System pro *M* compact®
Circuit breaker SU200 MR
for ring-tongue applications acc. to UL 489





The SU200 MR is a high-performance circuit breaker with ring cable lug connections conforming to UL, CSA, and IEC standards. The integrated captive connecting screws simplify the connection of electric lines, provides extra protection and saves time. This circuit breaker is a valuable addition to the well known system System pro *M* compact® range which allow most of the UL 489 and CSA 22.2 No. 5 approved components to be combined effortlessly with the new model line.

Standards and approvals

Standards	
UL 489	
CSA 22.2. No. 5	
IEC/EN 60947-2	
Approvals	
UL 489	US
CSA 22.2. No. 5	CA
VDE	DE

Power and productivity
for a better world™

Circuit breaker SU200 MR
Technical data

General Data	
Standards	UL 489, CSA 22.2 No. 5, IEC/EN 60947-2
Poles	1P, 2P, 3P, 4P
Rated current I_n	0.2 - 63 A
Rated frequency f	50/60 Hz
Tripping characteristics	K
IEC/EN 60947-2	
Rated operational voltage U_n	1P: 230 V AC, 2 ... 4P: 400 V AC
Power frequency recovery voltage U_{max}	1P: 253 V AC, 2 ... 4P: 440 V AC
Min. operating voltage	12 V AC
Rated insulation voltage U_i	250 V AC (phase to ground), 500 V AC (phase to phase)
Rated ultimate short-circuit breaking capacity I_{cu}	15 kA
Rated service short-circuit breaking capacity I_{cs}	11.2 kA (≤40 A); 7.5 kA (>40 A)
Overvoltage Category	III
Pollution Degree	2
Rated impulse withstand voltage U_{imp} (1.2/50µs)	4 kV (test voltage 6.2 kV at sea level; 5 kV at 2000 m)
Dielectric test voltage	2.0 kV (50/60 Hz, 1 min)
Reference temperature for tripping characteristics	30 °C
Electrical endurance	I_n ≤ 25 A: 20,000 ops., I_n > 25 A: 10,000 ops.
UL / CSA	
Rated voltage	1P: 277 V AC (≤35 A); 240 V AC (>35 A) 2…4P: 480Y/277 V AC (≤35 A); 240 V AC (>35 A)
Short-circuit current rating (SCCR)	10 kA
Application	Ring tongue terminal, not for general use
Reference temperature for tripping characteristics	40 °C
Electrical endurance	6,000 ops. (AC), 1 cycle (1s.-ON, 9s.-OFF)
Mechanical data	
Housing	Insulation group I, RAL 7035
Toggle	Insulation group II, black, sealable
Contact position indication	Real CPI (green OFF / red ON)
Protection degree acc. to EN 60529	IP20, IP40 in enclosure with cover
Mechanical endurance	20,000 ops.
Shock resistance acc. to IEC/EN 60068-2-27	25 g - 2 shocks - 13 ms
Vibration resistance acc. to IEC/EN 60068-2-6	5g - 20 cycles at 5…150…5 Hz with load 0.8 I_n
Environmental conditions acc. to DIN EN 60068-2-30	28 cycles with 55 °C/90-96 % and 25 °C/95-100%
Ambient temperature	-25 ... +55 °C
Storage temperature	-40 ... +70 °C
Installation	
Terminal	Ring tongue terminal
Cross section of conductors (top/bottom)	18 - 4 AWG
Torque	2.8 Nm 25 in-lbs.
Screw driver	No. 2 Pozidrive
Mounting	On DIN rail 35 mm, acc. to EN 60715 by fast clip
Mounting position	any
Supply side	top or bottom
Dimensions and weight	
Mounting dimensions acc. to DIN 43880	Mounting dimension 1
Pole dimensions (H x D x W)	115 x 69 x 17.5
Pole weight	approx. 125 g
Combination with auxiliary elements	
Integrated auxiliary switch	No
Signal contact/auxiliary switch, shunt trip	Yes
Undervoltage release	No

Circuit breaker SU200 MR
Tripping characteristic, internal resistance, power loss and current limiting

Tripping characteristic K

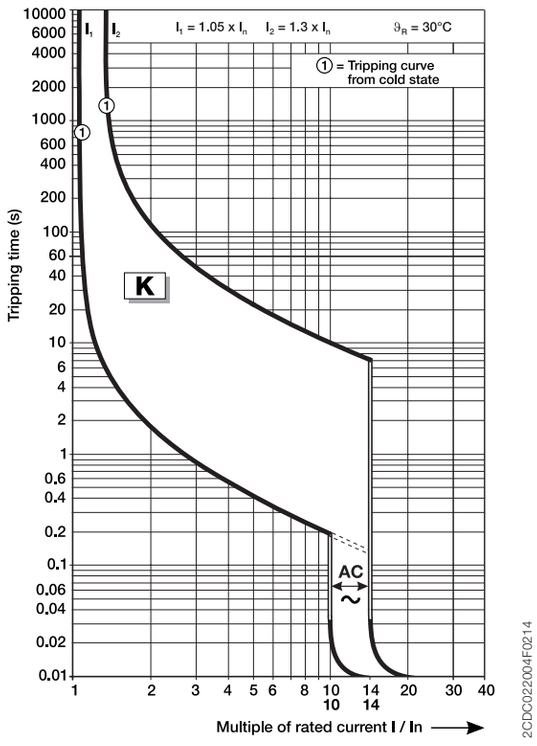
Rated current	Thermal release [1]			Electromagnetic release [2]		
	Currents: conventional non-tripping current	conventional tripping current	Tripping time	Currents: hold current surges	trip at least at	Tripping time
I_n	I_1	I_2				
0.5 to 63 A	$1.05 \cdot I_n$		> 1 h			
		$1.3 \cdot I_n$	< 1 h	not applicable		
	$1.05 \cdot I_n$		> 2 h	$10 \cdot I_n$		> 0.2 s
		$1.3 \cdot I_n$	< 1 h [3]		$14 \cdot I_n$	< 0.2 s

[1] The thermal releases are calibrated to a nominal reference ambient temperature; for K the reference value is 30 °C. In the case of higher ambient temperatures, the current values fall by approx. 6 % for each 10 K temperature rise.

[2] The indicated tripping values of electromagnetic tripping devices apply to a frequency of 50/60 Hz. The thermal release operates independent of frequency.

[3] As from operating temperature (after I_1 > 1 h or, as applicable, 2 h)

K characteristic



Internal resistance and power loss

Rated current	Internal resistance per pole [4]	Power loss per pole [4]
A	mΩ	W
0.2	25300	1.01
0.3	13700	1.23
0.5	4740	1.19
0.75	2067	1.16
1	1270	1.27
1.5	610	1.56
2	442	1.77
3	140	1.26
4	109	1.75
5	50	1.26
6	54	1.94
8	22	1.41
10	18.2	1.82
13	14.8	2.50
15	8.1	1.83
16	11.1	2.83
20	8.5	3.40
25	5.5	3.43
30	3.8	3.39
32	4.6	4.70
35	3.9	4.76
40	2.8	4.40
50	1.7	4.25
60	1.7	6.18
63	1.9	7.56

[4] Internal resistances and power loss are subject to application-specific and environment-specific conditions and are therefore to be considered as typical values.

Current limiting

Nominal current	Voltage	Current	Power Factor	I_{Peak}	I^2t
A	V	A		kA	kA^2S
≤ 35	480Y/277	10000	0.45-0.5	9.5	80.0
> 35	240	10000	0.45-0.5	8.0	110.0

Circuit breaker SU200 MR
Derating

For installation of circuit breakers at temperatures that are different from the reference temperature and installations of several circuit breakers directly side by side, derating factors apply to be considered.

Ambient temperature

The rated value of the current of a circuit breaker with K characteristic refers to a reference ambient temperature of 30 °C. The following table shows derating factors for ambient temperature from –40 to 70 °C for the characteristic K.

Rated current I_n	Maximum operating current at ambient temperature T											
A	A											
	-40 °C	-30 °C	-20 °C	-10 °C	0 °C	10 °C	20 °C	30 °C	40 °C	50 °C	60 °C	70 °C
0.2	0.26	0.25	0.24	0.23	0.22	0.22	0.21	0.20	0.19	0.19	0.18	0.17
0.3	0.39	0.37	0.36	0.35	0.33	0.32	0.31	0.30	0.29	0.28	0.27	0.26
0.5	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.5	0.48	0.46	0.45	0.43
0.75	0.97	0.93	0.90	0.87	0.84	0.81	0.78	0.75	0.72	0.70	0.67	0.65
1	1.29	1.24	1.20	1.16	1.12	1.08	1.04	1	0.96	0.93	0.89	0.86
1.6	2.06	1.99	1.92	1.85	1.78	1.72	1.66	1.6	1.54	1.48	1.43	1.38
2	2.58	2.49	2.40	2.31	2.23	2.15	2.07	2	1.93	1.85	1.79	1.72
3	3.87	3.73	3.60	3.47	3.35	3.23	3.11	3	2.89	2.78	2.68	2.58
4	5.16	4.97	4.80	4.63	4.46	4.30	4.15	4	3.85	3.71	3.57	3.44
5	6.45	6.22	6.00	5.78	5.58	5.38	5.19	5	4.82	4.64	4.47	4.30
6	7.74	7.46	7.20	6.94	6.69	6.45	6.22	6	5.78	5.56	5.36	5.16
8	10.32	9.95	9.59	9.25	8.92	8.60	8.30	8	7.70	7.42	7.14	6.88
10	12.90	12.44	11.99	11.56	11.15	10.75	10.37	10	9.63	9.27	8.93	8.60
13	16.76	16.17	15.59	15.03	14.50	13.98	13.48	13	12.52	12.06	11.61	11.18
15	19.34	18.65	17.99	17.35	16.73	16.13	15.56	15	14.45	13.91	13.40	12.90
16	20.63	19.90	19.19	18.50	17.84	17.21	16.59	16	15.41	14.84	14.29	13.76
20	25.79	24.87	23.98	23.13	22.30	21.51	20.74	20	19.26	18.55	17.86	17.20
25	32.24	31.09	29.98	28.91	27.88	26.88	25.93	25	24.08	23.18	22.33	21.50
30	38.69	37.31	35.98	34.69	33.45	32.26	31.11	30	28.89	27.82	26.79	25.80
32	41.27	39.79	38.37	37.01	35.69	34.41	33.18	32	30.82	29.68	28.58	27.52
35	45.14	43.53	41.97	40.47	39.03	37.64	36.30	35	33.71	32.46	31.26	30.10
40	51.58	49.74	47.97	46.26	44.61	43.01	41.48	40	38.52	37.09	35.72	34.40
50	64.48	62.18	59.96	57.82	55.76	53.77	51.85	50	48.15	46.37	44.65	43.00
60	77.38	74.61	71.95	69.39	66.91	64.52	62.22	60	57.78	55.64	53.58	51.60
63	81.24	78.35	75.55	72.85	70.25	67.75	65.33	63	61	58	56	54

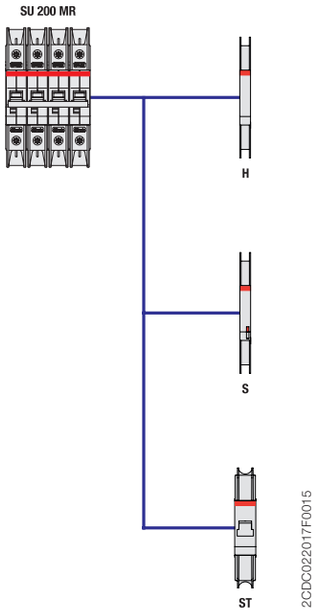
Influence of adjacent devices

If several miniature circuit breakers are installed directly side by side with high load on all poles, a correction factor has to be applied to the rated current (see table). If distance pieces (spacers) are used, the factor is not to be considered.

No. of adjacent devices	Factor F
1	1
2	0.95
3	0.9
4	0.86
5	0.82
6	0.795
7	0.78
8	0.77
9	0.76
>9	0.76

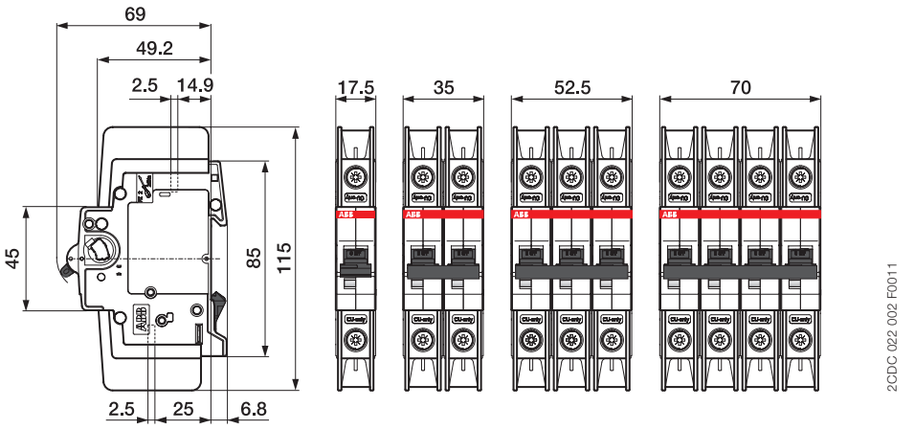
Circuit breaker SU200 MR
Accessories, dimensional drawings and instructions for use

Accessory overview

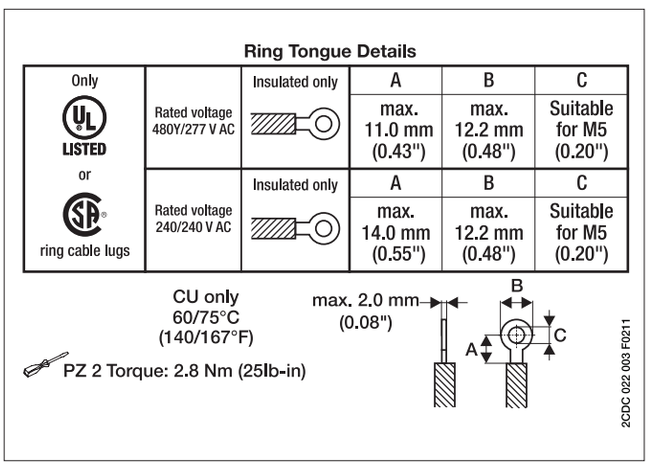


H	Auxiliary contact S2C-H6RU
S	Signal contact S2C-S6RU
ST	Shunt trip S2C-A...U

Dimensional drawing



Instructions for use



Ring Tongue Details

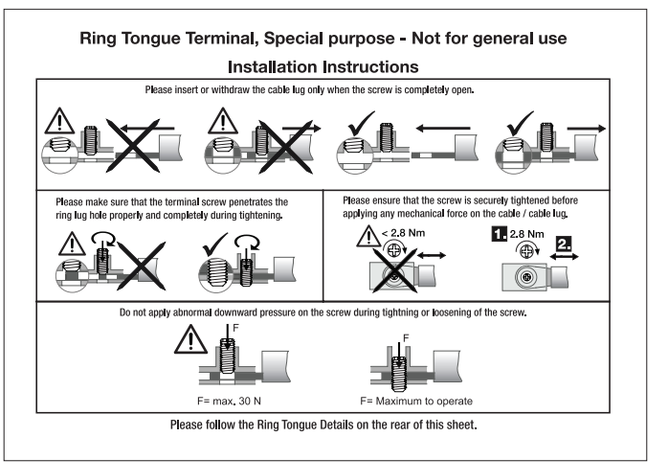
			A	B	C
Only UL LISTED or CSA ring cable lugs	Rated voltage 480Y/277 V AC	Insulated only	max. 11.0 mm (0.43")	max. 12.2 mm (0.48")	Suitable for M5 (0.20")
	Rated voltage 240/240 V AC	Insulated only	max. 14.0 mm (0.55")	max. 12.2 mm (0.48")	Suitable for M5 (0.20")

CU only
60/75°C
(140/167°F)

PZ 2 Torque: 2.8 Nm (25lb-in)

max. 2.0 mm (0.08")

2CDC 022 003 F0211



Ring Tongue Terminal, Special purpose - Not for general use

Installation Instructions

Please insert or withdraw the cable lug only when the screw is completely open.

Please make sure that the terminal screw penetrates the ring lug hole properly and completely during tightening.

Please ensure that the screw is securely tightened before applying any mechanical force on the cable / cable lug.

< 2,8 Nm

1. 2.8 Nm

2.

Do not apply abnormal downward pressure on the screw during tightning or loosening of the screw.

F

F= max. 30 N

F= Maximum to operate

Please follow the Ring Tongue Details on the rear of this sheet.

Circuit breaker SU200 MR
Ordering data


2CDC021001S0015


2CDC021002S0015

Number of poles	Rated current I_n A	EAN	Type code	Order code	Weight 1 PC kg	Packing unit PCE
1	0.2	4016779956192	SU201MR-K0.2	2CDS271347R0087	0.140	10
	0.3	4016779956215	SU201MR-K0.3	2CDS271347R0117	0.140	10
	0.5	4016779956239	SU201MR-K0.5	2CDS271347R0157	0.140	10
	0.75	4016779956253	SU201MR-K0.75	2CDS271347R0187	0.140	10
	1	4016779956277	SU201MR-K1	2CDS271347R0217	0.140	10
	1.6	4016779956291	SU201MR-K1.6	2CDS271347R0257	0.140	10
	2	4016779956314	SU201MR-K2	2CDS271347R0277	0.140	10
	3	4016779956338	SU201MR-K3	2CDS271347R0317	0.140	10
	4	4016779956352	SU201MR-K4	2CDS271347R0337	0.140	10
	5	4016779956376	SU201MR-K5	2CDS271347R0357	0.140	10
	6	4016779956390	SU201MR-K6	2CDS271347R0377	0.140	10
	8	4016779956413	SU201MR-K8	2CDS271347R0407	0.140	10
	10	4016779956437	SU201MR-K10	2CDS271347R0427	0.140	10
	13	4016779956451	SU201MR-K13	2CDS271347R0447	0.140	10
	15	4016779956475	SU201MR-K15	2CDS271347R0457	0.140	10
	16	4016779956499	SU201MR-K16	2CDS271347R0467	0.140	10
	20	4016779956512	SU201MR-K20	2CDS271347R0487	0.140	10
	25	4016779956536	SU201MR-K25	2CDS271347R0517	0.140	10
	30	4016779956550	SU201MR-K30	2CDS271347R0527	0.140	10
	32	4016779956574	SU201MR-K32	2CDS271347R0537	0.140	10
	35	4016779956598	SU201MR-K35	2CDS271347R0547	0.140	10
	40	4016779956611	SU201MR-K40	2CDS271347R0557	0.140	10
	50	4016779956635	SU201MR-K50	2CDS271347R0577	0.140	10
	60	4016779956659	SU201MR-K60	2CDS271347R0587	0.140	10
	63	4016779956673	SU201MR-K63	2CDS271347R0607	0.140	10
2	0.2	4016779957175	SU202MR-K0.2	2CDS272347R0087	0.280	5
	0.3	4016779957199	SU202MR-K0.3	2CDS272347R0117	0.280	5
	0.5	4016779957212	SU202MR-K0.5	2CDS272347R0157	0.280	5
	0.75	4016779957236	SU202MR-K0.75	2CDS272347R0187	0.280	5
	1	4016779957250	SU202MR-K1	2CDS272347R0217	0.280	5
	1.6	4016779957274	SU202MR-K1.6	2CDS272347R0257	0.280	5
	2	4016779957298	SU202MR-K2	2CDS272347R0277	0.280	5
	3	4016779957311	SU202MR-K3	2CDS272347R0317	0.280	5
	4	4016779957335	SU202MR-K4	2CDS272347R0337	0.280	5
	5	4016779957359	SU202MR-K5	2CDS272347R0357	0.280	5
	6	4016779957373	SU202MR-K6	2CDS272347R0377	0.280	5
	8	4016779957397	SU202MR-K8	2CDS272347R0407	0.280	5
	10	4016779957410	SU202MR-K10	2CDS272347R0427	0.280	5
	13	4016779957434	SU202MR-K13	2CDS272347R0447	0.280	5
	15	4016779957458	SU202MR-K15	2CDS272347R0457	0.280	5
	16	4016779957472	SU202MR-K16	2CDS272347R0467	0.280	5
	20	4016779957496	SU202MR-K20	2CDS272347R0487	0.280	5
	25	4016779957519	SU202MR-K25	2CDS272347R0517	0.280	5
	30	4016779957533	SU202MR-K30	2CDS272347R0527	0.280	5
	32	4016779957557	SU202MR-K32	2CDS272347R0537	0.280	5
	35	4016779957571	SU202MR-K35	2CDS272347R0547	0.280	5
	40	4016779957595	SU202MR-K40	2CDS272347R0557	0.280	5
	50	4016779957618	SU202MR-K50	2CDS272347R0577	0.280	5
	60	4016779957632	SU202MR-K60	2CDS272347R0587	0.280	5
	63	4016779957656	SU202MR-K63	2CDS272347R0607	0.280	5

Circuit breaker SU200 MR
Ordering data


2CDC021003S0015


2CDC021004S0015

Number of poles	Rated current I_n A	EAN	Type code	Order code	Weight 1 PC kg	Packing unit PCE
3	0.2	4016779958172	SU203MR-K0.2	2CDS273347R0087	0.420	3
	0.3	4016779958196	SU203MR-K0.3	2CDS273347R0117	0.420	3
	0.5	4016779958219	SU203MR-K0.5	2CDS273347R0157	0.420	3
	0.75	4016779958233	SU203MR-K0.75	2CDS273347R0187	0.420	3
	1	4016779958257	SU203MR-K1	2CDS273347R0217	0.420	3
	1.6	4016779958271	SU203MR-K1.6	2CDS273347R0257	0.420	3
	2	4016779958295	SU203MR-K2	2CDS273347R0277	0.420	3
	3	4016779958318	SU203MR-K3	2CDS273347R0317	0.420	3
	4	4016779958332	SU203MR-K4	2CDS273347R0337	0.420	3
	5	4016779958356	SU203MR-K5	2CDS273347R0357	0.420	3
	6	4016779958370	SU203MR-K6	2CDS273347R0377	0.420	3
	8	4016779958394	SU203MR-K8	2CDS273347R0407	0.420	3
	10	4016779958417	SU203MR-K10	2CDS273347R0427	0.420	3
	13	4016779958431	SU203MR-K13	2CDS273347R0447	0.420	3
	15	4016779958455	SU203MR-K15	2CDS273347R0457	0.420	3
	16	4016779958479	SU203MR-K16	2CDS273347R0467	0.420	3
	20	4016779958493	SU203MR-K20	2CDS273347R0487	0.420	3
	25	4016779958516	SU203MR-K25	2CDS273347R0517	0.420	3
	30	4016779958530	SU203MR-K30	2CDS273347R0527	0.420	3
	32	4016779958554	SU203MR-K32	2CDS273347R0537	0.420	3
	35	4016779958578	SU203MR-K35	2CDS273347R0547	0.420	3
	40	4016779958592	SU203MR-K40	2CDS273347R0557	0.420	3
	50	4016779958615	SU203MR-K50	2CDS273347R0577	0.420	3
	60	4016779958639	SU203MR-K60	2CDS273347R0587	0.420	3
	63	4016779958653	SU203MR-K63	2CDS273347R0607	0.420	3
4	0.2	4016779959179	SU204MR-K0.2	2CDS274347R0087	0.560	2
	0.3	4016779959193	SU204MR-K0.3	2CDS274347R0117	0.560	2
	0.5	4016779959216	SU204MR-K0.5	2CDS274347R0157	0.560	2
	0.75	4016779959230	SU204MR-K0.75	2CDS274347R0187	0.560	2
	1	4016779959254	SU204MR-K1	2CDS274347R0217	0.560	2
	1.6	4016779959278	SU204MR-K1.6	2CDS274347R0257	0.560	2
	2	4016779959292	SU204MR-K2	2CDS274347R0277	0.560	2
	3	4016779959315	SU204MR-K3	2CDS274347R0317	0.560	2
	4	4016779959339	SU204MR-K4	2CDS274347R0337	0.560	2
	5	4016779959353	SU204MR-K5	2CDS274347R0357	0.560	2
	6	4016779959377	SU204MR-K6	2CDS274347R0377	0.560	2
	8	4016779959391	SU204MR-K8	2CDS274347R0407	0.560	2
	10	4016779959414	SU204MR-K10	2CDS274347R0427	0.560	2
	13	4016779959438	SU204MR-K13	2CDS274347R0447	0.560	2
	15	4016779959452	SU204MR-K15	2CDS274347R0457	0.560	2
	16	4016779959476	SU204MR-K16	2CDS274347R0467	0.560	2
	20	4016779959490	SU204MR-K20	2CDS274347R0487	0.560	2
	25	4016779959513	SU204MR-K25	2CDS274347R0517	0.560	2
	30	4016779959537	SU204MR-K30	2CDS274347R0527	0.560	2
	32	4016779959551	SU204MR-K32	2CDS274347R0537	0.560	2
	35	4016779959575	SU204MR-K35	2CDS274347R0547	0.560	2
	40	4016779959599	SU204MR-K40	2CDS274347R0557	0.560	2
	50	4016779959612	SU204MR-K50	2CDS274347R0577	0.560	2
	60	4016779959636	SU204MR-K60	2CDS274347R0587	0.560	2
	63	4016779959650	SU204MR-K63	2CDS274347R0607	0.560	2

Contact us

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