

MODEL: FR-A800

TITLE: SELECTION OF MOLDED CASE CIRCUIT BREAKER (MCCB) AND MAGNETIC CONTACTORS (MC) WHEN USING MULTIPLE RATINGS OF THE FR-A800

The rated current of Molded case circuit breaker (MCCB) or earth leakage current breaker (ELB) (NF, NV type) for the FR-A800 series is shown below.

Voltage	Model Name (ND rating) FR-A820-[] FR-A840-[]	Power factor improving (AC or DC) reactor							
		Without				With			
		SLD	LD	ND	HD	SLD	LD	ND	HD
200V Class	0.4K(00046)	10A	10A	5A	5A	10A	10A	5A	3A
	0.75K(00077)	15A	15A	10A	5A	15A	15A	10A	5A
	1.5K(00105)	20A	20A	15A	10A	15A	15A	15A	10A
	2.2K(00167)	30A	30A	20A	15A	30A	30A	15A	15A
	3.7K(00250)	50A	50A	30A	20A	40A	40A	30A	15A
	5.5K(00340)	75A	60A	50A	30A	50A	50A	40A	30A
	7.5K(00490)	100A	75A	60A	50A	75A	75A	50A	40A
	11K(00630)	125A	125A	75A	60A	100A	100A	75A	50A
	15K(00770)	150A	150A	125A	75A	125A	125A	100A	75A
	18.5K(00930)	175A	175A	150A	125A	150A	125A	125A	100A
	22K(01250)	225A	225A	175A	150A	175A	150A	125A	125A
	30K(01540)	300A	250A	225A	175A	225A	200A	150A	125A
	37K(01870)	350A	300A	250A	225A	250A	225A	200A	150A
	45K(02330)	400A	400A	300A	250A	350A	300A	225A	200A
	55K(03160)	-	-	400A	300A	500A	400A	300A	225A
	75K(03800)	-	-	-	-	500A	400A	400A	300A
90K(04750)	-	-	-	-	600A	500A	400A	400A	
400V Class	0.4K(00023)	5A	5A	5A	5A	5A	5A	5A	3A
	0.75K(00038)	10A	10A	5A	5A	10A	10A	5A	5A
	1.5K(00052)	10A	10A	10A	5A	10A	10A	10A	5A
	2.2K(00083)	20A	20A	10A	10A	15A	15A	10A	10A
	3.7K(00126)	30A	30A	20A	10A	20A	20A	15A	10A
	5.5K(00170)	30A	30A	30A	20A	30A	30A	20A	15A
	7.5K(00250)	50A	50A	30A	30A	40A	40A	30A	20A
	11K(00310)	60A	60A	50A	30A	50A	50A	40A	30A
	15K(00380)	75A	75A	60A	50A	60A	60A	50A	40A
	18.5K(00470)	100A	100A	75A	60A	75A	75A	60A	50A
	22K(00620)	125A	125A	100A	75A	100A	100A	75A	60A
	30K(00770)	150A	150A	125A	100A	125A	100A	100A	75A
	37K(00930)	175A	175A	150A	125A	150A	125A	100A	100A
	45K(01160)	200A	200A	175A	150A	175A	150A	125A	100A
	55K(01800)	-	-	200A	175A	225A	200A	150A	125A
	75K(02160)	-	-	-	-	225A	225A	200A	150A
	90K(02600)	-	-	-	-	350A	225A	225A	200A
	110K(03250)	-	-	-	-	400A	350A	225A	225A
	132K(03610)	-	-	-	-	400A	400A	350A	225A
	160K(04320)	-	-	-	-	500A	400A	400A	350A
185K(0410)	-	-	-	-	600A	500A	400A	400A	
220K(05470)	-	-	-	-	600A	600A	500A	400A	
250K(06100)	-	-	-	-	700A	600A	600A	500A	
280K(06830)	-	-	-	-	800A	700A	600A	600A	

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The input-side magnetic contactor for the FR-A800 series is shown below.*2

Voltage	Model Name *3 (ND rating) FR-A820-[] FR-A840-[]	Power factor improving (AC or DC) reactor							
		Without				Without			
		SLD	LD	ND	HD	SLD	LD	ND	HD
200V Class	0.4K(00046)	S-T10	S-T10	S-T10	S-T10	S-T10	S-T10	S-T10	S-T10
	0.75K(00077)	S-T10	S-T10	S-T10	S-T10	S-T10	S-T10	S-T10	S-T10
	1.5K(00105)	S-T10	S-T10	S-T10	S-T10	S-T10	S-T10	S-T10	S-T10
	2.2K(00167)	S-T21	S-T21	S-T10	S-T10	S-T10	S-T10	S-T10	S-T10
	3.7K(00250)	S-T25	S-T25	S-T21	S-T10	S-T21	S-T21	S-T10	S-T10
	5.5K(00340)	S-T35	S-T35	S-T35	S-T21	S-T35	S-T25	S-T21	S-T10
	7.5K(00490)	S-T50	S-T35	S-T35	S-T35	S-T35	S-T35	S-T35	S-T21
	11K(00630)	S-T65	S-T50	S-T35	S-T35	S-T50	S-T50	S-T35	S-T35
	15K(00770)	S-T65	S-T65	S-T50	S-T35	S-T50	S-T50	S-T50	S-T35
	18.5K(00930)	S-T100	S-T100	S-T65	S-T50	S-T65	S-T65	S-T50	S-T50
	22K(01250)	S-N150	S-T100	S-T100	S-T65	S-T100	S-T100	S-T65	S-T50
	30K(01540)	S-N150	S-N150	S-T100	S-T100	S-N150	S-N125	S-T100	S-T65
	37K(01870)	S-N180	S-N180	S-N150	S-T100	S-N150	S-N150	S-N125	S-T100
	45K(02330)	S-N220	S-N220	S-N180	S-N150	S-N180	S-N180	S-N150	S-N125
	55K(03160)	-	-	S-N220	S-N180	S-N300	S-N300	S-N180	S-N150
	75K(03800)	-	-	-	-	S-N400	S-N300	S-N300	S-N180
	90K(04750)	-	-	-	-	S-N600	S-N400	S-N300	S-N300
400V Class	0.4K(00023)	S-T10	S-T10	S-T10	S-T10	S-T10	S-T10	S-T10	S-T10
	0.75K(00038)	S-T10	S-T10	S-T10	S-T10	S-T10	S-T10	S-T10	S-T10
	1.5K(00052)	S-T10	S-T10	S-T10	S-T10	S-T10	S-T10	S-T10	S-T10
	2.2K(00083)	S-T10	S-T10	S-T10	S-T10	S-T10	S-T10	S-T10	S-T10
	3.7K(00126)	S-T21	S-T21	S-T10	S-T10	S-T12	S-T12	S-T10	S-T10
	5.5K(00170)	S-T21	S-T21	S-T21	S-T10	S-T21	S-T21	S-T12	S-T10
	7.5K(00250)	S-T21	S-T21	S-T21	S-T21	S-T21	S-T21	S-T21	S-T12
	11K(00310)	S-T35	S-T35	S-T21	S-T21	S-T21	S-T21	S-T21	S-T21
	15K(00380)	S-T35	S-T35	S-T35	S-T21	S-T35	S-T35	S-T21	S-T21
	18.5K(00470)	S-T35	S-T35	S-T35	S-T35	S-T35	S-T35	S-T35	S-T21
	22K(00620)	S-T50	S-T50	S-T35	S-T35	S-T50	S-T50	S-T35	S-T35
	30K(00770)	S-T65	S-T65	S-T50	S-T35	S-T50	S-T50	S-T50	S-T35
	37K(00930)	S-T100	S-T100	S-T65	S-T50	S-T65	S-T65	S-T50	S-T50
	45K(01160)	S-N150	S-T100	S-T100	S-T65	S-T100	S-T100	S-T65	S-T50
	55K(01800)	-	-	S-T100	S-T100	S-N150	S-T100	S-T100	S-T65
	75K(02160)	-	-	-	-	S-N180	S-N150	S-T100	S-T100
	90K(02600)	-	-	-	-	S-N220	S-N180	S-N150	S-T100
	110K(03250)	-	-	-	-	S-N300	S-N220	S-N180	S-N150
	132K(03610)	-	-	-	-	S-N300	S-N300	S-N220	S-N180
	160K(04320)	-	-	-	-	S-N400	S-N300	S-N300	S-N220
185K(04810)	-	-	-	-	S-N600	S-N400	S-N300	S-N300	
220K(05470)	-	-	-	-	S-N600	S-N600	S-N400	S-N300	
250K(06100)	-	-	-	-	S-N600	S-N600	S-N600	S-N400	
280K(06830)	-	-	-	-	S-N800	S-N600	S-N600	S-N600	

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- *1 Select MCCB according to the power supply capacity.
Install one MCCB per inverter.
For the use in the United States or Canada, provide the appropriate UL and cUL listed fuse or UL489 molded case circuit breaker (MCCB) that is suitable for branch circuit protection.
(Refer to the Instruction Manual (Startup).)

- *2 Magnetic contactor is selected based on the AC-1 class. The electrical durability of the magnetic contactor is 500,000 times. When the magnetic contactor is used for emergency stops during motor driving, the electrical durability is 25 times.
If using an MC for emergency stop during motor driving or when using an MC on the inverter output side for commercial-power supply operation, select an MC regarding the rated motor current as AC-3 class rated current.

- *3 Regarding the FR-A842-315K and above, select the MCCB and magnetic contactor according to the FR-CC2 converter that is being used. (Refer to the FR-A800 catalogue.)