Dedicated
Will Be More Professional
2022-2023

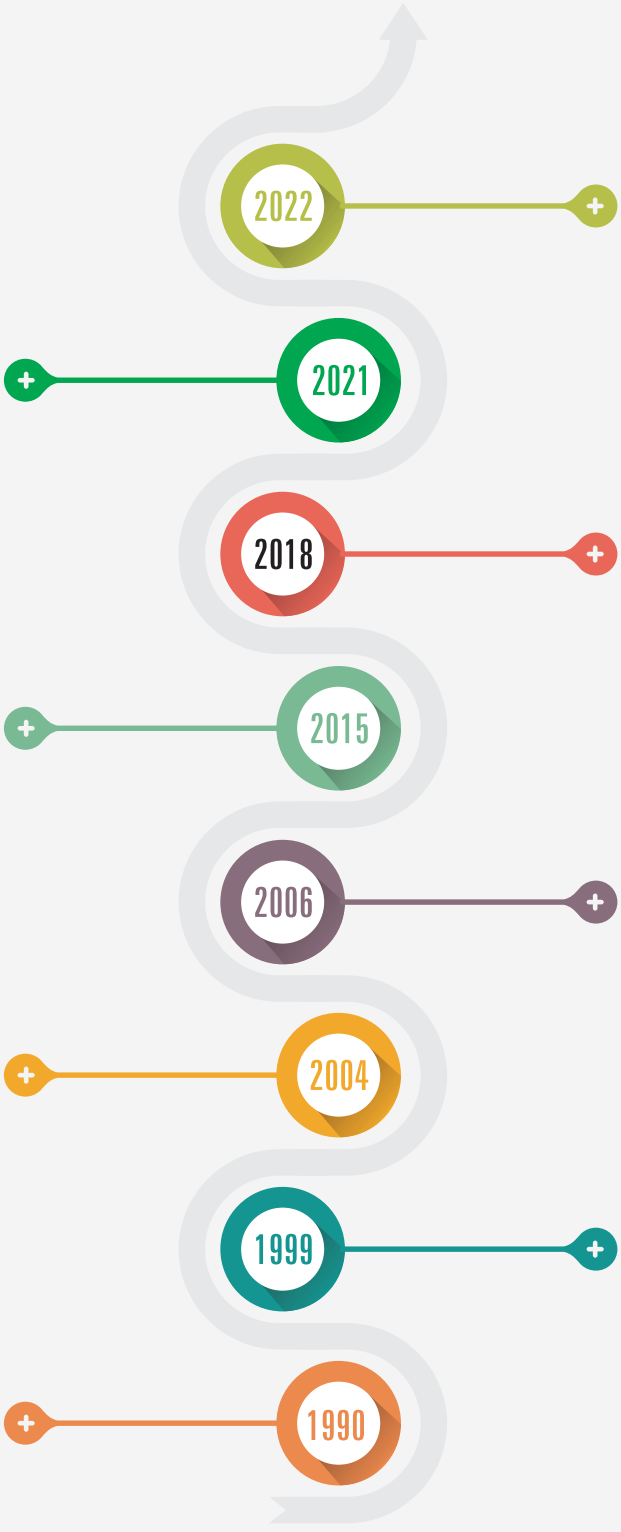
Mini Safety Breaker

RCBO & RCCB & MCB

www.traner.cn
www.traner-elec.com

TRANER®
Since 1990

Corporate Milestone



2022,Jan.
TRANER's turnover reach 20 millions US dollars.

2021,Oct.
We finished our new plant which was invested around 8 millions US dollars.

2018,Dec.
The annual turn over more than 15 millions US dollars.

2015,May.
Changed the company name to Zhejiang Qianna Electric Co., Ltd.

2006,Mar.
Got ISO9001：2000 Certificate.

2004,Oct.
Changed the company's name to Wenzhou Qianna Electric Co.,Ltd.

1999,Jun.
Yue qing Zhi yuan Accessory Factory was established and became the official supplier of Chint.

1990,Jun.
The founder started the production in a family workshop.

Since 1990

ZHEJIANG QIANNA ELECTRIC CO.,LTD(TRANER) was founded in 1990, we engage in tooling making, parts punching, injection mould, spot welding, and PCB production to finished product assembly. Now we are professional with MCCB, ELCB, MINI safety breaker MCB, RCCB, RCBO, Al/Cu universal terminal block, etc. Our product are wide selling to Norway, Sweden, Germany, Netherlands, Turkey, Thailand, Malaysia, Korea, Japan etc more than 15 countries. With so many years rich experience, we have won favorable comments due to the superior quality, reasonable price and excellent after-sale service.

TRANER has strong technical ability, complete production line and testing equipment. All the process strict control to ensure the excellence, reliable and stable product quality. So far, the company has passed ISO9001:2015 quality assurance system certification and ISO14001:2015 environmental management system certification; Our products have passed the national compulsory CCC certificate, CE, CB etc product certificates.

Warmly welcome friends at domestic and abroad come to talk, welcome to TRANER!

www.traner.cn
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Integrity wins the market, quality makes the future!

Product Overview

The Mini Series is our newest products including RCBO&RCCB&MCB to provide the protection against:

- **RCBO: Over load & Short Circuit & Ground Fault (TNB1L-32G Series);**
- **RCCB:Ground Fault (TNB1L-32 Series and TRL-40 Series);**
- **MCB:Overload & Short Circuit (TNB1-32G Series and TNB3-32G Series);**

We are dedicated to protect all the electrical environment to give human a safe life.


UKRAINE
FRANCE
ITALY
SPAIN
TURKEY
KAZAKHSTAN
ALGERIA
LIBYA
EGYPT
IRAN
PAKISTAN
SAUDI ARABIA
MAURITANIA
NIGERIA
ETHIOPIA
SOMALIA
TANZANIA
ANGOLA
MLAWI
ZAMBIA
NAMIBIA
ZIMBABWE
MADAGASCAR

CONTENTS

Product Overview

RCBO

International Standard	IEC/EN 61009-1 GB 16917.1
Series	RCBO TNB1L-32G Series
Protection	
Over load	√
Short Circuit	√
Ground fault	√

RCCB

International Standard	IEC/EN 61008-1 GB 16916.1
Series	RCCB TNB1L-32 Series TRL-40 Series
Protection	
Over load	-
Short Circuit	-
Ground fault	√

MCB

International Standard	IEC/EN 60898-1 GB 10963.1
Series	MCB TNB1-32G Series TNB3-32G Series
Protection	
Over load	√
Short Circuit	√
Ground fault	-

Mount

On 35mm Din rail

Screw type

Plug-in pin type

Recessed mounting plastic Box

Recessed mounting plastic Box 01(RE 01)

Recessed mounting plastic Box 02(RE 02)

Surface mounting plastic Box

Surface mounting plastic Box 01(SU 01)

Surface mounting plastic Box 02(SU 02)

Surface mounting plastic Box 03(SU 03)

Terminal

Cage clamp type

Screw type

Plug-in pin type

RCBO
IEC/EN 61009-1　GB 16917.1

RCCB
IEC/EN 61008-1　GB 16916.1

MCB (MCCB)
IEC/EN 60898-1　GB 10963.1
IEC/EN 60947-2　GB 14048.2


TRANER
TNB1L-32G
RCBO
AC230V
50Hz
D20
TEST
In 30A
2P2E
In 20A
2P2E
TNB1L-32(D)
AC230V
30mA
32A
OFF
RCCB
GB
16916.1

Marking & Configuration

TNB1L-32G
(CCC)

TNB1L-32G series RCBO all types :

TNB1L-32G

TNB1L-32G(b)

TNB1L-32G(c)

TNB1L-32G(d)

Marking & Configuration

Printing instruction

1	Company logo
2	Product type
3	Rated voltage
4	Rated frequency
5	Rated current
6	Product
7	2 poles 2pcs bi-metal
8	Pass CCC certificate
9	Rated residual operating current
10	Rated residual non-operating current
11	AC type
12	Rated limit short circuit breaking capacity
13	Rated service short circuit breaking capacity
14	Standard
15	Manufacturer

Function instruction

A	Up-stream connections
B	Fixing hole
C	Up-stream connections
D	Handle
E	Test button
F	Down-stream connections
G	Fixing hole
H	Down-stream connections

Model Description

TNB1 — L — 32 — G — (b) / 16 — 15

Product Series Code	With the Ground Fault Protection	Ampere Frame	With Over Load & Short Circuit Protection	Appearance Code	Rated Current	Rated residual current
		32 A			16 A	15 mA
				(b)	20 A	30 mA
				(c)	25 A	
				(d)	32 A	

Remark:
For bimetal,the default product is with 2 pieces bimetal.(2E)

Standard Use Environment for RCBO TNB1L-32G Series

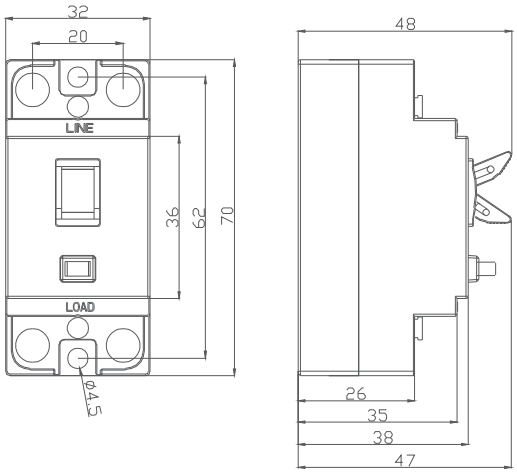
1) Ambient Temperature:	Within the range of -5℃～+40℃ (However, the average for the duration of 24 hours must not exceed 35℃)
2) Altitude:	2,000m or less
3) Installation class:	III
4) The magnetic field near the installation site should not be more than five times the magnetic field in any direction.	
5) Pollution levels:	II

Product Specification

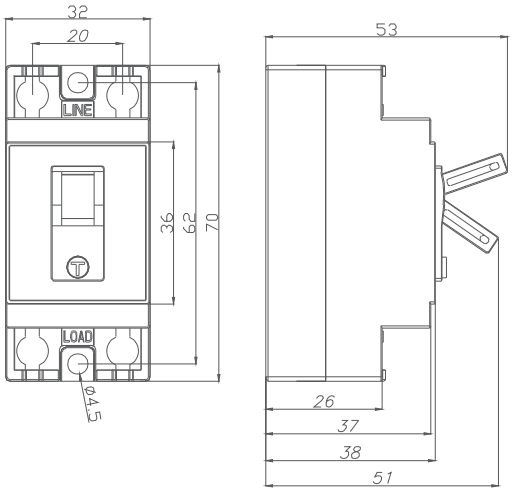
TNB1L-32G Series RCBO		
Product Type		TNB1L-32G, TNB1L-32G(b), TNB1L-32G©, TNB1L-32G(d)
Protection		Over load & Short circuit & Ground fault
Rated current ,In(A)		16A, 20A, 25A, 32A
Characteristic curve		C curve(32A), D curve(16A, 20A, 25A)
Rated residual current	Operating,I△n(mA)	15mA, 30mA
	Non-operating,I△no(mA)	7.5mA, 15mA
Poles		2 poles
Rated voltage,Ue(V)		110V AC, 220V AC
Residual current off-time(s)		0.1 s
Standard		IEC/EN 61009-1 GB16917.1
Approval		CCC CE
Type of trip	Short Circuit	Electro-magnetic
	Over load	Thermal / Bimetallic (2E)
	Ground fault	Electronic
Rated short circuit breaking capacity,Icn(kA)		2.5 kA
Endurance		4000 Circles
Material of body	Base	Bakelite
	Cover in grey color	Plastic
	Cover in black color	Bakelite
Type of operation		AC
Length*Width*Height(mm)		70 mm*32 mm*53 mm

Dimension

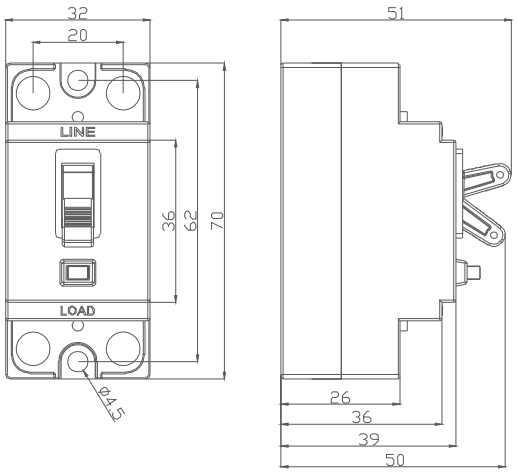
● TNB1L-32G



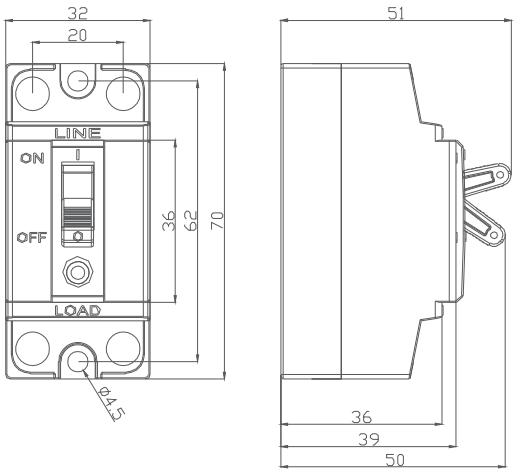
● TNB1L-32G(b)



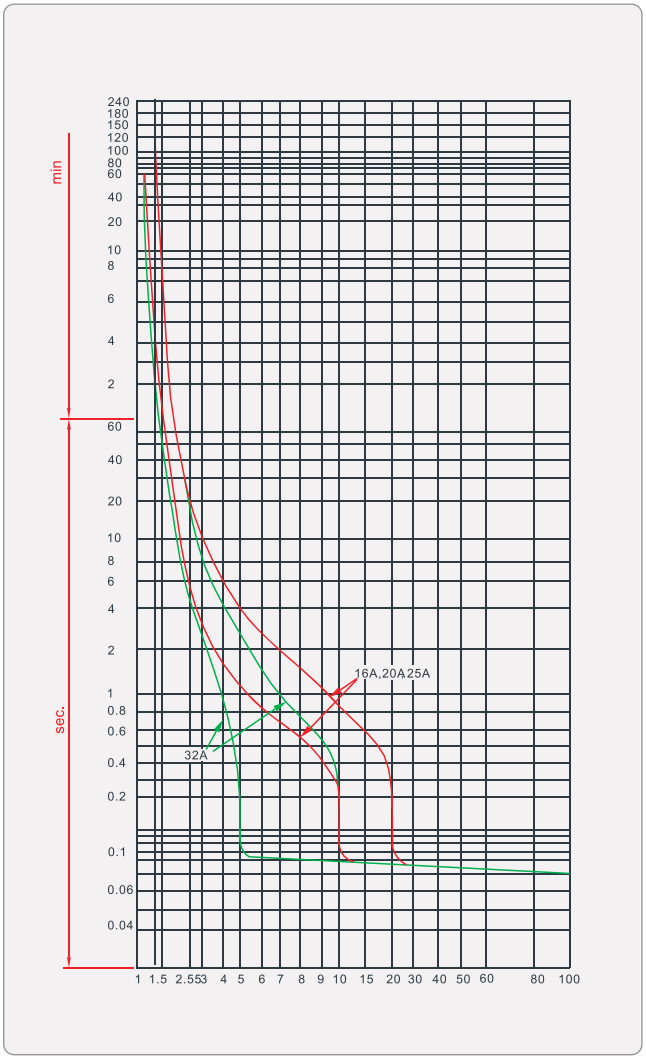
● TNB1L-32G(c)



● TNB1L-32G(d)



Characteristics Curves



Over-load

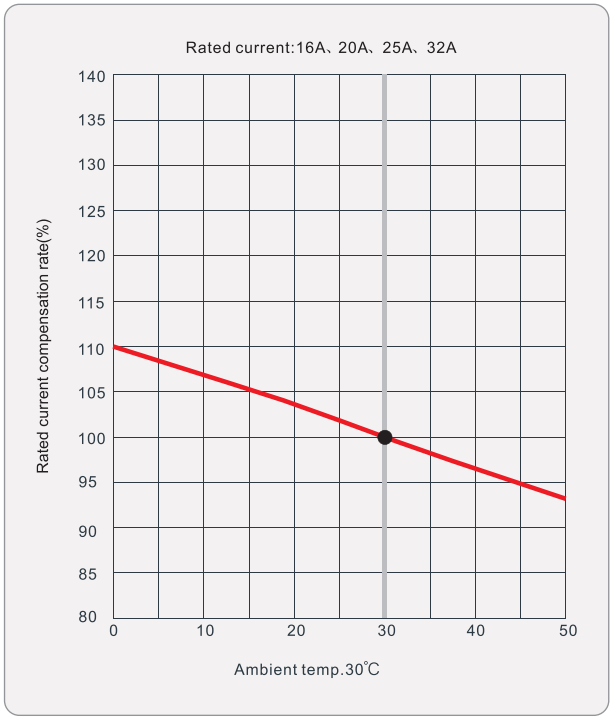
Test No.	Curve type	Load current	Initial state	Time	Result
1.	C, D	1.13 In	cold state	t<1h	Not trip
2.	C, D	1.45 In	continuing the test	t<1h	Trip
3.	C, D	2.55 In	cold state	1s<t<60s	Trip

Short circuit

Test No.	Curve type	Load current	Initial state	Time	Result
4.	C	5 In	cold state	t<0.1s	Not trip
	D	10 In			
5.	C	10 In	cold state	t<0.1s	Trip
	D	20 In			

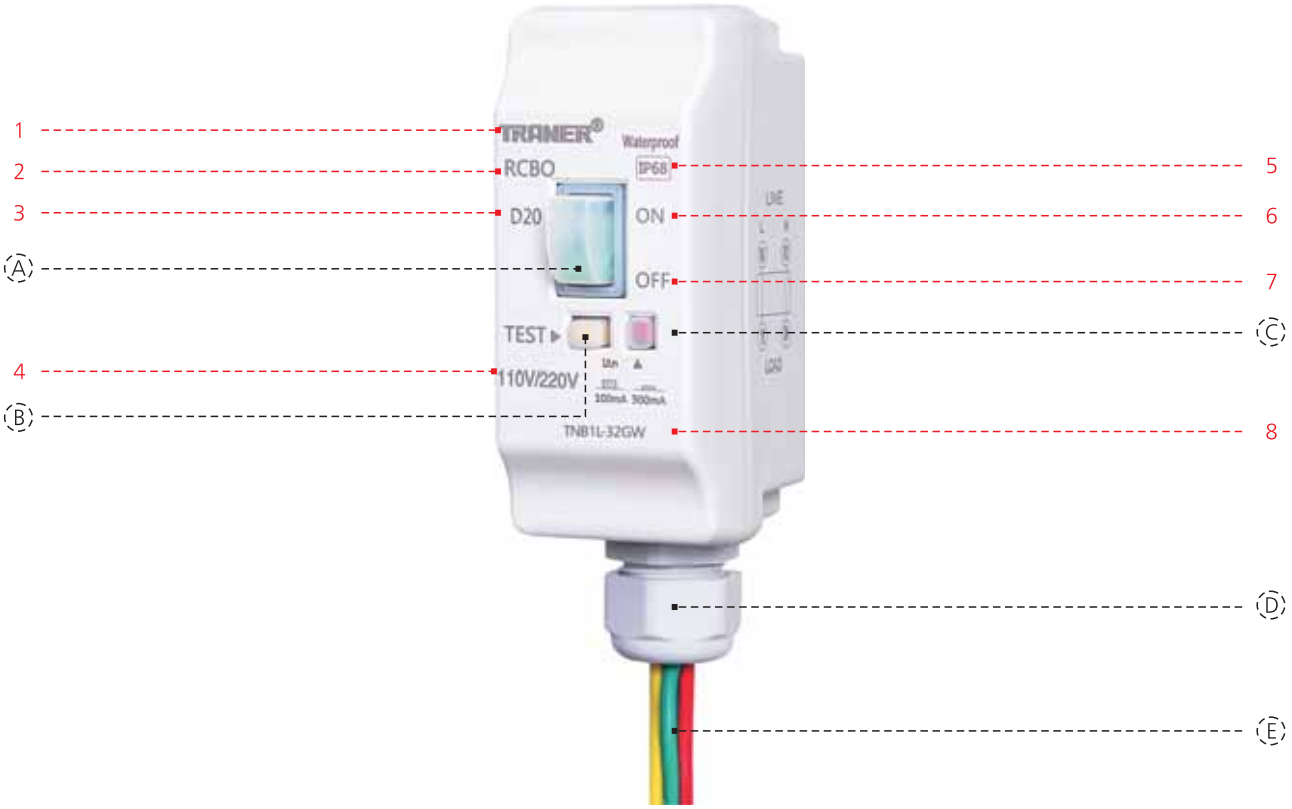
Temperature Compensation Curves

Ambient temperature → / Rated current(A) ↓	-10℃	0℃	10℃	20℃	30℃	40℃	50℃	60℃
16	19.20	18.40	17.76	16.96	16.00	15.36	14.88	14.24
20	24.00	23.00	22.20	21.20	20.00	19.20	18.60	17.80
25	30.00	28.75	27.75	26.50	25.00	24.00	23.25	22.25
32	38.72	37.12	35.52	33.92	32.00	30.72	29.76	28.16



UNIQUE DESIGN!
IP 68 RCBO!

Marking & Configuration



Marking & Configuration

Printing instruction

1	Company logo
2	Product
3	Rated current
4	Rated voltage
5	IP68 waterproof
6	Switch on position
7	Switch off position
8	Product type

Function instruction

A	Handle
B	Test button
C	Rated residual operating current adjustable button
D	Cable gland
E	Wire

Model Description

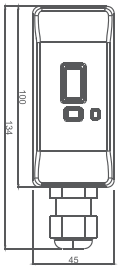
TNB1	L	–	32	G	W	/	32	–	AD
Product Series Code	With Ground Fault Protection		Ampere Frame	With Over Load & Short Circuit Protection	With IP68 Waterproof Function		Rated Current		Rated residual current

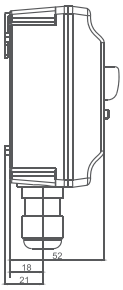
32	A

16	A
20	A
25	A
32	A

AD	Adjustable 100mA/300mA

Remark:
For bimetal,the default product is with 2 pieces bimetal.(2E)





TNB1L-32GW RCBO

Product Type		RCBO TNB1L-32GW
Protection		Overload & Short Circuit & Ground fault
Rated current ,In(A)		16A, 20A, 25A, 32A
Characteristic curve		C curve(32A), D curve(16A, 20A, 25A)
Rated residual current (Adjustable)	Operating,I△n(mA)	100mA, 300mA
	Non-operating,I△no(mA)	50mA, 150mA
Poles		2 poles
Rated voltage,Ue(V)		110V AC, 220V AC
Rated current off-time(s)		0.1 s
Standard		IEC/EN 61009-1 GB16917.1
Type of trip	Short Circuit	Electro-magnetic
	Over current	Thermal / Bimetallic (2E)
	Ground fault	Electronic
Rated short circuit breaking capacity,Icn(kA)		2.5 kA
Endurance		4,000 Circles
Protection degree		IP68
Length*Width*Height(mm)		134mm*45mm*52mm
Type of operation		AC

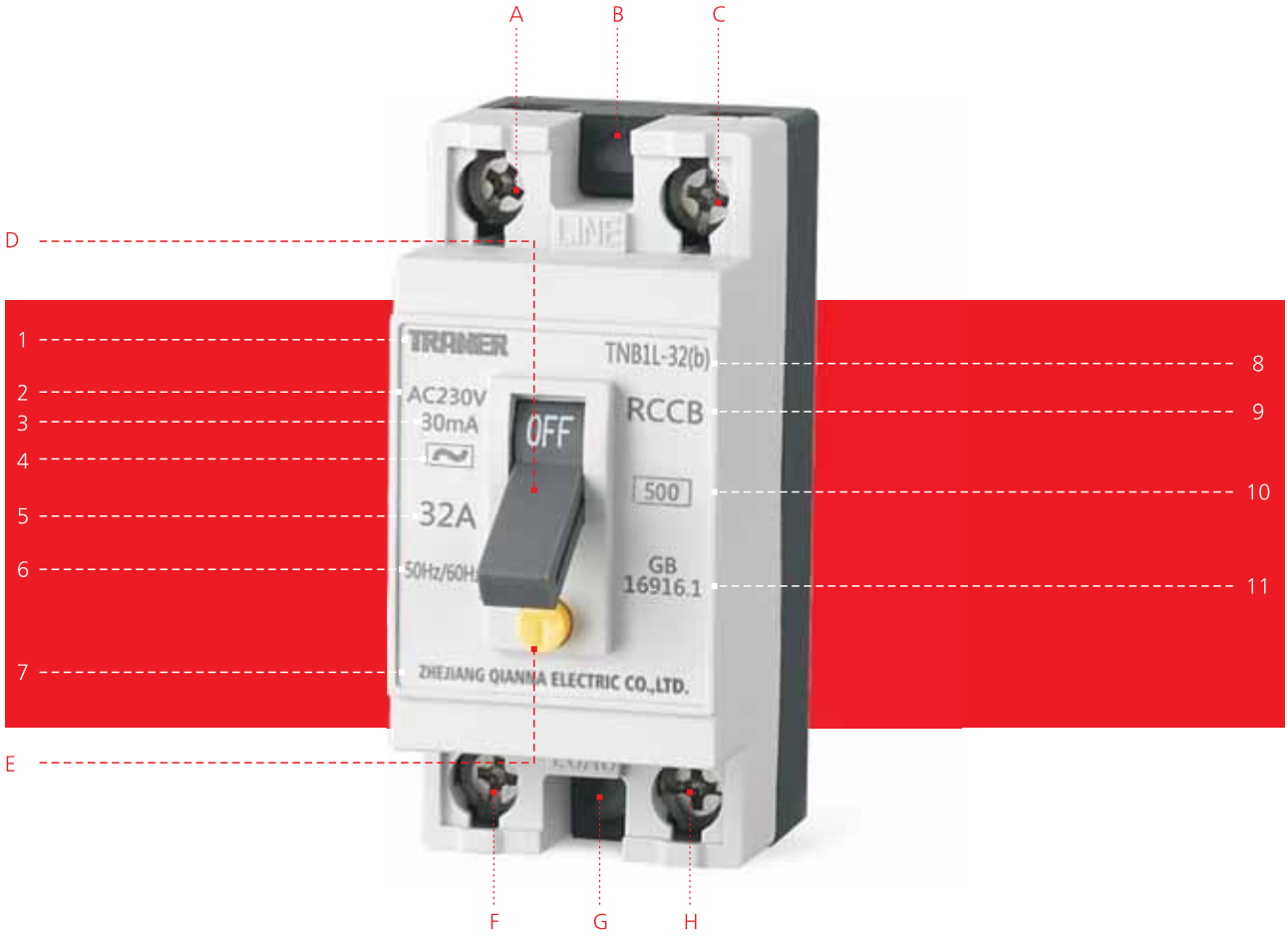
Unique Design! IP 68 RCBO

It is our brand new RCBO with unique design.

The waterproof grade is IP68! It will be the best choice to protect the streetlight and outdoor electrical applications against:

Over Load
Short Circuit
Ground Fault

Marking & Configuration



TNB1L-32(b)

TNB1L-32 series RCCB all types:

TNB1L-32(b) TNB1L-32(c) TNB1L-32(d) TNB1L-32(e) TNB1L-32(f) TNB1L-32(h)

Marking & Configuration

Printing instruction

1	Company logo
2	Rated voltage
3	Rated residual operating current
4	AC type
5	Rated current
6	Rated frequency
7	Manufacturer
8	Product type
9	Product
10	Rated switch on breaking capacity
11	Standard

Function instruction

A	Up-stream connections
B	Fixing hole
C	Up-stream connections
D	Handle
E	Test button
F	Down-stream connections
G	Fixing hole
H	Down-stream connections

Model Description

TNB1	L	–	32	(b)	/	32	–	15
Product Series Code	With Ground fault protection		Ampere Frame	Appearance Code		Rated Current		Rated residual current

32	A	(b)	16	A	15	mA
		(c)	20	A	30	mA
		(d)	25	A		
		(e)	32	A		
		(f)				
		(h)				

Standard Use Environment for RCCB TNB1L-32 Series

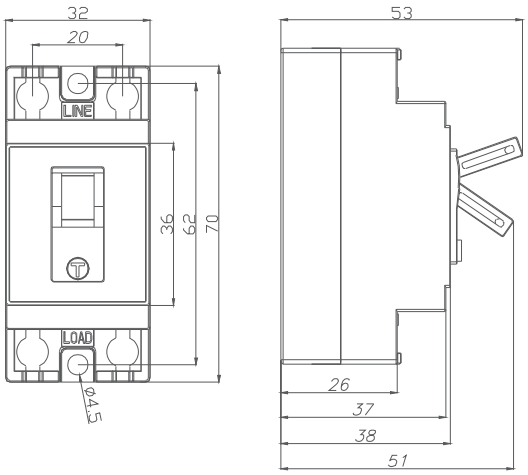
1) Ambient Temperature:	Within the range of -5℃～+40℃ (However, the average for the duration of 24 hours must not exceed 35℃)
2) Altitude:	2,000m or less
3) Installation class:	III
4) The magnetic field near the installation site should not be more than five times the magnetic field in any direction.	
5) Pollution levels:	II

Product Specification

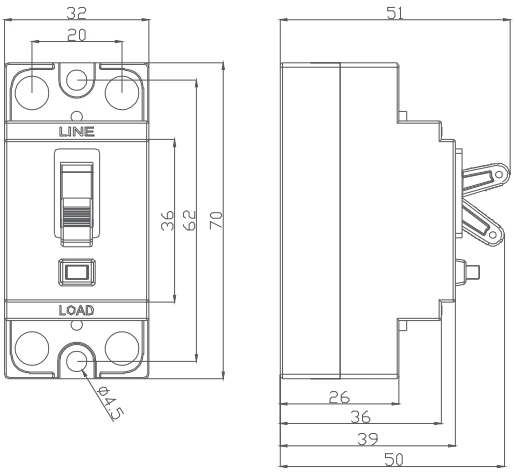
TNB1L-32 Series RCCB		
Product type		TNB1L-32(b), TNB1L-32©, TNB1L-32(d), TNB1L-32(e), TNB1L-32(f), TNB1L-32(h)
Protection		Ground fault
Rated current ,In(A)		16A, 20A, 25A, 32A
Rated residual current	Operating,I△n(mA)	15mA, 30mA
	Non-operating,I△no(mA)	7.5mA, 15mA
Poles		2 poles
Rated voltage,Ue(V)		110V AC, 220V AC
Residual current off-time(s)		0.1 s
Standard		IEC/EN 61008-1 GB 16916.1
Approval		CCC
Type of trip	Ground fault	Electronic
Rated switch-on breaking capacity,Im(A)		500 A
Rated limited short circuit current,Inc(kA)		2.5 kA
Endurance		4000 Circles
Material of body	Base	Plastic / Bakelite
	Cover in grey color	Plastic
	Cover in black color	Bakelite
Type of operation		AC
Length*Width*Height(mm)		70 mm*32 mm*53 mm

Dimension

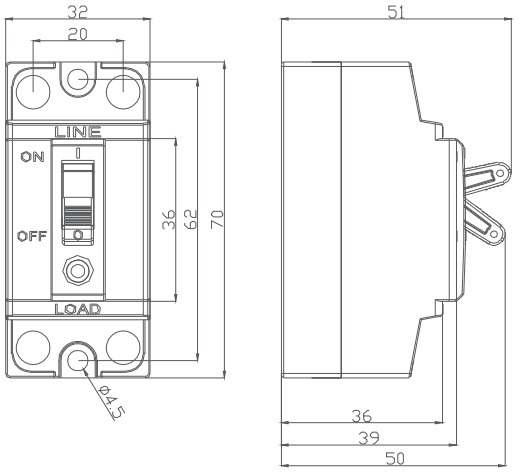
- TNB1L-32(b)



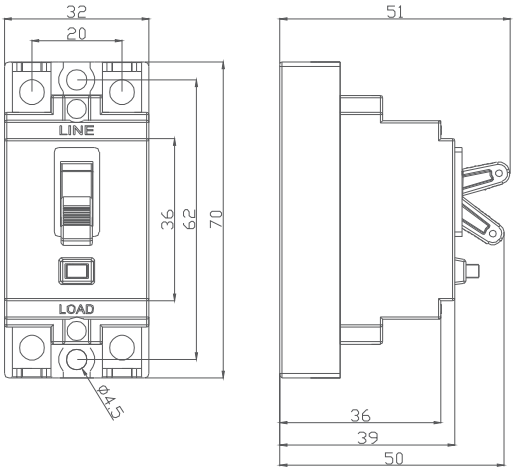
- TNB1L-32(c)



- TNB1L-32(d)

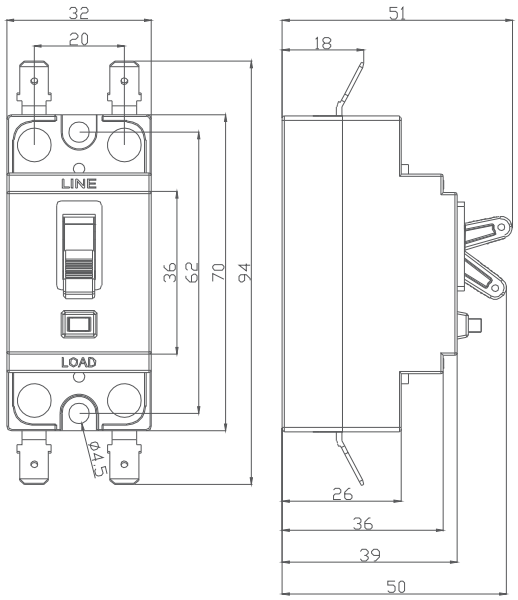


- TNB1L-32(e)

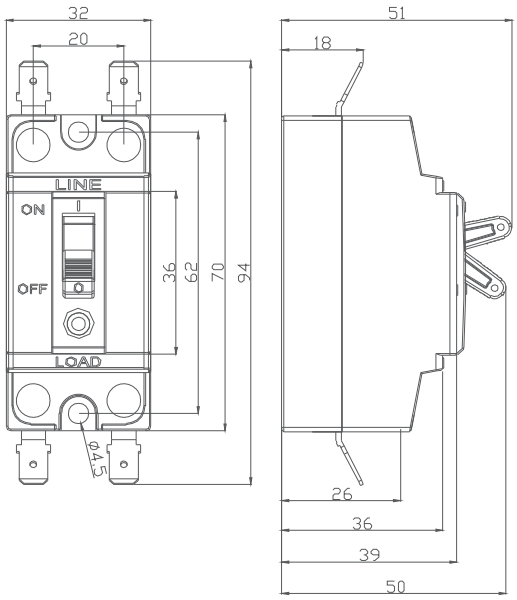


Dimension

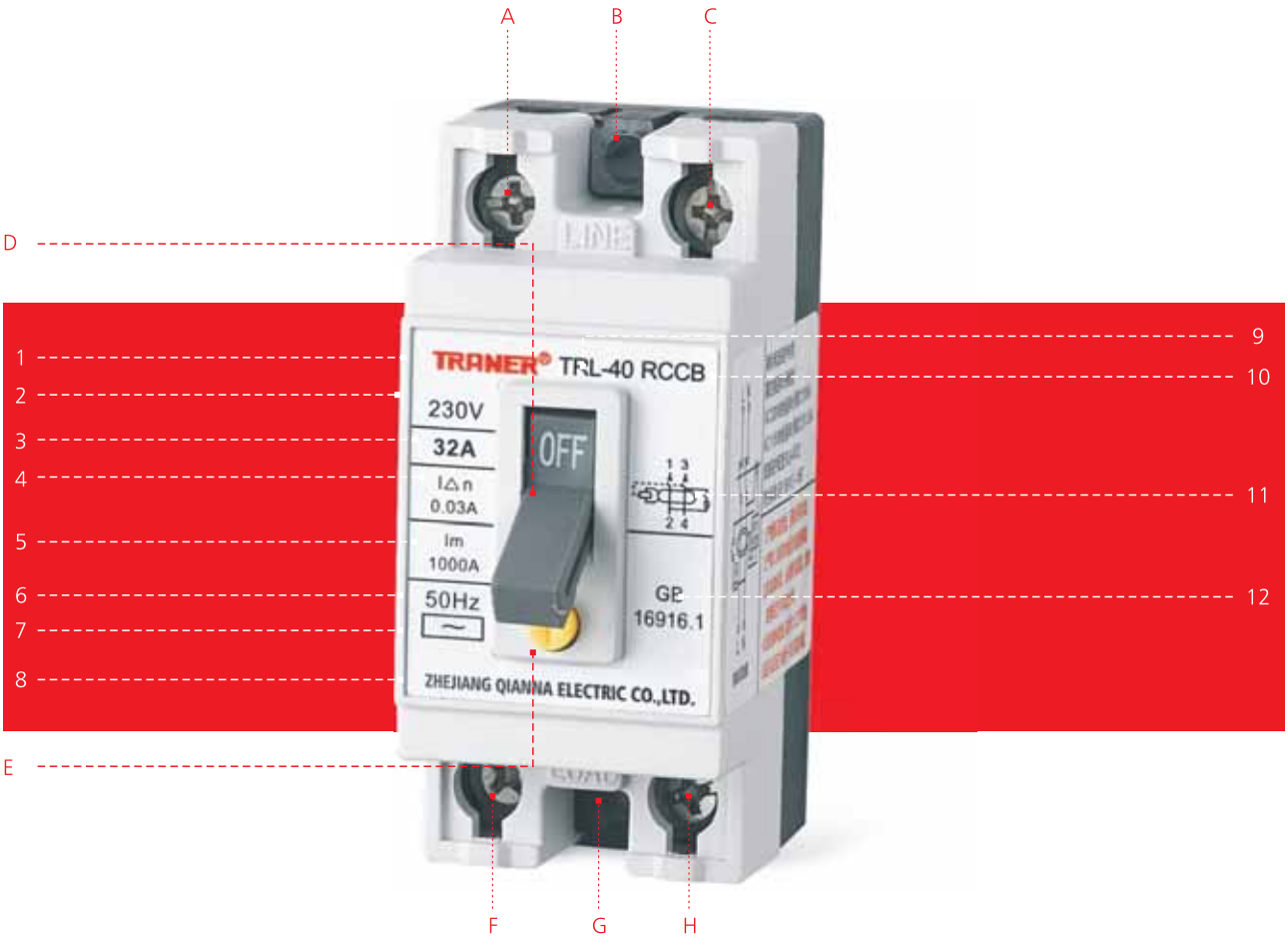
- TNB1L-32(f)



- TNB1L-32(h)



Marking & Configuration



TRL-40(d)

TRL-40 series RCCB all types:

TRL-40(a)

TRL-40(b)

TRL-40(c)

TRL-40(d)

Marking & Configuration

Printing instruction

1	Company logo
2	Rated voltage
3	Rated current
4	Rated residual operating current
5	Rated limit short circuit breaking capacity
6	Rated frequency
7	AC type
8	Manufacturer
9	Product type
10	Product
11	Rated limit short circuit breaking capacity
12	Standard

Function instruction

A	Up-stream connections
B	Fixing hole
C	Up-stream connections
D	Handle
E	Test button
F	Down-stream connections
G	Fixing hole
H	Down-stream connections

Model Description

TR	L	–	40	(d)	/	32	–	15
Product Series Code	With Ground Fault Protection		Ampere Frame	Appearance Code		Rated Current		Rated residual current

32	A

(a)
(b)
(c)
(d)

16	A
20	A
25	A
32	A
40	A

15	mA
30	mA

Standard Use Environment for RCCB TRL-40 Series

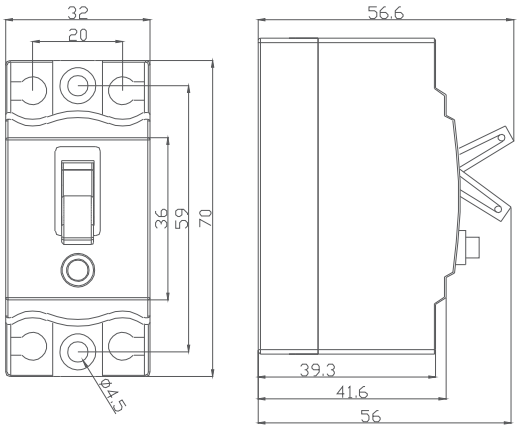
1) Ambient Temperature:	Within the range of -5℃～+40℃ (However, the average for the duration of 24 hours must not exceed 35℃)
2) Altitude:	2,000m or less
3) Installation class:	III
4) The magnetic field near the installation site should not be more than five times the magnetic field in any direction.	
5) Pollution levels:	II

Product Specification

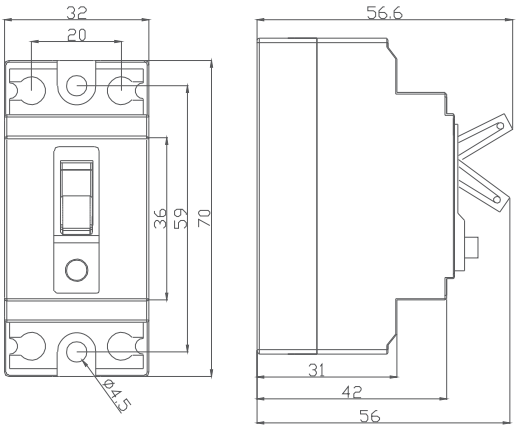
TRL-40 Series RCCB		
Product type		TRL-40(a), TRL-40(b), TRL-40(c), TRL-40(d)
Protection		Ground fault
Rated current ,In(A)		16A, 20A, 25A, 32A, 40A
Rated residual current	Operating,I△n(mA)	15mA, 30mA
	Non-operating,I△no(mA)	7.5mA, 15mA
Poles		2 poles
Rated voltage,Ue(V)		110V AC, 220V AC
Residual current off-time(s)		0.1 s
Standard		IEC/EN 61008-1 GB 16916.1
Approval		CCC
Type of trip	Ground fault	Electronic
Rated switch-on breaking capacity,Im(A)		500 A
Rated limited short circuit current,Inc(kA)		2.5 kA
Endurance		4000 Circles
Material of body	Base	Plastic
	Cover in grey color	Plastic
	Cover in black color	Bakelite
Type of operation		AC
Length*Width*Height(mm)		70 mm*32 mm*51 mm

Dimension

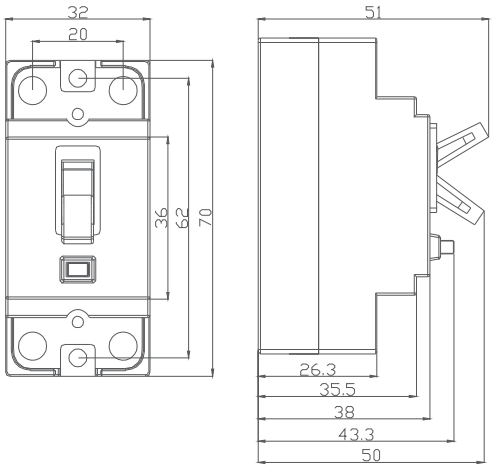
● TRL-40(a)



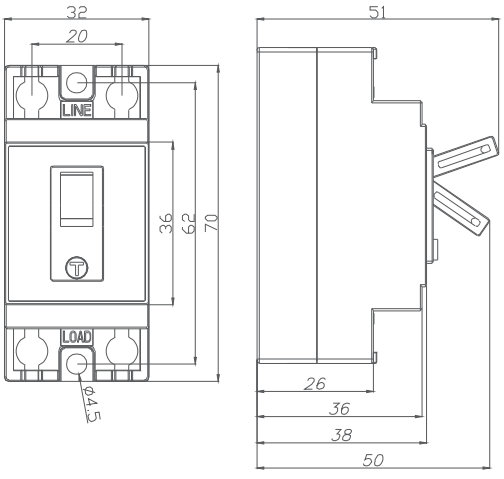
● TRL-40(b)



● TRL-40(c)

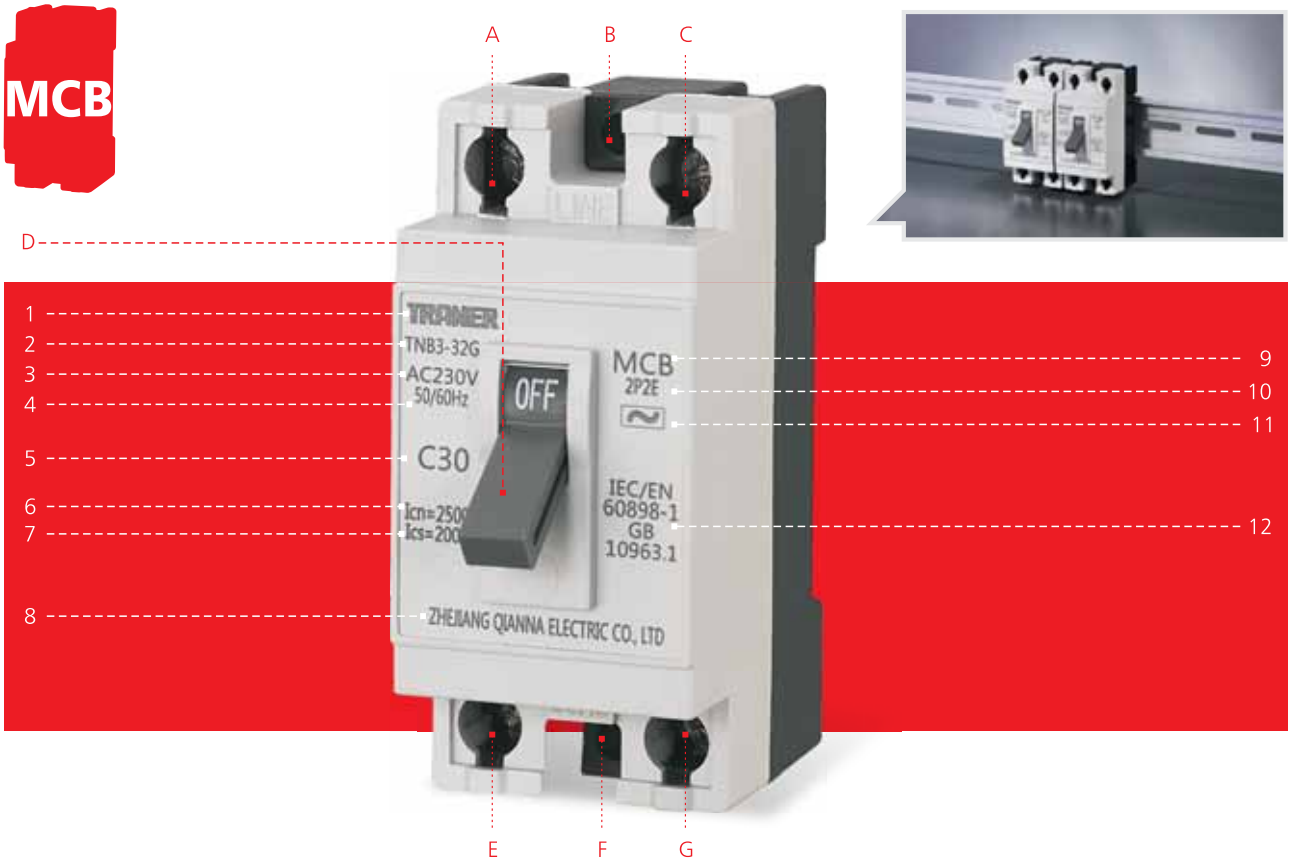


● TRL-40(d)




TRANER
RCCB
RCBO
MCB
2P1E
2P2E
32A
C32
OFF
TEST

Marking & Configuration



Din-rail type TNB3-32G MCB

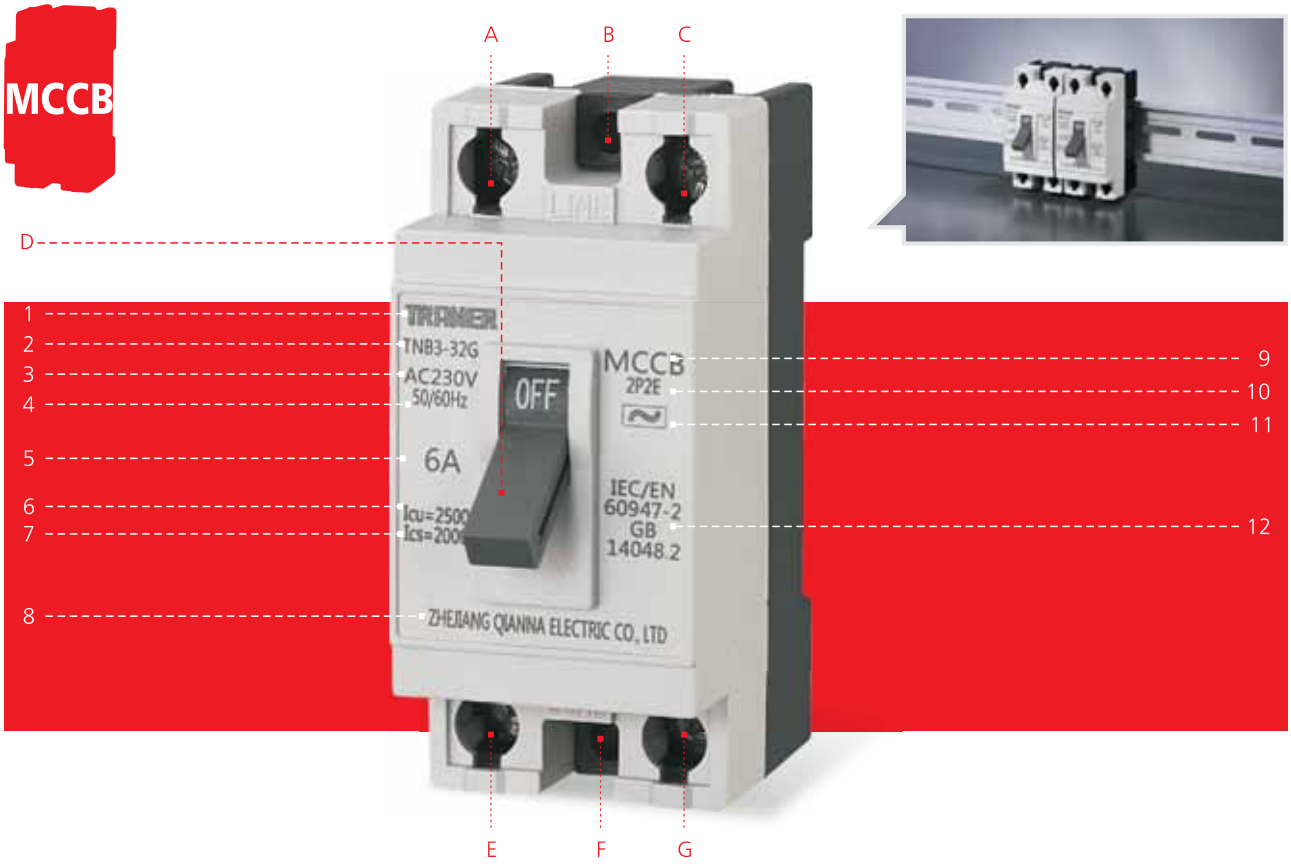
Printing instruction

1	Company logo
2	Product type
3	Rated voltage
4	Rated frequency
5	Rated current
6	Rated ultimate short circuit breaking capacity(Icn)
7	Rated seivice short circuit breaking capacity(Ics)
8	Manufacturer
9	Product
10	2 poles 2 bimetal
11	AC type
12	Standard

Function instruction

A	Up-stream connections
B	Fixing hole
C	Up-stream connections
D	Handle
E	Down-stream connections
F	Fixing hole
G	Down-stream connections

Marking & Configuration



Din-rail type TNB3-32G MCCB

Printing instruction

1	Company logo
2	Product type
3	Rated voltage
4	Rated frequency
5	Rated current
6	Rated ultimate short circuit breaking capacity(Icu)
7	Rated seivice short circuit breaking capacity(Ics)
8	Manufacturer
9	Product
10	2 poles 2 bimetal
11	AC type
12	Standard

Function instruction

A	Up-stream connections
B	Fixing hole
C	Up-stream connections
D	Handle
E	Down-stream connections
F	Fixing hole
G	Down-stream connections

MCB / MCCB TNB3-32G Series

DIN-rail type

MCB
IEC/EN 60898-1 GB 10963.1

MCCB
IEC/EN 60947-2 GB 14048.2

Model Description

TNB3 — 32 G / 6 — 2E — MCB

Product Series Code	Ampere Frame	With Over Load & Short Circuit Protection	Rated Current		Bimetals	Product
			6	A	1E	MCB
			10	A	2E	MCCB
			15	A		
			20	A		
			25	A		
			30	A		

Standard Use Environment for MCB/MCCB TNB3-32G Series

1) Ambient Temperature:	Within the range of -5℃~+40℃ (However, the average for the duration of 24 hours must not exceed 35℃)
2) Altitude:	2,000m or less
3) Installation class:	III
4) The magnetic field near the installation site should not be more than five times the magnetic field in any direction.	
5) Pollution levels:	II

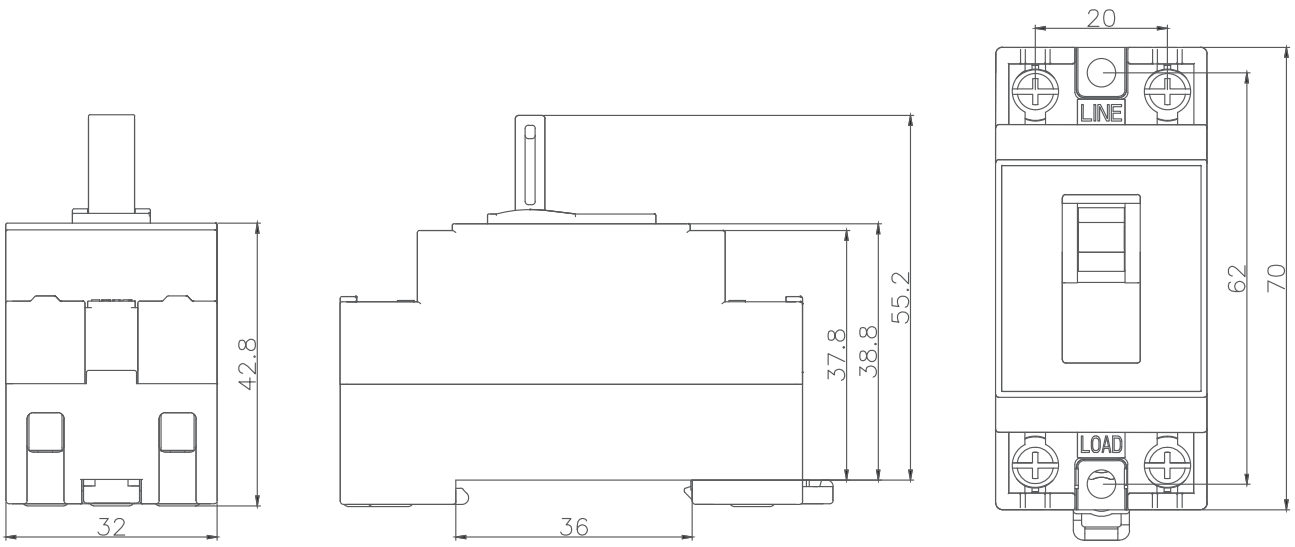
Product Specification

TNB3-32G Series MCB		
Product code		TNB3-32G MCB
Protection		Over-load & Short circuit
Rated current ,In (A)		6A, 10A, 15A, 20A, 25A, 30A
Characteristic curve		C curve
Poles		2 poles
Rated frequency (Hz)		50/60Hz
Rated ultimate short circuit breaking capacity,Icn (kA)		2.5kA
Rated voltage,Ue (V)		110V AC / 220V AC
Standard		IEC/EN 60898-1, GB 10963.1
Type of trip	Over-load	Thermal / Bimetallic
	Short-circuit	Electro-magnetic
Endurance		4000 circles
Material of body	Base	Bakelite
	Cover	Polyamide(PA)
Mounting		DIN-rail mounting or Screw munting
Operate voltage		AC
Length*Width*Height (mm)		32mm * 70mm * 55.2mm

TNB3-32G Series MCCB		
Product code		TNB3-32G MCCB
Protection		Over-load & Short circuit
Rated current ,In (A)		6A, 10A, 15A, 20A, 25A, 30A
Poles		2 poles
Rated frequency (Hz)		50/60Hz
Rated ultimate short circuit breaking capacity,Icu(kA)		2.5kA
Ics=%*Icu		100%
Rated voltage, Ue (V)		110V AC / 220V AC
Standard		IEC/EN 60947-2, GB 14048.2
Type of trip	Over-load	Thermal / Bimetallic (1E/2E)
	Short-circuit	Electro-magnetic
Endurance	Mechanical life	8500 circles
	Electrical life	1500 circles
Material of body	Base	Bakelite
	Cover	Polyamide(PA)
Mounting		DIN-rail mounting or Screw munting
Operate voltage		AC
Length*Width*Height (mm)		32mm * 70mm * 55.2mm

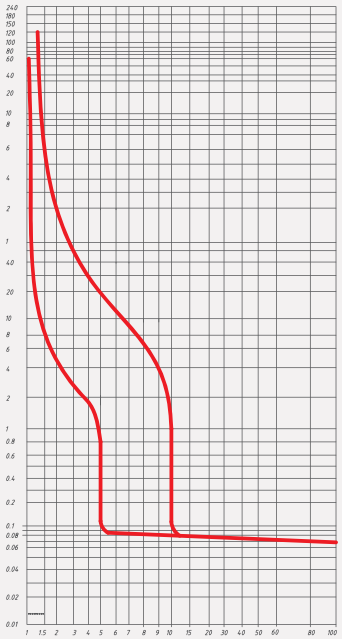
Dimension

- TNB3-32G MCB/MCCB



Characteristics Curves

MCB



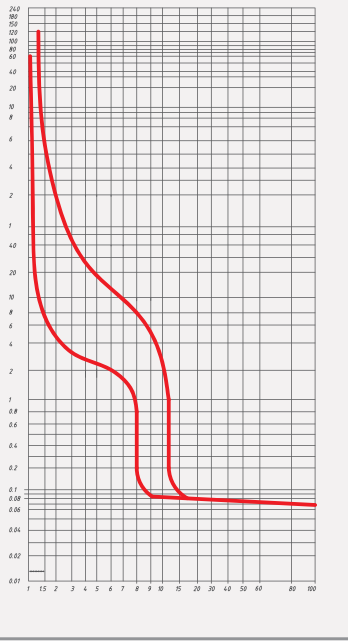
Over-load

Test No.	Curve type	Load current	Rated current	Initial state	Time	Result
1.	C, D	1.13 In	6A,10A,15A,20A, 25A,30A	cold state	t<1h	Not trip
2.	C, D	1.45 In	6A,10A,15A,20A, 25A,30A	continuing the test	t<1h	Trip
3.	C, D	2.55 In	6A,10A,15A,20A, 25A,30A	cold state	1s<t<60s	Trip

Short circuit

Test No.	Curve type	Load current	Rated current	Initial state	Time	Result
4.	C	5 In	6A,10A,15A,20A, 25A,30A	cold state	t<0.1s	Not trip
	D	10 In				
5.	C	10 In		cold state	t<0.1s	Trip
	D	20 In				

MCCB



Over-load

Test No.	Load current	Rated current	Initial state	Time	Estimate result
1.	1.05 In	6A,10A,15A,20A, 25A,30A	cold state	t<1h	Not trip
2.	1.30 In	6A,10A,15A,20A, 25A,30A	continuing the test	t<1h	Trip

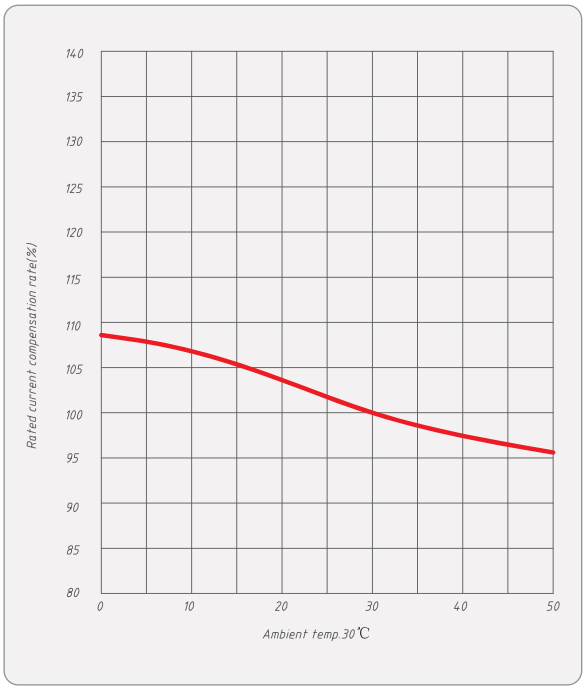
Short circuit

Test No.	Load current	Rated current	Initial state	Time	Estimate result
3.	10 In*80%	6A,10A,15A,20A, 25A,30A	cold state	t<0.2h	Not trip
	10 In*120%	6A,10A,15A,20A, 25A,30A		t<0.2h	Trip

Temperature Compensation Curves

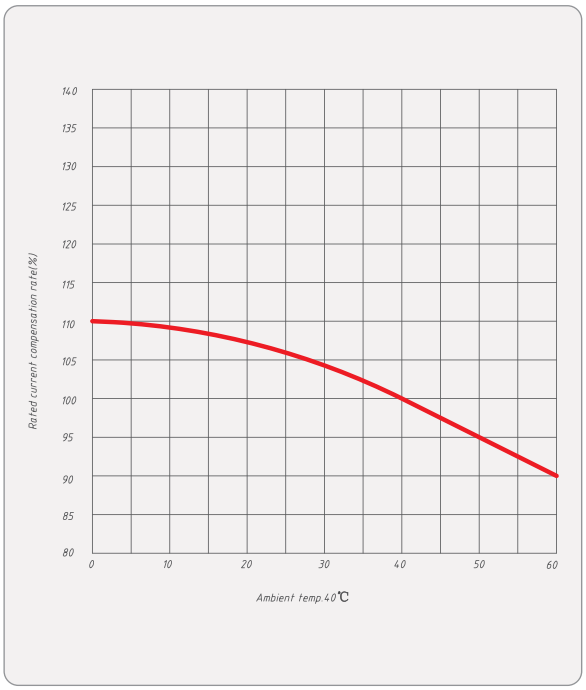
MCB

Product code	Rated current range (A)	Compensation coefficient					
		0℃	10℃	20℃	30℃	40℃	50℃
TNB3-32G	6A	108.0%	106.5%	103.5%	100.0%	97.5%	96.0%
	10A	108.0%	106.5%	103.5%	100.0%	97.5%	96.0%
	15A	108.0%	106.5%	103.5%	100.0%	97.5%	96.0%
	20A	108.0%	106.5%	103.5%	100.0%	97.5%	96.0%
	25A	108.0%	106.5%	103.5%	100.0%	97.5%	96.0%
	30A	108.0%	106.5%	103.5%	100.0%	97.5%	96.0%



MCCB

Product code	Rated current range (A)	Compensation coefficient						
		0℃	10℃	20℃	30℃	40℃	50℃	60℃
TNB3-32G	6A	110%	109%	107%	104%	100%	95%	90%
	10A	110%	109%	107%	104%	100%	95%	90%
	15A	110%	109%	107%	104%	100%	95%	90%
	20A	110%	109%	107%	104%	100%	95%	90%
	25A	110%	109%	107%	104%	100%	95%	90%
	30A	110%	109%	107%	104%	100%	95%	90%



Marking & Configuration

TNB1-32G(a)

TNB1-32G series MCB all types:

TNB1-32G(a)

TNB1-32G(b)

Marking & Configuration

Printing instruction

1	Company logo
2	Rated voltage
3	AC type
4	Rated current
5	Rated frequency
6	Manufacturer
7	Product type
8	Product
9	Rated short circuit breaking capacity
10	Standard

Function instruction

A	Up-stream connections
B	Fixing hole
C	Up-stream connections
D	Handle
E	Down-stream connections
F	Fixing hole
G	Down-stream connections

Model Description

TNB1	–	32	G	(a)	/	16	–	2E
Product Series Code		Ampere Frame	With Over Load & Short Circuit Protection	Appearance Code		Rated Current		Bimetals

Appearance Code	Rated Current		Bimetals
(a)	16	A	1E
(b)	20	A	2E
	25	A	
	32	A	

Standard Use Environment for MCB TNB1-32G Series

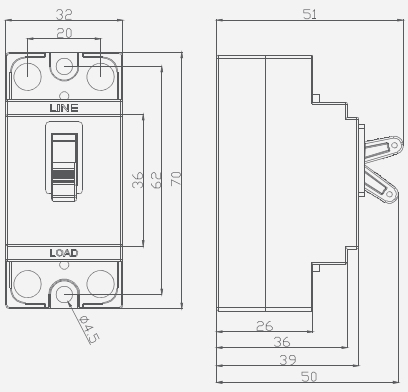
1) Ambient Temperature:	Within the range of -5℃～+40℃ (However, the average for the duration of 24 hours must not exceed 35℃)
2) Altitude:	2,000m or less
3) Installation class:	III
4) The magnetic field near the installation site should not be more than five times the magnetic field in any direction.	
5) Pollution levels:	II

Product Specification

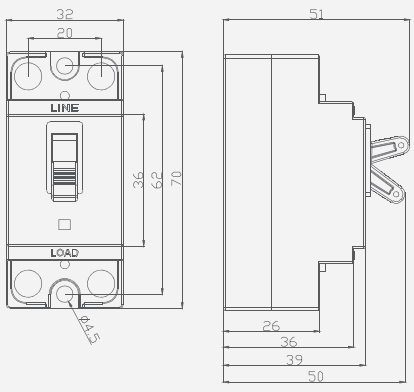
TNB1-32G Series MCB		
Product type		TNB1-32G(a), TNB1-32G(b)
Protection		Over-load & Short-circuit
Rated current ,In(A)		16A, 20A, 25A, 32A
Characteristic curve		C curve(32A), D curve(16A, 20A, 25A)
Poles		2 poles
Rated short circuit breaking capacity,Icn(kA)		2.5 kA
Rated voltage,Ue(V)		110V AC, 220V AC
Standard		IEC/EN 60898-1 GB 10963.1
Type of trip	Over-load	Thermal / Bimetallic (1E/2E)
	Short-circuit	Electro-magnetic
Endurance		4000 Circles
Material of body	Base	Bakelite
	Cover in grey color	Plastic
	Cover in black color	Bakelite
Type of operation		AC
Length*Width*Height(mm)		70 mm*32 mm*53 mm

Dimension

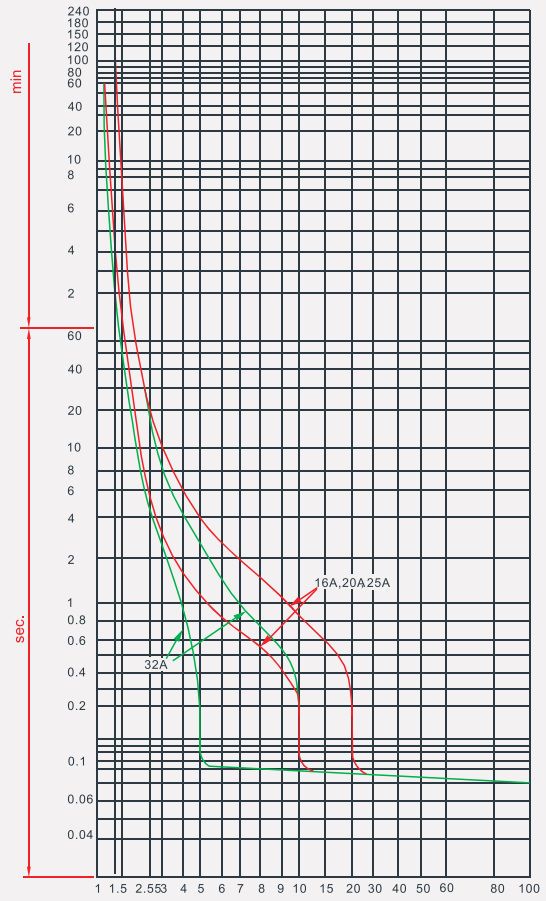
● TNB1-32G(a)



● TNB1-32G(b)



Characteristics Curves



Over-load

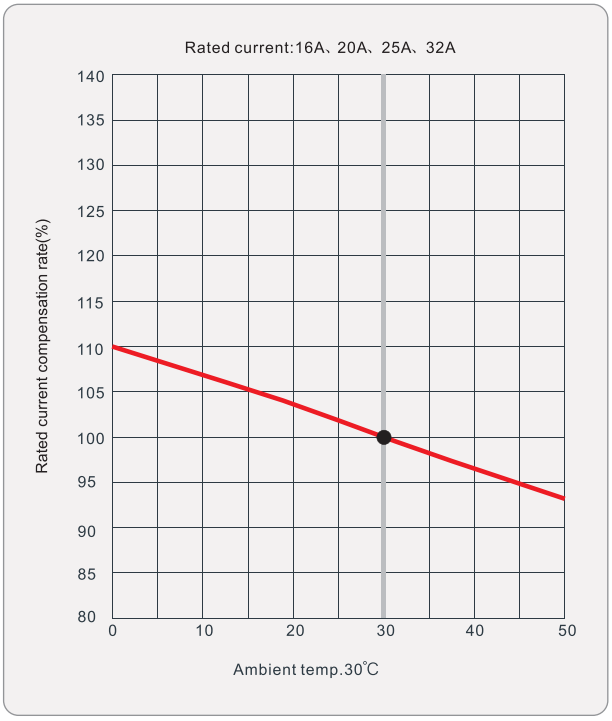
Test No.	Curve type	Load current	Initial state	Time	Result
1.	C, D	1.13 In	cold state	t<1h	Not trip
2.	C, D	1.45 In	continuing the test	t<1h	Trip
3.	C, D	2.55 In	cold state	1s<t<60s	Trip

Short circuit

Test No.	Curve type	Load current	Initial state	Time	Result
4.	C	5 In	cold state	t<0.1s	Not trip
	D	10 In			
5.	C	10 In	cold state	t<0.1s	Trip
	D	20 In			

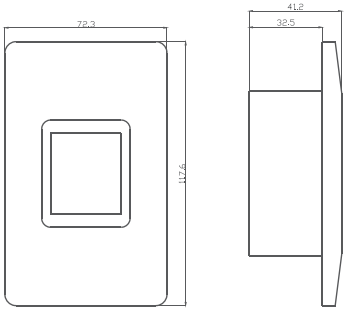
Temperature Compensation Curves

Ambient temperature → / Rated current(A) ↓	-10℃	0℃	10℃	20℃	30℃	40℃	50℃	60℃
16	19.20	18.40	17.76	16.96	16.00	15.36	14.88	14.24
20	24.00	23.00	22.20	21.20	20.00	19.20	18.60	17.80
25	30.00	28.75	27.75	26.50	25.00	24.00	23.25	22.25
32	38.72	37.12	35.52	33.92	32.00	30.72	29.76	28.16

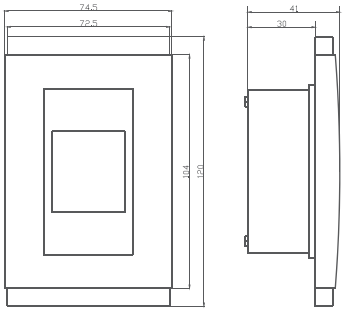


Plastic box for Recessed mounting

1.Recessed mounting plastic box 01**(RE01)**
RE01 is use for
RCBO:TNB1L-32G Series,RCCB:TNB1L-32 Series,MCB:TNB1-32 Series



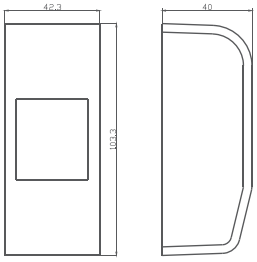
2.Recessed mounting plastic box 02**(RE02)**
RE02 is use for all product



Plastic box for Surface mounting

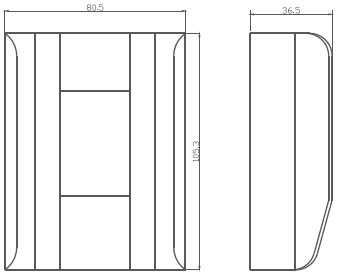
1.Surface mounting plastic box 01**(SU01)**

SU01 is use for all product



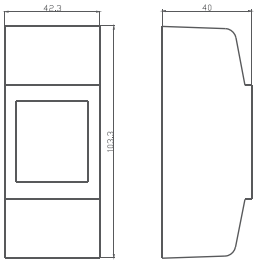
2.Surface mounting plastic box 02**(SU02)**

SU02 is use for all product



3.Surface mounting plastic box 03**(SU03)**

SU03 is use for all product



Ordering code

RCBO: TNB1L-32G Series

Item NO.	Product type	Pictures
1	TNB1L-32G/16-15	
2	TNB1L-32G/20-15	
3	TNB1L-32G/25-15	
4	TNB1L-32G/32-15	
5	TNB1L-32G/16-30	
6	TNB1L-32G/20-30	
7	TNB1L-32G/25-30	
8	TNB1L-32G/32-30	
9	TNB1L-32G(b)/16-15	
10	TNB1L-32G(b)/20-15	
11	TNB1L-32G(b)/25-15	
12	TNB1L-32G(b)/32-15	
13	TNB1L-32G(b)/16-30	
14	TNB1L-32G(b)/20-30	
15	TNB1L-32G(b)/25-30	
16	TNB1L-32G(b)/32-30	
17	TNB1L-32G(c)/16-15	
18	TNB1L-32G(c)/20-15	
19	TNB1L-32G(c)/25-15	
20	TNB1L-32G(c)/32-15	
21	TNB1L-32G(c)/16-30	
22	TNB1L-32G(c)/20-30	
23	TNB1L-32G(c)/25-30	
24	TNB1L-32G(c)/32-30	
25	TNB1L-32G(d)/16-15	
26	TNB1L-32G(d)/20-15	
27	TNB1L-32G(d)/25-15	
28	TNB1L-32G(d)/32-15	
29	TNB1L-32G(d)/16-30	
30	TNB1L-32G(d)/20-30	
31	TNB1L-32G(d)/25-30	
32	TNB1L-32G(d)/32-30	

IP 68 RCBO: TNB1L-32GW Series

Item NO.	Product type	Pictures
1	TNB1L-32GW/16-AD	
2	TNB1L-32GW/20-AD	
3	TNB1L-32GW/25-AD	
4	TNB1L-32GW/32-AD	

RCCB: TNB1L-32 Series

Item NO.	Product type	Pictures
1	TNB1L-32(b)/16-15	
2	TNB1L-32(b)/20-15	
3	TNB1L-32(b)/25-15	
4	TNB1L-32(b)/32-15	
5	TNB1L-32(b)/16-30	
6	TNB1L-32(b)/20-30	
7	TNB1L-32(b)/25-30	
8	TNB1L-32(b)/32-30	
9	TNB1L-32(c)/16-15	
10	TNB1L-32(c)/20-15	
11	TNB1L-32(c)/25-15	
12	TNB1L-32(c)/32-15	
13	TNB1L-32(c)/16-30	
14	TNB1L-32(c)/20-30	
15	TNB1L-32(c)/25-30	
16	TNB1L-32(c)/32-30	
17	TNB1L-32(d)/16-15	
18	TNB1L-32(d)/20-15	
19	TNB1L-32(d)/25-15	
20	TNB1L-32(d)/32-15	
21	TNB1L-32(d)/16-30	
22	TNB1L-32(d)/20-30	
23	TNB1L-32(d)/25-30	
24	TNB1L-32(d)/32-30	
25	TNB1L-32(e)/16-15	
26	TNB1L-32(e)/20-15	
27	TNB1L-32(e)/25-15	
28	TNB1L-32(e)/32-15	
29	TNB1L-32(e)/16-30	
30	TNB1L-32(e)/20-30	
31	TNB1L-32(e)/25-30	
32	TNB1L-32(e)/32-30	
33	TNB1L-32(f)/16-15	
34	TNB1L-32(f)/20-15	
35	TNB1L-32(f)/25-15	
36	TNB1L-32(f)/32-15	
37	TNB1L-32(f)/16-30	
38	TNB1L-32(f)/20-30	
39	TNB1L-32(f)/25-30	
40	TNB1L-32(f)/32-30	
41	TNB1L-32(h)/16-15	
42	TNB1L-32(h)/20-15	
43	TNB1L-32(h)/25-15	
44	TNB1L-32(h)/32-15	
45	TNB1L-32(h)/16-30	
46	TNB1L-32(h)/20-30	
47	TNB1L-32(h)/25-30	
48	TNB1L-32(h)/32-30	

RCCB: TRL-40 Series

Item NO.	Product type	Pictures
1	TRL-40(a)/16-15	
2	TRL-40(a)/20-15	
3	TRL-40(a)/25-15	
4	TRL-40(a)/32-15	
5	TRL-40(a)/40-15	
6	TRL-40(a)/16-30	
7	TRL-40(a)/20-30	
8	TRL-40(a)/25-30	
9	TRL-40(a)/32-30	
10	TRL-40(a)/40-30	
11	TRL-40(b)/16-15	
12	TRL-40(b)/20-15	
13	TRL-40(b)/25-15	
14	TRL-40(b)/32-15	
15	TRL-40(b)/40-15	
16	TRL-40(b)/16-30	
17	TRL-40(b)/20-30	
18	TRL-40(b)/25-30	
19	TRL-40(b)/32-30	
20	TRL-40(b)/40-30	
21	TRL-40(c)/16-15	
22	TRL-40(c)/20-15	
23	TRL-40(c)/25-15	
24	TRL-40(c)/32-15	
25	TRL-40(c)/40-15	
26	TRL-40(c)/16-30	
27	TRL-40(c)/20-30	
28	TRL-40(c)/25-30	
29	TRL-40(c)/32-30	
30	TRL-40(c)/40-30	
31	TRL-40(d)/16-15	
32	TRL-40(d)/20-15	
33	TRL-40(d)/25-15	
34	TRL-40(d)/32-15	
35	TRL-40(d)/40-15	
36	TRL-40(d)/16-30	
37	TRL-40(d)/20-30	
38	TRL-40(d)/25-30	
39	TRL-40(d)/32-30	
40	TRL-40(d)/40-30	

MCB: TNB1-32G Series
TNB3-32G Series

Item NO.	Product type	Pictures
1	TNB1-32G(a)/16-1E	
2	TNB1-32G(a)/20-1E	
3	TNB1-32G(a)/25-1E	
4	TNB1-32G(a)/32-1E	
5	TNB1-32G(a)/16-2E	
6	TNB1-32G(a)/20-2E	
7	TNB1-32G(a)/25-2E	
8	TNB1-32G(a)/32-2E	
9	TNB1-32G(b)/16-1E	
10	TNB1-32G(b)/20-1E	
11	TNB1-32G(b)/25-1E	
12	TNB1-32G(b)/32-1E	
13	TNB1-32G(b)/16-2E	
14	TNB1-32G(b)/20-2E	
15	TNB1-32G(b)/25-2E	
16	TNB1-32G(b)/32-2E	
17	TNB3-32G/6-1E-MCB	
18	TNB3-32G/10-1E-MCB	
19	TNB3-32G/20-1E-MCB	
20	TNB3-32G/25-1E-MCB	
21	TNB3-32G/25-1E-MCB	
22	TNB3-32G/30-1E-MCB	
23	TNB3-32G/6-2E-MCB	
24	TNB3-32G/10-2E-MCB	
25	TNB3-32G/20-2E-MCB	
26	TNB3-32G/25-2E-MCB	
27	TNB3-32G/25-2E-MCB	**DIN-RAIL TYPE**
28	TNB3-32G/30-2E-MCB	

MCCB: TNB3-32G Series

Item NO.	Product type	Pictures
1	TNB3-32G/6-1E-MCCB	
2	TNB3-32G/10-1E-MCCB	
3	TNB3-32G/20-1E-MCCB	
4	TNB3-32G/25-1E-MCCB	
5	TNB3-32G/25-1E-MCCB	
6	TNB3-32G/30-1E-MCCB	
7	TNB3-32G/6-2E-MCCB	
8	TNB3-32G/10-2E-MCCB	
9	TNB3-32G/20-2E-MCCB	
10	TNB3-32G/25-2E-MCCB	
11	TNB3-32G/25-2E-MCCB	**DIN-RAIL TYPE**
12	TNB3-32G/30-2E-MCCB	

Plastic box

Item NO.	Product type	Specification	Pictures
Recessed mounting plastic box			
1	RE01	Use for only RCBO: TNB1L-32G Series, RCCB: TNB1L-32 Series, MCB: TNB1-32 Series	
2	RE02	Use for all product	
Surface mounting plastic box			
1	SU01	Use for all product	
2	SU02	Use for all product	
3	SU03	Use for all product	

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