


UEM5 Series Molded Case Circuit Breakers

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■ Application

UEM5 Series Molded Case Circuit Breakers (MCCB for short below) are applicable to the electrical network under the condition of AC50Hz, rated working current 10A - 800A, rated insulation voltage 800V and rated working voltage 400V or below. MCCB has overload, short-circuit and under-voltage protection performances, among which the UEM5L series residual current circuit breakers can be used to protect human body and equipment from electric shock and residual current, as well as to prevent from fire danger due to earth-fault current which is caused by equipment insulation damage.

Normally, the MCCB also take the role of infrequent turn-on or turn-off and infrequent motor starting-up.

The series MCCB with isolation function, it's corresponding symbol is “”.

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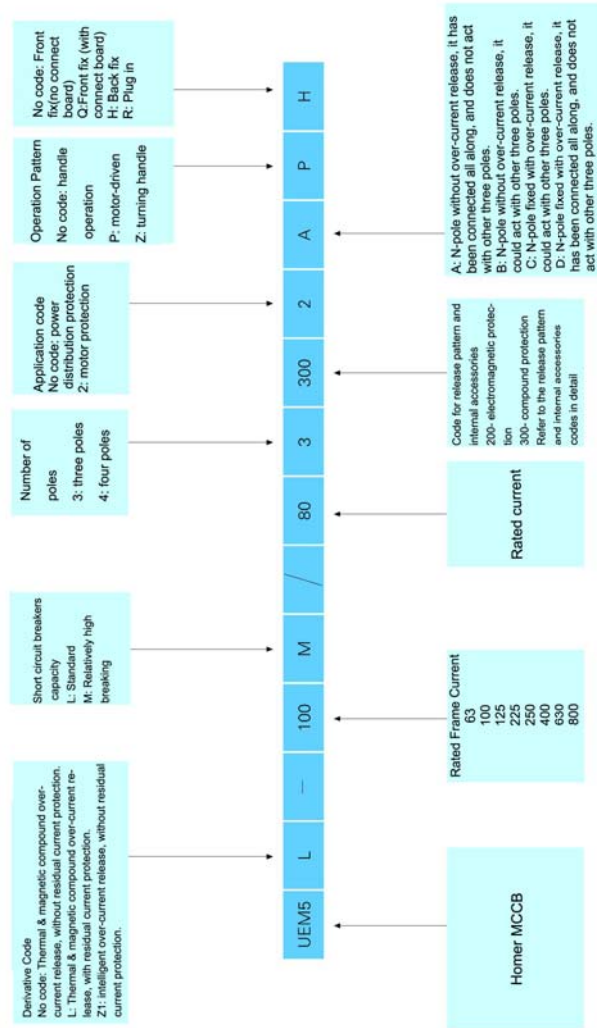
■ Product feature

- The casing like base and cover, which is made of the USA IDI company's thermosetting material, has high quality in strength and insulation, so as to ensure the breakers' performance reliably.
- Advanced design of operation mechanism, rapid breaking and slight tripping force. Adopting the “Double-way breaking system”, not only reducing the circuit breaker's cubage, but greatly improving the short circuit breaking capacity as well.
- The contact system adopts the principle of electromagnetic repulsion. Once there is fault current, the electromagnetic repulsion can separate the moving and stationary contacts rapidly, and increases the 'spacing, so as to achieve current limiting and improve the breaking capacity.
- The circuit breakers of the same rated current frame and different breaking capacity share the absolutely identical dimensions of externality and installation, which can extremely improve the interchangeability.
- The design of cassette-type accessories (including shunt release, under-voltage release, auxiliary contact and alarm contact) insures the flexibility of control function. The user can install them without opening the cover, and need not any adjustment. Since adopting design of the insulation box, the operation security has been improved.
- The UEM5L series residual MCCB have reliable low-voltage protection, which have insured the residual current protection to work normally even with the line voltage low to 50V. For one product, not only the residual operating current can be adjusted, but operating time's non-delay and delay can be adjustable as well, furthermore, can open or close the residual current protection based on customers' requirements, which have improved the operation flexibility.
- The rated insulation voltage up to 800V, rated impulse withstands voltage up to 8000V, which can meet the application requirement of switch cabinet.
- Using the world's most advanced alloy material movement contacts to ensure high mechanical life and electrical life.
- The full range of products has two invention patents, nine utility model patents and three appearance patents, which make products novelty, aesthetics, reliability, and security.



UEM5 Series Molded Case Circuit Breakers

Type and meaning



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Main technical parameter

With a modular design, we can organically combine thermal & magnetic, electronic and residual current operated protection, to form UEM5 molded case circuit breaker, UEM5L residual current circuit breaker, UEM5Z1 electronic molded case circuit breaker.

UEM5 series MCCB

Rated frame current (A)		63		100		125		225、250		400		630		800	
Type				L	M	L		L	M	L	M	L	M	L	M
Rated current I _n (A)		10, 16, 20, 25, 32, 40, 50, 63		16, 20, 25, 32, 40, 50, 63, 80, 100		40, 50, 63, 80, 100, 125		100, 125, 140, 160, 180, 200, 225, 250		225, 250, 315, 350, 400		400, 500, 630		400, 500, 630, 700, 800	
Number of poles		3/4		3		3/4		3		3/4		3		3/4	
Rated insulation voltage U _i (V)		AC800		AC800		AC800		AC800		AC800		AC800		AC800	
Rated working voltage U _e (V)		AC400		AC400		AC400		AC400		AC400		AC400		AC400	
Rated impulse withstand voltage U _{imp} (V)		8000		8000		8000		8000		8000		8000		8000	
Arc-over distance (mm)		≤50		≤50		≤50		≤50		≤50		≤50		≤50	
Use category		A		A		A		A		A		A		A	
Pollution grade		3		3		3		3		3		3		3	
Rated ultimate short-circuit breaking capacity I _{cu} (kA)		35		35		50		25		35		50		50	
Rated short-circuit breaking capacity I _{cs} (kA)		20		25		35		25		35		50		50	
Dimension (mm)		a		90 / 120		90 / 120		90 / 120		105 / 140		140 / 184		140 / 184	
		b		155		155		155		165		257		257	
		c		62		62		78		62		85		99	
		d		90		90		106		90		90		118	
Wiring Method		Front fix		●		●		●		●		●		●	
		Back fix		●		●		●		●		●		●	
		Plug in		●		●		●		●		●		●	
Accessories		Shunt release		●		●		●		●		●		●	
		Under-voltage release		●		●		●		●		●		●	
		Auxiliary contact		●		●		●		●		●		●	
		Alarm contact		●		●		●		●		●		●	
		Motor-driven		●		●		●		●		●		●	
		Turning handle		●		●		●		●		●		●	
		Back fix accessories		●		●		●		●		●		●	
Protection function		Overload, short circuit		Overload, short circuit		Overload, short circuit		Overload, short circuit		Overload, short circuit		Overload, short circuit		Overload, short circuit	
Over-current release device		Thermal & magnetic		Thermal & magnetic		Thermal & magnetic		Thermal & magnetic		Thermal & magnetic		Thermal & magnetic		Thermal & magnetic	
Weight(kg)		1.3 / 2.2		L:1.3 M:1.6/2.5		1.3 / 2.2		L:1.5 M:2.0/2.9		L:5.8 M:6.2/8		L:6.5 M:7.2/9.5		L:9.0 M:9.7/12.8	

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■ UEM5L series MCCB

Rated frame current (A)	100	125	225	400	800
Type	M	L	M	M	M
Rated current In (A)	16, 20, 25, 32, 40, 50, 63, 80, 100	40, 50, 63, 80, 100, 125	100, 125, 140, 160, 180, 200, 225	225, 250, 315, 350, 400	400, 500, 630, 700, 800
Number of poles	3/4	3/4	3/4	3/4	3/4
Nondelay	Rated residual operating current $I_{\Delta n}$ (mA)	30/100/300 Adjustable	100/300/500 Adjustable	30/100/300 Adjustable	100/300/500 Adjustable
	5I Δn Max.Disconnect time (s)	0.04	0.04	0.04	0.04
Delay	Rated residual operating current $I_{\Delta n}$ (mA)	30/100/300 Adjustable	100/300/500 Adjustable	30/100/300 Adjustable	100/300/500 Adjustable
	1I Δn Max.Disconnect time (s)	0.6, 1	0.6, 1, 2	0.6, 1	0.8, 2, 2.5
	2I Δn Limiting non-actuating time Δt (s)	0.1, 0.3	0.1, 0.3, 0.5	0.1, 0.3	0.2, 0.5, 1
Residual current indication button	Button	Button	Button	Button	Button
Rated insulation voltage Ui (V)	AC800	AC800	AC800	AC800	AC800
Rated working voltage Ue (V)	AC400	AC400	AC400	AC400	AC400
Rated impulse withstand voltage Uimp (V)	8000	8000	8000	8000	8000
Arc-over distance (mm)	≤50	≤50	≤50	≤50	≤50
Use category	A	A	A	A	A
Pollution grade	3	3	3	3	3
Rated ultimate short-circuit breaking capacity Icu (kA)	AC400V	50	25	50	65
Rated working short-circuit breaking capacity Ics (kA)		35	25	35	50
Dimension (mm)	a	90 / 120	90 / 120	105 / 140	140 / 184
	b	155	155	165	257
	c	78	62	85	99
	d	106	90	118	155
Wiring Method	Front fix	●	●	●	●
	Back fix	●	●	●	●
	Plug in	●	●	●	●
Accessories	Shunt release	●	●	●	●
	Under-voltage release	●	●	●	●
	Auxiliary contact	●	●	●	●
	Alarm contact	●	●	●	●
	Motor-driven	●	●	●	●
	Turning	●	●	●	●
	Back fix accessories	●	●	●	●
Protection function	Overload, short circuit, residual current	Overload, short circuit, residual current, Thermal & magnetic	Overload, short circuit, residual current	Overload, short circuit, residual current	Overload, short circuit, residual current
Over-current release device	Thermal & magnetic	Thermal & magnetic	Thermal & magnetic	Thermal & magnetic	Thermal & magnetic
Operating characteristic	AC	AC	AC	AC	AC

UEM5 Series Molded Case Circuit Breakers

■ UEM5Z1 series electronic molded case circuit breakers

Rated frame current (A)	100	225	400	800
Type	M	M	M	M
Setting Current Ir(A)	16-40 Adjustable, 40-100 Adjustable	100-225 Adjustable	200-400 Adjustable	400-800 Adjustable
Number of poles	3/4	3/4	3/4	3/4
Rated insulation voltage Ui (V)	AC800	AC800	AC800	AC800
Rated working voltage Ue (V)	AC400	AC400	AC400	AC400
Rated impulse withstand voltage Uimp (V)	8000	8000	8000	8000
Arc-over distance (mm)	≤50	≤50	≤50	≤50
Use category	A	A	B	B
Pollution grade	3	3	3	3
Rated ultimate short-circuit breaking capacity Icu (kA)	AC400V	50	65	65
Rated working short-circuit breaking capacity Ics (kA)		35	50	50
Rated short-time withstand current Icw (kA/s)	—	—	5	10
Dimension (mm)	a	90/120	105/140	140 / 184
	b	155	165	257
	c	80	91	99
	d	106	118	155
Wiring Method	Front fix	●	●	●
	Back fix	●	●	●
	Plug in	●	●	●
Accessories	Shunt release	●	●	●
	Under-voltage release	●	●	●
	Auxiliary contact	●	●	●
	Alarm contact	●	●	●
	Motor-driven	●	●	●
	Turning handle	●	●	●
	Back fix accessories	●	●	●
Protection function	Overload, short-circuit short delay, instantaneous short circuit current	Overload, short-circuit short delay, instantaneous short circuit current	Overload, short-circuit short delay, instantaneous short circuit current	Overload, short-circuit short delay, instantaneous short circuit current
Over-current release device	Electronic type(adjustable)	Electronic type(adjustable)	Electronic type(adjustable)	Electronic type(adjustable)
Operating characteristic (kg)	1.6/2.5	2.0/2.9	5.7/7.5	9.5 / 12.5