

Circuit-breakers for power distribution

Electrical characteristics

		Tmax T1 1P	Tmax T1			Tmax T2			
Rated uninterrupted current, Iu	[A]	160	160			160			
Poles	[Nr]	1	3/4			3/4			
Rated service current, Ue	(AC) 50-60 Hz [V]	240	690			690			
	(DC) [V]	125	500			500			
Rated impulse withstand voltage, Uimp	[kV]	8	8			8			
Rated insulation voltage, Ui	[V]	500	800			800			
Test voltage at industrial frequency for 1 min.	[V]	3000	3000			3000			
Rated ultimate short-circuit breaking capacity, Icu	(AC) 50-60 Hz 220/230 V [kA]	B	B	C	N	N	S	H	L
	(AC) 50-60 Hz 380/415 V [kA]	25*	25	40	50	65	85	100	120
	(AC) 50-60 Hz 440 V [kA]	-	16	25	36	36	50	70	85
	(AC) 50-60 Hz 500 V [kA]	-	10	15	22	30	45	55	75
	(AC) 50-60 Hz 690 V [kA]	-	8	10	15	25	30	36	50
	(DC) 250 V - 2 poles in series [kA]	-	3	4	6	6	7	8	10
	(DC) 250 V - 3 poles in series [kA]	25 (at 125 V)	16	25	36	36	50	70	85
	(DC) 500 V - 2 poles in series [kA]	-	20	30	40	40	55	85	100
	(DC) 500 V - 3 poles in series [kA]	-	-	-	-	-	-	-	-
	(DC) 750 V - 3 poles in series [kA]	-	16	25	36	36	50	70	85
	-	-	-	-	-	-	-	-	-
Rated service short-circuit breaking capacity, Ics	(AC) 50-60 Hz 220/230 V [%Icu]	75%	100%	75%	75%	100%	100%	100%	100%
	(AC) 50-60 Hz 380/415 V [%Icu]	-	100%	100%	75%	100%	100%	100%	75% (70 kA)
	(AC) 50-60 Hz 440 V [%Icu]	-	100%	75%	50%	100%	100%	100%	75%
	(AC) 50-60 Hz 500 V [%Icu]	-	100%	75%	50%	100%	100%	100%	75%
	(AC) 50-60 Hz 690 V [%Icu]	-	100%	75%	50%	100%	100%	100%	75%
Rated short-circuit making capacity, Icm	(AC) 50-60 Hz 220/230 V [kA]	52.5	52.5	84	105	143	187	220	264
	(AC) 50-60 Hz 380/415 V [kA]	-	32	52.5	75.6	75.6	105	154	187
	(AC) 50-60 Hz 440 V [kA]	-	17	30	46.2	63	94.5	121	165
	(AC) 50-60 Hz 500 V [kA]	-	13.6	17	30	52.5	63	75.6	105
	(AC) 50-60 Hz 690 V [kA]	-	4.3	5.9	9.2	9.2	11.9	13.6	17
Opening time (415 V)	[ms]	7	7	6	5	3	3	3	3
Utilisation category (IEC 60947-2)		A	A			A			
Reference Standard		IEC 60947-2	IEC 60947-2			IEC 60947-2			
Isolation behaviour		■	■			■			
Trip units:	thermomagnetic								
	T fixed, M fixed	■		-				-	
	T adjustable, M fixed	-		■				■	
	T adjustable, M adjustable (5...10 x In)	-		-				-	
	T adjustable, M fixed (3 x In)	-		-				■ ⁽⁸⁾	
	T adjustable, M adjustable (2.5...5 x In)	-		-				-	
	magnetic only	-		-				■ (MF up to In 12.5 A)	
	electronic	-		-				■	
	PR221DS	-		-				-	
	PR222DS	-		-				-	
	PR223DS	-		-				-	
	PR231/P	-		-				-	
	PR232/P	-		-				-	
	PR331/P	-		-				-	
	PR332/P	-		-				-	
Interchangeability									
Versions		F	F			F-P			
Terminals	fixed	FC Cu	FC Cu-EF-FC CuAl-HR			F-FC Cu-FC CuAl-EF-ES-R			
	plug-in	-	-			F-FC Cu-FC CuAl-EF-ES-R			
	withdrawable	-	-			-			
Fixing on DIN rail		-	DIN EN 50022			DIN EN 50022			
Mechanical life	[No. operations]	25000	25000			25000			
	[No. Hourly operations]	240	240			240			
Electrical life @ 415 V AC	[No. operations]	8000	8000			8000			
	[No. Hourly operations]	120	120			120			
Basic dimensions - fixed version	3 poles W [mm]	25.4 (1 pole)	76			90			
	4 poles W [mm]	-	102			120			
	D [mm]	70	70			70			
	H [mm]	130	130			130			
Weight	fixed 3/4 poles [kg]	0.4 (1 pole)	0.9/1.2			1.1/1.5			
	plug-in 3/4 poles [kg]	-	-			1.5/1.9			
	withdrawable 3/4 poles [kg]	-	-			-			

TERMINAL CAPTION
 F = Front
 EF = Front extended
 ES = Front extended spread
 FC Cu = Front for copper cables
 FC CuAl = Front for copper-aluminium cables

R = Rear orientated
 HR = Rear flat horizontal
 VR = Rear flat vertical
 HR/VR = Rear flat orientated
 MC = Multicable

F = fixed circuit-breakers
 P = plug-in circuit-breakers
 W = withdrawable circuit-breakers

⁽⁷⁾ The breaking capacity for settings In=16 A and In=20 A is 16 kA

