

КАТАЛОГ

Автоматические выключатели в литом корпусе



Архангельск (8182)63-90-72
Астана +7(7172)727-132
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Казань (843)206-01-48

Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81

Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54

Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)22948 -12
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93

Product Overview

MCCB Current Amps	MCCB 15A - 125A FIXED 3P 37 kA @ 415 V Icu = Ics	MCCB 150A - 250A FIXED 3P 37 kA @ 415 V Icu = Ics	MCCB 250A - 400A FIXED 3P 50 kA @ 415 V Icu = Ics	MCCB 500A - 1200A FIXED 3P 65 kA @ 415 V Icu = Ics
15	G37D015			
20	G37D020			
30	G37D030			
40	G37D040			
50	G37D050			
60	G37D060			
75	G37D075			
100	G37D100			
125	G37D125			
150		F37D150		
175		F37D175		
200		F37D200		
225		F37D225		
250		F37D250	K50D250	
300			K50D300	
350			K50D350	
400			K50D400	
500				L65D500
630				L65D630
700				L65D700
800				L65D800
1 000				N65D1000*
1 200				N65D1200*

* Note: N65D Icu = 0,5 Ics

DIS Current Amp	DIS 125 A FIXED 3P CBI - X = 1.2 kA	DIS 250 A FIXED 3P CBI - X = 1.2 kA	DIS 400 A FIXED 3P CBI - X = 3.2 kA	DIS 630 A - 1200 A FIXED 3P CBI - X = 6.4 kA/3.6 kA*
125	G37DN125			
250		F37DN250		
400			K50DN400	
630				L65DN630
800				L65DN800
1200				N65DN1200*

Effect of Ambient Temperature on rating

	Amb. Temp	-5°C	0°C	10°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C
Calibrated for 40°C	In=15 to 30	111.9%	111.3%	110.0%	108.0%	106.6%	104.9%	102.7%	100.0%	96.8%	93.3%
	In=40 to 100	110.2%	109.8%	108.7%	107.0%	105.8%	104.3%	102.4%	100.0%	97.2%	94.0%
	In=100 to 225	114.3%	113.2%	110.6%	107.5%	105.8%	104.0%	102.0%	100.0%	97.9%	95.6%
	In=225 to 800	110.0%	109.0%	107.0%	105.0%	104.0%	103.0%	101.5%	100.0%	98.5%	97.0%

MCCB Specifications



Type	3 Pole	G37D	F37D	K50D	L65D	N65D	N65D
Rated Current	A	15, 20, 30, 40, 50, 60, 75, 100, 125	150, 175, 200, 225, 250	250, 300, 350, 400	500, 630, 700, 800	1000	1200
Rated Operational Voltage, Ue	AC (V)	690	690	690	690	600	600
	DC (V)	500	500	500	500	x	x
Rated Insulation Voltage, Ui	V	750	750	750	750	690	690
Rated Impulse Withstand Voltage, Uimp	kV	8	8	8	8	6	6
Rated Short Circuit Breaking Capacity (Icu) kA (Sym)							
AC	690 V	8	8	8	10	x	x
	525 / 550 V**	25	25	35	35	x	x
	480 / 500 V	25	26	35	45	50	50
	415 / 460 V	37	37	50	65	65	65
	380 V	42	42	65	75	65	65
	220 / 250 V	85	85	75	85	100	100
DC	(3P) 500 V	20	20	20	20	x	x
Service Breaking Capacity (%Icu), Ics		100**	100**	100**	100**	50	50
Category of Use		A	A	A	A	A	A
Endurance (Number of Operations)	Mechanical	25 000	25 000	4 000	2 500	2 500	2 500
	Electrical	10 000	10 000	1 000	500	500	500
Type of Trip Unit							
Thermal-Magnetic Release		fixed	fixed	fixed	fixed	fixed	fixed
Accessories							
Electrical Auxiliaries	Auxiliary Switch	○	○	○	○	○	○
	Alarm Switch	○	○	○	○	○	○
	Shunt Trip	○	○	○	○	○	○
	Under Voltage Trip	○	○	○	○	○	○
External Accessories	Direct Rotary Handle*	○	○	○	○	x	x
	Extended Rotary Handle	○	○	○	○	○	○
	Terminal Cover	○	○	○	○	x	x
	Insulation Barrier	○	○	○	○	○	○
	Rear Connection*	○	○	○	○	○	○
	Mechanical Interlock*	○	○	○	○	x	x
	Plug in Device*	○	○	○	○	x	x
Dimensions (mm)	W x H x D (3p)	90 x 155 x 60	105 x 165 x 60	140 x 257 x 109	210 x 280 x 109	220 x 400 x 105	220 x 400 x 105
Weight (kg)	3 Pole	1	1.2	6.2	11.5	21	21

Note: ● Available or supplied as standard ○ * Optional - Please specify x Not available * Contact CBI for availability

** Icu ≠ Ics 525,550 V

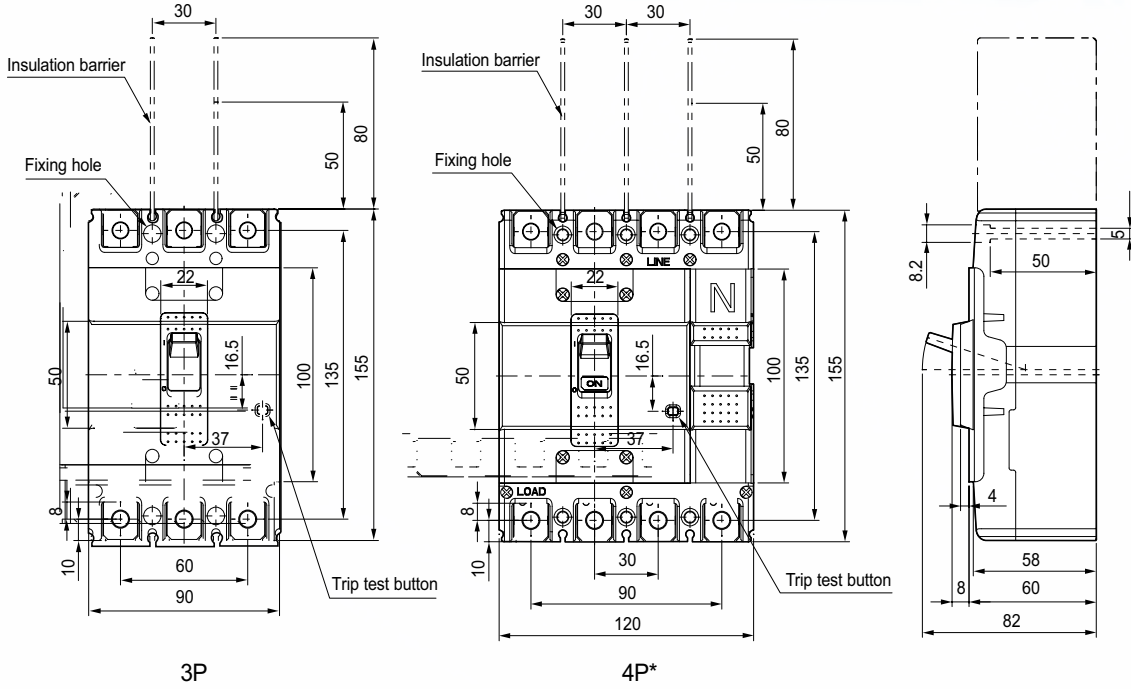
Switch Disconnect

Type		G37DN125	F37DN250	K50DN400	L65DN630	L65DN800	N65DN1200
Rated Current	Max A	125	250	400	630	800	1200
No of Poles		3, 4*	3, 4*	3, 4*	3, 4*	3, 4*	3, 4*
Rated Operational Voltage Ue	AC (V)	690	690	690	690	600	600
	DC (V)	500	500	500	500	x	x
Rated Impulse Withstand Voltage, Uimp	kV	8	8	8	8	6	6
Rated Insulation Voltage, Ui	V	750	750	750	750	690	690
Rated Short Circuit Making Capacity Icm (kA peak)							
AC	690V	8	8	8	10	x	x
	525 / 550V	25	25	35	35	x	x
	480 / 500V	25	26	35	45	50	50
	415 / 460V	37	37	50	65	65	65
	380V	42	42	65	75	65	65
	220 / 250V	85	85	75	85	100	100
CBI - X =	Min kA	1.2 kA	1.2 kA	3.2 kA	6.4 kA	6.4 kA	3.6 kA
DC	(3P) 500V	20	20	20	20	x	x
Category of Use		A	A	A	A	A	A
Endurance (Number of Operations)	Mechanical	25 000	25 000	4 000	2 500	2 500	2 500
	Electrical	10 000	10 000	1 000	500	500	500
Dimensions (mm)	W x H x D (3p)	90 x 155 x 60	105 x 165 x 60	140 x 257 x 109	210 x 280 x 109	220 x 400 x 105	220 x 400 x 105
Weight (kg)	3 pole	1	1.2	6.2	11.5	21	21
Accessories							
Electrical Auxiliaries	Auxiliary Switch	○	○	○	○	○	○
	Alarm Switch	○	○	○	○	○	○
	Shunt Trip	○	○	○	○	○	○
	Under Voltage trip	○	○	○	○	○	○
External Accessories	Direct Rotary Handle*	○	○	○	○	x	x
	Daros Extended Rotary Handle	○	○	○	○	○	○
	Terminal Cover	○	○	○	○	x	x
	Insulation Barrier	○	○	○	○	○	○
	Rear Connection*	○	○	○	○	○	○
	Mechanical Interlock*	○	○	○	○	x	x
	Plug in Device*	○	○	○	○	x	x

Note: ● Available or supplied as standard ○ Optional - Please specify x Not available * Contact CBI for availability

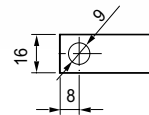
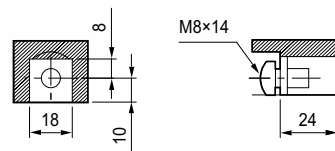
MCCB Dimensions

G37D/N MCCB 37kA Fixed 15A - 125A



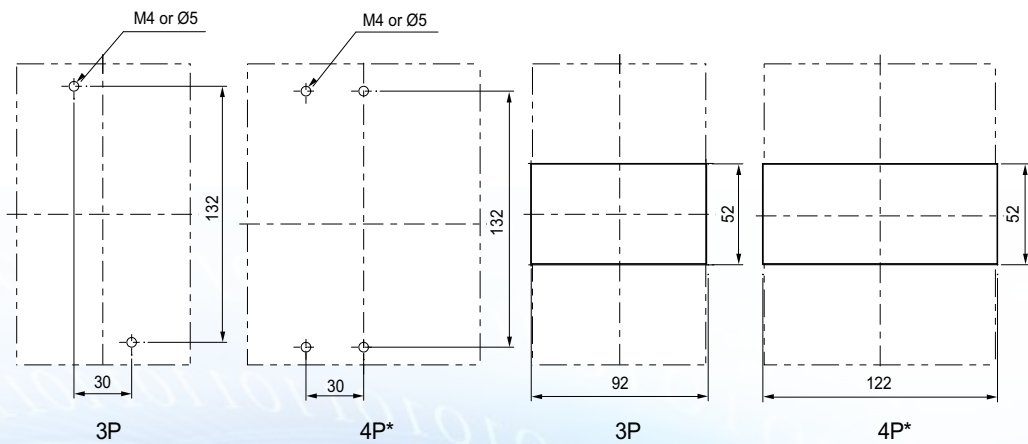
Terminal details

Connecting



Panel drilling

Front panel cutting

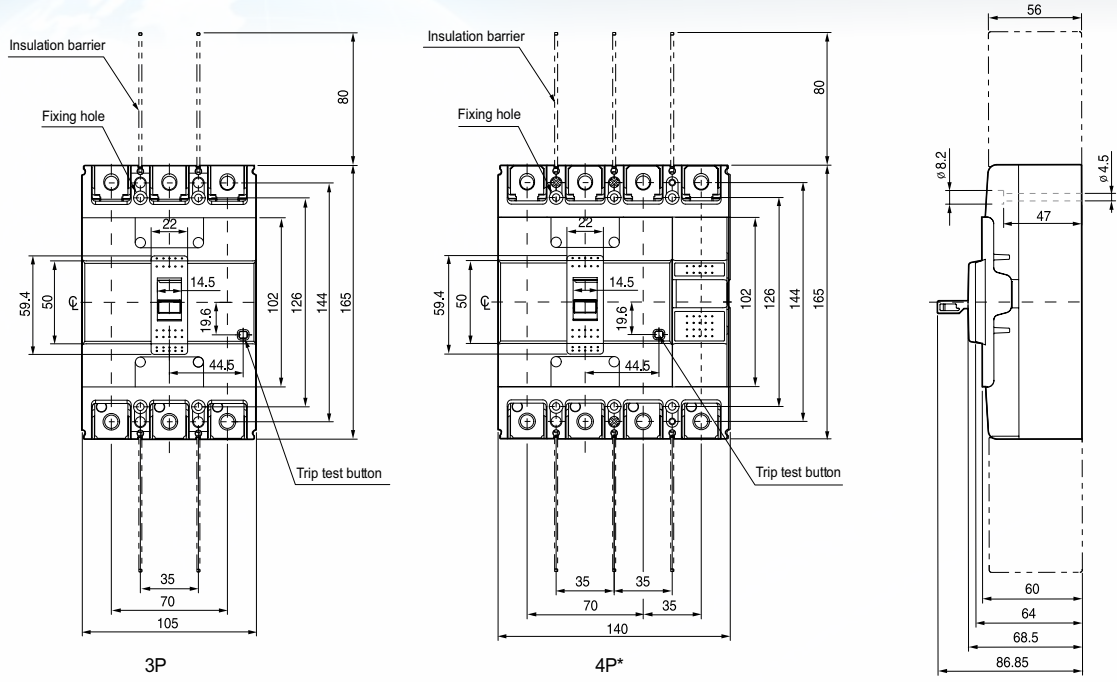


Dimensions: mm

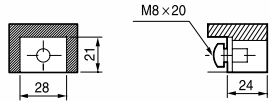
* Contact CBI for availability

MCCB Dimensions

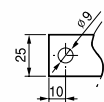
F37D/N MCCB 37kA Fixed 150A - 250A



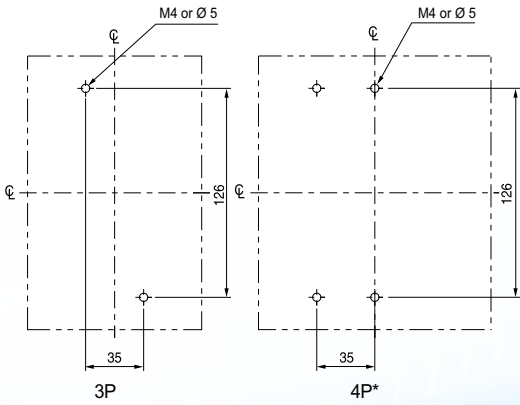
Terminal details



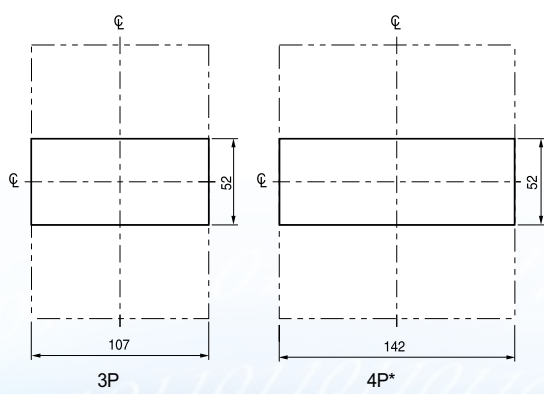
Connecting



Panel drilling

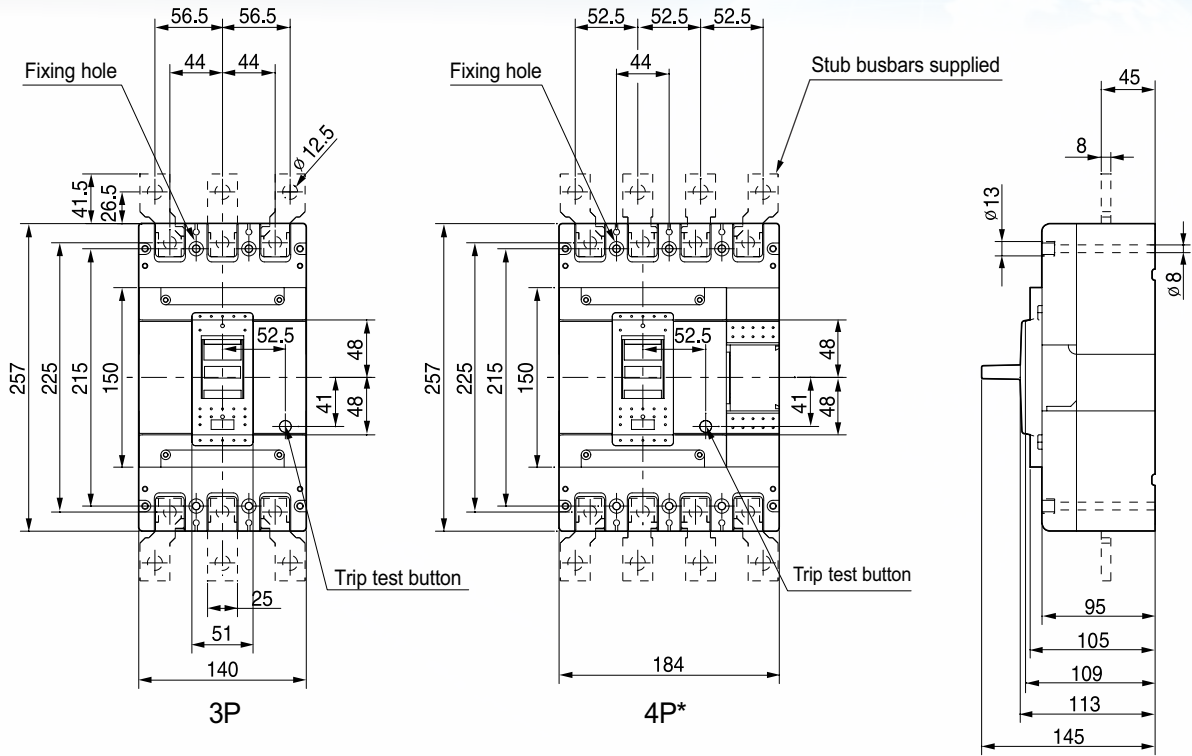


Front panel cutting

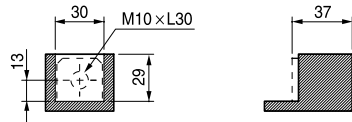


MCCB Dimensions

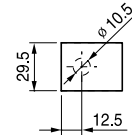
K50D/N MCCB 50kA Fixed 250A - 400A



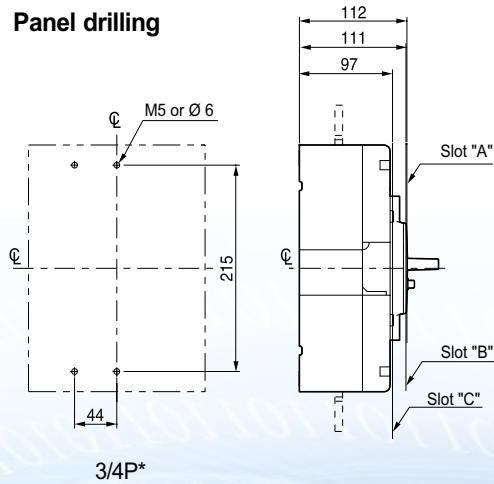
Terminal details



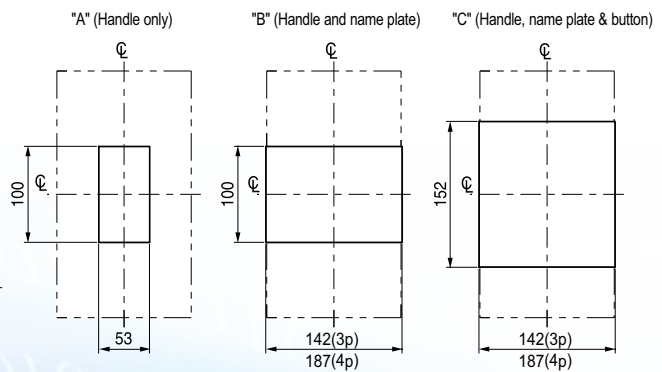
Connecting



Panel drilling



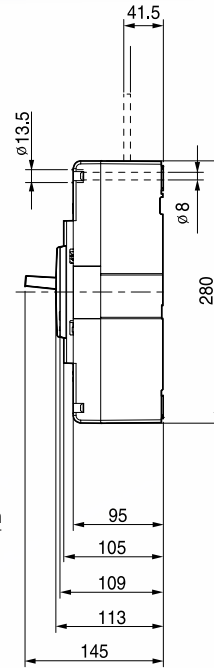
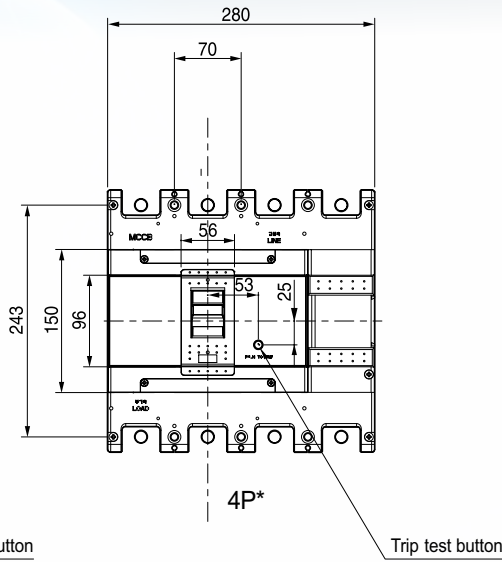
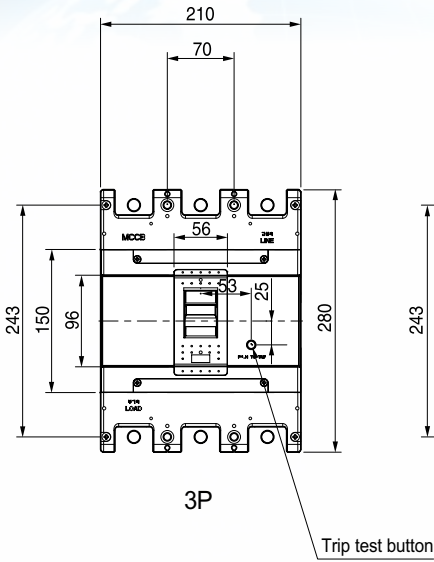
Front panel cutting



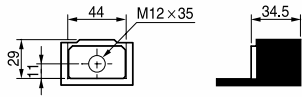
Dimensions: mm

MCCB Dimensions

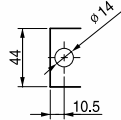
L65D/N MCCB 65kA Fixed 500A - 800A



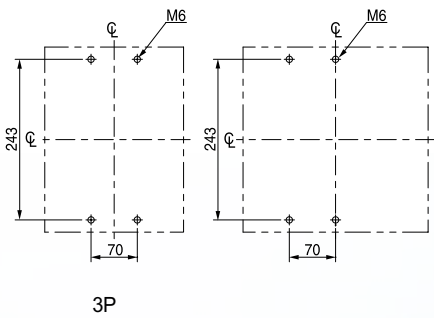
Terminal details



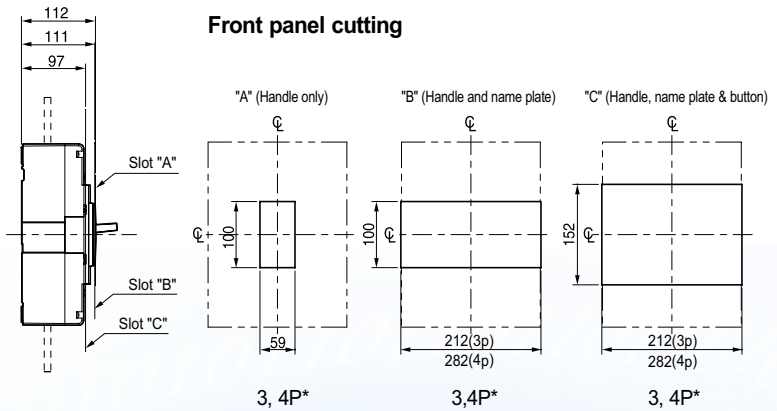
Connecting



Panel drilling



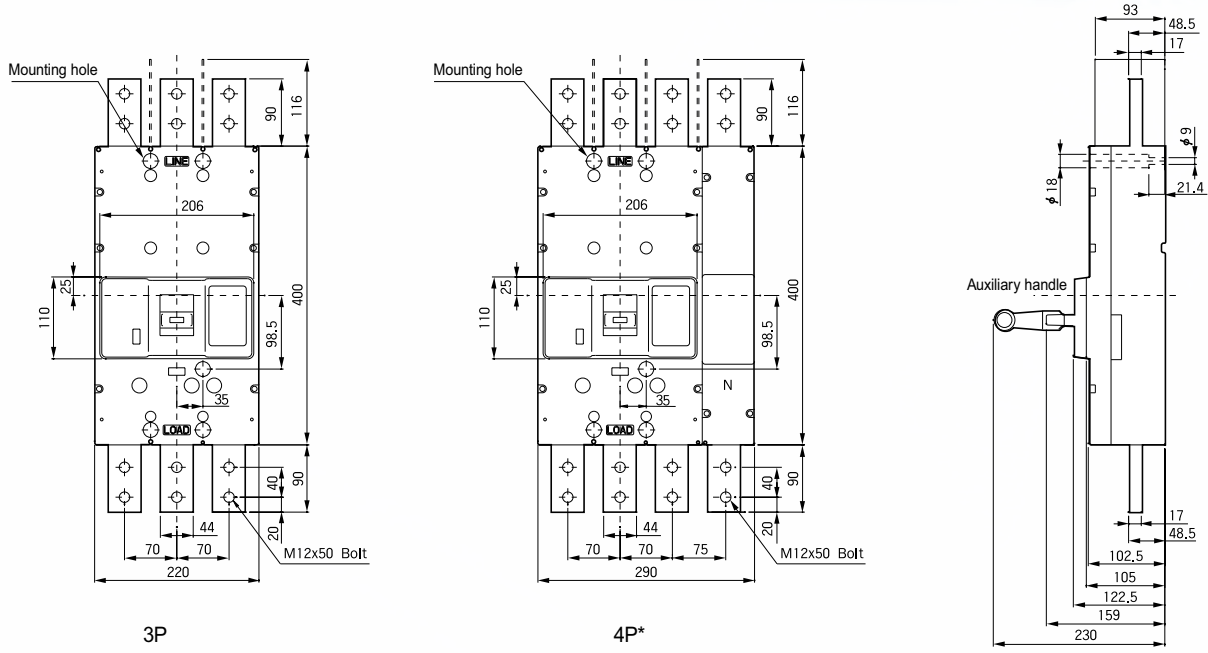
Front panel cutting



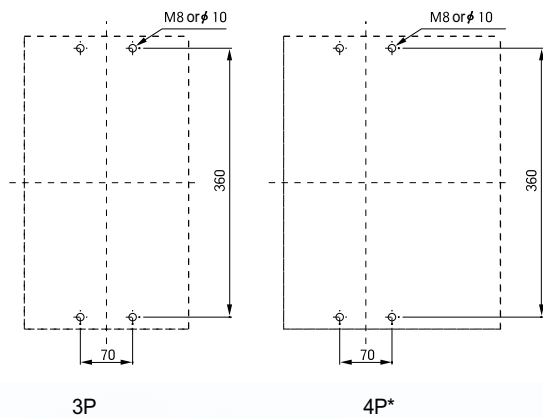
Dimensions: mm
* Contact CBI for availability

MCCB Dimensions

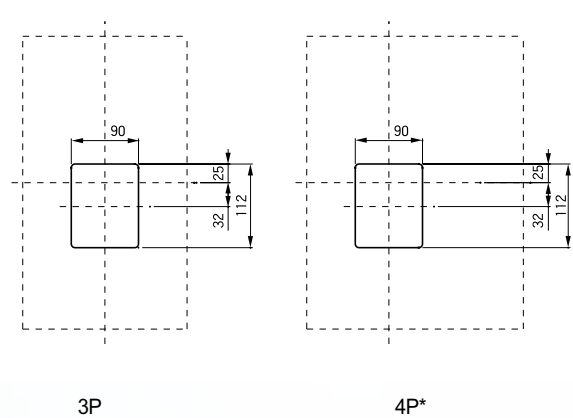
N65D/N MCCB 65kA Fixed 1000 - 1200 A



Panel drilling



Front panel cutting



(4 Poles available only up to 1000 A)

Dimensions: mm

* Contact CBI for availability

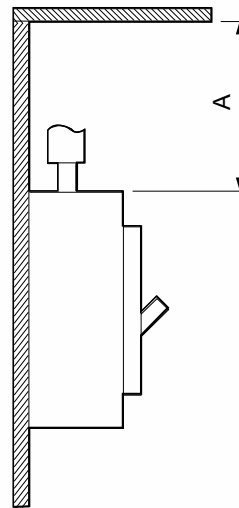
Safety clearance

When installing a circuit breaker, safety clearances must be kept between the breaker and the panels, bars and other protection devices installed nearby. These safety clearances are dependant on the ultimate breaking capacity and are defined by tests carried out in accordance with standard IEC 60947-2.

When a short circuit interruption does occur, high temperatures and high pressures occur in the circuit-breaker. In order to allow the pressure to be distributed and to prevent fire and arcing of short circuit currents, safety clearances are required.

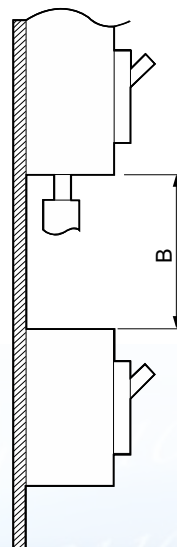
A: Minimum distance to metallic top panels

Frame size	Description	A (mm)
100AF	G37D	100
125AF	G37D	100
250AF	F37D	100
400AF	K50D	100
800AF	L65D	100



B: Minimum distance between the lower and the upper breakers

Frame size	Description	B (mm)
125AF	G37D	100
250AF	G37D	100
400AF	F37D	100
800AF	K50D	100



MCCB environment

Standard Use Environment

Standard Use Environment for Moulded Case Circuit Breaker

The operation characteristic of Moulded Case Circuit Breakers including, short circuit, overload, endurance and insulation is often influenced largely by the external environment and thus should be applied appropriately, taking into consideration the conditions where it will be used. In particular the operation characteristic of the Circuit Breaker with a Thermal Magnetic trip element (FTU, FMU, ATU). In areas where there is a difference in ambient temperature, the power rating will have to be adjusted accordingly when the Circuit Breaker is actually in use.

1. Ambient temperature within the range of $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$ (However, the average per 24 hour period must not exceed 35°C).
2. Relative Humidity: Within the range of 45 ~ 85%
3. Altitude: 2000m or less (If altitude exceeds 1000m, atmosphere correction through humidity test and withstand voltage test can be considered)
4. Use in an atmosphere where excessive steam, oil steam, dust, salt and other corrosive material do not exist.



- If a standard circuit breaker is used at high temperatures exceeding 40°C , it is advised to use the Circuit Breaker according to the current correction for each level of ambient temperature in catalogue. Refer to derating curve/s: Holds less load.
- If used in conditions of high humidity, the electric strength or electric performance may be degraded.



- Conduction, switch, trip or short circuit isolation functions normally at temperature of -20°C .
- Storage in extreme cold areas are allowed in temperatures of -40°C
- Refer to de-rating curve/s : Holds more load.



- It is highly recommended to use a dust cover or anti-humidity agent if the Circuit Breaker is used in dusty and humid conditions.
- Long term humidity may corrode metal parts and prevent operation.
- Excessive vibration may cause a nuisance trip.



- If the Circuit Breaker is ON or OFF for a long time, it is recommended to manually switch the load current on a regular basis.
- It is recommended to put the Circuit Breaker in sealed protection if corrosive gas is prevalent.

For assistance in regular examination of Moulded Case Circuit Breakers see the
“Moulded Case Circuit Breaker Deterioration Diagnostic Table” on the next page 

Moulded Case Circuit Breaker Deterioration Diagnostic Table

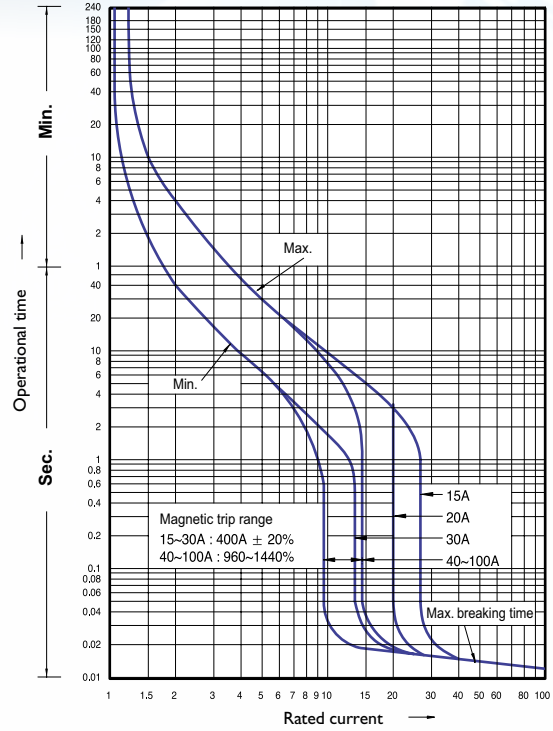
Sample No.						
Installation location						
Model, number of poles, rating						
Specifications						
Accessories						
Serial number						
Installation date						
Item	Factor	Condition	Points			
1. Age of use	x 3	Less than 10 years	1			
		Less than 15 years	2			
		Less than 20 years	3			
		Less than 30 years	4			
		30 years or more	5			
2. Number of opening - closing operations	x 5	Specified number or less	1			
		Double the specified number or less	2			
		Double the specified number or more	3			
Internal Inspection	(1) Ambient temperature	Low (monthly average 30 °C or less)	0			
		Normal (monthly average 3°C or less)	1			
		High (monthly average over 3°C)	2			
	(2) Humidity	x 4	Low (monthly average 45% or less)	0		
Normal (monthly average 85% or less)	1					
High (monthly average over 85%)	2					
(3) Corrosive gas	x 10	Does not exist	0			
Exists		1				
(4) Carrying Current (average)	x 3	50% or less of rating	1			
		80% or less of rating	2			
		Over 80% of rating	3			
Structural Inspection	(1) Dust / Smear	Almost none	0			
		Adhesion of dust, oil mist, etc. (Small amount)	1			
		Adhesion of dust, oil mist, etc. (large amount)	2			
	(2) Dust at the line side barrier area	x 5	No dust	0		
			Adhesion of soot (minute amount)	1		
			Adhesion of soot (large amount) Adhesion of metal particles	2 3		
(3) Traces of overheating in terminal area	x 7	No discoloration	0			
		Slight overheating discoloration found	1			
		Significant overheating discoloration	2			
5. Insulation resistance (Note) In the case of Earth Leakage circuit breakers, insulation resistance between the right poles cannot be measured because the control circuit power is on.	x 5	Over 100 MΩ	0			
		5 MΩ - 100 MΩ	1			
		0.5 - Less than 5 MΩ	5			
Total score (factor x points)						
Necessity of consideration for renewal				Need	No need	

Total evaluation score	Judgment guide
0 - 20 points	It is judged that continuous use is possible.
21 - 29 points	It is judged that renewal should be considered.
30 points or more	It is judged that renewal is necessary.

Characteristics curves

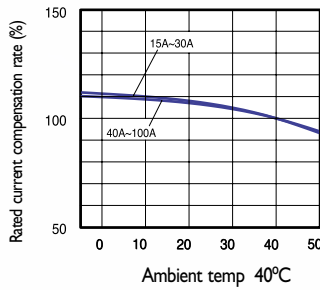
G37D MCCB

Rated current: 15~30A, 40~100A

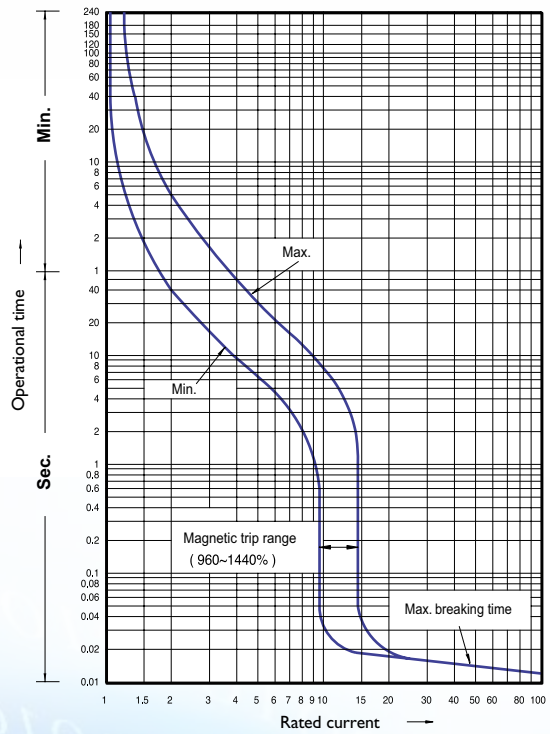
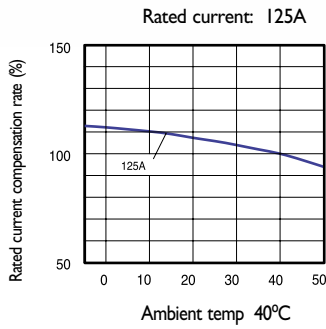


Compensation curves

Rated current: 15~100A



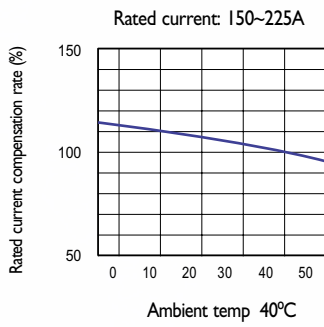
Rated current: 125A



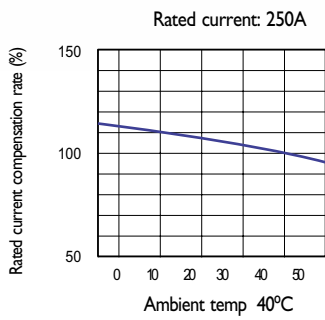
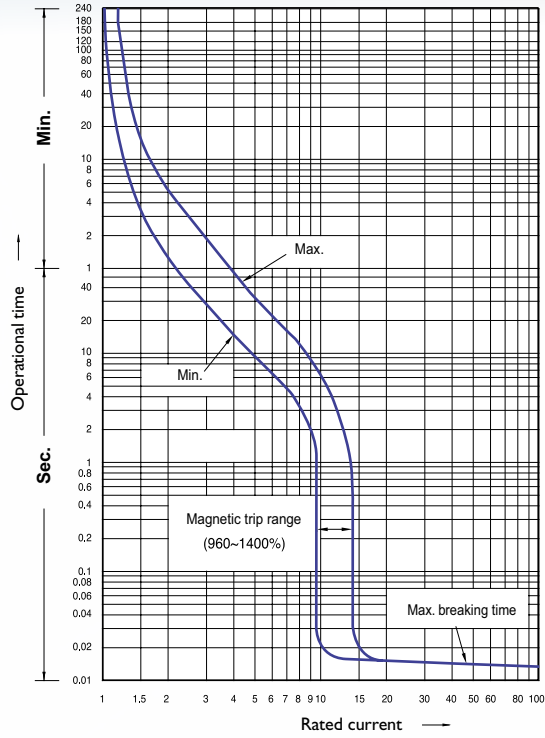
Characteristics curves

F37D MCCB

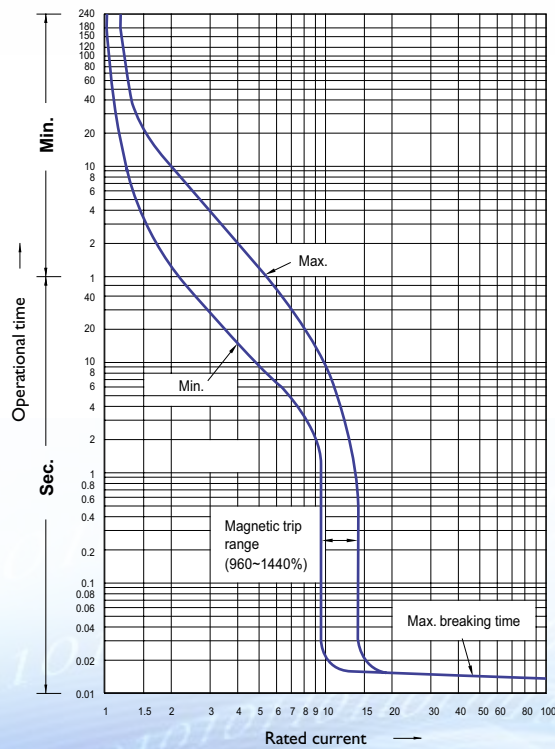
Compensation curves



Rated current: 150 ~ 225A



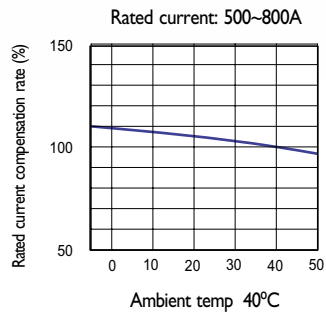
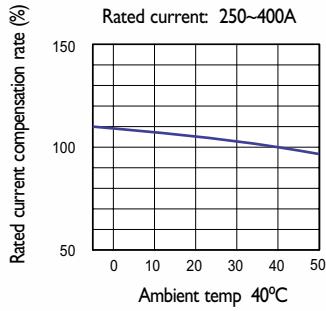
Rated current: 250A



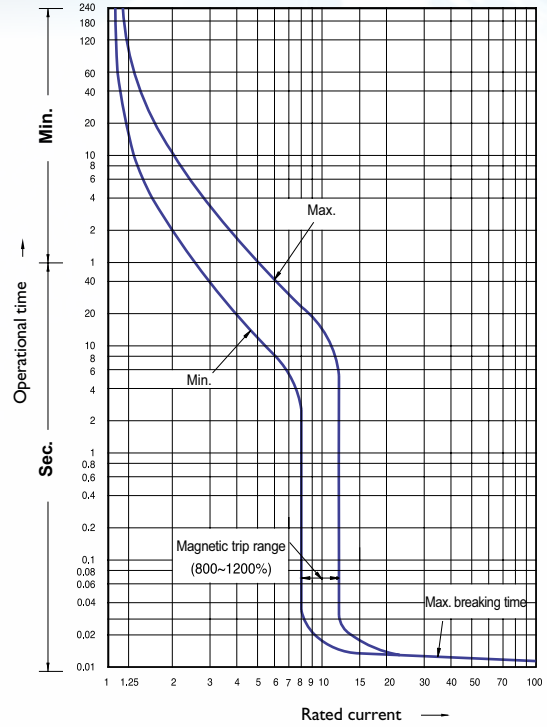
Characteristics curves

K50D / L65D MCCB

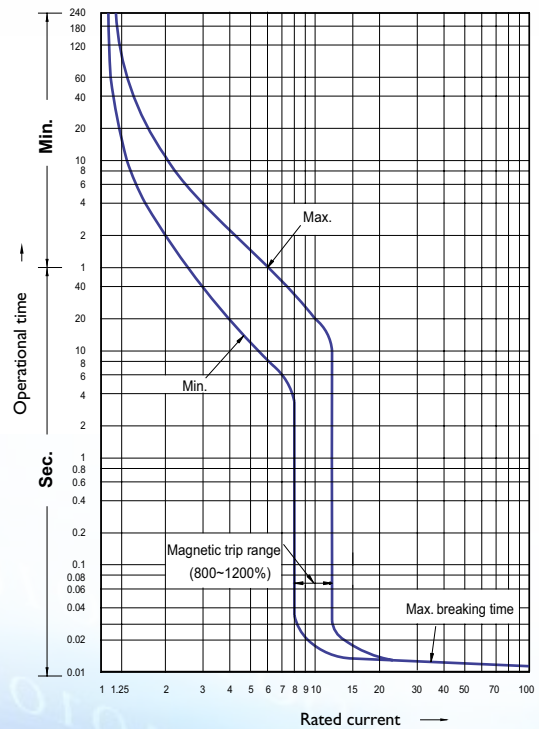
Compensation curves



Rated current: 250~400A



Rated current: 500~800A

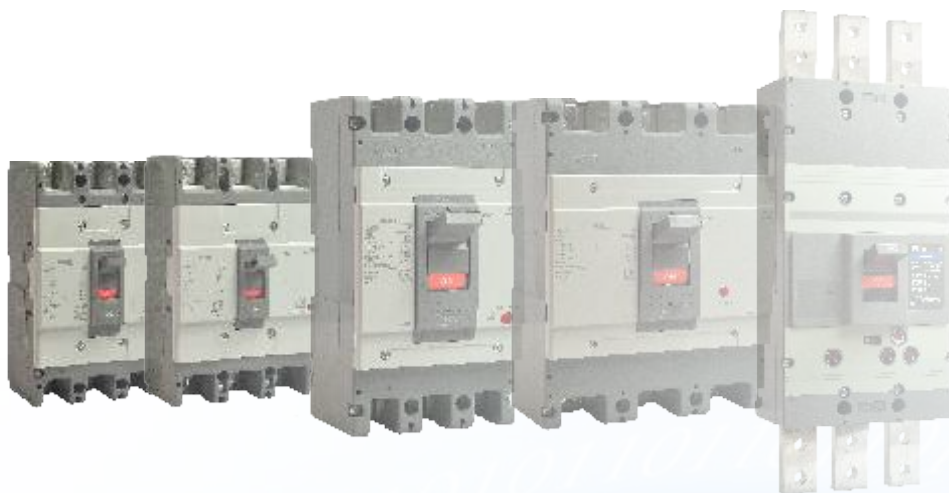
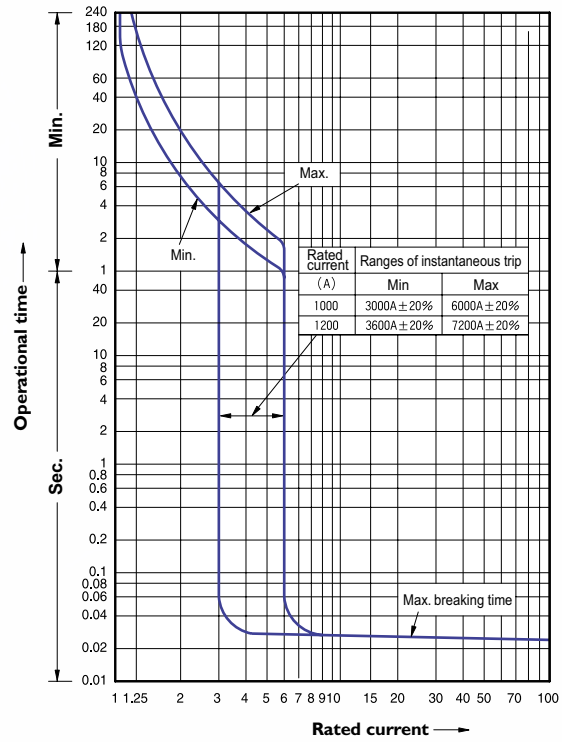
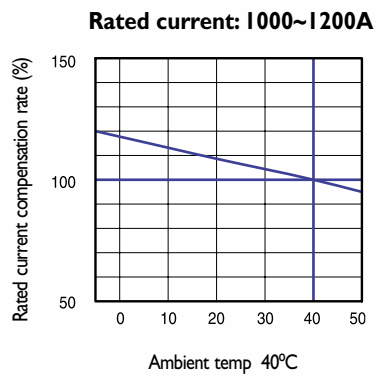


Characteristics curves

N65D MCCB

Rated current: 1000~1200A

Compensation curves



Cascading Table

Cascading Table (CBI MCCB's)

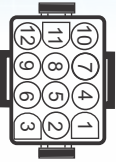
Type	G37D 15 - 125 A			F37D 150 - 250 A			K50D 250 - 400 A			L65D 500 - 800 A				BUSBAR RATING kA RMS	
	No of Poles	3	3	3	3	3	3	3	3	3	3	3	3		
Fault Level kA	15	25	35	15	25	35	15	25	35	50	25	35	50	65	
Downstream kA															
65												G37D/ F37D	G37D/ F37D	G37D/ F37D	20
50												G37D/ F37D	G37D/ F37D	G37D/ F37D	15
35			QH/QF						QH/QF			G37D/ F37D	G37D/ F37D	G37D/ F37D	10
30			QH/QF						QH/QF			G37D/ F37D	G37D/ F37D	G37D/ F37D	
25		QF	QF		QF	QF			QF	QF		G37D/ F37D	G37D/ F37D	G37D/ F37D	
20		QF	QF		QF	QF			QF	QF		G37D/ F37D	G37D/ F37D	G37D/ F37D	
15	QF	QF	QF	QF	QF	QF			QF	QH,QF	QH,QF	QH,QF	QH,QF		
10	QF	QF	QF	QF	QF	QF			QF	QH/QF	QH/QF	QH/QF	QH/QF		

MCCB Electrical & Mechanical Change System

CBI-Electric MCCB Type Transfer Switch wiring diagram

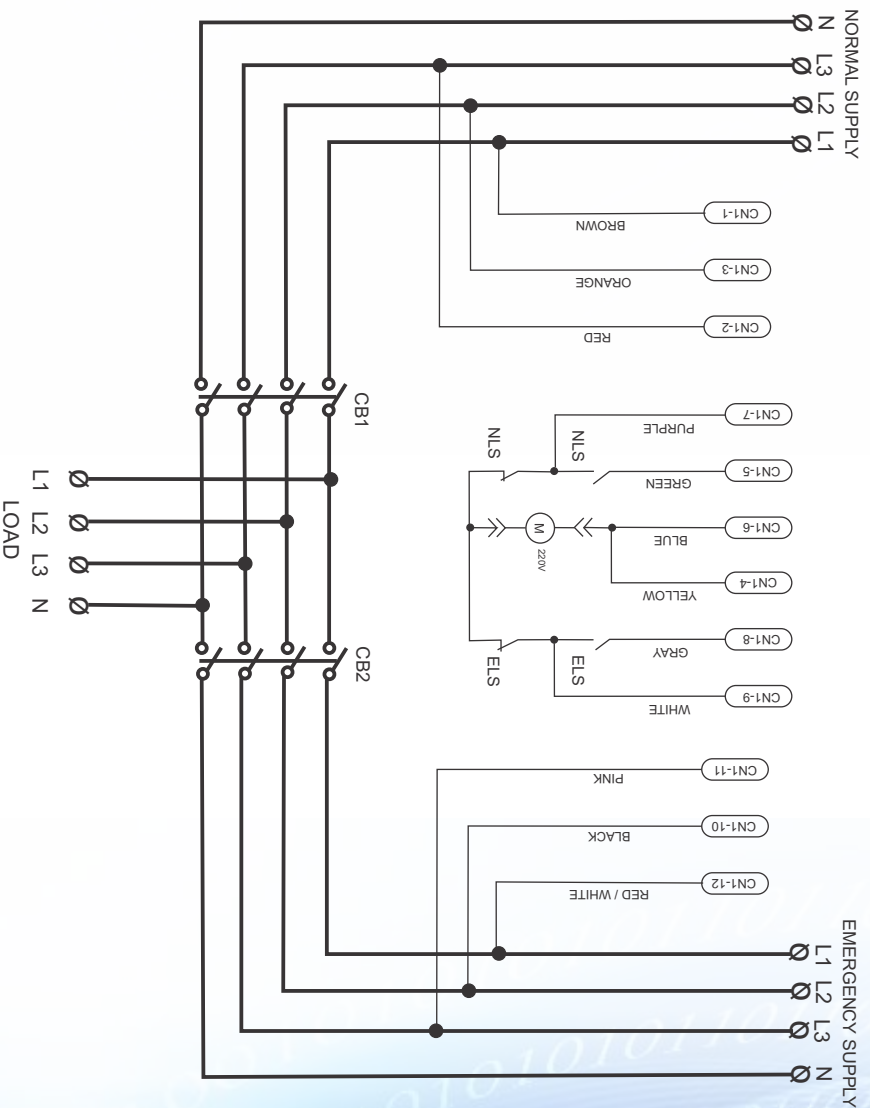
PIN NO.	DESCRIPTION
CN1-1	Normal power L1 voltage output
CN1-2	Normal power L3 voltage output
CN1-3	Normal Power L2 voltage output
CN1-4	Emergency ON motor AC power input
CN1-5	Normal ON signal output
CN1-6	Normal ON motor AC power input
CN1-7	Normal ON motor AC power input
CN1-8	Emergency ON signal output
CN1-9	Emergency ON motor AC power input
CN1-10	Emergency power L2 voltage output
CN1-11	Emergency power L3 voltage output
CN1-12	Emergency power L1 voltage output

#NLS->Normal Auxiliary Switch
#ELS->Emergency Auxiliary Switch

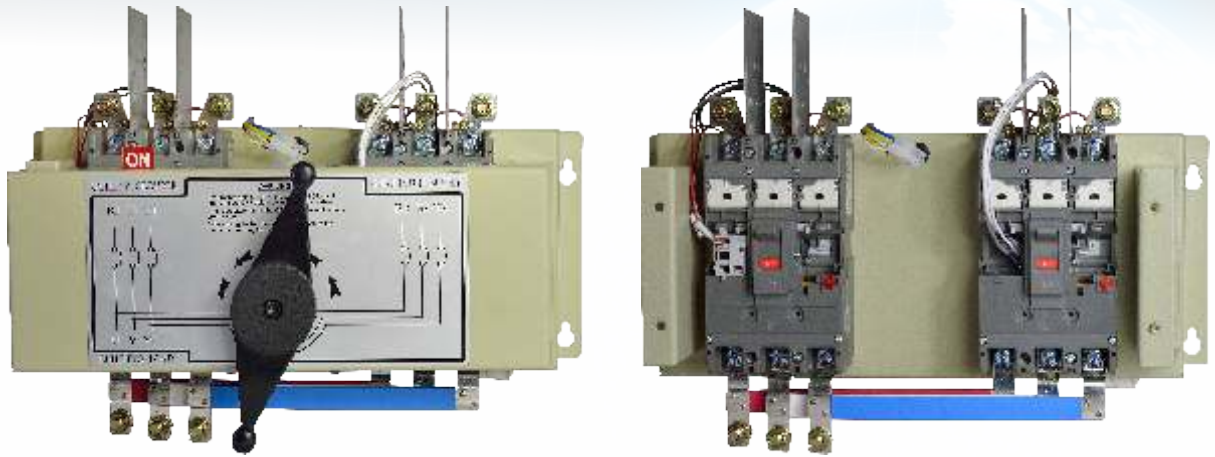


12P AMP Housing

(Neutral Phase may be optional)



MCCB Electrical & Mechanical Change System



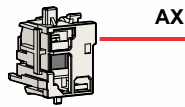
Frame	Selectable Amps		System is frame & size dependant, eg. the selection must be from the same frame size. Select any MCCB combination 230 - 400 V Network
CM-MI 125	GD	5 - 125 A	
CM-MI 250	FD	150 - 250 A	
CM-MI 400	KD	250 - 400 A	
CM-MI 800	LD	500 - 800 A	

- MCCB styled electrical change over with manual option.
- Easy to read mechanical status.
- Compatible with most ATS controllers
- Fully built and pre-wired to accept mains and controller interface.
- Customer selected combinations.
- Factory assembled and tested.
- Factory fitted combined Busbars on load side.
- Electrical locking system with factory fitted MCCB, Aux Circuit.
- 3P System standard (4 Pole optional*)

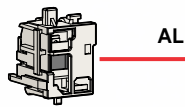
Motor specifications
 200 - 240 VAC (50 / 60Hz)
 Ui AC 750V
 Ue 220V

MCCB Accessories

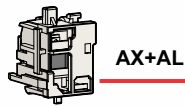
**Electrical auxiliaries of 125~250AF
GD & FD (common 15 A - 250 A)**



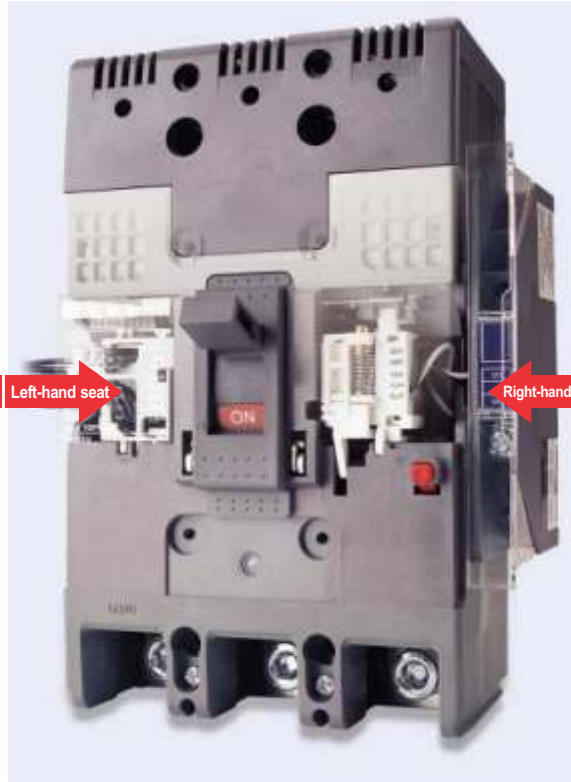
Auxiliary Switch



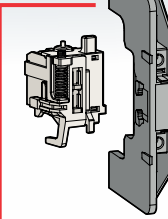
Alarm Switch



Combination switch

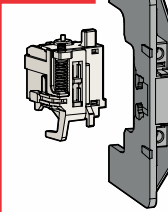


SHT



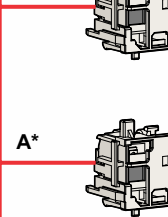
Shunt Trip

UVT



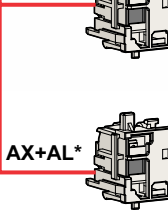
Undervoltage trip

AX*



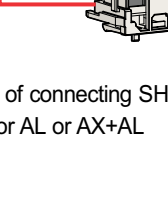
Auxiliary Switch

A*



Alarm Switch

AX+AL*



Combination switch

Option of connecting AX or AL or AX+AL

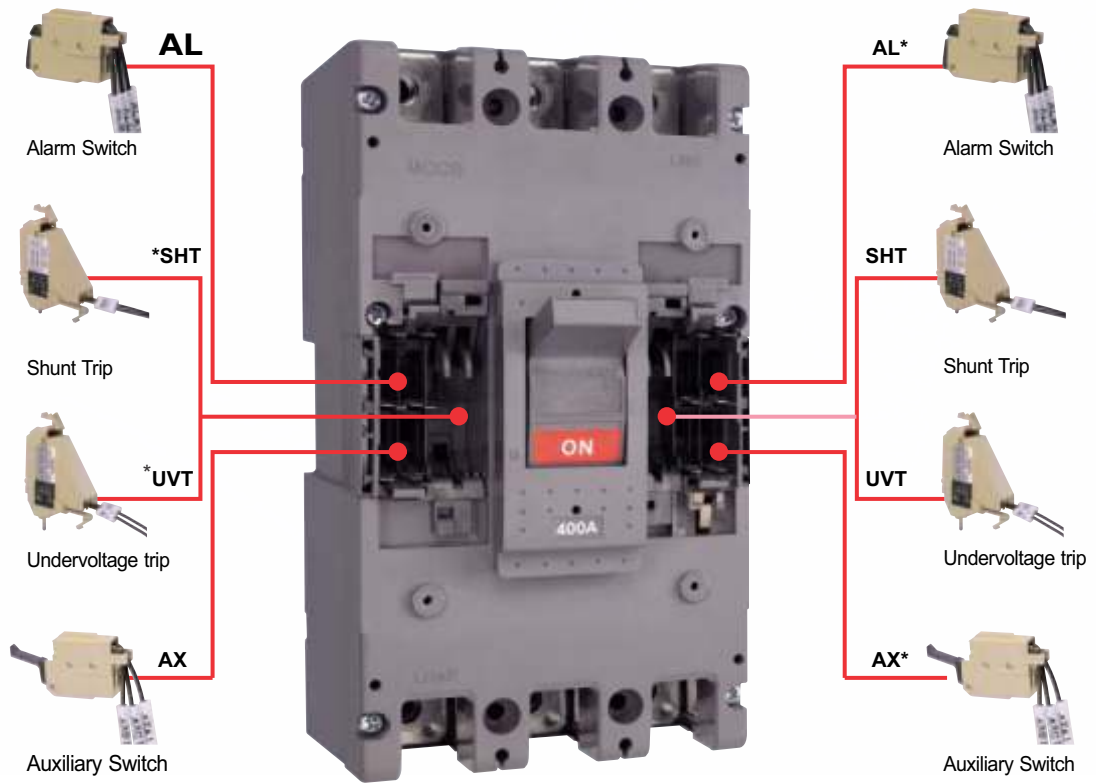
Option of connecting SHT or UVT or AX or AL or AX+AL

Maximum possibilities

Position	Type	GD 3p	FD 3p
Left-hand seat	AX	1	1
	AL	1	1
	AX+AL	1	1
Right-hand seat	AX	1	1
	AL	1	1
	AX+AL	1	1
	SHT/UVT	1	1

MCCB Accessories

Electrical auxiliaries of 400~800AF
KD / LD (common 250 A - 800 A)



Option of connecting
AX or AL or AX+AL

Maximum possibilities

Position	Type	KD/LD 400~800 A
Left-hand seat	AX	2
	AL	2
	SHT/UVT*	1
Right-hand seat	AX*	2
	AL*	2
	SHT/UVT	1

Shunt trip, SHT

The shunt trip opens the mechanism in response to an externally applied voltage signal. The releases include coil clearing contacts that automatically clear the signal circuit when the breaker has tripped.

Rating for GD & FD



Terminal block type

Control voltage, Ue	Power consumption		
	AC (VA)	DC (W)	mA
AC/DC 12V	0.35	0.36	30
AC/DC 24V	0.64	0.65	27
AC/DC 48V	1.09	1.1	23
AC/DC 60V	1.2	1.22	20
AC/DC 100~130V	0.73	0.75	5.8
AC/DC 200~250V	1.21	1.35	5.4
AC 380~450V	1.67	-	3.8
AC 525~550V*	1.68	-	3.5
Max. opening time	50ms (max.)		
Tightening torque of terminal screw	12 kgf·cm		
Note: I. Range of operational voltage: 0.7 ~ 1.1Vn Frequency (Only AC): 45Hz ~ 65Hz	* 550V in process of being tested		

Rating for KD & LD



Lead wire type

Control voltage, Ue	Power consumption		
	V	mA	A
AC/DC 24~48	AC 24	14	0.3
AC 100~125/DC 100~110	DC 24	15.4	0.4
AC 200~240/DC 200~220	AC 48	14	0.7
AC 380~460	DC 48	16	0.8
AC 480~550	AC 110	6	0.7
Note: Range of operational voltage AC: 0.85 ~ 1.1Vn DC: 0.75 ~ 1.25Vn	DC 110	6.6	0.7
	AC 220	6.8	1.5
	DC 200	7.6	1.5
	AC 440	4.3	1.9
	AC 480	4.4	3.3
	AC 550	4.6	2.4

MCCB Accessories

Undervoltage release, UVT

The undervoltage release automatically opens a circuit breaker when voltage drops to a value ranging between 20% to 70% of the line voltage. The operation is instantaneous, and after tripping, the circuit breaker cannot be re-closed again until the voltage returns to 85% of line voltage.

Continuously energized, the undervoltage release must be functioning before the circuit breaker can be closed.

- Range of tripping voltage: 0.2 ~ 0.7Vn
- Reset and closing of a breaker is possible when the control voltage is over 0.85Vn
- Frequency (Only AC): 45Hz ~ 65Hz

Rating for GD & FD

Control voltage, Ue		Power consumption		
		AC (VA)	DC (W)	mA
Voltage	AC/DC 24V	0.64	0.65	27
	AC/DC 48V	1.09	1.1	23
	AC/DC 100~110V	0.73	0.75	5.8
	AC/DC 200~220V	1.21	1.35	5.4
	AC 380~440V	1.67	-	3.8
	AC 440~480V	1.68	-	3.5
	AC 525~550V*			
Max. opening time			50ms (max.)	
Tightening torque of terminal screw			12 kgf·cm	
Operating	Trip		20~70% Vn	
voltage range	Reset / Closing		≥ 0.85Vn	

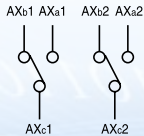
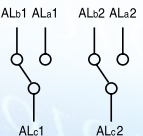
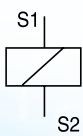
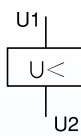
* 550 V in process of being tested

Rating for KD & LD

Control voltage, Ue	Trip voltage	Reset/closing voltage	Time rating
AC/DC 48	<ul style="list-style-type: none"> · AC: 85~1.1Vn · DC: 85~1.25Vn 	<ul style="list-style-type: none"> · AC: 0.2~0.7Vn · DC: 0.2~0.7Vn 	Continuous
AC/DC 100~125			
AC/DC 200~240			
AC 380~440			
AC 440~480			
AC 525~550*			

* 550 V in process of being tested

Terminal numbering

Auxiliary Switch (AX)	Alarm Switch (AL)	Shunt Trip (SHT)	Undervoltage trip (UVT)
			



Архангельск (8182)63-90-72	Калининград (4012)72-03-81	Новосибирск (383)227-86-73	Сочи (862)225-72-31
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