SELECTION GUIDE

UTS800

CATALOG NUMBERING [PRODUCT SELECTION]

UTS800	NT	N	G	O	800A	3P	LL	UL

SERIES & FRAME: Susol 800AF

PERFORMANCE

Rating	80%	100%	kA
240Vac	N	NT	65
	H	HT	100
	L	LT	150
480Vac	N	NT	35
	H	HT	65
	L	LT	100
600Vac	N	NT	18
	H	HT	35
	L	LT	50

OCR-I

N - Normal	**A** - Ammeter
P - Power meter	**S** - Super meter

MCP : Motor Circuit Protector

MCS: Molded Case Switch

OCR-II (Remote Reset)

G: Communication(X)
E: Com.(X) + Outer CT (G/F)
C: Communication(O)
X: Com.(O) + Outer CT (G/F)

OCR-II (ERMS)

I: Communication(X)
T: Com.(X) + Outer CT (G/F)
Q: Communication(O)
R: Com.(O) + Outer CT (G/F)

OCR-III

0: Power(X), 60Hz
1: AC/DC 100~250V, 60Hz
2: DC 24~60V, 60Hz
5: Power(X), 50Hz
6: AC/DC 100~250V, 50Hz
7: DC 24~60V, 50Hz

AMPERES

400
600
630
800

POLES

3: Three

TERMINALS

LL: Lugs Line/Load Side
L : Lugs Line Side
LO: Lugs Load Side
- : Bolt-on

SUFFIX

UL : UL

UTS800 FRAME

UTS800 breaker is HACR rated

UL489 RATINGS

BREAKER TYPE	NUMBER OF POLES	INTERRUPTING CAPACITY (kA rms) AC 50/60Hz		
		240V ac	480V ac	600V ac
UTS800N	3	65	35	18
UTS800H	3	100	65	35
UTS800L	3	150	100	50

IEC60947-2 RATINGS

BREAKER TYPE	NUMBER OF POLES	INTERRUPTING CAPACITY(kA rms) AC 50/60Hz, Icu			RATED SHORT-TIME WITHSTAND CURRENT (Icw)	UTILIZATION CATEGORY
		220/240V	380/415V	480/500V		
UTS800N	3	65	35	18	18kA	B
UTS800H	3	100	65	35	-	A
UTS800L	3	150	100	50	-	A
Service breaking capacity, Ics (%Icu)				100%		
Insulation Voltage, Ui				1000 Vac		
Impulse Withstand Voltage, Uimp				8 kVac		

DIMENSIONS

POLE	DIMENSIONS inch (mm)		
	W	H	D
3-Pole	8.27 (210)	12.88 (327.2)	6 (152.5)

CIRCUIT BREAKER

WITH N (NORMAL) TYPE TRIP UNIT				
Ampere Rating, In	65kA at 240V, 35kA at 480V, 18kA at 600V	100kA at 240V, 65kA at 480V, 35kA at 600V	150kA at 240V, 100kA at 480V, 50kA at 600V	Remarks
	3-Pole	3-Pole	3-Pole	N(normal) type trip unit *1
400A	UTS800·N·N●■·400·3	UTS800·H·N●■·400·3	UTS800·L·N●■·400·3	Long time delay / Short time delay Instantaneous / Ground faults / Self power ※ LCD/SMPS is Removed from A type
600A	UTS800·N·N●■·600·3	UTS800·H·N●■·600·3	UTS800·L·N●■·600·3	
630A	UTS800·N·N●■·630·3	UTS800·H·N●■·630·3	UTS800·L·N●■·630·3	
800A	UTS800·N·N●■·800·3	UTS800·H·N●■·800·3	UTS800·L·N●■·800·3	

WITH A (AMMETER) TYPE TRIP UNIT				
Ampere Rating, In	65kA at 240V, 35kA at 480V, 18kA at 600V	100kA at 240V, 65kA at 480V, 35kA at 600V	150kA at 240V, 100kA at 480V, 50kA at 600V	Remarks
	3-Pole	3-Pole	3-Pole	A(ammeter) type trip unit *1
400A	UTS800·N·A●■·400·3	UTS800·H·A●■·400·3	UTS800·L·A●■·400·3	All function of N type / Earth Leakage (Except residual current) ZSI / Comm. (Modbus, Profibus) AC/DC 100-250V / DC 24~60V Fault Recording 10ea
600A	UTS800·N·A●■·600·3	UTS800·H·A●■·600·3	UTS800·L·A●■·600·3	
630A	UTS800·N·A●■·630·3	UTS800·H·A●■·630·3	UTS800·L·A●■·630·3	
800A	UTS800·N·A●■·800·3	UTS800·H·A●■·800·3	UTS800·L·A●■·800·3	

WITH P (POWER METER) TYPE TRIP UNIT				
Ampere Rating, In	65kA at 240V, 35kA at 480V, 18kA at 600V	100kA at 240V, 65kA at 480V, 35kA at 600V	150kA at 240V, 100kA at 480V, 50kA at 600V	Remarks
	3-Pole	3-Pole	3-Pole	P(power meter) type trip unit *1
400A	UTS800·N·P●■·400·3	UTS800·H·P●■·400·3	UTS800·L·P●■·400·3	All function of A type (UV/OV/OF/UF/RV/Vun/Cun) a) Measuring (V/A/W/P/F/PF) b) Fault Recording 256ea/ Event Recording 256ea
600A	UTS800·N·P●■·600·3	UTS800·H·P●■·600·3	UTS800·L·P●■·600·3	
630A	UTS800·N·P●■·630·3	UTS800·H·P●■·630·3	UTS800·L·P●■·630·3	
800A	UTS800·N·P●■·800·3	UTS800·H·P●■·800·3	UTS800·L·P●■·800·3	

Note :

a) UV: Under Voltage // OV: Over Voltage // OF: Over Frequency // UF: Under Frequency // RV: Reverse power // Vun: Voltage Unbalance // Cun: Current Unbalance

b) V: Voltage // A: Ampere // W: Watt // P: Power // F: Frequency // PF: Power factor

* ●: OCR-II, ■: OCR-III

UTS800 FRAME

CIRCUIT BREAKER

WITH S (SUPER METER) TYPE TRIP UNIT				
Ampere Rating, In	65kA at 240V, 35kA at 480V, 18kA at 600V	100kA at 240V, 65kA at 480V, 35kA at 600V	150kA at 240V, 100kA at 480V, 50kA at 600V	Remarks
	3-Pole	3-Pole	3-Pole	S(super meter) type trip unit *1
400A	UTS800·N·S● ■ ·400·3	UTS800·H·S● ■ ·400·3	UTS800·L·S● ■ ·400·3	All function of P type Display Harmonics and wave forms
600A	UTS800·N·S● ■ ·600·3	UTS800·H·S● ■ ·600·3	UTS800·L·S● ■ ·600·3	
630A	UTS800·N·S● ■ ·630·3	UTS800·H·S● ■ ·630·3	UTS800·L·S● ■ ·630·3	
800A	UTS800·N·S● ■ ·800·3	UTS800·H·S● ■ ·800·3	UTS800·L·S● ■ ·800·3	

Note *1 : The range of rated current setting is same with 4 Types but P/S type is able to set detail adjustment of rated current per 1A (Fine Adjustable)

MOLDED CASE SWITCH

WITH MCS TRIP UNIT (FIXED MAGNETIC ONLY)				
Ampere Rating, In	65kA at 240V, 35kA at 480V, 18kA at 600V	100kA at 240V, 65kA at 480V, 35kA at 600V	150kA at 240V, 100kA at 480V, 50kA at 600V	Remarks
	3-Pole	3-Pole	3-Pole	MCS type trip unit
800A	UTS800·N·MCS● ■ ·800·3	UTS800·H·MCS● ■ ·800·3	UTS800·L·MCS● ■ ·800·3	Magnetic range : 12000A fixed

MOTOR CIRCUIT PROTECTOR

WITH MCP TRIP UNIT (ADJUSTABLE MAGNETIC ONLY)				
Ampere Rating, In	3-Pole	3-Pole	3-Pole	Remarks
				MCP type trip unit
800A	UTS800·N·MCP● ■ ·800·3	UTS800·H·MCP● ■ ·800·3	UTS800·L·MCP● ■ ·800·3	Magnetic range : 2~12In

ITEM	SETTING RANGE
Ir (rated current)	0.4~1.0 In
Tr (long time tripping delay)	0.5~20 (s)
Isd (short time current)	1.5~10 Ir
Tsd (short time tripping delay)	0.05~0.4 (s)

ITEM	SETTING RANGE
Ii (instantaneous current)	2~15 In
Tg (ground fault tripping delay)	0.05~0.4 (s)
Ig (ground fault current)	0.2~1In

●

OCR-II (Remote Reset)	OCR-II (ERMS)
G: Communication(X)	**I**: Communication(X)
E: Com.(X)+Outer CT(G/F)	**T**: Com.(X)+Outer CT(G/F)
C: Communication(O)	**G**: Communication(O)
X: Com.(O)+Outer CT(G/F)	**R**: Com.(O)+Outer CT(G/F)

■

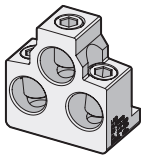
OCR-III
0: Power(X), 60Hz
1: AC/DC 100~250V, 60Hz
2: DC 24~60V, 60Hz
5: Power(X), 50Hz
6: AC/DC 100~250V, 50Hz
7: DC 24~60V, 50Hz

ACCESSORIES FOR UTS800

MECHANICAL LUGS

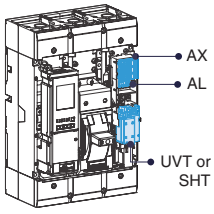
MAXIMUM BREAKER AMPERES	TERMINAL BODY MATERIAL	WIRE TYPE	ORDERING TYPE
800A	Aluminum	Cu/Al	AL800TS

AL800TS 400~800A Lug



INNER ACCESSORIES

DESCRIPTION	CONTROL VOLTAGE	ORDERING TYPE
Auxiliary Switch, AX		
Alarm Switch, AL		
Shunt Trip, SHT	DC 24~30V	
	AC 48V/DC 48~60V	
	AC/DC 100~130V	
	AC/DC 200~250V	
	AC 380~480V	
Undervoltage Trip, UVT	DC 24~30V	
	AC 48V/DC 48~60V	
	AC/DC 100~130V	
	AC/DC 200~250V	
	AC 380~480V	



Type	Right(T)
AX	3
AL	1
SHT	1*
UVT	1*

* Applicable in indicated pole position-not synchronous

PADLOCKING DEVICE

DESCRIPTION	ORDERING TYPE
Lock in “OFF” position	PL5

<Pad Lock>

PLATE HANDLE LOCKING DEVICE

DESCRIPTION	ORDERING TYPE
Lock in “OFF” or “ON” position	PHL5

<Plate Handle Lock>

MECHANICAL INTERLOCKING DEVICE

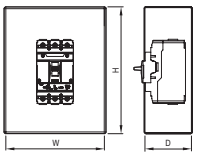
DESCRIPTION	ORDERING TYPE
For 3-Pole breaker	MIT53

<Mechanical Interlock>

ACCESSORIES FOR UTS800

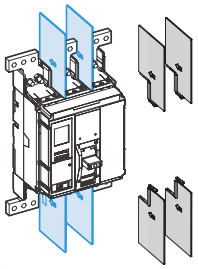
ENCLOSURE

ENCLOSURE DIMENSION (W X H X D) inch (mm)	ORDERING TYPE
20.25 (514.4) x 51.9 (1318.3) x 7.75 (196.9)	-



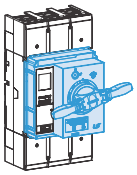
INSULATION BARRIERS

DESCRIPTION	QTY PER KIT	ORDERING TYPE
Standard type	2	B53
Extended type	2	BE53



ROTARY OPERATING HANDLES

DESCRIPTION	TYPE	ORDERING TYPE
Directly Mounted	NEMA Type 1	DH-5
Directly Mounted (with Key lock)	NEMA Type 1	DHK-5
Extended (Door-Mounted)	NEMA Type 1	REH-5
NEMA Door-Mounted	NEMA Type 1, 12	EHU-5
	NEMA Type 3, 3R, 4	EHV-5
	NEMA Type 3, 4, 4X	EHX-5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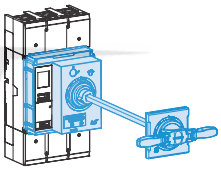
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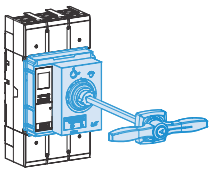
FLANGE OPERATING HANDLES

DESCRIPTION	TYPE	ORDERING TYPE
Handles (Including driving part/ excluding cable)	NEMA Type 1, 12, 3, 3R, 4	FHU-5
	NEMA Type 4, 4X	FHX-5
Cable	60 inch	FH5-60
	84 inch	FH5-84
	128 inch	FH5-128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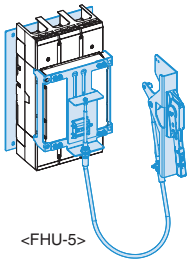
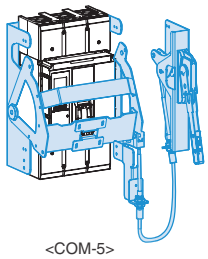

<FHU-5>

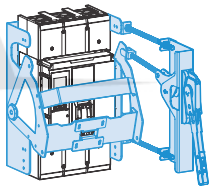
FLANGE HANDLES WITH CABLE OPERATING MECHANISM

DESCRIPTION	TYPE	ORDERING TYPE
Cable operating mechanism (without cable)		COM-5
Long type handle (with operating mechanism)	NEMA Type 1, 12, 3, 3R, 4	FHU-L
	NEMA Type 4, 4X	FHX-L
Cable	60 inch	FH5-60
	84 inch	FH5-84
	128 inch	FH5-128


<COM-5>

FLANGE HANDLES WITH VARIABLE-DEPTH OPERATING MECHANISM

Description	Type	Ordering type
Variable depth operating mechanism with threaded-rod and handle		VDM-5
Long type handle (with operating mechanism)	NEMA Type 1, 12, 3, 3R, 4	FHU-L
	NEMA Type 4, 4X	FHX-L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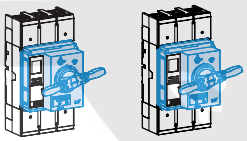
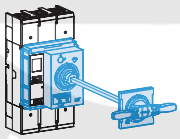
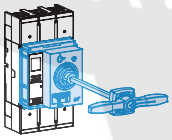
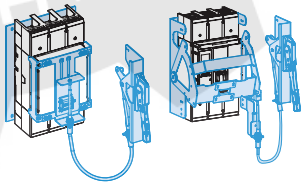
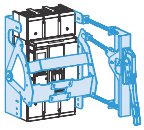
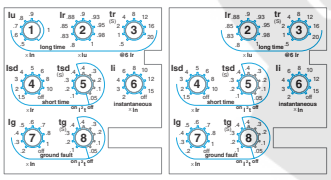
TYPE	DIRECTLY MOUNTED	DOOR MOUNTED	FLANGE HANDLE WITH CABLE/SLIDING OPERATION MECHANISM	FLANGE HANDLE WITH VARIABLE DEPTH MECHANISM
NEMA TYPE 1			-	-
NEMA Type 1, 12, 3, 3R, 4, 4X	-			

UTS800/UTS1200 CHARACTERISTIC TRIP CURVES

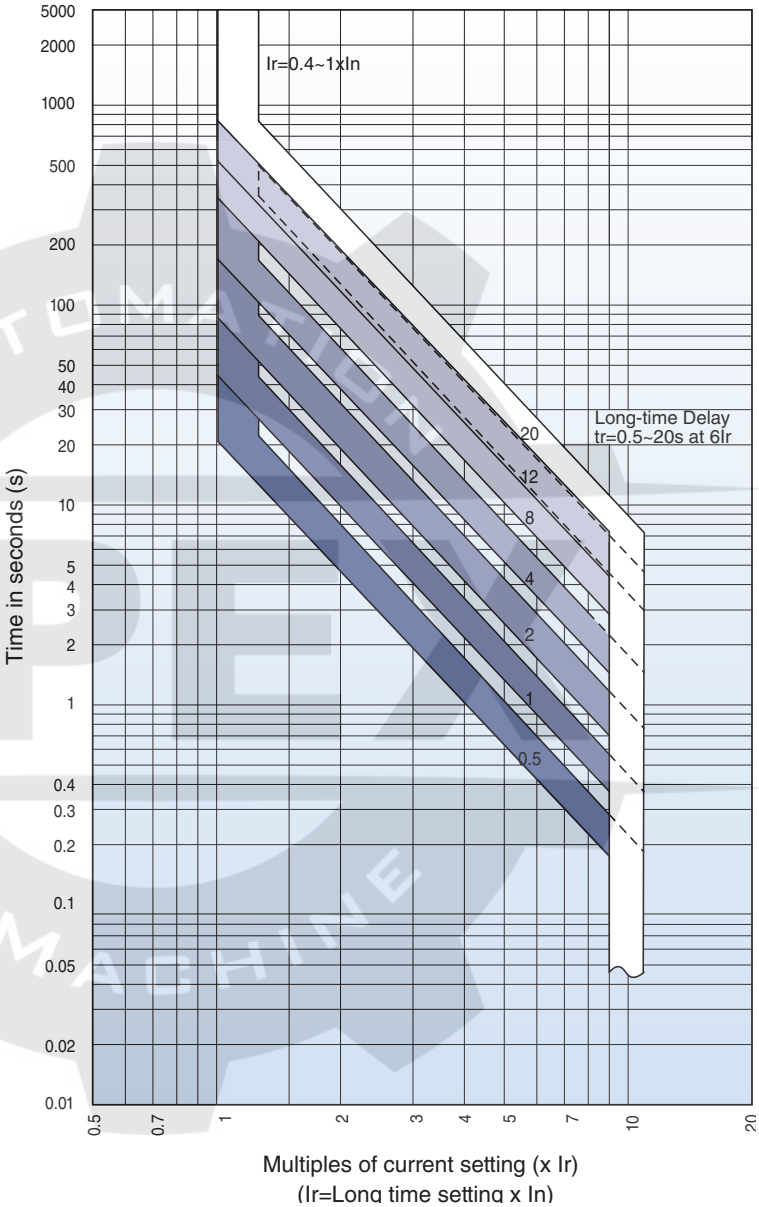
This curve is to be used for application and coordination purposes only.

LONG-TIME DELAY (400~1200A)

Long-time pickup 0.4~1 x Ir
and delay 0.5~20s



①, ②, ③ – Long-time setting

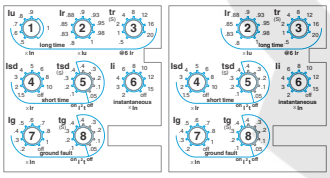


Notes :

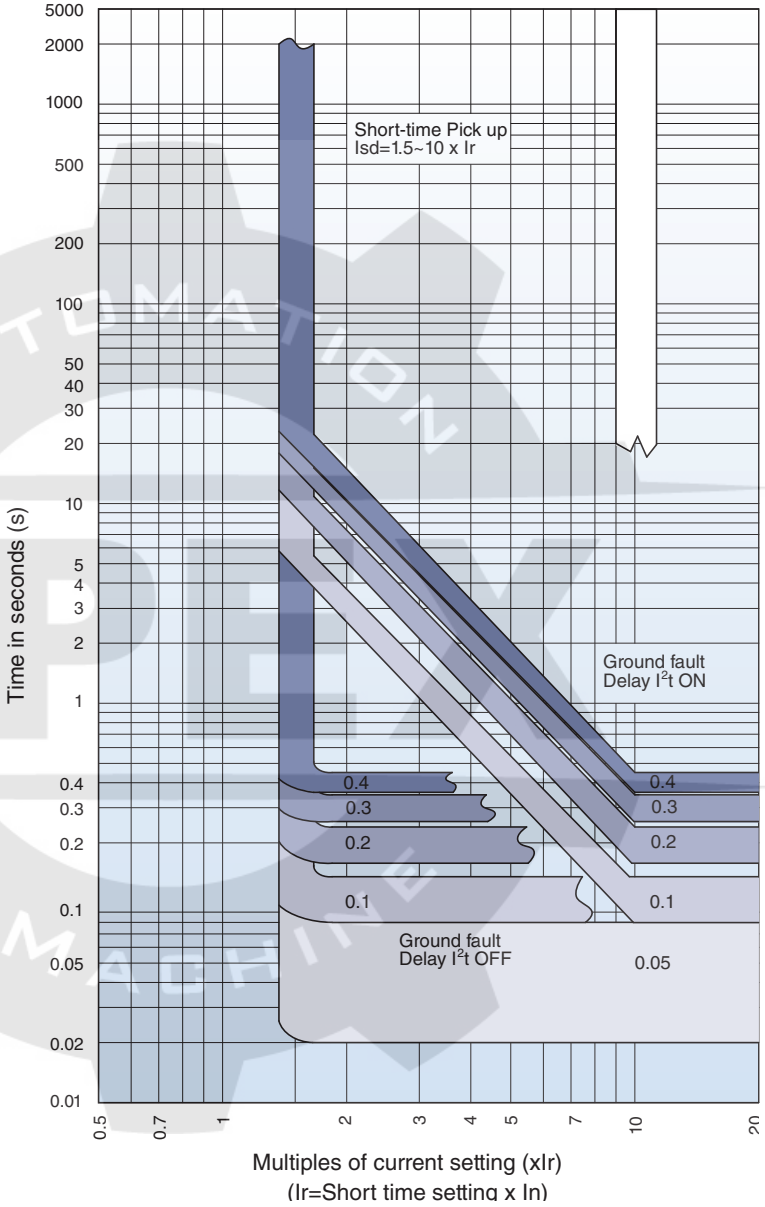
1. There is a thermal-imaging effect that can act to shorten the long-time delay. The thermal imaging effect comes into play if a current above the long-time delay pickup value exists for a time and then is cleared by the tripping of a downstream device or the circuit breaker itself. A subsequent overload will cause the circuit breaker to trip in a shorter time than normal. The amount of time delay reduction is inverse to the amount of time that has elapsed since the previous overload.
2. Total clearing times shown include the response times of the trip unit, the circuit breaker opening, and the extinction of the current.

SHORT-TIME DELAY (400~1200A)

Short-time pickup 1.5~10 x Ir
and delay 0.1~0.4s



④, ⑤ – Short-time setting

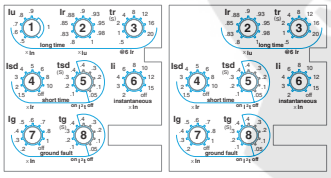


UTS800/UTS1200 CHARACTERISTIC TRIP CURVES

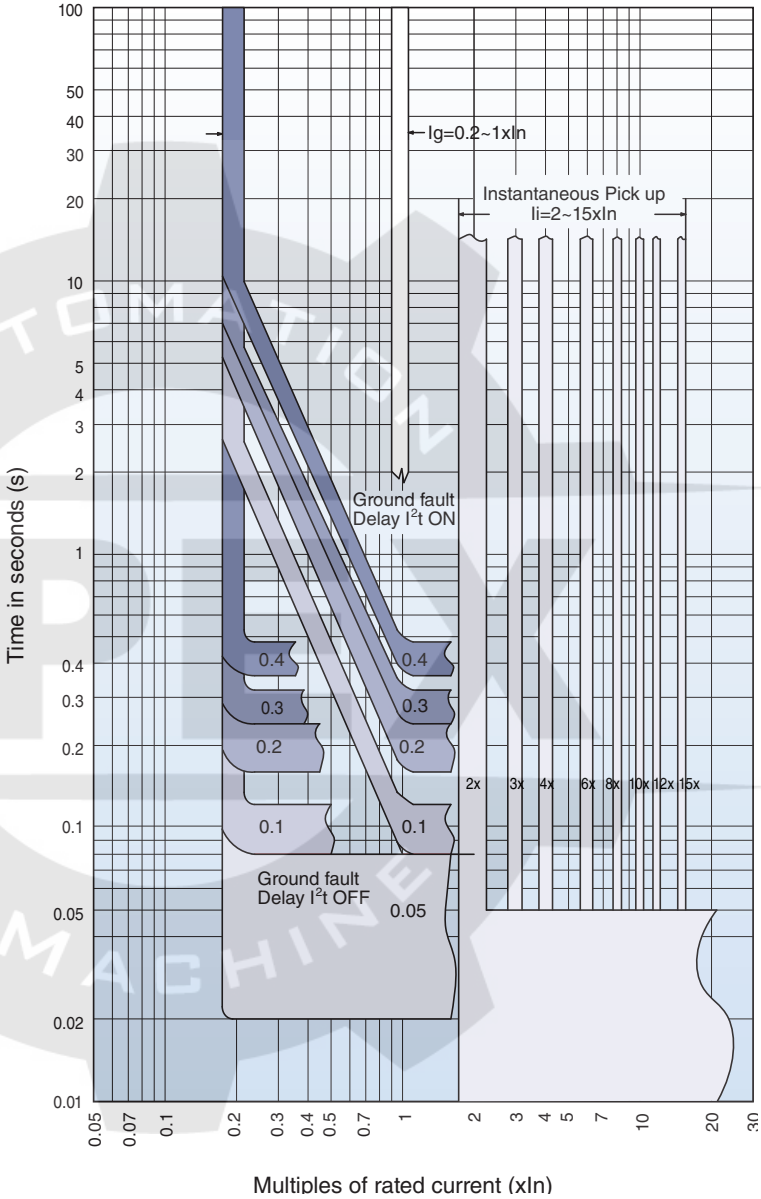
This curve is to be used for application and coordination purposes only.

INSTANTANEOUS AND GROUND FAULT (400~1200A)

Instantaneous pickup 2~15 x In
and Ground fault pickup 0.2~1 x In
and delay 0.1~0.4s

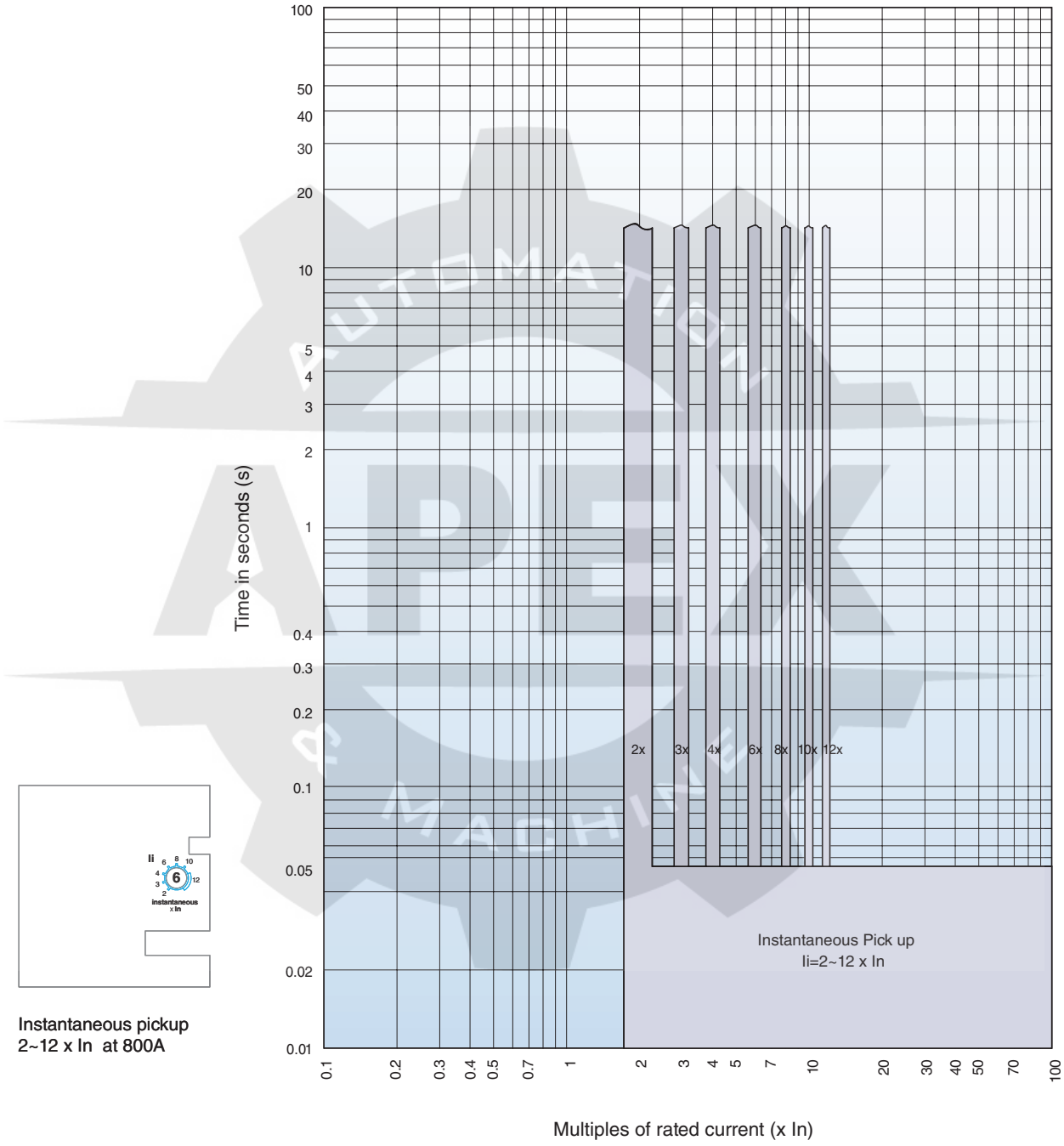


⑥, ⑦, ⑧ - Instantaneous and
Ground fault setting



MCP: ADJUSTABLE INSTANTANEOUS TRIP CURVE (800A)

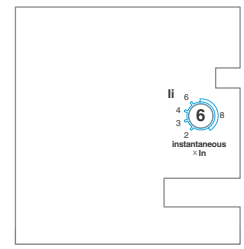
INSTANTANEOUS PICKUP 2~12 X In AT 800A



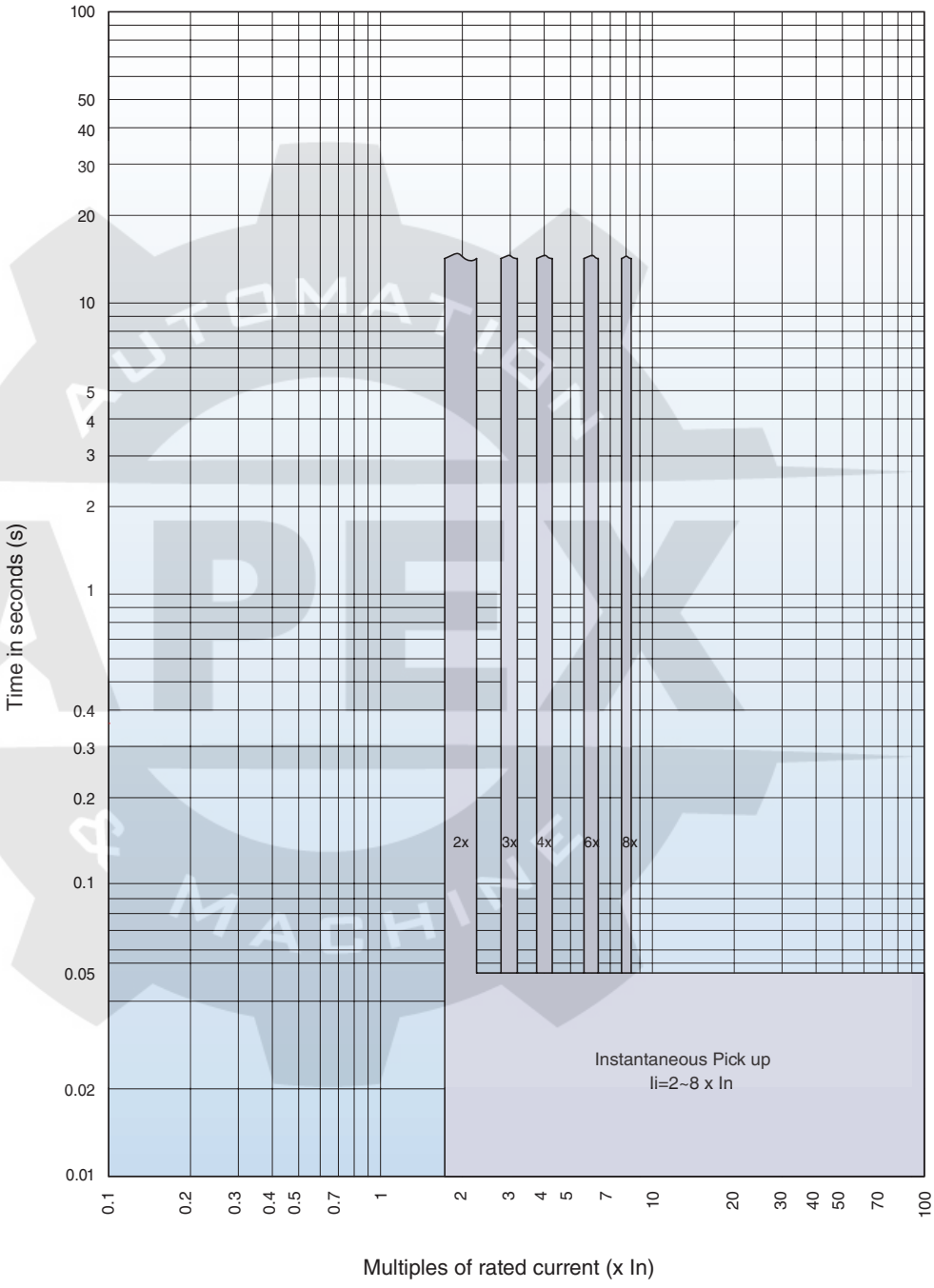
Instantaneous pickup
2~12 x In at 800A

MCP: ADJUSTABLE INSTANTANEOUS TRIP CURVE (1200A)

INSTANTANEOUS PICKUP 2~8 X In AT 1200A

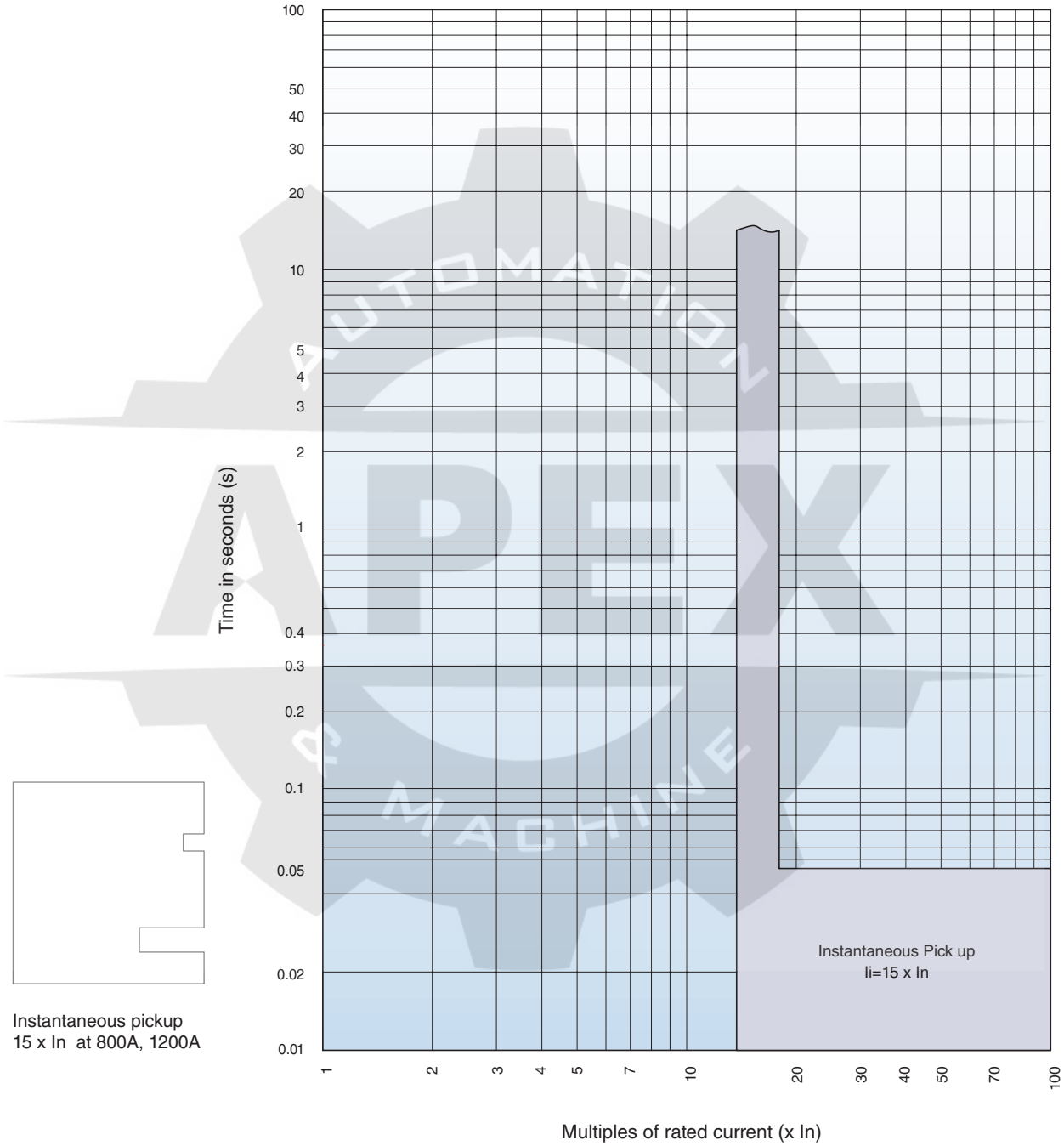


Instantaneous pickup
2~8 x In at 1200A



MCS: FIXED INSTANTANEOUS TRIP CURVE (800~1200A)

INSTANTANEOUS PICKUP 15 X In AT 800A, 1200A

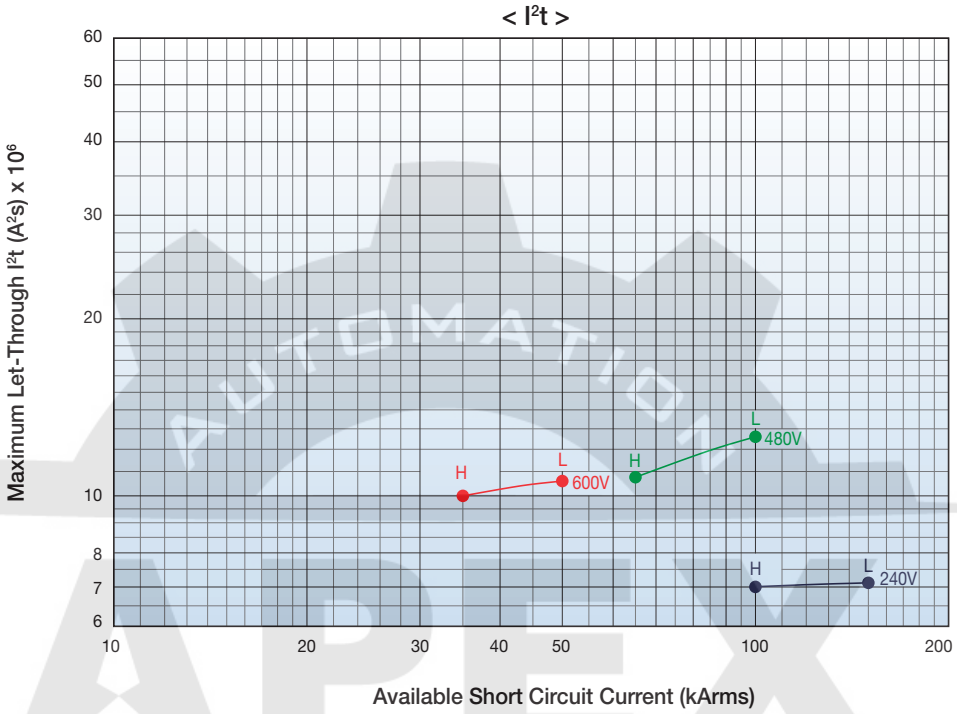


Instantaneous pickup
15 x In at 800A, 1200A

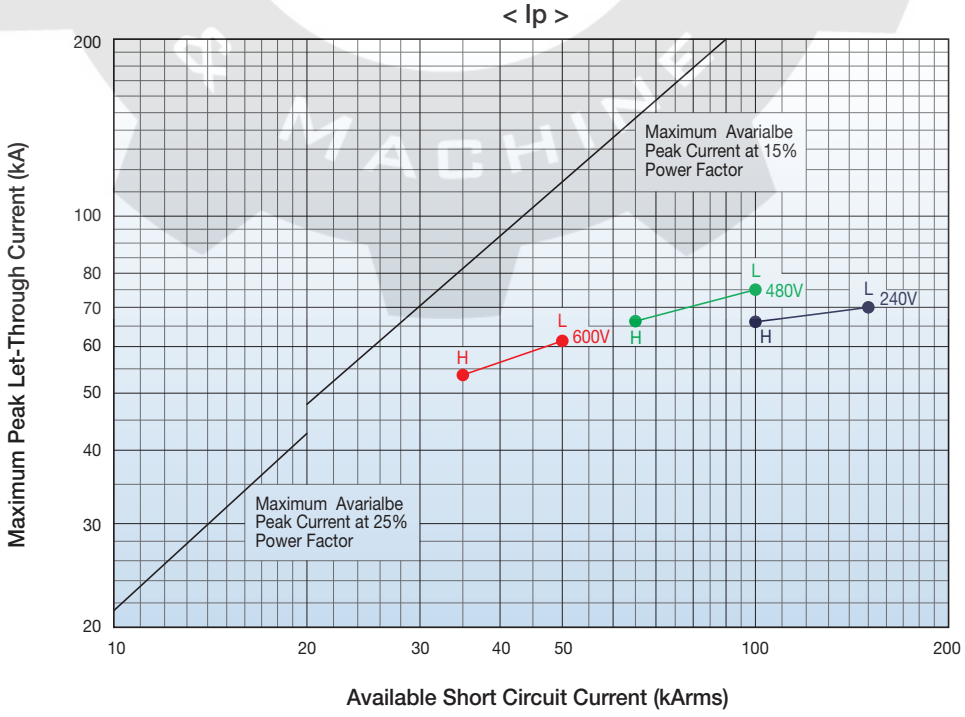
UTS800 CHARACTERISTIC

Based on typical values obtained throughout the circuit breaker development and UL test programs.

LET-THROUGH ENERGY I²t (240V, 480V AND 600V)



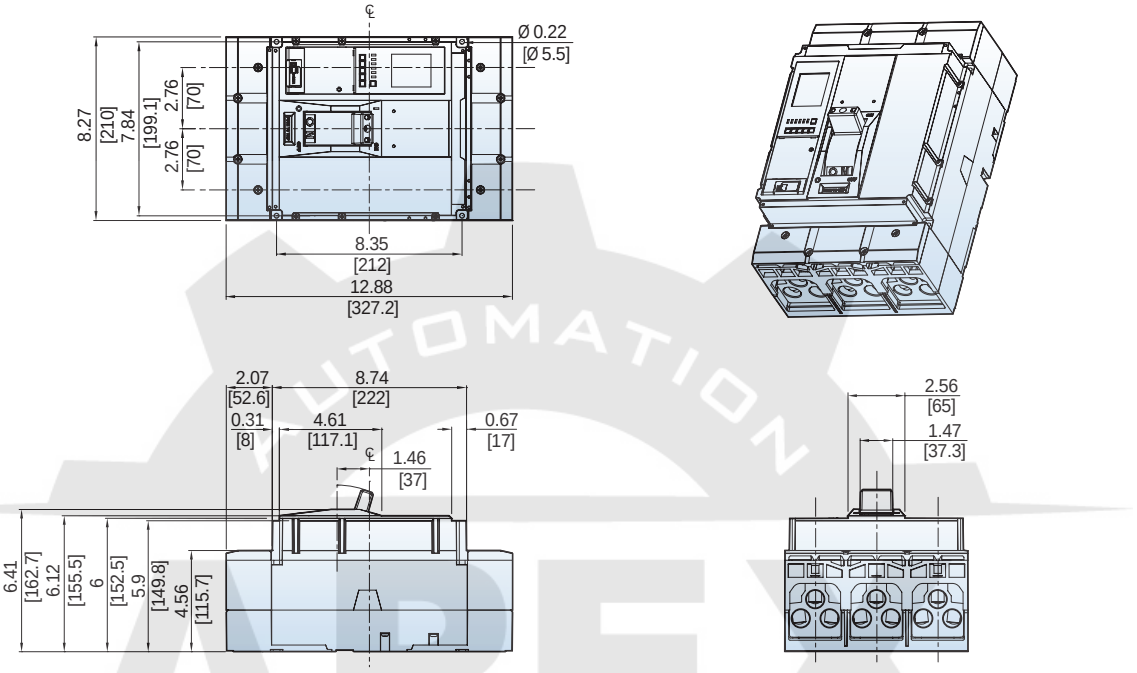
PEAK LET-THROUGH CURRENT Ip (240V, 480V AND 600V)



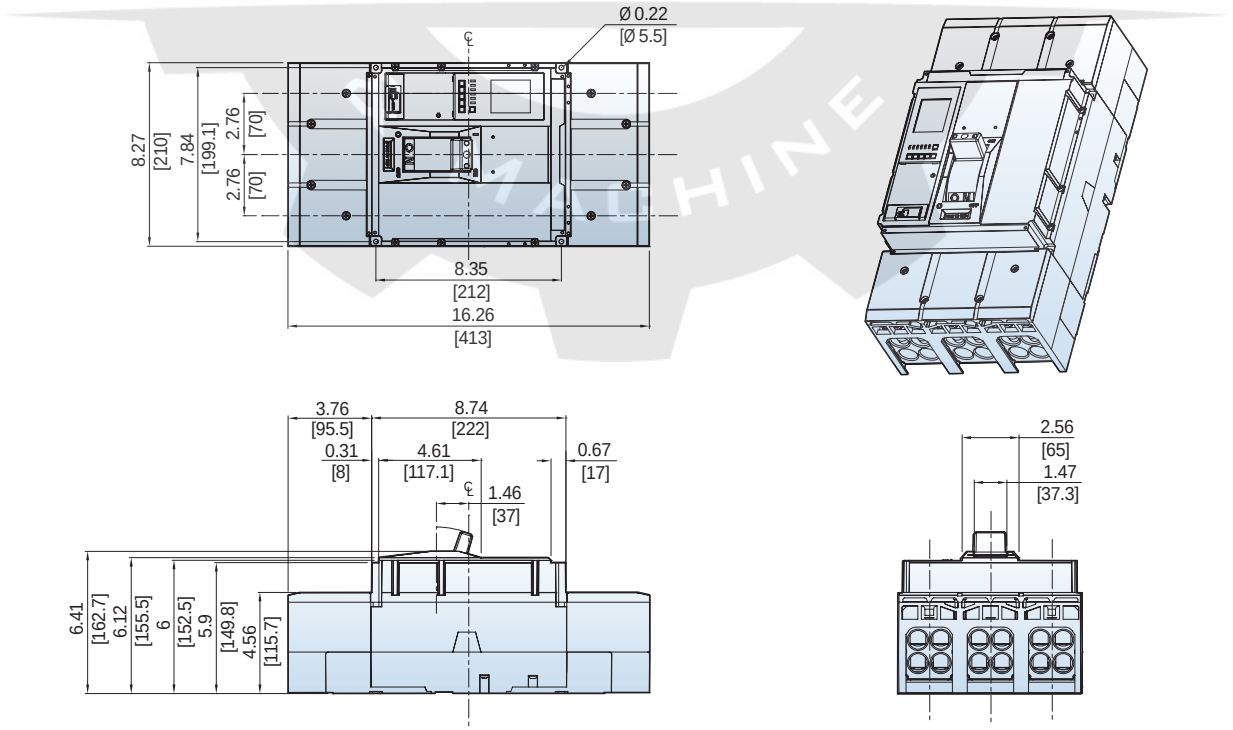
DIMENSIONS UTS800/1200 CIRCUIT BREAKERS

UTS800 3P Circuit Breaker [Lug type]

Dimension: inch[mm]

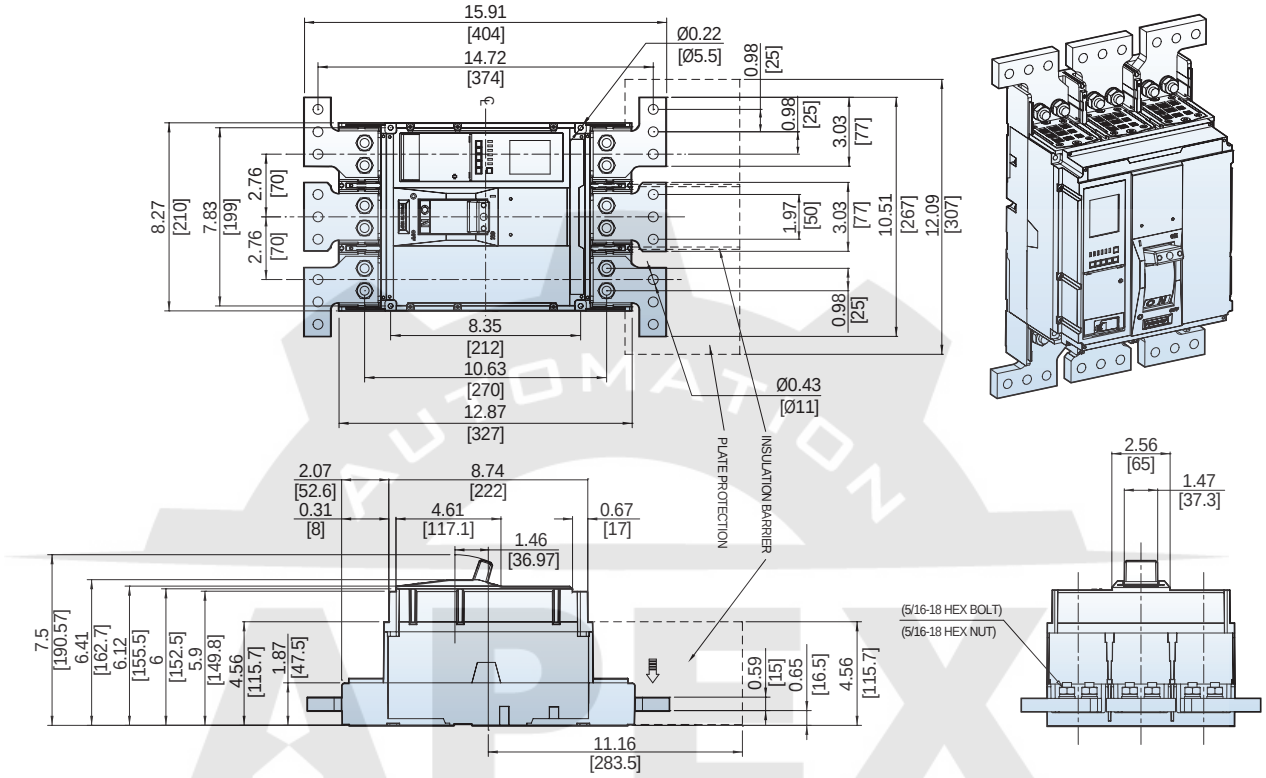


UTS1200 3P Circuit Breaker [Lug type]

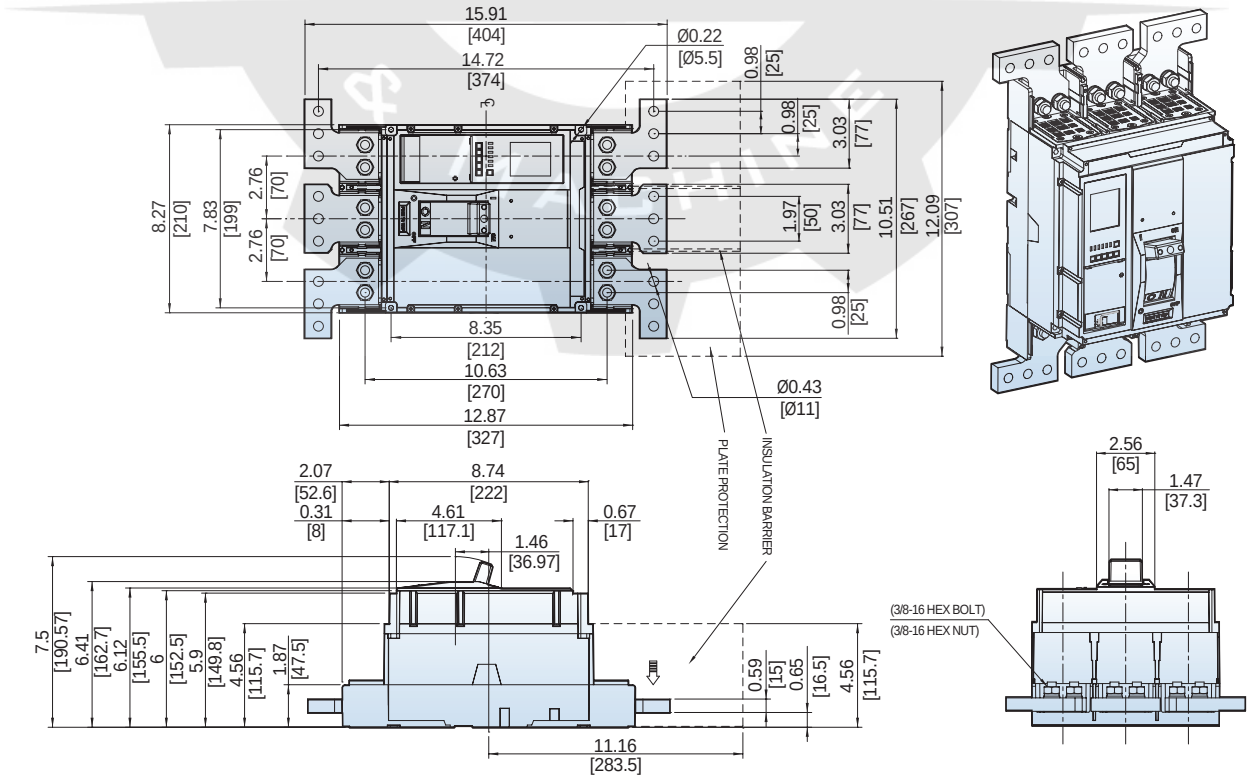


UTS800 3P Circuit Breaker [Bolt-on Type]

Dimension: inch[mm]



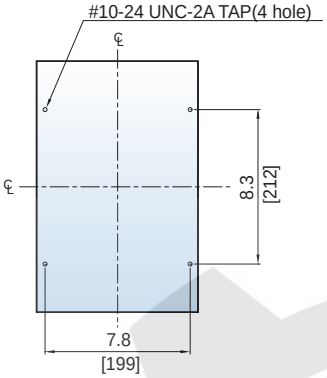
UTS1200 3P Circuit Breaker [Bolt-on Type]



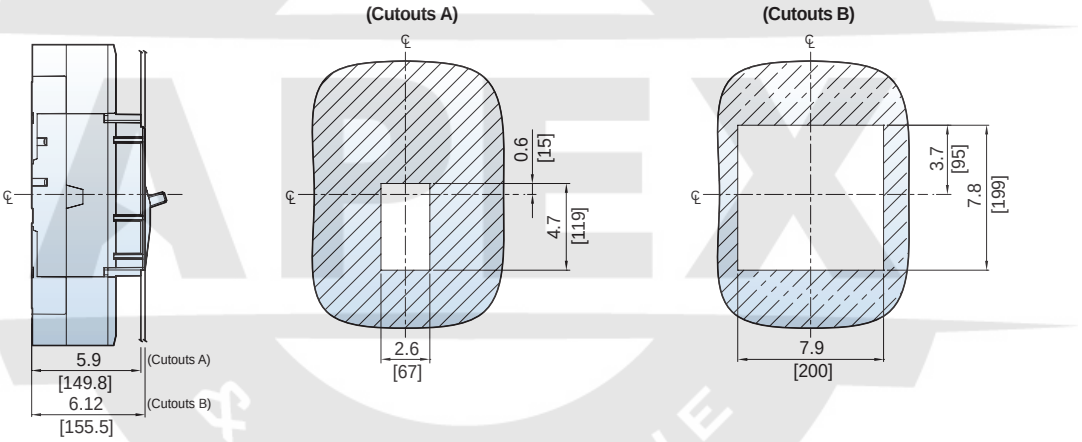
DIMENSIONS UTS800/1200 CIRCUIT BREAKERS

UTS800/1200 Circuit Breaker Mounting

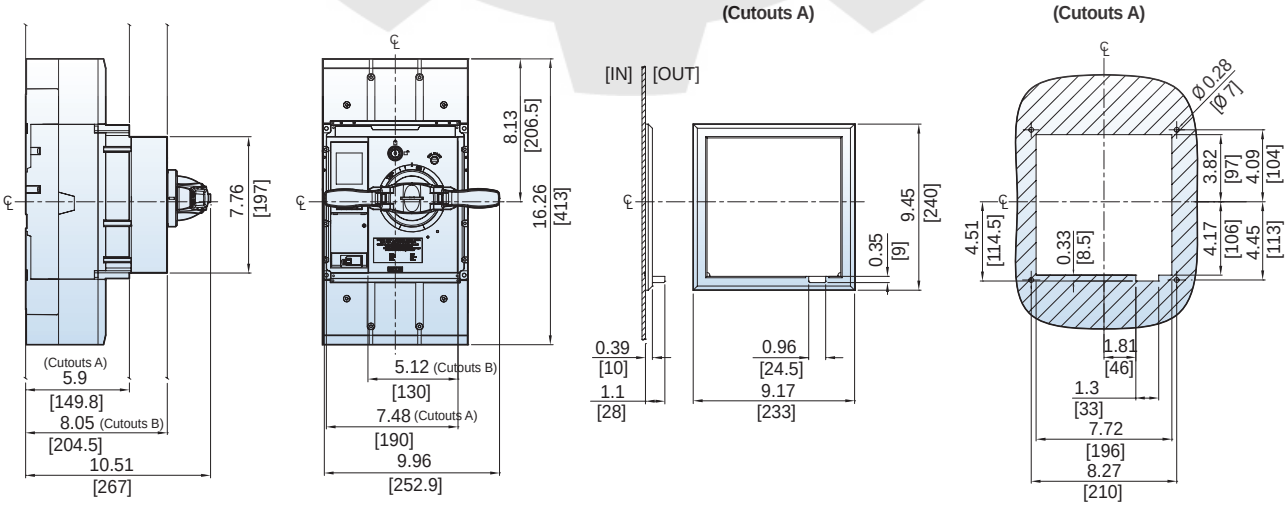
Dimension: inch[mm]



UTS800/1200 Circuit Breaker Door Cutouts

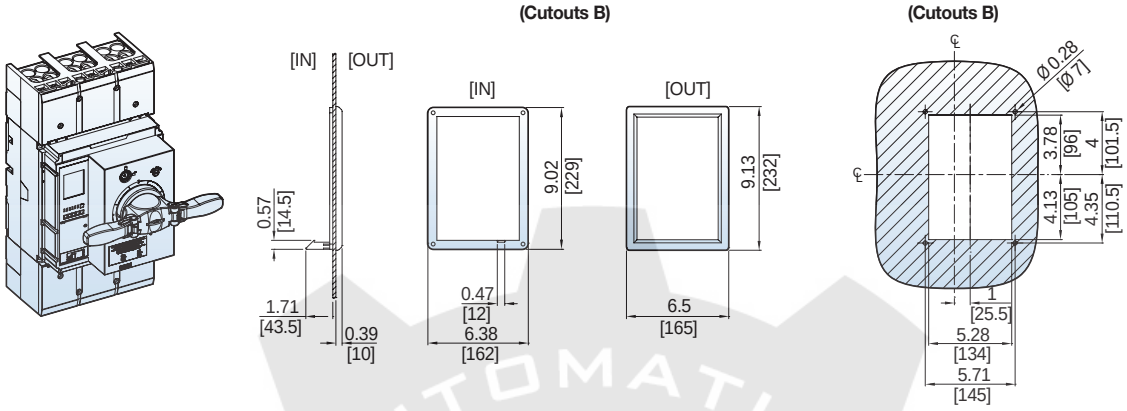


UTS800/1200 Directly Mounted Rotary Operating Handle [DH-5]

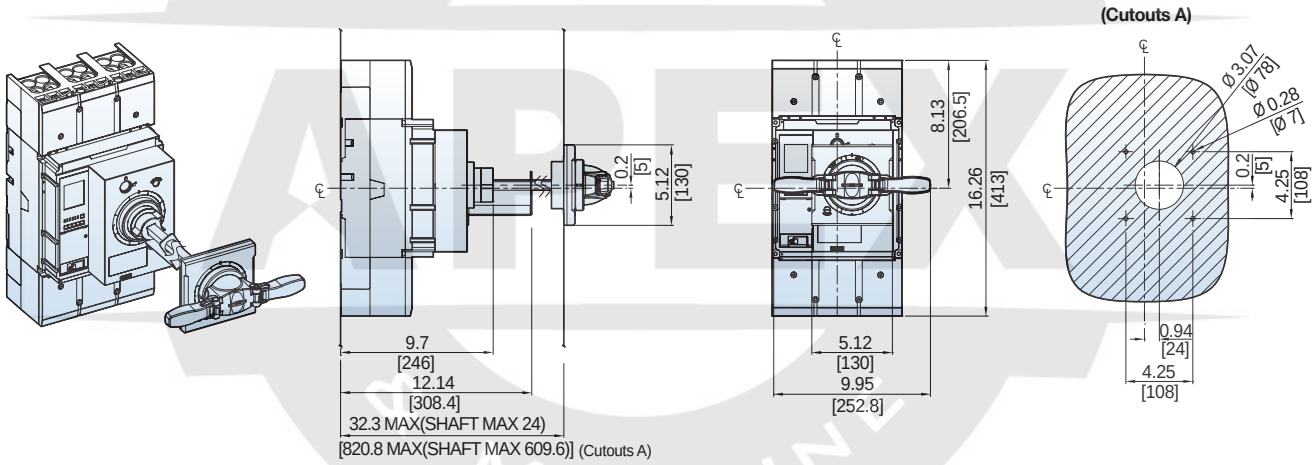


UTS800/1200 Directly Mounted Rotary Operating Handle [DH-5]

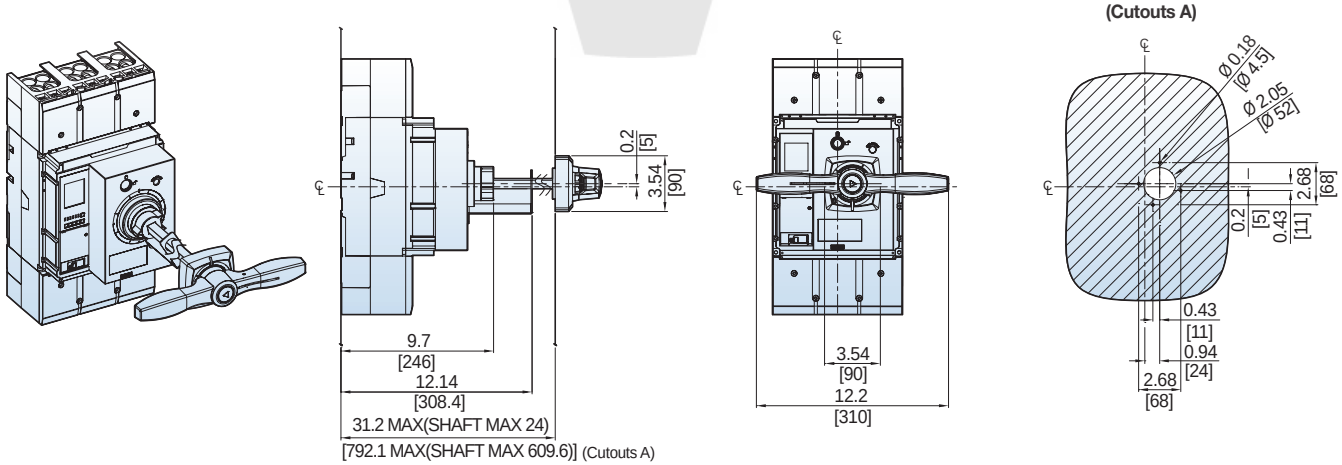
Dimension: inch[mm]



UTS800/1200 Door-Mounted Rotary Operating Handle [REH-5]



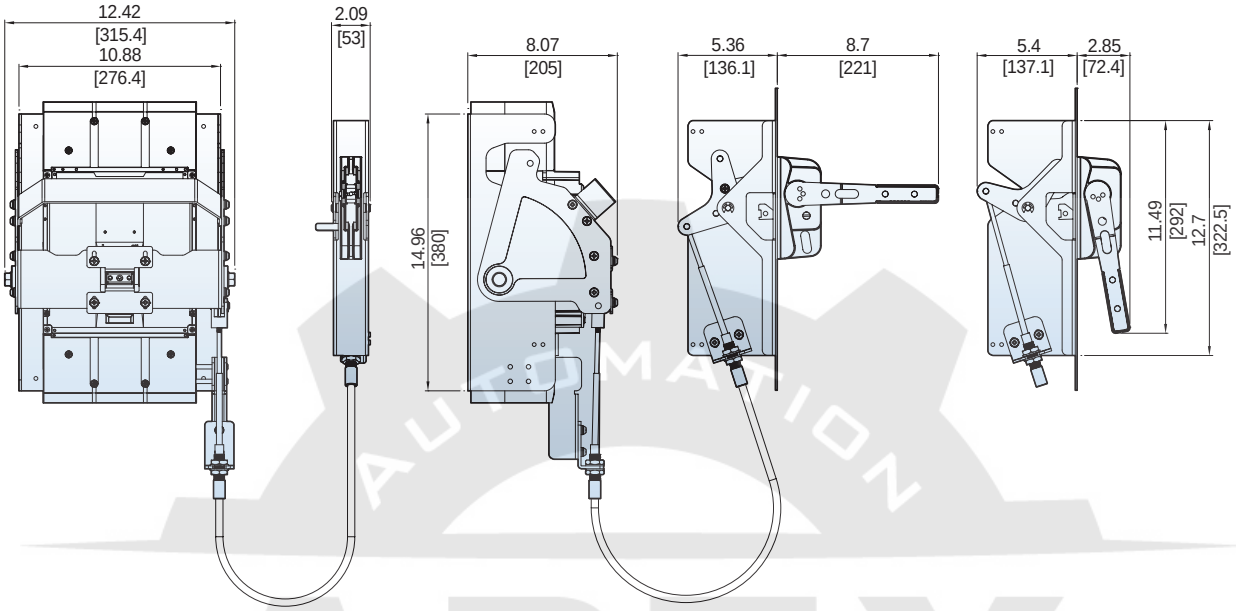
UTS800/1200 NEMA Door-Mounted Rotary Operating Handle [EHU-5, EHV-5, EHX-5]



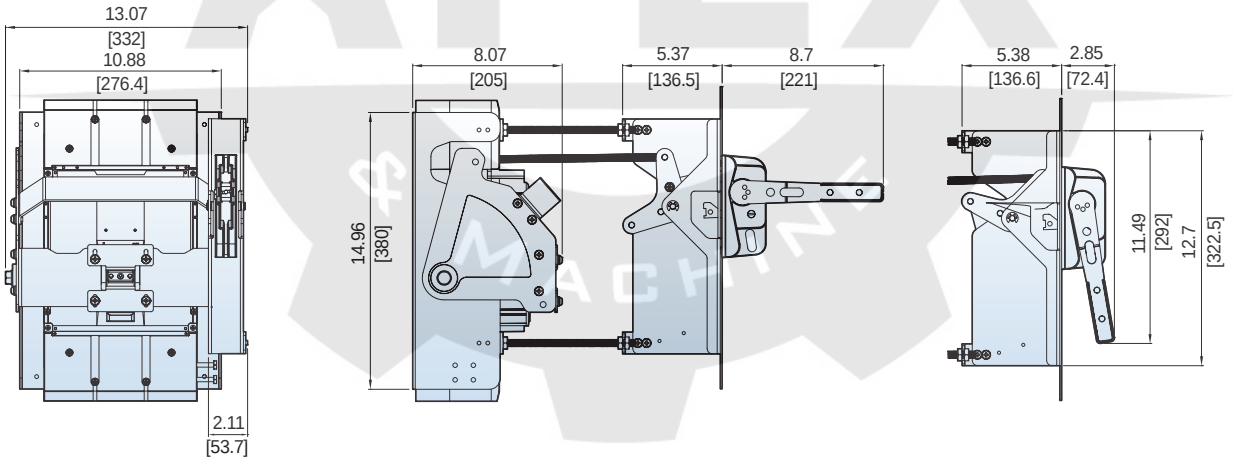
DIMENSIONS UTS800/1200 CIRCUIT BREAKERS

UTS800/1200 Flange-Mounted Cable Operating Handle [COM-5 + FHU, X-L + Cable]

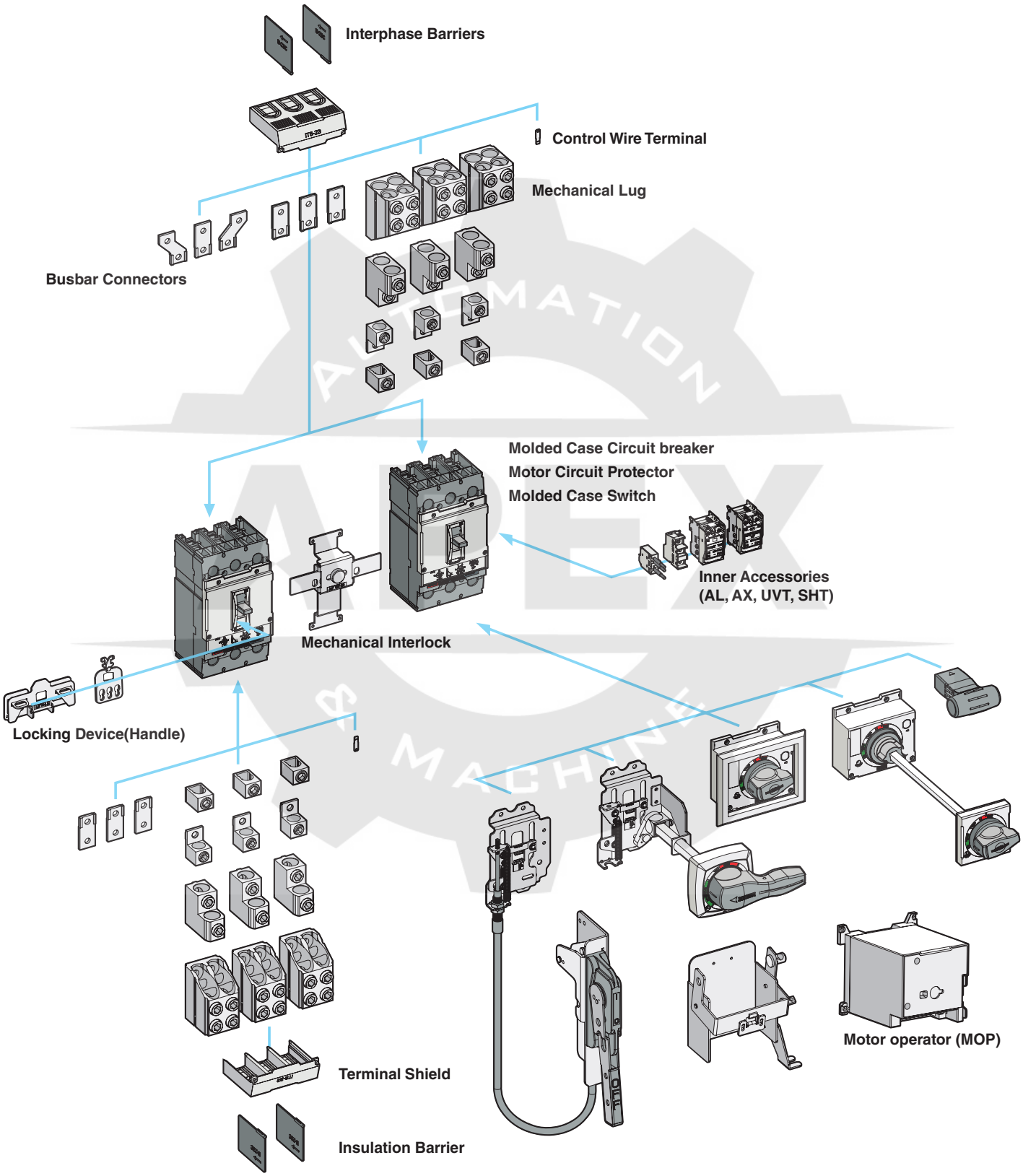
Dimension: inch[mm]



UTS800/1200 Flange-Mounted Variable-Depth Operating Handle [VDM-5 + FHU, X-L]

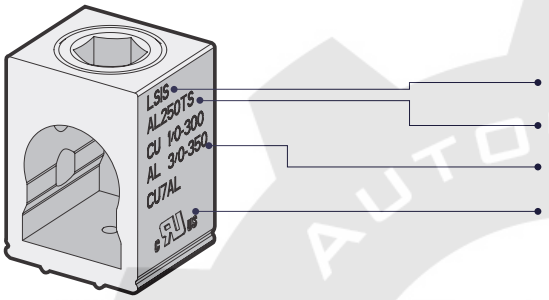


ACCESSORIES



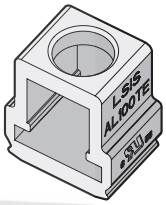
MECHANICAL LUG OVERVIEW

UTE100 to UTS1200 frame circuit breakers can be ordered with mechanical line and load side lugs. The standard lugs can be removed for the installation of bus connections. All lugs are UL/cUL Listed Certified for their proper application and marked for use with aluminum and copper (Al/Cu) or copper only (Cu) conductors.
Lugs suitable for copper and aluminum conductors are made of tin-plated aluminum.
Mechanical lugs are sold either factory installed or as field installable kits.



MECHANICAL LUG KITS FOR UTE100 CIRCUIT BREAKERS

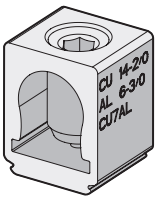
LUG TYPE	TERMINAL BODY MATERIAL	WIRE TYPE		BREAKER AMP RANGE	APPLICABLE WIRE (AWG)	TORQUE N·m (lb-in)
AL 100TE	Aluminum	CU	60 ℃	15~30A	14~10	3.6 (31.9)
				40A	8	4.5 (39.8)
				50~80A	6~3	5.4 (47.8)
				90~100A	2~1	6.3 (55.8)
			75 ℃	15~30A	14~10	3.6 (31.9)
				40~50A	8	4.5 (39.8)
				60~100A	6~3	5.4 (47.8)
		AL	60 ℃	40~60A	6~3	5.4 (47.8)
				70~80A	2~1	6.3 (55.8)
			75 ℃	50~70A	6~3	5.4 (47.8)
				80~100A	2~1/0	6.3 (55.8)



AL100TE
15~100A LUG

MECHANICAL LUG KITS FOR UTS150 CIRCUIT BREAKERS

LUG TYPE	TERMINAL BODY MATERIAL	BREAKER AMP RANGE	WIRE TYPE	APPLICABLE WIRE (AWG)	TORQUE N·m (lb-in)
AL150TS	Aluminum	1.6~15A	Cu	14	4.1 (36.2)
		20~30A	Cu	12~10	5.4 (47.8)
		40~175A	Cu	8~2/0	15.1 (133.6)
		50~70A	Al	6~3	5.4 (47.8)
		90~150A	Al	2~3/0	15.7 (138.6)

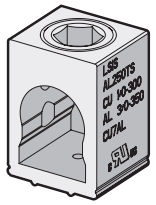


AL150TS
1.6~150A LUG

MECHANICAL LUG OVERVIEW

MECHANICAL LUG KITS FOR UTS250 CIRCUIT BREAKERS

LUG TYPE	TERMINAL BODY MATERIAL	BREAKER AMP RANGE	WIRE TYPE	APPLICABLE WIRE (AWG)	TORQUE N·m (lb-in)
AL250TS	Aluminum	150~175A	Cu	1/0~2/0 AWG	32 (283.2)
		150~175A (Al) 200~225A (Cu)	Cu/Al	3/0~4/0 AWG	
		200~225A	Al	250~300kcmil	44 (389.4)
		250A	Cu	250kcmil	
		250A	Al	350kcmil	

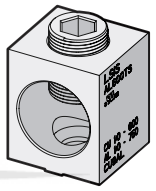


AL250TS
150~250A LUG

MECHANICAL LUG KITS FOR UTS400 CIRCUIT BREAKERS

LUG TYPE	TERMINAL BODY MATERIAL	BREAKER AMP RANGE	WIRE TYPE	APPLICABLE WIRE (AWG)	TORQUE N·m (lb-in)
AL400TS	Aluminum	250A 300A 350A 400A	Cu/Al	1/0AWG ~300kcmil	40.5 (358.5)
			Cu/Al	350~600kcmil	54 (478)
			Al *	700~750kcmil	54 (478)

* Compact wire only (700~750kcmil)

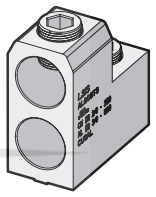


AL400TS
250~400A LUG

MECHANICAL LUG KITS FOR UTS600 CIRCUIT BREAKERS

LUG TYPE	TERMINAL BODY MATERIAL	BREAKER AMP RANGE	WIRE TYPE	APPLICABLE WIRE (AWG)	TORQUE N·m (lb-in)
AL600TS	Aluminum	500A 600A	Cu	2/0AWG ~350kcmil	40.5 (358.5)
			Al *	3/0AWG ~500kcmil	40.5 (358.5)

* Compact wire only (400~500kcmil)

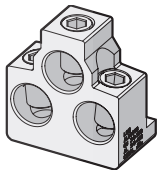


AL600TS
500~600A LUG

MECHANICAL LUG KITS FOR UTS800 CIRCUIT BREAKERS

LUG TYPE	TERMINAL BODY MATERIAL	BREAKER AMP RANGE	WIRE TYPE	APPLICABLE WIRE (AWG)	TORQUE N·m (lb-in)
AL800TS	Aluminum	400A 600A 630A 800A	Cu	3/0AWG ~300kcmil	45 (398.3)
			Al *	3/0AWG ~400kcmil	45 (398.3)

* Compact wire only (350~400kcmil)

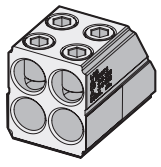


AL800TS
400~800A LUG

MECHANICAL LUG KITS FOR UTS1200 CIRCUIT BREAKERS

LUG TYPE	TERMINAL BODY MATERIAL	BREAKER AMP RANGE	WIRE TYPE	APPLICABLE WIRE (AWG)	TORQUE N·m (lb-in)
AL1200TS	Aluminum	800A 1000A 1200A	Cu	3/0AWG ~350kcmil	45 (398.3)
			Al *	3/0AWG ~500kcmil	45 (398.3)

* Compact wire only (400~500kcmil)

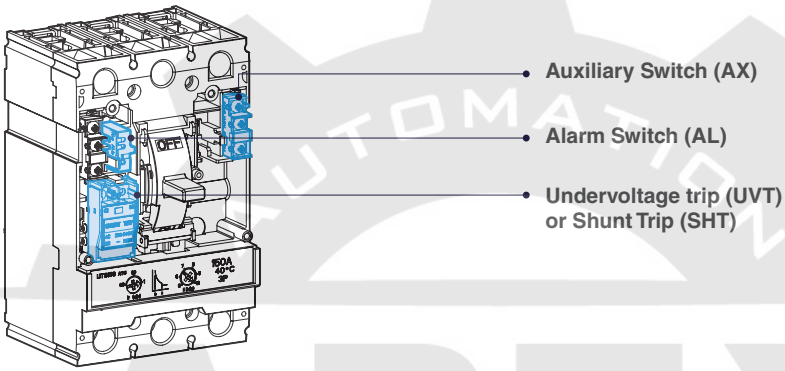


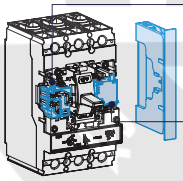
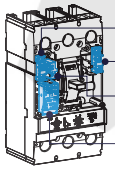
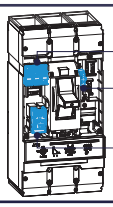
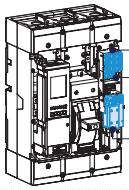
AL1200TS
800~1200A LUG

INTERNAL ACCESSORIES OVERVIEW

Field-installable accessories provide flexibility for installation at the point of use. Auxiliary switches, alarm switches, shunt trip, and undervoltage release accessories are easy to install, reliable, and common to all Susol molded case circuit breakers.
The internal accessories comply with requirements of Underwriters Laboratories® Inc. UL 489 Standards

ACCESSORY LOCATIONS

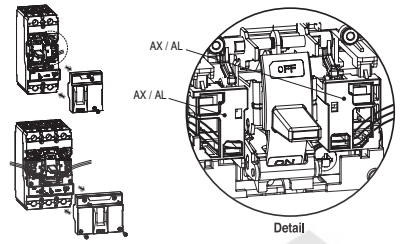


FRAME	INTERNAL ACCESSORIES LOCATIONS	TYPE	LEFT(R)	RIGHT(T)
UTE100	* 2P : Right only  AX or AL or AX+AL UVT or SHT or AX or AL or AX+AL	AX	1*	1*
		AL	1*	1*
		AX+AL	1*	1*
		SHT	-	1*
		UVT	-	1*
UTS150 UTS250	 AX AX AL UVT or SHT	AX	1	1
		AL	1	-
		SHT	1*	-
		UVT	1*	-
UTS400 UTS600	 AX AL UVT or SHT	AX	3	-
		AL	-	1
		SHT	1*	-
		UVT	1*	-
UTS800 UTS1200	 AX AL UVT or SHT	AX	-	3
		AL	-	1
		SHT	-	1*
		UVT	-	1*

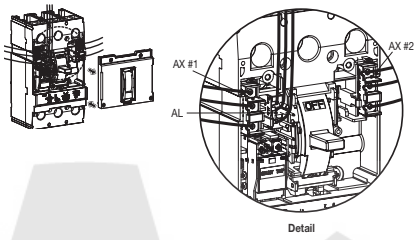
* Applicable in indicated pole position-not synchronous

ACCESSORY CONNECTIONS

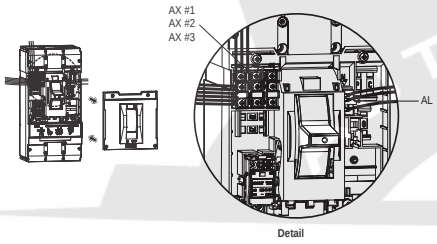
Electrical accessories are fitted with numbered terminal blocks for wires. Auxiliary circuit wiring exits fixed mounted devices through a knock-out in the front cover. The internal accessories comply with requirements of Underwriters Laboratories® Inc. UL 489 Standards



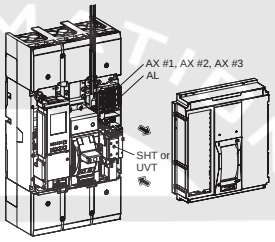
UTE100



UTS150/250



UTS400/600



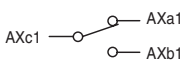
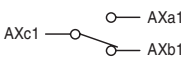
UTS800/1200

AUXILIARY SWITCH (AX) AND ALARM SWITCH (AL)

Auxiliary switches provide remote information of the circuit breaker status and can be used for indications, electrical locking, relays, etc.

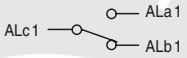
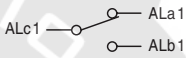
AUXILIARY SWITCH (AX):

Indicates the position of the circuit breaker contacts(Open/Closed)
Auxiliary switch is for applications requiring remote “ON” and “OFF” indication.
Each switch contains two contacts having a common connection.
One is open and the other closed when the circuit breaker is open, and vice-versa.

AX	BREAKER TYPE	WIRE SIZE	ON	OFF/TRIP
	UTE100	24 AWG (0.2 mm^2)		
	UTS150 UTS250 UTS400 UTS600	20 AWG (0.52 mm^2)		
	UTS800 UTS1200	19~16 AWG (0.65~1.31 mm^2)		

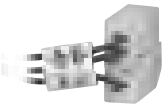
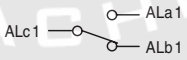
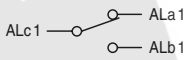
ALARM SWITCH (AL):

Alarm switches indicate that the circuit breaker has tripped due to an overload, short circuit, shunt trip, or undervoltage trip or the “push-to-trip” button.
They are particularly useful in automated plants where operators must be signaled about changes in the electrical distribution system. This switch features a closed contact when the circuit breaker is tripped automatically. In other words, this switch does not function when the breaker is operated manually. Its contact is open when the circuit breaker is reset.

AL	BREAKER TYPE	WIRE SIZE	ON/OFF	TRIP
	UTE100	24 AWG (0.2 mm^2)		
	UTS150 UTS250 UTS400 UTS600	26 AWG (0.13 mm^2)		
	UTS800 UTS1200	24 AWG (0.2 mm^2)		

FAULT ALARM SWITCH (FAL):

FAL Indicates that the breaker has tripped due to overload or short circuit.
And, it can be applied to only circuit breakers with electronic trip units.

FAL	BREAKER TYPE	WIRE SIZE	ON/OFF	TRIP
	UTS150 UTS250 UTS400 UTS600	26 AWG (0.13 mm^2)		

TECHNICAL DATA

Conventional thermal current Ith	5A				
Rated operational current Ie with rated operational voltage Ue	Voltage	Ie		Minimum load current	
		Resistance	Inductance		
- Alternating current 50/60Hz AC	125V	5	3	5V DC 160mA 30V DC 30mA	UTE100 UTS150 UTS250 UTS400 UTS600 UTS800 UTS1200
	250V	3	2		
	500V	-	-		
- Direct current DC	30V	4	3		
	125V	0.4	0.4		
	250V	0.2	0.2		

SHUNT TRIP (SHT) AND UNDERVOLTAGE TRIP (UVT) SWITCHES

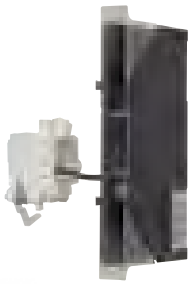
A voltage release can be used to trip the circuit breaker via a control signal.

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 mechanism has tripped.

UTE100 SHT

CONTROL VOLTAGE, Ue		POWER CONSUMPTION		
		AC (VA)	DC (W)	mA
VOLTAGE	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 440~500V	1.68	-	3.5
Max.opening time		50ms (max.)		
Tightening torque of terminal screw		7.12 lb·in (0.8N·m)		
Operating voltage range		AC : 0.7~1.1Vn, DC : 0.8~1.1Vn		
Frequency		45Hz ~ 65 Hz (Only AC)		
Wire size		20 AWG (0.52 mm^2)		



UTE100 SHT

UTS150/250/400/600 SHT

CONTROL VOLTAGE, Ue		POWER CONSUMPTION		
		AC (VA)	DC (W)	mA
VOLTAGE	DC 12V	-	0.36	30
	AC/DC 24V	0.58	0.58	24
	AC/DC 48V	1.22	1.23	25
	AC/DC 110~130V	1.36	1.37	10.5
	AC 220~240V/DC 250V	1.8	1.88	7.5
	AC 380~500V	1.15	-	2.3
Max.opening time		50ms (max.)		
Tightening torque of terminal screw		7.12 lb·in (0.8N·m)		
Operating voltage range		0.7~1.1Vn		
Frequency		45Hz ~ 65 Hz (Only AC)		
Wire size		20 AWG (0.52 mm^2)		

UTS150/250/400/600 SHT

UTS800/1200 SHT

CONTROL VOLTAGE, Ue		OPERATING VOLTAGE RANGE	POWER CONSUMPTION (VA or W)	
			INRUSH	STEADY-STATE
VOLTAGE	DC 24~30V	0.6~1.1Vn	200	5
	AC 48V/DC 48~60V	0.6~1.1Vn		
	AC/DC 100~130V	0.56~1.1Vn		
	AC/DC 200~250V	0.56~1.1Vn		
	AC 380~480V	0.56~1.1Vn		
Max.opening time		40ms (max.)		
Frequency		45Hz~65Hz (Only AC)		
Wire size		16 AWG (1.31mm^2)~14 AWG (2.08mm^2)		

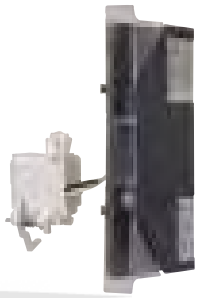
UTS800/1200 SHT

UNDERVOLTAGE TRIP (UVT) :

The undervoltage release automatically opens a circuit breaker when voltage drops to a setting value of the line voltage. The operation is instantaneous, and after tripping, the circuit breaker cannot be re-closed again until the voltage returns to a recover value of line voltage.
Continuously energized, the undervoltage release must be operating before the circuit breaker can be closed.

UTE100 UVT

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
Max.opening time		50ms (max.)		
Tightening torque of terminal screw		7.12 lb·in (0.8N·m)		
Operating voltage range	Trip	0.2~0.7Vn		
	Reset/Closing	≥ 0.85Vn		
Freauency		45Hz ~ 65Hz (Only AC)		
Wire size		20 AWG (0.52 mm^2)		


UTE100 UVT

UTS150/250/400/600 UVT

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 110~130V	0.73	0.75	5.8
	AC 220~240V/DC 250V	1.21	1.35	5.4
	AC 380~440V	1.67	-	3.8
	AC 440~480V	1.68	-	3.5
Max.opening time		50ms (max.)		
Tightening torque of terminal screw		7.12 lb·in (0.8N·m)		
Operating voltage range	Trip	0.35~0.7Vn		
	Reset/Closing	≥ 0.85Vn		
Frequency		45Hz ~ 65 Hz (Only AC)		
Wire size		20 AWG (0.52 mm^2)		


UTS150/250/400/600 UVT

UTS800/1200 UVT

CONTROL VOLTAGE, Ue		POWER CONSUMPTION (VA or W)		MAX.OPENING TIME (ms)
		INRUSH	STEADY-STATE	
VOLTAGE	DC 24~30V	200	5	50ms (max.)
	AC 48V/DC 48~60V			
	AC/DC 100~130V			
	AC/DC 200~250V			
	AC 380~480V			
Operating voltage range	Trip	0.44~0.6Vn		
	Reset/Closing	0.65~0.85Vn		
Frequency		45Hz~65Hz (Only AC)		
Wire size		16 AWG (1.31mm^2)~ 14 AWG (2.08mm^2)		


UTS800/1200 UVT

LOCKING SYSTEMS OVERVIEW

PADLOCKING DEVICE

Padlocking device is available for UTE100 to UTS1200 circuit breakers.
The locking device is designed to be easily attached to the circuit breaker.
This device allows the handle to be locked in the “OFF” position. The locking device for the toggle handle can be installed in circuit breakers.
Maximum three (3) padlocks with shackle diameters of 0.19~0.31 in. (5~8mm) may be used. (Padlocks are not supplied.)

DESCRIPTION	CIRCUIT BREAKERS	FUNCTION
PL0	UTE100	Lock in “OFF” position
PL2	UTS150/250	
PL3	UTS400/600	
PL5	UTS800/1200	


Pad Lock

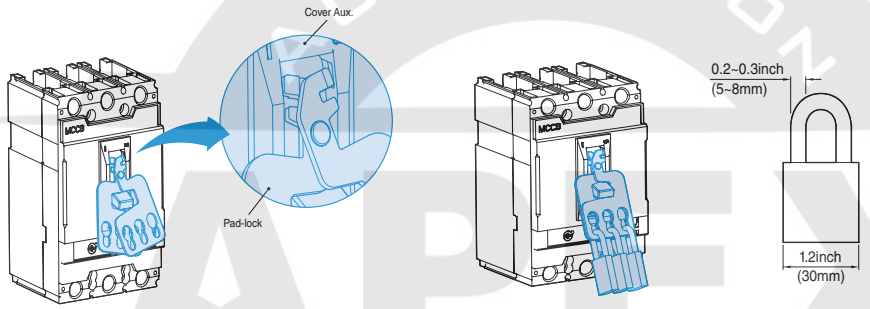
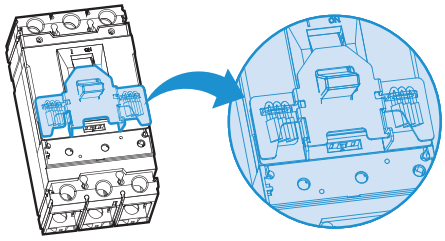


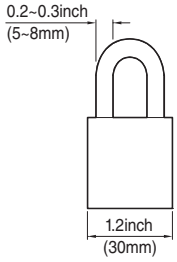
PLATE HANDLE LOCKING DEVICE

Fixed Plate Handle locking device is available for to UTE100 from UTS1200 circuit breakers. This device allows the handle to be locked in the “ON” and “OFF” position. The locking device for the toggle handle can be installed in 2-pole and 3-pole circuit breakers. Maximum three (3) padlocks with shackle diameters ranging from 0.19 to 0.31in (5~8mm) may be used. (Plate handle locks are not supplied)

DESCRIPTION	CIRCUIT BREAKERS	FUNCTION
PHL0	UTE100	Lock in “OFF” or “ON” position
PHL2	UTS150/250	
PHL3	UTS400/600	
PHL5	UTS800/1200	


Plate Handle Lock





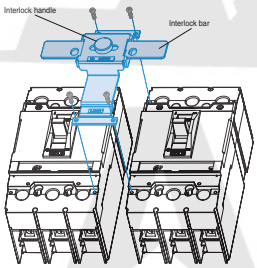
INTERLOCKING SYSTEMS OVERVIEW

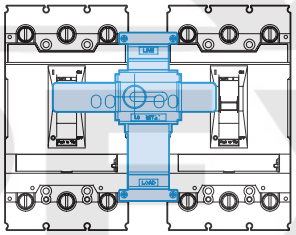
MECHANICAL INTERLOCKING DEVICE

The mechanical interlock (MIT) can be applied on the front of two breakers mounted side by side, in either the 2-pole or 3-pole version and prevents simultaneous closing of the two breakers. Fixing is carried out directly on the cover of the breakers. The front interlocking plate allows installation of a padlock in order to fix the position. (Possibility of locking in the O-O position as well) This mechanical interlocking device is very useful and simple for consisting of manual source-changeover system.

DESCRIPTION	CIRCUIT BREAKERS	POLE
MIT03	UTE100	3
MIT23	UTS150/250	2 or 3
MIT33	UTS400/600	2 or 3
MIT53	UTS800/1200	3

Mechanical Interlock



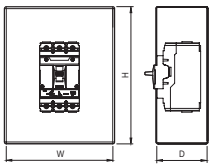


ENCLOSURE DIMENSIONS OVERVIEW

The short circuit rating of an enclosed circuit breaker is equal to the rating of the circuit breaker installed, except as footnoted.
Circuit breakers are ordered and shipped separately for field installation

ENCLOSURE DIMENSIONS

CIRCUIT BREAKER	AMPERAGE	ENCLOSURE DIMENSIONS (W X H X D) inch (mm)	
		80%	100%
UTE100	15~100A	8.27 (210) X 17.3 (439.4) X 4.0 (101.6)	
UTS150	40~150A	8.58 (218) X 18.11 (460) X 4.02 (102)	
UTS250	150~250A	12.13 (308) X 28.5 (724) X 5.35 (136)	
UTS400	250~400A	13.78 (350) X 40.16 (1020) X 5.98 (152)	13.78 (350) X 40.16 (1020) X 7.17 (182)
UTS600	500~600A	13.78 (350) X 40.16 (1020) X 5.98 (152)	14.17 (360) X 41.34 (1050) X 7.17 (182)
UTS800	400~800A	20.25 (514.4) X 51.9 (1318.3) X 7.75 (196.9)	
UTS1200	800~1200A	20.25 (514.4) X 51.9 (1318.3) X 7.75 (196.9)	23.0 (584.2) X 62.25 (1581.2) X 14.75 (374.7)



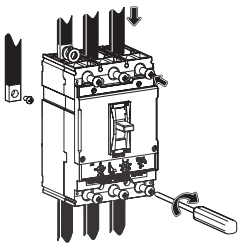
Enclosure Dimensions

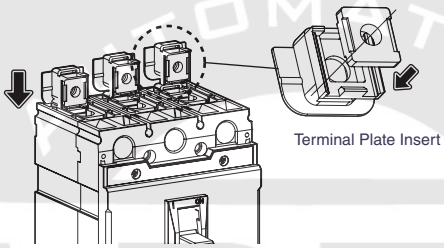
BUSBAR CONNECTIONS OVERVIEW

UTE100 and UTS250 frame circuit breakers may be equipped with captive nuts and screws for direct connection to bars.
Terminal plates are needed for replacement of lug connections with busbar connections. And to UTS400 from UTS1200 frame circuit breakers may be equipped without terminal plates.

TERMINAL PLATE FOR BUSBAR CONNECTION OF UTE100, UTS150 AND UTS250 CIRCUIT BREAKERS

DESCRIPTION		CIRCUIT BREAKERS	TOOL	QTY PER KIT	TORQUE
Terminal Plate,UTE100-3P	TP03	UTE100	+Driver	3	15.2 lb-in (1.72 N•m)
Terminal Plate,UTS150-3P	TP2a3	UTS150	+Driver	3	50 lb-in (5.64 N•m)
Terminal Plate,UTS250-3P	TP2b3	UTS250	Hex 1/4 inch	3	117.8 lb-in (13.3 N•m)



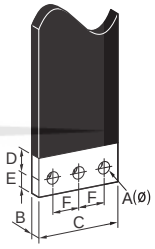


BUSBAR DIMENSION OF TO UTE100 FROM UTS1200 CIRCUIT BREAKER

Dimensions: inch(mm)

CIRCUIT BREAKERS	A	B	C	D	E	F
UTE100	0.2(5.1)	0.08~0.28(2~7.2)	0.35(9)	0.32(8)	0.26(6.5)	-
UTS150	0.26 (6.5)	0.122~0.24 (3.1~6)	0.51~0.63 (13~16)	0.49 (12.5)	0.31 (8)	-
UTS250	0.33 (8.5)	0.122~0.31 (3.1~8)	0.51~0.79 (13~20)	0.98 (25)	0.31 (8)	-
UTS400	0.39 (10)	0.118~0.31 (3~8)	1.26 (32)	1.18 (30)	0.55 (14)	-
UTS600	0.39 (10)	0.118~0.47 (3~12)	1.26 (32)	1.18 (30)	0.55 (14)	-
UTS800	0.35 (9)	0.26~0.31 (6.5~8)	2.52 (64)	1.18 (30)	0.59 (15)	0.98 (25)
UTS1200	0.43 (11)	0.31~0.39 (8~10)	3.03 (77)	1.18 (30)	0.59 (15)	0.98 (25)

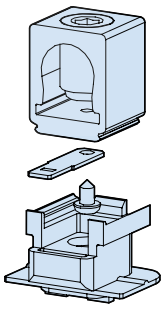
UTE100~UTS600



UTS800~UTS1200

CONTROL WIRE TERMINAL FOR MECHANICAL LUGS AND TERMINAL PLATE

Mechanical lugs may be equipped with a separate control wire terminal. The kit is available as a field installable kit. The adaptor is secured underneath the lug and has a tab extension suitable for attachment of a 1/4 inch slip-on connector.
Fully insulated type connectors must be used to prevent live parts from extending into the wiring gutter area.

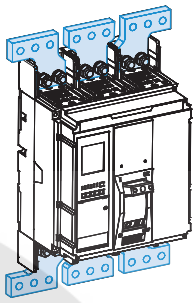


DESCRIPTION	CIRCUIT BREAKERS		QTY PER KIT
Control wire terminal, CWT	UTE100	Under 40A	2
		Over 40A	
	UTS150		
	UTS250		
	UTS400		
	UTS600		

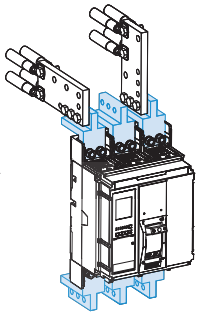
BUSBAR CONNECTIONS

Fixed, front-connection busbars are equipped with terminals comprising captive screws for direct connection of bars. Other connection possibilities for bars include vertical-connection adapters for edgewise bars and spreaders to increase the pole pitch.

DESCRIPTION	CIRCUIT BREAKERS	POLE	QTY PER SET
SP02a	UTE100	2P	2
SP03a		3P	3
SP2a2a	UTS150	2P	2
SP2a3a		3P	3
SP2b2a	UTS250	2P	2
SP2b3a		3P	3
SP32a	UTS400 UTS600	2P	2
SP33a		3P	3
SP53a	UTS800 UTS1200	3P	3
SP53e			3
SP53v			3



Busbar(a)

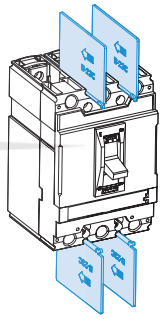


Extension Busbar(e)
Vertical Busbars(v)

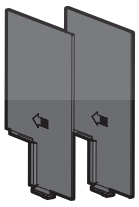
INSULATION BARRIER

These barriers are insulated between the phases for increase insulation level. The barriers can be easily installed, even on breakers that are already mounted, by inserting them into the corresponding slots. They are incompatible with both the insulating terminal covers.
It is possible to mount the phase separating partitions between two side by side circuit breakers.

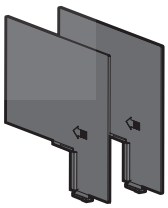
DESCRIPTION	CIRCUIT BREAKERS	POLE	QTY PER SET
B03	UTE100	3P	4
B23	UTS150 UTS250	3P	4
B33	UTS400 UTS600	3P	4
B53	UTS800 UTS1200	3P	2
BE53			2



Standard Type

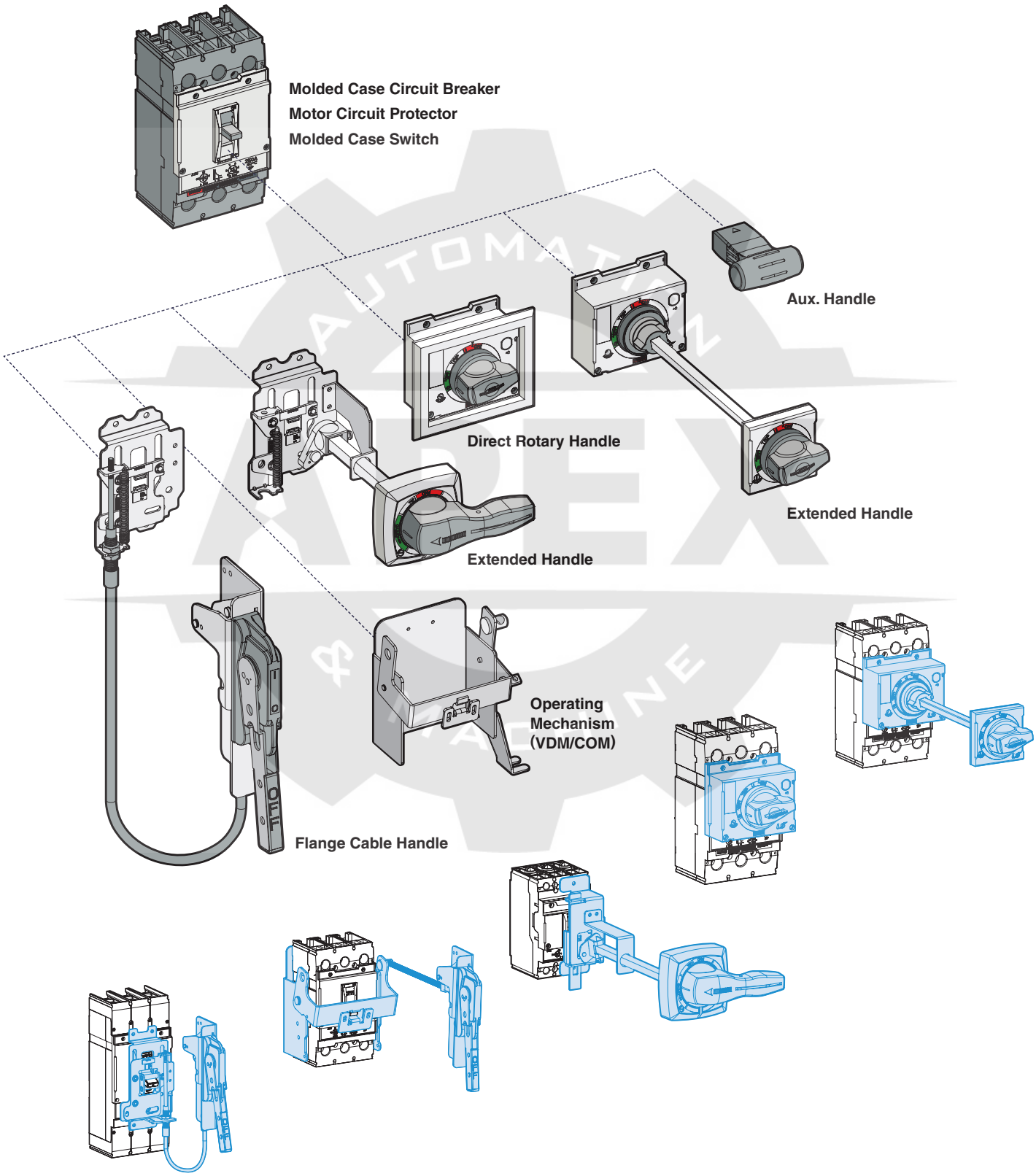


Standard Type(B53)



Extended Type(BE53)

HANDLES


Molded Case Circuit Breaker
Motor Circuit Protector
Molded Case Switch
Aux. Handle
Direct Rotary Handle
Extended Handle
Extended Handle
Operating
Mechanism
(VDM/COM)
Flange Cable Handle

HANDLE MECHANISMS OVERVIEW

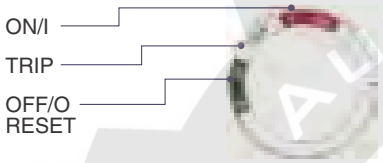
All kinds of handles are suitable for field installation in LS molded case circuit breakers, molded case switches and motor circuit protectors. These are directly mounted rotary, door mounted and flange handles for installation of above noted products for 2 and 3 poles. In case of extended rotary handle, Base lower case assembly should be installed to circuit breaker, Handle should be mounted on panel door and they are interconnected by shaft. In case of flange mounting rotary handle, Base lower case assembly should be installed to circuit breaker, Handle should be mounted on panel door and they are connected by cable.

CONSTRUCTION DETAIL:

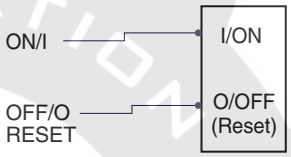
Corrosion Protection:

All iron and steel parts are protected against corrosion by painting or equivalent means.

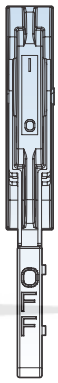
Handle indication Making: The following making are provided



[Rotary type]



[Flange type]



CAUTON Markings:

The following markings are provided:

SELECTION FOR HANDLES

• Catalog Numbering [Product Selection]

EHU **0** **12**

DESCRIPTION	
EHU	Extended Hatndle (Type 1,12)
EHV	Extended Handle (Type 3,3R,4)
EHX	Extended Handle (Type 3,4,4X)
FHU	Flange Mounting Handle (Type 1, 12, 3, 3R, 4)
FHX	Flange Mounting Handle (Type 4, 4X)
REH	Extended Rotary Handle (Type 1)
DH	Direct Rotary Handle(Type 1)
DHK	Direct Rotary Handle Keylock type(Type 1)
VDM	Variable Depth Mechanism
COM	Cable Operating Mechanism

MODEL SIZE PER CIRCUIT BREAKER FRAME	
0	100AF (for all type)
0C	100AF (for all type & Compact base)
2	150/250 AF (for all type)
3	400/600 AF (for all type)
5	800/1200 AF (for all type)
S	Standard Type (for Flange handle)
L	Long type (for Flange handle)

SHAFT & CABLE SIZE PER HANDLES	
12	12inch (Shaft)
16	16inch (Shaft)
24	24inch (Shaft)
36	36inch (Cable)
48	48inch (Cable)
60	60inch (Cable)
72	72inch (Cable)
84	84inch (Cable)
128	128inch (Cable)
BLANK	No type

APPLICATION FOR HANDLES

Handle mechanisms are used to operate molded case circuit breakers, molded case switches and motor circuit protectors. They are available in three basic configurations-Directly mounted, Door mounted and Flange mounted for providing safe, easy installation and dependable operation.

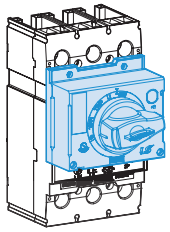
OPERATION HANDLE TYPE NAME	APPLIED TO UL489 MCCB/MCS	
	CIRCUIT BREAKER & SWITCH	TYPE
EHU0-12~24 EHV0-12~24 EHX0-12~24 EHU0C-12~24 EHV0C-12~24 EHX0C-12~24 REH0-12~24 REH0C-12~24 DH0 VDM0, FHU-S VDM0, FHX-S COM0, FHU-S COM0, FHX-S	MCCB	UTE100 (100AF, 2 or 3Pole)
	MCS	UTE100 (100AF, 3Pole)
EHU2-12~24 EHV2-12~24 EHX2-12~24 FHU2-36~72 FHX2-36~72 REH2-12~24 DH2 DHK2 VDM2, FHU-S VDM2, FHX-S COM2, FHU-S COM2, FHX-S	MCCB MCP	UTS150 (150AF, 2 or 3 Pole)
		UTS250 (250AF, 2 or 3 Pole
	MCS	UTS150 (150AF, 3 Pole)
		UTS250 (250AF, 3 Pole)
EHU3-12~24 EHV3-12~24 EHX3-12~24 FHU3-36~72, 128 FHX3-36~72, 128 REH3-12~24 DH3 DHK3 VDM3, FHU-L VDM3, FHX-L COM3, FHU-L COM3, FHX-L	MCCB MCP	UTS400 (400AF, 2 or 3 Pole)
		UTS600 (600AF, 2 or 3 Pole)
	MCS	UTS400 (400AF, 3 Pole)
		UTS600 (600AF, 3 Pole)
EHU5-12~24 EHV5-12~24 EHX5-12~24 FHU5-60~128 FHX5-60~128 REH5-12~24 DH5 DHK5 VDM5, FHU-L VDM5, FHX-L COM5, FHU-L COM5, FHX-L	MCCB MCP	UTS800 (800AF, 3 Pole)
		UTS1200 (1200AF, 3 Pole)
	MCS	UTS800 (800AF, 3 Pole)
		UTS1200 (1200AF, 3 Pole)

MCCB: Molded Case Circuit Breaker
MCP: Motor Circuit Protector
MCS: Molded Case Switch

ROTARY OPERATING HANDLES

DIRECTLY MOUNTED ROTARY OPERATING HANDLE

The directly mounted rotary operating handle replaces the circuit breaker front accessory cover. When using UTE100, front cover does not have to be replaced.



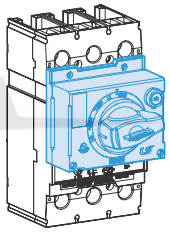
Directly Mounted Rotary Operating Handle

The direct rotary handle maintains:
- Suitability for isolation
- Indication of three positions: I (ON), Tripped and O (OFF)
- Access to the “push-to-trip” button
- Visibility of, and access to, trip unit settings
- The circuit breaker may be locked in the ON/OFF position by using padlock (not supplied)

MODELS

- Standard with dark gray handle
- Field installable (secured by screws)

UTE 100	UTS150/250	UTS 400/600	UTS 800/1200
DH-0	DH-2	DH-3	DH-5



Directly Mounted Rotary Operating Handle with key lock.

- Field installable with Key lock (secured by screws)

UTS150/250	UTS400/600	UTS800/1200
DHK-2	DHK-3	DHK-5

Accessories transform the standard direct rotary handle for the following situations:
- Opening of door prevented when circuit breaker is on
- Closing of circuit breaker inhibited when door is open

STANDARDS

The directly-mounted rotary operating handle is UL Listed under file E223241
Degree of protection NEMA Type 1

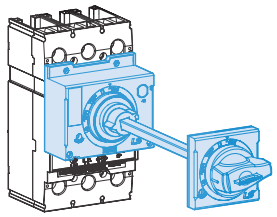
ROTARY OPERATING HANDLES

EXTENDED (DOOR-MOUNTED) ROTARY OPERATING HANDLE

The extended rotary operating handle replaces the front accessory cover of the circuit breaker (secured by screws). When using UTE100, front cover does not have to be replaced.

The extended rotary operating handle consists of:

- A handle assembly with front plate on the door that is always secured in the same position, whether the circuit breaker is installed vertically or horizontally
- An adjustable extension shaft
- The handle mechanism can be used in NEMA Type 1 enclosure applications

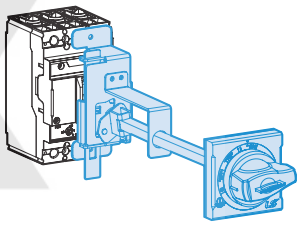


Door-Mounted Rotary Operating Handle (REH-0, 2, 3, 5)

The extended rotary operating handle makes it possible to operate circuit breakers installed in enclosure from the front.

- Suitability for isolation
- Indication of the three positions OFF (O), ON (I) and tripped
- Visibility of and access to trip unit settings when the door is open
- Degree of protection: NEMA Type 1
- Defeatable interlock prevents opening of door when circuit breaker is on

The circuit breaker may be locked in the off position by using padlock, padlock shackle diameter 0.2~0.3 inch(5~8mm); padlocks are not supplied; locking prevents opening of the enclosure door



Door-Mounted Rotary Operating Handle (REH-0C)

MODELS

- Standard with dark gray handle
- Field installable (secured by screws)

UTE 100		UTS150/250	UTS 400/600	UTS 800/1200
REH-0	REH-0C	REH-2	REH-3	REH-5

The shaft length is the distance between the back of the circuit breaker and the door:

- Minimum mounting depth is 5.51 in. (140 mm) in UTE100
- Minimum shaft length is 12 in. (305 mm) with standard shaft
- Maximum shaft length is 24 in. (600 mm) with long shaft
- Extended shaft length must be adjusted

STANDARDS

The door-mounted rotary operating handle is UL Listed under file E223241
Degree of protection NEMA Type 1

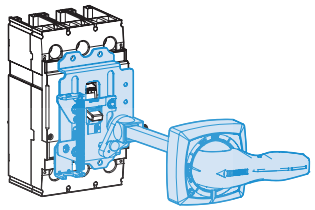
NEMA DOOR-MOUNTED ROTARY OPERATING HANDLE

The extended rotary operating handle consists of:

- A mounting plate that provides a rotary actuator for a standard toggle circuit breaker
- Handle assemblies available for NEMA Type 1, 12, 3, 3R, 4, 4X
- Available in standard or long (12~24 in.) handle assemblies

The door mounted operating handle makes it possible to operate circuit breakers installed in enclosure from the front.

- Indication of three positions: I (ON), Tripped and O (OFF) : NEMA Type 1, 12
- Provides ON (I) and OFF (O) indication : NEMA Type 3, 3R, 4, 4X
- The circuit breaker may be locked in the ON/OFF position

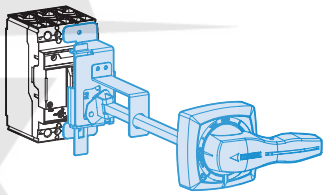


Door Mounted rotary operating handle
[EHU, V, X-0, 2, 3, 5]

MODELS

- Standard with dark gray handle(NEMA Type 1, 12)
- Out door with black handle(NEMA Type 3, 3R, 4, 4X)
- Field installable (secured by screws)

UTE100		UTS150/250	UTS 400/600	UTS 800/1200
EHU-0	EHU-0C	EHU-2	EHU-3	EHU-5
EHV-0	EHV-0C	EHV-2	EHV-3	EHV-5
EHX-0	EHX-0C	EHX-2	EHX-3	EHX-5



Door Mounted rotary operating handle
[EHU, V, X-0C]

The shaft length is the distance between the back of the circuit breaker and door:

- Minimum mounting depth is 5.51 in. (140mm) in UTE 100
- Minimum shaft length is 12 in. (305mm) with long shaft
- Minimum shaft length is 24 in. (600mm) with long shaft
- Extended shaft length must be adjusted

STANDARDS

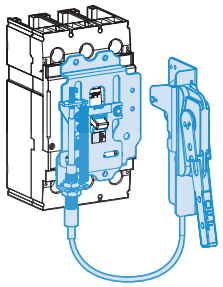
The door-mounted rotary operating handle is UL Listed under file E223241
Degree of protection NEMA Type 1, 12, 3, 3R, 4, 4X

FLANGE HANDLE

FLANGE HANDLE WITH SLIDING OPERATING MECHANISM

Flange handle with sliding operating mechanism is for use with cable

The cable operator maintains:
- Suitability for isolation
- Indication of two positions: O (OFF) and I (ON)
- The circuit breaker may be locked in the off position by one to three padlocks
- Door can be locked closed due to interlocking features of the handle operator
- Operating Mechanism has one type
  - Cable operating type with sliding mechanism



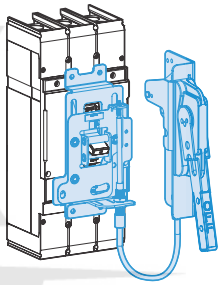
Flange handle with sliding operating mechanism and Cable [FHU-2, FHX-2]

Handle is mounted on flange of enclosure using specified mounting dimensions while circuit breaker and operating mechanism are mounted to inside of enclosure using screws
- Handles are available in FHU (NEMA Type 1,12, 3, 3R, 4) and FHX (NEMA Type 4, 4x)
- All circuit breaker operating mechanisms are suitable for right-hand flange mounting on the job.

MODELS

- Standard with painted handle (NEMA Type 1,12, 3, 3R,4)
- Out door with nickel plating handle (NEMA Type 4, 4X)
- Field installable (secured by screws)

UTE100	UTS150/250	UTS 400/600	UTS 800/1200
-	FHU-2 FHX-2	FHU-3 FHX-3	FHU5 FHX5



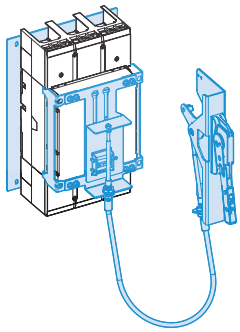
Flange handle with sliding operating mechanism and Cable [FHU-3, FHX-3]

FHU : Standard type handle (NEMA Type1, 12, 3, 3R, 4) with sliding mechanism and without cable
FHX : Outdoor type handle (NEMA Type 4, 4X) with sliding mechanism and without cable
Cable : Only cable

- Cable lengths available in 36~128 in. to UTS1200 from UTS150 lengths to accommodate a variety of mounting locations

STANDARDS

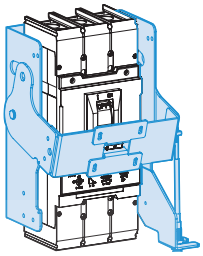
Flange cable operating handle is UL Listed under file E223241
NEMA Type 1, 12, 3, 3R, 4, 4X



[FHU-5, FHX-5]

FLANGE-MOUNTED CABLE OPERATING MECHANISM

Flange-mounted handle cable operating mechanism is for use with FH or COM Type handle operators especially designed for tall, deep enclosures where placement flexibility is required.



Cable Operating Mechanism without Handle and cable

The cable operator maintains:

- Suitability for isolation
- Indication of two positions: O (OFF) and I (ON)
- The circuit breaker may be locked in the off position by one to three padlocks
- Door can be locked closed due to interlocking features of the handle operator
- Operating Mechanism has one type
  - COM : Cable operating type with handle operator
- Handle operators (FHU, FHX)

Handle is mounted on flange of enclosure using specified mounting dimensions while circuit breaker and operating mechanism are mounted to inside of enclosure using screws

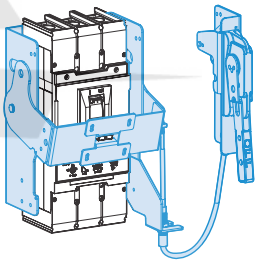
- Handles are available in COM and FHU NEMA Type 1,12, 3, 3R, 4 and FHX NEMA Type 4, 4x
- All circuit breaker operating mechanisms are suitable for right-hand flange mounting on the job.
- COM frame operating mechanism does not include cable.

Flange Handle
[FHU, X-S, L]

MODELS

- Standard with painted handle(NEMA Type 1, 12, 3, 3R, 4): FHU
- Out door with nickel plating handle(NEMA Type 4, 4X): FHX
- Field installable (secured by screws)

UTE100	UTS150/250	UTS400/600	UTS800/1200
FHU-S FHX-S COM-0	FHU-S FHX-S COM-2	FHU-L FHX-L COM-3	FHU-L FHX-L COM-5



Handle with cable and Cable operating mechanism
[COM-0, 2, 3, 5]

FHU-S, FHX-S : Standard type handle with operating mechanism
FHU-L, FHX-L : Long type handle with operating mechanism
COM : Cable operating mechanism with handle and without cable
Cable : only cable

CABLE TYPE

CABLE LENGTHS [inch]	UTE100 UTS150 UTS250	UTS400 UTS600	UTS800 UTS1200
36	FH2-36	FH3-36	-
48	FH2-48	FH3-48	-
60	FH2-60	FH3-60	FH5-60
72	FH2-72	FH3-72	-
84	-	-	FH5-84
128	-	FH3-128	FH5-128

Cable
[FH2, 3, 5-36~128]

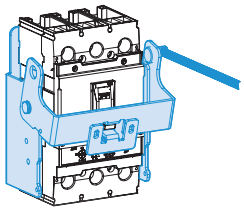
STANDARDS

Flange cable operating handle is UL Listed under file E223241
NEMA Type 1, 12, 3, 3R, 4, 4X

FLANGE HANDLE

FLANGE-MOUNTED VARIABLE DEPTH OPERATING MECHANISM

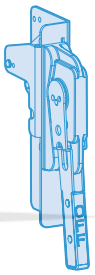
Designed for installation in custom built control enclosures where main or branch circuit protective devices are required.



Variable-Depth operating Mechanism with Threaded-rod

The variable depth operator maintains:
- Suitability for isolation
- Indication of two positions: O (OFF) and I (ON)
- The circuit breaker may be locked in the off position by one to three padlocks
- Door can be locked closed due to interlocking features of the handle operator
- Operating Mechanism has one type
- VDM : Variable depth type with handle operator
- Handle operators(FHU, FHX)
- Threaded-rod has only one type

Handle is mounted on flange of enclosure using specified mounting dimensions while circuit breaker and
operating mechanism are mounted to inside of enclosure using screws
- Handles are available in VDM and FHU NEMA Type 1,12, 3, 3R, 4 and FHX NEMA Type 4, 4x
- All circuit breaker operating mechanisms are suitable for right-hand flange mounting on the job.
- VDM frame operating mechanism includes handle operator.

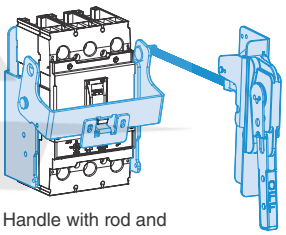


Flange Handle [FHU, X-S, L]

MODELS

- Standard with painted handle(NEMA Type 1,12,3,3R,4)
- Out door with nickel plating handle(NEMA Type 4, 4X)
- Field installable(secured by screws)

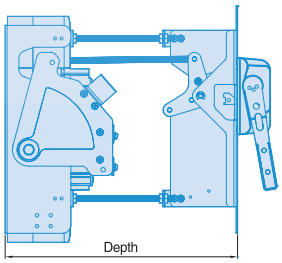
UTE100	UTS150/250	UTS400/600	UTS800/1200
FHU-S FHX-S VDM-0	FHU- S FHX- S VDM-2	FHU-L FHX-L VDM-3	FHU-L FHX-L VDM-5



Handle with rod and Variable-Depth operating Mechanism [VDM-0, 2, 3, 5]

FHU-S, FHX-S : Standard type handle with operating mechanism
FHU-L, FHX-L : Long type handle with operating mechanism
VDM : Variable depth operating mechanism with threaded-rod and handle.

The variable mounting depth length is the distance between the back of the circuit breaker and the door:
- VDM frame variable mounting depth range: 8.0~21.26 in (203-540 mm).
- Threaded-rod length : 16 in. (406 mm)



Variable mounting depth range

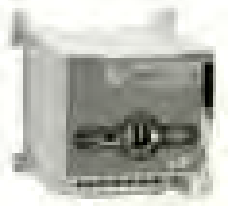
STANDARDS

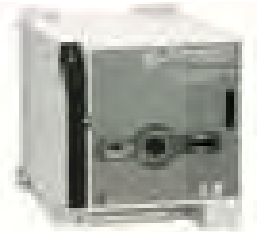
Flange variable depth operating handle is UL Listed under file E223241
NEMA Type 1, 12, 3, 3R, 4, 4X

REMOTE OPERATION

MOTOR OPERATOR

Motor operators can be operated manually. The motor drives a mechanism which switches UTS toggle handle to the “ON” and “OFF/RESET” positions.


MOP2U-L


MOP3U-L

- The manual actuator handle is located on the front of the cover.
- Manual or Automatic operation can be selected.
- Applicable to 2, 3pole breakers.
- Door can be locked closed due to interlocking features of the handle operator
- Operating Mechanism has one type
  - Cable operating type with sliding mechanism

The motor operator is an essential device for constructing a remote operated automatic source-changeover system to ensure a continuous supply of electrical power at following certain installations:

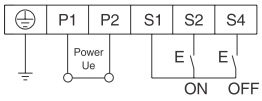
- Commercial sector: Hospital, Tall building, Bank, Insurance companies, Shopping centers
- Industry: Ships, Assembly lines at plant, Military sites, Port and Railway installation

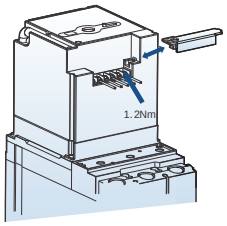
MCCB	Type	Control voltage (V)	Actuation current (A)	Response time (ms)		Consumption (W)	Mechanical service life (operations)	No. of operations per hour	Remarks
				Closing	Opening				
UTS150, 250	MOP2U MOP2U-L	DC 24V AC 110V/DC 110V AC 230V/DC 220V	≤2.5A (DC 24V) ≤0.5A (AC)	350	230	14	25,000	120	Lock function
UTS400, 600	MOP3U MOP3U-L	DC 24V AC 110V/DC 110V AC 230V/DC 220V	≤2.5A (DC 24V) ≤0.5A (AC)	500	350	35	20,000	60	Lock function

WIRING CONNECTION

Standard connection

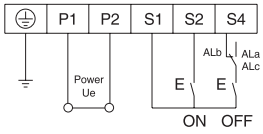
Circuit breaker On and Off controlled by remote operation and manual operation





Connection with alarm switch (AL)

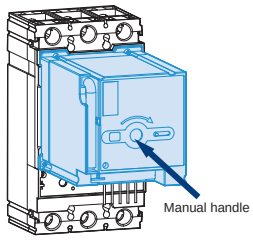
1) The below connection diagram is the method of using a alarm switch (AL) without shunt or undervoltage trip.
2) After clearing the fault surely, manual reset is mandatory in case of tripping due to an electrical fault.



MANUAL OPERATION

1) Insert the manual handle into the slot of Motor Operator surface and rotate it clockwise.
2) It must be rotated just 180° clockwise for safe operation of micro switch in the motor operator.
3) Return the manual handle after the manual operation
4) Turn the slide switch back to the position of AUTO.

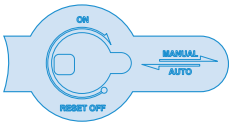
CAUTION: When the circuit breaker is tripped by trip button in the OFF status,
it is impossible to operate motor operator automatically It must be reset by manual operation.



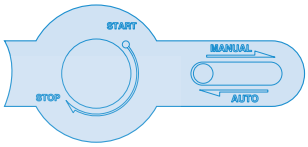
REMOTE OPERATION

AUTOMATIC OPERATION

1) Set the slide switch to AUTO, then internal power is closed automatically.
2) Operating frequency should be less than these below regulated values.
   UTS150N/H/L , UTS250N/H/L: 120 operations per hour
   UTS400N/H/L, UTS600N/H/L: 60 operations per hour
3) Use the ON/OFF switch in the range of regulated values.
4) It may interfere near communication equipments because of internal switching power supply.
   It's recommended that a noise filter be installed to power supply.
5) Please do not input ON/OFF signals at the same time during the automatic operation.
6) If the circuit breaker has a UVT attached inside, charge a UVT on the rated voltage before performing MOTOR OPERATOR.



[UTS150, 250]



[UTS400, 630]

MOTOR OPERATOR

Feature

① On position indication (Red color)
② Trip position indication (White color)
③ Off position indication (Green color)
④ Button for push to trip
(available for only for UTS400AF and UTS600AF)
⑤ On/Off/Reset selection lever
⑥ Manual/Auto selection lever

UTS150, 250 .... MOP2U

UTS400, 630 .... MOP3U