

# 제동저항 (DYNAMIC BRAKING RESISTOR)

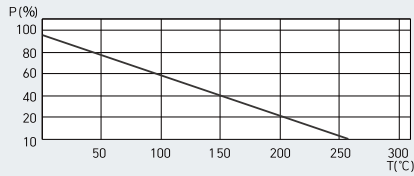
## Single Type MCRA



### Characteristics

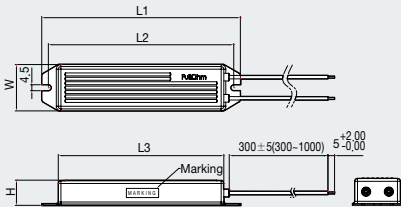
Temperature range	-55°C~200°C
Insulation resistance	Over 100MΩ
Dielectric strength	AC 2,500V / 1 Min
Temperature coefficient	±260 ppm / °C max
Resistor wattage range	50 ~ 200[W]

### Power Derating Curve



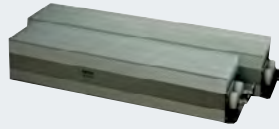
[NOTE] Thermostat sensor included types use 0.5mm<sup>2</sup> silicone asbestos wire.

### Dimensions [mm]



Model	L1±1	L2±1	L3±1	W±1	H±1
MCRA-50	150	140	125	35	19
MCRA-100	150	140	125	35	19
MCRA-150	182	172	150	43	20
MCRA-200	230	220	200	60	20

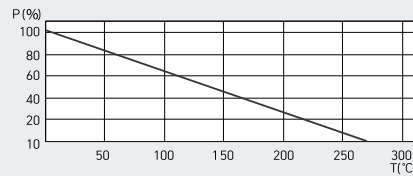
## Single Type MCRF



### Characteristics

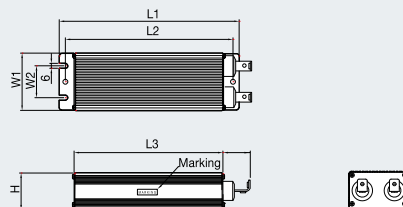
Temperature range	-55°C~200°C
Insulation resistance	Over 100MΩ
Dielectric strength	AC 2,500V / 1 Min
Temperature coefficient	±260 ppm / °C max
Resistor wattage range	300 ~ 2000[W]

### Power Derating Curve



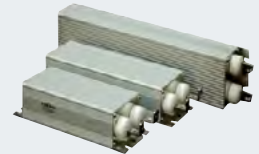
[NOTE] Thermostat sensor included types use 0.5mm<sup>2</sup> silicone asbestos wire.

### Dimensions [mm]



Model	L1±1	L2±1	L3±1	W±0.5	W2±0.5	H±1
MCRF-300	190	175	152	70	39	45
MCRF-400	220	205	182	70	39	45
MCRF-500	240	225	202	70	39	45
MCRF-600	260	245	222	70	39	45
MCRF-700	300	285	262	70	39	45
MCRF-800	300	285	262	70	39	45
MCRF-1000	340	325	302	70	39	45
MCRF-1200	400	385	362	70	39	45
MCRF-1600	440	425	402	70	39	45
MCRF-2000	510	495	472	70	39	45

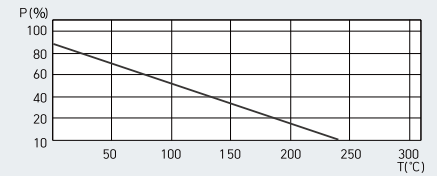
## Single Type MCRS



### Characteristics

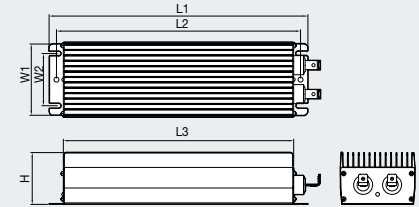
Temperature range	-55°C~200°C
Insulation resistance	Over 100MΩ
Dielectric strength	AC 2,500V / 1 Min
Temperature coefficient	±260 ppm / °C max
Resistor wattage range	2400[W]

### Power Derating Curve



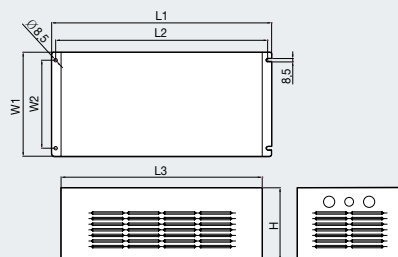
[NOTE] Thermostat sensor included types use 0.5mm<sup>2</sup> silicone asbestos wire.

### Dimensions [mm]



Model	L1±1	L2±1	L3±1	W1±1	W2±1	H±1
MCRS-2400 [2.4kW]	470	450	432	94	68	68

## Set Type MCRF-ST (IP00)



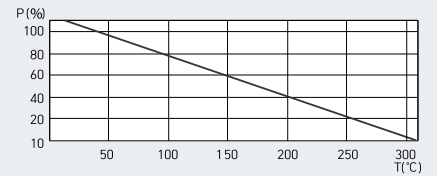
### Characteristics

Temperature range	-55°C~200°C
Insulation resistance	Over 20MΩ
Dielectric strength	AC 2,500V / 1 Min
Temperature coefficient	±260 ppm / °C max
Resistor wattage range	12 ~ 60[kW]
Built-in thermostat sensor	B Contact

### Dimensions [mm]

Model	L1±2	L2±2	L3±2	W1±2	W2±2	H±2
MCRF-ST 1.2kW	550	525-537	503	180	140	126
MCRF-ST 1.6kW						
MCRF-ST 2kW						
MCRF-ST 2.4kW						
MCRF-ST 3.2kW	550	525-537	503	260	220	126
MCRF-ST 3.6kW						
MCRF-ST 4kW	550	525-537	503	180	140	182
MCRF-ST 4.8kW						
MCRF-ST 5kW	550	525-537	503	260	220	182
MCRF-ST 6kW						
MCRF-ST 6.4kW						
MCRF-ST 7.2kW						
MCRF-ST 7.5kW	550	525-537	503	260	220	252
MCRF-ST 10kW						

### Power Derating Curve



[NOTE] Thermostat sensor included types use 0.5mm<sup>2</sup> silicone asbestos wire.

Model	L1±2	L2±2	L3±2	W1±2	W2±2	H±2
MCRF-ST 12kW	550	525-537	503	260	220	322
MCRF-ST 13kW						
MCRF-ST 14.4kW						
MCRF-ST 15kW						
MCRF-ST 16kW	550	525-537	503	260	220	392
MCRF-ST 20kW						
MCRF-ST 24kW	550	525-537	503	340	300	392
MCRF-ST 26kW						
MCRF-ST 30kW	550	525-537	503	420	380	462
MCRF-ST 32kW						
MCRF-ST 40kW	550	525-537	503	500	460	462
MCRF-ST 48kW						
MCRF-ST 52kW	550	525-537	503	500	460	602
MCRF-ST 60kW						

# 제동저항 (DYNAMIC BRAKING RESISTOR)

## 제동 IGBT 내장 제품

Voltage Class	Capacity [kW]	Torque 100%					
		Value [Ω]	Wattage[W] (%ED=5%)	Single		Set	
				ERP Code	Model Name	ERP Code	Model Name
200V	0.4	400	50	64090131	MCRA-50		
	0.75	200	100	64090134	MCRA-100		
	1.5	100	200	64090136	MCRA-200		
	2.2	60	300	64090149	MCRF-300		
	3.7/4.0	40	500	64090155	MCRF-500		
	5.5	33	600	64090158	MCRF-600		
	7.5	20	800	64090160	MCRF-800		
	11	15	1200	64090162	MCRF-1200	64090184	MCRF-ST 1.2kW
	15	10	2400	64090169	MCRS-2400	64090189	MCRS-2400
	18.5	8	2400	64090170	MCRS-2400	64090197	MCRF-ST 2.4kW
	22	8	2400	64090170	MCRS-2400	64090197	MCRF-ST 2.4kW
400V	0.4	1800	50	64090125	MCRA-50		
	0.75	900	100	64090128	MCRA-100		
	1.5	450	200	64090130	MCRA-200		
	2.2	300	300	64090138	MCRF-300		
	3.7/4.0	200	400	64090140	MCRF-400		
	5.5	120	700	64090145	MCRF-700		
	7.5	90	1000	64090146	MCRF-1000		
	11	60	1200	64090151	MCRF-1200	64090172	MCRF-ST 1.2kW
	15	45	2000	64090154	MCRF-2000	64090173	MCRF-ST 2kW
	18.5	35	2400	64090165	MCRS-2400	64090176	MCRF-ST 2.4kW
	22	30	2400	64090166	MCRS-2400	64090178	MCRF-ST 2.4kW
30	20	3600			64090181	MCRF-ST 3.6kW	

Torque 150%											
Value [Ω]	Wattage[W] (%ED=5%)	Single(%ED=5%)		Set(%ED=5%)		Wattage[W] (%ED=10%)	Single(%ED=10%)		Set(%ED=10%)		
		ERP Code	Model Name	ERP Code	Model Name		ERP Code	Model Name	ERP Code	Model Name	
300	100	64090132	MCRA-100			200	64090133	MCRA-200			
150	150	64090135	MCRA-150			300	64090142	MCRF-300			
60	300	64090149	MCRF-300			600	64090150	MCRF-600			
50	400	64090152	MCRF-400			800	64090153	MCRF-800			
33	600	64090158	MCRF-600			1200	64090159	MCRF-1200			
20	800	64090160	MCRF-800			1600	64090161	MCRF-1600			
15	1200	64090162	MCRF-1200			2400	64090168	MCRS-2400			
10	2400	64090169	MCRS-2400	6409018900	MCRF-ST 2.4kW	4800			6409019000	MCRF-ST 4.8kW	
8	2400	64090170	MCRS-2400	6409019700	MCRF-ST 2.4kW	4800			6409019800	MCRF-ST 4.8kW	
5	3600			6409020200	MCRF-ST 3.6kW	7200			6409020300	MCRF-ST 7.2kW	
5	3600			6409020200	MCRF-ST 3.6kW	7200			6409020300	MCRF-ST 7.2kW	
1200	100	64090126	MCRA-100			200	64090127	MCRA-200			
600	150	64090129	MCRA-200			300	64090137	MCRF-300			
300	300	64090138	MCRF-300			600	64090139	MCRF-600			
200	400	64090140	MCRF-400			800	64090141	MCRF-800			
130	600	64090143	MCRF-600			1200	64090144	MCRF-1200			
85	1000	64090147	MCRF-1000			2000	64090148	MCRF-2000			
60	1200	64090151	MCRF-1200			2400	64090164	MCRS-2400			
40	2000	64090156	MCRF-2000	6409017400	MCRF-ST 2kW	4000			6409017500	MCRF-ST 4kW	
30	2400	64090166	MCRS-2400	6409017800	MCRF-ST 2.4kW	4800			6409017900	MCRF-ST 4.8kW	
20	3600			6409018100	MCRF-ST 3.6kW	7200			6409018200	MCRF-ST 7.2kW	
20	3600			6409018100	MCRF-ST 3.6kW	7200			6409018200	MCRF-ST 7.2kW	
12	5000			6409018600	MCRF-ST 5kW	10000			6409018700	MCRF-ST 10kW	

## 제동 유닛 기준 (제동 IGBT 없는 제품)

Voltage Class	DB Unit Capacity [kW]	Torque 100%					
		Value [Ω]	Wattage[kW] (%ED=5%)	Single		Set	
				ERP Code	Model Name	ERP Code	Model Name
200V	11	8.5	1.6	64090163	MCRF-1600	64090193	MCRF-ST 2kW
	15	8.5	1.6	64090163	MCRF-1600	64090193	MCRF-ST 2kW
	18.5	5.7	2.4	64090171	MCRS-2400	64090201	MCRF-ST 2.4kW
	22	5.7	2.4	64090171	MCRS-2400	64090201	MCRF-ST 2.4kW
	30	4.2	3.2			64090206	MCRF-ST 3.2kW
	37	4.2	3.2			64090206	MCRF-ST 3.2kW
	45	2.8	4.8			64090213	MCRF-ST 4.8kW
	55	2.8	4.8			64090213	MCRF-ST 4.8kW
	75	2	7.5			64090220	MCRF-ST 7.5kW
	90	1.5	10			64090224	MCRF-ST 10kW
	400V	11	33.9	1.6	64090157	MCRF-1600	64090177
15		33.9	1.6	64090157	MCRF-1600	64090177	MCRF-ST 1.6kW
18.5		22.8	2.4	64090167	MCRS-2400	64090180	MCRF-ST 2.4kW
22		22.8	2.4	64090167	MCRS-2400	64090180	MCRF-ST 2.4kW
30		16.9	3.2			64090183	MCRF-ST 3.2kW
37		16.9	3.2			64090183	MCRF-ST 3.2kW
45		11.4	4.8			64090188	MCRF-ST 4.8kW
55		11.4	4.8			64090188	MCRF-ST 4.8kW
75		8.4	6.4			64090194	MCRF-ST 6.4kW
90		6	10			64090199	MCRF-ST 10kW
110		5	13			64090204	MCRF-ST 13kW
132		4	16			64090207	MCRF-ST 16kW
160		3.4	20			64090209	MCRF-ST 20kW
185		2.8	24			64090214	MCRF-ST 24kW
220		2.4	26			64090218	MCRF-ST 26kW

Torque 150%											
Value [Ω]	Wattage[kW] (%ED=5%)	Single(%ED=5%)		Set(%ED=5%)		Wattage[kW] (%ED=10%)	Single(%ED=10%)		Set(%ED=10%)		
		ERP Code	Model Name	ERP Code	Model Name		ERP Code	Model Name	ERP Code	Model Name	
10	2.4	64090169	MCRS-2400	64090189	MCRS-2400	4.8			6409019000	MCRF-ST 4.8kW	
8	2.4	64090170	MCRS-2400	64090197	MCRF-ST 2.4kW	4.8			6409019800	MCRF-ST 4.8kW	
5	3.6			64090202	MCRF-ST 3.6kW	7.2			6409020300	MCRF-ST 7.2kW	
3	5			64090211	MCRF-ST 5kW	10			6409021200	MCRF-ST 10kW	
2.4	6			64090216	MCRF-ST 6kW	12			6409021700	MCRF-ST 12kW	
2	7.5			64090220	MCRF-ST 7.5kW	15			6409022100	MCRF-ST 12kW	
1.5	10			64090224	MCRF-ST 10kW	20			6409022500	MCRF-ST 20kW	
1.2	13			64090226	MCRF-ST 13kW	26			6409022700	MCRF-ST 26kW	
40	2	64090156	MCRF-2000	64090174	MCRF-ST 2kW	4			6409017500	MCRF-ST 4kW	
30	2.4	64090166	MCRS-2400	64090178	MCRF-ST 2.4kW	4.8			6409017900	MCRF-ST 4.8kW	
20	3.6			64090181	MCRF-ST 3.6kW	7.2			6409018200	MCRF-ST 7.2kW	
12	5			64090186	MCRF-ST 5kW	10			6409018700	MCRF-ST 10kW	
10	6.4			64090191	MCRF-ST 6.4kW	12.8			6409019200	MCRF-ST 12.8kW	
8.4	7.2			64090195	MCRF-ST 7.2kW	14.4			6409019600	MCRF-ST 14.4kW	
6	10			64090199	MCRF-ST 10kW	20			6409020000	MCRF-ST 20kW	
5	13			64090204	MCRF-ST 13kW	26			6409020500	MCRF-ST 26kW	
4	16			64090207	MCRF-ST 16kW	32			6409020800	MCRF-ST 32kW	
3.4	20			64090209	MCRF-ST 20kW	40			6409021000	MCRF-ST 40kW	
2.8	24			64090214	MCRF-ST 24kW	48			6409021500	MCRF-ST 48kW	
2.4	26			64090218	MCRF-ST 26kW	52			6409021900	MCRF-ST 52kW	
2	30			64090222	MCRF-ST 30kW	60			6409022300	MCRF-ST 60kW	



서울특별시 용산구 한강대로 92 LS용산타워 23층  
www.ls-electric.com



경기도 부천시 오정구 삼자로 115번길 65(구. 삼정동 203-6)  
Tel: 032-673-3663 Fax: 032-673-3676 E-mail: fullohm@fullonm.co.kr  
www.fullonm.co.kr