

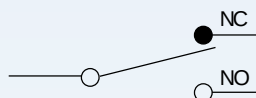


CZ Micro Switch

Features

- Various of actuators, the operation position is adjustable. (such as CZ-7121).
- Outer shell covered with intensive plastic, water-proof and oil-proof. The mechanical strength is better than CM type of micro switch, bearing hitting.

Contact Form



Characteristics

Operation speed	0.5mm-50cm/sec
Operating frequency	Mechanical: 120 operations/minute Electrical: 30 operations/minute
Contact resistance	15m Ω max. (initial value)
Insulation resistance	100m Ω above(at 500VDC)
Dielectric strength	1000VAC, 50/60 HZ for 1 minute between terminals of the same polarity
	1500VAC, 50/60 HZ for 1 minute between current-carrying and non-current-carrying metal parts
	1500VAC, 50/60 HZ for 1 minute between each terminal and ground
Vibration	10-55HZ, 1.5mm double amplitude
Shock	Mechanical durable: 1,000m/Sec ² (about 100G'S) Malfunction: 300m/Sec ² (about 30G'S)
Ambient temperature	-5°C to +65°C
Humidity	<95% RH
Life	Mechanical: 10,000,000 operations above (under rated OT) Electrical: 500,000 operations above
Weight	About 60g
Degree of protection	IP65

Ratings

Rated voltage	Noninductive Load (A)				Inductive Load (A)			
	Resistance Load		Lamp Load		Inductive Load		Motor Load	
	NC	NO	NC	NO	NC	NO	NC	NO
125VAC	10	3	1.5	10	5	2.5		
250VAC	10	2.5	1.25	10	3	1.5		
480VAC	3	1.5	0.75	2.5	1.5	0.75		
8VDC	10	3	1.5	6	6	5		
14VDC	10	3	1.5	6	6	5		
30VDC	8	3	1.5	6	5	2.5		
125VDC	0.5	0.4	0.4	0.05	0.05	0.05		
250VDC	0.25	0.2	0.2	0.03	0.03	0.03		

NOTES:

1. Inductive load has a power factor of 0.4 min.(AC) and a time constant of 7 msec.max.(DC).
2. Lamp load has an inrush current of 10 times the steady-state current, while motor load has an inrush current of 6 times the steady-state current.

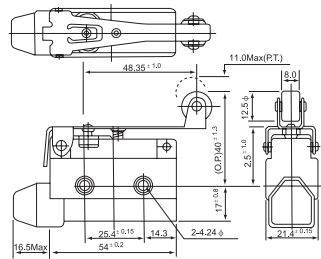
Operating characteristics

Models	CZ-7100	CZ-7110	CZ-7310	CZ-7311	CZ-7312	CZ-7120	CZ-7140	CZ-7121	CZ-7141	CZ-7124	CZ-7144	CZ-7166
OF Max.	600g	600g	600g	600g	600g	150g	220g	180g	240g	200g	280g	120g
RF Min.	100g	100g	100g	100g	100g	40g	60g	50g	80g	60g	100g	
PT Max.	2.0mm	2.0mm	2.0mm	2.0mm	2.0mm	13.5mm	8.5mm	11.0mm	6.5mm	11mm	6.5mm	250mm
OT Min.	0.8mm	5.0mm	6.0mm	6.0mm	6.0mm	4.0mm	2.5mm	3.0mm	2.0mm	3.0mm	2.0mm	11mm
MD Max.	0.8mm	0.8mm	0.8mm	0.8mm	0.8mm	3.2mm	2.0mm	2.4mm	1.5mm	2.4mm	1.5mm	
OP	30.5 $\pm$ 0.8mm	44 $\pm$ 1.2mm	21.8 $\pm$ 1.2mm	33.3 $\pm$ 1.2mm	33.3 $\pm$ 1.2mm	25 $\pm$ 1mm	25 $\pm$ 1mm	40 $\pm$ 1mm	40 $\pm$ 1mm	50 $\pm$ 1.2mm	50 $\pm$ 1.2mm	
FP						35mm	32mm		46mm		56mm	

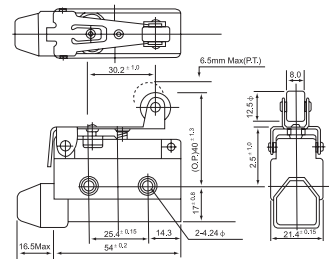
CZ Micro Switch

Appearance and dimension

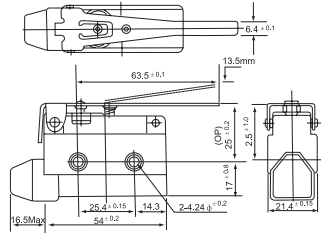
CZ-7121



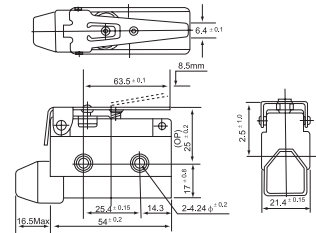
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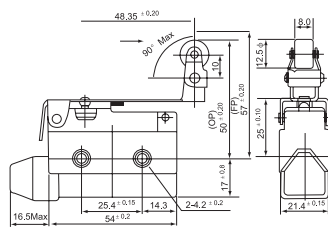
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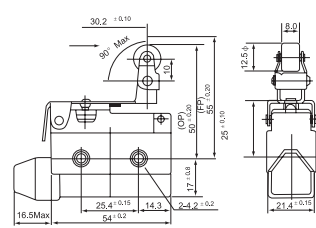
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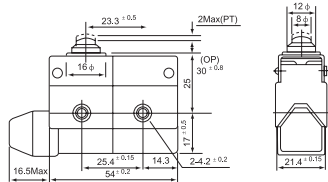
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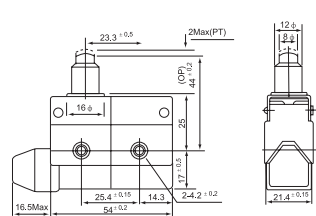
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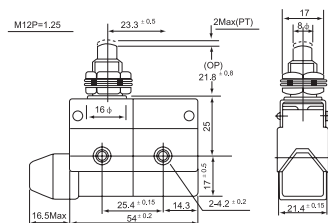
CZ-7100



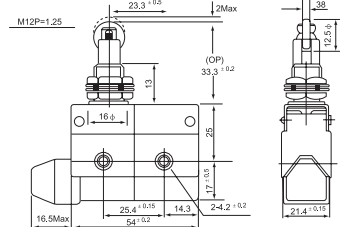
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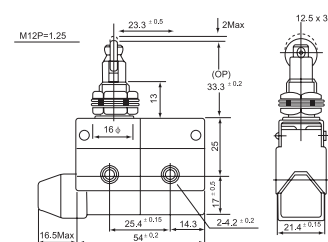
CZ-7310



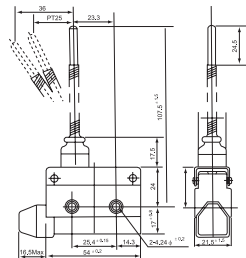
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CZ-7312



CZ-7166



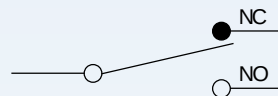


CM Micro Switch

Features

- Various of actuators, action position is adjustable (such as CM1701)
- High switch on and off capacity (15A)
- High accuracy
- Wide range of operation speed
- Each type of CM series has solder terminal, screw terminal and tab terminal are selective
- Add A for solder terminal, add C for tab terminal, blank for screw terminal

Contact Form



Ratings

Rated voltage	Noninductive Load (A)				Inductive Load (A)				Inrush Current	
	Resistance Load		Lamp Load		Inductive Load		Motor Load			
	NC	NO	NC	NO	NC	NO	NC	NO	NC	NO
125VAC	15	3	1.5	15	5	2.5	30 max.	15 max.		
250VAC	15	2.5	1.25	15	3	1.5				
500VAC	3	1.5	0.75	2.5	1.5	0.75				
8VDC	15	3	1.5	15	5	2.5				
14VDC	15	3	1.5	10	5	2.5				
30VDC	6(2)	3	1.5	5	5	2.5				
125VDC	0.4	0.4	0.4	0.05	0.05	0.05				
250VDC	0.2	0.2	0.2	0.03	0.03	0.03				

Characteristics

Operation speed	0.01mm-1m/sec
Operating frequency	Mechanical: 240 operations/min. Electrical: 20 operations/min.
Contact resistance	15m Ω max. (initial value)
Insulation resistance	100m Ω above (at 500VDC)
Dielectric strength	1000VAC, 50/60 HZ for 1 minute between terminals of the same polarity
	1500VAC, 50/60 HZ for 1 minute between current-carrying and non-current-carrying metal parts
	1500VAC, 50/60 HZ for 1 minute between each terminal and ground
Vibration	10-55HZ, 1.5mm double amplitude
Shock	Mechanical durable: 1,000m/Sec ² (about 100G'S) Malfunction: 300m/Sec ² (about 30G'S)
Ambient temperature	General purpose type: -25°C to +80°C, Sealed type: -15°C to +80°C
Humidity	General purpose type: 85% RH max., Sealed type: 95% RH max.
Life	Mechanical: 20,000,000 operations/min. Electrical: 500,000 operations/min.
Weight	About 22g to 58g
Degree of protection	IP65

Operating characteristics

Models	CM1300	CM1301	CM1303	CM1305	CM1306	CM1307	CM1308	CM1309	CM1701	CM1702	CM1703	CM1704	CM1705	CM1743
OF Max.	350g	300g	300g	350g	350g	350g	350g	350g	70g	100g	160g	160g	10g	160g
RF Min.	114g	50g	50g	114g	114g	114g	114g	114g	14g	28g	22g	42g	3g	42g
PT Max.	0.4mm	4mm	4mm	0.4mm	0.4mm	0.4mm	0.4mm	0.4mm	10mm	5mm	7.1mm	2.7mm	20mm	2.7mm
OT Min.	0.13mm	1.6mm	1.6mm	1.6mm	1.6mm	5.5mm	3.58mm	3.58mm	5.6mm	2mm	4mm	2.4mm	5.6mm	2.4mm
MD Max.	0.05mm	1.3mm	1.3mm	0.05mm	0.05mm	0.05mm	0.05mm	0.05mm	1.27mm	1mm	1.02mm	0.5mm	3mm	0.5mm
FP Max.		20.6mm	31.8mm						28.2mm	24.8mm	36.5mm	32.5mm		43.6mm
OP(mm)	15.9 $\pm$ 0.4	17.4 $\pm$ 0.8	28.6 $\pm$ 0.8	28.2 $\pm$ 0.5	21.5 $\pm$ 0.5	21.8 $\pm$ 0.8	33.4 $\pm$ 1.2	33.4 $\pm$ 1.2	19 $\pm$ 0.8	19 $\pm$ 0.4	30.2 $\pm$ 0.8	30.2 $\pm$ 0.4	19 $\pm$ 0.4	43.1 $\pm$ 0.8

CM Micro Switch

Operating characteristics

Definitions of operating characteristics:

OF: operating force
Force needed to add to the executor unit to actuate switch contact

normal position to action contact position

RF: releasing force
Force needed to add to the executor unit to make the switch contact back to normal position

TTP: total travel position
The position of executor unit in case of executor unit reaching the limitation position

TF: total force
Force needed to make executor unit move from free position to limitation position

PT: pretravel
The distance or angle that the executor unit passes since free position to action position

FP: free position
Primary position of executor unit without external force adding to executor unit

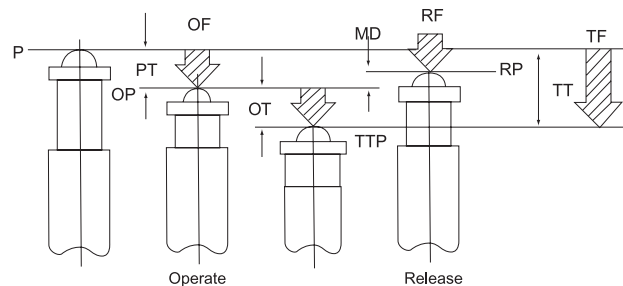
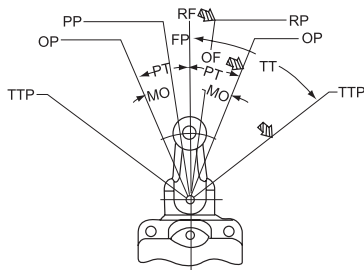
OT: overtravel
The distance or angle that the executor unit surpasses action position

OP: operating position
The position of executor unit in case of the contact rapidly moving to the contact position for action

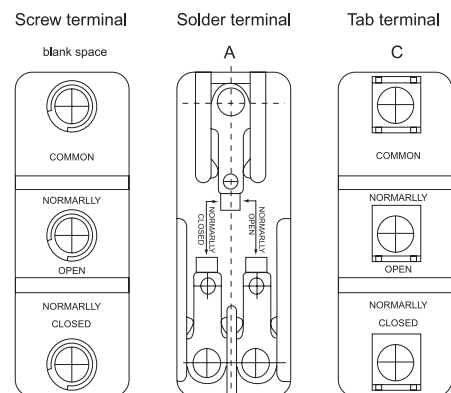
MD: movement differential
The distance or angle from action position to reversion position

RP: releasing position
The position of executor unit in case of the contact rapidly backing to

TT: total travel
The distance or angle represents the movement till action and the total movement after all actions.

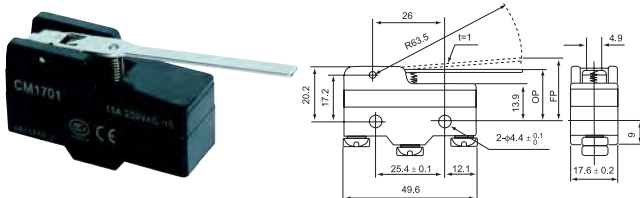


Terminal Type

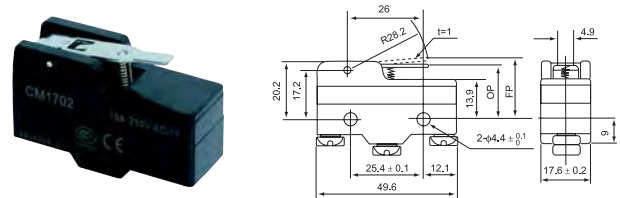


Appearance and dimension

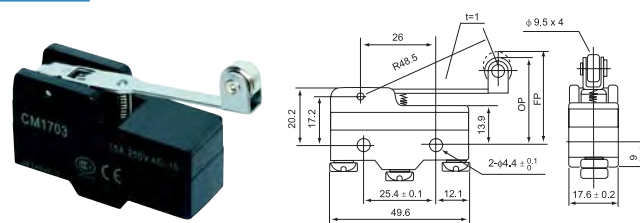
CM-1701



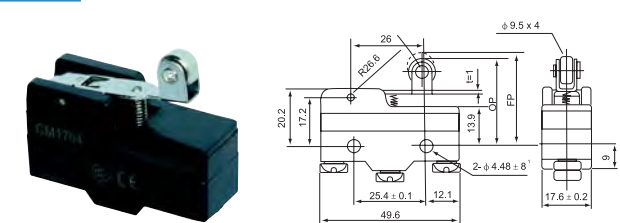
CM-1702



CM-1703

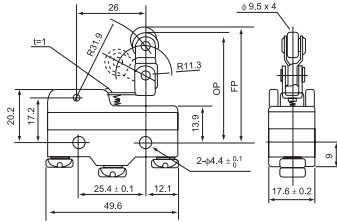


CM-1704

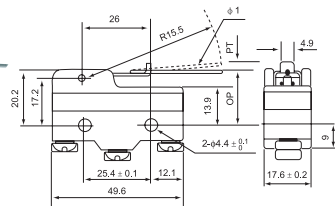


CM Micro Switch

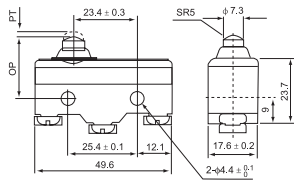
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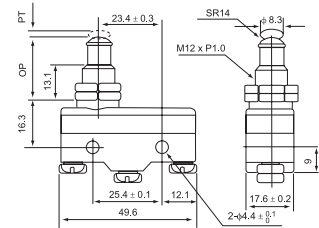
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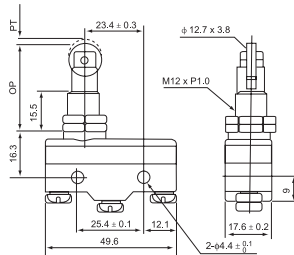
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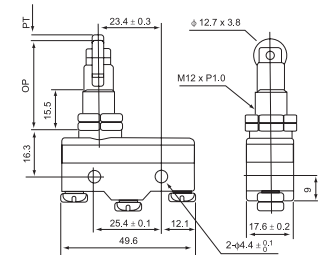
CM-1307



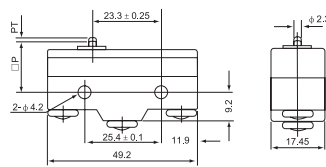
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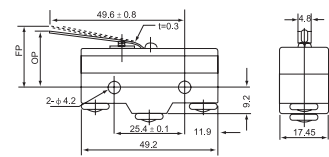
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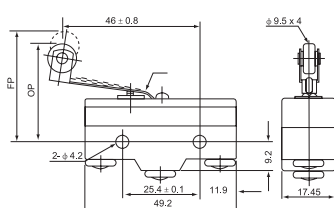
CM-1300



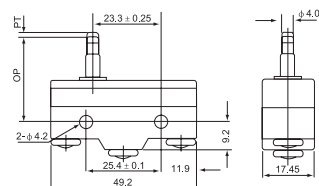
CM-1301



CM-1303



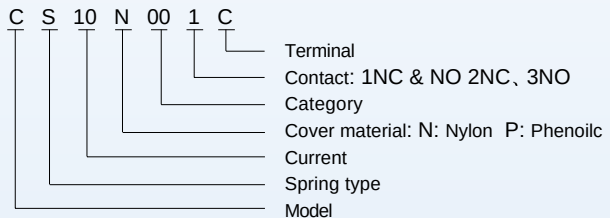
CM-1305





CS Micro Switch

Model designations

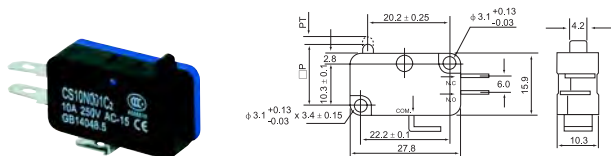


Performance

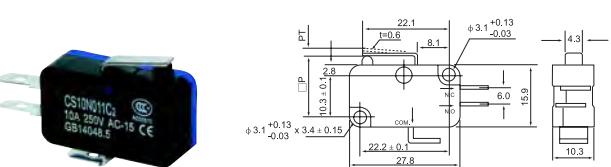
Contact resistance	15 m Ω max. (initial)
Insulation resistance	100m Ω min. (at 500VDC)
Dielectric strength	1,000 VAC 50/60 Hz for 1 minute
Life	Mechanical:10,000,000 operations min. Electrical:100,000 operations min.(full load)

Appearance and dimension

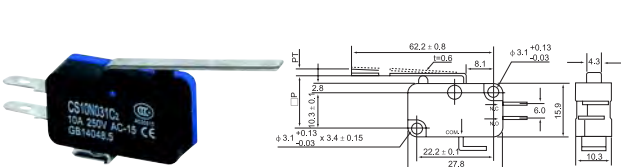
CS10N001C2



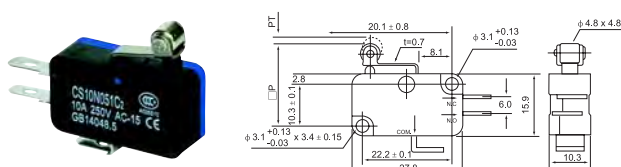
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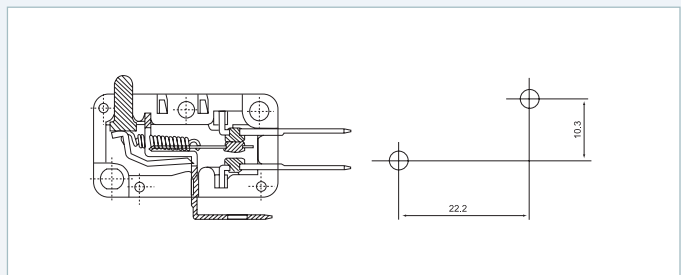
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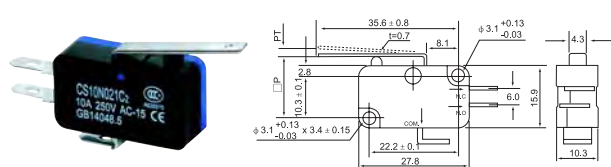
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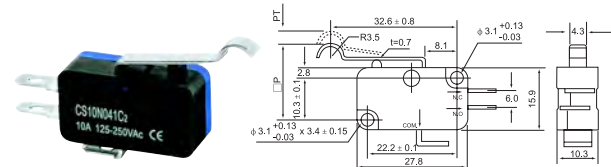
Outer drawing



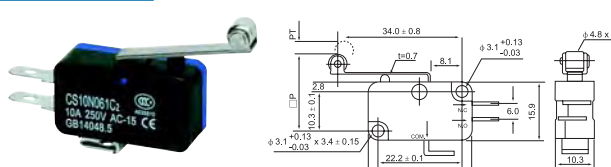
CS10N021C2



CS10N041C2



CS10N061C2



CFS Foot Switch

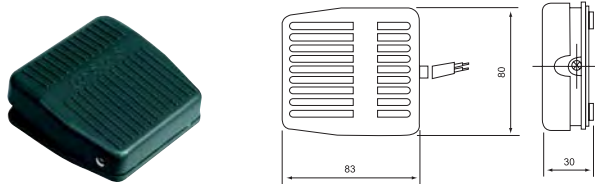
Features

Designation	Model	Rating	Type of switch enclosed & contact arrangement	Cable type/length	Contact	Action Force	Material of Rind
Standard Type Momentary Action	CFS-101	10A250VAC	Mirco-switch momentary	0.75mm ² , 3C/0.5 meter, 1 meter~3 meter	1A1B	1.2 kg	Plastics Aluminum cast
	CFS-102	15A250VAC	CM1704	0.75mm ² , 3C/1 meter, 1.5 meter~2 meter	1A1B	1.1 kg	
	CFS-3	10A250VAC	Mirco-switch momentary 2pcs.	0.75mm ² , 6C/1 meter, 1 meter~3 meter	2A2B	1.2 kg	
	CFS-3S	15A250VAC	CM1704	0.75mm ² , 6C/1 meter, 1 meter~2 meter	2A2B	1.1 kg	
Standard Type Alternate Action	CFS-105	6A250VAC	Imported alternative switch	0.75mm ² , 2C/1 meter, 1 meter~2 meter	PUSH ON PUSH OFF	2 kg	Plastics Aluminum cast
	CFS-106	6A250VAC	Imported Micro-switch	0.75mm ² , 3C/1 meter	PUSH 1A PUSH 1B	1.5 kg	Plastics
Mini Foot Switch Front End Push	CFS-201	10A250VAC	Micro-switch Momentary	0.5mm ² , 3C/1 meter~3 meter	1A1B	0.7 kg	Plastics
	CFS-01	10A250VAC		0.5mm ² , 3C/1 meter~3 meter	1A1B	0.7 kg	
	CFS-1	10A250VAC		0.5mm ² , 3C/1 meter~3 meter	1A1B	0.9 kg	
Protective Guard Foot Switch	CFS-302	15A250VAC	CM1704	Accessory: Cable gland (No cable)	1A1B	3.2 kg	Plastics and Aluminum cast
	CFS-305	6A250VAC	Push butoom switch alternate action		PUSH ON PUSH OFF	3.1 kg	
	CFS-306	6A250VAC	Imported micro-switch		PUSH 1A PUSH 1B	3.5 kg	
Large Type	CFS-402	15A250VAC	CM1704		1A1B	3.2 kg	

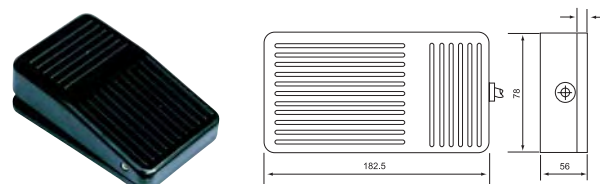
NOTES: 1, Add "R" for waterproof, available in CFS3 & CFS4.
2, Add "Z" for aluminum housing, available in CFS1, CFS# & CFS4.

Appearance and dimension

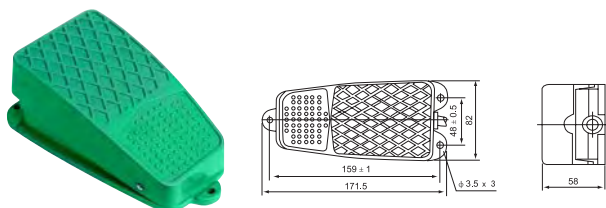
CFS-201 202



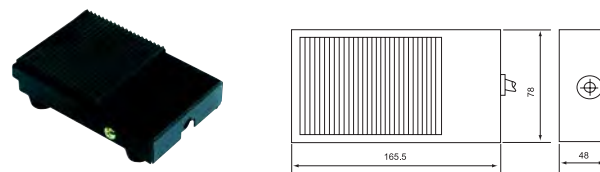
CFS-01



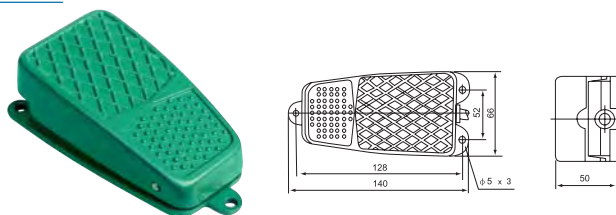
CFS-101 102 105



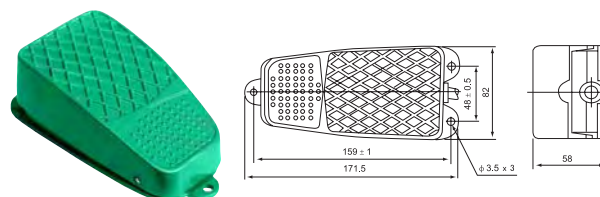
CFS-1



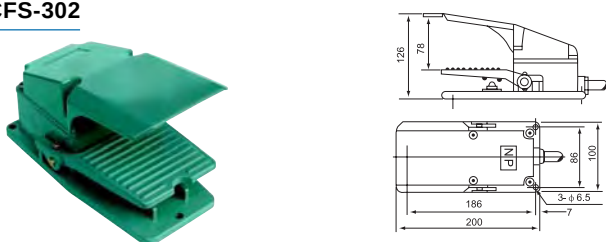
CFS-2



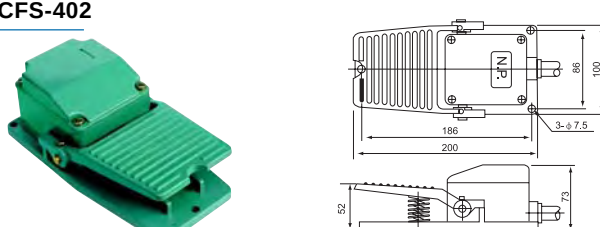
CFS-3 3S



CFS-302



CFS-402



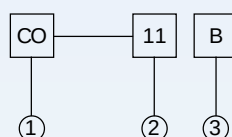


Toggle Switch

Features

- The current has 10A and 15A
- Movement way has fixed type and auto-return type (both single-throw and double-throw can return).
- The terminal block has screw terminal and solder terminal(tab terminal also can be used)
- Rainproof cap, water-proof and oil-proof, it is suitable for full series products.
- Mounting hole: ϕ 12mm

Model designations



Characteristic

Contact resistance	15M Ω max. (initial)
Insulation resistance	100M Ω above (under 500VDC)
Dielectric strength	2000VAC, 50/60Hz for 1 minute
Vibration	10 to 55Hz, 1.5mm double amplitude
Ambient temperature	-25℃ to +80℃
Humidity	85%RH max.
Life	Mechanical: 500,000 operations min.
	Electrical: 100,000 operations min.

Ratings

Load	Type	AC Rating	DC Rating
Resistance Load	CO	10A 250V 15A 125V	0.4A 250V 0.8A 125V
	C5	15A 250V 20A 125V	0.5A 250V 0.9A 125V
Inductive Load	CO	10A 250V 15A 250V	0.2A 250V 0.4A 125V
	C5	15A 250V 20A 125V	0.3A 250V 0.5A 125V 15A
Lamp Load	CO	300W 100V 500W 200V	30V
	C5	400W 125V 800W 250V	-
Motor Load	CO	200W 125V 300W 250V	7A 30V
	C5	400W 125V(single phase)	
	CO	550W 250V(three phase)	-
	C5	750W 250V(three phase)	

Designation	Signal	Description
Type	CO	10A 250VAC
	COR	10A 250VAC Spring return
	C5	15A 250VAC
	C5R	15A 250VAC Spring return
Contact	11	Single pole single throw ON-OFF
	12	Single pole double throw ON-ON
	13	Single pole double throw(central OFF) ON-OFF-ON
	131	Single pole double throw(central OFF single return) ON-OFF-ON
	21	Double pole single throw ON-OFF
	22	Double pole double throw ON-ON
	23	Double pole double throw(central OFF) ON-OFF-ON
	231	Double pole double throw(central OFFsingle return) ON-OFF-ON
Terminal	A	Tab terminal
	B	Screw terminal
	C	Solder terminal

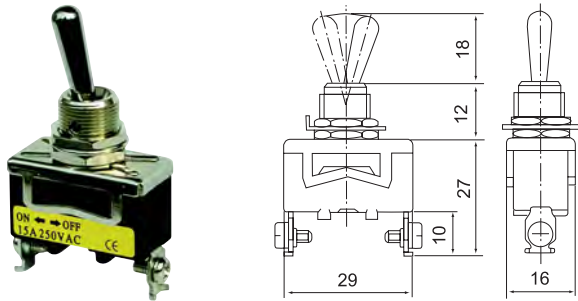
Nameplate



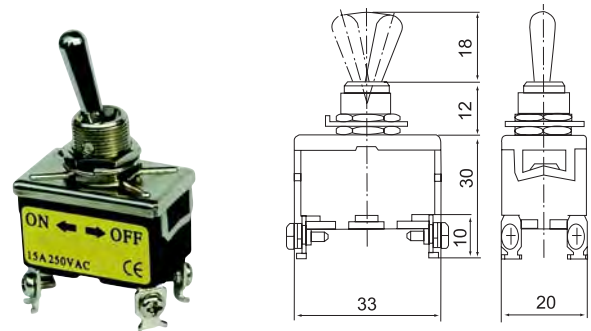
Toggle Switch

Appearance and dimension

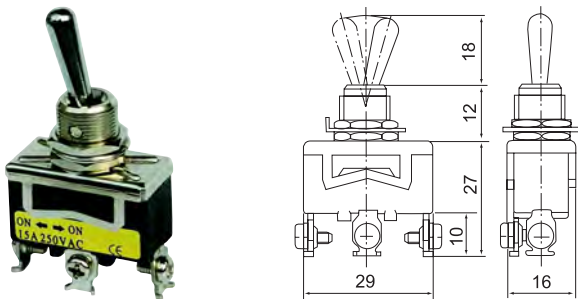
C011B C511B C0R11B C5R11B



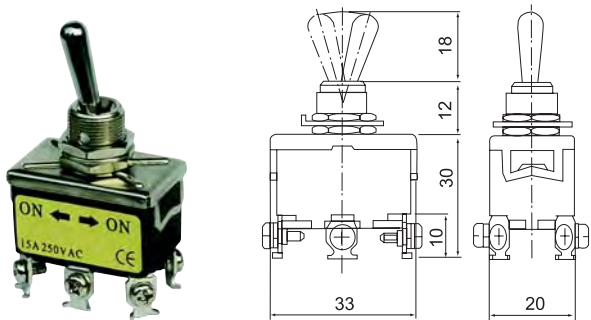
C021B C521B C0R21B C5R21B



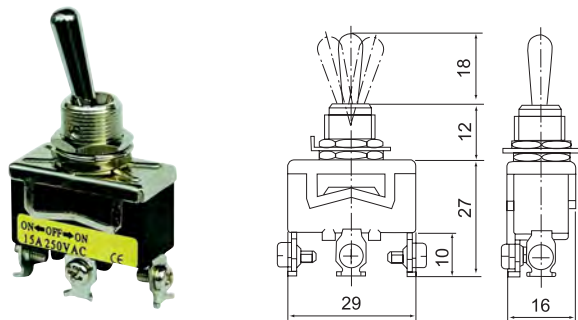
C012B C512B C0R12B C5R12B



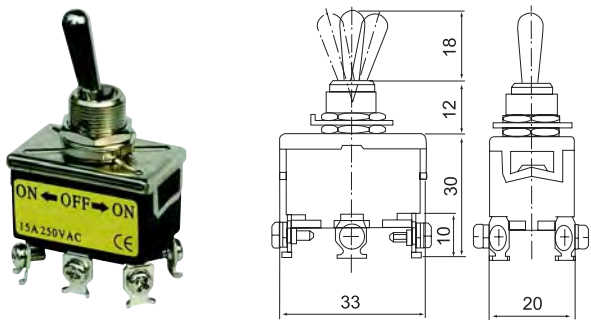
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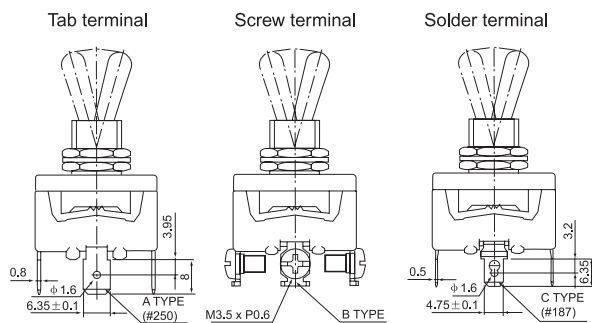
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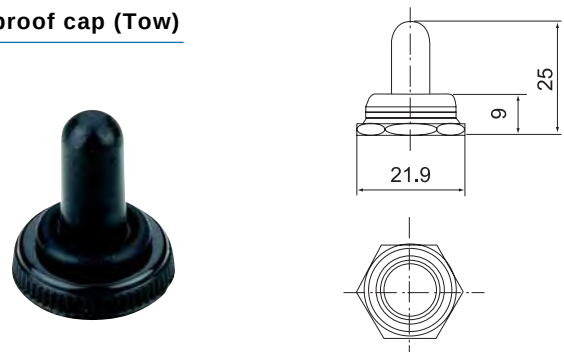
C023B C523B C0R23B C5R23B



Terminal Type



Rainproof cap (Tow)





Power Pushbutton Switch

Features

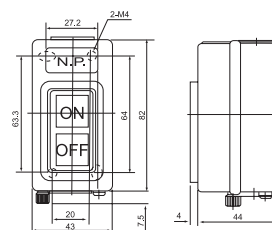
- Metal series shell
- Plastic series shell

Characteristic

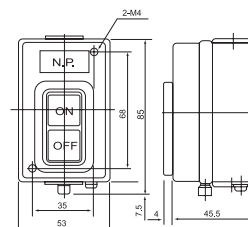
Model	Specification	Mounting type	Connection terminal	Material
CBSN-310	3 ϕ 10A 1.5KW	Flush Mounting	M3.5	Iron
CBSN-315	3 ϕ 15A 2.2KW	"	M4	"
CBSN-330	3 ϕ 30A 3.7KW	"	M5	"
CBSP-315	3 ϕ 15A 2.2KW	Surface Mounting	M4	"
CBSP-330	3 ϕ 30A 3.7KW	"	M4	"
CBSY-315	3 ϕ 15A 2.2KW	"	M4	"
CBSY-330	3 ϕ 30A 3.7KW	"	M4	"
CBSY-315	3 ϕ 15A 2.2KW	Flush Mounting	M3.5	Plastic
CBSY-330	3 ϕ 30A 3.7KW	"	M4	"

Appearance and dimension

CBSN-310

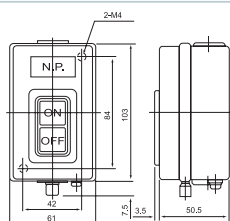


CBSN-315

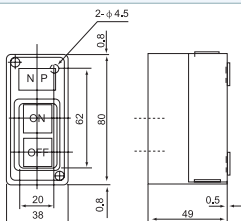


Power Pushbutton Switch

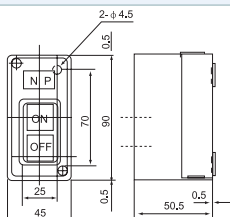
CBSN-330



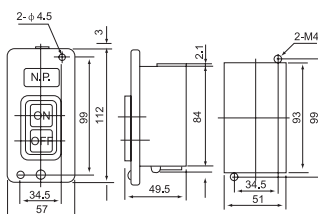
CBSP-315



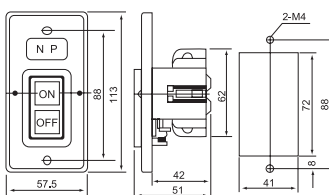
CBSP-330



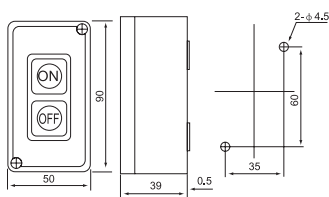
CBSY-315,330



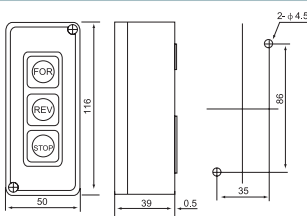
CBSS-315,330



CPB-2



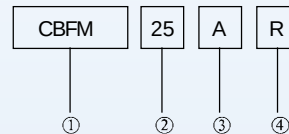
CPB-3



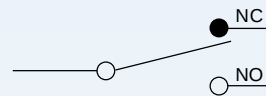


Pushbutton Switch

Model designations



Contact Form



Ratings

Rated voltage	Noninductive Load (A)				Inductive Load (A)				Inrush Current (A)	
	Resistance Load		Lamp Load		Inductive Load		Motor Load			
	NC	NO	NC	NO	NC	NO	NC	NO	NC	NO
125VAC	15		3	1.5	15		5	2.5	30 max.	15 max.
250VAC	15		2.5	1.25	15		3	1.5		
500VAC	3		1.5	0.75	2.5		1.5	0.75		
8VDC	15		3	1.5	15		5	2.5		
14VDC	15		3	1.5	10		5	2.5		
30VDC	6(2)		3	1.5	5		5	2.5		
125VDC	0.4		0.4	0.4	0.05		0.05	0.05		
250VDC	0.2		0.2	0.2	0.03		0.03	0.03		

15A 250VAC CM Micro Switch

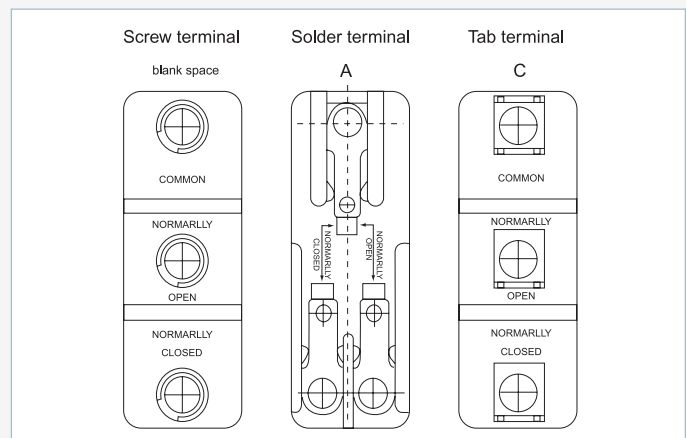
Number	Code number	Details
Model	CBFM CBLM CBMM	Even button Convex button Big head
Fixed hole distance	25 30	φ 25m/m φ 30m/m
Connection terminal	B A C	Screw terminal Solder terminal Tab terminal
Color of pushbutton switch	R G Y B W	Red Green Yellow Black White

Characteristics

Operation speed	0.01mm-1m/sec
Operating frequency	Mechanical:240 operations/ minute, Electrical:20 operations/ minute
Contact resistance	15m Ω below(initial)
Insulation resistance	100M Ω above (at 500VDC)
Life	Mechanical:20,000,000 times above Electrical:500,000 times above

Notes: 1. Each type has solder terminal, screw terminal and tab terminal, which are all selective.
2. Converse operation of actuator is always kept because of the compressing of spring. It will be free and do switch on and off action under lever action. Because when the pole stopper is kept by actuators (free state) so it can bear vibration and hitting.

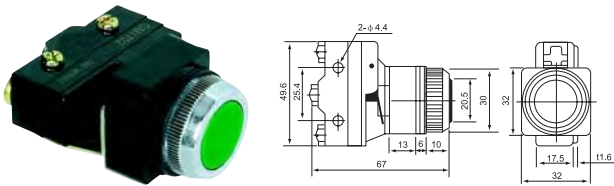
Terminal Type



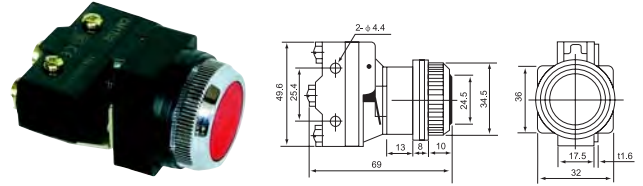
Pushbutton Switch

Appearance and dimension

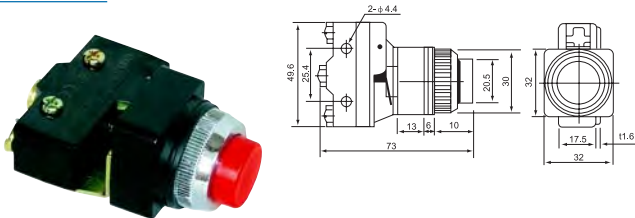
CBFM-25



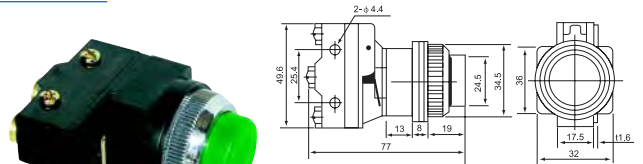
CBFM-30



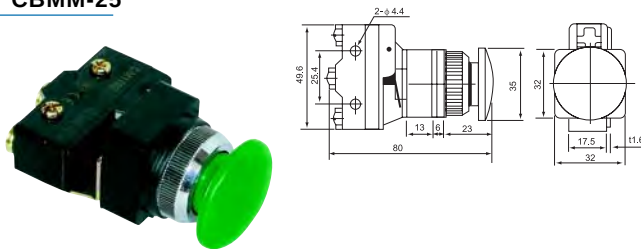
CBLM-25



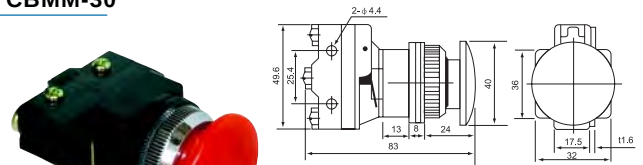
CBLM-30



CBMM-25



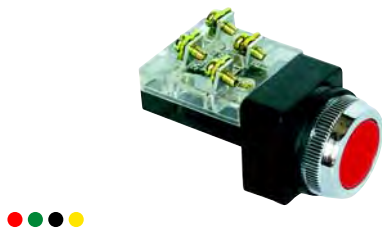
CBMM-30



Appearance and characteristics

CBF-25(30)

Even button



CBM-25(30)

Mushroom button



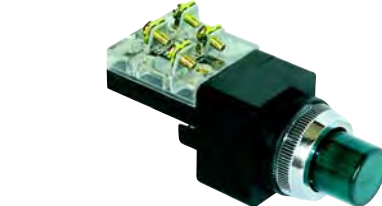
CBK-25(30)

Latching button



CIBN-25(30)

Direct type of button with indicator lamp



CBL-25(30)

Convex button



CSS-25(30)

Two or three positions selector switch with short lever



Pushbutton Switch

CSS-25(30)

Automatic return switch with short lever



CIB-25(30)

Transformer type of push-button with indicator lamp



CPNR-25(30)

Indicator lamp



CPR-25(30)

Transformer type of indicator lamp



1A1B

1A1B base



1A、1B

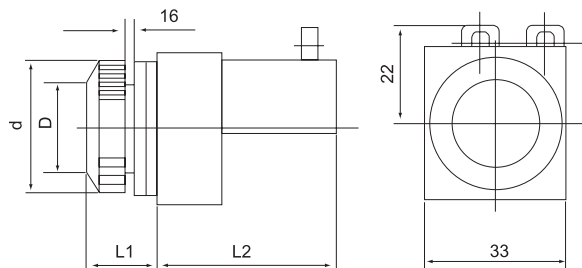
1A base, 1B base



Contact type 10=1NO, 01=1NC, 11=1NO+1NC, 22=2NO+2NC

Appearance and dimension

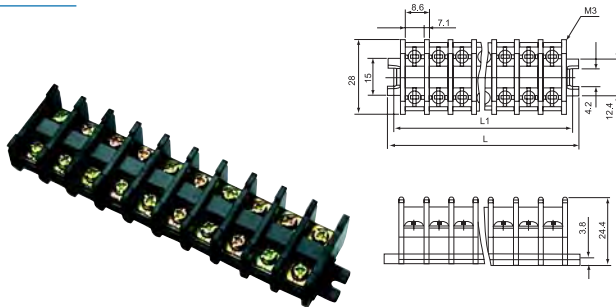
Model	Size(mm)			
	D	d	L1	L2
CBF-25-30	21(24.5)	30(34)	16(18.5)	40/48
CBF-25-30	40	30	31	40/48
CBM-25-30	40	30	35	42/50
CSS-25-30	21	30	33	43/51
CIBN-25-30	19	30	33	46/55
CBK-25-30	40	30	35	42/50



Cassette Assembly Terminal Block

Appearance and dimension

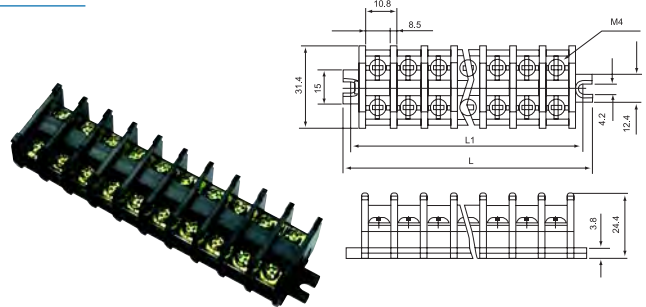
CBC-10



$L=16.7+8.6 \times n$
 $L1=10.3+8.6 \times n$
 n=No. of poles

No. of poles	2	3	4	5	6	7	8	9	10	11	12
L	33.9	42.5	51.1	59.7	68.3	76.9	85.5	94.1	102.7	111.3	119.9
L1	27.5	36.1	44.7	53.5	61.9	70.5	79.1	87.7	96.3	104.9	113.5

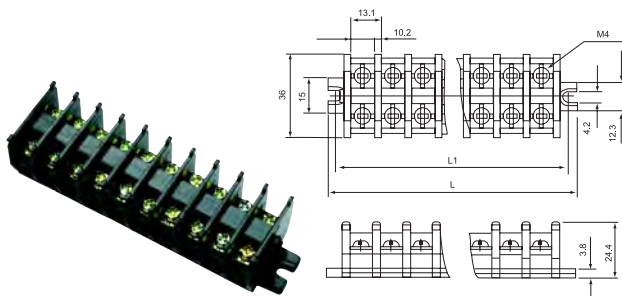
CBC-20



$L=17.3+10.8 \times n$
 $L1=11.2+10.8 \times n$
 n=No. of poles

No. of poles	2	3	4	5	6	7	8	9	10	11	12
L	39.2	50	60.8	71.6	82.4	93.2	104	114.8	125.6	136.4	147.2
L1	32.8	43.6	54.4	65.2	76	86.8	97.6	108.4	119.2	130	140.8

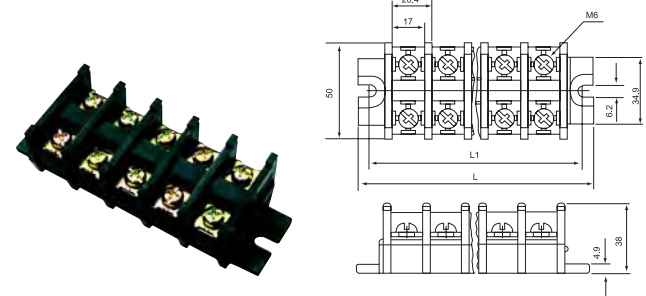
CBC-30



$L=18+13.1 \times n$
 $L1=11.5+13.1 \times n$
 n=No. of poles

No. of poles	2	3	4	5	6	7	8	9	10	11	12
L	44.2	57.3	70.4	83.5	96.6	109.7	122.8	135.9	149	162.1	175.2
L1	37.7	50.8	63.9	77	90.1	103.2	116.3	129.4	142.5	155.6	168.7

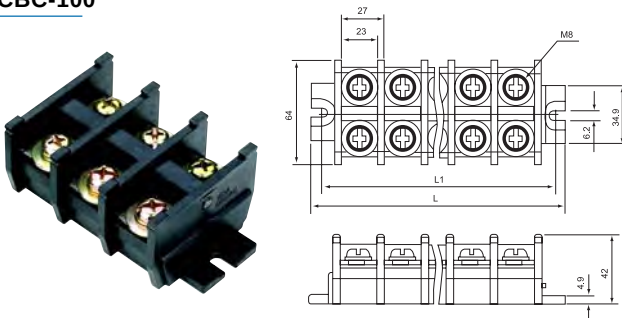
CBC-60



$L=33.5+20.4 \times n$
 $L1=18.5+20.4 \times n$
 n=No. of poles

No. of poles	2	3	4	5	6	7	8	9	10	11	12
L	74.3	94.7	115.1	135.5	155.5	176.3	196.7	217.1	237.5	257.9	278.3
L1	59.3	79.7	100.1	120.5	140.9	161.3	181.7	202.1	222.5	242.9	263.3

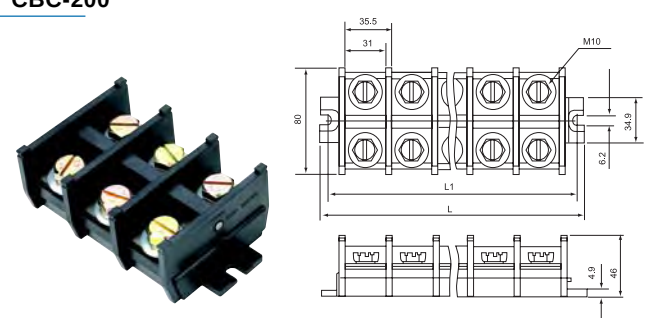
CBC-100



$L=34+27 \times n$
 $L1=19+27 \times n$
 n=No. of poles

No. of poles	2	3	4	5	6	7	8	9	10	11	12
L	88	115	142	169	196	223	250	277	304	331	358
L1	73	100	127	154	181	208	235	262	289	316	343

CBC-200



$L=34.5+35.5 \times n$
 $L1=19.5+35.5 \times n$
 n=No. of poles

No. of poles	2	3	4	5	6	7	8	9	10	11	12
L	105.5	141	176.5	212	247.5	283	318.5	354	389.5	425	460.5
L1	90.5	126	161.5	197	232.5	268	303.5	339	374.5	410	445.5