

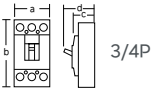




# UCB1000, UCB1250

## Molded Case Circuit Breakers

# Rating Overview

Model		UCB1000	UCB1250	
Figure				
Ampere Frame Size		1000AF	1250AF	
Number of Poles (P)		3, 4	3, 4	
Degree of Protection (with terminal bus bar)		IP20	IP20	
Utilization Category		A	A	
Suitability of Isolation		O	O	
Protection		Overload, inst., short-circuit	Overload, inst., short-circuit	
Rating	Rated Current (A)	1,000	1,250	
	Rated Insulation Voltage [Ui] (V)	AC 750	AC 750	
	Rated Operational Voltage [Ue] (V)	AC 690	AC 690	
	Rated Impulse Withstand Voltage [Uimp] (kV)	8	8	
Rated Short-circuit Breaking Capacity	Ultimate [Icu] (kA r.m.s.)	Recognition Code for Order	S	S
		AC 660/690 V	40	40
		AC 480/500 V	75	75
		AC 440/460 V	75	75
		AC 380/415 V	100	100
IEC 60947-2	AC 220/240 V	100	100	
K 60947-2	Service [Ics] % of [Icu]	50	50	
Trip Mechanism & Protection Characteristics	Electronic	Long Time Delay LTD	$(0.5-1)^{1)} \times I_n(15 \text{ setting})$	$(0.5-1)^{1)} \times I_n(15 \text{ setting})$
		Short Time Delay STD	$(2-4-6-8-10) \times I_r$	$(2-4-6-8-10) \times I_r$
		Instantaneous INST	$(3-6-8-10-11) \times I_n$	$(3-6-8-10-11) \times I_n$
		Pre-trip Alarm PTA	$0.9 \times I_r$	$0.9 \times I_r$
		Ground Fault Trip GFT	$(0.2-0.3-0.4) \times I_n$	$(0.2-0.3-0.4) \times I_n$
		I <sup>2</sup> ON-OFF	O	O
		Pick-up LED	O	O
Mounting	Direct Mounting by Screw	O	O	
Terminal Connection	Bus Bar	O	O	
Accessories	Signal	Auxiliary Switch AUX	O	O
		Trip Alarm Switch ALT	O	O
		Shunt Trip SHT	O	O
		Under Voltage Trip UVT	O	O
	Operating	Motor Operator MOT	O	O
		Extension Handle THA	O <sup>2)</sup>	O <sup>2)</sup>
	Terminal	Terminal Bus Bar TBB	O <sup>2)</sup>	O <sup>2)</sup>
Interpole Barrier TQQ		O <sup>3)</sup>	O <sup>3)</sup>	
Durability (times)	Mechanical Operation	10,000	10,000	
	Electrical Operation	3,000	3,000	
Dimensions (mm)		a Width	210/280	210/280
		b Height	370	370
		c Depth	110	110
		d	159	159
Weight (kg, breaker only)	3/4P	13/17	13/17	

※ 1) (0.5-1) : (0.63-0.8-1) × (0.8-0.85-0.9-0.95-1)

2) Supplied as standard component.

3) Supplied as standard component that attached in breaker.

# Accessories

## Signal

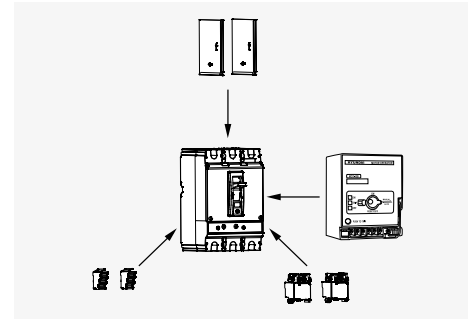
Auxiliary Switch	1C, right-hand-side		2C, right-hand-side		3C, right-hand-side	
	AUX 80NE R1		AUX 80NE R2		AUX 80NE R3	
Trip Alarm Switch	1C, right-hand-side					
	ALT 80NE R1					
AXT(AUX+ALT)	2C, right-hand-side		3C, right-hand-side		4C, right-hand-side	
	AXT 80NE		AXT 80NE R2		AXT 80NE R3	
Shunt Trip <sup>1)</sup>	DC 24 V		DC 100-110 V		AC 100-120 V	
	SHT 120NE A		SHT 120NE C		SHT 120NE F	
Under Voltage Trip <sup>2)</sup>	DC 24 V		DC 100-110 V		AC 100-120 V	
	UVT 120NE J		UVT 120NE L		UVT 120NE N	
	AC 200-230 V		AC 380-415 V		AC 440-480 V	
	UVT 120NE P		UVT 120NE Q		UVT 120NE R	

- ※ 1) The permissible operating voltage : 85 - 110 % of rated voltage for AC, 75 - 125 % for DC
- 2) The permissible operating voltage : 85 - 110 % of rated voltage(AC), 85 - 125 % of rated voltage(DC)  
The tripping voltage : 20 - 70 % of rated voltage(AC/DC)
- 3) Be sure not to use UVT for the electrical interlock system.

## Operating

Motor Operator <sup>1)</sup>	DC 24 V	AC/DC 110 V	AC/DC 220 V
	MOT 80NE DC24	MOT 80NE ADC110	MOT 80NE ADC220

- ※ 1) Motor operator is not recommended for marine application.



## Standard Order Code

- Electronic : LTD, STD, INST trip & PTA

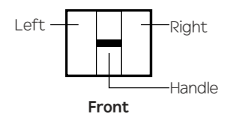
Model	Rated Current	Order Code		Specification
		3P	4P	
UCB 1000S	1,000 A	UCB1000S 3PESB0000X 01000	UCB1000S 4PESB0000X 01000	Bus bar type terminal connection, No option, 50Hz
		UCB1000S 3PESB0000Y 01000	UCB1000S 4PESB0000Y 01000	Bus bar type terminal connection, No option, 60Hz
UCB 1250S	1,250 A	UCB1250S 3PESB0000X 01250	UCB1250S 4PESB0000X 01250	Bus bar type terminal connection, No option, 50Hz
		UCB1250S 3PESB0000Y 01250	UCB1250S 4PESB0000Y 01250	Bus bar type terminal connection, No option, 60Hz

- Electronic : LTD, STD, INST, GFT trip & PTA

Model	Rated Current	Order Code (4P)	Specification
UCB 1250S	1,250 A	UCB1000S 4PEGB0000Y 01000	Bus bar type terminal connection, No option, 60Hz
		UCB1250S 4PEGB0000X 01250	Bus bar type terminal connection, No option, 50Hz
UCB 1250S	1,250 A	UCB1250S 4PEGB0000Y 01250	Bus bar type terminal connection, No option, 60Hz

## Installation of Signal Accessories

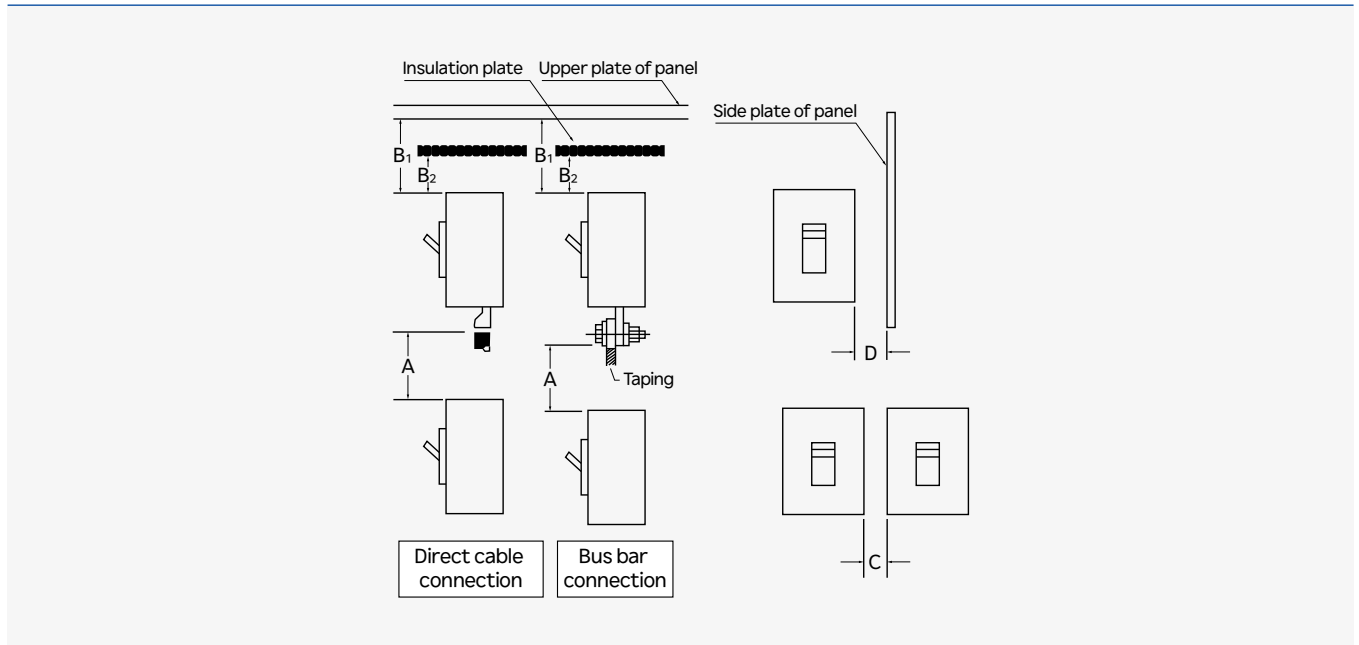
UCB1000,1250 (3p/4p)



AUX Auxiliary Switch	ALT Trip Alarm Switch	SHT Shunt Trip	UVT Under Voltage Trip	AXT	AUX SHT	AUX UVT	ALT SHT	ALT UVT	AXT SHT	AXT UVT

# Insulation Distance and Caution

## Insulation Distance

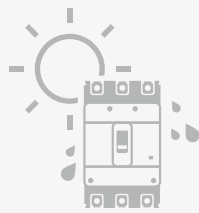


Type	A	B <sub>1</sub>	B <sub>2</sub>	C	D
UCB 1000S	150	120	80	from 0	80
UCB 1250S	150	120	80	from 0	80

## Caution

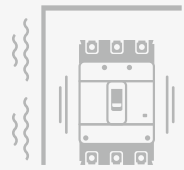
- Keep away from direct sunlight.

High temperatures can cause malfunctions.



- Avoid any vibration or shock.

If vibration or shock is expected, install breaker with shock absorber.



- Keep away from dust or metal pieces.

When any work that accompanies dust or metal cutting is required, please cover the breaker first.



- Do not cover the terminal part completely for arc exhaust.

Otherwise the breaking capacity may be decreased.



- Do not take off the insulation plate.

Otherwise insulation shall be decreased or not secured.

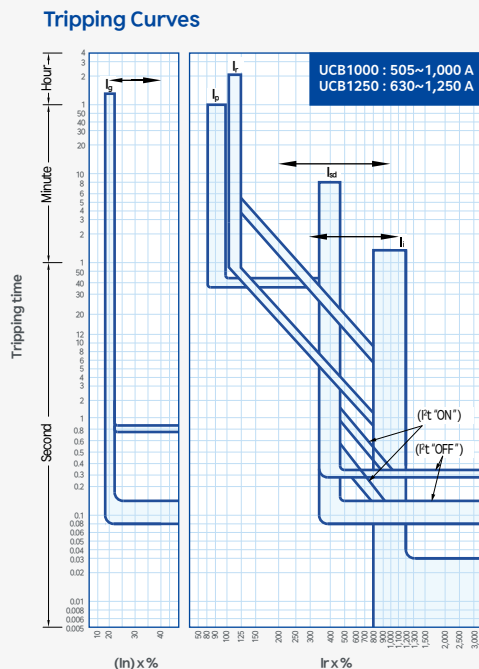


# Characteristic Curves & Dimensions

## Tripping Curves / Protection Characteristics



UCB 1000S  
UCB 1250S



## Protection Characteristics

	UCB1000	UCB1250	Tolerance	
Rated (CT) Current [I <sub>n</sub> ] (A)	<u>1,000</u>	<u>1,250</u>		
LTD	Rated Current Setting [I <sub>r</sub> ] (A)	505, 535, 565, 600, 630, 640, 680, 720, 760, 800, 850, 900, 950, <u>1,000</u>	630, 670, 710, 750, 790, 800, 850, 900, 950, 1,000, 1,060, 1,125, 1,190, <u>1,250</u>	
	Long Time Setting [Tr] Setting [I <sub>r</sub> ] (A)	2-4-6-8-12 sec. at I <sub>r</sub> × 600 %		±20 %
	Short Time Current Setting [I <sub>sd</sub> ] (A)	I <sub>r</sub> × NON-200-400-600-800- <u>1,000</u> %		±15 %
STD <sup>1)</sup>	Time Delay Setting [tsd] <sup>1)</sup>	0-0.1-0.2-0.3 sec. at definite time-limit section		+50 ms -20 ms
INST	Instantaneous Current Setting [I <sub>i</sub> ] (A)	I <sub>n</sub> × NON -300-600-800-1,000- <u>1,100</u> %		±20 %
	Ground Fault Current [I <sub>g</sub> ] (A)	I <sub>n</sub> × NON-20-30-40 %		±15 %
GFT <sup>2)</sup>	Ground Fault Delay Setting [tg]	0.1-0.2-0.3-0.4- <u>0.8</u> sec. at definite time-limit section		+50 ms -20 ms
	Pre-trip Alarm Current [I <sub>p</sub> ] (A)	I <sub>r</sub> × <u>90</u> %		±10 %

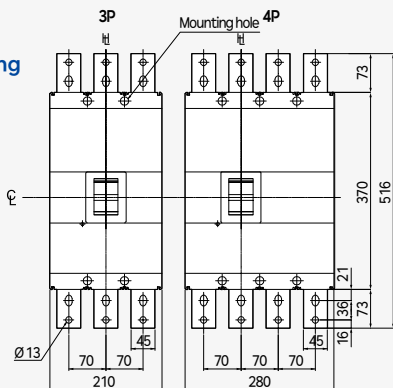
※ The default values are underlined. Please check and adjust the setting condition of each characteristic before use.

- 1) I<sup>t</sup> characteristic can be ON or OFF by adjusting the [tsd] knob.
- 2) GFT protection is option.

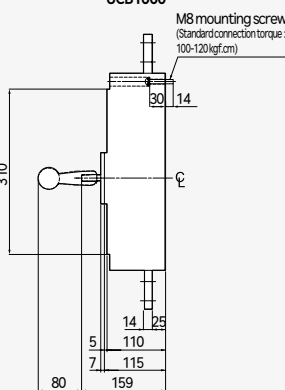
## Dimensions

Unit : mm

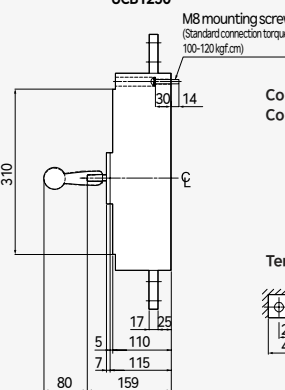
### Direct Mounting



### UCB1000



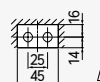
### UCB1250



### Connection Conductor

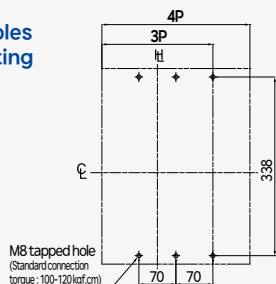


### Terminal Part

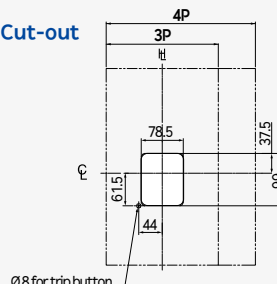


Inhex bolt M10×L30  
(Standard connection torque: 160-230kgf.cm)

### Drilling Holes for Mounting



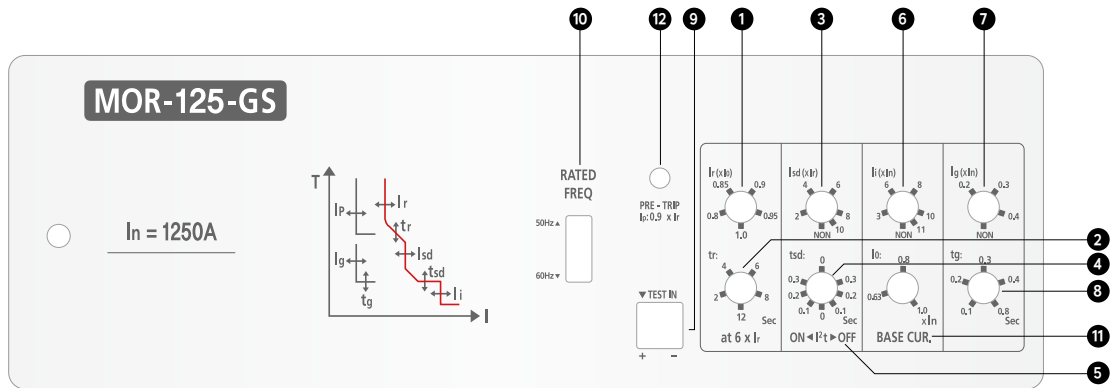
### Panel Cut-out



※ C: Center line    H: Handle center line    • The allowance of 1.5 mm is given around the handle frame.

# Current Setting

## Protection Characteristics



- ① LTD Current [Ir] Setting knob
- ② LTD Time [tr] Setting knob
- ③ STD Current [Isd] Setting knob
- ④ STD Time [tsd] Setting knob
- ⑤ I<sup>2</sup>t ON-OFF Indication
- ⑥ INST Current [Ii] Setting knob
- ⑦ GFT Current [Ig] Setting knob
- ⑧ GFT Time [tg] Setting knob
- ⑨ Tester Connection Port
- ⑩ Frequency Selection Switch
- ⑪ Base Current [Io] Setting knob
- ⑫ PTA [Ip] LED

## Protection Characteristics and Current Setting

In	In=1,000A	MOR-100-ES <sup>2)</sup> / MOR-100-GS					In=1,250A	MOR-125-ES <sup>2)</sup> / MOR-125-GS										
		Io	Ir	0.8	0.85	0.9		0.95	1.0	Io	Ir	0.8	0.85	0.9	0.95	1.0		
LTD	① Rated current setting [Ir] (A)	0.63	0.8	0.85	0.9	0.95	1.0	0.63	0.8	0.85	0.9	0.95	1.0	1.0	1,060	1,125	1,190	1,250
	② Long time setting [tr]	2-4-6-8-12 sec. at Ir × 600 %											Tolerance	±20 %				
	STD	③ Short time pick-up current [Isd] (A)	Ir × NON-2-4-6-8-10											Tolerance	±15 %			
④ Time delay setting [tsd] <sup>1)</sup>		0-0.1-0.2-0.3 sec. at definite time-limit section											Tolerance	+50 ms, -20 ms				
INST	⑥ Instantaneous current setting [Ii] (A)	In × NON-3-6-8-10-11											Tolerance	±20 %				
GFT <sup>2)</sup>	⑦ Ground fault current [Ig] (A)	In × NON-0.2-0.3-0.4											Tolerance	±15 %				
	⑧ Ground fault delay setting [tg]	0.1-0.2-0.3-0.4-0.8 sec. at definite time-limit section											Tolerance	+50 ms, -20 ms				
PTA	⑫ Pre-trip alarm current [Ip] (A)	Ir × 0.9											Tolerance	±10 %				

※ 1) I<sup>2</sup>t characteristic can be activate by adjusting [tsd] knob ④  
 2) GFT protection is option and not applicable for MOR-100-ES and MOR-125-ES trip unit.

## Current Setting

In	1,000 A					1,250 A				
Io	0.63	0.8	1.0			0.63	0.8	1.0		
Ir	0.8	0.85	0.9	0.95	1.0	0.8	0.85	0.9	0.95	1.0
LTD = 1,000 × 0.9 × 1.0 = 900 A										
Isd	2	4	6	8	10	2	4	6	8	10
STD = 6 × Ir = 5,400 A										
Ii	3	6	8	10	11	3	6	8	10	11
INST = 8 × In = 8,000 A										
Ig	0.2	0.3	0.4			0.2	0.3	0.4		
GFT = 0.3 × In = 300 A										
LTD = 1,200 × 0.9 × 1.0 = 1,125 A										
STD = 6 × Ir = 6,750 A										
INST = 8 × In = 10,000 A										
GFT = 0.3 × In = 375 A										

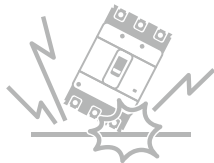
# Handling Instruction

## Storage

- Do not expose to corrosive gases.
- Do not expose to harmful gases including sulfur, ammonia and so on.
- Do not expose to high humidity for a long period.
- Do not expose to direct sunlight for a long period.
- Store at  $-20\text{ }^{\circ}\text{C}$  to  $+60\text{ }^{\circ}\text{C}$  without dust and humidity.
- Keep the handle in OFF position.

## Transportation

- Do not drop or apply shock during transportation. These can cause malfunctions in the breaker.



- Hold the breaker body for transportation. Do not hold terminal bus bar or external lead cable of accessories.



## Standard Operating Condition for Normal Performance

Ambient Temperature	$-5\text{ }^{\circ}\text{C}$ - $+40\text{ }^{\circ}\text{C}$ , the average temperature for 24 hours shall not exceed $35\text{ }^{\circ}\text{C}$
Relative Humidity	45 - 85 %
Vibration & Shock	without excessive vibration and shock
Altitude	up to 2,000 m
Surrounding	without excessive water vapor, oil vapor, smoke, dust, salts and corrosive materials

## Installation and Connection

- Tighten the terminal screws to proper torque specified in manual. The loose connection may cause overheating, and excessive torque may damage screws and terminal parts.



- Do not apply lubricant on terminal parts. The lubricant lets screws loose and overheating occurs.



- Insulate exposed conductors. To prevent short-circuit, be sure to insulate exposed conductors by interpole barrier, terminal cover, insulating tube, insulating tape and so on.



- Fix each conductor in parallel. Short-circuit current can occur electromagnetic force between conductors, so each conductor is required to be fixed firmly in parallel.



---

**Korea**

---

<b>Head Office</b>	477, Bundangsuseo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea	Tel: +82-2-479-9180	Fax : +82-2-500-4958
<b>Factory</b>	53, Je3gongdan 3-gil, Seoun-myeon, Anseong-si, Gyeonggi-do, 17605, Republic of Korea	Tel : +52-202-8179	Fax : +82-52-202-8100

---

**Branch Offices**

---

<b>London</b>	50-68 High Street, Weybridge, KT13 8BL, United Kingdom	Tel : +44-7979-125051	
<b>Frankfurt</b>	Eschborner Landstrasse 55, 60489 Frankfurt am Main, Germany	Tel : +49-69-7490-3934	
<b>Moscow</b>	World Trade Center, Ent.6, #412, Krasnopresnenskaya Nab.12, Moscow, 123610, Russia	Tel : +7-495-258-1381	
<b>Riyadh</b>	Office No. 530A, 5th Floor Akaria-2 Bldg., Olaya St., Short Address RHOB6847, Riyadh 12244, Kingdom of Saudi Arabia	Tel : +966-11-210-1107	Fax : +966-11-210-1107
<b>Dubai</b>	Unit 205, Emaar Square Building NO.4 Sheikh Zayed Road, Pobox 252458, Dubai, U.A.E	Tel: +971-50-321-8154	Fax : +971-4-425-7996
<b>Bangkok</b>	19th Floor, Unit 1908, Sathorn Square Office Tower, 98 North Sathorn Road, Silom, Bangrak, Bangkok 10500, Thailand	Tel : +66-02-115-7920	Fax : +66-2-115-7898
<b>Ho Chi Minh</b>	Room 1405, 14th Floor Centec Tower, 72-74 Nguyen Thi Minh Khai Street Vo Thi Sau Ward, District 3, Ho Chi Minh City, Vietnam	Tel : +84-28-3535-0465	
<b>Osaka</b>	1-Room 5th Floor Nagahori Plaza Bldg. 2-4-8 Minami Senba, chuo-ku, Osaka 542-0081, Japan	Tel : +81-6-6261-5766~7	Fax : +81-6-6261-5818

---