



Unitronics Motion

UMI series current ratings

1. What is SCCR?

Short-circuit current rating is the maximum RMS current that device can handle using overcurrent protection such as circuit breaker or fuse. SCCR apply or both individual and entire assembled systems.

Fuse is limiting the maximum possible peak current and reduce the total cycle of fault clearing time, by that the electrical arc time is reduced by less than 50%.

2. UL allowed I_{peak} and I^2t (Ampere Square Second) fuses

UL published the maximum allowed values for fuses at 100kA and 200kA fault current levels.

Fuse Type	Rated Current (A)	100kA		200kA	
		$I^2t \times 10^3$	$I_{peak} \times 10^3$	$I^2t \times 10^3$	$I_{peak} \times 10^3$
CLASS CC	15	2	3	3	4
	20	3	4	3	5
	30	7	7.5	7	12
CLASS T 600V	30	7	7.5	7	12
	60	30	10	30	16
	100	80	14	80	20
	200	300	20	300	30
	400	1100	30	1100	45
	600	2500	45	2500	70

UL maximum allowed current values (source: Littlefuse PDF)

3. UMI-UL Short Circuit Current Ratings (SCCR)

UMI Models	Maximum prospective line Isc (current short circuit, kA)	Fuse class type	Fuse rated current and voltage
UMI-0004BU-B1	5	CC	10A , 600V
UMI-0007BU-B1	5	CC	20A , 600V
UMI-0015BU-B1	5	CC	20A , 600V
UMI-0022BU-B1	5	CC	30A , 600V
UMI-0004CU-B1	5	CC	10A , 600V
UMI-0007CU-B1	5	CC	20A , 600V
UMI-0007EU-B1	5	CC	10A , 600V
UMI-0015EU-B1	5	CC	10A , 600V
UMI-0022EU-B1	5	CC	20A , 600V
UMI-0007CU-B5	10	CC	20A , 600V

UMI-0015CU-B5	10	CC	20A , 600V
UMI-0022CU-B5	10	CC	20A , 600V
UMI-0040CU-B5	10	CC	40A , 600V
UMI-0055CU-B5	10	T	50A , 600V
UMI-0075CU-B5	10	T	50A , 600V
UMI-0110CU-B5	10	T	90A , 600V
UMI-0150CU-B5	10	T	125A , 600V
UMI-0180CU-B5	10	T	150A , 600V
UMI-0220CU-B5	10	T	150A , 600V
UMI-0300CU-B5	10	T	200A , 600V
UMI-0370CU-B5	10	T	250A , 600V
UMI-0450CU-B5	10	T	250A , 600V
UMI-0550CU-B5	10	T	250A , 600V
UMI-0015EU-B5	5	CC	20A , 600V
UMI-0022EU-B5	5	CC	20A , 600V
UMI-0040EU-B5	5	CC	20A , 600V
UMI-0055EU-B5	5	CC	30A , 600V
UMI-0075EU-B5	5	T	40A , 600V
UMI-0110EU-B5	5	T	50A , 600V
UMI-0150EU-B5	5	T	50A , 600V
UMI-0180EU-B5	5	T	80A , 600V
UMI-0220EU-B5	10	T	90A , 600V
UMI-0300EU-B5	10	T	125A , 600V
UMI-0370EU-B5	10	T	150A , 600V
UMI-0450EU-B5	10	T	200A , 600V
UMI-0550EU-B5	10	T	200A , 600V
UMI-0750EU-B5	10	T	400A , 600V
UMI-0900EU-B5	10	T	400A , 600V
UMI-1100EU-B5	10	T	400A , 600V

4. UMI-EU recommended fuse, circuit-breakers and contactors

UMI Models	Fuse rated current (A)	Circuit-Breaker rated current (A)	Contactors rated current (A)
UMI-0004BE-B1	10	10	9
UMI-0007BE-B1	16	16	12
UMI-0015BE-B1	25	35	25
UMI-0022BE-B1	50	40	32
UMI-0007EE-B1	6	6	9
UMI-0015EE-B1	10	10	9
UMI-0022EE-B1	10	10	9
UMI-0040EE-B1	25	25	25
UMI-0055EE-B1	35	32	25
UMI-0075EE-B1	50	40	38
UMI-0110EE-B1	63	63	50
UMI-0150EE-B1	63	63	50
UMI-0180EE-B1	100	100	65
UMI-0220EE-B1	100	100	80
UMI-0300EE-B1	125	125	95
UMI-0370EE-B1	150	160	115
UMI-0450EE-B1	150	200	170
UMI-0550EE-B1	200	200	170
UMI-0750EE-B1	250	250	205
UMI-0900EE-B1	325	315	245
UMI-1100EE-B1	350	350	300

5. Overcurrent protective devices

Circuit breakers and fuses are used to stand with overcurrent protection requirements.

Circuit breakers and fuses have the ability to interrupt short circuit current with typical ratings of kA (kilo Amperes).

6. Conduit kits

The UMI-B5 series have built-in conduit kit, the kit will provide Type 1 enclosure rating on installations without enclosure.

7. Further reading

https://www.ttiinc.com/content/dam/ttiinc/manufacturers/littelfuse/PDF/wp_littelfuse_using_fuses_increase_sccr_white_paper.pdf