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 installation conditions

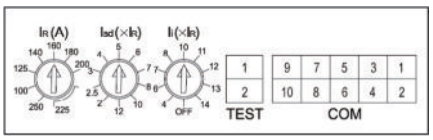
- Altitude up to 2000m;
- Ambient medium temperature should be within -5°C to +40°C (+45°C for marine products);
- It can withstand the effect of damp air;
- It can withstand the effect of salt fog or oil mist;
- It can withstand the effect of moulds;
- It can withstand the effect of nuclear radiation;
- 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:

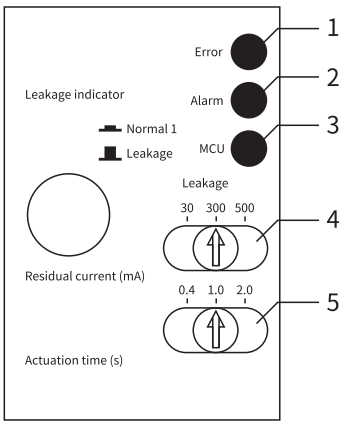
- tR: Overload long delay setting time, factory default: 60s;
- tsd: Short-circuit short delay setting time, factory default: 0.1s;
- Ip: Overload pre-alarm setting current, factory default: 0.85*IR;

Intelligent communication port (COM):

1: Power supply input DC24V(+)
2: Power supply input DC24V(-)
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

Panel With Residual Current Protection

1: Setting current In overload indicator, the red light will go on when the operation current is ⩾ 105% In
2: Pre-alarm current Ip indicator, the yellow light starts flashing when operation current is ⩾ Ipx90%
3: When operation current is ⩾ 60% xIn 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

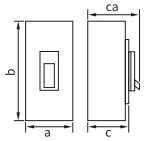
QM1 E - 160 ☐ / 3 400 2 A

QM1	E	L
Product code	Adjustable type	Rated residual operating current
Moulded-case circuit breaker	E: electronic adjustable	L: residual-current circuit breaker
		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

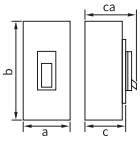
160	P	3
Code of frame size current	Code of operating mode	Pole number
Inm=160 Inm=250 Inm=400 Inm=800	P: electric operation Z: rotary handle W: direct operation ①Electric operation DC1,DC2,DC3	3: 3-pole 4: 4-pole

400	2	A
Code of release type and internal accessory	Code of different applications	Code of four-pole product
2: intelligent release Accessory code, see table 1	1: power distribution 2: motor protection	A: N-pole without protection, cannot close or open
		B: N-pole without protection, can close and open
		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
						
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 number	Electrical life	1500	1000	1000	1000	1000
	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
Weight (kg)	3P	1.8	2.1	5.5	5.7	5.7
	4P	2.3	2.6	7.0	7.5	7.5
Electric operating device (MD)		●				
External driving operating handle		●				
Automatic release		Electronic type				

Main Performance Indexes

Frame current A( )		160	250	400	800
Model		QM1EL-160M	QM1EL-250H	QM1EL-400H	QM1EL-800H
Pole number		3, 4	3, 4	3, 4	3, 4
					
Power supply system		3 3W, 1 2W 1 3W	3 4W, 3 3W 1 3W, 1 2W 1 3W	3 3W, 1 2W 1 3W	3 3W, 1 2W 1 3W, 3 4W
Rated current (A)		16-32, 40-125 80-160	100-250	200-400	300-630 400-800
Rated voltage (V)		AC440V			
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	1000
	Mechanical life	7000	7000	4000	4000
Quick type	Rated residual operating current	100, 300, 500(adjustable)			
	Max. actuation time	0.1			
Delay type	Rated residual operating current	100, 300, 500(adjustable)			
	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
	4P	120-155-88-115	140-165-88-115	185-257-103-155	280-257-103-155
Weight (kg)	3P	1.8	2.1	6.6	12.5
	4P	2.3	2.6	8.4	17.5
Electric operating device (MD)		●			
External driving operating handle		●			
Automatic release		Electronic type			