



S200
UL 489 Series



Description

The S200 Series miniature circuit breaker offers a compact solution for protection requirements. The S200 devices are UL tested current limiting and DIN rail mounted. The S200 is available with application-specific trip characteristics to provide maximum circuit protection. The breakers offer thermal-magnetic trip protection according to B, C, D, K and Z characteristics.

For the worldwide market, the breakers carry UL, CSA, IEC, CE and many other agency approvals and certifications.

Features

- Current limiting
- Fast breaking time (2.3 – 2.5 ms)
- Bus connection system
- Wide range of accessories
- Available with variable depth handle mechanism
- CE certified and marked
- DIN rail mounting
- Finger safe terminals
- Multi-function terminals
- Suitable for reverse feed
- UL 489 Listed - branch circuit protective device. UL File #E212323

	S200U	S200UP	S201DC
Amperage	0.2 – 63	0.2 – 25	1 – 25
Voltage	240 VAC	480Y/277VAC	60 VDC
Poles	1, 2, 3, 4	1, 2, 3, 4	1
Trip characteristics	K, Z	K, Z	K, Z
Interrupting ratings	10 kA: IEC 947-2 10 kA: UL 489 10 kA: CSA C22.2 No. 5	10 kA: IEC 947-2 10 kA: UL 489 10 kA: CSA C22.2 No. 5	10 kA: UL489 10 kA: CSA C22.2
Auxiliary contacts	Yes	Yes	Yes
Bell alarm	Yes	Yes	Yes
Shunt trip	Yes	Yes	Yes
Undervoltage release	No	No	No
Bus bar	Yes	Yes	Yes

S200U-K, 240 VAC

Branch circuit protection

UL 489, CSA C 22.2

K



S201U-K



S202U-K



S203U-K



S204U-K

No. of poles	Rated current	Catalog number	No. of poles	Rated current	Catalog number
1	0.2	S201U-K0.2	3	0.2	S203U-K0.2
	0.3	S201U-K0.3		0.3	S203U-K0.3
	0.5	S201U-K0.5		0.5	S203U-K0.5
	0.75	S201U-K0.75		0.75	S203U-K0.75
	1	S201U-K1		1	S203U-K1
	1.6	S201U-K1.6		1.6	S203U-K1.6
	2	S201U-K2		2	S203U-K2
	3	S201U-K3		3	S203U-K3
	4	S201U-K4		4	S203U-K4
	5	S201U-K5		5	S203U-K5
	6	S201U-K6		6	S203U-K6
	8	S201U-K8		8	S203U-K8
	10	S201U-K10		10	S203U-K10
	15	S201U-K15		15	S203U-K15
2	0.2	S202U-K0.2	4	0.2	S204U-K0.2
	0.3	S202U-K0.3		0.3	S204U-K0.3
	0.5	S202U-K0.5		0.5	S204U-K0.5
	0.75	S202U-K0.75		0.75	S204U-K0.75
	1	S202U-K1		1	S204U-K1
	1.6	S202U-K1.6		1.6	S204U-K1.6
	2	S202U-K2		2	S204U-K2
	3	S202U-K3		3	S204U-K3
	4	S202U-K4		4	S204U-K4
	5	S202U-K5		5	S204U-K5
	6	S202U-K6		6	S204U-K6
	8	S202U-K8		8	S204U-K8
	10	S202U-K10		10	S204U-K10
	15	S202U-K15		15	S204U-K15
3	0.2	S203U-K0.2	4	0.2	S204U-K0.2
	0.3	S203U-K0.3		0.3	S204U-K0.3
	0.5	S203U-K0.5		0.5	S204U-K0.5
	0.75	S203U-K0.75		0.75	S204U-K0.75
	1	S203U-K1		1	S204U-K1
	1.6	S203U-K1.6		1.6	S204U-K1.6
	2	S203U-K2		2	S204U-K2
	3	S203U-K3		3	S204U-K3
	4	S203U-K4		4	S204U-K4
	5	S203U-K5		5	S204U-K5
	6	S203U-K6		6	S204U-K6
	8	S203U-K8		8	S204U-K8
	10	S203U-K10		10	S204U-K10
	15	S203U-K15		15	S204U-K15
20	S203U-K20	20	S204U-K20		
25	S203U-K25	25	S204U-K25		
30	S203U-K30	30	S204U-K30		
32	S203U-K32	32	S204U-K32		
40	S203U-K40	40	S204U-K40		
50	S203U-K50	50	S204U-K50		
60	S203U-K60	60	S204U-K60		
63	S203U-K63	63	S204U-K63		

Tripping characteristic K

UL 489
240 VAC
10 kA

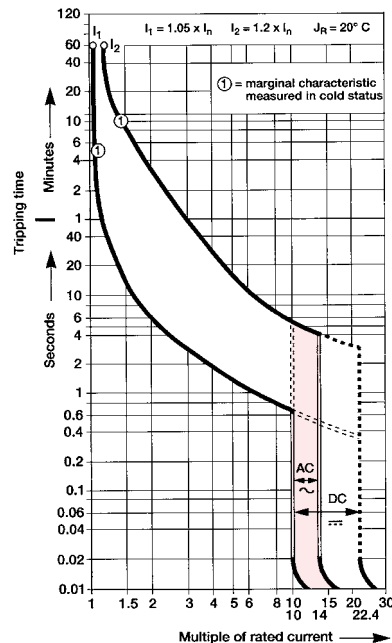
Inductive loads

- K Curve
- Designed for allowing higher in-rush currents during system start up
- Example: motors, transformers

Accessories & technical data

Accessories – See page 15.7

Technical data – See page 15.76 - 15.82



Note: This breaker for AC use only

S200U-Z, 240 VAC

Branch circuit protection

UL 489, CSA C 22.2

Z



S201U-Z



S202U-Z



S203U-Z



S204U-Z

No. of poles	Rated current	Catalog number	No. of poles	Rated current	Catalog number
1	0.5	S201U-Z0.5	3	0.5	S203U-Z0.5
	1	S201U-Z1		1	S203U-Z1
	1.6	S201U-Z1.6		1.6	S203U-Z1.6
	2	S201U-Z2		2	S203U-Z2
	3	S201U-Z3		3	S203U-Z3
	4	S201U-Z4		4	S203U-Z4
	5	S201U-Z5		5	S203U-Z5
	6	S201U-Z6		6	S203U-Z6
	8	S201U-Z8		8	S203U-Z8
	10	S201U-Z10		10	S203U-Z10
	15	S201U-Z15		15	S203U-Z15
	16	S201U-Z16		16	S203U-Z16
	20	S201U-Z20		20	S203U-Z20
	25	S201U-Z25		25	S203U-Z25
30	S201U-Z30	30	S203U-Z30		
32	S201U-Z32	32	S203U-Z32		
40	S201U-Z40	40	S203U-Z40		
50	S201U-Z50	50	S203U-Z50		
60	S201U-Z60	60	S203U-Z60		
63	S201U-Z63	63	S203U-Z63		
2	0.5	S202U-Z0.5	4	0.5	S204U-Z0.5
	1	S202U-Z1		1	S204U-Z1
	1.6	S202U-Z1.6		1.6	S204U-Z1.6
	2	S202U-Z2		2	S204U-Z2
	3	S202U-Z3		3	S204U-Z3
	4	S202U-Z4		4	S204U-Z4
	5	S202U-Z5		5	S204U-Z5
	6	S202U-Z6		6	S204U-Z6
	8	S202U-Z8		8	S204U-Z8
	10	S202U-Z10		10	S204U-Z10
	15	S202U-Z15		15	S204U-Z15
	16	S202U-Z16		16	S204U-Z16
	20	S202U-Z20		20	S204U-Z20
	25	S202U-Z25		25	S204U-Z25
30	S202U-Z30	30	S204U-Z30		
32	S202U-Z32	32	S204U-Z32		
40	S202U-Z40	40	S204U-Z40		
50	S202U-Z50	50	S204U-Z50		
60	S202U-Z60	60	S204U-Z60		
63	S202U-Z63	63	S204U-Z63		

Tripping characteristic Z

UL 489
240 VAC
10 kA

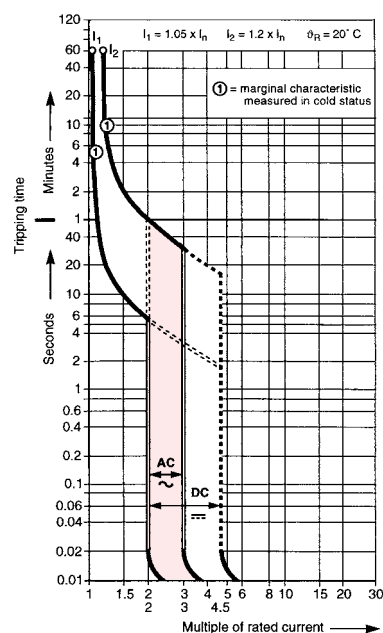
Resistive loads

- Z Curve
- Designed to provide maximum protection with a very low short circuit trip setting
- Example: semiconductors
- Control circuits

Accessories & technical data

Accessories – See page 15.7

Technical data – See page 15.76 - 15.82



Note: This breaker for AC use only

S200UP-K, 480Y/277 VAC

Branch circuit protection

UL 489, CSA C 22.2

K



S201UP-K



S202UP-K



S203UP-K



S204UP-K

No. of poles	Rated current	Catalog number	No. of poles	Rated current	Catalog number
1	0.2	S201UP-K0.2	3	0.2	S203UP-K0.2
	0.3	S201UP-K0.3		0.3	S203UP-K0.3
	0.5	S201UP-K0.5		0.5	S203UP-K0.5
	0.75	S201UP-K0.75		0.75	S203UP-K0.75
	1	S201UP-K1		1	S203UP-K1
	1.6	S201UP-K1.6		1.6	S203UP-K1.6
	2	S201UP-K2		2	S203UP-K2
	3	S201UP-K3		3	S203UP-K3
	4	S201UP-K4		4	S203UP-K4
	5	S201UP-K5		5	S203UP-K5
	6	S201UP-K6		6	S203UP-K6
	8	S201UP-K8		8	S203UP-K8
	10	S201UP-K10		10	S203UP-K10
15	S201UP-K15	15	S203UP-K15		
16	S201UP-K16	16	S203UP-K16		
20	S201UP-K20	20	S203UP-K20		
25	S201UP-K25	25	S203UP-K25		
2	0.2	S202UP-K0.2	4	0.2	S204UP-K0.2
	0.3	S202UP-K0.3		0.3	S204UP-K0.3
	0.5	S202UP-K0.5		0.5	S204UP-K0.5
	0.75	S202UP-K0.75		0.75	S204UP-K0.75
	1	S202UP-K1		1	S204UP-K1
	1.6	S202UP-K1.6		1.6	S204UP-K1.6
	2	S202UP-K2		2	S204UP-K2
	3	S202UP-K3		3	S204UP-K3
	4	S202UP-K4		4	S204UP-K4
	5	S202UP-K5		5	S204UP-K5
	6	S202UP-K6		6	S204UP-K6
	8	S202UP-K8		8	S204UP-K8
	10	S202UP-K10		10	S204UP-K10
15	S202UP-K15	15	S204UP-K15		
16	S202UP-K16	16	S204UP-K16		
20	S202UP-K20	20	S204UP-K20		
25	S202UP-K25	25	S204UP-K25		

Tripping characteristic K

UL 489
480Y/277 VAC
10 kA

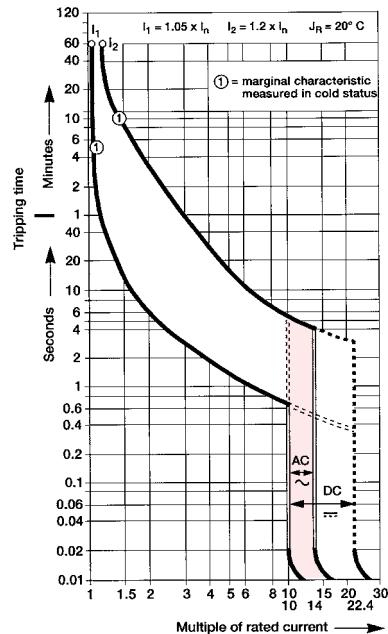
Inductive loads

- K Curve
- Designed for allowing higher in-rush currents during system start up
- Example: motors, transformers

Accessories & technical data

Accessories – See page 15.7

Technical data – See page 15.76 - 15.82



Note: This breaker for AC use only

S200UP-Z, 277/480Y/277 VAC

Branch circuit protection

UL 489, CSA C 22.2

Miniature
circuit breakers

Z



S201UP-Z



S202UP-Z



S203UP-Z



S204UP-Z

No. of poles	Rated current	Catalog number	No. of poles	Rated current	Catalog number
1	0.5	S201UP-Z0.5	3	0.5	S203UP-Z0.5
	1	S201UP-Z1		1	S203UP-Z1
	1.6	S201UP-Z1.6		1.6	S203UP-Z1.6
	2	S201UP-Z2		2	S203UP-Z2
	3	S201UP-Z3		3	S203UP-Z3
	4	S201UP-Z4		4	S203UP-Z4
	5	S201UP-Z5		5	S203UP-Z5
	6	S201UP-Z6		6	S203UP-Z6
	8	S201UP-Z8		8	S203UP-Z8
	10	S201UP-Z10		10	S203UP-Z10
	15	S201UP-Z15		15	S203UP-Z15
	16	S201UP-Z16		16	S203UP-Z16
20	S201UP-Z20	20	S203UP-Z20		
25	S201UP-Z25	25	S203UP-Z25		
2	0.5	S202UP-Z0.5	4	0.5	S204UP-Z0.5
	1	S202UP-Z1		1	S204UP-Z1
	1.6	S202UP-Z1.6		1.6	S204UP-Z1.6
	2	S202UP-Z2		2	S204UP-Z2
	3	S202UP-Z3		3	S204UP-Z3
	4	S202UP-Z4		4	S204UP-Z4
	5	S202UP-Z5		5	S204UP-Z5
	6	S202UP-Z6		6	S204UP-Z6
	8	S202UP-Z8		8	S204UP-Z8
	10	S202UP-Z10		10	S204UP-Z10
	15	S202UP-Z15		15	S204UP-Z15
	16	S202UP-Z16		16	S204UP-Z16
20	S202UP-Z20	20	S204UP-Z20		
25	S202UP-Z25	25	S204UP-Z25		

Tripping characteristic Z

UL 489
480Y/277 VAC
10 kA

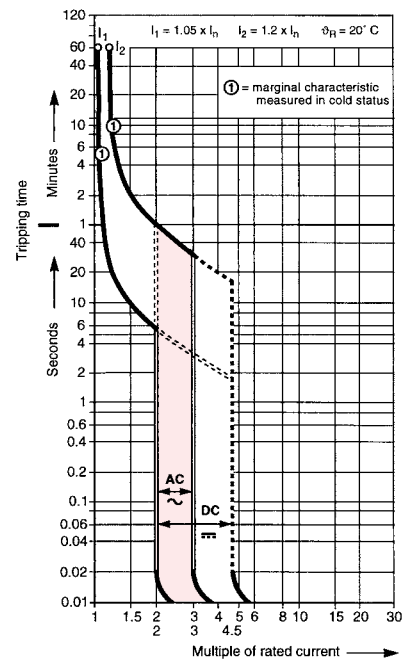
Resistive loads

- Z Curve
- Designed to provide maximum protection with a very low short circuit trip setting
- Example: semiconductors
- Control circuits

Accessories & technical data

Accessories – See page 15.7

Technical data – See page 15.76 - 15.82



Note: This breaker for AC use only

S201DC, 60 VDC

Branch circuit protection

UL 489, CSA C 22.2

K, Z



S201DC-K



S201DC-Z

No. of poles	Rated current	Catalog number
1	1	S201DC-K1
	1.6	S201DC-K1.6
	2	S201DC-K2
	3	S201DC-K3
	4	S201DC-K4
	6	S201DC-K6
	8	S201DC-K8
	10	S201DC-K10
	13	S201DC-K13
	16	S201DC-K16
1	1	S201DC-Z1
	1.6	S201DC-Z1.6
	2	S201DC-Z2
	3	S201DC-Z3
	4	S201DC-Z4
	6	S201DC-Z6
	8	S201DC-Z8
	10	S201DC-Z10
	16	S201DC-Z16
	20	S201DC-Z20
25	S201DC-Z25	

Tripping characteristic K

UL 489
60 VDC
10 kA

Inductive loads

- K Curve
- Designed for allowing higher in-rush currents during system start up
- Example: motors, transformers

Accessories & technical data

Accessories – See page 15.7

Technical data – See page 15.76 - 15.82

Tripping characteristic Z

UL 489
60 VDC
10 kA

Resistive loads

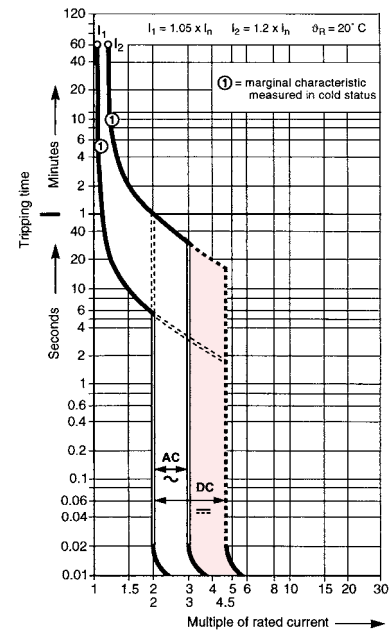
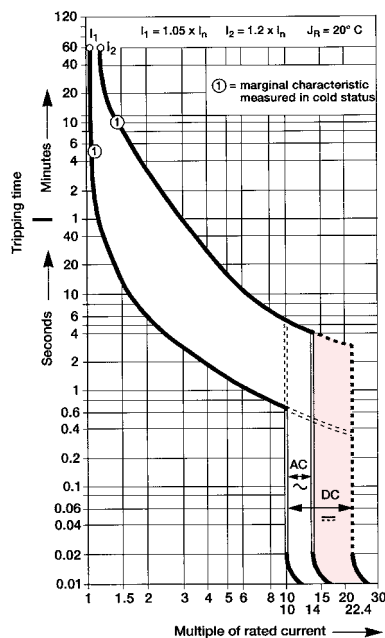
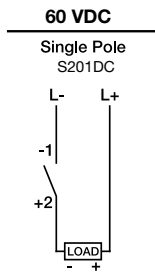
- Z Curve
- Designed to provide maximum protection with a very low short circuit trip setting

Accessories & technical data

Accessories – See page 15.7

Technical data – See page 15.76 - 15.82

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Note: This breaker for DC use only.

Technical data

S200U, S200UP & S201DC

UL 489, CSA C 22.2

Miniature
circuit breakers

Technical data	S200U	S200UP	S201DC
Specifications:	UL 489, CSA C 22.2 No. 5, IEC 60 947-2		UL 489, CSA C 22.2, VDE 0660
UL File-Number:	E 2123233, UL, Current limiting series ratings		
No. of poles:	1, 2, 3 & 4		1
Tripping characteristics:	K & Z		K, Z
Rated current:	0.2 (K) 0.5 (Z) ... 63 A	0.2 (K) 0.5 (Z) ... 25 A	1 - 25 A
Rated voltage:	1-pole: 240VAC Multi pole: 240VAC	1-pole: 277VAC Multi pole: 480Y/277VAC	
Short circuit capacity:	10 kA		10 kA
Frequency:	50/60 Hz		50/60 Hz
Degree of protection:	IP 20		IP 20
Mounting position:	Vertical and horizontal		Vertical and horizontal
Fixing:	35 mm DIN rail		35 mm DIN rail
Clamps only for Cu:	18 ... 4 AWG (0.75 ... 25 mm ²)		18 ... 4 AWG (0.75 ... 25 mm ²)
Service life, mech. and at rated load:	20,000 operations		10,000 operations
Tightening torque:	25 in. lbs (2.8 Nm)		4.5 in. lbs
Ambient temperature:	- 25 ... + 55 °C / - 13 °F ... + 131 °F		- 40 ... + 70 °C / - 40 °F ... + 158 °F
Shock resistance:	10 g at least 2 impacts shock duration 13 ms		10 g at least 2 impacts shock duration 13 ms

Auxiliary contact S2C-H6RL and S2C-S6RU

Rated current:	10
Rated voltage AC / DC:	24
Contact:	1 pole single throw
Connection capacity mm ²	18 - 14 AWG (0.75...2.5 mm ²)
Tightening torque:	11 in.lbs (1.2 Nm)
Shock resistance acc. to DIN IEC 68-2-6:	5 g, 20 frequency cycles 5...150...5 Hz at 24 VAC/DC, 5 mA auto-reclosing < 10 ms
Mechanical service life:	10,000 operations

Shunt trip

	Type	S2C-A1U	S2C-A2U
Rated voltage	AC	12 ... 60	110 ... 415
	DC	12 ... 60	110 ... 250
Max. release duration	ms	< 10	< 10
Min. release voltage	AC	7	55
	DC	10	80
Consumption on release	AC	40 ... 200	55 ... 210
	DC	40 ... 200	55 ... 110
Coil resistance	Ω	3.7	225
Terminals	AWG/mm ²	18...6 / 0.75 - 16	18...6 / 0.75 - 16
Tightening torque	in.lbs/Nm	18 / 2	18 / 2

Technical data

S200U, S200UP & S201DC

UL 489, CSA C 22.2

Internal resistance and power loss

Internal resistance per pole in mΩ, power loss per pole in W.

Type	Rated current A	Device series K		Device series Z	
		mΩ	W	mΩ	W
S200U S200UP S201DC	0.2	42500	1.7	–	–
	0.3	20000	1.8	–	–
	0.5	6340	1.6	10100	2.5
	0.75	2500	1.4	–	–
	1	1400	1.4	2270	2.3
	1.6	625	1.6	1100	2.8
	2	460	1.8	619	2.5
	3	211	1.9	211	1.9
	4	163	2.6	163	2.6
	6	67	2.4	104	3.7
	8	45	2.9	55	3.5
	10	19	1.9	21	2.1
	13	–	–	–	–
	16	8.2	2.1	10.9	2.8
	20	7.3	2.9	7.3	2.9
	25	5.6	3.5	5.6	3.5
	32	4.1	4.2	4.1	4.2
	40	4.0	6.4	4.0	6.4
	50	1.2	3.0	1.8	4.4
	63	1.3	5.2	1.3	5.2

Technical data

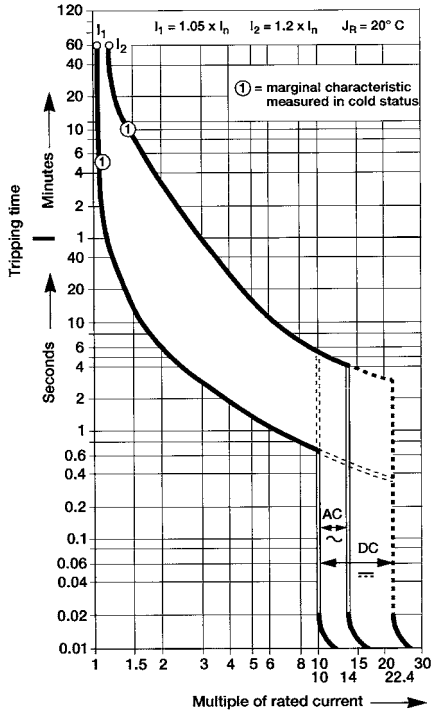
S200U & S200UP

UL 489, CSA C 22.2

Miniature
circuit breakers

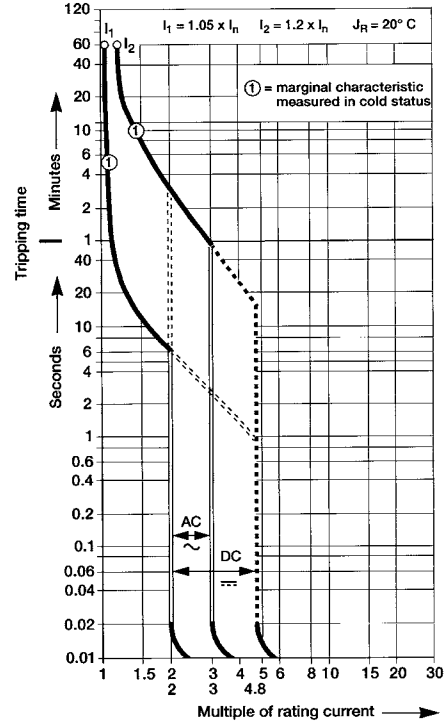
Tripping characteristic K (68 °F)

Breaker calibration temperature 68°F
See chart below for temperature DeRating



Tripping characteristic Z (68 °F)

Breaker calibration temperature 68°F
See chart below for temperature DeRating



Temperature derating

Max. operating current values depending on the ambient temperature for a circuit-breaker of characteristics type K and Z

K and Z	Ambient temperature T (°C/°F)												
	-40/-40	-30/-22	-20/-4	-10/14	0/32	10/50	20/68	30/86	40/104	50/122	60/140	70/158	
I_n (A)	0.66	0.64	0.61	0.59	0.56	0.53	0.50	0.47	0.43	0.40	0.35	0.31	
0.5	1.32	1.27	1.22	1.17	1.12	1.06	1.00	0.94	0.87	0.79	0.71	0.61	
1.0	2.12	2.04	1.96	1.88	1.79	1.70	1.60	1.50	1.39	1.26	1.13	0.98	
1.6	2.65	2.55	2.45	2.35	2.24	2.12	2.00	1.87	1.73	1.58	1.41	1.22	
2.0	4.0	3.8	3.7	3.5	3.4	3.2	3.0	2.8	2.6	2.4	2.1	1.8	
3.0	5.3	5.1	4.9	4.7	4.5	4.2	4.0	3.7	3.5	3.2	2.8	2.4	
4.0	7.9	7.6	7.3	7.0	6.7	6.4	6.0	5.6	5.2	4.7	4.2	3.7	
6.0	10.8	10.2	9.8	9.4	8.9	8.5	8.0	7.5	6.9	6.3	5.7	4.9	
8.0	13.2	12.7	12.2	11.7	11.2	10.6	10.0	9.4	8.7	7.9	7.1	6.1	
10.0	17.2	16.6	15.9	15.2	14.5	13.8	13.0	12.2	11.3	10.3	9.2	8.0	
13.0	21.2	20.4	19.6	18.8	17.9	17.0	16.0	15.0	13.9	12.6	11.3	9.8	
16.0	26.5	25.5	24.5	23.5	22.4	21.2	20.0	18.7	17.3	15.8	14.1	12.2	
20.0	33.1	31.9	30.6	29.3	28.0	26.5	25.0	23.4	21.7	19.8	17.7	15.3	
25.0	42.3	40.8	39.2	37.5	35.8	33.9	32.0	29.9	27.7	25.3	22.6	19.6	
32.0	52.9	51.0	49.0	46.9	44.7	42.4	40.0	37.4	34.6	31.6	28.3	24.5	
40.0	66.1	63.7	61.2	58.6	55.9	53.0	50.0	46.8	43.3	39.5	35.4	30.6	
50.0	83.3	80.3	77.2	73.9	70.4	66.8	63.0	58.9	54.6	49.8	44.5	38.6	