

State of the art Manufacturing Facilities



Haridwar, Noida Ph-I  
& Noida Ph-II Plant



WiNbreak1



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Moulded Case Circuit Breaker

# WiNbreak1 MCCB

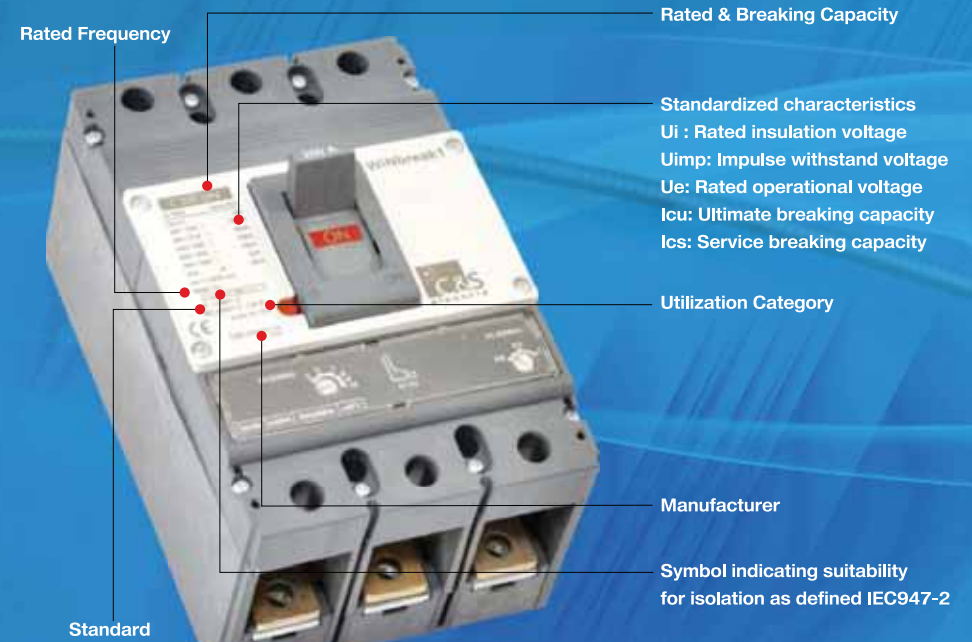
Range: 16-250A

Breaking Capacity: 25kA, 35kA, 50kA at 380/415V

Ui: 750V

Uimp: 8kV

Ics=Icu for entire range



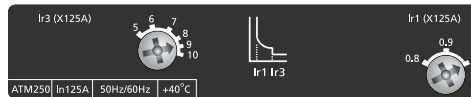
## Protection of power distribution system

### Thermal magnetic trip unit

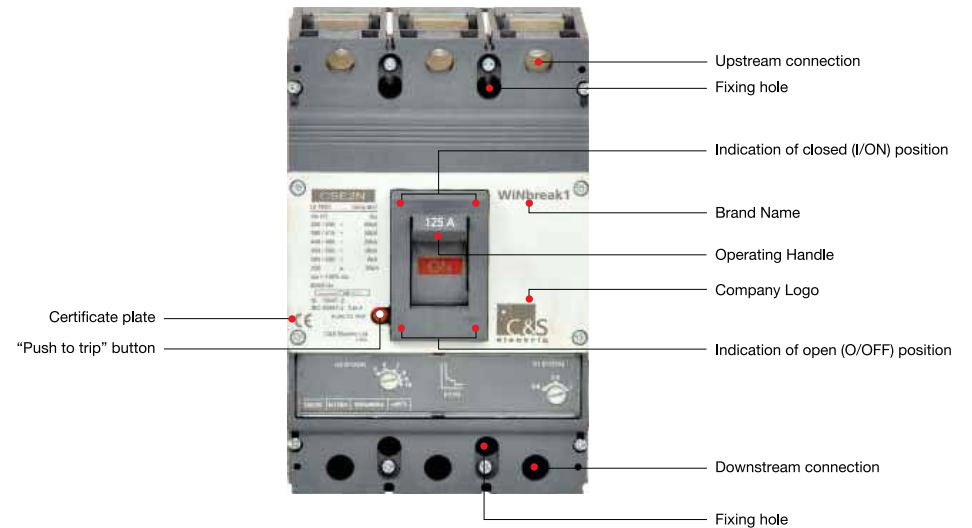
FMU - Adjustable thermal & fixed magnetic trip unit



ATM - Adjustable thermal adjustable magnetic trip unit



Motor Protection  
 MTU - Magnetic only trip unit



# Numbering & Quick Selection Table

## MCCB for Power distribution - Trip unit: FMU, ATM

CSE2	N	250	ATM	3P	-	Current Rating
Frame Size	Breaking Capacity	Ampere Frame	TripUnit	Poles	Connection	
CSE1 CSE2	M 25kA N 35kA S 50kA	CSE1 125AF CSE2 250AF	Thermal Magnetic trip unit FMU ATM	3P 3Pole 4P 4Pole	CSE1 16,20,25,32,40,50,63,80,100,125 CSE2 125,160,200,250	

Electrical Characteristics		CSE1		CSE2			
Frame size	[AF]	125		250			
Rated current, In	[A]	16, 20, 25, 32, 40, 50, 63, 80, 100, 125		125, 160, 200, 250			
No. of Poles		3, 4					
Rated operational voltage, Ue	AC [V]	690		250			
	DC [V]	250					
Rated impulse withstand voltage, Uimp	[kV]	8					
Rated insulation voltage, Ui	[V]	750					
Utilization Category		A					
Reference Standard		IEC60947-2-2003					
Rated ultimate short circuit breaking capacity, Icu		M	N	S	M	N	S
AC 50/60Hz	220/240V [kA]	35	50	75	35	50	75
	380/415V [kA]	25	35	50	25	35	50
	440/460V [kA]	15	25	42	15	25	42
	480/500V [kA]	10	18	30	10	18	30
	660/690 [kA]	5	5	10	5	5	10
DC (2 Pole in series)	250V [kA]	25	35	50	25	35	50
Rated service breaking capacity, Ics as % Icu		100%					
Isolation Behaviour		Available					
Total Opening Time		<10 msec					
Trip unit (release) Thermal- Magnetic							
• Fixed Magnetic Trip Unit	FMU	Available					
• Adjustable-Thermal / Magnetic	ATM	Available					
Front Connection		Fixed					
Mechanical life	operation	25000					
Electrical life @ 415V AC	operation	10000					
Basic dimension, WxHxD	3-Pole (mm)	92x150x81.5		107.5x165.8x81.5			
(front connection)	4-Pole (mm)	122.5x150x81.5		142.5x165.8x81.5			
Weight	3-Pole (kg.)	1.65		2.2			
	4-Pole (kg.)	1.98		2.65			
Mounting Positions		Vertical and 90° in both directions					
Internal Accessories	Auxiliary Switch	1c/o					
	Trip Alarm Switch	1c/o					
	Auxiliary & Trip alarm Switch	1c/o + 1c/o					
	Shunt Release	220/415V AC, 24/48/110V DC					
	Under Voltage Release	220/415V AC, 24/48/110V DC					
External	Rotary Operating Mechanism	Available					
Accessories	Mechanical Interlock	Available					
	Key Lock	Available					
	Direct Pad Lock*	Available					
Connection Terminal (Pitch)	(mm)	35		45			

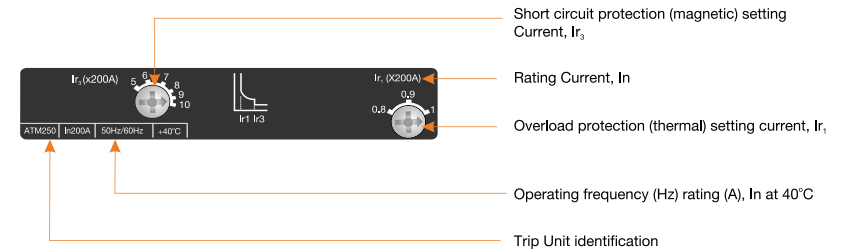
### Notes:

# Pad Lock through ROM is also available  
Any two internal accessories can be mounted at a time

# Trip Release

## MCCB for Power distribution

Thermal magnetic trip units - FMU, ATM for CSE1, CSE2



### Characteristics

Thermal Magnetic Trip Units FMU, ATM for CSE1, CSE2														
Rating (A)	At 40°C	16	20	25	32	40	50	63	80	100	125	160	200	250
CSE1		•	•	•	•	•	•	•	•	•	•	-	-	-
CSE2		-	-	-	-	-	-	-	-	-	•	•	•	•

### Overload Protection - Thermal

Current Setting (A) Ir, **FMU** Adjustable 0.8 to x In  
**ATM** Adjustable 0.8 to x In

### Short Circuit Protection - Magnetic

Current Setting (A) Ir<sub>3</sub> **FMU** Fixed 10 x In  
**ATM** Adjustable 5, 6, 7, 8, 9, 10 x In (6 settings)

### Protection of N Pole

**4P** Neutral No Protection  
**4P4T** Neutral Protection (100% Ir)

### Adjustable Thermal, Fixed Magnetic trip units

**FMU**  
Adjustable Thermal  
16A...250A rated currents

Adjustable : 0.8 - 1x In

**Fixed Magnetic**  
160A...2500A tripping currents



### Adjustable Thermal, Adjustable Magnetic trip units

**ATM**  
Adjustable Thermal  
80A...250A rated currents

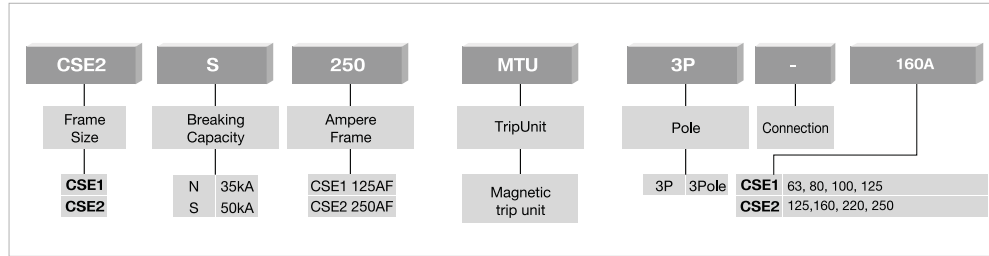
Adjustable : 0.8 - 1x In

**Adjustable Magnetic**  
800A...2500A tripping currents  
Adjustable : 5.0 - 10x In



# Quick Selection Table

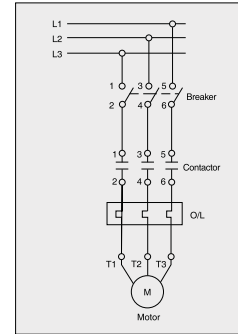
## MCCB for Motor Protection - Trip unit MTU



Electrical Characteristics		CSE1	CSE2	
Frame size	[AF]	125	250	
Rated current, In	[A]	63, 80, 100, 125	125, 160, 220, 250	
No. of Poles		3		
Rated operational voltage, Ue	AC [V]	690		
Rated impulse withstand voltage, Uimp	[kV]	8		
Rated insulation voltage, Ui	[V]	750		
Utilization Category		A		
Reference Standard		IEC60947-2		
Rated ultimate short circuit breaking capacity, Icu		N	N	S
AC 50/60Hz	220/240V [kA]	50	50	75
	380/415V [kA]	35	35	50
	440/460V [kA]	25	25	42
	480/500V [kA]	18	18	30
	660/690 [kA]	5	5	10
Rated service breaking capacity, Ics as % Icu		100%		
Isolation Behaviour		Available		
Total Operating Time		<10 msec		
Trip unit (release)		MTU Available		
• Magnetic Only		Available		
Front Connection		Fixed		
Mechanical life	[operation]	25000		
Electrical life @ 415V AC	[operation]	10000		
Basic dimension, WxHxD	3-Pole (mm)	92X150X81.5	107.5X165.8X81.5	
Weight	3-Pole (kg.)	1.65	2.2	
Mounting Positions		Vertical and 90° in both directions		
Internal Accessories	Auxiliary Switch	1c/o		
	Trip Alarm Switch	1c/o		
	Auxiliary & Trip alarm Switch	1c/o + 1c/o		
	Shunt Release	220/415V AC, 24/48/110V DC		
	Under Voltage Release	220/415V AC, 24/48/110V DC		
External	Rotary Operating Mechanism	Available		
Accessories	Mechanical Interlock	Available		
	Key Lock	Available		
	Direct Pad Lock*	Available		
Connection Terminal (Pitch)	(mm)	35	45	



**Notes:**  
 # Pad Lock through ROM is also available  
 Any two internal accessories can be mounted at a time

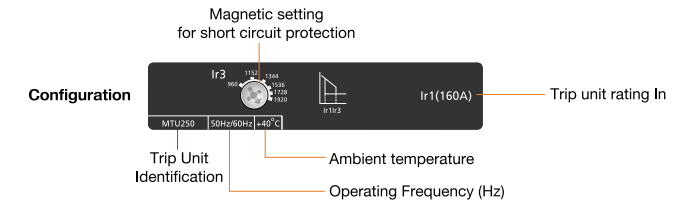


## MTU for CSE1 and CSE2

For the protection of motors from 63 to 250kW (415V), CSE1 to CSE2 circuit Breakers must be equipped with a special trip unit MTU adjustable thresholds.

**This assembly ensures:** Short-circuit protection (magnetic trip unit with adjustable thresholds); Suitability for isolation.

**The circuit breakers presented here:** Provide protection against short-circuits; Are suitable for isolation as defined by IEC60947-2 standard.



## Characteristics

### Magnetic trip units (MTU)

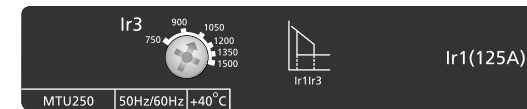
Rating(A)	At 40°C	CSE1 to CSE2						
		63	80	100	125	160	220	250
CSE1		•	•	•	•			
CSE2					•	•	•	•

### Short - circuit protection(magnetic)

Pick - up	Ir <sub>3</sub>	setting
		6..12 x In (6 Point)

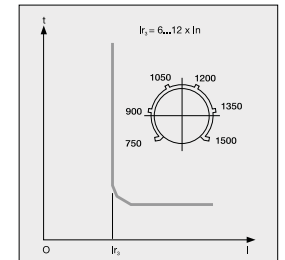
## CSE2 MTU

-Adjustable magnetic only unit



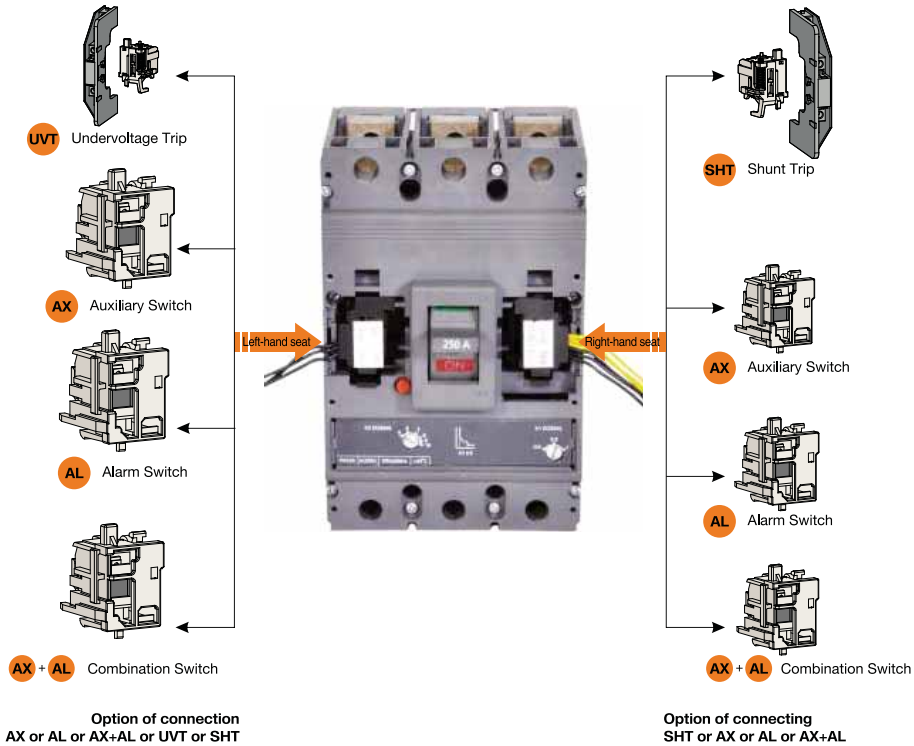
### Setting Details

MTU In	6 x In	..	..	..	..	12 x In
63	378	454	529	605	680	756
80	480	576	672	768	864	960
100	600	720	840	960	1080	1200
125	750	900	1050	1200	1350	1500
160	960	1152	1344	1536	1728	1920
220	1320	1584	1848	2112	2376	2640
250	1500	1800	2100	2400	2700	3000



## Electrical Auxiliaries of 125AF - 250AF

WiNbreak1 offers more accessories for varied applications and allows easy access to install them, especially for the electrical auxiliaries



### Maximum Possibilities

Position	Type	CSE1 3P/4P	CSE2 3P/4P
Left Hand Seat	AX	1	1
	AL	1	1
	AX+AL	1	1
	SHT	1	1
	UVT	1	1
Right Hand Seat	AX	1	1
	AL	1	1
	AX+AL	1	1
	SHT	1	1

Electrical auxiliaries that are installed internally are common for entire range

### Alarm Switch (AL)

Alarm switches offer provisions for immediate audio or visual indication of a tripped breaker due to overload, short-circuit, operation of shunt trip or under voltage trip conditions, operation of push 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 operated manually. Its contact is open when the circuit breaker is reset.

### Auxiliary Switch (AX)

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.

### Combination Switch (AX+AL)

It consists of one Auxiliary Switch (AX) and Alarm Switch (AL) in a body to connect into the same position in the breaker

### Under Voltage trip (UVT)

The under voltage trip coil automatically opens a circuit breaker when voltage drops to a value ranging between 35% to 70% of the line voltage. The operation is instantaneous and the circuit breaker cannot be re-closed until the voltage returns to 85% of line voltage. Continuously energized, the under voltage trip must be operating before the breaker can be closed.

### Shunt Trip (SHT)

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



### Interlock Options



Keylock



Mechanical Interlock



Padlock

**Mechanical Interlocking Device :** The Mechanical Interlock (MIT) can be applied on the front of two breakers mounted side by side, in either the 3-Pole or 4-Pole version and prevents simultaneous closing of the two breakers. Fixing is carried out directly on the cover of the breakers.

**Removable locking device :** This device allows the handle to be locked in the "OFF" Position. Locking in the OFF Positive isolation according to IEC 60947-2

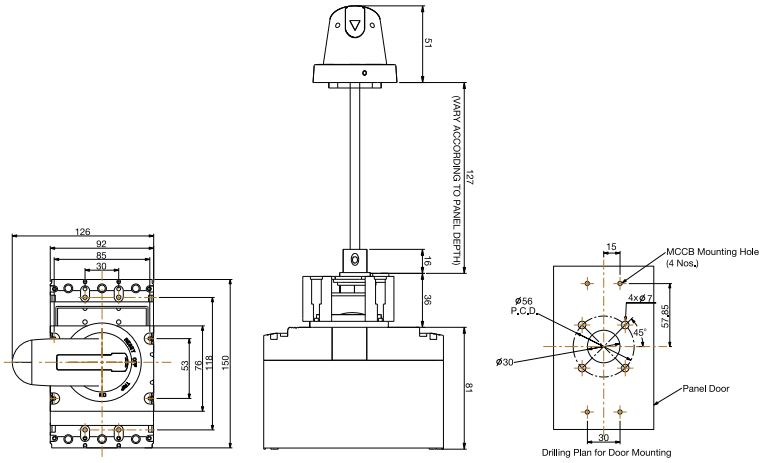
**Key Lock :** This device is used to lock the circuit-breaker in TRIP & OFF position.

# Dimensions

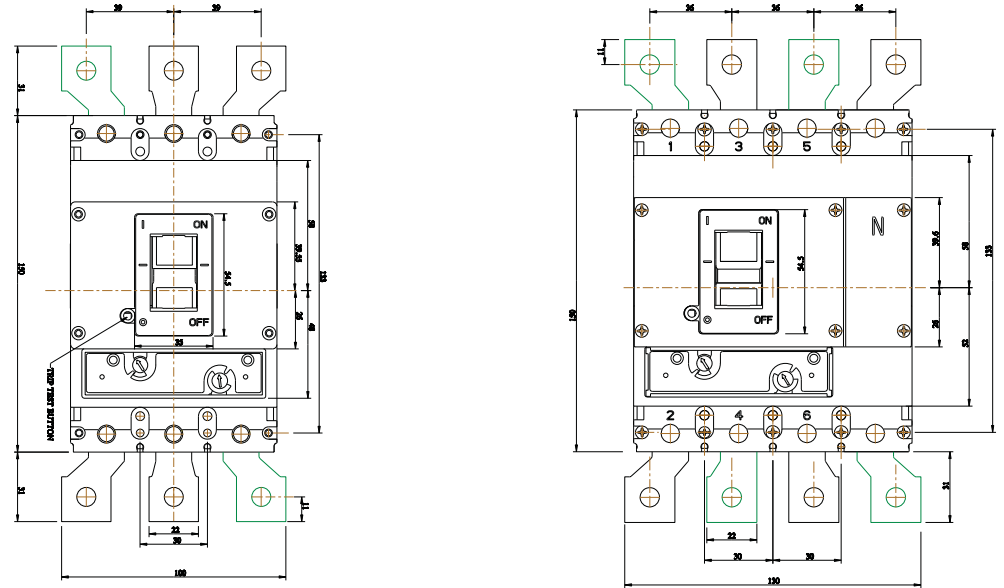
## Rotary Handle for CSE1 FMU/ATM/MTU



EHW1-125



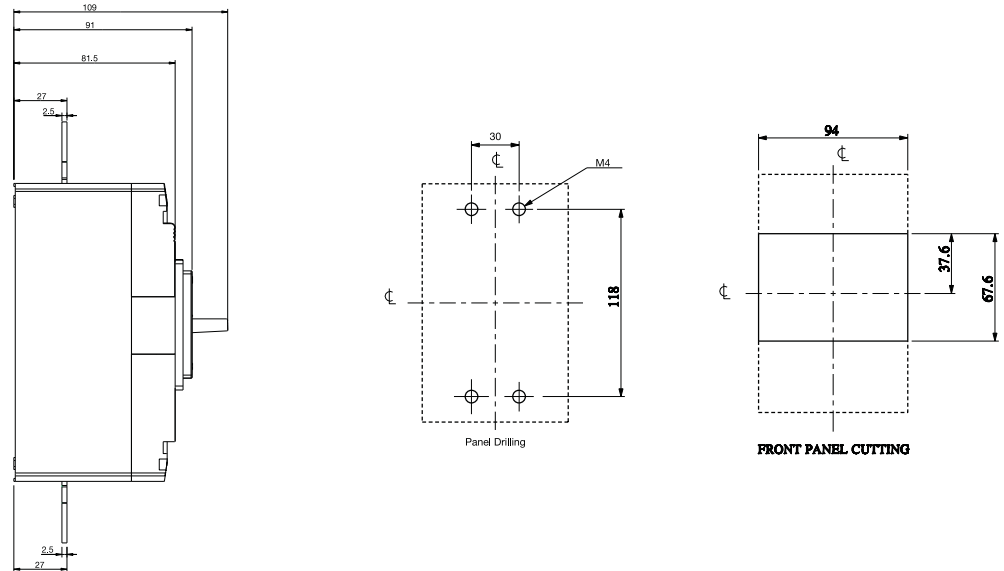
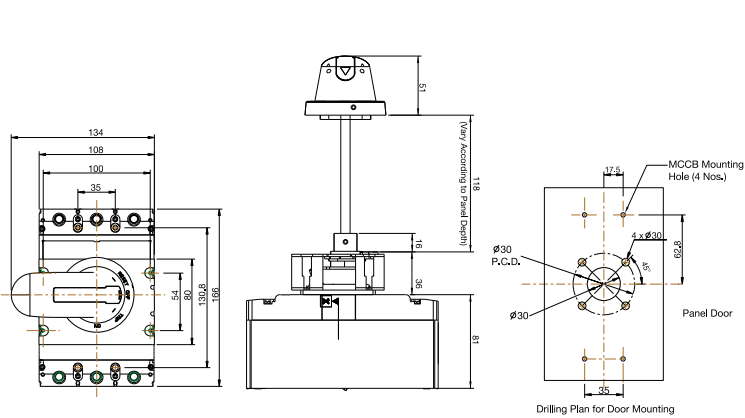
## CSE1 125 FMU, ATM, MTU



## Rotary Handle for CSE2 FMU/ATM/MTU

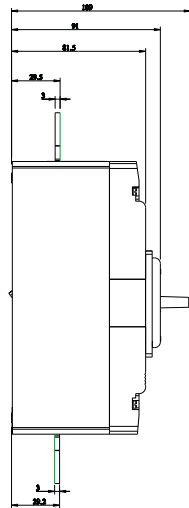
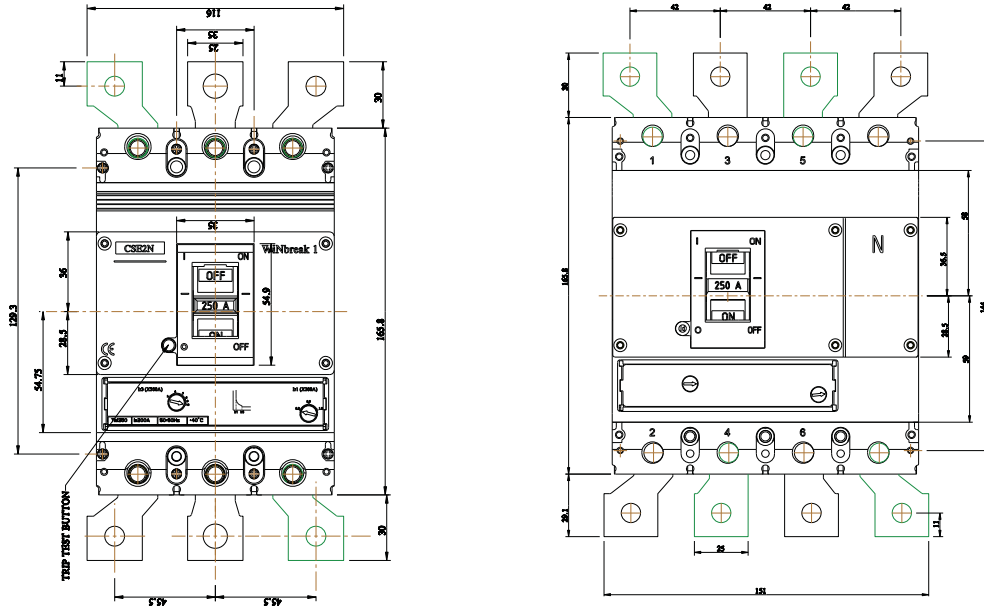


EHW1-250



**Rotary Handle** : Protection Degree : IP54, the rotary handle operating mechanism is available in either the direct or in extended version on the compartment door.

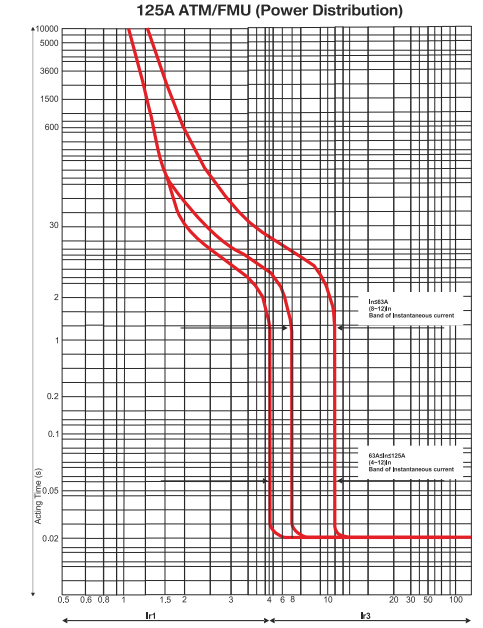
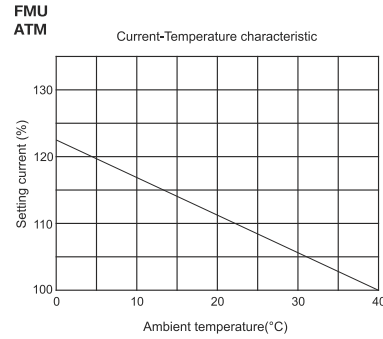
CSE2 250 FMU, ATM, MTU



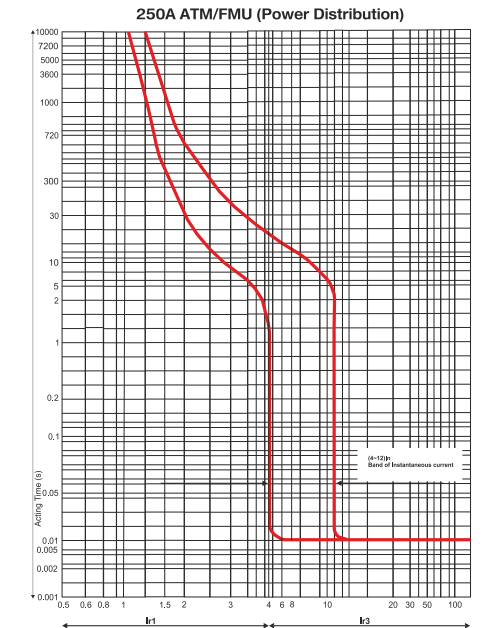
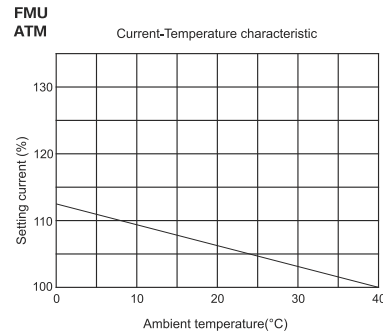
All dimensions are in mm

Circuit Breakers with Thermal/Magnetic trip units

CSE1M / CSE1N (125AF)

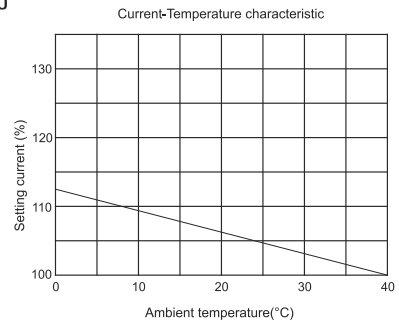


CSE2M / CSE2N (250AF)

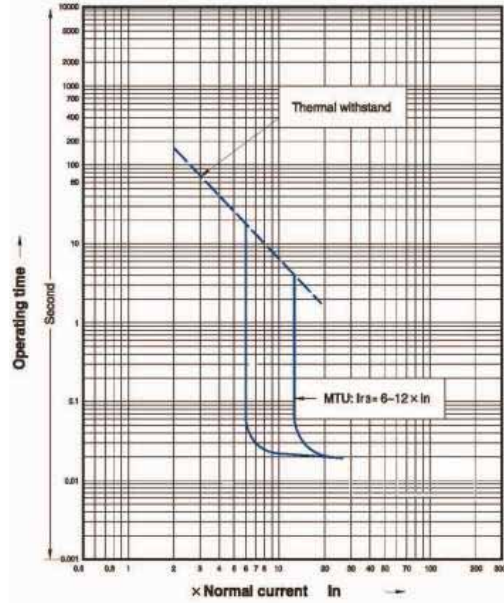


CSE2N / CSE2S (250AF)

MTU



250A ATM/FMU (Motor Protection)



Notes

