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Global
Innovator
for 10 years

Susol Super Solution

UL 1500VDC MCCB



LS ELECTRIC

Characteristics and Rating

Characteristics

- Used for applications such as photovoltaic (PV) power generation, UPS and data center.
- Features compact size with breaking capacity from 20 to 65kA.
- Maximum breaking capacity
- Nominal voltage ranges up to 1500Vdc
- Rated current and No. of poles
 - UL489 - 60~550A
 - UL489B - 40~450A
- Standards: Acquisition of dual standards IEC/UL



Rating

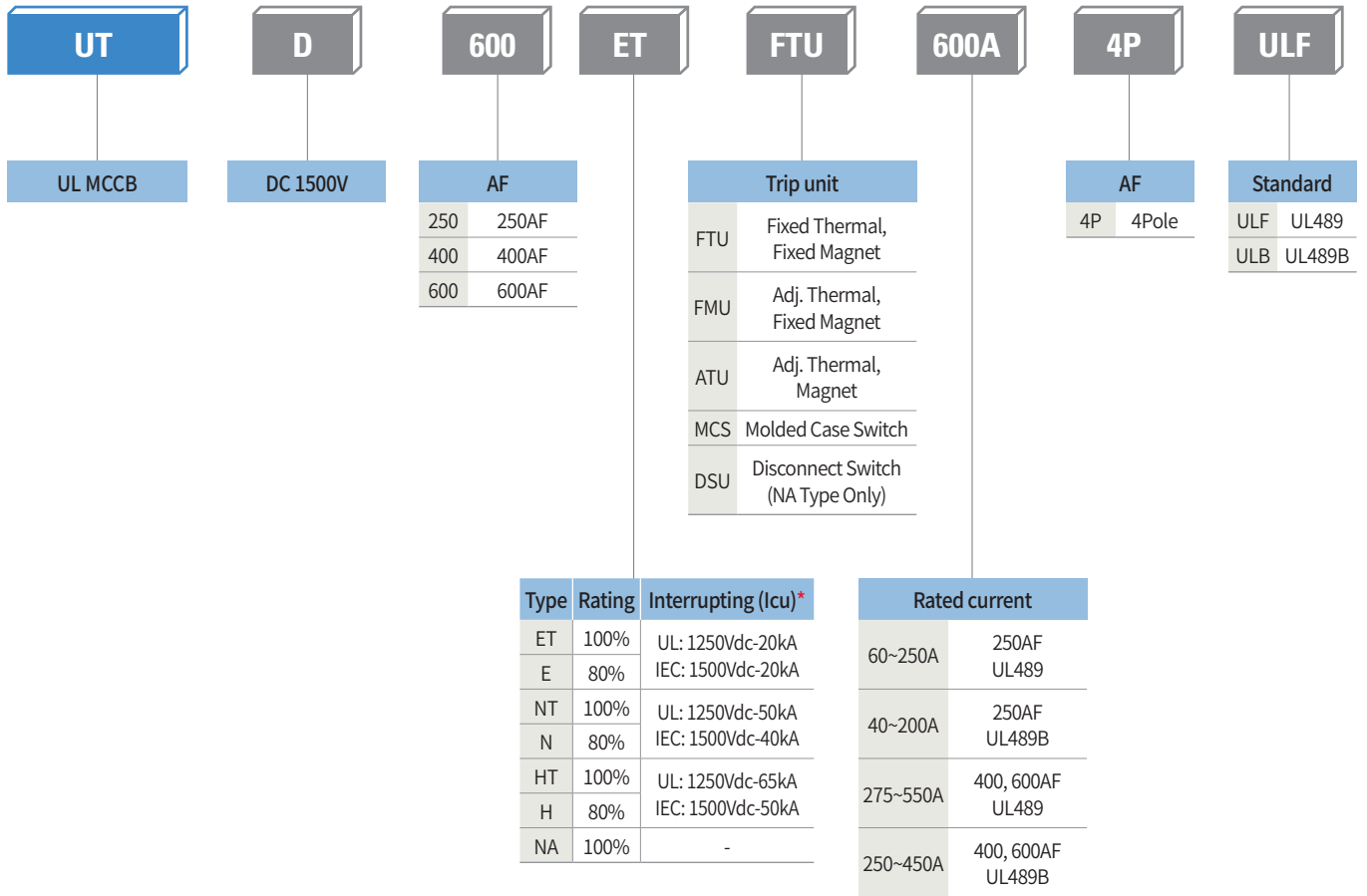
FRAME		UTD250			UTD400			UTD600		
Rated voltage		1500 Vdc			1500 Vdc			1500 Vdc		
Rated current	UL489 for BPS (40°C)	60, 80, 100, 150, 200, 250A			275, 300, 400A			450, 500, 550A		
	UL489B for PV (50°C)	40, 60, 80, 100, 150, 200A			250, 275A			300, 400, 450A		
Number of poles		4			4			4		
Breaker type		E	N	H	E	N	H	E	N	H
UL489 for BPS/ UL489B for PV		UTD250			UTD400			UTD600		
Interrupting capacity(kA) UL, CSA	Nominal voltage 1250Vdc	20	50	65	20	50	65	20	50	65
IEC 60947-2		UTD250			UTD400			UTD600		
Ultimate breaking capacity (kA) DC, Icu		20	40	50	20	40	50	20	40	50
Service breaking capacity (kA) DC, Ics	$\tau = 1\text{ms}$ (Annex P)	20	40	50	20	40	50	20	40	50
	$\tau = 10\text{ms}$	20	20	20	20	20	20	20	20	20
Insulation voltage, Ui		1500 Vdc			1500 Vdc			1500 Vdc		
Impulse withstand voltage, Uimp		8 kV			8 kV			8 kV		
Utilization category		A			A			A		
IEC 60947-3		UTD250			UTD400			UTD600		
Insulation voltage, Ui		1500 Vdc			1500 Vdc			1500 Vdc		
Impulse withstand voltage, Uimp		8 kV			8 kV			8 kV		
Rated short-time withstand current (Icw)		3 kA			4 kA			5 kA		
Utilization category		DC23A, DC-PV2			DC23A, DC-PV2			DC23A, DC-PV2		
Trip unit		UL489	UL489B		UL489	UL489B		UL489	UL489B	
	FTU*	60~250A	40~200A		275~400A	250, 275A		450~550A	300~450A	
	FMU*	60~250A	60~200A		275~400A	275A		450, 550A	300~450A	
	MCS**	250A	200A		400A	275A		550A	450A	
	DSU***	250A			400A			550A		
Unit mounted		●			●			●		
Mechanical lugs		●			●			●		
Control wire terminal kit		●			●			●		
Motor operator		●			●			●		
Terminal shields		●			●			●		
Insulation barrier		●			●			●		
Shunt Trip		●			●			●		
Undervoltage trip		●			●			●		
Auxiliary switch		●			●			●		
Alarm switch		●			●			●		
Directly-Mounted rotary operating handle		●			●			●		
IEC-Door-Mounted operating mechanisms		●			●			●		
Padlock attachment		●			●			●		
Weight(approximate), lbs.(kg)		6.08(2.76)			15.41(6.99)			15.43(7)		
Dimension Inches(mm)		W	H	D	W	H	D	W	H	D
		5.51(140)	7.87(200)	3.62(92)	7.34(186.5)	11.42(290)	4.33(110)	7.34(186.5)	13.39(340)	4.33(110)

* FTU, FMU: UL489, UL489B, IEC 60947-2

** UL 489, UL 489B Only

*** IEC 60947-3 Only

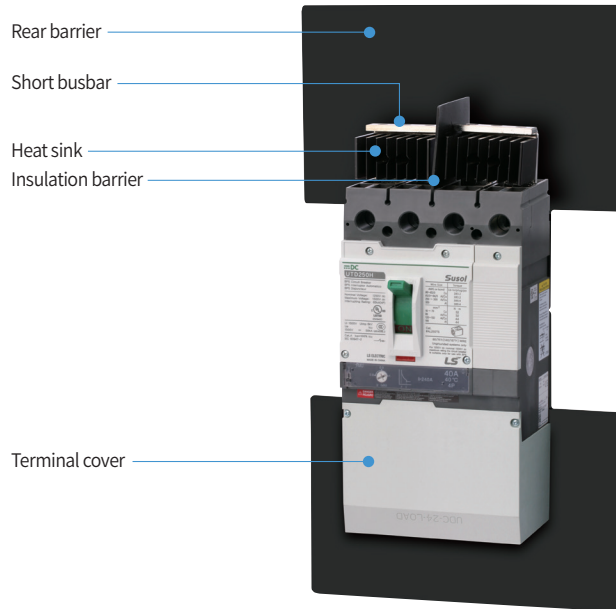
Ordering information



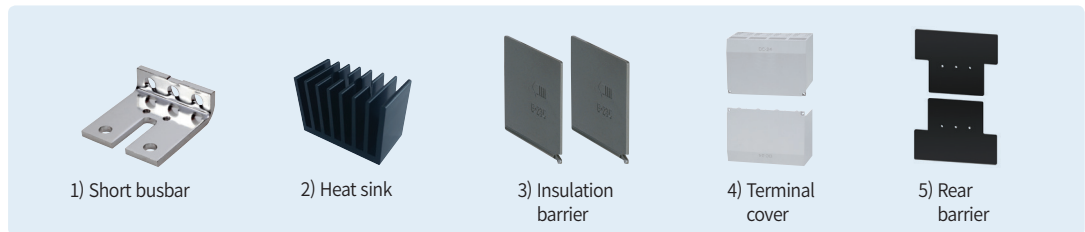
* UL489, UL489B: There are two types voltage, maximum voltage(DC 1500V) and nominal voltage(DC 1250V)
Ue is maximum voltage and Interrupting voltage is nominal voltage.

Accessory

External configuration



External accessories



Quantity of Accessories that can be assembled on MCCB. (Accessories needs to be purchased separately.)

Accessory	Grounded System		Ungrounded System		Item code	Remarks
	Qty	Unit	Qty	Unit		
Short busbar	3	Set	2	Set	83261172113	For UTD250, 40~200A, Set of 1
					83261172112	For UTD250, 250A, Set of 1
					83261173650	For UTD400/600, 250~500A, Set of 1
					83261173651	For UTD400/600, 550A~600A, Set of 1
Insulation barrier	3	ea	4	ea	-	Included in Spare Part of MCCB or MCS package
Terminal cover (Line)	1	ea	1	ea	83261172111 83261173557	For UTD250 For UTD400/600
Terminal cover (Load)	1	ea	1	ea		
Rear barrier (1ea)	2	ea	2	ea		

Note) For 400A ungrounded system, order MCCB or MCS, 83261173650 x2 and 83261173557 x1









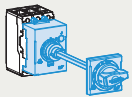


Possible configuration of internal accessories.

Frame	Internal Accessories Locations	Type	Left(R)	Right(T)
UTD250		AX	1	1
		AL	1	-
		SHT	1*	-
		UVT	1*	-
UTD400 UTD600		AX	3	-
		AL	-	1
		SHT	1*	-
		UVT	1*	-

* Applicable in indicated pole position-not synchronous

Accessories order code

UL 1500VDC MCCB

Accessories	Type	Order code	Applied MCCB		
	Aux. contact (AX)	83011171301	A, AX, UTS150~UTS600		
	Alarm contact (AL)	83011171302	A, AL, UTS150~UTS600		
	Shunt trip (SHT)	83211171331	T, SHT, T, DC12V, UTS150~UTS600		
		83211171332	T,S HT, T, AC/DC24V, UTS150~UTS600		
		83211171333	T, SHT, T, AC/DC48V, UTS150~UTS600		
		83211171334	T, SHT, T, AC/DC110~130V, UTS150~UTS600		
		83211171335	T, SHT, T, AC220~240V/DC250V, UTS150~UTS600		
		83211171336	T, SHT, T, AC380~500V, UTS150~UTS600		
	Undervoltage Trip (UVT)	83211171351	T, UVT, T, AC/DC24V, UTS150~UTS600		
		83211171352	T, UVT, T, AC/DC48V, UTS150~UTS600		
		83211171353	T, UVT, T, AC/DC110~130V, UTS150~UTS600		
		83211171354	T, UVT, T, AC220~240V/DC250V, UTS150~UTS600		
		83211171355	T, UVT, T, AC380~440V, UTS150~UTS600		
		83211171356	T, UVT, T, AC440~480V, UTS150~UTS600		
	Padlock (PL)	56771172301	LOCK ASS'Y, PL2, UTS250		
		56771173301	LOCK ASS'Y, PL3, UTS400		
	Plate Handle Lock (PHL)	56771172303	LOCK ASS'Y, PHL2, UTS250		
		56771173303	LOCK ASS'Y, PHL3, UTS400		
	Direct handle w/o key lock	83111172311	HANDLE(ACCE), DH2, UTS250		
		83111173311	HANDLE(ACCE), DH3, UTS400		
	Direct handle w/ key lock	83111172312	HANDLE(ACCE), DHK2, UTS250		
		83111173312	HANDLE(ACCE), DHK3, UTS400		
	Door disconnect (Standard)	83111172309	HANDLE(ACCE), REH2-12, UTS250		
		83111173309	HANDLE(ACCE),R EH3-12, UTS400		
		83111172310	HANDLE(ACCE), REH2-16/24(WITHOUT SHAFT), UTS250		
		83111173310	HANDLE(ACCE), REH3-16/24(WITHOUT SHAFT), UTS400		
	MOP	83471172301	MOTOR OPERATOR, MOP2U, DC24V, UTD250		
		83471172302	MOTOR OPERATOR, MOP2U, AC110V/DC110V, UTD250		
		83471172303	MOTOR OPERATOR, MOP2U, AC230V/DC220V, UTD250		
		83471172304	MOTOR OPERATOR, MOP2U-L, DC24V, UTD250		
		83471172305	MOTOR OPERATOR, MOP2U-L, AC110V/DC110V, UTD250		
		83471172306	MOTOR OPERATOR, MOP2U-L, AC230V/DC220V, UTD250		
		83471173201	MOTOR OPERATOR, MOP3U, DC24V		
		83471173202	MOTOR OPERATOR, MOP3U, AC110V/DC110V		
		83471173203	MOTOR OPERATOR, MOP3U, AC230V/DC220V		
		83471173204	MOTOR OPERATOR, MOP3U-L, DC24V		
		83471173205	MOTOR OPERATOR, MOP3U-L, AC110V/DC110V		
		83471173206	MOTOR OPERATOR, MOP3U-L, AC230V/DC220V		
			Control Wire Terminal (CWT)	62671172005	TERMINAL ASS'Y, CWT, UTS250
				62671173001	TERMINAL ASS'Y, CWT, UTS400
62671173002	TERMINAL ASS'Y, CWT, UTS600				

Assembly and installation

Short bus set

(UTD250)

(UTD400/600)

Dim.	Length		
	UTD250	UTD400	UTD600
a	0.98in(25mm)	1.22in(31mm)	1.22in(31mm)
b	0.2in(5mm)	0.24in(6mm)	0.39in(10mm)
c	2.05in(52mm)	1.81in(46mm)	1.81in(46mm)
d	0.39in(10mm)	0.55in(14mm)	0.55in(14mm)
e	3.19in(81mm)	5.28in(134mm)	5.28in(134mm)
		4.88in(124mm)	
f	2.36in(60mm)	3.07in(78mm)	3.07in(78mm)

(250-400A)

(450-550A)

Short bus installation

(UTD250)

(UTD400/600)

(UTD400)

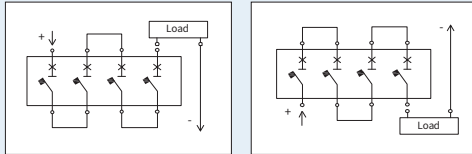
(UTD600)

Wiring diagram and Temperature derating

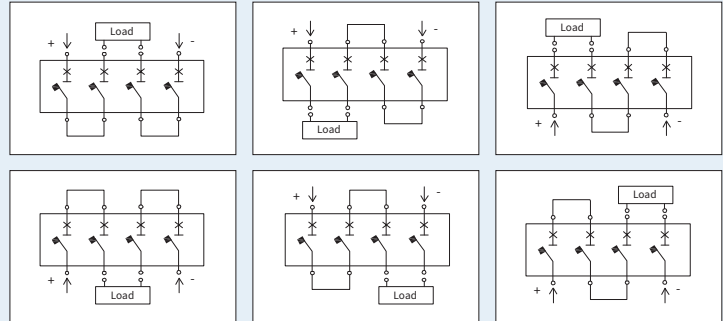
UL 1500VDC MCCB

Wiring diagram

Grounded System



Ungrounded System



Temperature derating

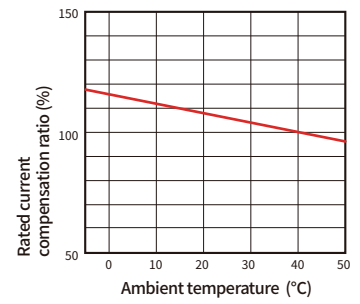
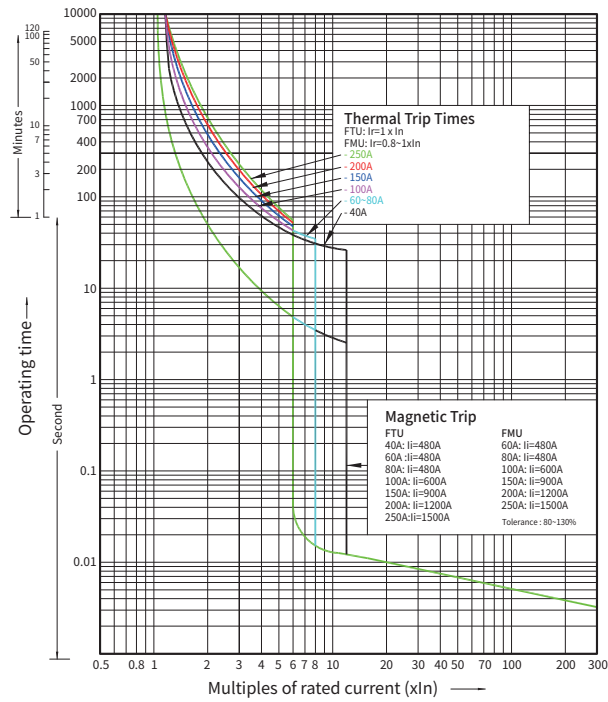
Type	Rated Current (A)	Derating Current (A)	Compensated rated current in accordance with ambient temperature(A)										Terminal Connection								
			10°C		20°C		30°C		40°C		45°C			50°C		60°C		70°C			
UL489	UTD250	60	60	100%	60	100%	60	100%	60	100%	60	100%	59	98%	57	95%	53	89%	50	83%	Busbar 5T (Item Code 83261172113)
		80	80	100%	80	100%	80	100%	80	100%	80	100%	78	98%	76	95%	71	89%	66	83%	Busbar 5T (Item Code 83261172113)
		100	100	100%	100	100%	100	100%	100	100%	100	100%	98	98%	95	95%	89	89%	83	83%	Busbar 5T (Item Code 83261172113)
		150	150	100%	150	100%	150	100%	150	100%	150	100%	146	97%	141	94%	132	88%	123	82%	Busbar 5T (Item Code 83261172113)
		200	200	100%	200	100%	200	100%	200	100%	200	100%	196	98%	190	95%	178	89%	166	83%	Busbar 5T (Item Code 83261172113)
	UTD400	250	250	100%	250	100%	250	100%	250	100%	250	100%	243	97%	235	94%	220	88%	205	82%	Busbar 5T + Heat Sink (Item Code 83261172112)
		275	275	100%	275	100%	275	100%	275	100%	275	100%	267	97%	259	94%	242	88%	226	82%	Busbar 6T x 2 + Heat Sink (Item Code 83261173650)
		300	300	100%	300	100%	300	100%	300	100%	300	100%	291	97%	281	94%	264	88%	246	82%	Busbar 6T x 2 + Heat Sink (Item Code 83261173650)
	UTD600	400	400	100%	400	100%	400	100%	400	100%	400	100%	390	98%	378	95%	357	89%	333	83%	Busbar 6T x 2 + Heat Sink (Item Code 83261173650)
		450	450	100%	450	100%	450	100%	450	100%	450	100%	441	98%	428	95%	401	89%	374	83%	Busbar 10T x 2 + Heat Sink x 2 (Item Code 83261173651)
500		500	100%	500	100%	500	100%	500	100%	500	100%	488	98%	476	95%	446	89%	416	83%	Busbar 10T x 2 + Heat Sink x 2 (Item Code 83261173651)	
	550	550	100%	550	100%	550	100%	550	100%	550	100%	532	97%	515	94%	486	88%	453	82%	Busbar 10T x 2 + Heat Sink x 2 (Item Code 83261173651)	

Type	Rated Current (A)	Derating Current (A)	Compensated rated current in accordance with ambient temperature(A)										Terminal Connection								
			10°C		20°C		30°C		40°C		45°C			50°C		60°C		70°C			
UL489B	UTD250	40	40	100%	40	100%	40	100%	40	100%	40	100%	40	100%	40	100%	39	98%	38	95%	Busbar 5T (Item Code 83261172113)
		60	60	100%	60	100%	60	100%	60	100%	60	100%	60	100%	60	100%	59	98%	57	95%	Busbar 5T (Item Code 83261172113)
		80	80	100%	80	100%	80	100%	80	100%	80	100%	80	100%	80	100%	78	98%	76	95%	Busbar 5T (Item Code 83261172113)
		100	100	100%	100	100%	100	100%	100	100%	100	100%	100	100%	100	100%	98	98%	95	95%	Busbar 5T (Item Code 83261172113)
		150	150	100%	150	100%	150	100%	150	100%	150	100%	150	100%	150	100%	146	97%	141	94%	Busbar 5T (Item Code 83261172113)
	UTD400	200	200	100%	200	100%	200	100%	200	100%	200	100%	200	100%	200	100%	196	98%	190	95%	Busbar 5T + Heat Sink (Item Code 83261172112)
		250	250	100%	250	100%	250	100%	250	100%	250	100%	250	100%	250	100%	243	97%	235	94%	Busbar 6T x 2 + Heat Sink (Item Code 83261173650)
		275	275	100%	275	100%	275	100%	275	100%	275	100%	275	100%	275	100%	267	97%	259	94%	Busbar 6T x 2 + Heat Sink (Item Code 83261173650)
	UTD600	300	300	100%	300	100%	300	100%	300	100%	300	100%	300	100%	300	100%	291	97%	281	94%	Busbar 6T x 2 + Heat Sink (Item Code 83261173650)
		400	400	100%	400	100%	400	100%	400	100%	400	100%	400	100%	400	100%	390	98%	378	95%	Busbar 6T x 2 + Heat Sink (Item Code 83261173650)
450		450	100%	450	100%	450	100%	450	100%	450	100%	450	100%	450	100%	441	98%	428	95%	Busbar 10T x 2 + Heat Sink x 2 (Item Code 83261173651)	

Characteristic curve

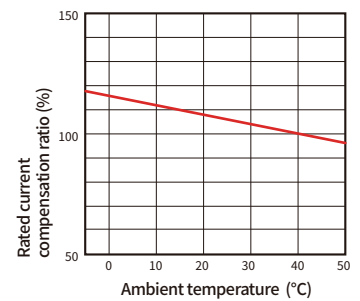
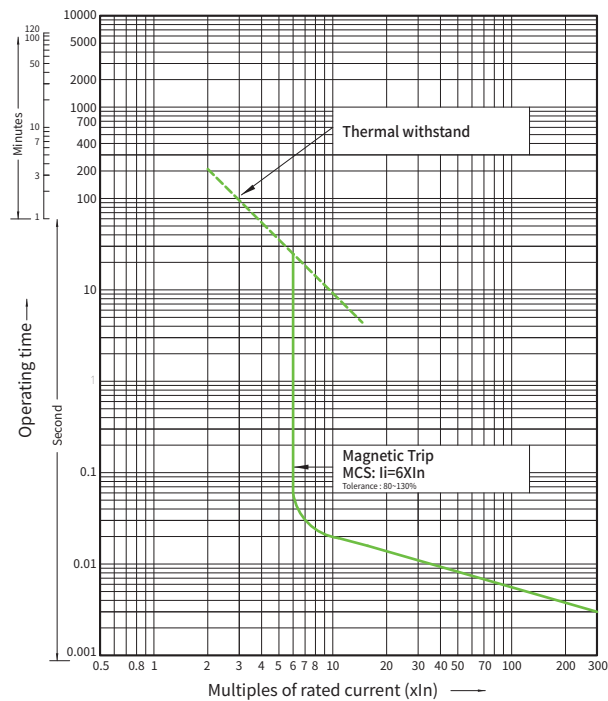
UTD250 MCCB

FTU
FMU
40, 60, 80, 100,
150, 200, 250A



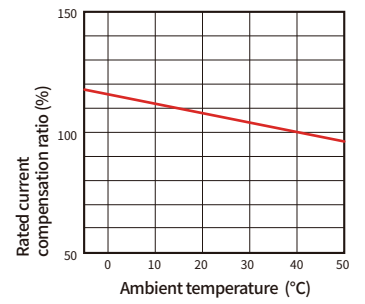
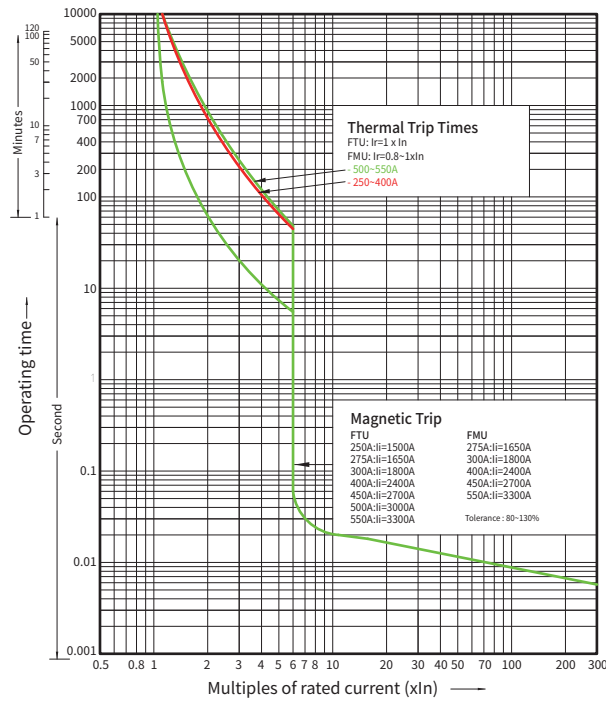
UTD250 MCS

MCS
200, 250A



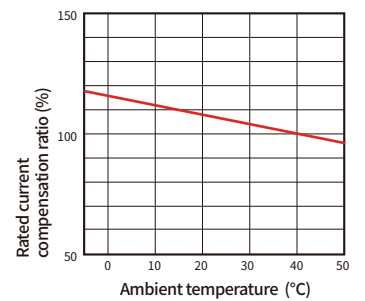
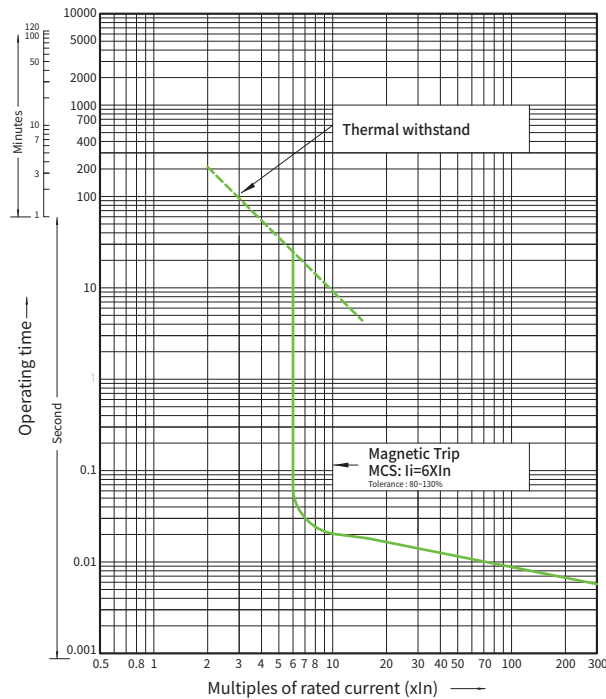
UTD400/600 MCCB

FTU
FMU
250, 275, 300, 400,
450, 500, 550A



UTD400/600 MCS

MCS
275, 400, 450,
550A

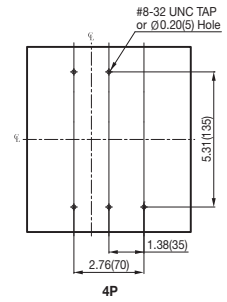


Dimensions

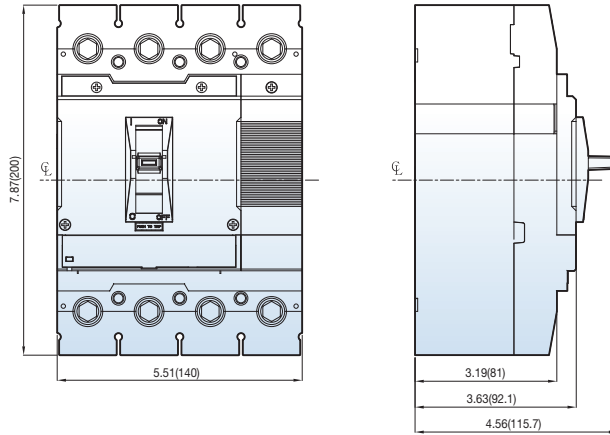
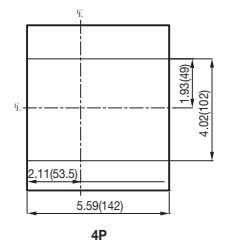
UTD250

inch(mm)

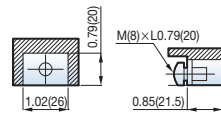
< Panel drilling >



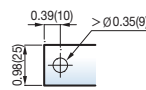
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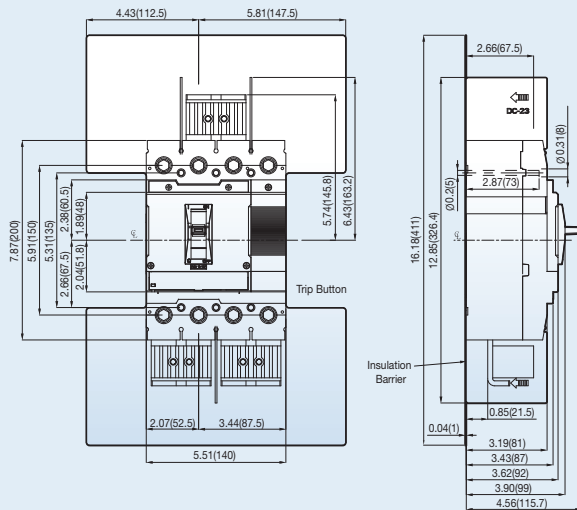
Terminal section



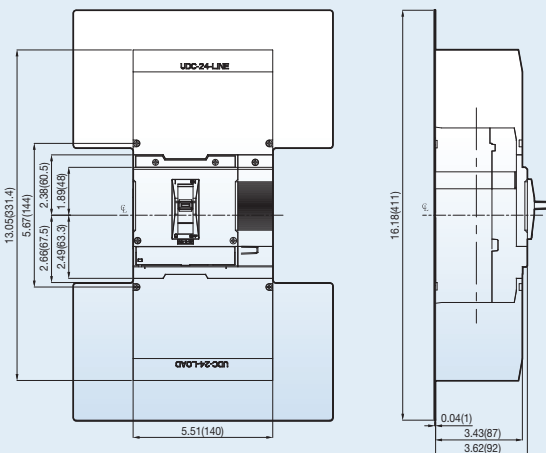
Conductor



< Short busbar apply >



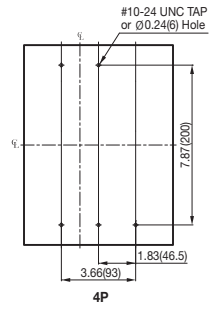
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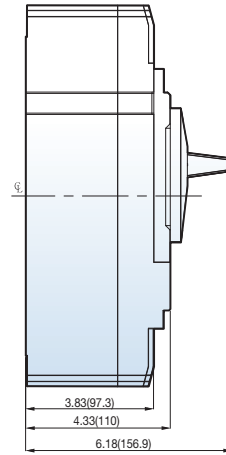
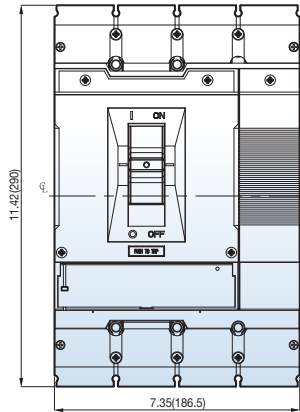
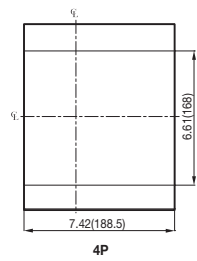
UTD400

inch(mm)

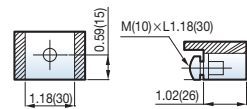
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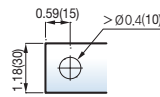
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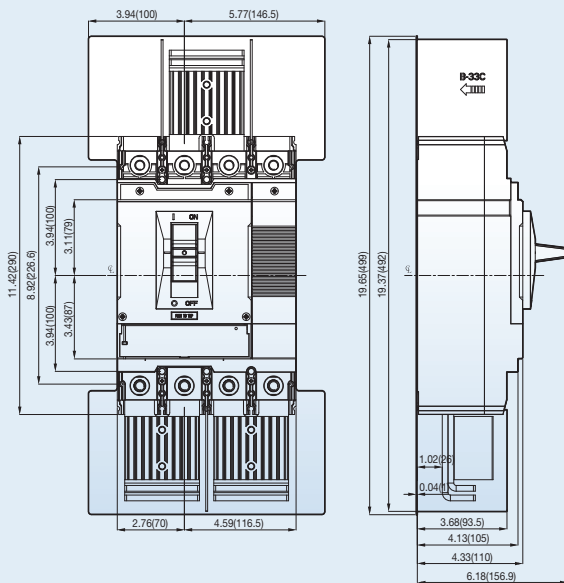
Terminal section



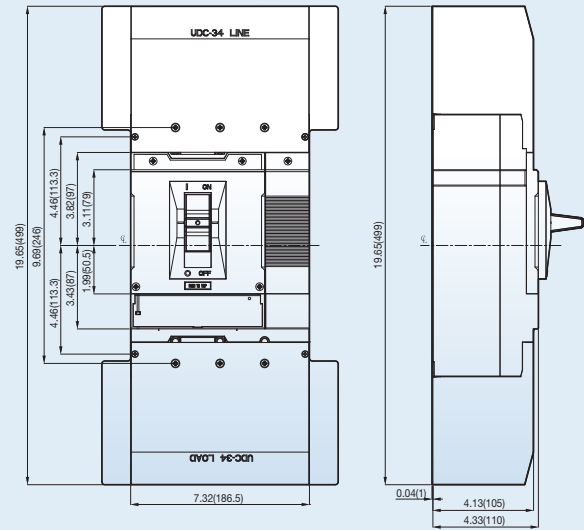
Conductor



< Short busbar apply >



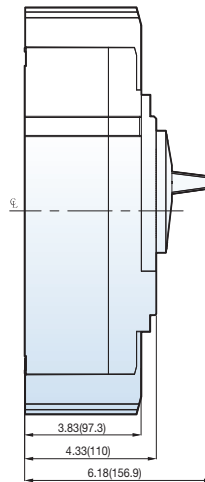
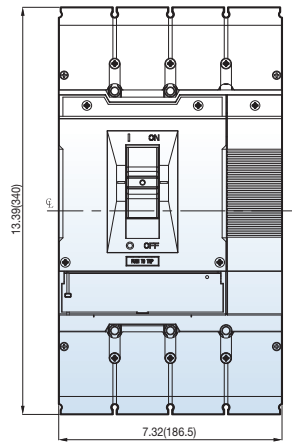
< Terminal cover apply >



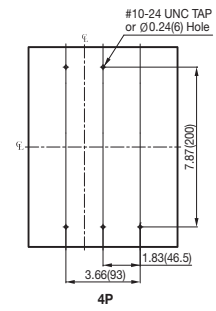
Dimensions

UTD600

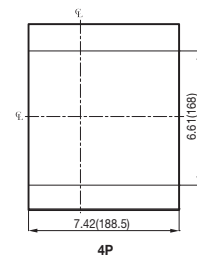
inch(mm)



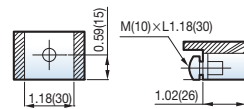
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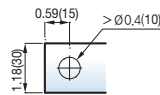
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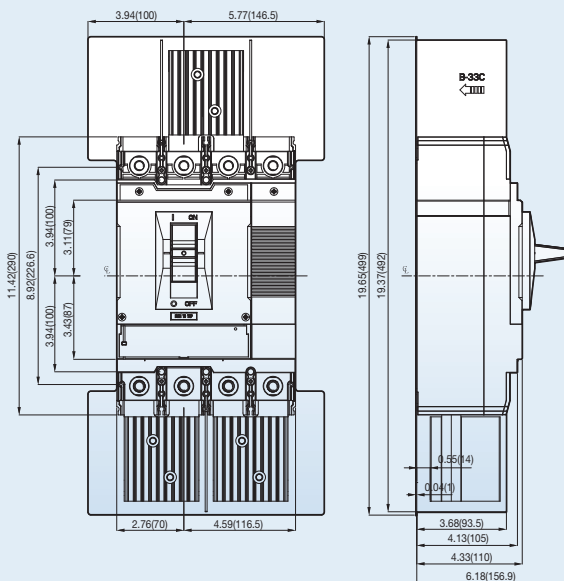
Terminal section



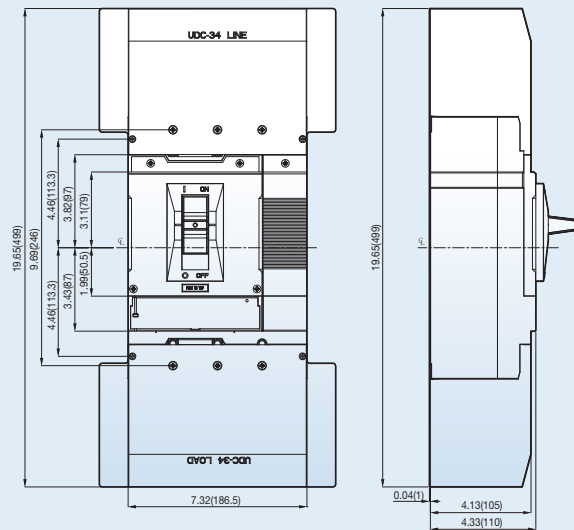
Conductor

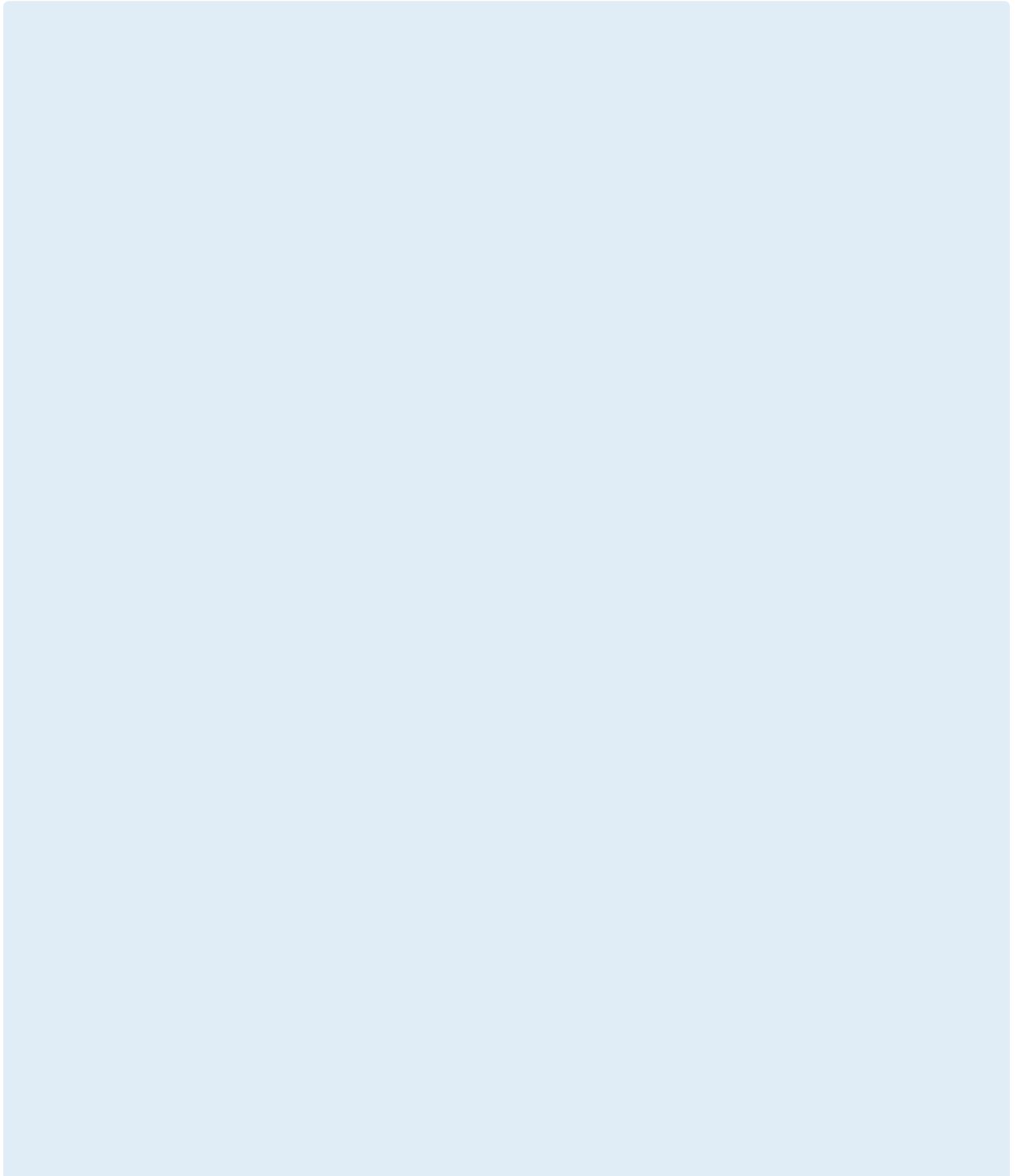


< Short busbar apply >

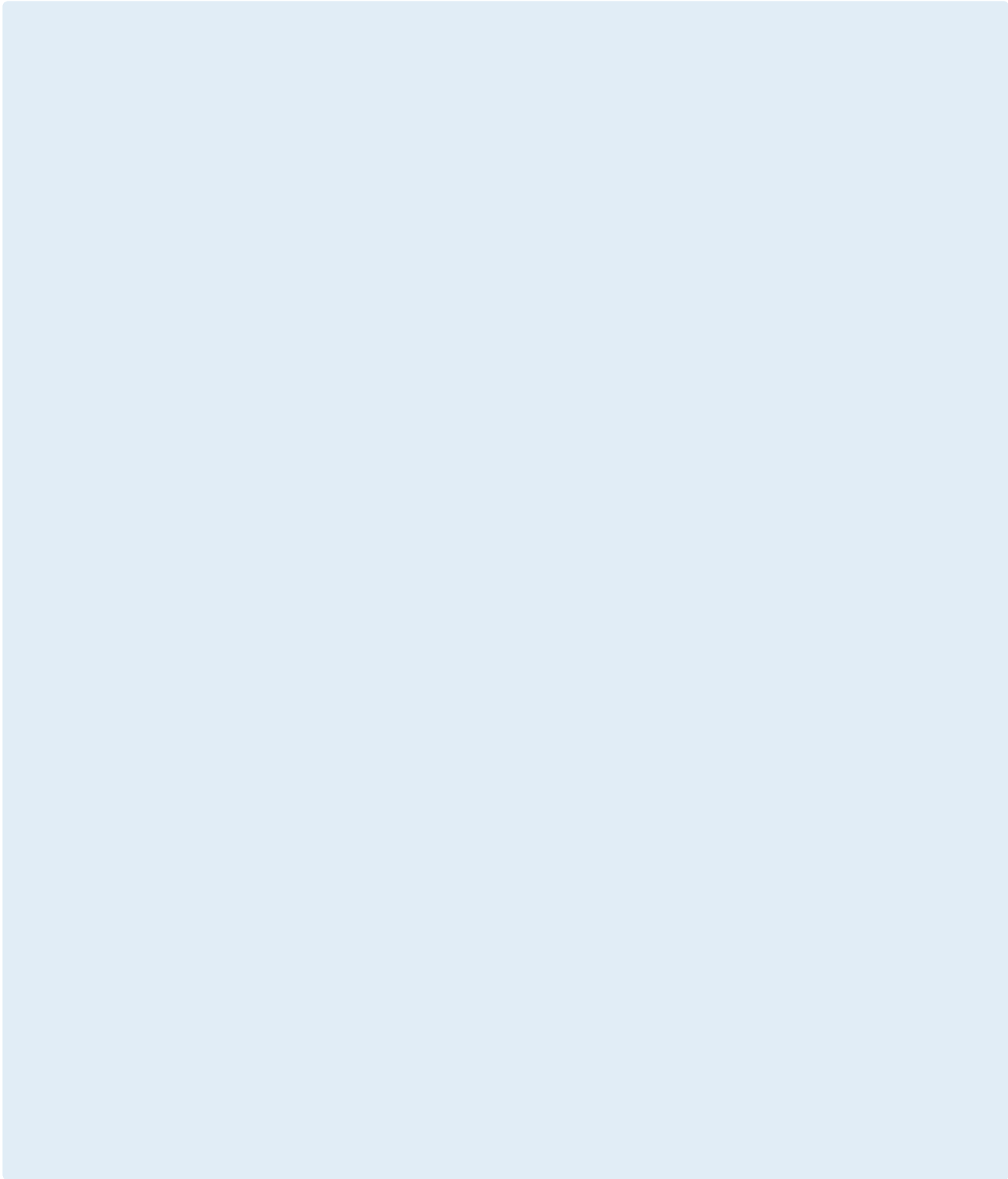


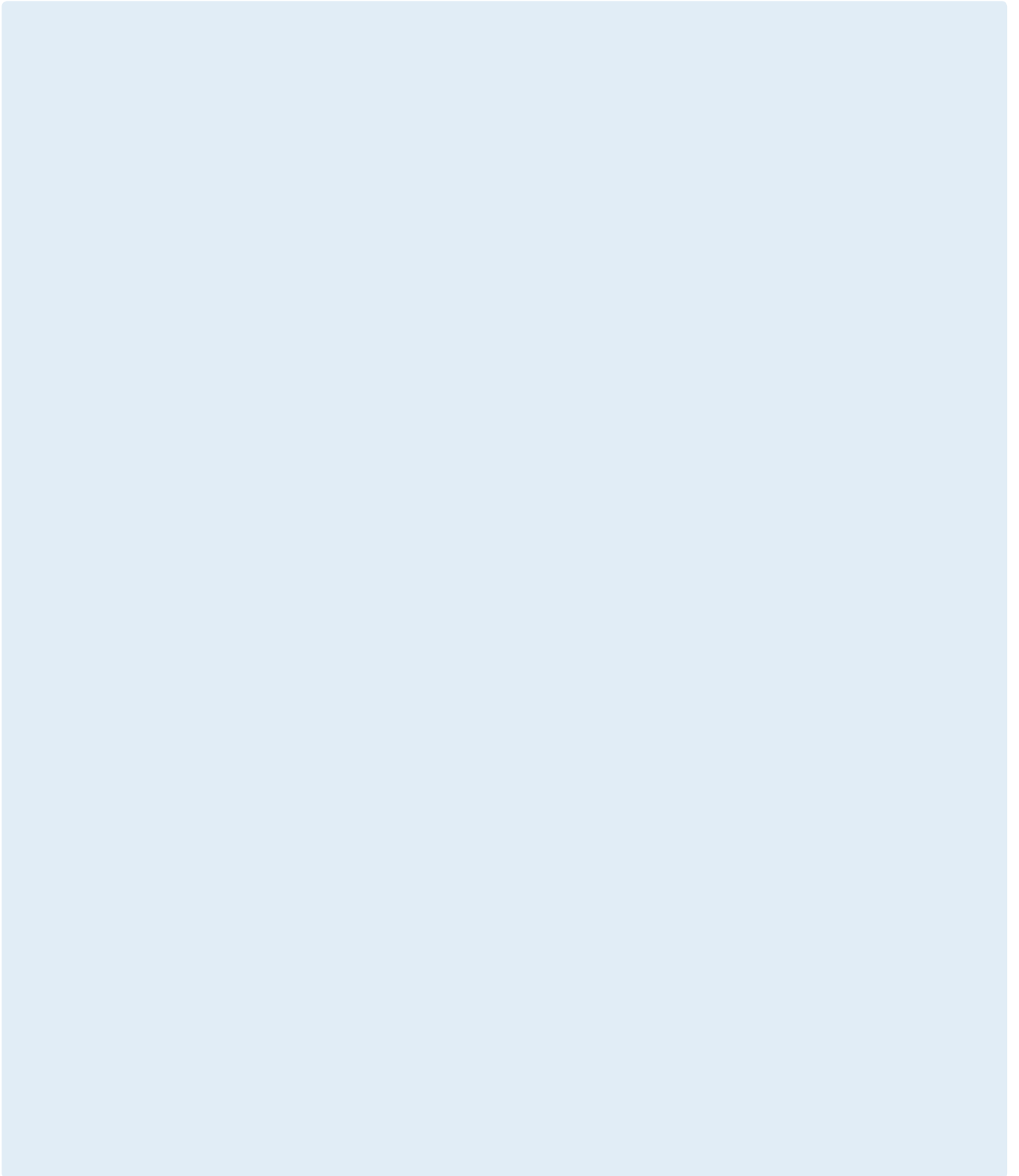
< Terminal cover apply >





Memo





**Safety Instructions**

- For your safety, please read user's manual thoroughly before operating.
- Contact the nearest authorized service facility for examination, repair, or adjustment.
- Please contact qualified service technician when you need maintenance.
Do not disassemble or repair by yourself!
- Any maintenance and inspection shall be performed by the personnel having expertise concerned.

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