

Distribution Apparatus

YCM8E Electronic Adjustable Circuit Breaker

General

YCM8E series 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

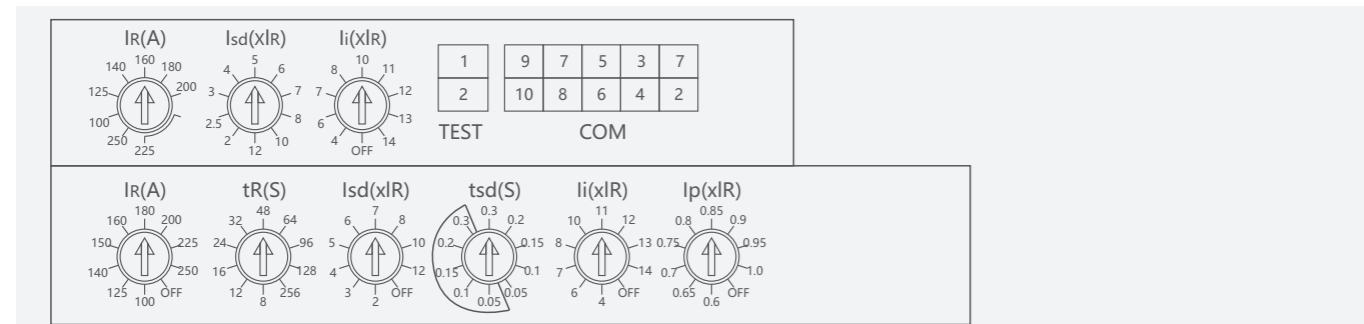
- Altitude up to 2000m;
- Ambient medium temperature should be within -5°C to +40°C (+45°C for marine products);
- It can withstand the effect of damp air;
- It can withstand the effect of salt fog or oil mist;
- It can withstand the effect of moulds;
- It can withstand the effect of nuclear radiation;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

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.

Panel and function description

Intelligent release panel



Tripping test port (TEST)

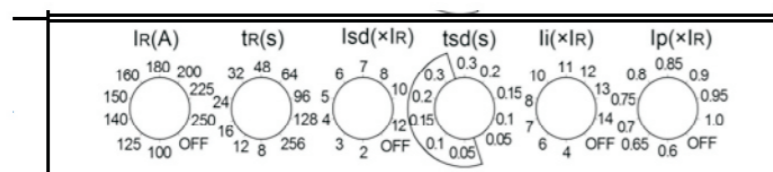
1 Tripping test input DC12V(+); 2 Tripping test input DC12V(-)

Panel adjustment knob as follows in turn:IR(A) Icd(xIR) li(xIR)

- IR:
- Icd:
- li: S

The re

- tR:
- tsd
- Ip:



follows:

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YCM8E Electronic Adjustable Circuit Breaker

Selection Guide

YCM8 E - 160 P / 3 400 2 A

Product Code	Adjustable Type	Code of frame size current	Code of operating mode
YCM8	E	160	P
moulded case circuit breaker	E: electronic adjustable	nm=160 Inm=250 Inm=400 Inm=800	P: electric operation Z: rotary handle W: direct operation ① Electric operation DC1, DC2, DC3

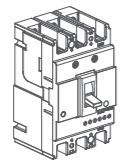
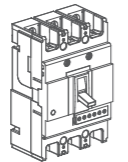
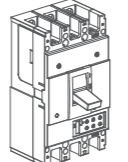
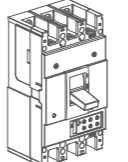
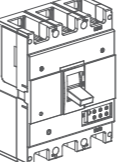
Pole Number	Code of Release Type and Internal Accessory	Application
3	400	2
3: three poles 4: four poles	2: intelligent release Accessory code, see accessory table	1: for distribution 2: for protecting the motor

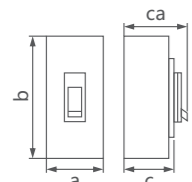
Code of Four-pole Product
A
A: N-pole without protection, cannot close or open B: N-pole without protection, can close and open C: N-pole with protection, can close and open D: N-pole with protection, cannot close or open

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YCM8E Electronic Adjustable Circuit Breaker

Main Technical Data

Frame Current(A)		160	250	400	630	800
Type		YCM8E-160H	YCM8E-250H	YCM8E-400H	YCM8E-630H	YCM8E-800H YCM8E-1000H YCM8E-1250H
Pole number		3,4	3,4	3,4	3,4	3,4
						
Rated Current (A)		12-32, 25-63, 40-100,63-160	100-250	200-400	400-630	400-630, 500-800, 630-1000, 850-1250
Rated voltage (V)		AC400V	AC400V	AC400V	AC400V	AC400V
Rated insulation voltage (V)		AC1000V	AC1000V	AC1000V	AC1000V	AC1000V
Short Circuit Breaking Capacity (kA) Icu/Ics	AC400V	35/25	35/25	50/35	50/35	50/35
Operating Circle Times	Charged ON	1500	1000	1000	1000	1000
	Not charged OFF	7000	7000	4000	4000	4000
Dimension(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	120-155-88-115	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 drive handle		•	•	•	•	•
Automatic release		Electronic type	Electronic type	Electronic type	Electronic type	Electronic type



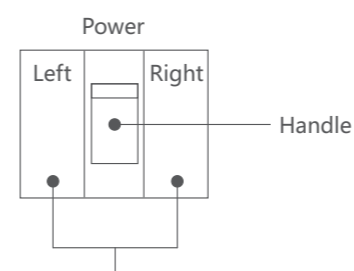
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YCM8 Series MCCB Accessories

Accessory table

Accessories of YCM8, YCM8LE, YCM8RT, YCM8E are the same.

Model	YCM8-125	YCM8-160	YCM8-250	YCM8-400/630	YCM8-800 YCM8-1000 YCM8-1250
Breaking capacity	S, H	S, M, H	S, M, H	S, M, H	S, H
No. of poles	2, 3, 4	2, 3, 4	3, 4	3, 4	3, 4
Code	Accessory name				
208, 308	Alarm contact				
210, 310	Shunt release				
220, 320	Auxiliary switch				
230, 330	Undervoltage release				
240, 340	Shunt release, auxiliary switch				
260, 360	Two groups of auxiliary switch				
270, 370	Auxiliary switch, undervoltage release				
218, 318	Shunt release, alarm switch				
228, 328	Auxiliary switch, alarm switch				
238, 338	Undervoltage release, alarm switch				
248, 348	Shunt release, auxiliary switch, alarm switch				
268, 368	Two groups of auxiliary switch, alarm switch				
278, 378	Auxiliary switch, undervoltage release, alarm switch				
280, 380	Two groups of auxiliary switch, shunt release				



The blank area cannot be equipped with accessory

● Alarm switch ○ Auxiliary switch □ Shunt release ■ Undervoltage release

Note:

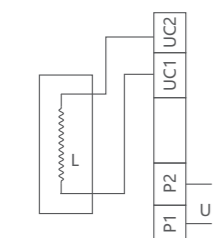
- The company can provide three new products of right auxiliary switch, left shunt release and left undervoltage release for choice.
- Within 220, 320, 240, 340, 270 and 370 specifications, auxiliary switch can be supplied with two pair switches, please specify in the order.
- P switches of YCM8LE and YCM8E can not be equipped with right auxiliary switch, right shunt release and right undervoltage release.

Distribution Apparatus

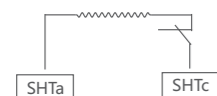
YCM8 Series MCCB Accessories

Internal accessories

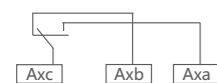
Internal accessories of YCM8, YCM8LE, YCM8RT, YCM8E series include undervoltage release, shunt release and auxiliary alarm release, their main technical parameters and wiring diagram are as follows:



Undervoltage release	
Rated voltage of power supply	Main features
AC220, AC240 AC380, AC415	<p>A. Undervoltage release should act when voltage drops to within 70% and 35% of the rated voltage.</p> <p>B. The undervoltage release should not be able to close to prevent the circuit breaker from closing when voltage is lower than 35% of the rated voltage.</p> <p>C. The undervoltage release should ensure to be closed and ensure reliable closing of the circuit breaker when voltage is equal to or greater than 85% of the rated voltage.</p>



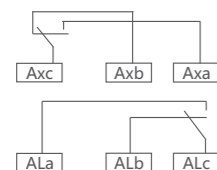
Shunt release	
Rated voltage of power supply	Main features
DC24, DC110 AC220, AC380	Shunt release can work reliably when the rated voltage value is at 70% and 110%.



Auxiliary alarm contact	
Rated voltage of power supply	Main features
Auxiliary switch AC 125V 5A, AC 250V 3A DC 125V0.4A, DC 125V0.2A	Shunt release can work reliably when the rated voltage value is at 70% and 110%.



Alarm switch AC 125 5A, AC 250V 3A DC 125V0.4A, DC 125V 0.2A	Provide differentiated signals for the circuit breaker at "normal work" and "fault free trip" positions.
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Auxiliary alarm switch AC 125V 5A, AC 250V 3A DC 125V0.4A.DC125V0.2A	Provide differentiated signals for the circuit breaker at "close", "open" and "fault free trip" positions.
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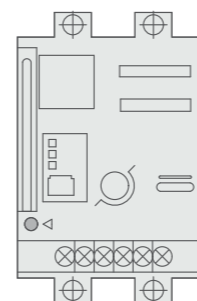
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YCM8 Series MCCB Accessories

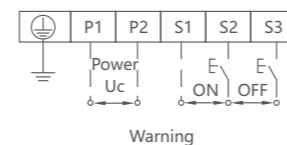
External accessories

The main technical parameters, dimensions and installation diagrams of external accessories for YCM8, YCM8LE, YCM8RT and YCM8E series are as follows:

DC3 electric operating mechanism.

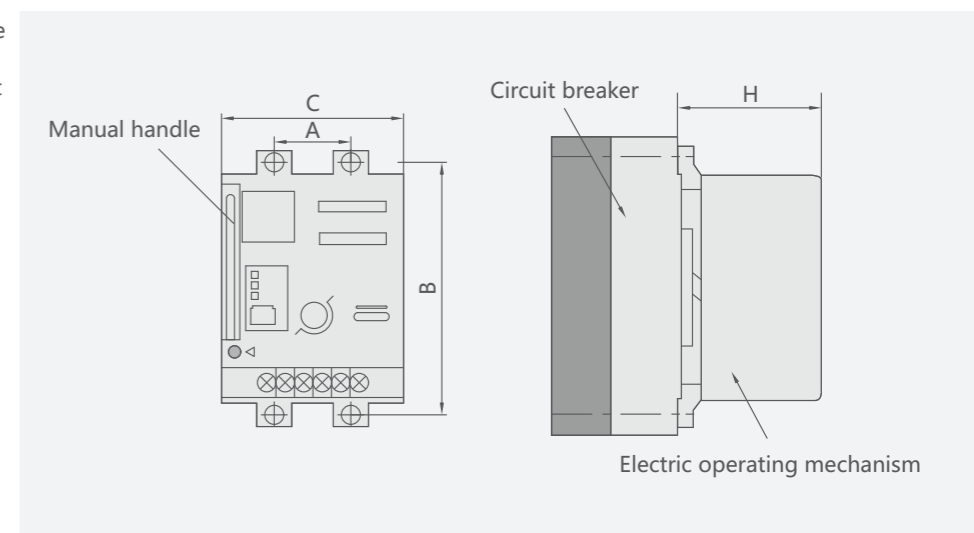


Wiring diagram



1. Manually prohibit counterclockwise operation
2. When it is manual operation, insert the handle at the starting point, clockwise rotate it 180°

Model & Spec.	DC3-63/30	DC3-100/30	DC3-250/30	DC3-400/30	DC3-630/30	
Applicable model	YCM8-125 YCM8LE-125 YCM8RT-125	YCM8-160 YCM8LE-160 YCM8RT-160 YCM8E-160	YCM8-250 YCM8LE-250 YCM8RT-250 YCM8E-250	YCM8-400 YCM8LE-400 YCM8RT-400 YCM8E-400 YCM8-630 YCM8LE-630 YCM8RT-630 YCM8E-630	YCM8-800 YCM8LE-800 YCM8RT-800 YCM8E-800	
Outline dim.	A	25	30	35	44	70
	B	112	132	126	194	243
	C	73	90	90	130	130
	H	95	98(89.5)	102(92)	152	153
Rated voltage (V)	AC-110-24, DC100-220, DC24			AC230, DC220 or AC110, DC110, DC24		
Starting current (A)	≤0.5			≤2		
Mechanical life (times)	14000		10000	5000		
Power (W)	14			35		



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YCM8 Series MCCB Accessories

Operating characteristics

1. Power distribution circuit breaker are charged for every poles at the same time when the ambient air temperature is +40 °C , its inverse time action characteristics without humidity compensation are as shown in the following table:

Name of test current	Multiple of setting current	Conventional time	Initial state
		$I_n \leq 63$ $63 < I_n$	
Conventional non-tripping current	1.05	$\geq 1h$ $\geq 2h$	Cold state
Conventional tripping current	1.30	$< 1h$ $< 2h$	Thermal state

2. Motor protection circuit breaker are charged for every poles at the same time when the ambient air temperature is +40 °C , its inverse time action characteristics without humidity compensation are as shown in the following table:

Name of test current	Multiple of setting current	Conventional time	Initial state
		$I_n \leq 800$	
Conventional non-tripping current	1.0	$\geq 2h$	Cold state
Conventional tripping current	1.2	$< 2h$	Thermal state

3. Operating characteristics under short-circuit condition:

- Short-circuit current setting value of instantaneous release of the power distribution circuit breaker is $10I_n$;
- Short-circuit current setting value of instantaneous release of the motor protection circuit breaker is $12I_n$;
- Accuracy of the short-circuit current setting value of instantaneous release is $\pm 20\%$.

Order guide

- Name and model of circuit breaker;
- Rated current and setting multiple of circuit breaker;
- Accessory name and rated voltage.

eg.: Order 50 sets of circuit breaker of power distribution 125 type, with rated current 100A standard type AC 380V undervoltage release, complex release, N-pole is not installed with overcurrent release and will close and open together with other three poles.

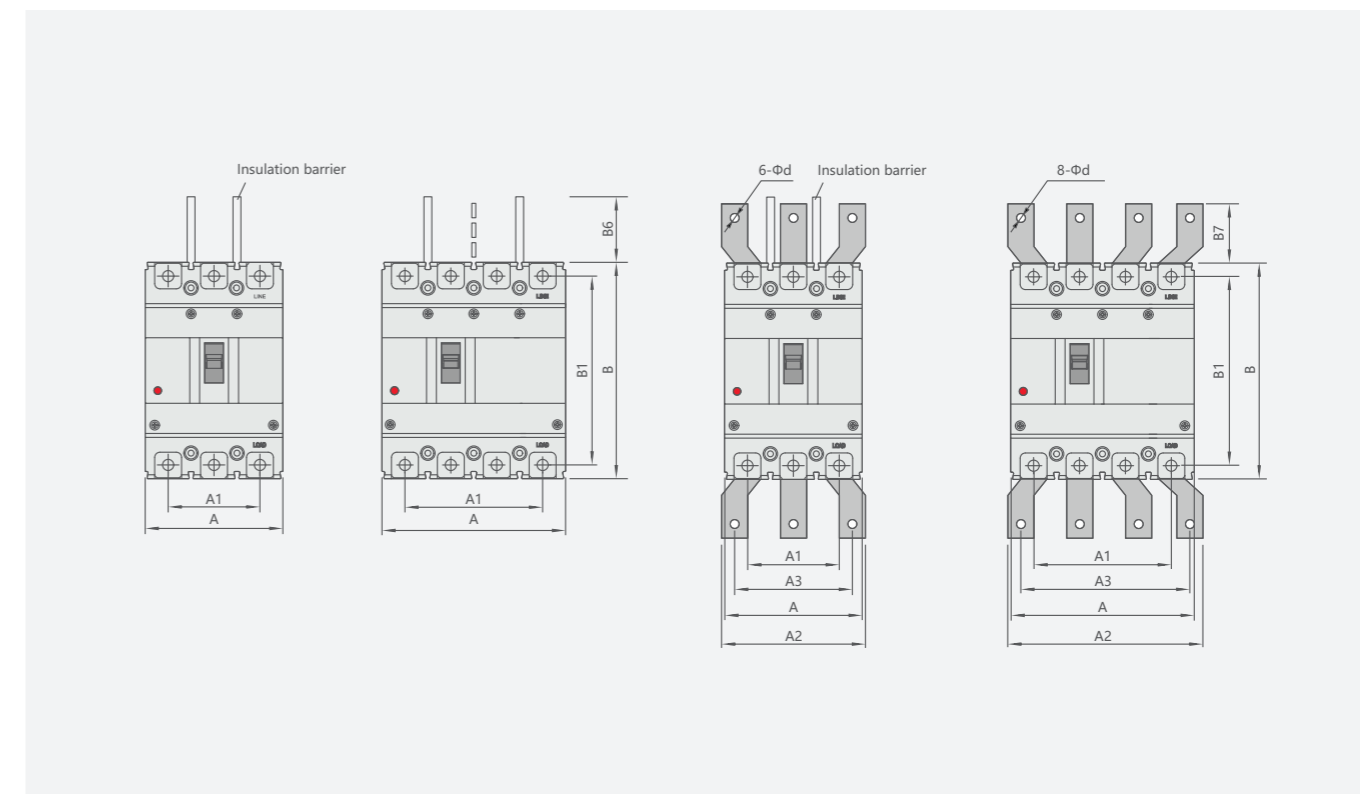
Please write like this: YCM8-125L74370 100A 1 B Q 3, circuit breaker 50 sets.

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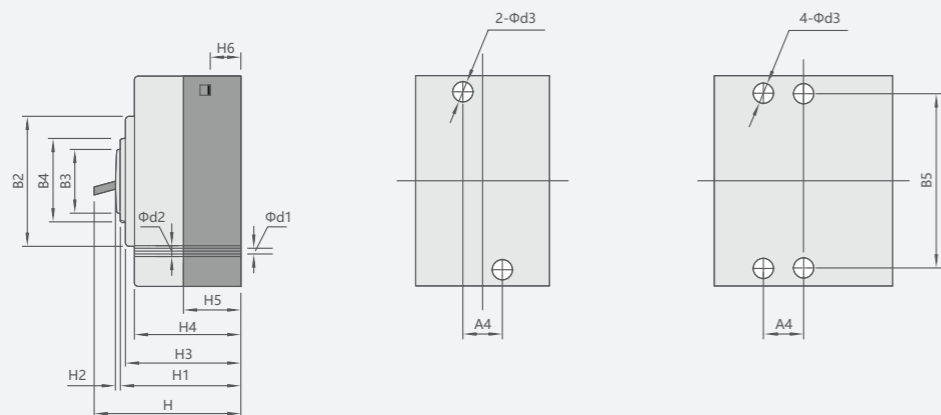
YCM8 Series MCCB Accessories

Outline and installation dimensions

Front-board outline and installation dimensions



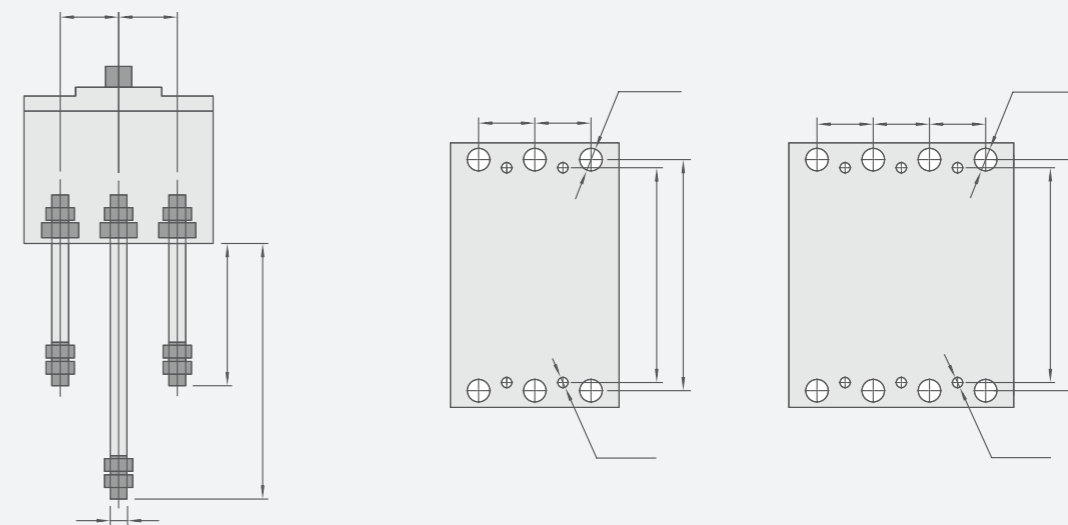
Mode				Outline dim.							
Moulded-case circuit breaker (MCCB)	Residual-current circuit breaker (RCCB)	Thermomagnetic adjustable circuit breaker	Electronic adjustable circuit breaker	A		A1		A2		A3	
				3P	4P	3P	4P	3P	4P	3P	4P
YCM8-125S	YCM8LE-125S	-	-	75	100	50	75	-	-	-	-
YCM8-125H	YCM8LE-125H	-	-	75	100	50	75	-	-	-	-
YCM8-160S	YCM8LE-160S	YCM8RT-160S	YCM8E-160	90	120	60	90	-	-	-	-
YCM8-160H	YCM8LE-160H	YCM8RT-160H		90	120	60	90	-	-	-	-
YCM8-250S	YCM8LE-250S	YCM8RT-250S	YCM8E-250	105	140	70	105	-	-	-	-
YCM8-250H	YCM8LE-250H	YCM8RT-250H		105	140	70	105	-	-	-	-
YCM8-400S	YCM8LE-400S	YCM8RT-400S	YCM8E-400	140	184	88	132	140	196	112	168
YCM8-400H	YCM8LE-400H	YCM8RT-400H		140	184	88	132	140	196	112	168
YCM8-630S	YCM8LE-630S	YCM8RT-630S	YCM8E-630	140	184	88	132	140	196	112	168
YCM8-630H	YCM8LE-630H	YCM8RT-630H		140	184	88	132	140	196	112	168
YCM8-800S	-	YCM8RT-800S	YCM8E-800	210	280	140	210	180	250	140	210
YCM8-800H	YCM8LE-800H	YCM8RT-800H		210	280	140	210	180	250	140	210
YCM8-1000H			YCM8E-1000 YCM8E-1250	210	280	140	210	180	250	140	210
YCM8-1250H				210	280	140	210	180	250	140	210



Outline dim.																	Installation dim.		Terminal screw	
B	B1	B2	B3	B4	B6	B7	H	H1	H2	H3	H4	H5	H6	Φd	Φd1	Φd2	Φd3	A4	B5	
130	114	84	50	59	50	-	90	72	4	68	61	40	23	-	4.5	8.5	5	25	111	M6/M8
130	114	84	50	59	50	-	90	72	4	68	61	40	23	-	4.5	8.5	5	25	111	M6/M8
155	134	102	50	59	50	-	90	72	4	68	61	40	23	-	4.5	8.5	5	30	132	M8
155	134	102	50	59	50	-	90	72	4	68	61	40	23	-	4.5	8.5	5	30	132	M8
165	134	102	50	59	50	-	115	91	4	88	81	60	23	-	4.5	8.5	5	30	132	M8
165	144	102	50	59	100	-	92	72	4	68	61	40	23	-	4.5	8.5	5	35	126	M8
165	144	102	50	59	100	-	92	72	4	68	61	40	23	-	4.5	8.5	5	35	126	M8
165	144	102	50	59	100	-	115	91	4	88	81	60	23	14	4.5	8.5	5	35	126	M8
257	230	150	90	99	110	43	155	107	5	103	97	64	30	14	7	13	7	44	194	M10
257	230	150	90	99	110	42	155	107	5	103	97	64	30	14	7	13	7	44	194	M10
257	230	150	90	99	110	43	155	107	5	103	97	64	30	14	7	13	7	44	194	M10
257	230	150	90	99	110	42	155	107	5	103	97	64	30	14	7	13	7	44	194	M10
275	243	150	90	102	110	87	155	107	5	103	97	64	26	14	8	14	7	70	243	M12
275	243	150	90	102	100	87	155	107	5	103	97	64	26		8	14	7	70	243	M12

Outline and installation dimensions

Dimension of back-board wiring



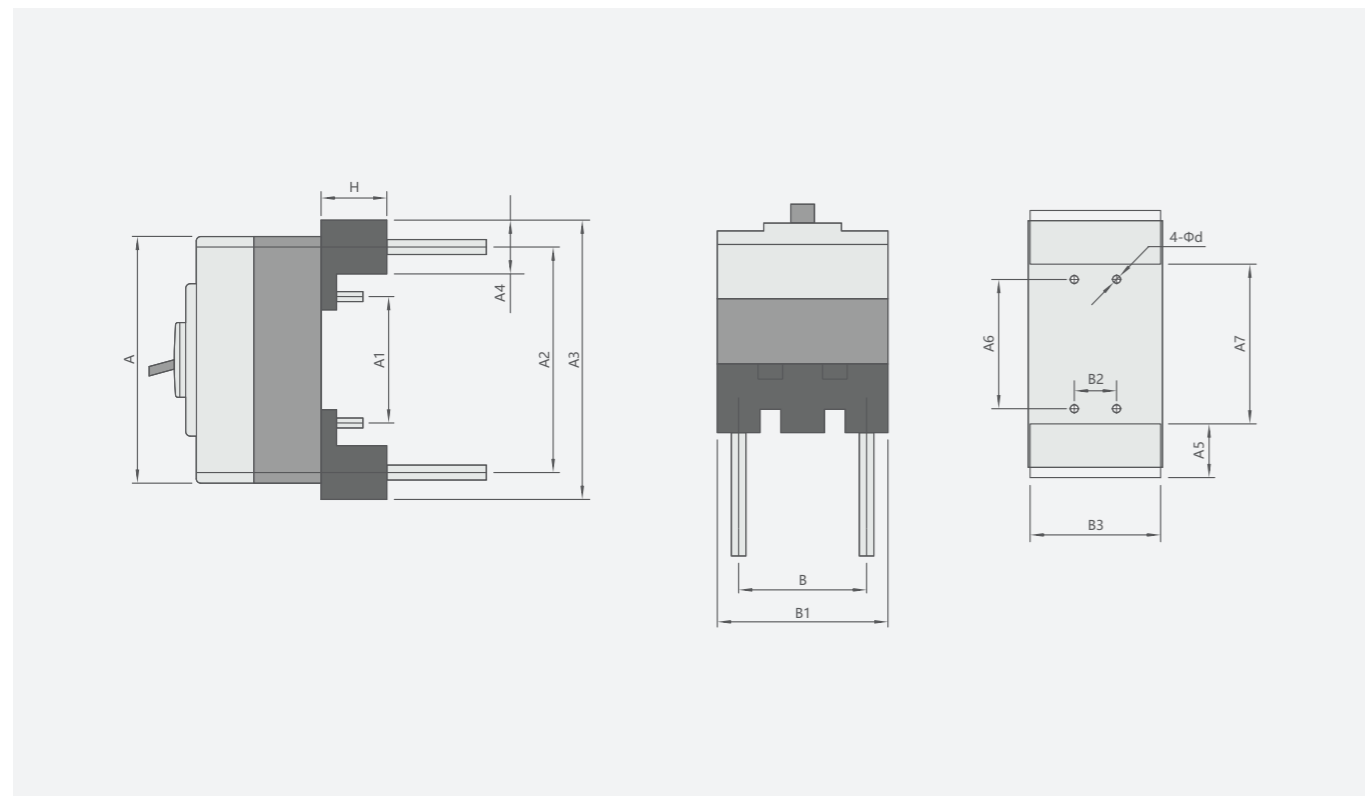
Mode				Dimension of back-board wiring							
Moulded-case circuit breaker (MCCB)	Residual-current circuit breaker (RCCB)	Thermomagnetic adjustable circuit breaker	Electronic adjustable circuit breaker	A1	B	B1	H	H1	Φd	Φd1	Φd2
YCM8-125S	YCM8LE-125S	-	-	25	114	111	62	87	6	14	5
YCM8-125H	YCM8LE-125H	-	-	25	114	111	62	87	6	14	5
YCM8-160S	YCM8LE-160S	YCM8RT-160S	YCM8E-160H	30	134	132	72	112	8	18	5
YCM8-160H	YCM8LE-160H	YCM8RT-160H		30	134	132	72	112	8	18	5
YCM8-250S	YCM8LE-250S	YCM8RT-250S	YCM8E-250H	35	144	126	87	126	12	24	5
YCM8-250H	YCM8LE-250H	YCM8RT-250H		35	144	126	87	126	12	24	5
YCM8-400S	YCM8LE-400S	YCM8RT-400S	YCM8E-400H	44	230	194	83	136	18	35	7
YCM8-400H	YCM8LE-400H	YCM8RT-400H		44	230	194	83	136	18	35	7
YCM8-630S	YCM8LE-630S	YCM8RT-630S	YCM8E-630H	44	230	194	83	136	18	35	7
YCM8-630H	YCM8LE-630H	YCM8RT-630H		44	230	194	83	136	18	35	7
YCM8-800S	-	YCM8RT-800S	YCM8E-800H	70	243	243	174	243	26	48	7
YCM8-800H	YCM8LE-800H	YCM8RT-800H		70	243	243	174	243	26	48	7
YCM8-1000H			YCM8E-1000H	70	243	243	174	243	26	48	7
YCM8-1250H			YCM8E-1250H	70	243	243	174	243	26	48	7

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YCM8 Series MCCB Accessories

Outline and installation dimensions

Dimension of plug-in type wiring



Mode				Dimension of back-board wiring													
Moulded-case circuit breaker (MCCB)	Residual-current circuit breaker (RCCB)	Thermomagnetic adjustable circuit breaker	Electronic adjustable circuit breaker	A	A1	A2	A3	A4	A5	A6	A7	H	B	B1	B2	B3	φd2
YCM8-125S	YCM8LE-125S	-	-	130	54	114	140	29	31	54	80	48	75	50	25	78	5.2
YCM8-125H	YCM8LE-125H	-	-	130	54	114	140	29	31	54	80	48	75	50	25	78	5.2
YCM8-160S	YCM8LE-160S	YCM8RT-160S	YCM8-160	155	54	134	168	38	40	54	92	52	90	60	30	93	6.5
YCM8-160H	YCM8LE-160H	YCM8RT-160H		155	54	134	168	38	40	54	92	52	90	60	30	93	6.5
YCM8-250S	YCM8LE-250S	YCM8RT-250S	YCM8-250	165	54	144	182	45	47	54	90	50	105	70	70	108	6.5
YCM8-250H	YCM8LE-250H	YCM8RT-250H		165	54	144	182	45	47	54	90	50	105	70	70	108	6.5
YCM8-400S	YCM8LE-400S	YCM8RT-400S	YCM8-400	257	140	230	282	55	55	140	171	60	134	87	44	136	8.2
YCM8-400H	YCM8LE-400H	YCM8RT-400H		257	140	230	282	55	55	140	171	60	134	87	44	136	8.2
YCM8-630S	YCM8LE-630S	YCM8RT-630S	YCM8-630	257	140	230	282	55	55	140	171	60	134	87	44	136	8.2
YCM8-630H	YCM8LE-630H	YCM8RT-630H		257	140	230	282	55	55	140	171	60	134	87	44	136	8.2
YCM8-800S	-	YCM8RT-800S	YCM8-800	275	155	243	298	55	56	155	187	60	206	140	70	208	8.2
YCM8-800H	YCM8LE-800H	YCM8RT-800H		275	155	243	298	55	56	155	187	60	206	140	70	208	8.2
YCM8-1000H				275	155	243	298	55	56	155	187	60	206	140	70	208	8.2
YCM8-1250H				275	155	243	298	55	56	155	187	60	206	140	70	208	8.2