz
Rated working current	6, 10, 16, 20, 25, 32, 40A
Rated residual operating current	300, 100, 30, 10mA
Sensibility	A Type, AC Type
Maximum operating time	I△n t≤0.3s , 5I△n t≤0.04S
Making and breaking capacity	6000A
Release type	B, C, D
Poles	1P+N
Mechanical life	8000
Electric life	4000

4. The over-current tripping unit protection feature

Sequence NO.	Release	Test current I/In	Start state	Tripping time	Expected result
1	C	1.13In	Cold state	t≤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	B, C, D	3, 5, 10In	Cold state	t≤0.1s	Not tripping
5	B, C, D	5, 10, 20In	Cold state	t<0.1s	Tripping

5. Dimensions(mm)





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KNLN6-63

RCBO

1. Model and meaning

KN LN 6 - 63

- 63 — Rated current of frame
- 6 — Design code
- LN — 1P+N
- KN — Enterprise code

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 as well as infrequent changeover of the line in normal situation. It complies with standard of IEC/EN61009-1 and GB16917.1.

RCBO

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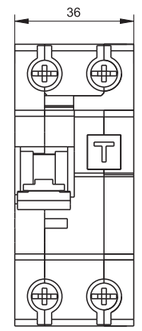
3. Basic specification and main parameters

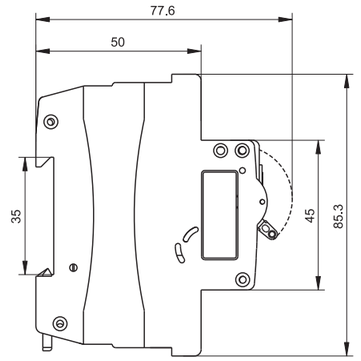
Frame class	63A
Rated working voltage	240V
Rated frequency	50/60Hz
Rated working current	2, 3, 6, 10, 16, 20, 25, 32, 40, 50, 63A
Rated residual operating current	0.01, 0.03, 0.1, 0.3A
Rated residual un-operating current	0.5I△n
Sensibility	A Type, AC Type
Maximum operating time	I△n t≤0.3s , 5I△n t≤0.04s
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/In	Start state	Tripping time	Expected result
1	C	1.13In	Cold state	t≤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≤0.1s	Not tripping
5	C	10In	Cold state	t<0.1s	Tripping

5. Dimensions(mm)





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KNM1

SERIES MOULDED CASE CIRCUIT BREAKER

1. Model and meaning

KN M 1 □-□□□

- Shell frame rated current
- E: Electronic type
- L: Residual current circuit breaker
- Design code
- Moulded case circuit breaker
- Enterprise code

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2. Sphere of application

KNM1 series moulded case circuit breaker(hereafter reffered to as simply breaker) The rated insulation voltage of the breaker is 800v (KNM1-63 is 500v),suitable for turn-on or turn off not frequency and starting a motor not frequently in the circuit of AC 50hz,rated working voltage 690V or bellow (KNM1-63 is 400v)-rated working current up to800A (KNM1-800 is motor protection-free), The breakers have overload, short -circuit andunder voltage protection devices, so as to protect the circuit and the power equipment against damage.

Breakers could be installed vertically(upright) or horizontally (transverse);

Breakers has disconnecting function, its corresponding symbol is shown as “fuhao”;

Breakers comply with demands of following standards

IEC 60947-1 and GB/T14048.1-2000 general

IEC 60947-2 and GB/T14048.1-2001 low voltage breakers

IEC 60947-4-1 and GB/T14048.4-2003 mechanical contactors and motor starters

IEC 60947-5-1 and GB/T14048.5-2001 electrical equipments of electromechanical control circuit

3. KNM1 series main technical data

Type	Frame current (Inm)	Rated current (A)	Rated working voltage (V)	Rated insulation voltage	Rated limiting short-circuit breaking ability KA 400V	Rated opearating short-circuit breaker ability KA 400V	Outline dimensions			Mounting dimensions		
							L	W 3P/4P	H	A	B	4-ϕd
KNM1-63L	63	(6),10,16, 20,25,32, 40,50,63	AC400V	500V	18	12	136	78	73.5	25	117	ϕ3.5
KNM1-63M					35	22	136	78/103	81.5			
KNM1-125L	125	16,20,25,32, 40,50,63, 80,100,125	AC400V	800V	35	22	150	92	68	30	129	ϕ4.5
KNM1-125M					50	35	150	92/122	85			
KNM1-250L	250	100,125,140, 160,180,200, 225,250	AC400V	800V	35	22	165	107	86	35	126	ϕ4.5
KNM1-250M					50	35	165	107/142	105			
KNM1-400L	400	225,250,315, 350,400	AC400V	800V	42	35	257	150/198	107	44	195	ϕ7
KNM1-400M					65	50	257	150/198	107			
KNM1-630L	630	400,500,630	AC400V	800V	42	35	270	182/240	111	58	200	ϕ7
KNM1-630M					65	50	270	182	111			
KNM1-800M	800	630,700,800	AC400V	800V	65	50	282	210	113	70	243	ϕ7

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4. Sphere of application

KNM1E series electronic plastic case circuit breaker (hereinafter referred to as circuit breaker), suitable for AC 50Hz (or 60Hz), its rated insulation voltage is 1000V, rated working voltage is 400V and below, and the rated working current is 1250A. Infrequent switching and infrequent starting of the motor. The circuit breaker has overload long delayreverse time limit, short circuit short delay reverse time limit, short circuit short delay time limit, short circuit instantaneous and under voltage protection functions, and residual current protection (optional), phase loss protection function (optional), can Protect the circuit and power supply from damage, the circuit breaker has complete and accurateprotection features, which can improve the reliability of power supply and avoid unnecessary power outages. Among them, the "Z, B" type control has a communication interface, which can perform "four remote". To meet the requirements of the control center and white dynamic system.

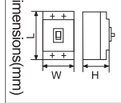
Circuit breakers are classified into M type (higher breaking type) and H type (high breaking type) according to their rated limit short circuit breaking capacity. The circuit breaker has the characteristics of small size, high breaking capacity, short flashover, and anti-vibration.

The circuit breaker can be installed vertically (that is, vertical installation) or horizontally (that is, horizontal installation).

The circuit breaker has a function of blocking the height, and its corresponding symbol is:" —/⊢×— ".

The circuit breaker cannot be reversed into the line, that is, only 1, 3, and 5 can be connected to the power line, and 2, 4, and 6 can be connected to the load line.

5. KNM1E series main technical data

Type		KNM1E-125	KNM1E-250	KNM1E-400	KNM1E-630	KNM1E-800
Shell frame rated current Inm (A)		125	250	400	630	800
Rated current (Adjustable) In (A)		16,20,25,32,40,50, 63,70,80,85,90, 95,100,125	100,125,140,160, 180,200,225,,250	200,225,250,280, 315,350,400	400,420,440,460, 480,500,530, 600,630	630,640,660,680, 700,720,740,760, 780,800
Rated voltage Ue(V)		AC 400V				
Rated insulation voltage Ui(V)		AC 800V				
Rated impulse withstand voltage Uimp		AC 8kV				
Poles		3,4	3,4	3,4	3,4	3,4
Rated limit short-circuit breaking capacity level						
Rated limit short circuit breaking capacity Icu(kA)		50	50	65	65	65
Rated short-circuit breaking capacity Ics(kA)		35	35	50	50	50
Rated short-time withstand current Icw (kA)/1s				5kA/1s	8kA/1s	10kA/1s
Cat		A	A	B	B	B
Operation life(cycle)	Electric	3000	2000	2000	1500	1000
	Mechanical	15000	15000	8000	7000	5000
Dimensions(mm) 	L	150	165	257	270	280
	W	3P=92 4P=122	3P=107 4P=142	3P=150 4P=198	3P=182 4P=240	3P=210 4P=280
	H	92	90	106. 5	111	115. 5
Arcing distance(mm)		≤50	≤50	≤100	≤100	≤100

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6. KNM1L series technical parameter

Frame class		KNM1L-100	KNM1L-225	KNM1L-400	KNM1L-630
Rated current In(A)		40,50,63, 80,100	125,140, 160,200,225	225,315, 350,400	400,500 , 630
Rated voltage AC(V)		400	400	400	400
Rated insulation voltage(V)		800	800	800	800
Rated pulse voltage(KV)		8	8	8	8
Ultimate short-circuit breaking capacity Icu(KA)	AC400V	25	25	35	35
Operative short -circuit breaking capacity Ics	AC400V	Ics=50%Icu			
Rated residual operation current(mA) I△n	Undelay	30/100/500	100/300/500	100/300/500	300/500/1000
	Delay	100/300/500	100/300/500	100/300/500	300/500/1000
Mechanical life		8500	7000	4000	4000
Electrical life		1500	1000	1000	1000
Rated residual un-operation current (mA)		1500	1000	1000	1000
Working time of the residual current protection		I△n	2 I△n	5 I△n	10I△n
Maximum breaking time (s)	Undelay	0.2	0.1	0.04	0.04
	Delay	0.5/1.15/2.15	0.35/1/2	0.25/0.9/1.9	0.25/0.9/1.9
outline dimensions(mm)	W	122	142	198	280
	L	150	165	257	280
	H	90	90	106·5	115·5

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KNM2

SERIES MOULDED CASE CIRCUIT BREAKER

1. Model and meaning

KN M 2 - □

- Rated current of frame
- Design code
- Moulded case circuit breaker
- Enterprise code

2. Sphere of application

The rated insulation voltage of this circuit breaker is 750V which is applicable for the electricity distribution net of AC 50Hz, rated working voltage 690V and below, rated working current from 6A to 630A. It is used to distribute electric power and protect the line and power apparatus from being overload and short-circuit protection of the motor.

This circuit breaker can be installed vertically and horizontally.

This product complies with standard IEC60947-2、GB14048.2

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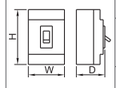
3. Basic Specification And Main Parameters

The anti-limit disconnecting movement characteristics of thermal and magnetic release of the breaker applied with power of the breaker for electricity distribution.

No .	Testing current name	I/In	Assumed time	Starting situation
1	Assumed un-tripping current	1.05	2h(In＞63A), 1h(In≤63A)	Cold state
2	Assumed tripping current	1.30	2h(In＞63A), 1h(In≤63A)	Start right after the number 1 test

Type		KNM2-160N	KNM2-250N	KNM2-400N	KNM2-630N	KNM2-800N	KNM2-1000N	KNM2-1250N	KNM2-1600N
Rated current In (A)		125, 160	200, 250	350, 400	500, 630	630, 800	800, 1000	1000, 1250	1200, 1600
Rated insulation voltage(V)		800	800	800	800	800	800	800	800
Rated pulse voltage(KV)		8	8	8	8	8	8	8	8
Rated working voltage ue (V)		AC690	AC690	AC690	AC690	AC690	AC690	AC690	AC690
		DC500	DC500	DC500	DC500				
Ultimate short-circuit breaking capacity Icu(KA) AC 50/60Hz	220/240V	85	85	85	85	50	50	50	50
	380/415V	36	36	50	50	50	50	50	50
	440V	35	35	42	42	50	50	50	50
	500V	30	30	30	30	40	40	40	40
	525V	22	22	22	22	40	40	40	40
	660/690V	8	8	10	10	30	30	30	30
Operative short-circuit Breaking capacity		75%Icu	75%Icu	75%Icu	75%Icu	75%Icu	75%Icu	75%Icu	75%Icu
Isolation function		■	■	■	■	■	■	■	■
Usage category		A	A	A	A	B	B	B	B
Machanical life		20000	20000	10000	10000	8000	5000	5000	5000
Electrical life		2000	2000	2000	2000	1000	1000	1000	1000
	W	105	105	140	140	210	210	210	210
	H	161	161	255	255	327	327	327	327
	D	86	86	110	110	147	147	147	147

KORLEN®
electrical shares

KNM3

SERIES MOULDED CASE CIRCUIT BREAKER

1. Model and meaning

KN M 3 - □

- Rated current of frame
- Design code
- Moulded case circuit breaker
- Enterprise code

2. Sphere of application

The rated insulation voltage of this circuit breaker is 750V which is applicable for the electricity distribution net of AC 50Hz, rated working voltage 690V and below, rated working current from 6A to 630A. It is used to distribute electric power and protect the line and power apparatus from being overload and short-circuit protection of the motor.

This circuit breaker can be installed vertically and horizontally.

This product complies with standard IEC60947-2、GB14048.2

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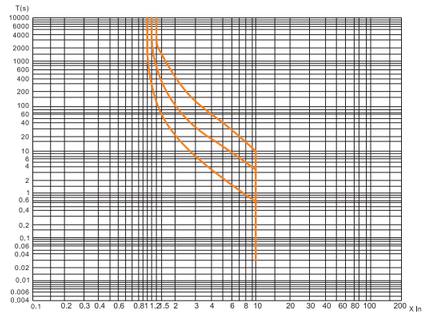
3. Basic Specification And Main Parameters

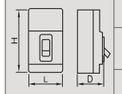
The anti-limit disconnecting movement characteristics of thermal and magnetic release of the breaker applied with power of the breaker for electricity distribution.

No .	Testing current name	I/In	Assumed time	Starting situation
1	Assumed un-tripping current	1.05	2h(In＞63A), 1h(In≤63A)	Cold state
2	Assumed tripping current	1.30	2h(In＞63A), 1h(In≤63A)	Start right after the number 1 test

4. Characteristics curve



5. Main technical data

Type		KNM3-160N	KNM3-250N	KNM3-400N	KNM3-630N	KNM3-800N	KNM3-1600N
Rated current In(A)		160A	250A	400A	630A	800A	1250~1600A
Rated insulation voltage(V)		690	800	800	800	800	800
Rated pulse voltage(KV)		6	8	8	8	8	8
Rated working voltage ue (V)		AC690	AC690	AC690	AC690	AC690	AC690
Ultimate short-circuit breaking capacity Icu(KA) AC 50/60Hz	220/240V	50	65	65	65	65	85
	380/415V	35	35	35	35	35	50
	440V	20	30	30	30	30	40
	500V	12	25	25	25	25	35
	690V	8	14	20	20	20	20
Operative short-circuit Breaking capacity		75%Icu	75%Icu	75%Icu	75%Icu	75%Icu	75%Icu
Isolation function		■	■	■	■	■	■
Usage category		A	A	A	A	B	B
Mode of tripping unit	Unadjustable	■					
	Adjustable thermal trip Unadjustable electromagetic trip		■	■			
	Electronic adjustable		■	■	■	■	■
Machanical life		20000	20000	10000	10000	10000	7000
Electrical life		3000	2000	2000	1500	1000	1000
	L	90	105	140	210	210	210
	D	70	103.5	103.5	103.5	103.5	138.5
	H	120	170	254	268	268	406

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electrical shares

KNM5

SERIES MOULDED CASE CIRCUIT BREAKER

1. Model and meaning

KN M 5 - □

- Rated current of frame
- Design code
- Moulded case circuit breaker
- Enterprise code

2. Sphere of application

KNM5 series moulded case circuit breaker the rated insulation voltage of the circuit breaker is up to 1000V. It is suitable for AC 50Hz, rated working voltage to 690V, rated working current 10A to 800A in the distribution network circuit, used to distribute power and protect the line and power equipment from overload, short circuit, ow Damage to voltage and other faults. At the same time, it can also be used as the initial infrequent start of the motor and overload, short circuit and under voltage protection.

The circuit breaker has the characteristics of small size, high breaking, short arcing, etc., and is an ideal product for users. The circuit breaker is installed vertically.

This product complies with EC60947-2, GB14048.2 and other standards.

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3. Basic Specification And Main Parameters

KNM5

Frame class		125	160	250	630	800	1000	1250
Item model		KNM5-125	KNM5-160	KNM5-250	KNM5-630	KNM5-800	KNM5-1000	KNM5-1250
Rated current In(A)		10, 16, 20, 32, 40, 50, 63, 80, 100, 125	125, 140, 160	160, 180, 200, 225, 250	250, 315, 400, 500, 630	500, 630, 700, 800,	1000	1250
Rated voltage		AC400V	AC400V	AC400V	AC400V	AC400V	AC400V	AC400V
Rated insulation voltage		AC1000V	AC1000V	AC1000V	AC1000V	AC1000V	AC1000V	AC1000V
Ultimate short-circuit breaking capacity (KA) Icu/Ics AC400V		35/25	35/25	35/25	65/50	65/50	65/50	65/50
Electrical life/Mechanical life		3000/10000	3000/10000	3000/10000	3000/10000	3000/10000	1500/8000	1500/8000
Outline dimensions (mm)	2P	50-130-68	60-155-88					
	3P	75-130-68	90-155-88	105-165-88	140-257-103	210-275-103	210-275-103	210-275-103
	4P	100-130-68	120-155-88	140-165-88	184-257-103	280-275-103	280-275.5-103	280-275.5-103

KNM5RT

Frame class		125	160	250	400	630	800
Item model		KNM5RT-125	KNM5RT-160	KNM5RT-250	KNM5RT-400	KNM5RT-630	KNM5RT-800
Rated current In(A)		10,16,20,32,40,50, 63,80,100,125	125,140,160	160,180, 200,225,250	250,315, 350,400	500,630	500,630, 700,800
Rated voltage		AC400V	AC400V	AC400V	AC400V	AC400V	AC400V
Rated insulation voltage		AC1000V	AC1000V	AC1000V	AC1000V	AC1000V	AC1000V
Ultimate short-circuit breaking capacity (KA) Icu/Ics AC400V		35/25	35/25	35/25	65/50	65/50	65/50
Electrical life		3000	3000	3000	2000	2000	1500
Mechanical life		10000	10000	10000	10000	10000	10000
Adjustable range of thermal overload		0.85-1.0In					
Adjustable range of magnetic trip		5-10In					
Outline dimensions (mm)	3P	70-130-68	90-155-88		105-165-88	140-257-103	210-275-103
	4P	100-130-68	120-155-88		140-165-88	184-257-103	280-275-103

KNM5E

Frame class		160	250	630	800
Item model		KNM5E-160	KNM5E-250	KNM5E-630	KNM5E-800
Rated current In(A)		10, 16, 20, 32, 40, 50, 63, 80, 100, 125, 140, 160	100, 125, 140, 160, 180, 200, 225, 250	250, 315, 350, 400, 500, 630	500, 630, 700, 800
Rated voltage		AC400V	AC400V	AC400V	AC400V
Rated insulation voltage		AC1000V	AC1000V	AC1000V	AC1000V
Ultimate short-circuit breaking capacity (KA) Icu/Ics AC400V		35/25	35/25	65/50	65/50
Electrical life		3000	3000	3000	1500
Mechanical life		10000	10000	10000	10000
Outline dimensions (mm)	3P	90-155-88	105-165-88	140-257-103	210-257-103
	4P	120-155-88	140-165-88	185-257-103	280-257-103

KNM5LY

Frame class		125	160	250	630	800
Item model		KNM5LY-125	KNM5LY-160	KNM5LY-250	KNM5LY-630	KNM5LY-800
Rated current In(A)		10,16,20,32,40,50, 63,80,100,125	10,16,20,32,40,50,63, 80,100,125,140,160	100,125,140,160, 180,200,225,250	250,315,350, 400,500,630	500,630, 700,800
Rated voltage		AC400V	AC400V	AC400V	AC400V	AC400V
Rated insulation voltage		AC690V	AC690V	AC690V	AC690V	AC690V
Ultimate short-circuit breaking capacity (KA) Icu/Ics AC400V		35/25	35/25	35/25	65/50	65/50
Electrical life		3000	3000	3000	3000	1500
Mechanical life		10000	10000	10000	10000	10000
Rated residual operationcurrent (IΔn)	Undelay	30,100,500(Adjustable)				
	Delay	100,300, 500(Adjustable)				
Maxim breaking time(s)	Undelay	0.1				
	Delay(2IΔn)	0.45,1.0,2.0(Adjustable)				
Outline dimensions (mm)	3P	75-130-68	90-155-88	105-165-88	105-165-88	210-275-103
	4P	100-130-68	120-155-88	140-165-88	140-165-88	280-275-103

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KNM5ELY

KNM5ELY SERIES MOULDED CASE CIRCUIT BREAKER

1. Model and meaning

KN M 5 - ELY - □

- Rate current of frame
- E : electric type
- L: with leakage protection
- Y : with display screen
- Design code
- Moulded case circuit breaker
- Enterprise code

2. Sphere of application

KNM5ELY series moulded case circuit breaker the rated insulation voltage of the circuit breaker is up to 1000V. It is suitable for AC 50Hz, rated working voltage to 690V, rated working current 10A to 800A in the distribution network circuit, used to distribute power and protect the line and power equipment from overload, short circuit, ow Damage to voltage and other faults. At the same time, it can protect people against indirect contact and prevent tire disaster caused by insulation and ground fault.

The circuit breaker has the characteristics of small size, high breaking, short arcing, etc., it can be remote control and is an ideal product for users.

This product complies with EC60947-2, GB14048.2 and other standards.

MCCB

intertek CE CB RoHS ISO9001

3. Basic Specification And Main Parameters

Frame class		160	250	400	630	800
Item model		KNM5ELY-160	KNM5ELY-250	KNM5ELY-400	KNM5ELY-630	KNM5ELY-800
Rated current In(A)		40A-100A 50A-125A 63A-160A	50A-125A 100A-250A	160A-400A	252A-630A	320A-800A
Rated voltage Ue		AC400V	AC400V	AC400V	AC400V	AC400V
Rated insulation voltage Ui		1000V	1000V	1000V	1000V	1000V
Rated pulse voltage Uimp		8kV	8kV	8kV	8kV	8kV
Rated limiting short-circuit breaking ability Icu AC400V		35kA	35kA	50kA	50kA	50kA
Rated operating short-circuit breaking ability Ics AC400V		25kA	25kA	35kA	35kA	35kA
Rated short-time withstand current Icw		10kA/s	10kA/s	10kA/s	10kA/s	20kA/s
Rated residual operation currnet I△n		50mA,100mA,200mA,300mA,500mA,800mA,1000mA				
Usage category		B	B	B	B	B
Type of overcurrent trip device		Electronic	Electronic	Electronic	Electronic	Electronic
Residual current release type		Electronic	Electronic	Electronic	Electronic	Electronic
Outline dimensions (mm)	Length	150	165	257	257	275.5
	width	120	140	184	184	280
	height	82	88	103	103	103

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KNC1

SERIES AC CONTACTOR

1. Model and meaning

KN C 1 - □

- Rated current of frame
- Design code
- Series AC contactor
- Enterprise code


KNC-F5

KNCF1-22

KNCF1-11

2. Sphere of application

The series KNC1 AC contactor is applicable at the line of AC 50/60 Hz, rated voltage up to 660V and rated current up to 95A for remote switch, breaking and frequent starting, controlling the AC motor. Moreover, the contactor can act as the time-delay contactor, reversible contactor, stardelta starter by the accessories addition such as addition of modular auxiliary contact set. Air timedelay head, mechanical interlock mechanism, etc. Moreover, it could act as the electromagnetic starter
by the direct plug of the thermal relay.

This product conforms to the requirement of IEC60947-4-1& GB14048.4 standards.

AC CONTACTOR

intertek CE CB RoHS ISO9001

3. Technical parameter

Type	Rated insulation voltage(V)	Conventional thermal current(A)	Rated operation current(A)	Control power(kw)					No .of contacts	Remark
				220V	380V	415V	440V	660V		
KNC1-0911	660	20	9	2.2	4	4	4	5.5	3P+NO +NC	Installation method 1.with two screws 2.35mm din rail
KNC1-1211		20	12	3	5.5	5.5	5.5	7.5		
KNC1-1811		32	18	4	7.5	9	9	9		
KNC1-2511		40	25	5.5	11	11	11	15		
KNC1-3211		50	32	7.5	15	15	15	18.5		
KNC1-4011		60	40	11	18.5	22	22	30		
KNC1-5011		80	50	15	22	25	30	33		
KNC1-6511		80	65	18.5	30	37	37	37		Installation method 1.with three screws 2.75mm or 35mm din rail
KNC1-8011		125	80	22	37	45	45	45		
KNC1-9511		125	95	25	45	45	45	45		

4. Coil parameters

Type		KNC1-09	KNC1-12	KNC1-18	KNC1-25	KNC1-32	KNC1-40	KNC1-50	KNC1-65	KNC1-80	KNC1-95
Pick-up voltage 50/60Hz(V)		(0.85～1.1)Us	(0.85～1.1) Us	(0.85～1.1)Us	(0.85～1.1)Us	(0.85～1.1)Us	(0.85～1.1)Us	(0.85～1.1)Us	(0.85～1.1)Us	(0.85～1.1)Us	(0.85～1.1)Us
Release voltage 50/60Hz(v)		(0.2～0.75)Us	(0.2～0.75)Us	(0.2～0.75)Us	(0.2～0.75)Us	(0.2～0.75)Us	(0.2～0.75)Us	(0.2～0.75)Us	(0.2～0.75)Us	(0.2～0.75)Us	(0.2～0.75)Us
Coil power	50 Hz Pick-up(VA)	70	70	110	110	110	200	200	200	200	200
	50 Hz Holding(VA)	8	8	11	11	11	20	20	20	20	20
	60 Hz Pick-up(VA)	80	80	115	115	115	200	200	200	200	200
	60 Hz Holding(VA)	8	8	11	11	11	20	20	20	20	20
	Power consumption (W)	1.8～2.7	1.8～2.7	3～4	3～4	3～4	6～10	6～10	6～10	6～10	6～10

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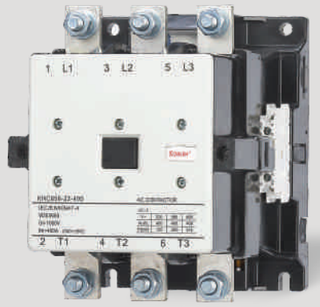


KNC8

SERIES AC CONTACTOR

1. Model and meaning

KN C 8 - □

- Rated current of frame
- Design code
- Series AC contactor
- Enterprise code

The series KNC8 AC contactor is suitable for 50/60Hz, rated insulation voltage is 690-1000V, Rated current is 9A-400A at rated operational voltage 380V under the utilization category AC-3. It mainly used for making or breaking circuit at a long distance, suitable for controlling starting\ stopping\reversing of ac motor. According with IEC60947 VED0660 Gb14048 standards.

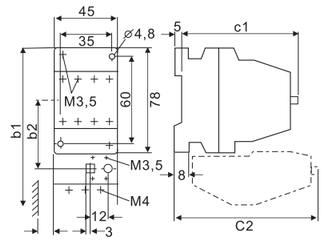
2. Sphere of application

1.Good safety, induction parts are inside.
2.Small volume, light weight, material of air chute not easily to break and good arc capability.
3. Air chamber is sealing type, distance of arcover is small, can reduce the measurement of electric box body.
4.unique system frame of main contact group, contact abrasion reduce, increase the electro-life.
5.electromagnet works reliably, abrasion is more less, low noise, having high mechanical intensity.
6.Frequency operation and controlling capacity are all very high.
7.It' s convenient for connection, fastness , high touch reliability, strong vibration resistance, good safety precaution.

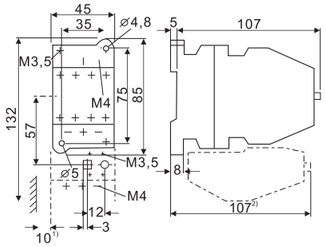
AC CONTACTOR

intertek CE CB RoHS ISO9001

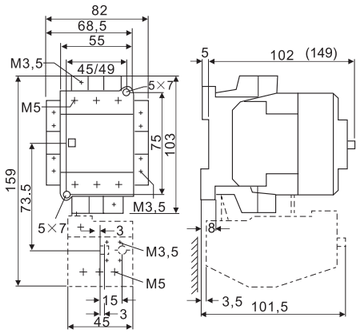
2. Technical parameter



KNC8-40、41



KNC8-44、45

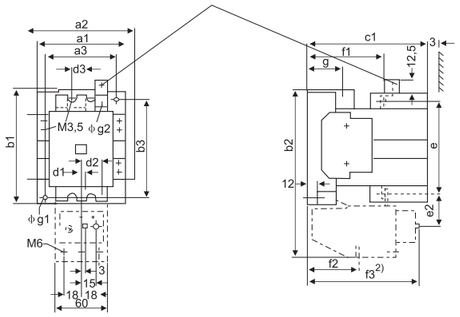


KNC8-42、43

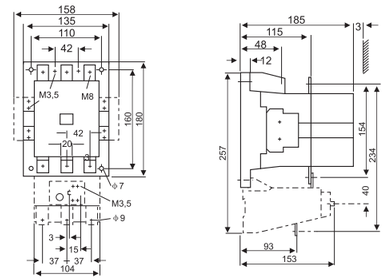
Type	b1	b2	C1	(c1)[3]	c2
1ONor1NC 1NO+1NC 2NO+2Nc Or	125	55	81	(115)[3]	108
	130	60	97	(130)[3]	100

3. Dimension

KNC8-46~49



KNC8-52



Size	Type	a1	a2	a3	a1	b2	b3	c1	(c1)1	d1	d2	d3	e	e2	f1	f2	f3	g	⌀g1	⌀g2
3	KNC8-45、47	90	113	70	117	175	100	123	123	8	26.5	25	94	34	80	63	122	28	4.8	6.1(m6)
4	KNC8-48	100	123	80	133	194	110	140	140	8	26.5	25	107	36	89	63	122	39	5.5	6.1(m6)
4	KNC8-49	100	123	80	133	194	100	140	140	10.5	26.5	25	116	31.5	89	63	122	39	5.5	6.1(m6)

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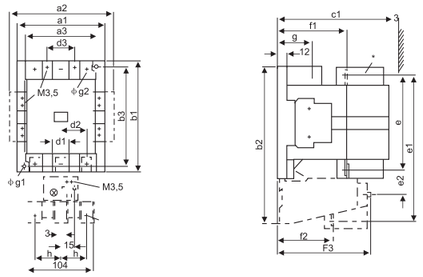
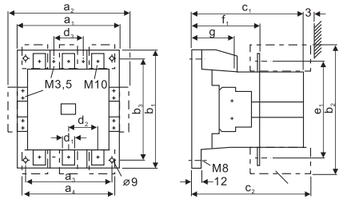
KNC8-50、51



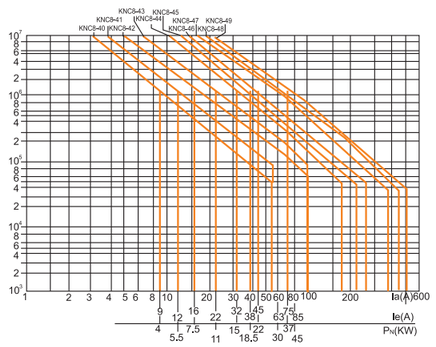
Type	a1	a2	a3	b1	b2	b3	c1	(c1)1	d1	d2	d3	e	e1	e2	f1	f2	f3	g	φg1	φg2
KNC8-50	120	143	100	150	232	130	150	150	15	37	37	130	213	40	93	80	146	45	6.3	6.1(m6)
KNC8-51	120	143	100	150	232	130	150	150	20	42	37	139	21.5	40.5	93	80	146	45	6.3	9(m8)

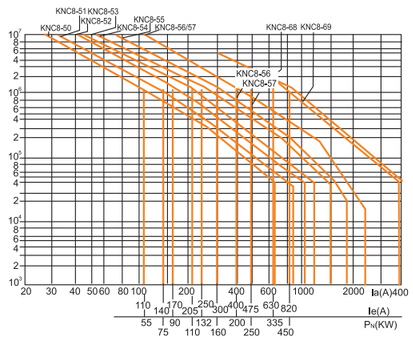


Type	a_1	a_2	a_3	b_1	b_3	c_1
KNC8-53	135	158	110	180	160	185
KNC8-54,KNC8-55	145	168	120	200	180	198
KNC8-56	160	130	130	200	180	222

Type	(c_1)	e_1	f_1	g	d_1	d_2	$øg_1$
KNC8-53	185	159	115	48	25	48	7
KNC8-54,KNC8-55	198	168	132	58	25	48	9
KNC8-56	222	178	150	65	25	48	9

4. Characteristics curve





AC CONTACTOR
intertek CE CB RoHS ISO9001

5. Technical parameter

Type		KNC8-40	KNC8-41	KNC8-44	KNC8-46	KNC8-47	KNC8-48	KNC8-49	KNC8-50	KNC8-52	KNC8-54	KNC8-56
Rated insulation voltage(V)		690	690	690	1000	1000	1000	1000	1000	1000	1000	1000
Rated operational current(380V)	AC-3	9	12	32	45	63	75	85	110	170	250	400
	AC-4	3.3	3.3	15.5	24	28	34	42	54	75	110	150
Rated outputs of three-phase motors at 50Hz	AC-3 AC-4 230/220V	2.4	2.4	8.5	15	18.5	22	26	37	55	78	125
	AC-3 AC-4 400/380V	4	4	15	22	30	37	45	55	90	132	200
	AC-3 AC-4 500V	5.5	5.5	21	30	41	50	59	76	118	178	284
	AC-3 AC-4 690/660V	5.5	5.5	23	39	55	67	67	100	159	235	375
	AC-3 AC-4 1000V	-	-	-	-	-	39	39	65	90	132	250
	400/380V	1.48/1.4	1.48/1.4	7.5	12.6/12	14.7/14	17.9/17	22/21	28.4/27	40/38	61/58	85/81
	690/660V	2.54/2.4	2.54/2.4	13	21.8/20.8	25.4/24.3	30.9/29.5	38/36	49/46.9	69/66	105/100	147/140
Mechanical endurance(×10^6)		(0.8-1.1)Us										
Electrical endurance(×106)	AC-3	10	10	10	10	10	10	10	10	10	10	10
	AC-4	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Switching frequency	AC-3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	AC-4	1000	1000	750	1200	1000	1000	850	1000	700	700	500
Coil voltage tolerance		250	250	250	400	300	300	250	300	200	200	150
Power consumption of coil(50Hz)	Closed(VA)	10	10	12.1	17	17	32	32	39	58	84	115
	p.f.	0.29	0.29	0.28	0.29	0.29	0.23	0.23	0.24	0.26	0.24	0.33
	Colsing(VA)	6.8	6.8	101	183	183	330	330	550	910	1430	2450
	p.f.	0.82	0.82	0.83	0.6	0.6	0.5	0.5	0.45	0.38	0.34	0.21
Conventional thermal current		20	20	55	80	90	100	100	160	210	300	400
Conventional thermal current of auxiliary contacts		10	10	10	10	10	10	10	10	10	10	10
Rated operational current of auxiliary contacts	AC-15 380/220V	6/10	6/10	4/6	4/6	4/6	4/6	4/6	4/6	4/6	4/6	4/6

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KNHC

MODULAR CONTACTOR

1. Model and meaning

KN H C - □

- Rated current of frame
- Design code
- Modular contactor
- Enterprise code

2. Sphere of application

The KNHC modular contactor (hereinafter referred to as contactor) is mainly suitable for AC 50Hz (or 60Hz), rated working voltage to 400V and rated current operation in the circuit up to 100A, it can control the low-inductance and low-inductance load of household appliances and similar purposes; it can also be used to control the load of household motors. The power should be reduced accordingly.

The KHHC contactors according to standard IEC/EN61095 , IEC60947-4-1and are used mainly in buildings for switching and controlling lighting, heating, ventilation and pumps. They are part of the complete range of Din rail products and can be integrated easily in dedicated panels.

HOUSEHOLD CONTACTOR

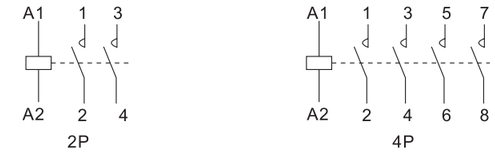
intertek CE CB RoHS ISO9001

3. Basic Specification And Main Parameters

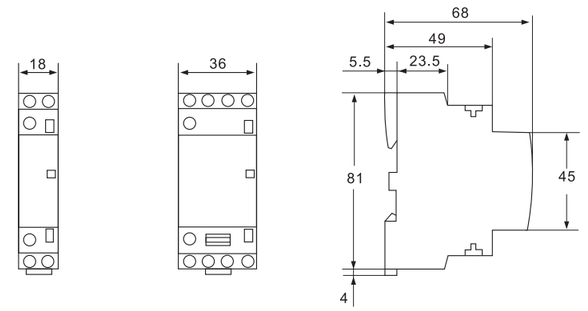
AC 2P,1modules	AC 4P,2modules
Ie Rating AC-7a	16A , 20A , 25A
Ie Rating AC-7b	6A , 7A , 9A
Uc (V AC)(50Hz)	24 , 110 , 240

AC 2P,2modules	AC 4P,3modules
Ie Rating AC-7a	32A , 40A , 63A(4P)
Ie Rating AC-7b	12A , 18A , 25A(4P)
Uc (V AC)(50Hz)	24 , 110 , 240

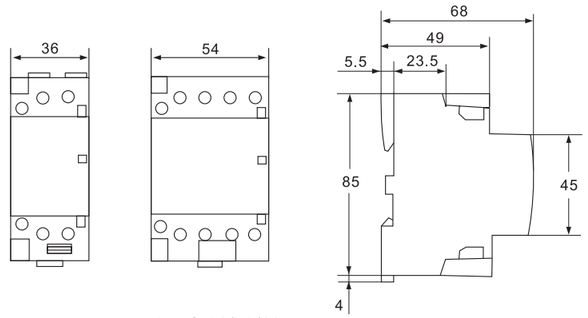
4. Operation principle



5. Dimensions(mm)



KNHC-16/20/25A



KNHC-32/40/63A

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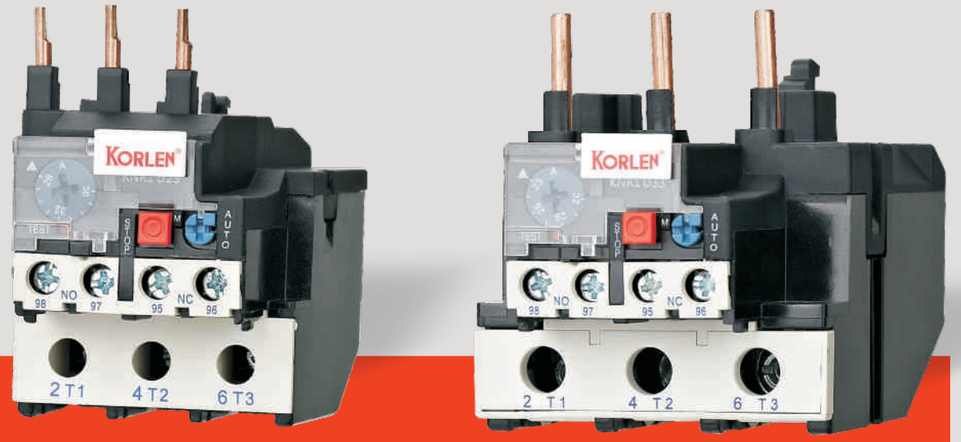

KNR1

THERMAL RELAY

1. Model and meaning

KN R 1 - □

- Rated current of frame
- Design code
- Thermal relay
- Enterprise code

2. Sphere of application

KNR1 series thermal relay can be used in the circuit of 50Hz or 60Hz, rated insulation voltage 660V, rated current 0.1-93A for protecting the phase break when the electric motor is overload.

The relay has different mechanism and temperature compensation& can be pluged in KNC1 series AC contact.

THERMAL RELAY

intertek CE CB RoHS ISO9001

3. Feature

A. Fundamental parameter of the main circuit

- Rated insulation voltage 660V;
- Rated working current 25,36,93A separately;
- The regulator seal of rate setting current and setting.
- Current of the thermal component

B. Auxiliary circuit

- There is a pair of NO and NC contact with electric insulation;
- Rated insulation voltage 500V;
- Rated frequency 50-60Hz;
- Use group, rated working voltage, appoint thermal current and rated current.

4. Technical parameter

Type	Rated working current of thermal relay		Thermal component Scale of rated current(A)
KNR1-13	25	1301	0.10-0.16
		1302	0.16-0.25
		1303	0.25-0.40
		1304	0.40-0.63
		1305	0.63-1.0
		1306	1.0-1.6
		13X6	1.25-2.0
		1307	1.6-2.5
		1308	2.5-4.0
		1310	4.0-6.0
		1312	5.5-8.0
		1314	7.0-10.0
		1316	9.0-13.0
		1321	12.0-18.0
		1322	17.0-25.0
KNR1-23	36	2353	23.0-32.0
		2355	28.0-36.0
KNR1-33	93	3353	23.0-32.0
		3355	30.0-40.0
		3357	37.0-50.0
		3359	48.0-65.0
		3361	55.0-70.0
		3363	63.0-80.0
		3365	80.0-93.0

KORLEN®
electrical shares

KNR8

THERMAL RELAY

1. Model and meaning

KN R 8 - □

- Rated current of frame
- Design code
- Thermal relay
- Enterprise code

2. Working condition

- The altitude should not be higher than 2000m;
- The ambient temperature:-25℃~55℃;
- The relative humidity: when +25℃,the relative humidity of air should be no more than 90%.

3. Structure feature

- Senies overload relay of thermal metal mode ,tripping class is 10A;
- Setting current continuous adjustable device;
- trip indicator;
- test button;
- reset button by hand operation and automatic reset button;
- have a pair of No and Nc insulation contact in electricity;
- mode of installation :install independently or can plug in the AC contactor.

4. Sphere of application

KNR8 series overload relay is suitable for 50Hz/60Hz, rated voltage up 690~1000V, rated current 0.1~400A in main circuit of long time working. It is used to protect AC three-phase asynchronous motor against overload and open phase.

This products conformity with IEC947-4, VDE0660,GB14048.4 standards .

THERMAL RELAY

intertek CE CB RoHS ISO9001

5. Technical parameter

Type	Sphere of setting current(A)	Fuse specification (A) IEC947-4	
		"1"	"2"
KNR8-50	0.1-0.16	35	0.5
	0.16-0.25		1
	0.25-0.4		1.6
	0.4-0.63		2
	0.63-1		4
	0.8-1.25		4
	1-1.6		6
	1.25-2		6
	1.6-2.0		6
	2-3.2		10
	2.5-4		10
	3.2-5		16
	4-6.3		16
	5-8		20
	6.3-10		25
	8-12.5		25
	10-14.5		25
KNR8-52	0.1-0.16	63	0.5
	0.16-0.25		1
	0.25-0.4		1.6
	0.4-0.63		2
	0.63-1		4
	0.8-1.25		4
	1-1.6		6
	1.25-2		6
	1.6-2.0		6
	2-3.2		10
	2.5-4		10
	3.2-5		16
	4-6.3		16
	5-8		20
	6.3-10		25
	8-12.5		25
	10-16		35
	12.5-20		35
	16-25		50
KNR8-55	1-1.6	100	6
	1.25-2		6
	1.6-2.0		6
	2-3.2		10
	2.5-4		10
	3.2-5		16
	4-6.3		16
	5-8		20
	6.3-10		25
	8-12.5		25
	10-16		35
	12.5-20		50
	16-25		50
	20-32		80
	25-36		80
	32-40		80
	36-45		80

Type	Sphere of setting current(A)	Fuse specification (A) IEC947-4	
		"1"	"2"
KNR8-58	12.5-20	160	50
	16-25		50
	20-32		63
	25-40		80
	32-50		100
	40-57		100
	50-63		100
	57-70		125
	63-80	250	160
	70-88		160
KNR8-60	55-80	250	160
	63-90		160
	80-110	315	200
	90-120		224
	110-135		224
KNR8-61	55-80	250	160
	63-90		160
	80-110	315	200
	90-120		224
	110-135		224
	120-150		224
KNR8-59	0.1-0.16	25	0.5
	0.16-0.25		1
	0.25-0.4		1.6
	0.4-0.63		2
	0.63-1		4
	0.8-1.25		4
	1-1.6		6
	1.25-2		6
	1.6-2.5		6
	2-3.2		10
	2.5-4		10
	3.2-5		16
	4-6.3		16
	5-8		16
	6.3-10		16
	8-12.5	35	25
	10-16	63	35
	12.5-20	63	50
	16-25	63	50
	20-32	80	63
	25-40	125	80
	32-40	160	100
	40-57	160	125
	50-63	160	125
KNR8-62	55-80	250	160
	63-90	250	160
	80-110	315	200
	90-120 110-135 120-150	315	224
	135-160 150-180	355	
KNR8-66	80-125	500	250
	125-200		315
	160-250		400
	200-320		400
	250-400	800	500

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KNY1-40

SURGE PROTECTIVE DEVICES

1. Model and meaning

KN Y 1 - □

- Max.discharge current
- Design code
- Surge protection device
- Enterprise code

2. Sphere of application

The surge protection device belongs to T2 AC power surge protector, which is installed between the power supply network and the equipment to drain, suppress and reduce the overcurrent and overvoltage caused by induced lightning strikes or the power grid system, so as to reduce the harm to the electrical equipment

3. Characteristic

Location of Use:sub-distribution cabinet,JP cabinet etc.
Network Systems: TN-S, TN-C, TT
Mode of Protection:L-PE、N-PE、L-N
Protective Elements:High Energy MOV

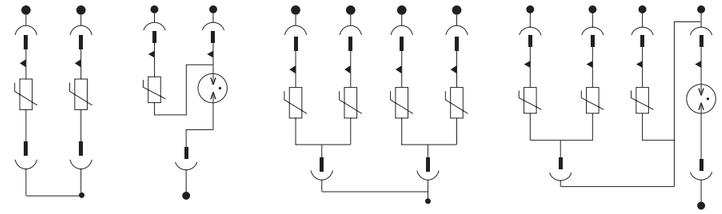
Chinese Standard:GB/T 18802.11-2020
IEC standard:IEC 61643-11：2011
European standard :EN 61643-11：2012
Certificates: CB, CE

SURGE PROTECTIVE DEVICES
intertek CE CB RoHS ISO9001

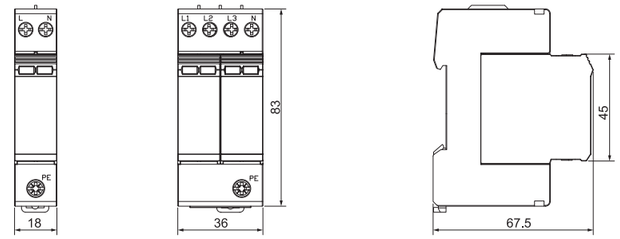
4. Basic Specification And Main Parameters

Technical Data				
Max Continuous Operating Voltage	(AC) Uc	275V	320V	385V
Rated Voltage	(AC) Un	220V	220V	220V
Nominal discharge current（T2）	In	20kA	20kA	20kA
Maximum discharge current	Imax	40kA	40kA	40kA
Protection level	Up(L-N)	1.5kV	1.5kV	1.8kV
Protection level	Up(N-PE)	1.2kV	1.2kV	1.2kV
Follow Current Interrupt Rating	I_fi	100A(N-PE)		
Response Time	t_A	25ns		
SPD Special disconnector	Recommend	LT-SSD40		
TOV	N-PE	1200V		
Residual current-Leakage current at	Ipe	NONE		
Admissible short-circuit current	Isccr	25000A		
Remote communication		With		
Remote communication connection		14 11:NO，11 12:NC		
Remote contact rated current		220V/0.5A		
Associated disconnectors				
Thermal		disconnector internal		
Mechnical characteristics				
Connection By screw terminals		4-16 mm^2		
Terminal Screw Torque		The upper 1.2Nm，The bottom 2.0 Nm		
Recommended Cable cross Section		⩾ 10mm^2		
Insert wire length		The upper 12mm，The bottom 15mm		
Mounting DIN rail		35mm (EN60715)		
Degree of Protection		IP20		
Housing		PBT/PA		
Flame retardant grade		UL94 V0		
Operating temperature		-40°C～ +70°C		
Operating relative humidity		5%-95%		
Working atmospheric pressure		70kPa ～ 106kPa		

5. Schematic diagram



6. Dimensions(mm)



KORLEN®
electrical shares

KNS12

SERIES MANUAL MOTOR STARTER

1. Model and meaning

KNS 12 - □ □ □

- Type
- Rated current of frame
- M(ME)/PM/RS: button control or switch control, with thermo-magnetic protec
- Design code
- Moulded case circuit breaker (Manual motor starer)

KNS12-32 Series Manual motor starter can replace GV2 Series product
KNS12-80 Series Manual motor starter can replace GV3 Series product

2. General Specification

KNS12 Series meet below international standard
IEC 60947.1
IEC 60947.2
IEC 90647.4.1
KNS12 has certificate of CE and so on.

MANUAL MOTOR STARTER

intertek CE CB RoHS ISO9001

3. Ambient temperature

KNS12 can used between -5℃ to +40℃,if in a higher or lower temperature, the customer should consult to the manufacture.

4. Sphere of application

KNS12 is applied to AC 690V, 0.1A~80A. Serve as three-phase squirrel-cage asynchronous motor over-loader, phase-losing and short circuit protector, infrequent start-controller, KNS12 can protect distribution line and load transfer \ infrequently. Also can be used as isolation.

5. Technical parameter

KNS12-M32 Manual motor starter with thermo-magnetic protection

Button control or switch control

50/60HZ, AC-3 type, three-phase motor rated power				Thermal tripping setting range	Magnetic tripping current	Ithe current with case	Type (button control)	Weight
230V	400V	415V	440V					
kW	kW	kW	kW	A	A	A		kg
-	-	-	-	0.1…0.16	1.5	0.16	KNS12-M3201	0.260
-	-	-	-	0.16…0.25	2.4	0.25	KNS12-M3202	0.260
-	-	-	-	0.25…0.40	5	0.40	KNS12-M3203	0.260
-	-	-	-	0.40…0.63	8	0.63	KNS12-M3204	0.260
-	-	-	0.37	0.63…1	13	1	KNS12-M3205	0.260
-	0.37	-	0.55	1…1.6	22.5	1.6	KNS12-M3206	0.260
0.37	0.75	0.75	1.1	1.6…2.5	33.5	2.5	KNS12-M3207	0.260
0.75	1.5	1.5	1.5	2.5…4	51	4	KNS12-M3208	0.260
1.1	2.2	2.2	3	4…6.3	78	6.3	KNS12-M3210	0.260
2.2	4	4	4	6…10	138	9	KNS12-M3214	0.260
3	5.5	5.5	7.5	9…14	170	13	KNS12-M3216	0.260
4	7.5	9	9	13…18	223	17	KNS12-M3220	0.260
5.5	11	11	11	17…23	327	21	KNS12-M3221	0.260
5.5	11	11	11	20…25	327	23	KNS12-M3222	0.260
7.5	15	15	15	24…32	416	24	KNS12-M3232	0.260

KNS12-ME32 same as KNS12-M32

KNS12-M80 Manual motor starter with thermo-magnetic protection

Button control

50/60HZ, AC-3 type, three-phase motor rated power				Thermal tripping setting range	Magnetic tripping current Id±20%	Type (button control)	Weight
230V	400V	415V	440V				
kW	kW	kW	kW	A	A		kg
-	0.37	-	0.55	1 to 1.6	19.2	KNS12-M8006	0.600
0.37	0.75	1.1	1.1	1.6 to 2.5	30	KNS12-M8007	0.600
0.75	1.5	1.5	1.5	2.5 to 4	48	KNS12-M8008	0.600
1.1	2.2	2.2	3	4 to 6	72	KNS12-M8010	0.600
2.2	4	4	4	6 to 10	120	KNS12-M8014	0.600
4	7.5	7.5	7.5	10 to 16	192	KNS12-M8020	0.600
5.5	11	11	11	16 to 25	300	KNS12-M8025	0.600
1	18.5	22	22	25 to 40	480	KNS12-M8040	0.700
15	30	33	33	40 to 63	756	KNS12-M8063	0.700
22	40	45	45	56 to 80	960	KNS12-M8080	0.700

KNS12-ME80 same as KNS12-M80

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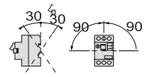
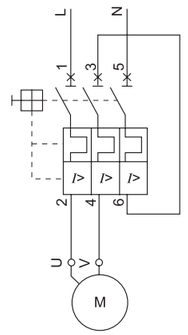
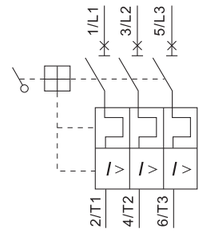
Type		KNS12-M32,ME32	KNS12-M80,ME80		
standard		EN 60 947-1,947-2, 947-4-1			
protection treatment		heat-moisture treatment	TC treatment		
Impact resistance (accord with IEC 68-2-27)		30g	22g		
Vibration Resistance (accord with IEC 68-2-6)		5 g(5~150Hz)	2.5g (0....2.5Hz)		
Ambient temperature storage condition	℃	- 40....+80	- 40....+80		
working condition	℃	- 20....+60	- 20....+60		
Temperature compensation	℃	- 20....+60	- 20....+60		
Flammability (accord with IEC695-2-1)	℃	960	960		
Maximum working altitude	m	2000	3000		
Working position			it's better to use vertically		
Quantity and sectional area of conductors		MAX MIN	MAX MIN		
Conductor wire	mm²	2×6 2×1	1×35 1×2.5		
Flexible conductor without terminal	mm²	2×6 2×1.5	2×16 1×2.5		
Flexible conductor with terminal	mm²	2×4 2×1	2×16 1×2.5		
					
Used as isolation or not (accord with IEC947-1 7-1-6)		Applicable	-		
Torque tightening	Nm	1.7	5		
Mechanical shock resistance	J	0.5	0.5		
		With Enclosure:6			
Utilization category (accord with IEC947-2 IEC947-4-1)		A	A		
		AC-3	-		
Rated operational voltage (accord with IEC947-2)	V	690	690		
Rated insulation voltage (accord with IEC947-2)	V	690	690		
Rated working Frequency (accord with IEC947-2)	Hz	50/60	50/60		
Rated resistance to pulse voltage (accord with IEC947-2)	kV	6	6		
Total dissipation energy for one pole	W	2.5	KNS12- 8025And bellow 3	KNS12- 8040,8063 6	KNS12- 8080 8
Mechanical life (C.O,: off, on)	C.O.	100 000	60000	50000	50000
Electrical Life (to AC-3 overload)	C.O.	100 000	60000	50000	50000
Overload level(in Max Operation Frequency)	C.O./h	25	25		
Rated overload (accord with IEC947-4-1)		Overload continuously	Overload continuously		

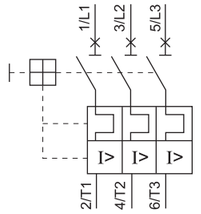
6. Wiring diagram



Single-phase or DC motor
KNS12-M32，ME32
KNS12-M80，ME80

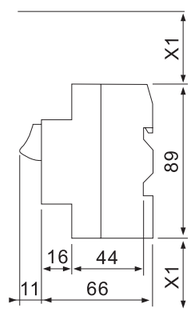


KNS12-M32,ME32

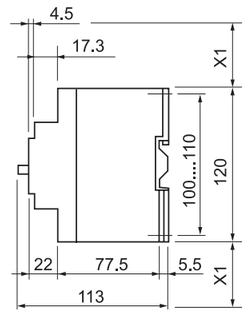


KNS12-ME80

7. Dimensions

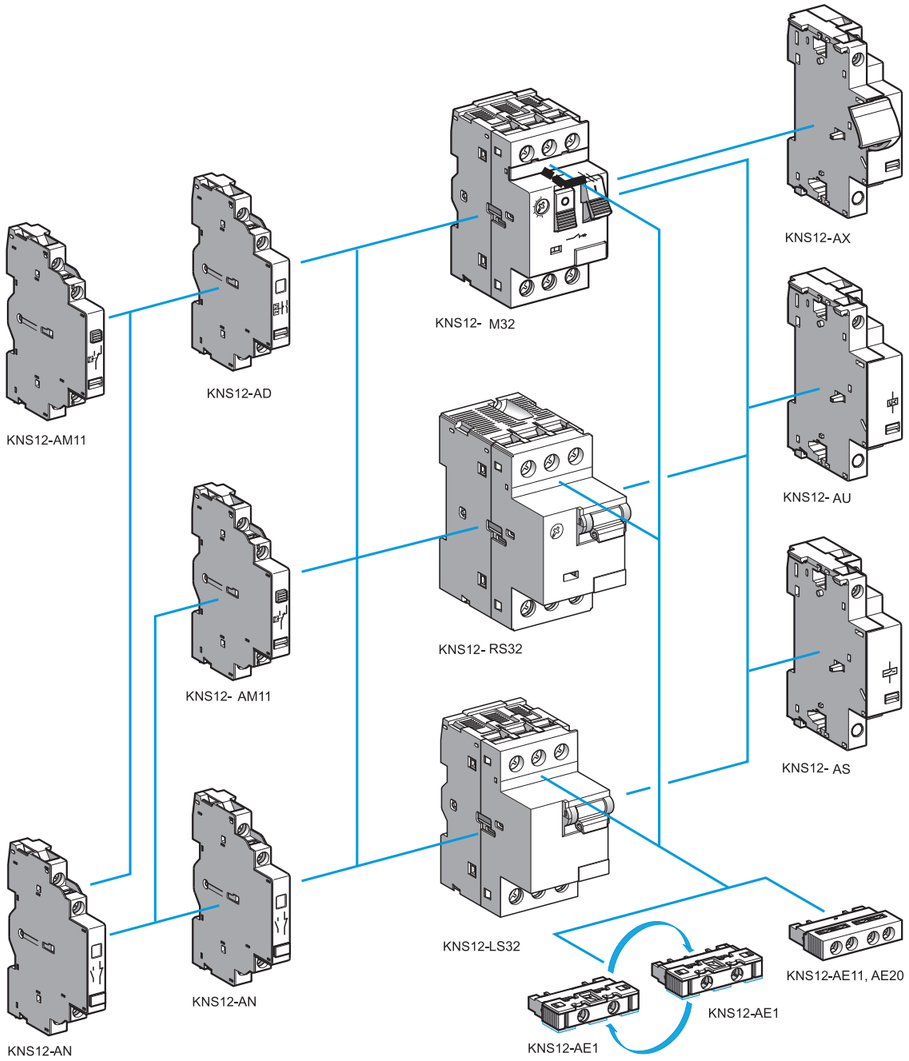


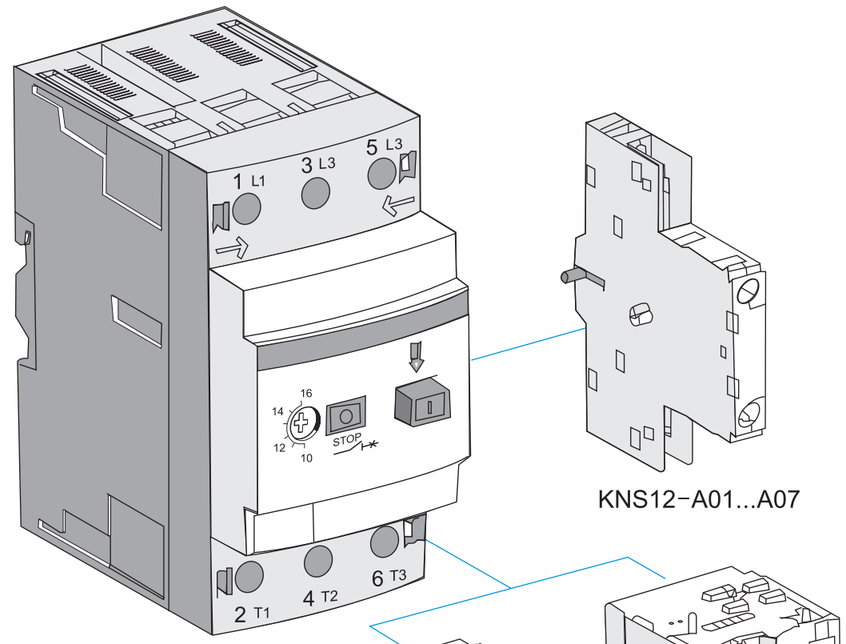
KNS12-M32,ME32

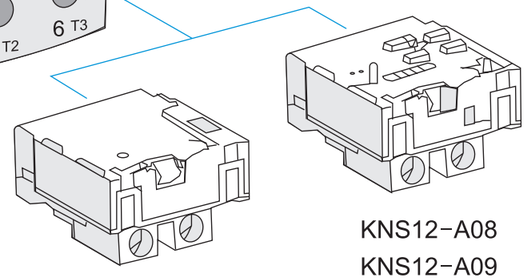


KNS12-M80,ME80

8. Electrical accessories







KNS12-B
KNS12-D

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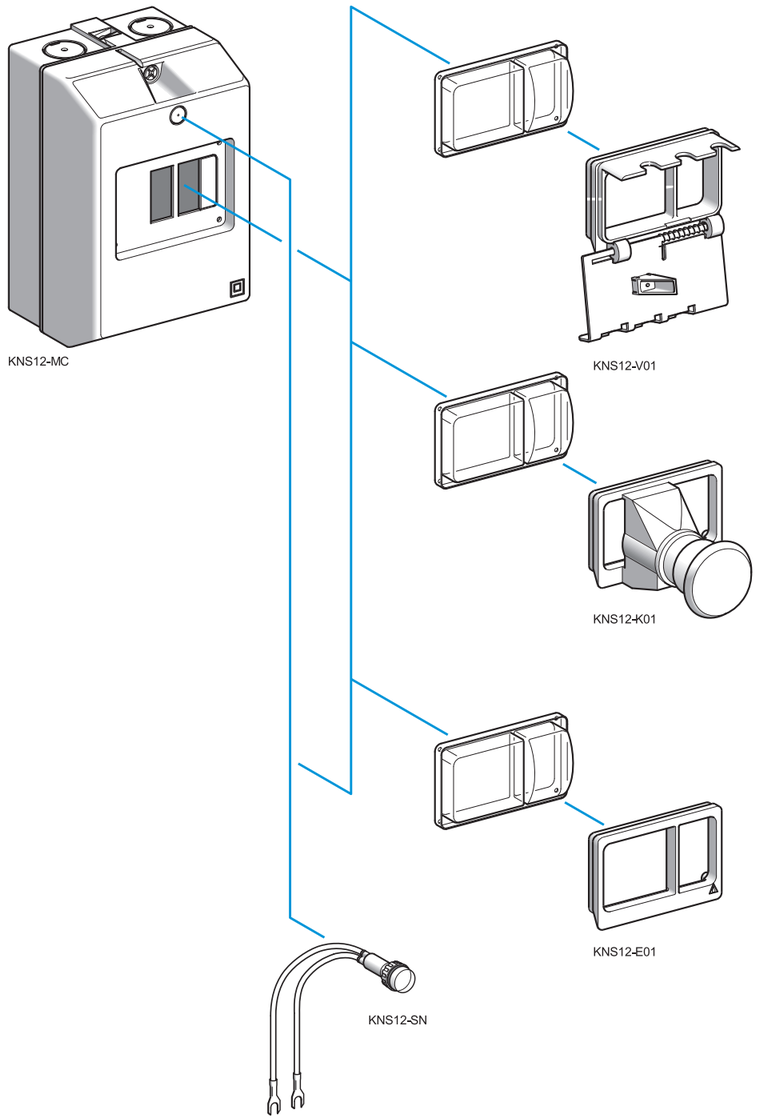


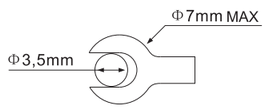
9. Technical Parameter Breaking capacity table

Type of motor starter				KNS12-M32, ME32									
				01~06	07	08	10	14	16	18	21	22	32
Rated Value			A	0.1~0.6	4	4	6.3	10	14	14	23	25	32
Breaking Capacity accrording IEC947-2	230V 240V	Icu	kA	★	★	★	★	★	30	30	30	30	30
		Ics%（1）		★	★	★	★	★	100	100	100	100	100
	400V 415V	Icu	kA	30	30	30	30	10	10	10	10	10	10
		Ics%（1）		50	50	50	50	50	50	50	40	40	50
	440V	Icu	kA	20	20	20	20	8	8	8	6	6	6
		Ics%（1）		50	50	50	50	50	50	50	50	50	50
	500V	Icu	kA	10	10	10	10	6	6	6	4	4	4
		Ics%（1）		75	75	75	75	75	75	75	75	75	75
	690V	Icu	kA	3	3	3	3	3	3	3	3	3	3
		Ics%（1）		75	75	75	75	75	75	75	75	75	75

Type of motor starter				KNS12-M80, ME80									
				06	07	08	10	14	20	25	40	63	80
Rated Value			A	1.6	2.5	4	6	10	16	25	40	63	80
Breaking Capacity accrording IEC947-2	230V 240V	Icu	kA	★	★	★	★	★	75	75	75	75	75
		Ics%（1）		★	★	★	★	★	75	75	75	75	75
	400V 415V	Icu	kA	60	60	60	60	60	35	35	30	30	12
		Ics%（1）		50	50	50	50	50	50	50	50	50	50
	440V	Icu	kA	60	60	60	60	60	25	25	25	25	10
		Ics%（1）		50	50	50	50	50	50	50	50	50	50
	500V	Icu	kA	20	20	20	20	20	10	8	8	8	4
		Ics%（1）		75	75	75	75	75	75	75	75	75	75
	690V	Icu	kA	3	3	3	3	3	4	4	4	4	2
		Ics%（1）		75	75	75	75	75	75	75	75	75	75

10. Technical Parameter KNS12-M32 M32 auxiliary contact

Type of contact		Magnetic auxiliary contact KNS12-AN/KNS12-AD							Fault signal contact KNS12-AD/KNS12-AM11				Magnetic auxiliary contact KNS12-AE			
Rated insulation voltage(Ui) Accord with IEC947-1	V	690							690				250 (Main circuit 690)			
Rated thermal current(Ith) Accord with IEC947-5-1	A	6							2.5				2.5			
Mechanical life	C.O.	100000							1000				10 000			
Working power and current Accord with IEC947-5-1 AC operation	V	AC-15/100000C.O.							AC-14/1000C.O.				AC-15/100 000 C.O.			
Rated working voltage(Ue)		48	110 127	230 240	380 415	440	500	690	24	48	110 127	230 240	24	48	110 127	230 240
Working power under normal condition	VA	300	500	720	850	650	500	400	36	48	72	72	48	60	120	120
close /open capacity under un-normal condition	VA	3000	7000	13000	15000	13000	12000	9000	220	300	450	450	480	600	1270	2400
Rated working current(Ie)	A	6	4.5	3.3	2.2	1.5	1	0.6	1.5	1	0.5	0.3	2	1.25	1	0.5
Working power and current Accord with IEC947-5-1 AC operation	V	DC-13/100000C.O.							DC-13/1000C.O.				DC-13/100 000 C.O.			
Rated working voltage(Ue)		24	48	60	110	220	-	-	24	48	60	-	24	48	60	-
Working power under normal condition	W	140	240	180	140	120	-	-	24	15	9	-	24	15	9	-
close /open capacity under un-normal condition	W	240	360	240	210	180	-	-	100	50	50	-	100	50	50	-
Rated working current(Ie)	A	6	5	3	1.3	0.5	-	-	1	0.3	0.15	-	1	0.3	0.15	-
Working condition DC	V	17														
	mA	5														
Connection		1 or 2 pcs wires														
Hard wire	mm^2	1...2.5														
Soft connection without connect terminal	mm^2	0.75....2.5														
Soft connection have connect terminal	mm^2	0.75...1.5														
Torque tightening	Nm	1.4 MAX														



11. Technical Parameter KNS12-M80 ME80 auxiliary contact

Type of contact			Magnetic auxiliary contact KNS12-A01~A07							Fault signal contact KNS12-A08~A09						
Rated insulation voltageUi (accord with IEC947-1 standard) (accord with CSAC22-2n° 14.UL508 standard)	V		690							690						
			600(B600)							600(B600)						
Conventional thermal current(Ith) (accord with IEC947-5-1 standard) (accord with CSAC22-2n° 14.UL508 standard)	A		6							6						
			5(B600)							5(B600)						
Mechanical life	C.O.		100 000							1000						
Working power and current (accord with IEC947-5-1 standard) AC electrify	V		48	110 127	220 240	380 415	440	500	690	48	110 127	220 240	380 415	440	500	690
Working power			AC-11/100000C.O.(close/open)							AC-11/100000C.O.(close/open)						
Accidental close/open capacity	VA		350	500	800	850	700	700	400	240	460	800	850	450	450	200
	VA		4000	12000	20000	20000	15000	15000	10000	2400	8000	12000	15000	12000	12000	8000
Working current(Ie)	A		6	4.5	3.5	2.2	1.5	1.5	0.6	5	3.6	3.5	2.2	1	1	0.3
Working power and current accord with IEC947-5-1 standard DC power supply	V		24	48	60	110	220			24	48	60	110	220		
Working power			AC-11/100000C.O.(close/open)							AC-11/100000C.O.(close/open)						
Accidental close/open capacity	W		180	240	180	140	120			120	120	90	70	60		
	W		240	360	240	210	180			180	180	135	105	90		
Working curren(Ie)	A		6	5	3	1.3	0.5			5	2.5	1.5	0.7	0.3		
Equipped with wires	Number of wires		1		2					1		2				
	Hard wire	mm^2	1....2.5		1....2.5					1....2.5		1....2.5				
	Soft wire without connection terminal	mm^2	0.75....2.5		0.75....2.5					0.75....2.5		0.75....2.5				
	Soft wire with connection terminal	mm^2	0.75....2.5		0.75....1.5					0.75....2.5		0.75....1.5				

KORLEN®
electrical shares

KNHA

WATERPROOF DISTRIBUTION BOX

1. Model and meaning

KN HA - □

- The ways of circuit breaker can be Install
- Waterproof distribution box HA series
- Enterprise code

2. Application

The IP65 watertight distribution enclosures are manufactured with the highest-quality plastic materials and are available in ABS and Poly carbonate. They have ample space for wiring and a modular capacity from 4 to 54modules. They are intended for indoor and outdoor use, where enclosures with a high degree of protection and design are required Intended for industrial and outdoor facilities where a high degree of protection and safety is required.

3. Technical Specifications

Degree of protection: IP65
Resistance to impact: Ik08
Glow wire resistance:ABS:650°C
Polycarbonate:750°C
Ball pressure test: 70°C
Ambient temperature range:-25°C/+40°C
Maximum operating voltage: 1000 VAC/1500V
DCDouble insulation: Class II

Base

Base with double height providing greater space on the inside for wiring and devices, and a reinforcement rib that delivers greater rigidity.

The top and bottom parts have cut-outs for the entry of M40.M32.M25and M20 metric cables.

The base has supports for fixing the neutral and earth bars, a swell as DIN rail housings and slots on the bottom to secure the mounting plates, rails, bars. etc.

Frame

The frame has double height which gives it greater rigidity.

The frame-base unit is closed by means of -turn captive plastic sealable power screws. This creates a box that can be sealed at four points.

Covered with a sealing gasket that guarantees the IP protection of the uinit.

Window

The frame has double height which gives it greater rigidity.

The window is covered with a sealing gasket to guarantee theassembly's IP protection.

Reversible 1809 horizontal window opening.

New-look lock with the IDE Logotype with pressureoperated opening and closing. The lock can be replaced with key locks or triangular locks inserts supplied as accessories.

3. IP65 surface distribution boxes(ABS)

Reference No.	No of modules	Dimensions	Weight	Power dissipation according totemperature increase℃ P(w)				
		HEIGHT* WDTH* DEPTH	G	20	25	30	35	40
KNHA-4	1x4 DIN rail	221x100x94	550	8.9	11.1	13.3	15.5	17.8
KNHA-6	1x6 DIN rail	231x202x114	1000	10.1	12.6	15.1	17.7	20.2
KNHA-8	1x8 DIN rail	231x238x114	1400	11.6	14.5	17.4	20.3	23.1
KNHA-12	1x12 DIN rail	231x310x114	1700	16.6	20.7	24.8	29.0	33.1
KNHA-18	1x18 DIN rail	231x418x114	1980	23.1	28.9	34.7	40.4	46.2
KNHA-24	2x12 DIN rail	392x310x114	2600	25.9	32.3	38.8	45.3	51.7

4. IP65 surface distribution boxes(Polycarbonate)

Reference No.	No of modules	Dimensions	Weight	Power dissipation according totemperature increase℃ P(w)				
		HEIGHT* WDTH* DEPTH	G	20	25	30	35	40
KNHA-4	1x4 DIN rail	221x100x94	550	8.9	11.1	13.3	15.5	17.8
KNHA-6	1x6 DIN rail	231x202x114	1000	10.1	12.6	15.1	17.7	20.2
KNHA-8	1x8 DIN rail	231x238x114	1400	11.6	14.5	17.4	20.3	23.1
KNHA-12	1x12 DIN rail	231x310x114	1700	16.6	20.7	24.8	29.0	33.1
KNHA-18	1x18 DIN rail	231x418x114	1980	23.1	28.9	34.7	40.4	46.2
KNHA-24	2x12 DIN rail	392x310x114	2600	25.9	32.3	38.8	45.3	51.7

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KNS

CONSUMER UNIT -METAL BOX

1. Model and meaning

KN S - □

- The ways of circuit breaker can be Install
- Metal distribution box
- Enterprise code

2. Product Features

1.Galvanized steel for door, cover and box.

2.Use Akzonobel coating powder.

3.Excellent degrease /cleaning /phosphorization / powdercoating process in auto production line to assure good coating appearance.

4.Big wiring space.

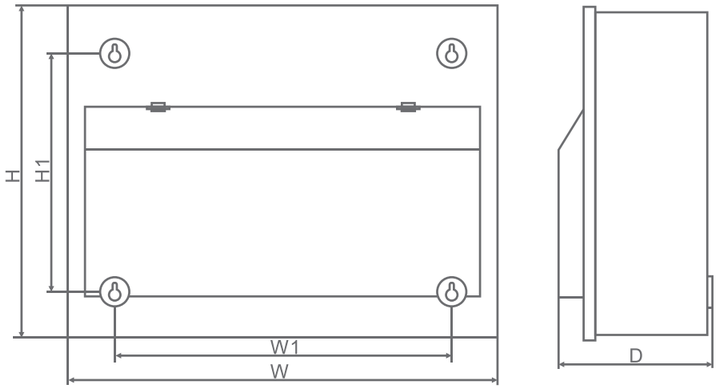
5.Drop down lid be opened / closed freely.

6.Coating thickness >40um

BOX
intertek CE CB RoHS ISO9001

3. Specification & Dimension(mm)

Type	Model	Metal box				
		W	W1	H	H1	D
KNS	6WAY	157	108	261	214	90
	8WAY	162	94	259	183	110
	10WAY	234	166	259	183	110
	14WAY	306	238	259	183	110
	18WAY	378	310	259	183	110
	24WAY	486	418	259	183	110
	28WAY	306	238	512	438	110
	36WAY	378	310	512	438	110



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KNDS

SERIES COMBINER BOX

1. Model and meaning

KN DS □-□

- NO. of output
- NO. of input
- DC Combiner Box
- Enterprise Code

2. Sphere of application

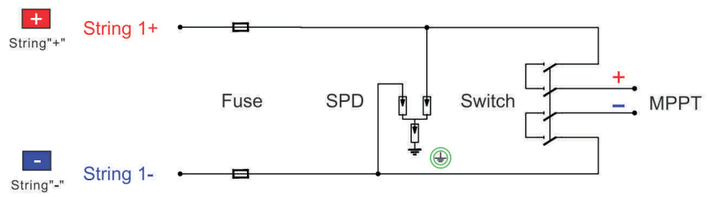
KNDS Series Combiner Box provides a means of combining multiple source circuits from a PV array into a single DC output. Each source circuit is fused separately using a touch-safe fuse holder. The combiner box allows for fail-safe operation of the system in the unlikely event that a problem with a source circuit leads to abnormally high current. In addition, the combiner box provides a convenient means of accessing the DC portion of a PV system for routine maintenance and troubleshooting.

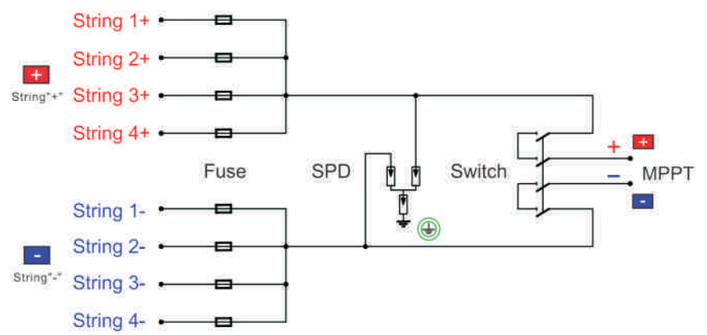
BOX
intertek CE CB RoHS ISO9001

3. Basic specification and main parameters

	1 String Input 1 String Output DC	4 String Input 1 String Output DC
General Data		
Model No.		
Input	1 string	4 string
Output	1 string	
Maximum Voltage	DC 1000V	
Maximum Input Current	15A	
Maximum Output Current	32A	63A
Operating Temperature	-20℃ ~ +60℃	
Degree of Protection	IP65	
Altitude	≦2000M	
Installation	Wall Mounting	
DC MCB		
Rated Insulation Voltage	1100V	
Rated Current	32A	63A
Standard Compliance with	IEC60947-2	
Certifiction	CE,CB,S	
DC SPD		
Max Operaton Voltage	DC 1000V	
Standard Compliance with	IEC61643-11	
Max Discharge Current	40KA	
DC Fuse Holder		
Retad working Voltage	DC 1000V	
LED Indicator	Yes	
Fuse Link	10x38mm, 15A	

4. Wiring diagram





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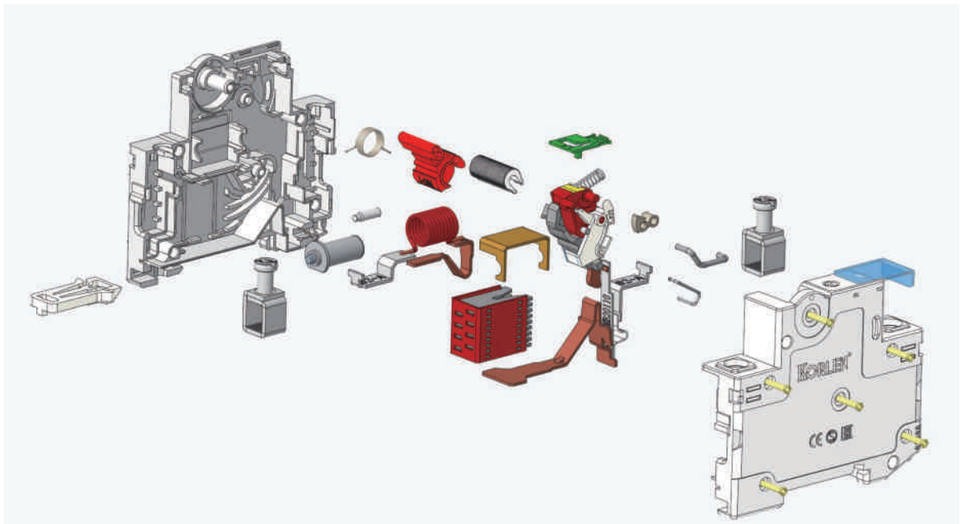
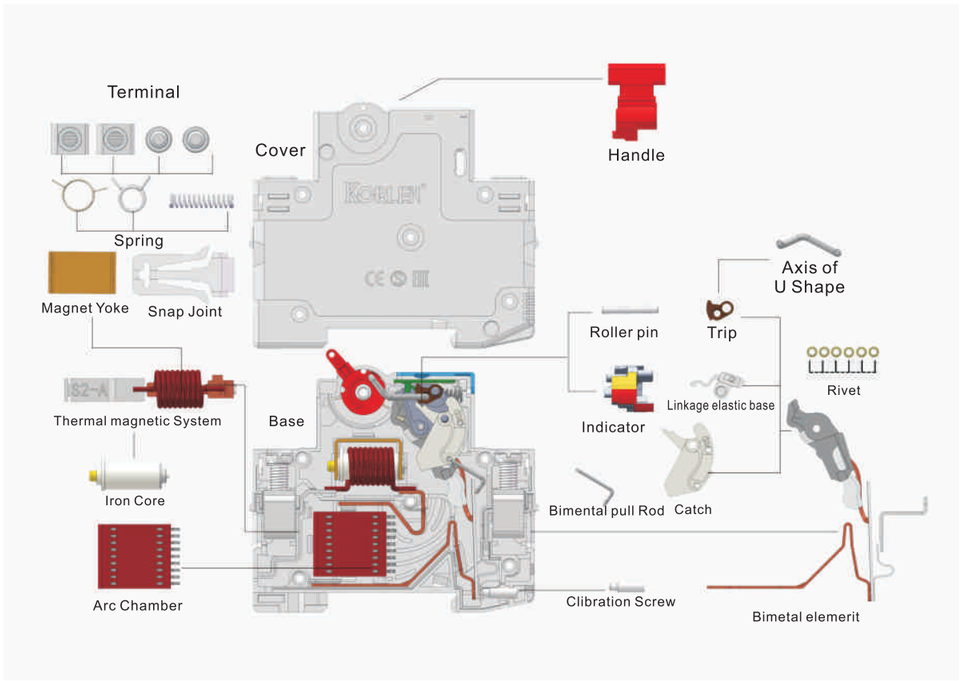
We offer a complete SKD service to guide you through all the steps of circuit breaker production





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