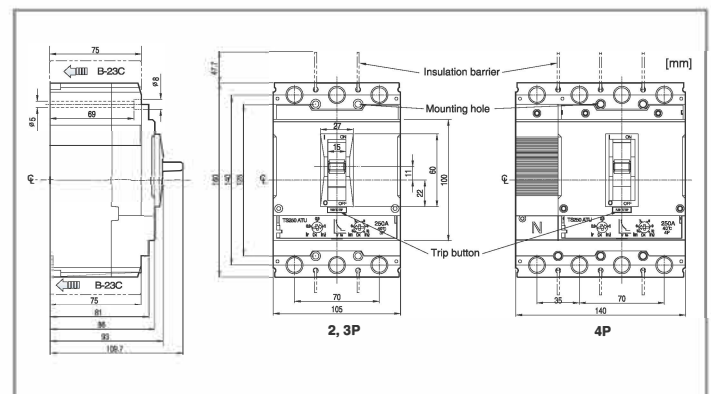
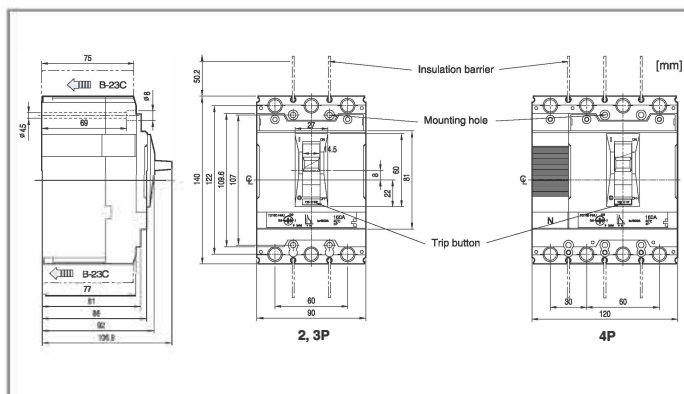


# Technical Data



Frame size		[AF]
Rated current, In *		[A]
No. of poles		
Rated operational voltage, Ue	AC	[V]
	DC	[V]
Rated impulse withstand voltage, Uimp		[kV]
Rated insulation voltage, Ui		[V]
Rated ultimate short-circuit breaking capacity, Icu		
AC 50/60Hz	220/240V	[kA]
	380/415V	[kA]
	440/460V	[kA]
	480/500V	[kA]
	660/690V	[kA]
DC	250V	[kA]
DC(2poles in series)	500V	[kA]
Rated service breaking capacity, Ics		[%Icu]
Category of utilization		
Isolation behavior		
Reference standard		
Trip unit (release)**		
Thermal-Magnetic		
● adjustable-thermal, fixed-magnetic	FMU	
● adjustable-thermal, adjustable-magnetic	ATU	
Electronic		
● LSI	ETS	
● LSI	ETM	
Option	Earth-fault protection, Ig	
	Zone selective interlocking, ZSI	
	Ammeter	
	Communication	
	Residual current device module (RTU)	
Connection	fixed	front-connection
		rear-connection
	plug-in	front-connection
		rear-connection
Mechanical life		[operations]
Electrical life @ 415 V AC		[operations]
Basic dimensions, W x H x D (front connection)	3-pole	[mm]
	4-pole	[mm]
Weight (front connection)	3-pole	[kg]
	4-pole	[kg]

CD100 / 160				CS160		
100				160		
16~100				125 160		
2*, 3, 4				2*, 3, 4		
690				690		
500				500		
8				8		
750				750		
S	N	H	L	N	H	L
50	85	100	200	100	120	200
37	50	85	150	50	85	150
25	50	70	130	50	70	130
18	30	50	65	42	65	85
6	5	8	10	10	15	20
37	42	65	100	50	85	100
37	42	65	100	50	85	100
100%	100%	100%	100%	100%	100%	100%
A				A		
●				●		
IS 13947-2 / IEC60947-2				IEC60947-2		
● (Available)				● (Available)		
-				● (Available)		
-				●		
-				-		
-				-		
-				-		
-				-		
▲ (Option)				▲ (Option)		
●				●		
●				●		
●				●		
●				●		
25000				25000		
10000				10000		
90 x 140 x 86				105 x 160 x 86		
120 x 140 x 86				140 x 160 x 86		
1.5				2		
1.8				2.6		



● Applicable to MCCBs equipped with FMU, ATU \* 2 Pole MCCB in 3 Pole Frame size \*\* MTU Release (For motor protection) is also available

● (Available)



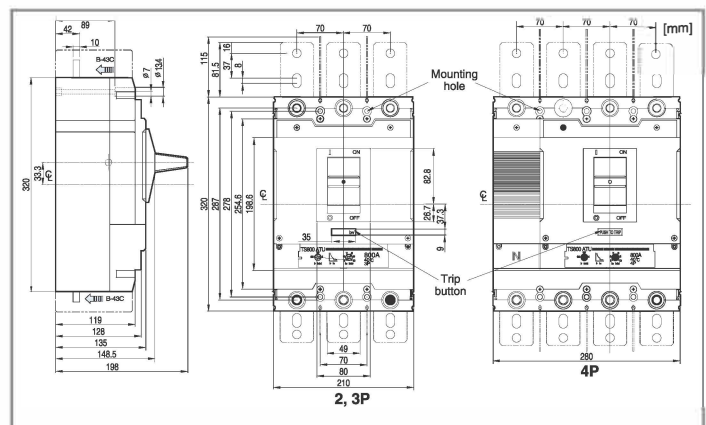
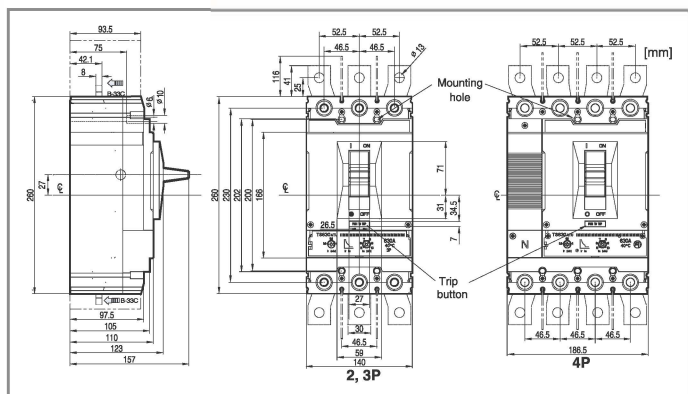
### CS250

### CS400

### CS630

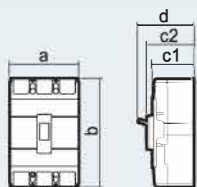
### CS800

250				400			630			800		
125, 160, 200, 250				300, 400			500, 630			800		
2*, 3, 4				2*, 3, 4			2*, 3, 4			2*, 3, 4		
690				690			690			690		
500				500			500			500		
8				8			8			8		
750				750			750			750		
S	N	H	L	N	H	L	N	H	L	N	H	L
50	100	120	200	100	120	200	100	120	200	100	120	200
37	50	85	150	65	85	150	65	85	150	65	100	150
25	50	70	130	65	85	130	65	85	130	65	100	130
18	42	65	85	42	65	85	42	65	85	42	85	100
6	10	15	20	10	20	35	10	20	35	10	20	35
37	50	85	100	50	85	100	50	85	100	50	85	100
37	50	85	100	50	85	100	50	85	100	50	85	100
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
A				A			A			A		
●				●			●			●		
IEC60947-2				IEC60947-2			IEC60947-2			IEC60947-2		
● (Available)				● (Available)			● (Available)			● (Available)		
● (Available)				● (Available)			● (Available)			● (Available)		
●				●			●			●		
-				▲ (Option)			▲ (Option)			▲ (Option)		
-				▲ (Option)			▲ (Option)			▲ (Option)		
-				▲ (Option)			▲ (Option)			▲ (Option)		
-				▲ (Option)			▲ (Option)			▲ (Option)		
▲ (Option)				▲ (Option)			▲ (Option)			▲ (Option)		
●				●			●			●		
●				●			●			●		
●				●			●			●		
●				●			●			●		
25000				20000			20000			10000		
10000				6000			6000			3000		
105 × 160 × 86				140 × 260 × 110			140 × 260 × 110			210 × 320 × 135		
140 × 160 × 86				185 × 260 × 110			185 × 260 × 110			280 × 320 × 135		
2				5.4			5.4			15.1		
2.6				7.2			7.2			19.6		



# Selection Table

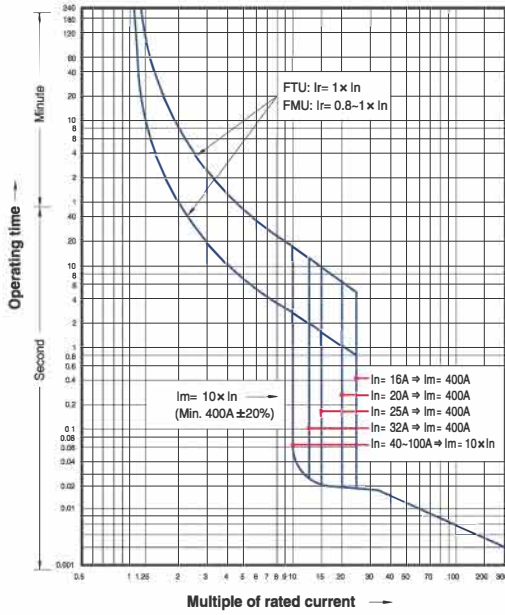
Type				CS1000			CS1250		CS1600					
Ampere frame				1000			1250		1600					
	Pole			3, 4			3, 4		3, 4					
	Rated current,(A)	In	-5~40°C	800, 1000			1250		1600					
			50°C	800, 1000			1250		1560					
			65°C	800, 1000			1240		1420					
	Rated insulation voltage, (V)	Ui		1000			1000		1000					
	Rated impulse withstand voltage, (kV) Uimp			8			8		8					
	Rated operational voltage, (V)	Ue	AC50/60Hz	690			690		690					
			DC				-							
Rated short-circuit breaking capacity				N	H	L	N	H	N	H				
	IEC60947-2 Rated ultimate short-circuit breaking capacity, (kA) (Icu)			AC50/60Hz 220/240V			55	75	200	55	75			
(sym)				380/415V			50	70	150	50	70			
				440V/460V			50	65	130	50	65			
				480/500V			40	50	100	40	50			
				660/690V			35	45	50	35	45			
				DC										
				250V 2P			-	-	-	-	-			
				500V 2P			-	-	-	-	-			
				750V 3P			-	-	-	-	-			
	Rated service breaking capacity, (Ics)			%Icu			100%	75%	100%	100%	75%			
	Rated short-circuit making capacity, AC50/60Hz (kA) (Icw)			1s			25	25	12	25	25			
				3s			-	-	-	-	-			
	Overriding instantaneous protection			kA peak			50	50	-	50	50			
Isolation														
Category				B	B	A	B	B	B	B				
Mechanical life (operations)				10000			10000		10000					
(Life cycle)	Electrical life (operations)			440V			In/2	6000	6000	4000	5000	5000	2000	2000
							In	5000	5000	3000	4000	4000	2000	2000
				690V			In/2	4000	4000	3000	3000	3000	2000	2000
							In	2000	2000	2000	2000	2000	1000	1000
Pollution degree				3			3		3					
Dimension (mm)				a (3p/4p)			210/280							
				b			327							
				c1			155.5							
				c2			162.7							
				d			185.3							
Weight (kg)				3P			13							
				4P			16.8							



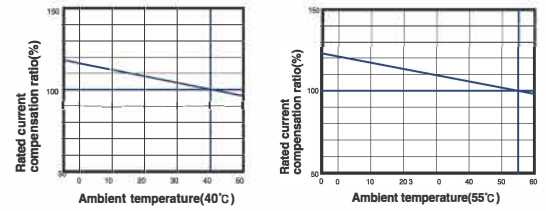
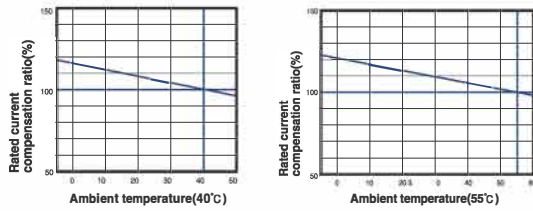
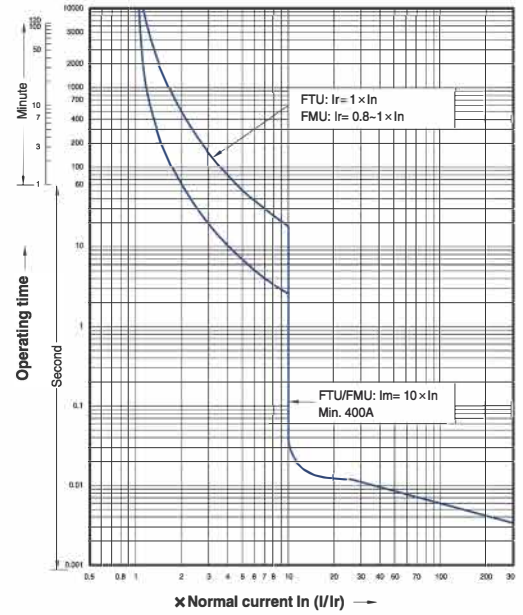
# Characteristics Curves

Circuit breakers with thermal-magnetic trip units

**CD100**  
FTU  
FMU  
16~100A

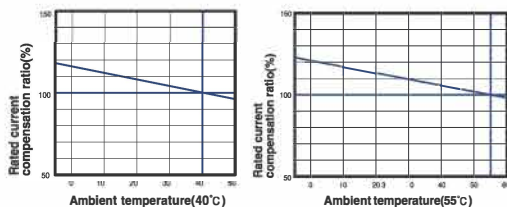
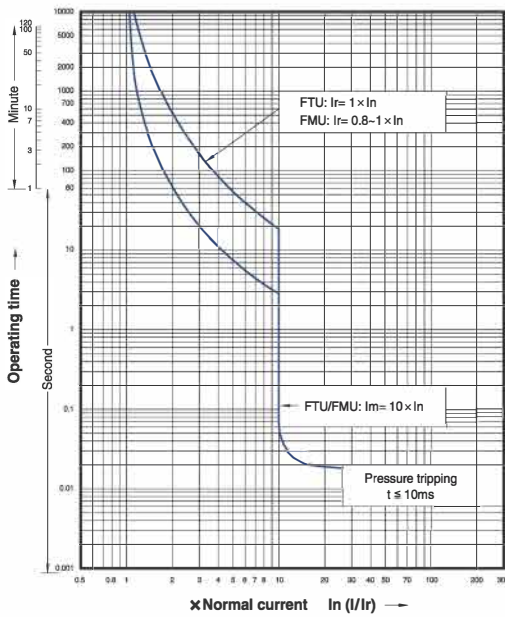


**CD160**  
FTU  
FMU  
16~160A



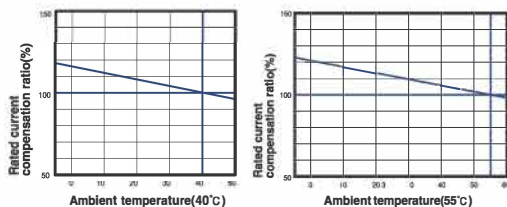
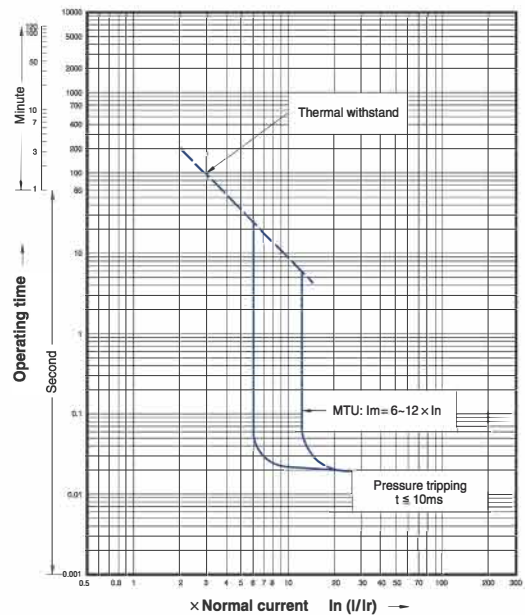
Circuit breakers with thermal-magnetic trip units

**CS100**  
FTU  
FMU  
40~100A



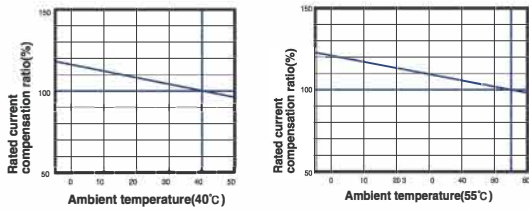
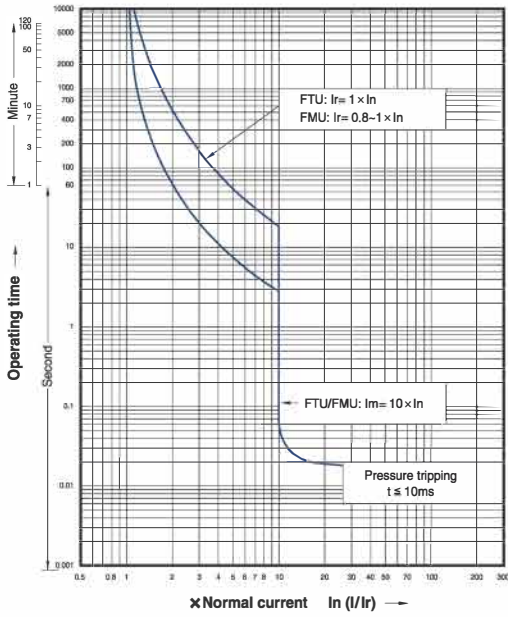
Circuit breakers with magnetic only trip units

**CS100** Magnetic only MTU 1.6~100A  
**CS160** Magnetic only MTU 32~160A

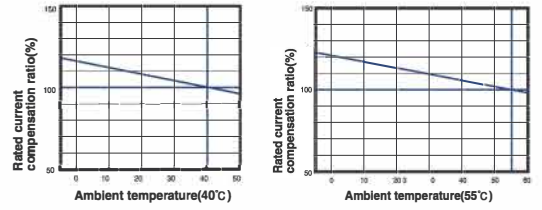
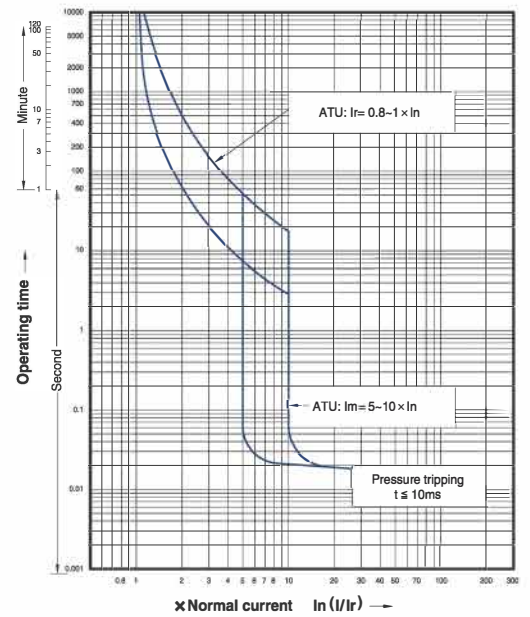


Circuit breakers with thermal-magnetic trip units

**CS160**  
 FTU  
 FMU  
 100, 125, 160A

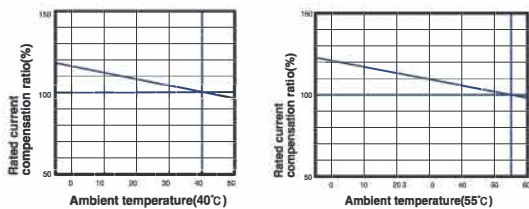
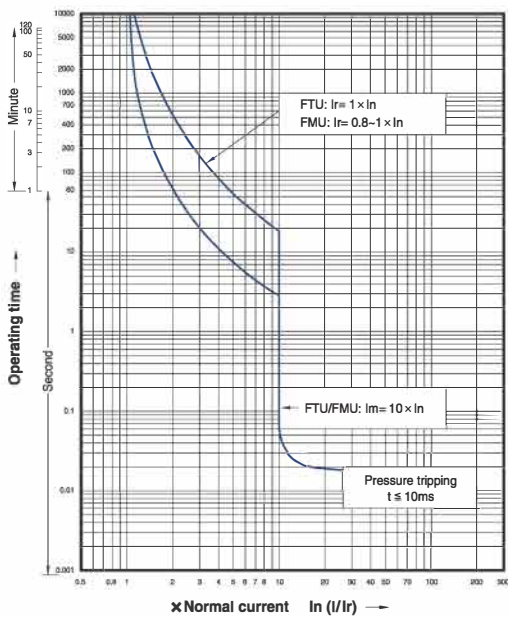


**CS160**  
 ATU  
 100, 125, 160A

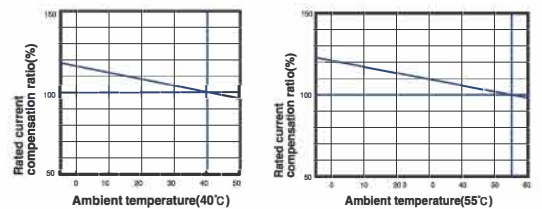
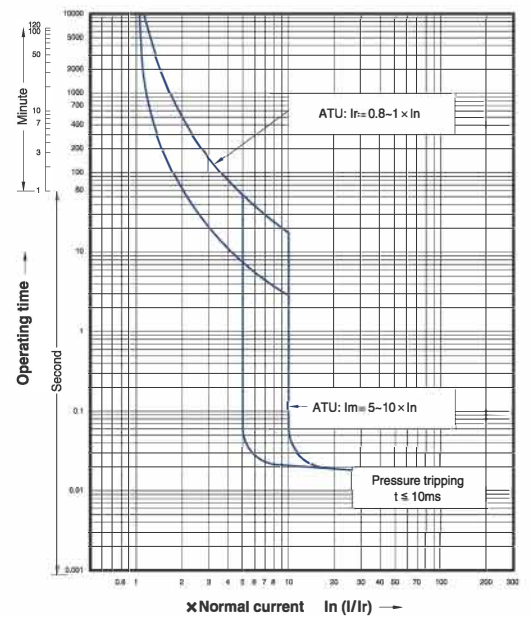


Circuit breakers with thermal-magnetic trip units

**CS250**  
 FTU  
 FMU  
 125~250A



**CS250**  
 ATU  
 125~250A

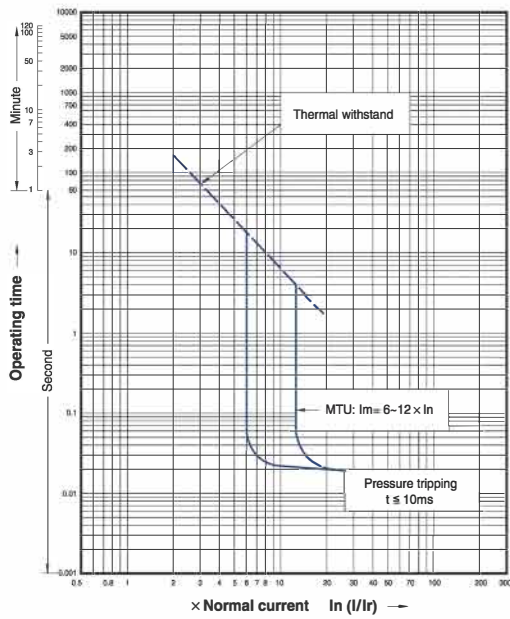


# Characteristics Curves

Circuit breakers with magnetic only trip units

**CS250**

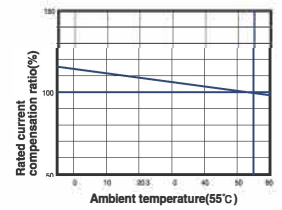
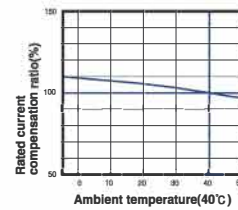
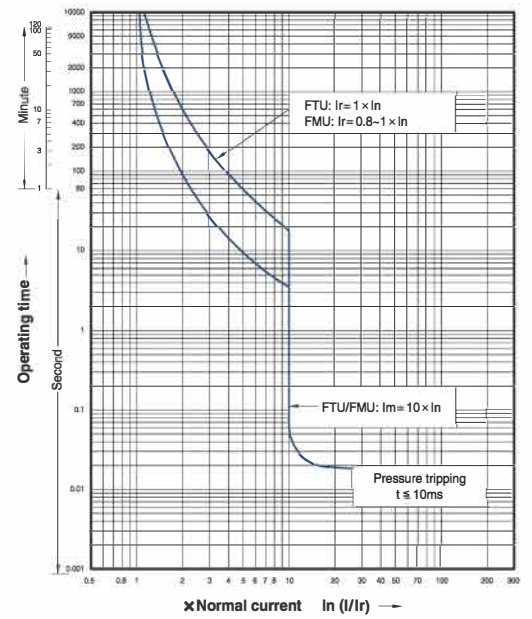
Magnetic only  
MTU  
100, 160, 220A



Circuit breakers with thermal-magnetic trip units

**CS400**

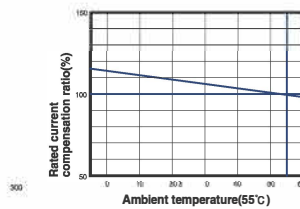
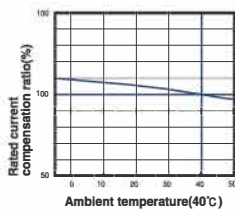
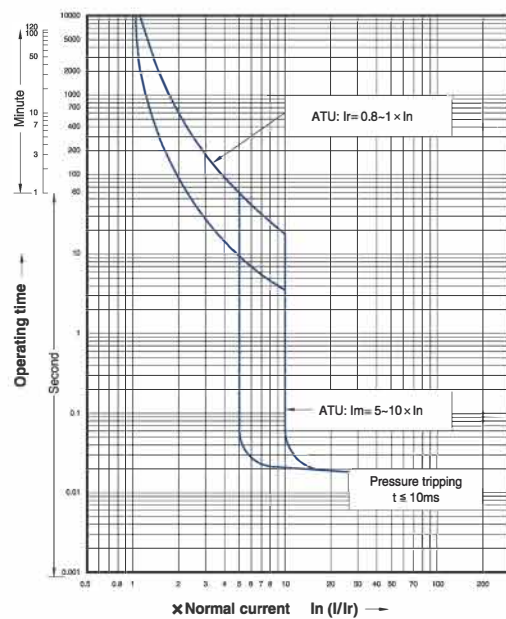
FTU  
FMU  
300, 400A



Circuit breakers with thermal-magnetic trip units

**CS400**

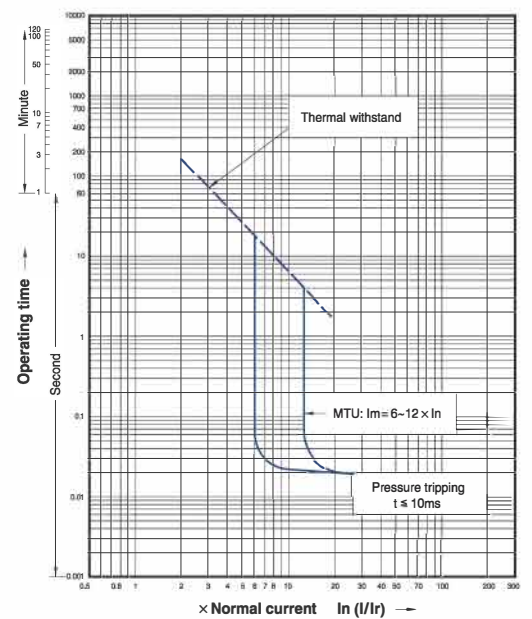
ATU  
300, 400A



Circuit breakers with magnetic only trip units

**CS400**

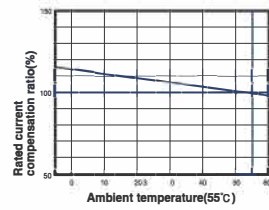
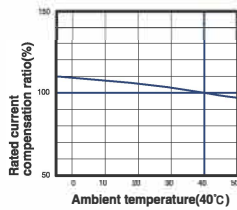
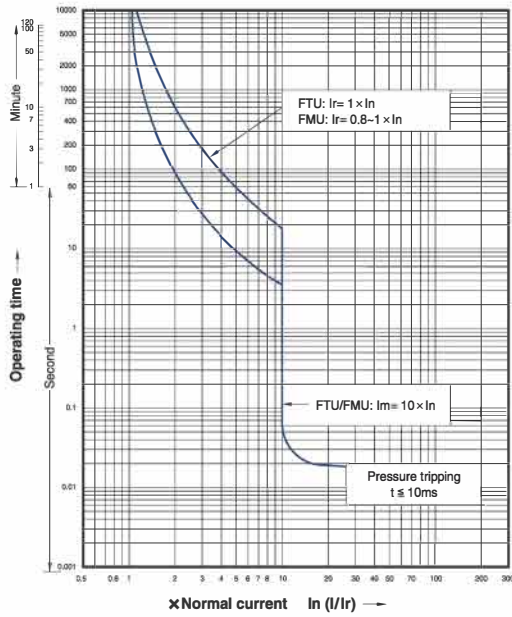
MTU  
320A



Circuit breakers with thermal-magnetic trip units

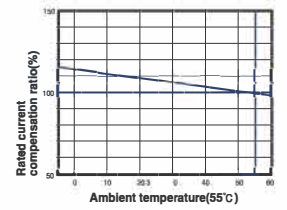
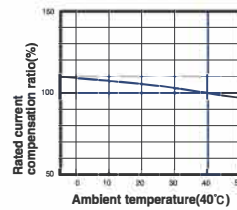
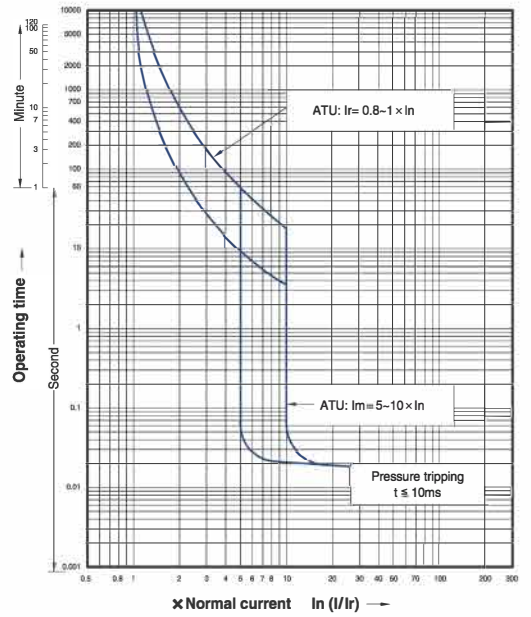
**CS630**

FTU  
FMU  
500, 630A



**CS630**

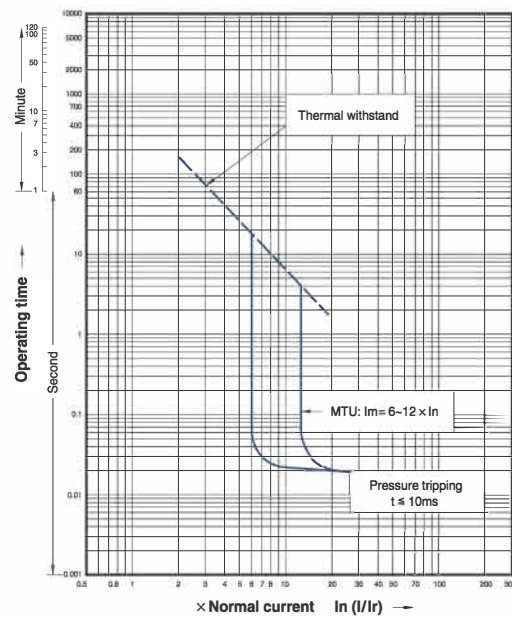
ATU  
500, 630A



Circuit breakers with magnetic only trip units

**CS630**

MTU  
500A

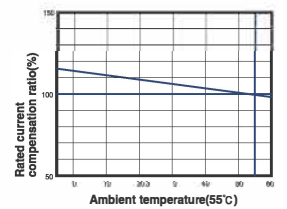
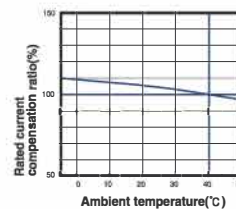
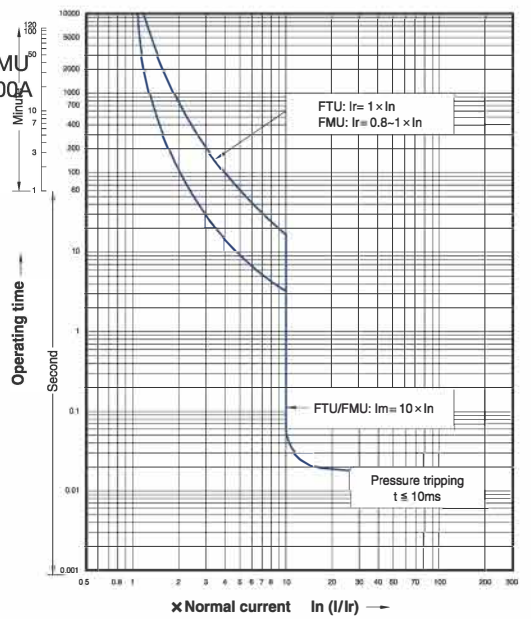


Circuit breakers with thermal-magnetic trip units

**CS800**

FTU  
700, 800A

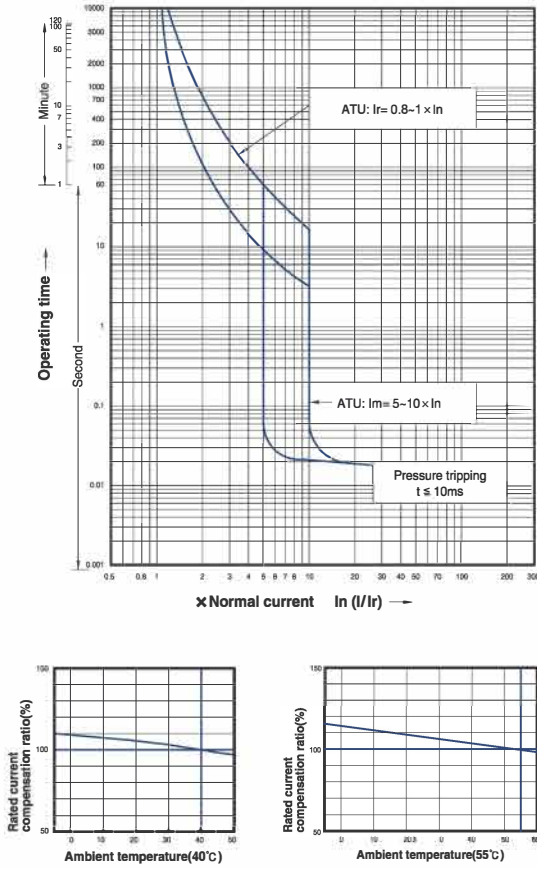
FMU  
800A



# Characteristics Curves

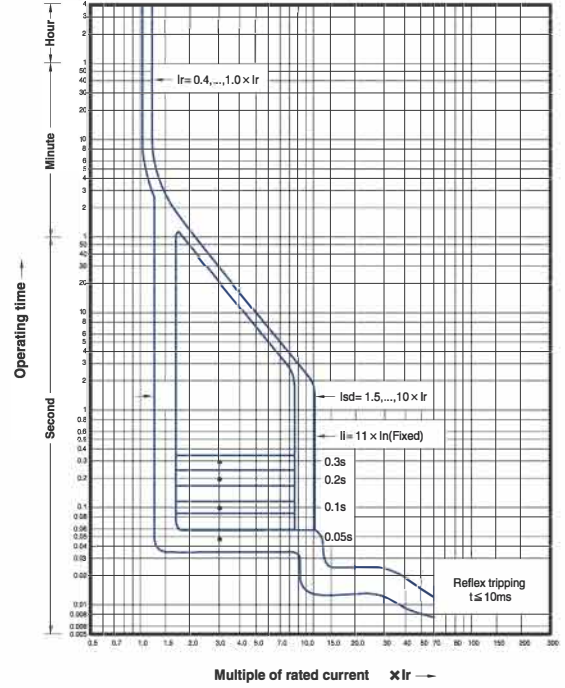
Circuit breakers with thermal-magnetic trip units

**CS800**  
ATU  
800A



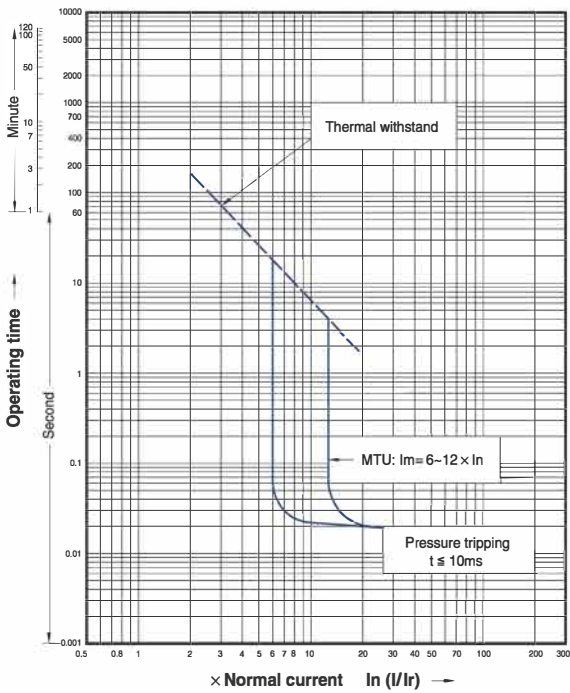
Circuit breakers with electroni trip unit (ETS)

**CS100 to CS800**  
ETS23  
ETS33  
ETS43



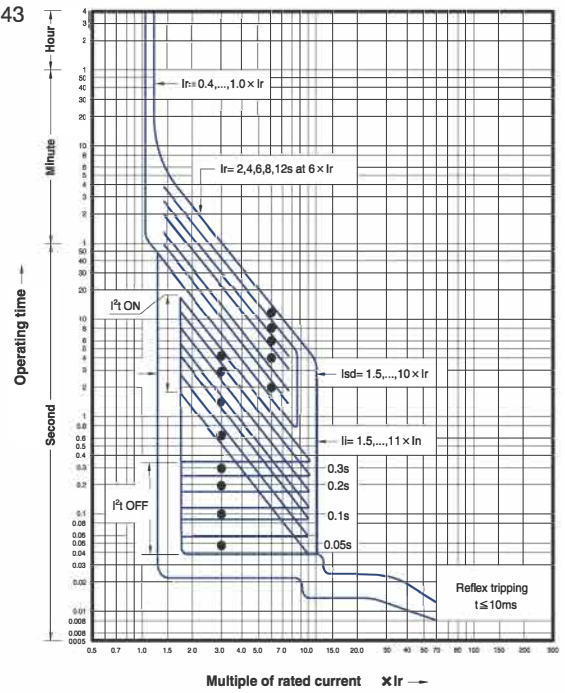
Circuit breakers with magnetic only trip units

**CS800**  
MTU  
630A



Circuit breakers with electroni trip unit (ETM)

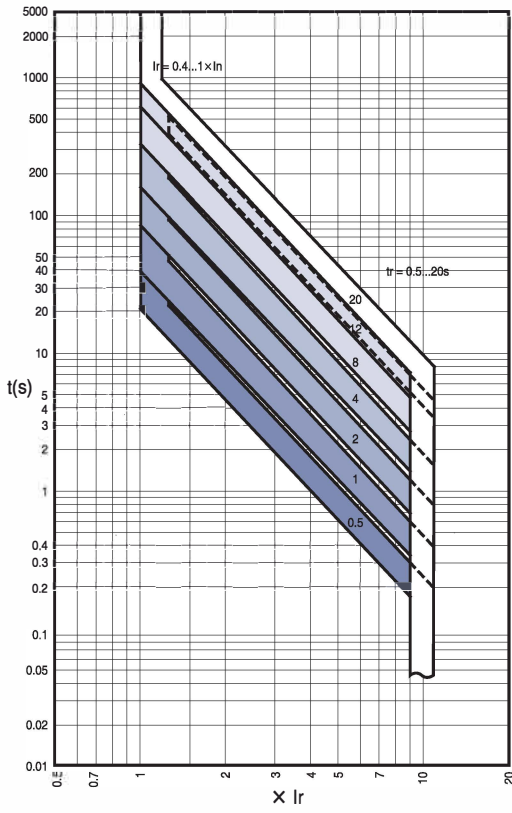
**CS400**  
**CS630**  
**CS800**  
ETM33  
ETM43





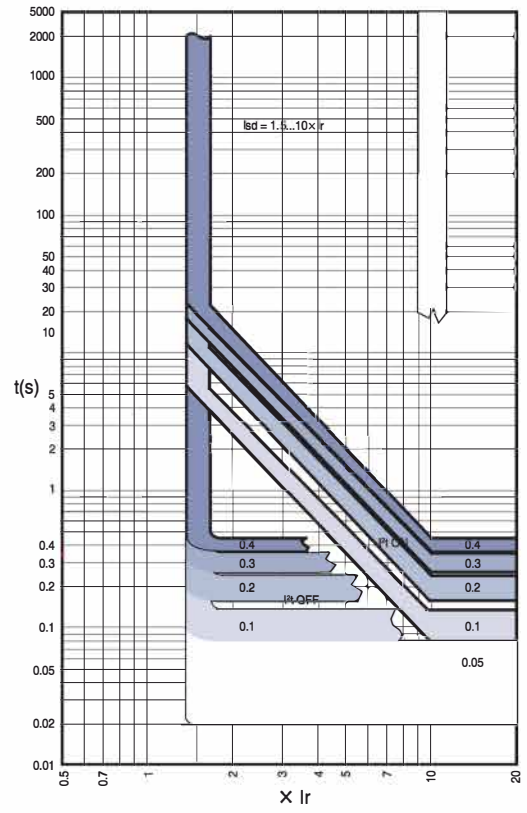
**Long-time delay (L)**

CS1600



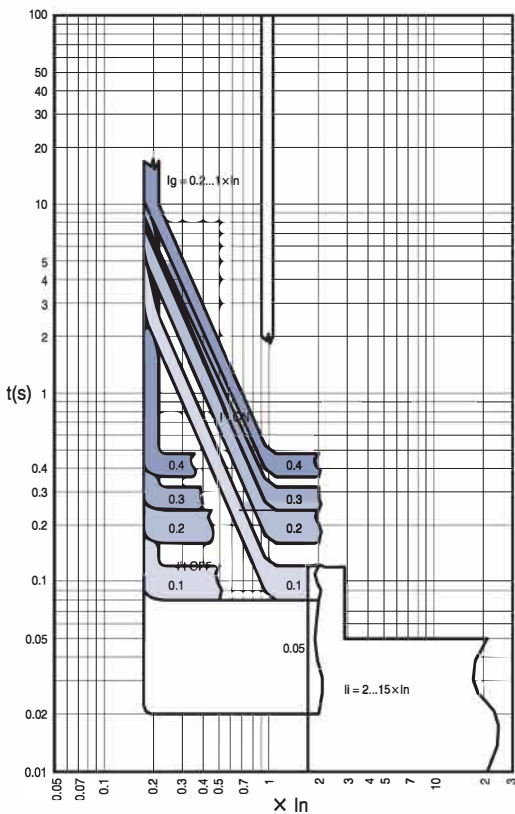
**Short-time delay (S)**

CS1600



**Instantaneous (I) Ground Fault (G)**

CS1600



**IDMTL**

CS1600

