

Product Overview

QM1E and QM1ELseries electronic circuit breakers are applicable for low-voltage power systems of AC 50Hz, rated operating voltage up to 1000V and rated operating current from 16A to 800A.

Ambient and

- Altitude up to 2000m;
- Ambient medium temperature should be within -5°C to +40°C (+45°C for marine products);

installation conditions

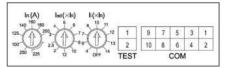
- It can withstand the effect of damp air;
- It can withstand the effect of salt fog or oil mist;It can withstand the effect of moulds;
- It can withstand the effect of nuclear radiation;
- The max inclination is 22.5°C.
- It still can work reliably when the ship subjects to normal vibration;
- It can still work reliably if the product subjects to the earthquake (4g).
- Places where the surrounding medium is free from explosion danger, and far away from gas or conductive dust that would erode the metal or destroy the insulation;
- Keep away from rain or snow.

Product Features

- Circuit breaker can be equipped with undervoltage release, shunt release, auxiliary contacts, alarm contacts, electric operating mechanism, rotary operating handle and other accessories.
- Circuit breaker has protection functions of overload long delay, short-circuit short delay and short-circuit instantaneous protection, the user can set the required protection characteristics (user only needs to operate the DIP switch for settings of protection function parameters).
- Circuit breaker has ground fault and thermal analog protection functions, pre-alarm indication over-current indication, load current indication, digital current analysis technology, and it can achieve a higher level of protection.
- EKM8EL series is circuit breaker with residual current protection function.

Panel and function description

Intelligent release panel



Tripping test port (TEST):

- 1 Tripping test input DC12V(+)
- 2 Tripping test input DC12V(-)

Panel adjustment knob as follows in turn:

- IR(A) Isd(x IR) Ii(x IR)
- IR: Overload long delay tripping setting current; Isd: Short-circuit short delay tripping setting current;
- Ii: Short-circuit instantaneous tripping setting current;

The rest parameters are set by factory default, or set by remote communication, as follows:

- tR: Overload long delay setting time, factory default: 60s;
- tsd: Short-circuit short delay setting time, factory default: 0.1s;
- Ip: Overload pre-alarm setting current, factory default: 0.85*IR;

Intelligent communication port (COM):

1: Power supply input DC24V(+) 6:

2: Power supply input DC24V(-) 7: C

3: 485A+

4: 485A+

5: 485B-

6: 485B-

7: Closing and opening common terminal of electric operating mechanism

8: Closing and opening common terminal of electric operating mechanism

9: Opening of electric operating mechanism

10: Closing of electric operating mechanism

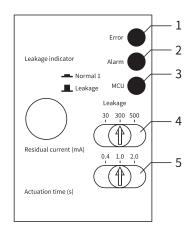
Electronic adjustable type MCCB Series QM1E\QM1EL

Quality & Service creates value



Panel With Residual Current Protection

- 1: Setting current In overload indicator, the red light will go on when the operation current is $\geq 105\%$ In
- 2: Pre-alarm current Ip indicator, the yellow light starts flashing when operation current is ≥ Ipx90%
- 3: When operation current is \geq 60% xln setting current, the green light will go on
- 4: The code switch for residual current setting
- 5: The code switch for leakage action time setting



Product Selection Guide

QM1 E - 160 / 3 400 2 A	QM1	E -	160	/ 3	400	2 A
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QM1	E	L
Product code	Adjustable type	Rated residual operating current
Moulded-case circuit breaker		L: residual-current circuit breaker
	E: electronic adjustable	Quick fixed type
		30、50、100、30、100、200、30、100、500、100、200、300
		100、300、500、300、500、1000
		Quick adjustable type
		30\50\100\30\100\200\30\100\500\100\200\300
		100、300、500、300、500、1000

160	Р	3
Code of frame size current	Code of operating mode	Pole number
lnm=160 lnm=250 lnm=400 lnm=800	P: electric operation Z: rotary handle W: direct operation ①Electric operation DC1,DC2,DC3	3: 3-pole 4: 4-pole

400	2	А		
Code of release type and internal accessory	Code of different applications	Code of four-pole product		
		A: N-pole without protection, cannot close or open		
2: intelligent release	1: power distribution B: N-pole without protection, can close			
Accessory code, see table 1	2: motor protection	C: N-pole with protection, can close and open		
		D: N-pole with protection, cannot close or open		



Main Performance Indexes

Frame current A()		160	250	400	630	800
Model		QM1E-160M	QM1E-250H	QM1E-400H	QM1E-630H	QM1E-800H
Pole number		3, 4	3, 4	3, 4	3, 4	3, 4
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Rated current (A)		16-32, 40-125 80-160	16-32,40-125 80-160,100-250	200-400	200-400 300-630	300-630 400-800
Rated voltage (V)		AC400V				
Rated insulation voltage (V)		AC1000V				
Short-circuit breaking capacity(KA)Icu/Ics	AC400V	35/25	50/35	65/65	65/65	65/65
Operating cycle	Electrical life	1500	1000	1000	1000	1000
number	Mechanical life	7000	7000	4000	4000	4000
Outline dim(mm)						
a-b-c-ca	3P	90-155-88-115	105-165-88-115	140-257-103-155	140-257-103-155	210-257-103-155
	4P	90-155-88-115	140-165-88-115	185-257-103-155	185-257-103-155	280-257-103-155
* a - C -						
Weight (kg)	3P	1.8	2.1	5.5	5.7	5.7
Meight (KR)	4P	2.3	2.6	7.0	7.5	7.5
Electric operating device (MD)				•		
External driving operating handle				•		
Automatic release			El	ectronic type		

Electronic adjustable type MCCB Series QM1E\QM1EL

Quality & Service creates value



Main Performance Indexes

Model QM1EL-160M QM1EL-260H QM1EL-400H QM1EL-40H QM1EL-40H QM1EL-40H QM1EL-40H QM1EL-40H	Frame current A()			160	250	400	800	
Power supply system 3 3W,1 2W 1 3W,3 4W Rated current (A) Rated current (A) Rated risulation voltage (V) Rated insulation voltage (V) Rated insulation voltage (V) Rated insulation voltage (V) Rated residual operating current Short-circuit breaking capacity (KA) Icu/Ics AC400V Rated residual operating current Polary Max. actuation time Polary Max. actuation time under 21△n (s) Inertia non-actuation time under 21△n (s) Outline dim(mm) a-b-c-ca 3P 1-8 1-9 1-15-88-115 140-165-88-115 140-257-103-155 200-400 300-630 400-800 400-800 400-800 4000 4	Model			QM1EL-160M	QM1EL-250H	QM1EL-400H	QM1EL-800H	
Power supply system	Pole number			3,4	3,4	3, 4	3, 4	
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Rated voltage (V) Rated insulation voltage (V) Rated insulation system Short-circuit breaking capacity (KA) lcu/lcs AC400V Rated residual operating current Pelay type Outline dim(mm) Outline dim(mm) Outline dim(mm) Outline dim(mm) Outline dim(mm) AC400V Rated voltage (V) AC400V RAC400V RAC1000V RAC400V RAC40V	Power supply system			1 3W, 1 2W				
Rated insulation voltage (V) AC1000V Leakage indication system Button Short-circuit breaking capacity (KA) Icu/Ics AC400V 35/25 50/35 65/50 65/50 Operating cycle number Electrical life 1500 1000 1000 4000	Rated	current (A)		100-250	200-400			
Delay type Act Ac	Rated voltage (V)			AC440V				
Short-circuit breaking capacity (KA) Icu/Ics AC400V 35/25 50/35 65/50 65/50 Operating cycle number Electrical life 1500 1000 1000 1000 Quick type Rated residual operating current 100, 300, 500(adjustable) The color of the color of the color of the color of type Max. actuation time 0.1 The color of type The color of type Max. actuation time under 21 △n (s) 0.45, 1.0, 2.0(adjustable) The color of type	Rated insulation voltage (V)							
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Operating cycle number Mechanical life 7000 7000 4000 4000 Quick type Rated residual operating current 100, 300, 500(adjustable) 0.1 Delay type Max. actuation time 0.45, 1.0, 2.0(adjustable) Max. actuation time under 21\triangle (s) 0.45, 1.0, 2.0(adjustable) Inertia non-actuation time under 21\triangle (s) 0.1, 0.5, 1.0 Outline dim(mm) a-b-c-ca 3P 90-155-88-115 105-165-88-115 140-257-103-155 210-257-103-155 4P 120-155-88-115 140-165-88-115 185-257-103-155 280-257-103-155 Weight (kg) 4P 2.3 2.6 8.4 17.5 Electric operating device (MD) External driving operating handle External driving operating handle			AC400V	35/25	50/35	65/50	65/50	
Mechanical life 7000 7000 4000 4000 Quick type Rated residual operating current 100, 300, 500(adjustable) Max. actuation time Delay type Max. actuation time under 21 n (s) 0.45, 1.0, 2.0(adjustable) Inertia non-actuation time under 21 n (s) 0.1, 0.5, 1.0 Outline dim(mm) a-b-c-ca 3P 90-155-88-115 105-165-88-115 140-257-103-155 210-257-103-155 AP 120-155-88-115 140-165-88-115 185-257-103-155 280-257-103-155 Weight (kg) 4P 2.3 2.6 8.4 17.5 Electric operating device (MD) External driving operating handle	Opera	ting avala number	Electrical life	1500	1000	1000	1000	
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Rated residual operating current 100, 300, 500(adjustable) Max. actuation time under 21\(\triangle \triangle \tria	Quick	Rated residual operating	g current	100, 300, 500(adjustable)				
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a-b-c-ca 4P 120-155-88-115 140-165-88-115 140-257-103-155 210-257-103-155 280-257-103-155 Weight (kg) 4P 2.3 2.1 6.6 12.5 Weight (kg) External driving operating handle		Inertia non-actuation tin	ne under 21△n ((s) 0.1, 0.5, 1.0				
Weight (kg) 4P 2.3 2.6 8.4 17.5 Electric operating device (MD) External driving operating handle								
Electric operating device (MD) External driving operating handle •		3P		1.8	2.1	6.6	12.5	
External driving operating handle	Weigh	t (kg)	4P	2.3	2.6	8.4	17.5	
	Electri	c operating device (MD)						
Automatic release Electronic type	Extern	al driving operating hanc						
	Automatic release				Electron	ic type		