

# DAM1

## 塑料外壳式断路器

MOULDED CASE CIRCUIT BREAKER



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### 断路器附件

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CD3型预储能电动操作机构 CD3 Type energy stored electrical operating mechanism	23
CSS旋转手柄操作机构 CSS Rotary handle operating mechanism	24
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### 适用范围

#### Application

DAM1系列塑壳式断路器(以下简称断路器),是采用国际标准设计及先进的制造技术开发试制成功的新系列塑壳式断路器。本系列断路器其额定绝缘电压为400V( $I_{nm} \leq 160A$ )~690V ( $I_{nm} \geq 250A$ ),主要用于交流50Hz,额定电流10A~1600A,额定工作电压380V~/400V~660V/690V的配电网中,用来分配电能,并对线路及电源设备的过载、短路时和欠电压起保护作用。在正常条件下也可以作线路的不频繁转换之用。

壳架等级额定电流为400A及以下的断路器可作鼠笼型电动机的不频繁启动、运转中分断及作为电动机的过载、短路和欠电压保护之用。

DAM1系列断路器及DAM1L系列漏电剩余断路器可加装欠电压脱扣器、分励脱扣器、辅助触头、报警触头,电动机操作机构及旋转手柄操作机构等各种用途的电气附件和机械附件。

DAM1系列剩余电流动作断路器(又称:漏电保护断路器)除具有上述用途外,还具有人身触电和设备漏电保护之用,也可用来防止因设备绝缘损坏产生接地故障而引起的火灾危险。

DAM1 series moulded case circuit breaker (hereinafter refer as circuit breaker) is a new model which designed according to international standard and manufactured with advanced technology. The rated insulation voltage of the circuit breaker is between 400V ( $I_{nm} \leq 160A$ ) and 690V ( $I_{nm} \geq 250A$ ), and it is widely used in AC power distribution of which frequency is 50Hz, rating current is between 10A and 1600A and rated voltage is in the range of 380V-400V and 660V~690V. It can protect the wire and power supply from overload, short circuit and under-voltage, and also function as non-frequent switch for wire under normal condition.

The circuit breaker of which rating current is under 400V can be used as non-frequent startup for squirrel-cage motor, or break down during running, and also can protect motor from overload, short circuit and under-voltage.

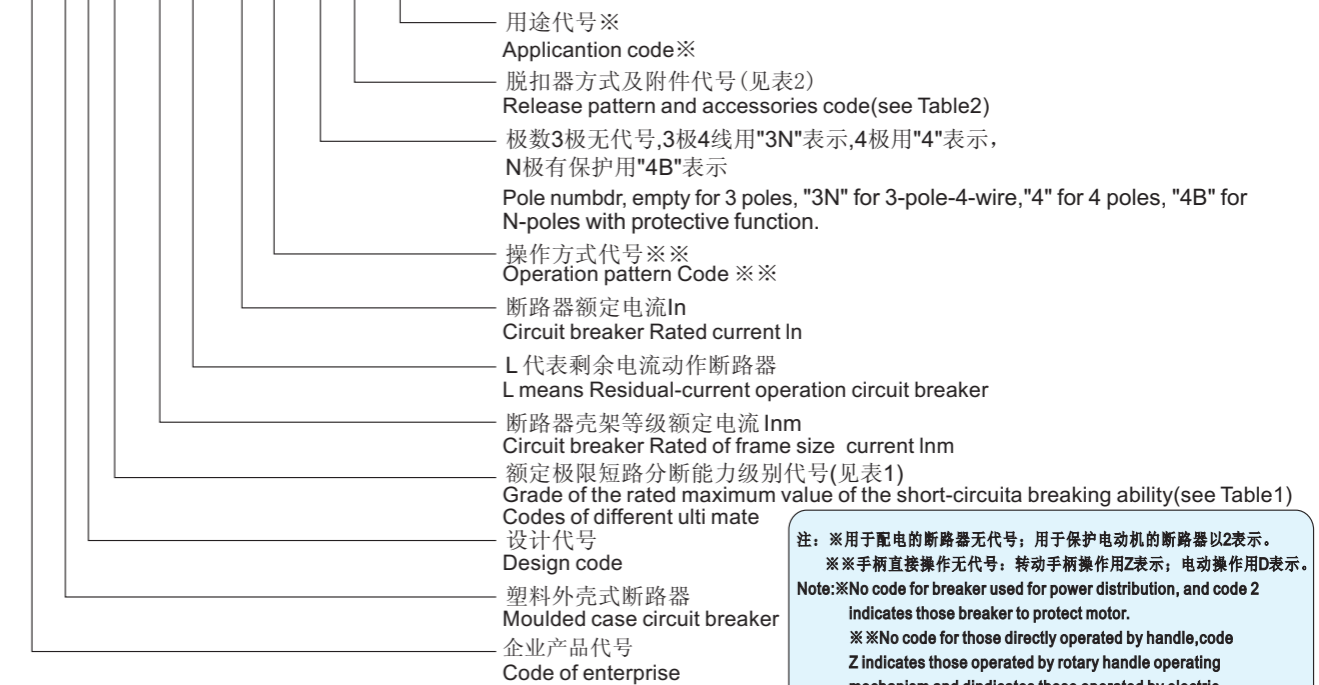
DAM1 series circuit breaker and DAM1 L series electric leakage of remnant circuit breaker can install with some other electrical parts such as under-voltage release, shunt release, auxiliary contact, alarm contact, motor operation mechanism and rotary handle operating mechanism.

DAM1 series residual-current operation circuit breaker (also regarded as leakage protective circuit breaker) has function of protecting human body from electric shock and equipment from electrical leakage, still also, it can prevent fire caused by insulation problem of equipment.

### 型号及含义

#### Types and meanings

DA M 1 □ - □ □ / □ □ / □ □ / □ □



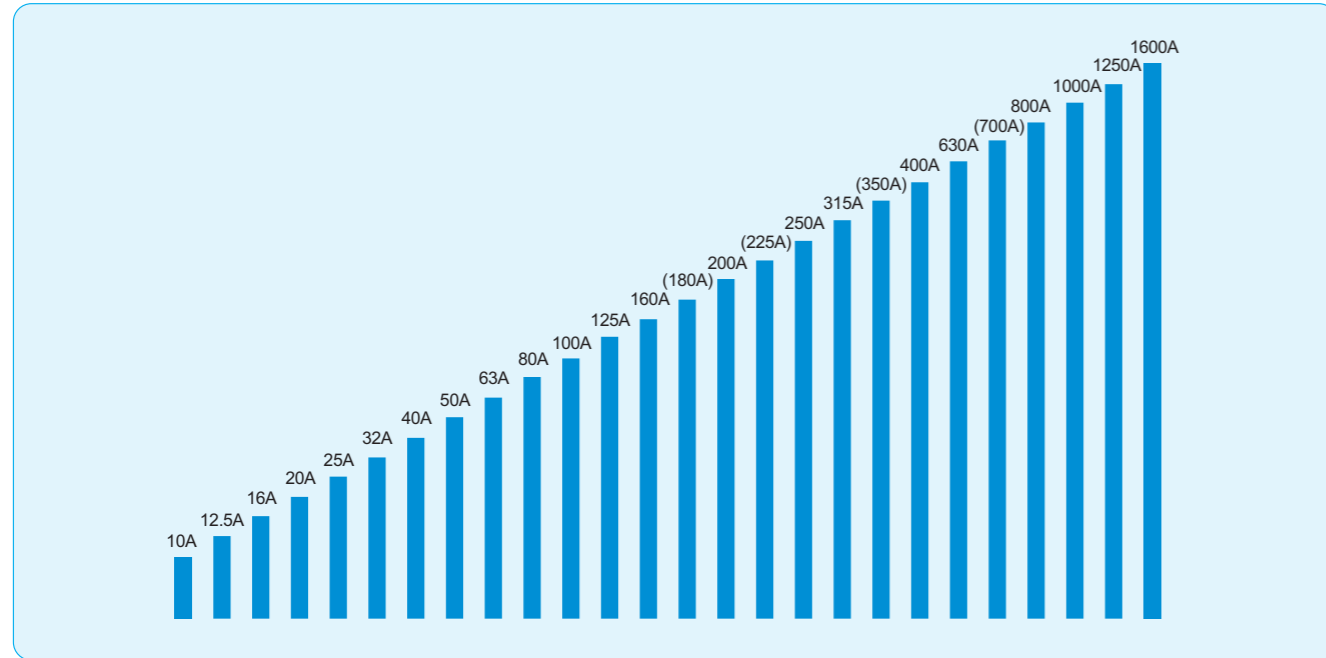
注:※用于配电的断路器无代号;用于保护电动机的断路器以2表示。  
※※手柄直接操作无代号;转动手柄操作用Z表示;电动操作用D表示。  
Note:※No code for breaker used for power distribution, and code 2 indicates those breaker to protect motor.  
※※No code for those directly operated by handle,code Z indicates those operated by rotary handle operating mechanism and dindicates those operated by electric power.

### 技术特点

#### Technical Features

额定电流规格齐全，可满足用户不同电路容量的保护。

A variety of rated current specification for customers to choose



### 级别分类

#### Circuit breaking capacities

表1 Table

壳架等级额定电流(A) rated current of frame size(A)	额定极限短路分断能力 Icu rated ultimate short circuit breaking capacity Icu					
	25kA	36kA	50kA	65kA/70kA	85kA	200kA
160/1P	B	N				
200/2P	B	N				
200L/2P	B	N				
63/63L	B	N	S	- / -		
125/125L	B	N	S	- / -		
160/160L	B	N	S	- / X		
250/250L		N	S	H / -	G	X
630/630L		N	S	- / H	G	X
800		N	S	- / H	G	X
1250			S	H / -	G	
1600			S	H / -	G	

### 短路分断能力高

#### The short circuit breaking capacity is very high

1.B-基本型, 2.N-正常型 3.S-标准型,  
4.H-高分断型 5.G-最高分断型 6.X-限流型

1.B-Basic type; 2.N-normal type 3.S-Standard type; 4.H-Higher breaking capacity type  
5.G-Highest breaking capacity type 6.X-Current limit type

### 脱扣器安装方式及附件代号

#### Release pattern and accessories code



表2 Table

附件代号 Accessories code	附件名称 Accessories name	型号Type
		DAM1-63-1250 DAM1L-63-400
208、308	报警触头 Alarm contact	
210、310	分励脱扣器 Shunt release	
220、320	辅助触头 Auxiliary contact	
230、330	欠电压脱扣器 Under voltage release	
240、340	分励脱扣器、辅助触头 Shunt release, auxiliary contact	
250、350	分励脱扣器、欠电压脱扣器 Shunt release, Under voltage release	
260、360	二组辅助触头 Two groups of auxiliary contact	
270、370	辅助触头、欠电压脱扣器 Auxiliary contact, Under voltage release	
218、318	分励脱扣器、报警触头 Shunt release, Alarm contact	
228、328	辅助触头、报警触头 Auxiliary contact, Alarm contact	
238、338	欠电压脱扣器、报警触头 Under voltage release, alarm contact	
248、348	分励脱扣器、辅助触头、报警触头 Shunt release, auxiliary contact, alarm contact	
268、368	二组辅助触头、报警触头 Two groups of auxiliary contact, alarm contact	
278、378	辅助触头、欠电压脱扣器、报警触头 Auxiliary contact, Under voltage release, alarm contact	

### 接线方式及安装结构

#### Wiring type and installation structure

表3Table

壳架等级 额定电流(A) Rated current of frame size Inm(A)	固定式Fixed version				插入式Plug-in version		插出式Draw-out version				
	板前 Front terminal	板后Rear terminal			加长板前 Extended front terminals	板前 front terminal	板后螺杆 Rear terminal Screw	板前 front terminal	板后Rear terminal		
		螺杆 Screw	水平 Horizontal	垂直 Vertical					螺杆 Screw	水平 Horizontal	垂直 Vertical
160/1P	■	■	—	—	■	—	—	—	—	—	—
200/2P	■	■	—	—	■	—	—	—	—	—	—
200L/2P	■	■	—	—	■	—	—	—	—	—	—
63/63L	■	■	—	—	■	■	—	—	—	—	—
125/125L	■	■	—	—	■	■	—	—	—	—	—
160/160L	■	■	—	—	■	■	—	—	—	—	—
250/250L	■	■	—	—	■	■	■	■	—	—	—
630/630L	■	■	—	—	■	■	■	■	—	—	■
800	■	■	—	—	■	—	—	■	—	■	■
1250	■	—	■	■	■	—	—	■	—	■	■
1600	■	—	■	■	■	—	—	■	—	■	■

### DAM1系列断路器采用先进的国际、国内标准设计并符合下列国际、国内标准

DAM1 series circuit breaker is conformity with the most advanced international and national standard. Design and manufacture according to international and national standard

- GB14048.1(eqv IEC60947)《低压开关设备和控制设备：总则》
- GB14048.2(eqv IEC60947)《低压开关设备和控制设备：低压断路器》
- GB/T14048.4(eqv IEC60947)《低压开关设备和控制设备：低压机电式接触器和电动机启动器》
- GB/T14048.5(eqv IEC60947)《低压开关设备和控制设备：控制电路电器和开关元件 第一部分：机电式控制电器》

- GB14048.1(eqv IEC60947)《Low Voltage Switchgear and Controlgear:General Principles》
- GB14048.2(eqv IEC60947)《Low Voltage Switchgear and Controlgear:Low Voltage Circuit Breaker》
- GB/T14048.4(eqv IEC60947)《Low Voltage Switchgear and Controlgear:Low Voltage Mechanic-electric contactor and Starter for Motor》
- GB/T14048.5(eqv IEC60947)《Low Voltage Switchgear and Controlgear:Control Apparatus and Switch Device. Part 1: Mechanic-electric Control Apparatus》

### 操作方式

#### Operation mode

表4 Table

壳架等级额定电流(A) Rated current of frame size Inm(A)	手柄直接操作 Handle operation directly (代号: 无)(code: non)	电动机操作 Motor operation (代号: D)(code: D)	转动手柄操作 Rotary handle operation (代号: Z)(code: Z)
160/1P	■		
200/2P	■		
200L/2P	■		
63/63L	■	■	■
125/125L	■	■	■
160/160L	■	■	■
250/250L	■	■	■
630/630L	■	■	■
800	■	■	■
1250	■	■	■
1600	■	■	■

### 保护特性

#### Protect the characteristic

- 环境温度变化引起的热式过载保护整定电流值变化系数: 1.Variable parameter of thermal overload protective current setting
- 热磁式过电流脱扣器保护特性: 2.Characteristics of Thermal magnetic Over-current release
- 热式过载长延时保护特性-热式过载长延时整定电流值调节范围: 3.Characteristics of inverse time delay thermal tripping- Ranges of current settings of thermal inverse time delay

表5Table

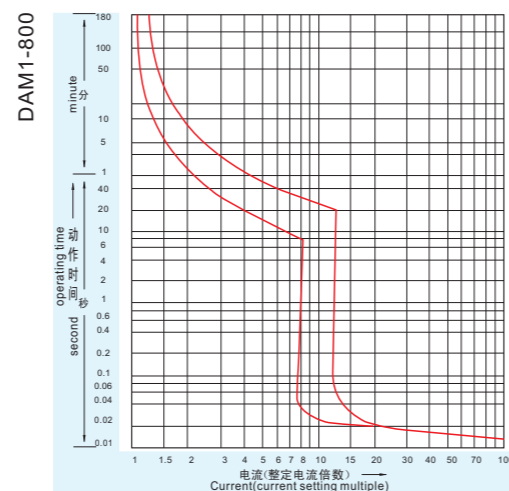
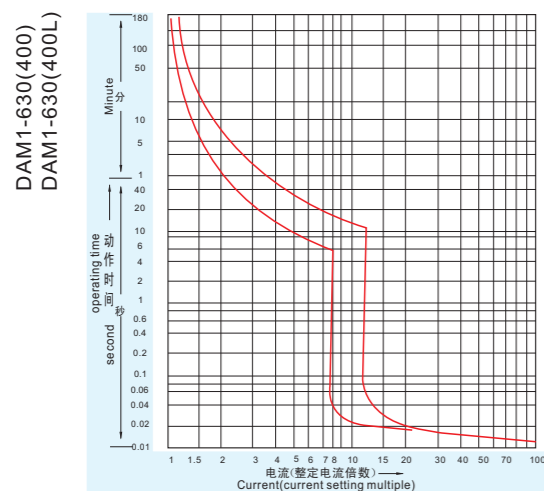
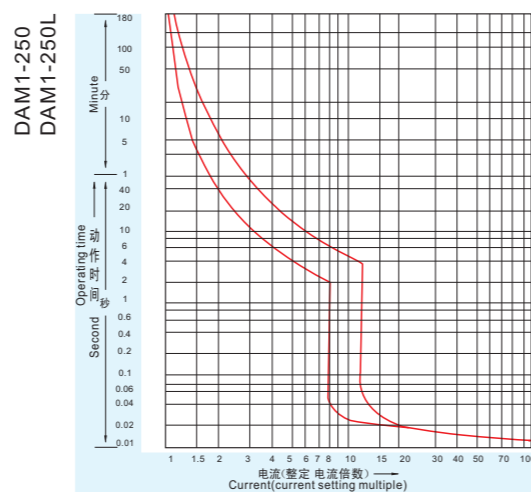
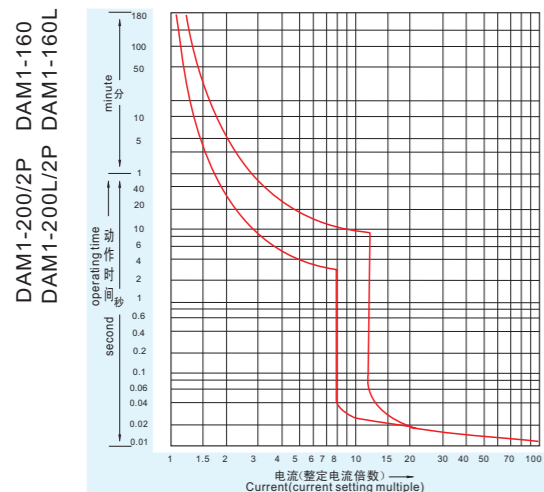
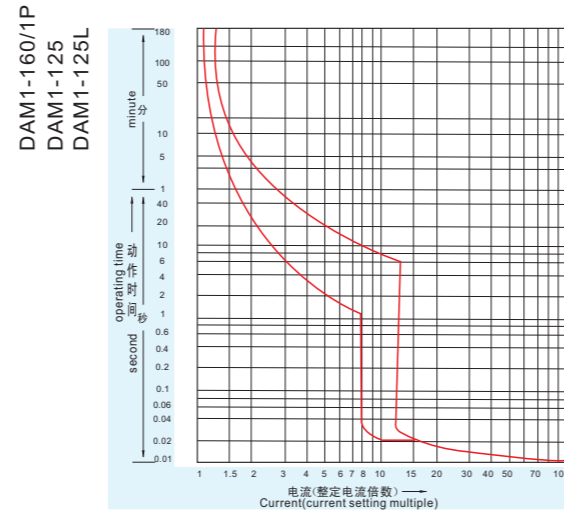
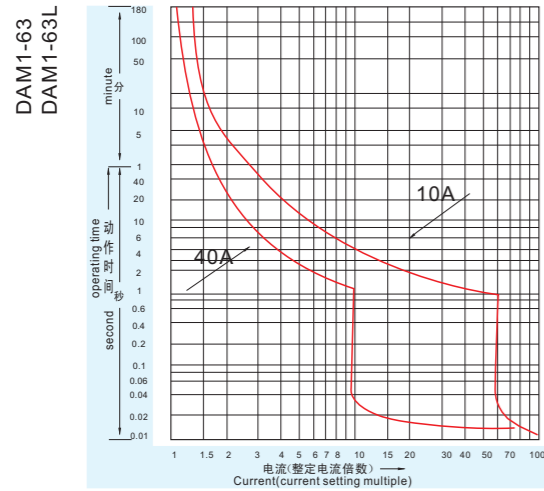
壳架等级 额定电流(A) Rated current of frame size In(A)	环境温度Circumstance temperature						额定电流 Rated current	过载长延时整定k电流值调节范围Ir Current settings of inverse time delay			瞬动电流可调值 (A) Adjustable			瞬时脱扣 器电流 Instantaneous Tripping Current	可选择瞬时 脱扣器电流 倍数In						
	40℃		Setting Irl		Instantaneous Current																
	A/B/C Phase	N Pole	50n	7.5In	10In																
160/1P 200/2P 200L/2P 63/63L 125/125L	1.19	1.03	1.06	1.0In	0.93	0.87	10A	10A	10A	-	-	-	500A	-							
							12.5A	12.5A	12.5A	-	-	-	500A	-							
							16A	16A	16A	-	-	-	500A	10							
							20A	20A	20A	-	-	-	500A	10							
							25A	25A	25A	-	-	-	500A	10							
							32A	32A	32A	-	-	-	500A	10							
							40A	40A	40A	-	-	-	500A	10							
							50A	50A	50A	-	-	-	500A	10							
							63A	63A	63A	-	-	-	630A	12							
							80A	80A	80A	-	-	-	800A	12							
160/160L	1.15	1.10	1.05	1.0In	0.94	0.88	32A	22.4~32A	22.4~32A	-	-	-	500A	10							
							40A	28~40A	28~40A	-	-	-	500A	10							
							50A	35~50A	35~50A	-	-	-	500A	10							
							63A	44.1~63A	44.1~63A	-	-	-	630A	12							
							80A	56~80A	56~80A	-	-	-	800A	12							
							100A	70~100A	70~100A	-	-	-	1000A	12							
							125A	87.5~125A	87.5~125A	-	-	-	1250A	12							
							160A	112~160A	112~160A	-	-	-	1600A	12							
							250/250L (315A)	1.14	1.10	1.05	1.0In	0.95	0.87	125A	87.5~125A	87.5~125A	-	-	-	1250A	12
														160A	112~160A	112~160A	-	-	-	1600A	12
(180A)	126~180A	126~180A	-	-	-	1800A								12							
200A	140~200A	140~200A	-	-	-	2000A								12							
(225A)	157.5~225A	157.5~225A	-	-	-	2250A								12							
250A	175~225A	175~225A	-	-	-	2500A								12							
(315)	220.5~315A	220.5~315A	-	-	-	3150A								12							
(400) 400L 630	1.13	1.11	1.04	1.0In	0.92	0.85								250A	175~250A	175~250A	1250	1875	2500	2500A	12
														315A	220.5~315A	220.5~315A	1575	2363	3150	3150A	12
														(350A)	245~350A	245~350A	1750	2625	3500	3500A	12
							400A	280~400A	280~400A	1750	2625	4000	4000A	12							
							500A	350~500A	350~500A	2500	3750	5000	5000A	-							
							630A	441~630A	441~630A	3150	4725	6300	6300A	-							
							(630) 800	1.10	1.08	1.03	1.0In	0.84	0.77	400A	400A	400A	-	-	-	4000A	-
														500A	500A	500A	-	-	-	5000A	-
														630A	630A	630A	-	-	-	6300A	-
														(700A)	700A	700A	-	-	-	7000A	-
800A	800A	800A	-	-	-	8000A								-							
(1250) 1600	1.08	1.06	1.02	1.0In	0.8	0.73								800A	800A	800A	-	-	-	-	-
														1000A	1000A	1000A	-	-	-	-	-
														1250A	1250A	1250A	-	-	-	-	-
														1600A	1600A	1600A	-	-	-	-	-

注：400L无瞬动电流可调，只有过载长延时整定电流可调。  
Note:400L No instantaneous adjustable current, but with over-load long time delay adjustable current.

DAM1 系列塑料外壳式断路器 DAM1 series MCCB																											
分断级别 Breaking capacity		B	N	B	N	B	N	B	N	S	B	N	S	B	N	S	X	N	S	H	G	X					
壳架等级额定电流 Rated current of frame size	Inm	160(200)		200		200L		63		63L		125		125L		160		160L		250(315)		250L		250X			
额定电流 Rated current	In	12.5, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125, 160(200)		12.5, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125, 160, 200		10, 12.5, 16, 20, 25, 32, 40, 50, 63		12.5, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125		32, 40, 50, 63, 80, 100, 125, 160		16, 20, 25, 32, 40, 50, 63, 80, 100, (125)		125, 160(180), 200(225), 250(315)													
额定绝缘电压 Rated insulation voltage	Ui	500V		500V		400V		400V		400V		690V		690V													
额定工作电压 Rated operating voltage	Ue	230V		400V		230V		400V		400V		400V		400V													
极数 Number of poles		1		2		L=2		3/4		L=4		3/4		L=4		3/4		L=4		3/4		L=4					
N极额定电流 Rated current of the N pole		=In		=In		=In		=In		=In		=In		=In		=In		=In		=In		=In					
额定极限短路分断能力 Icu AC400V/50HZ 0-CO (kA) Rated ultimate short-circuit breaking capacity		25	36	25	36	25	36	20	30	50	20	35	50	20	35	50	70	35	50	65	85	200					
额定运行短路分断能力 Ics AC400V/50HZ 0-CO-CO (kA) Rated service short-circuit breaking capacity		18.75	27	18.75	27	18.75	27	10	15	37.5	10	17.5	37.5	10	17.5	37.5	70	35	37.5	48.75	51	200					
额定短路接通能力 Icm(峰值) AC400V/50HZ 0-CO (kA) Rated short-circuit making capacity		40/0.3	135/0.25	40/0.3	135/0.25	40/0.3	135/0.25	105/0.75	40/0.3	73.5/0.25	105/0.25	41/0.3	73.5/0.25	110/0.25	440	77/0.25	114/0.25	143/0.2	178/0.2	440							
额定剩余电流短路接通分断能力 Rated remnant current short-circuit making capacity (IΔm)kA/cos φ		—		9/0.5		9/0.5		9/0.5		9/0.5		19/0.5		12/0.3													
额定剩余动作电流 Rated current of remnant motion IΔn (mA)		—		30	50	100	300	30	100	300	30	100	300	100	300			100	300	500							
额定剩余不动作电流 Rated current of remnant no-motion IΔno (mA)		—		15	25	50	150	15	50	150	15	50	150	50	150			50	150	250							
额定短时耐受电流 Icm AC400V/50Hz Is Rated short-time withstand current		—		—		—		—		—		—		—		—		—		—		—		—			
额定冲击耐受电压 Uimp Rated impulse withstand voltage (V)		10000		10000		10000		10000		10000		8000		8000													
介电性能 Dielectric property (V)		2500		2500		2500		2500		2500		3000		3000													
使用寿命 Endurance	总次数 Total cycles	20000		15000		10000		10000		10000		8000		8000													
	使用电寿命 Electrical endurance	3000		2500		1500		1500		1500		1000		1000													
	使用机械寿命 Mechanical endurance	17000		12500		8500		8500		8500		7000		7000													
飞弧距离 Ionization distance (mm)		≤30/0		≤30/0		≤30/0		≤30/0		≤30/0		≤30/0※		≤30/0※													
过电流脱扣器 Over current trip unit	热磁式脱扣器 Thermal magnetic release	■		■		■		■		■		■		■													
	智能型电子脱扣器 Intelligent trip unit	—		—		—		—		—		—		—													
使用类别 Utilization category	主电路 Main circuit	A/0		A/0		A/0		A/0		A/0		A/0		A/B													
	辅助电路及控制电路 Auxiliary circuit	AC-15		AC-15		AC-15		AC-15		AC-15		AC-15		AC-15													
外形尺寸 Outline dimensions	W(mm)	3P	30(1P)		60(2P)		76		76		90		90		105		105										
		4P	—		60(2P)		101		101		120		120		120		140		140		140		140				
	L(mm)	3P	120		120		120		120		120		120		120		170		170		254/339①		254/339①				
		4P	—		155		120		155		120		155		120		170		210		254/339①		254/339①				
	H(mm)	3P	70		70		70		70		70		70		70		103.5		103.5		103.5		103.5				
		4P	—		70		70		70		70		70		70		103.5		103.5		103.5		103.5				
重量 Weight	固定式 Fixed version 3P/4P	0.92/1.3		0.92/1.3		—		0.92/1.3		—		0.92/1.3		—		1.2/1.6		—		1.2/1.6		2.7/3.5		41.5/5.5		5	
	插入式 Plug-in version 3P/4P	—		—		—		1.2/1.5		—		1.2/1.5		—		1.4/1.8		—		1.4/1.8		3.2/4.2		4.6/6		8.2	
	抽出式 Draw-out version 3P/4P	—		—		—		—		—		—		—		—		—		—		3.6/4.6		5/6.4		9	

注：括号内数据为非标准规格，需要进用户要特别提出。  
Note: The datas in the round bracket are not normal specifications, the user should point out specially when he needs.

特性曲线  
Protective Curve



智能化  
Intelligitize

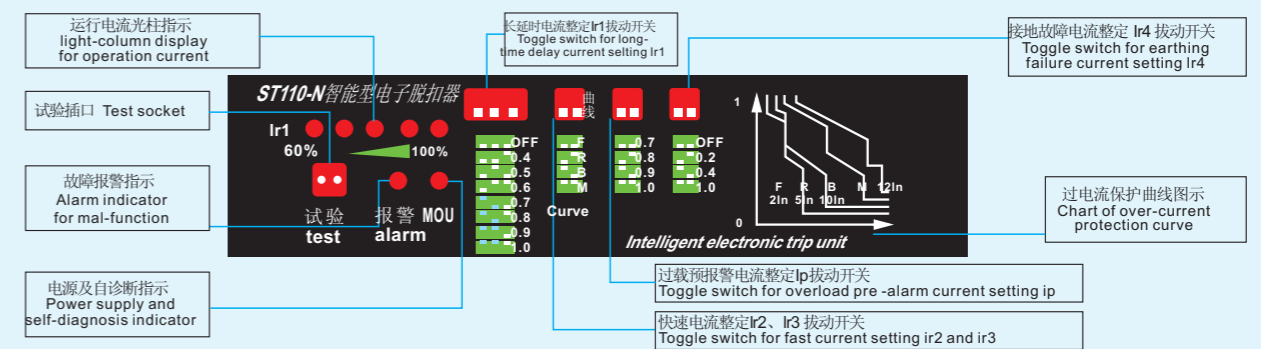
DAM1系列断路器( $I_{nm} \geq 250A$ 及以上)采用先进的微处理器技术的电子式脱扣器,具有智能化保护功能。

DAM1 series circuit breaker ( $I_{nm} \geq 250A$  and the above) applies the most advanced MCU. The electronic release has function of intellectual protection.



智能型电子式脱扣器面板设置  
Intellectual electronic release

ST110-M(ST110-M/F)

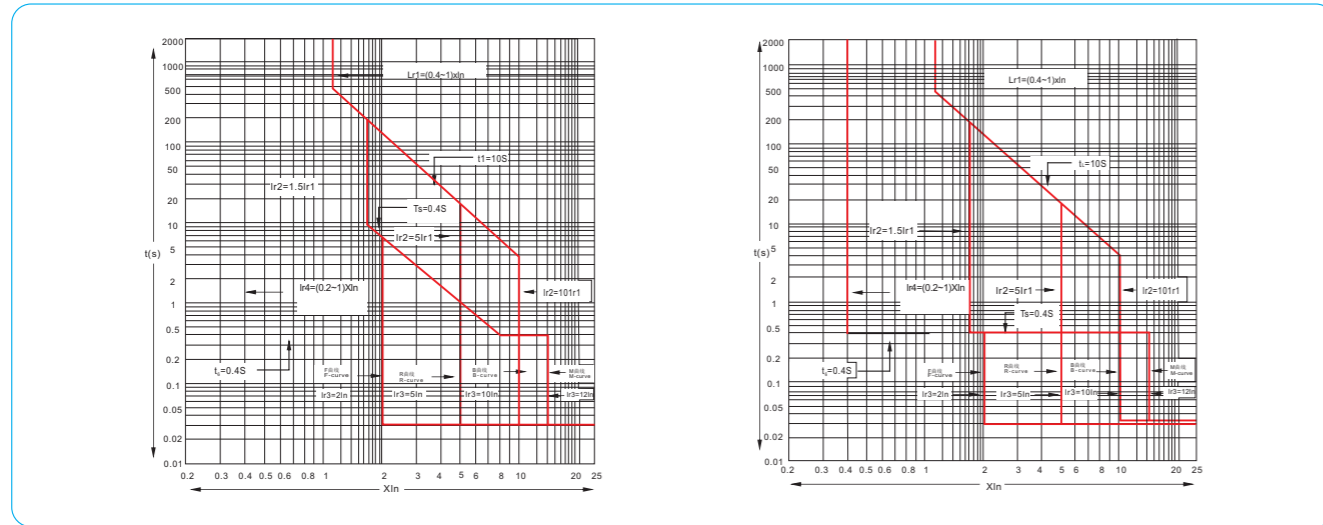


ST110-H(ST110-H/F)



### 特性曲线

#### Protective characteristics Curve



### 智能型电子式脱扣器主要功能

#### Main function description

表6 Table

主电路负荷率指标 Load ratio of main circuit	面板上发光二极管LED显示60%、70%、80%、90%、100% The LED on the panel will display 60% or 70% or 80% or 90% of full scale.
电源指示 Power supply indicator	面板上发光二极管LED显示 The LED on the panel will display
自诊断指示 Self-diagnosis indicator	面板上发光二极管LED显示 The LED on the panel will display
过载预报警指示 Over-load pre-alarm indicator	面板上发光二极管LED显示 The LED on the panel will display
接地故障指示 Earthing failure indicator	面板上发光二极管LED显示 The LED on the panel will display
热记忆 Heat memory	记录和计算多次重复过载的积累热效应 Accumulated heat effect of repeated overload
快速设定保护特性曲线 Protective characteristics curve for fast setting	根据不同用途可选择短路脱扣特性(F、R、E、B、M曲线) Tripping characteristics can be selected upon application
断路器连接ST-200 智能控制模块转换光耦触点信号输出 Contact signal output of optical coupler when circuit breaker connected with st-200 intellectual control module.	过载预报警 Overload pre-alarm 脱扣报警 Trip alarm 接地故障报警 Earthing failure alarm 断路器合分信号 Close-open signal of circuit breaker
脱扣试验 Tripping test	试验插口 Socket for test kit
面板参数设定 Parameter setting for panel 用户可以在主电路断电状态下, 或运行时重新设定保护特性。 The characteristics can be reseted by user under the conditions of power off the main circuit or in service	拨动开关整定 Toggle switch setting

### 非延时型剩余电流动作断路器剩余电流动作的继开时间

#### Breaking time for residual current operation of non-delay residual current type circuit breaker

表7 Table

剩余电流 Residual current	$I\Delta n$	$2I\Delta n$	$5I\Delta n$	$10I\Delta n$
最大断开时间s Max. breaking time s	0.3	0.15	0.04	0.04

注: 对 $I\Delta n \leq 30\text{mA}$ 的剩余电流动作断路器用0.25A代替 $5I\Delta n$ , 同时, 用0.5A代替 $10I\Delta n$ 。

Note: for circuit breaker with  $I\Delta n \leq 30\text{mA}$  residual current, 0.25A substitutes  $5I\Delta n$ , meanwhile, 0.5A substitutes  $10I\Delta n$

### 延时型剩余电流动作断路器的动作特性

#### Operation character of time-delay residual current type circuit breaker

表8 Table

最大断开时间s Max break time 极限不驱动时间( $\Delta t$ )ms The limit and non drive time	剩余电流 The current of remnant	$I\Delta n$	$2I\Delta n$	$5I\Delta n$	$10I\Delta n$	附注
		0.5	0.2	0.15	0.15	
60		0.8	0.4	1.3	0.3	
100		2	1	1.8	0.8	
300						

注: 延时型只适用于 $I\Delta n > 30\text{mA}$ 的剩余动作电流断路器。对A型, 此表也适用, 此时电流 $I\Delta n$ 应乘以系数1.4。

Note: The time-delay type only suitable for residual current circuit breaker with  $I\Delta n > 30\text{mA}$ . This table also suitable for model A, and then the current  $I\Delta n$  should multiply by 1.4.

### 可调型延时型剩余电流动作断路器的动作特性

#### Operation characteristics of adjustable time delay residual current type circuit breaker

表9 Table

壳架等级额定电流 Rated current of frame size	额定剩余动作电流可调单可调(I型) Rated remnant operation current only adjustable	额定剩余动作电流及极限不驱动时间双可调(II型) The rated remnant operation current and the limit and adjustable non drive time adjustable	
63	30-100-300mA	0-100-300mA	0-60-100ms
125	30-100-300mA	0-100-300mA	0-60-100ms
160	100-300-500mA	100-300-500mA	0-60-100ms
250	100-300-500mA	100-300-500mA	0-60-100-300ms
630(400)	300-500-1000mA(100-300-500mA)	300-500-1000mA(100-300-500mA)	60-100-300ms(0-60-100ms)

### 预警型参数表

#### Parameters for pre-alarm type

表10 Table

额定剩余动作电流 Rated residual operation current	起始预警电流 Initial pre-alarm current	延时时间s Delay time s	光耦极限输出电流 Max. Output current of optical coupler	光耦极限工作电压 Max. working voltage of optical coupler
$I\Delta n$	$0.5I\Delta n$	0,10,30	50mA	20V DC

### 配电用断路器过电流脱扣器各极同时通电时的反时限断开动作特性 Inverse time-delay breaking character of over-current release used for power distribution when power on all the poles simultaneously

表11 Table

试验项目名称 The name of test item	倍数In Multiple	配电保护用约定时间 h Conventional time h for power distribution protection			间接电动机保护用约定时间h Conventional time h for indirectly motor protection	起始状态 Initial state
		In≤63A	63A<In≤63A	In>250A		
约定不脱扣电流 Conventional non-tripping current	1.05	≥1	≥2		≥2	冷态 Cold state
约定脱扣电流 Conventional tripping current	1.20				<2	热态 Heat state
	1.30	<1	<2			
	1.5				≤4min	
	7.2				4s<Tc≤10s	冷态Cold state
返回特性时间 Backward character time	3.00	≥5s	≥8s	≥12s		冷态 Cold state

### (1.05~7.2)In的约定动作时间 Conventional operation time of (1.05~7.2) In

表12 Table

试验项目名称 Name of test project	I/Ir1	配电保护用动作时间 Tc s Operation time Tc s for power distribution protection	间接电动机保护用动作时间 Tc s Operation time Tc s for indirect motor protection
约定不脱扣电流 Conventional non-tripping current	1.05	>2h不动作 Non-operation	>2h不动作 Non-operation
约定脱扣电流 Conventional tripping current	1.2		<1h动作 Operation
	1.3	<1h动作 Operation	
	1.5	≤4min	≤4min
	7.2		4s<Tc≤10s
返回特性时间 Backward character time	3.00	12s	

注: 1) 动作时间考核是在出厂整定值(6Ir1, TL=10)下进行。  
2) 电子式脱扣器应在-5℃至10℃的范围内与周围温度无关。

Note: 1) The setting value (6Ir1, TL=10) is checked when products are shipped out.  
2) The electronic release should keep free from the change of ambient temperature when it is between 5°C and 10°C.

### 过电流脱扣器短延时特性 Short time-delay character of over-current release

表13 Table

动作时间Ts Operation time s	0.1	0.2	0.3	0.4
可返回时间s Backward time s	0.06	0.14	0.23	0.35

### 安装方便

Installation is convenient.

DAM1系列断路器提供多种安装形式:

1. 固定式安装
2. 插入式安装
3. 抽出式安装

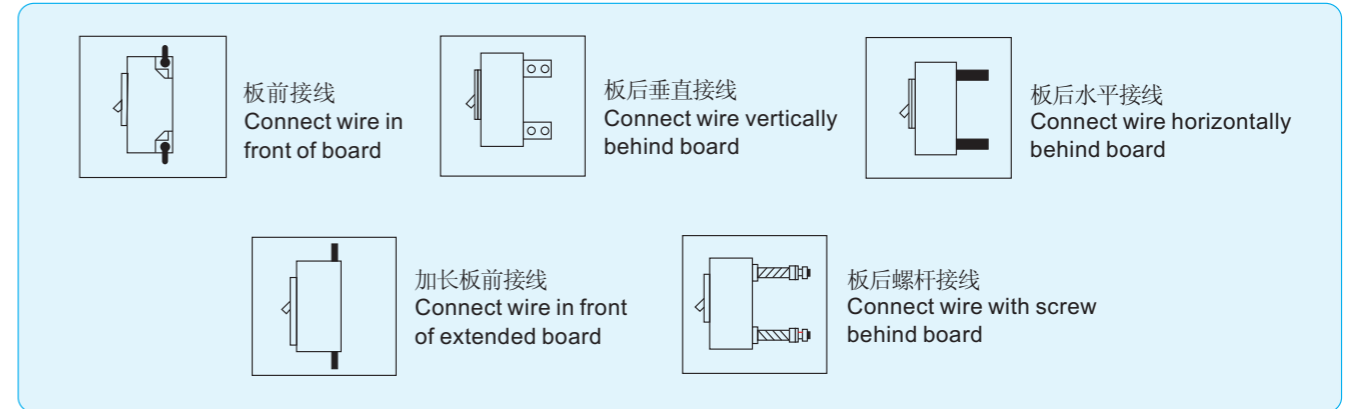
DAM1 series circuit breaker provide with several installment type.

1. Fixed type installment
2. Plug - in type installment
3. With drawable type installment



### 断路器的主电路具有多种联结方式

The main circuit of breaker has several connectn mode.



### 技术参数与安装

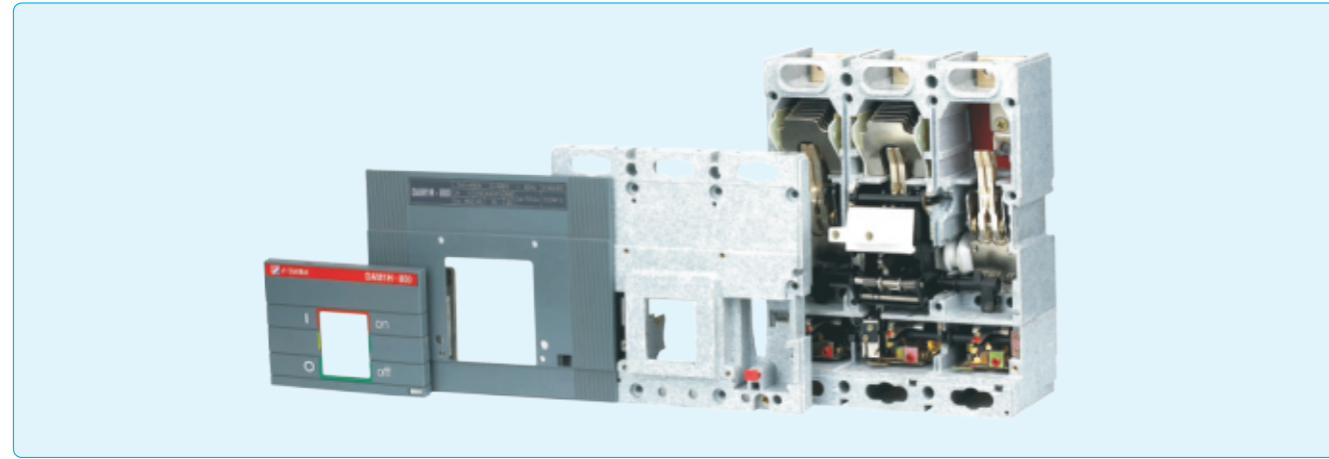
Technical parameter and Installation

壳架等级额定电流(A) Rated current of frame size Inm(A)	固定式Fixed version			插入式Plug-in version		抽出式Draw-out version	
	1P/2P	3极(3P)	4极(4P)	3极(3P)	4极(4P)	3极(3P)	4极(4P)
160/1P	■	—	—	—	—	—	—
200/2P	■	—	—	—	—	—	—
200L/2P	■	—	—	—	—	—	—
63/63L	—	■	■	■	■	—	—
125/125L	—	■	■	■	■	—	—
160/160L	—	■	■	■	■	—	—
250/250L	—	■	■	■	■	■	■
630/630L	—	■	■	■	■	■	■
800	—	■	■	—	—	■	■
1250	—	■	■	—	—	■	■
1600	—	■	■	—	—	■	■

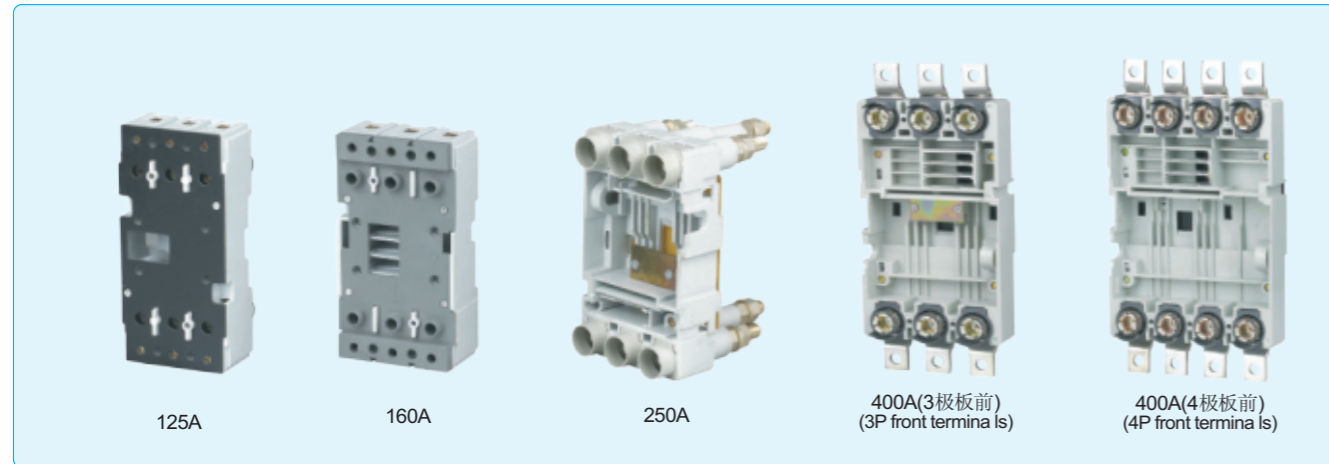
注: L系列漏电断路器只有四极。  
Note: The L Series leakage circuit only has 4 poles



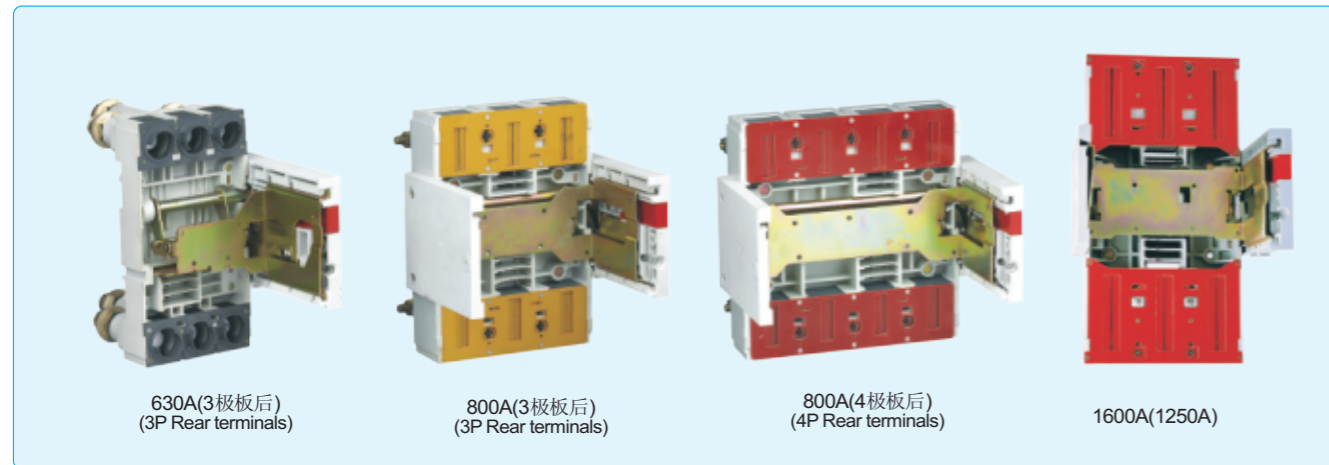
固定式 Fixed type



插入式 Plug-in version



抽出式 Draw-out version

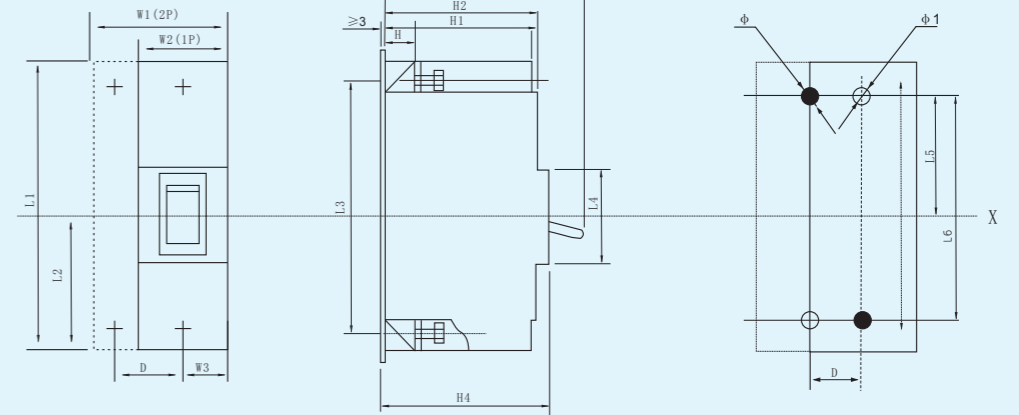


外形与安装尺寸  
Overall and installation size

固定式 Fixed type

DAM1-160~200(L)

板前接线  
Connect wire in front of board



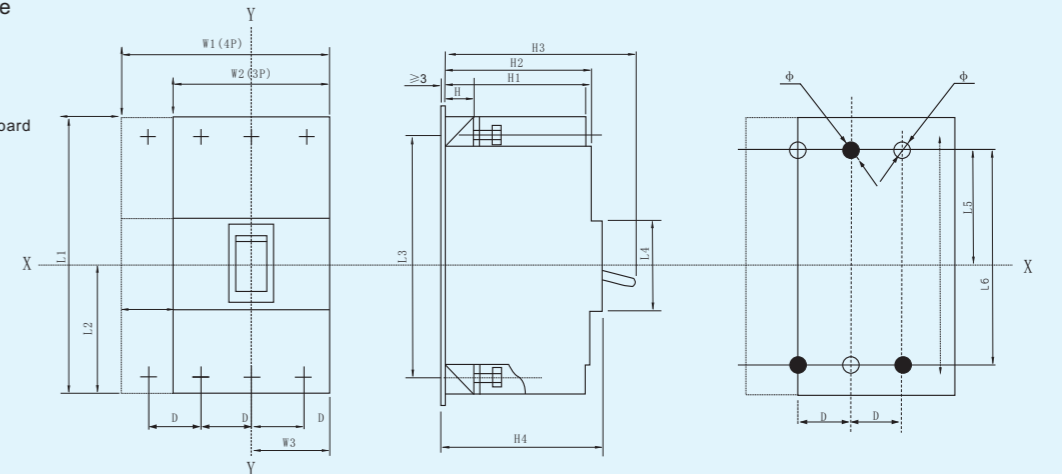
型号Type	D	L1	L2	L3	L4	L5	L6	W1	W2	W3	H	H1	H2	H3	H4	φ	φ1
DAM1-160/1P	—	120	48	102	45	62	102	—	30	15	27.5	67.5	70	91	75	4.5	3.5
DAM1-200/2P	30	120	48	102	45	62	102	60	—	15	27.5	67.5	70	93	75	4.5	3.5
DAM1-200L/2P	30	155	83	135	45	62	135	60	—	15	27.5	67.5	70	93	75	4.5	3.5

固定式 Fixed type

DAM1-63~160(L)

DAM1×-160

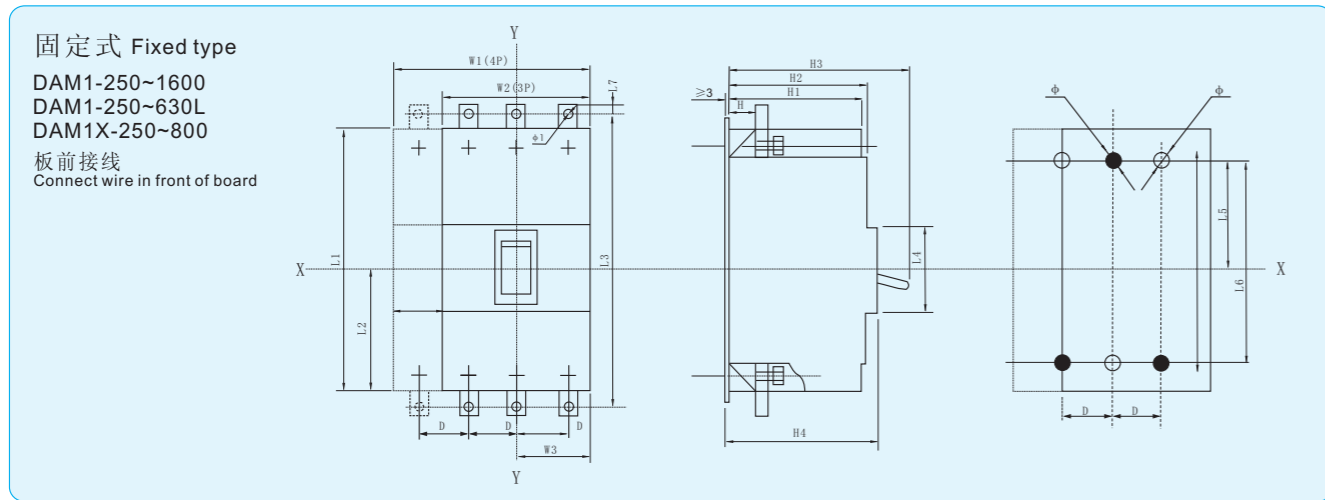
板前接线  
Connect wire in front of board



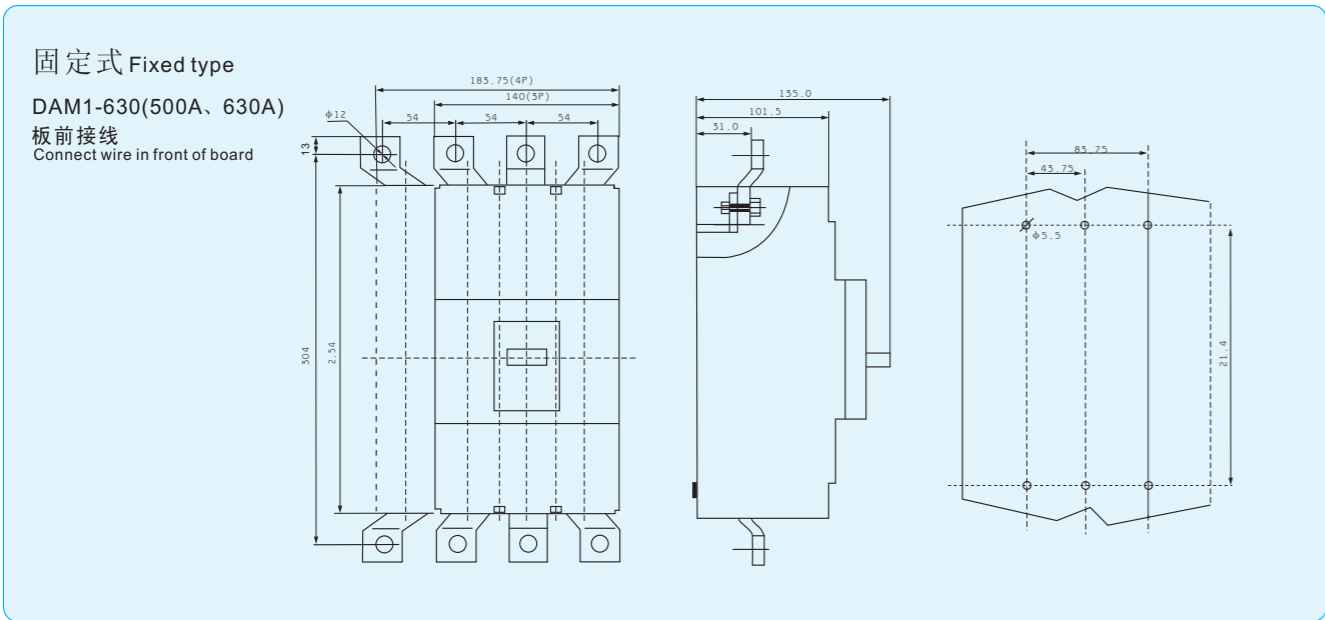
型号Type	D	L1	L2	L3	L4	L5	L6	W1	W2	H	H1	H2	H3	H4	φ
DAM1-63/125	25	120	48	102	45	62	102	101	76	25.5	67.5	70	91	75	4.5
DAM1-63/125L	25	155	83	135	45	62	135	101	—	25.5	67.5	70	91	75	4.5
DAM1-160	30	120	48	102	45	62	102	120	90	27.5	67.5	70	93	75	4.5
DAM1×-160	30	120	48	102	45	62	102	120	90	27.5	67.5	70	93	75	4.5
DAM1-160L	30	155	83	135	45	62	135	120	—	27.5	67.5	70	93	75	4.5

备注: Y-Y为断路器三级中心线  
1.断路器的各种特性及附属装置已由制造厂整定、用户在使用中不可随意调节。  
2.在用户遵守保管和使用条件下,自制造厂发货之日起,不超过18个月,断路器封印完好、产品如制造质量问题而发生损坏或不能正常使用时,制造厂应无偿更换或修理。

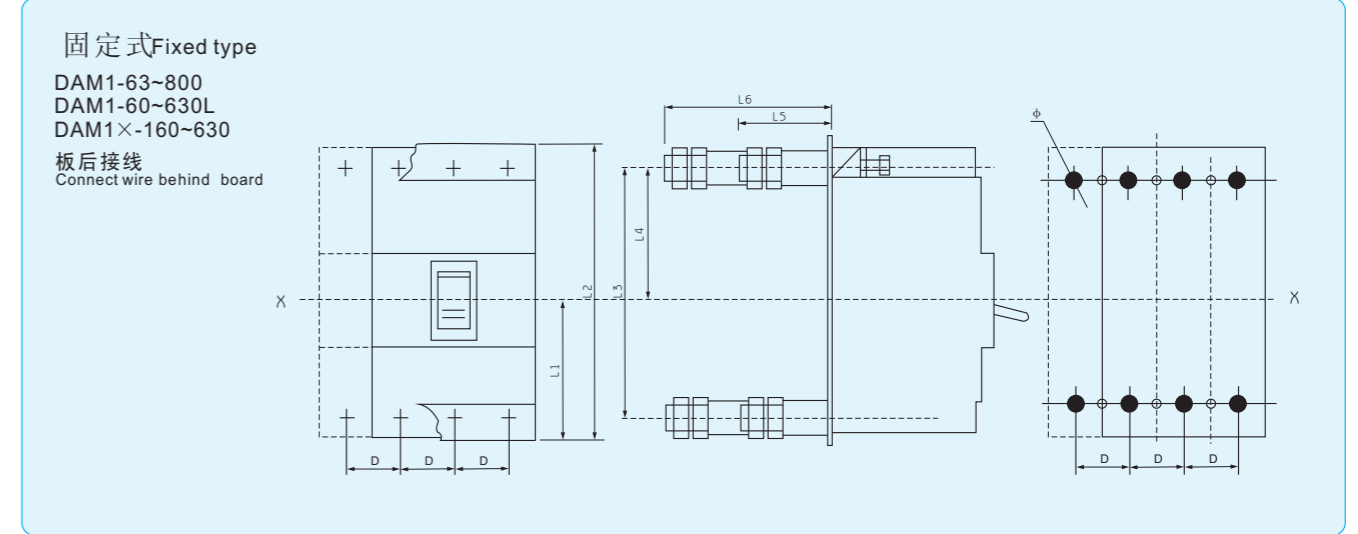
外形与安装尺寸  
Overall and installation size



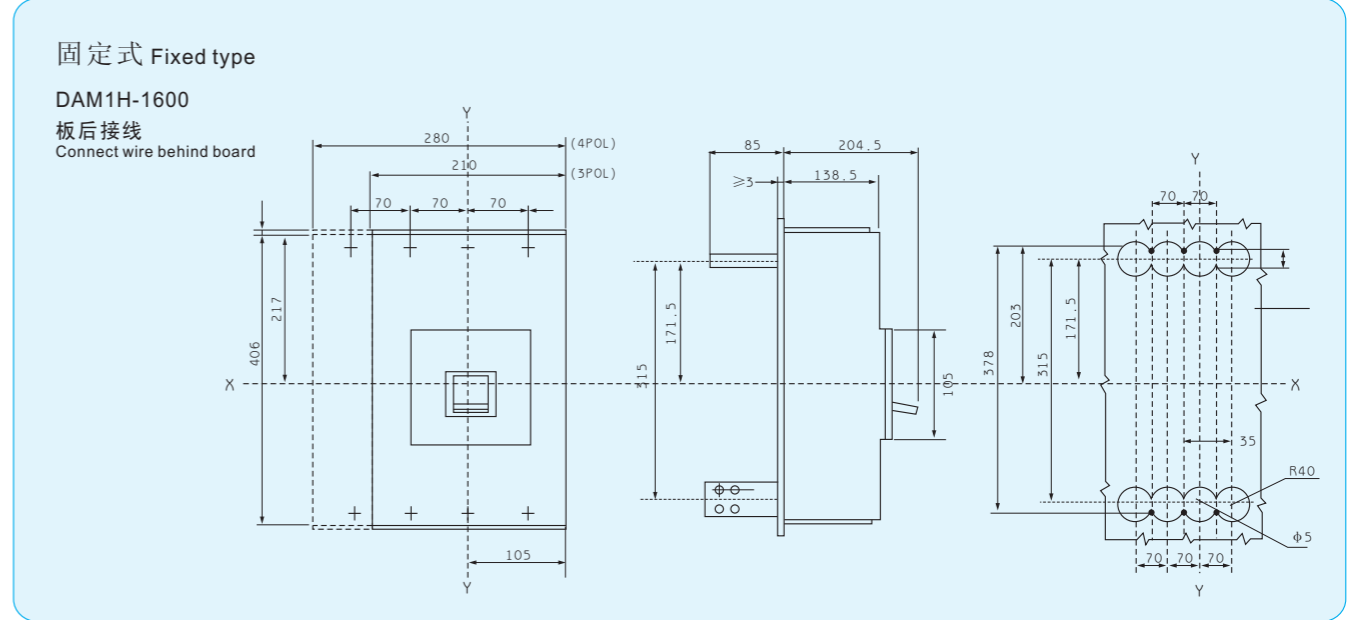
型号Type	D	L1	L2	L3	L4	L5	L6	W1	W2	H	H1	H2	H3	H4	φ	L7	φ1
DAM1-250	35	170	87.25	206	105	73.75	139	140	105	25	101.5	103.5	135	113	5.5	10.8	φ8.5
DAM1-250L	35	210	112.5	246	105	73.75	179	140	—	25	101.5	103.5	135	113	5.5	10.8	φ8.5
DAM1X-250	35	255	87.25	278.5	105	154.5	224	140	105	25	101.5	103.5	135	113	5.5	10.8	φ8.5
DAM1X-400	43.75	339	125.25	366	105	192.5	299	140	183.75	25	101.5	103.5	135	113	5.5	12.0	φ10.5
DAM1-630 (400A)	43.75	254	125.25	281	105	107.25	214	040	183.75	25	101.5	103.5	135	113	5.5	12.0	φ14
DAM1-630L (400L)	43.75	254	117.5	281	105	107.25	214	183.75	—	25	101.5	103.5	135	113	5.5	12.0	φ10.5
DAM1-800	70	268	142.75	241	105	109.25	237	280	210	23	101.5	103.5	167.5	115	5.5	10.0	φ11
DAM1X-800	70	406	142.75	479	105	256.5	375	280	210	23	101.5	103.5	167.5	115	5.5	10.0	φ11
DAM1-1600	70	406	189	513	105	203	378	280	210	39	137	138.5	204.5	152	5.5	13.5	φ11



外形与安装尺寸  
Overall and installation size



型号Type	D	L1	L2	L3	L4	L5	L6	φ
DAM1-63/125	25	50	124	102	39	43	76	18
DAM1-63/125L	25	83	155	135	39	43	76	18
DAM1-160	30	50	124	102	39	43	76	18
DAM1-160L	30	83	155	135	39	43	76	18
DZM1X-160	30	50	124	102	39	43	76	18
DAM1-250	35	85.25	175	145	73.75	55	105	24
DAM1-250L	35	112.5	210	179	73.75	55	105	24
DAM1X-250	35	85.25	255	224	123.5	55	105	24
DAM1X-400	43.75	131.25	285	254	153.5	55	105	30
DAM1-630	43.75	131.25	259	218	107.25	55	105	30
DAM1-630L(400L)	43.75	117.5	254	218	107.25	55	105	30
DAM1-800	70	145.25	273	241	117.25	55	74.5	50

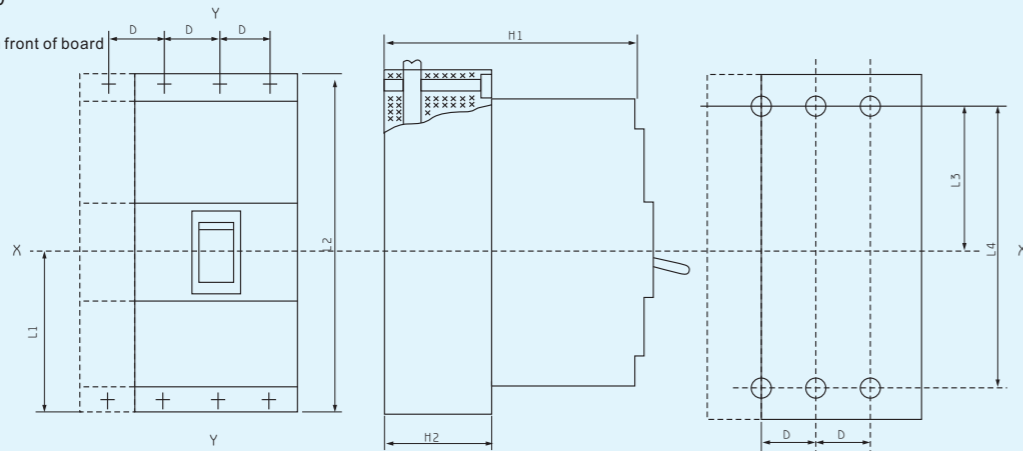


外形与安装尺寸

Overall and installation size

插入式 Plug-in version

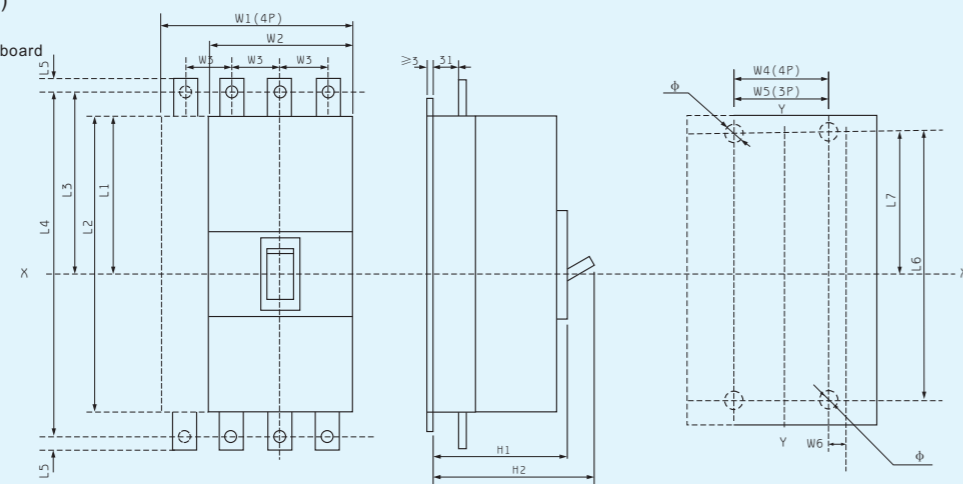
DAM1-63~160  
DAM1X-160  
板前接线  
Connect wire in front of board



型号Type	D	L1	L2	L3	L4	H1	H2
DAM1-63 125	25	70	163	84	144	123	52
DAM1-160	30	70	163	84	144	123	52
DAM1X-160	30	70	163	84	144	123	52

插入式 Plug-in version

DAM1-250~630  
DAM1-630L(400L)  
板前接线  
Connect wire in front of board



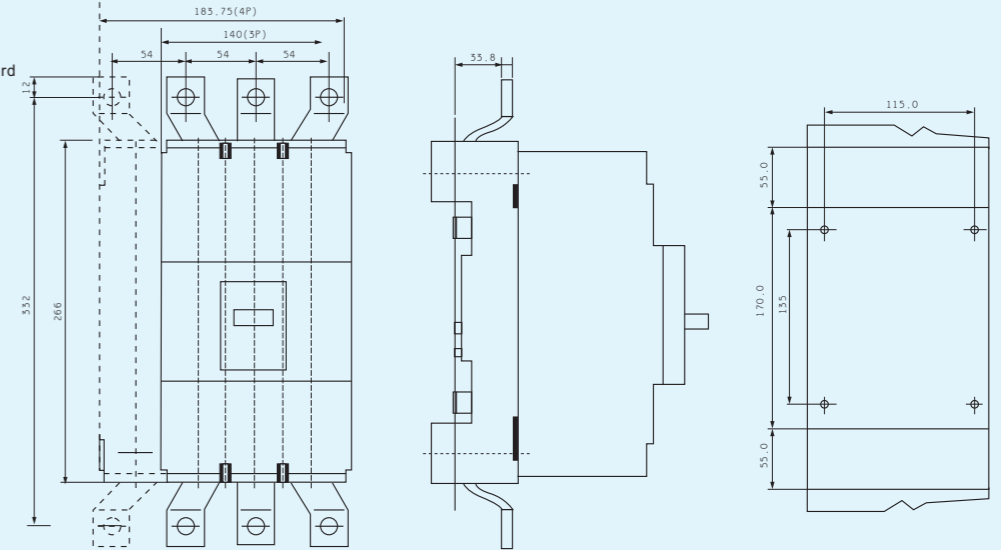
型号Type	L1	L2	L3	L4	L5	L6	L7	W1	W2	W3	W4	W5	W6	H1	H2	φ
DAM1-250	89.75	175	107.25	210	10	52.25	100	140	105	35	105	70	25	153	184.5	5
DAM1-630(400)	127.75	259	150.75	305	14	65.75	135	183.75	140	43.75	160	115	58	153	184.5	6
DAM1-630L(400L)	127.75	259	150.75	305	14	65.75	135	183.75	140	43.75	160	115	58	153	184.5	6

外形与安装尺寸

Overall and installation size

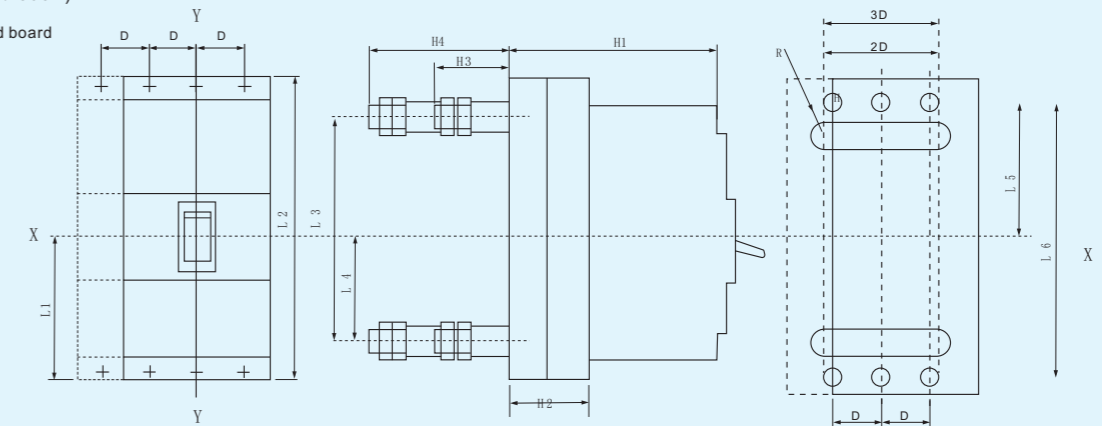
插入式 Plug-in version

DAM1-630  
板前接线  
Connect wire in front of board



插入式 Plug-in version

DAM1-630(500A, 630A)  
板后接线  
Connect wire behind board



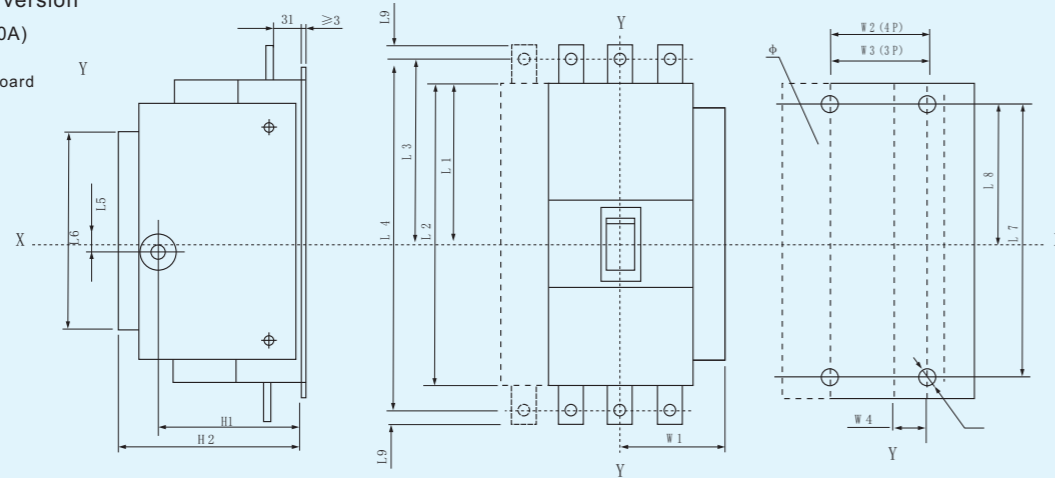
型号Type	D	L1	L2	L3	L4	L5	L6	L7	H1	H2	H3	H4	H5
DAM1-63 125	25	70	163	102	39	84	144	123	52	50	80	13	
DAM1-160	30	70	163	102	39	84	144	123	52	50	80	13	
DAM1-250	35	85.25	175	143	69.2	52.5	100	184.5	83	52	96	14	
DAM1X-250	35	85.25	175	143	69.2	52.5	100	184.5	83	52	96	14	
DAM1X-400	43.75	131.25	259	218	110.75	107.25	218	184.5	83	55	100	14	
DAM1-630	43.75	131.25	259	218	110.75	107.25	218	184.5	83	55	100	14	
DAM1-630L(400L)	43.75	131.25	259	218	110.75	107.25	218	184.5	83	55	100	14	

外形与安装尺寸  
Overall and installation size

抽出式 Draw-out version

DAM1-630(500A、630A)

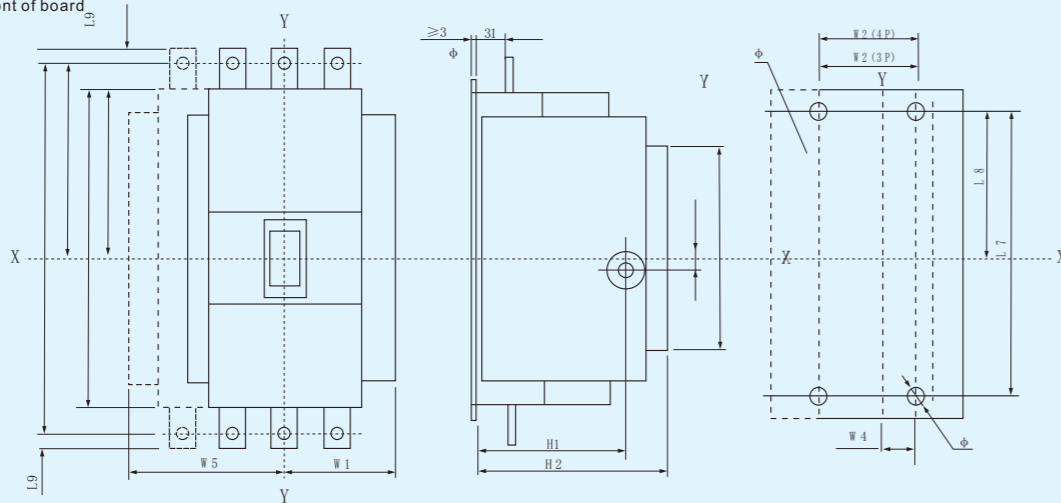
板前接线  
Connect wire in front of board



型号Type	L1	L2	L3	L4	L5	L6	L7	L8	L9	W1	W2	W3	W4	W5	H1	H2	φ
DAM1-250	89.75	175	107.25	210	1.75	105	52.25	100	106	84	105	70	25	-	167	190	5
DAM1-630	127.75	259	150.75	305	1.75	105	65.75	135	140	101.5	160	115	58	-	167	190	6

抽出式 Draw-out version

板前接线  
Connect wire in front of board

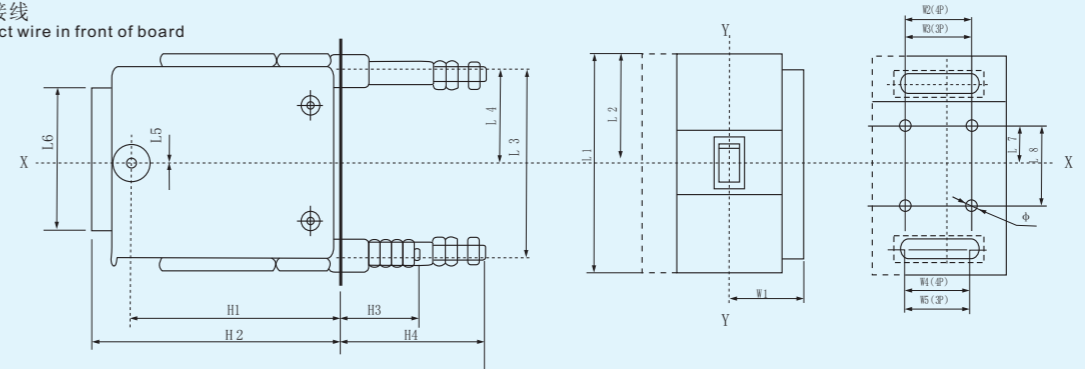


型号Type	L1	L2	L3	L4	L5	L6	L7	L8	L9	W1	W2	W3	W4	W5	H1	H2	φ
DAM1-800	133	295	158	345	14.5	140	45.5	120	20	136.5	210	210	140	193.5	167	190	8.5
DAM1-1600	211.25	406	268.25	520	8.25	140	68.25	120	-	136.5	210	210	140	193.5	218.5	241.5	8.5

外形与安装尺寸  
Overall and installation size

抽出式 Draw-out version

板后接线  
Connect wire in front of board

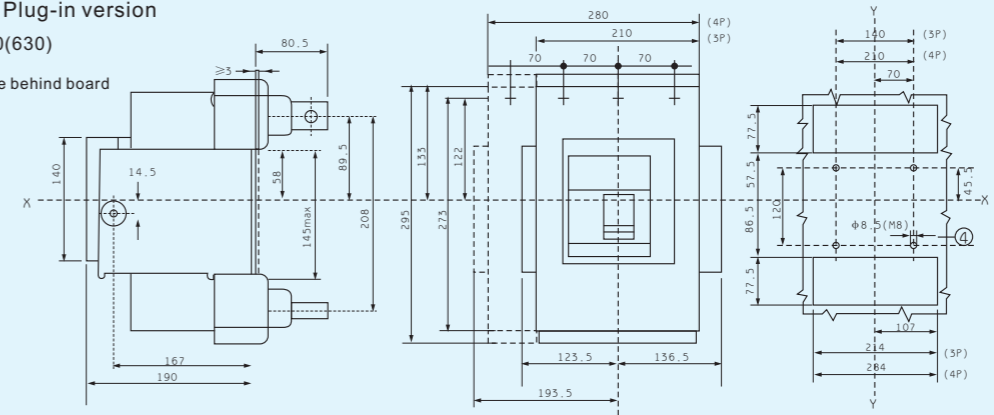


型号Type	L1	L2	L3	L4	L5	L6	L7	L8	W1	W2	W3	W4	W5	H1	H2	H3	H4	φ
DAM1-250	175	87.75	143	73.75	1.75	105	52.25	100	84	105	70	70	105	167	190	52	96	5
DAM1X-250	175	87.75	143	73.75	1.75	105	52.25	100	84	105	70	70	105	167	190	52	96	6
DAM1X-400	259	127.75	218	107.25	1.75	105	65.75	135	101.5	160	115	87.5	131.25	167	190	55	100	6
DAM1-630	259	127.75	218	107.25	1.75	105	65.75	135	101.5	160	115	87.5	131.25	167	190	55	100	6
DAM1-630L(400L)	259	127.75	218	107.25	1.75	105	65.75	135	101.5	160	115	87.5	131.25	167	190	55	100	5

抽出式 Plug-in version

DAM1-800(630)

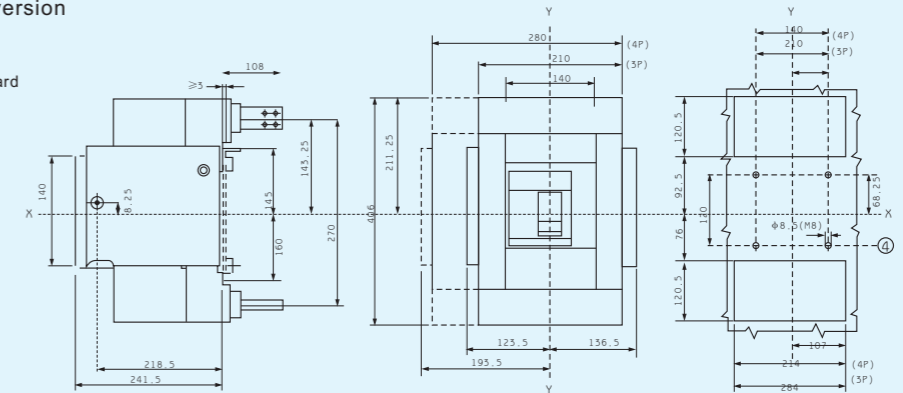
板后接线  
Connect wire behind board



抽出式 Plug-in version

DAM1-1600(1250)

板后接线  
Connect wire behind board



## 电动操作机构

### Electical operating mechanism

1. 电动操作机构用于远距离控制断路器合闸。
2. 提供用户的电动操作机构品种规格见表15。

1. The electrical operating mechanism is available remote close of MCCB.
2. The types of electrical operating mechanism are shown in table15.

表15 Table

壳架等级额定电流 Rated current of frame sizeInm(A)	选用电动操作机构型号 Selection of types of electrical operating mechanism		
	CD1	CD2	CD3
63/63L	-	CD2-63	-
125/125L	-	CD2-100	-
160/160L	-	CD2-160	-
250/250L	CD1-250	-	-
630(400)/630L(400L)	CD1-400	-	-
800	-	-	CD3-800
1600(1250)	-	-	CD3-1600

## CD1 型电动操作机构

### CD1 Type Electical operating mechanism



1. 电动直接合闸及分闸兼有手动合闸和分闸。
2. 具有手动紧急断开按钮功能。
3. 用户可配置断开位置锁，防止断路器合闸。
4. 适用的断路器：①Inm=250A ②Inm=400A  
请用户在订货时要注明具体规格。
5. 选购附件。

1. Direct-acting, and manual close/open of MCCB.
2. Equipped with emergency opening button.
3. Customer can fit padlock on it for MCCB in open position
4. Suitable for MCCBs: ①Inm=250A ②Inm=400A  
The specific type should be stated clearly in your order
5. Selectable accessories.

## 动作特性

### Action Characteristic

表16 Table

操作的电气附件 Electrical accessories		电动机操作机构 Electrical operating mechanism			
操作电源电压范围 Range of supply Voltage		(0.85-1.1)×Us			
额定控制电源电压 Rated control supply voltage	电源 Power supply	AC 50Hz			
		功耗 Power loss	启动功耗 Irrupt power consumption	220V	380V
			持续功耗 Normal loss	510VA	510VA
		110VA	220VA	DC	
				启动功耗 Irrupt power consumption	510VA
		持续功耗 Normal loss	360VA	360VA	
合闸时间 Closing time		0.1s			
分断时间 Opening time		0.1s			

## CD2型电动操作机构

### CD2 Type Electical operating mechanism



1. 电动合闸分闸兼有手动合闸和分闸
2. 适用的断路器：
  - ①Inm=63A
  - ②Inm=100A
  - ③Inm=160A
 请用户在订货时要注明具体规格
3. 选购附件

1. Direct-acting, and manual close/open of MCCB.
2. Suitable for MCCBs:
  - ①Inm=63A
  - ②Inm=100A
  - ③Inm=160A
 The specific type should be stated clearly in your order.
3. Selectable accessories.

表17 Table

操作的电气附件 Electrical accessories		电动操作机构 Electrical operating mechanism			
操作电源电压范围 Range of supply Voltage		(0.85-1.1)×Us			
额定控制电源电压 Rated control supply voltage	电源 Power supply	AC 50Hz			
		功耗 Power loss	启动功耗 Irrupt power loss	220V	380V
			持续功耗 Normal power loss	220VA	200VA
		110VA	220V	DC	
				启动功耗 Irrupt power loss	200W
		持续功耗 Normal power loss	110W	110W	
合闸时间 Closing time		0.1s			
分断时间 Opening time		0.1s			

## CD3型预储能电动机操作机构

### CD3 Type Energy stored electical operating mechanism



1. 电动机预储能兼有手动预储能。
2. 具有电动合闸兼有手动合闸。
3. 用户需合闸断路器时，分二步进行。先储能完毕，再合闸断路器。
4. 具有电动兼有手动断开功能。
5. 具有手动紧急断开按钮功能。
6. 用户可装置断开位置锁，防止断路器合闸。
7. 适用的断路器：①Inm=630A ②Inm=800A ③Inm=1250A ④Inm=1600A  
请用户在订货时要注明具体规格。
8. 选购附件

1. Spring charged by motor or manual.
2. Close by motor or manual.
3. For closing of MCCB, the procedures are: energy stored with spring charged by motor, then closing MCCB.
4. Having electrical opening function.
5. Equipped with emergency opening button.
6. Customer can fit padlock on it for MCCB in open position
7. Suitable for MCCB: ①Inm=630A ②Inm=800A ③Inm=1250A Inm=1600A  
The specific type should be stated clearly in your order
8. Selectable accessories.

## 动作特性 Action Characteristic

表18 Table

操作的电气附件 Electrical accessories		电动操作机构 Electrical operating mechanism			
操作电源电压范围 Range of supply Voltage		(0.85-1.1)×Us			
额定控制电源电压 Rated control supply voltage	电源 Power supply	AC 50Hz			
		功耗 Power loss	启动功耗 Irrupt power loss	220V	380V
			持续功耗 Normal power loss	660VA	660VA
		180VA	220V	DC	
				启动功耗 Irrupt power loss	600W
		持续功耗 Normal power loss	180W	180W	
合闸时间 Closing time		0.1s			
分断时间 Opening time		0.3s			

## 旋转手柄操作机构

### Rotary handle operating mechanism

1. 旋转手柄操作机构可用于

- ①在断路器上用旋转手柄控制断路器的合闸和分断;
- ②在开关柜小室外用旋转手柄控制断路器的合闸和分断;
- ③用旋转手柄操作机构与开关柜小室门进行联锁。防止断路器在合闸状态下, 开关柜小室门被打开。

2. 用户可装置断开位置锁, 防止断路器合闸(最多可挂3把直径为6mm的挂锁, 用户自备)。

3. 一台断路器配独立钥匙和锁;

4. 二台断路器配二把相同锁、一把相同钥匙;

5. 三台断路器配三把相同锁、二把相同钥匙;

6. 提供用户的旋转手柄操作机构品种规格见表19。

1. The rotary handle operating mechanism is suitable for:

- ①Closing and opening of MCCB by the rotary handle on MCCB.
- ②Closing and opening of MCCB by the rotary handle on the compartment door of switch board;
- ③Interlocking between the rotary handle operating mechanism and compartment door to prevent the compartment door from being opened in case of MCCB in closed state.

2. Customer can fit padlock on it for MCCB in open position(up to a max of 3 padlocks with max 6mm dia).

3. One key and one lock for one MCCB

4. One key and two lock for two MCCB

5. Two keys and three locks for three MCCB

6. The types of rotary handle operating mechanism are given in Table 19.

## 操作特性

### Action Characteristic

表19 Table

壳架等级 额定电流 Rated current of frame size Imn	装置在断路器上 On MCCB		装置在开关柜小室门上(选用: 手柄+操作机构) On compartment door (selection: Handle+Mechanism)							
	CS2	CS2/L	手柄 Handle				操作机构 Operation mechanism			
			A型(圆型) A type (Round)		B型(方型) B type (Square)		CS1(中心式) CS1(central)		CSS(偏心式) CS1(Eccentric)	
		配联锁 With interlock	A-1 短柄 Short handle	A-2 长柄 Long handle	F1-1 短柄 Short handle	F-2 长柄 Long handle				
63/63L	-	-	-	-	F1-1	-	-	-	CSS-63	CSS/L-63
125/125L	-	-	-	-	F1-1	-	-	-	CSS-100	CSS/L-100
160/160L	-	-	-	-	F1-1	-	-	-	CSS-160	CSS/L-160
250/250L	CS2-250	CS2/L-250	-	-	F1-1	-	CS1-250	CS1/L-250	CSS-250	CSS/L-250
630(400) 630L(400L)	CS2-400	CS2/L-400	-	-	F1-1	-	CS1-400	CS1/L-400	CSS-400	CSS/L-400
800	CS2-800	CS2/L-800	-	A-2	-	F1-2	CS1-800	CS1/L-800	CSS-800	CSS/L-800
1600(1250)	CS2-1600	CS2/L-1600	-	A-2	-	F1-2	CS1-1600	CS1/L-1600	CSS-1600	CSS/L-1600

## CSS 旋转手柄操作机构

### CSS Rotary handle operating mechanism



1. 偏心式结构
2. 操作机构装置在断路器上。
3. 可配A型或F型手柄。
4. 可配与小室门联锁装置。
5. 选购附件。

1. Eccentric structure.
2. Mounted on MCCB.
3. Fitted with A type or F type handle.
4. Interlock with compartment door.
5. Selectable accessories.

## CS2 旋转手柄操作机构

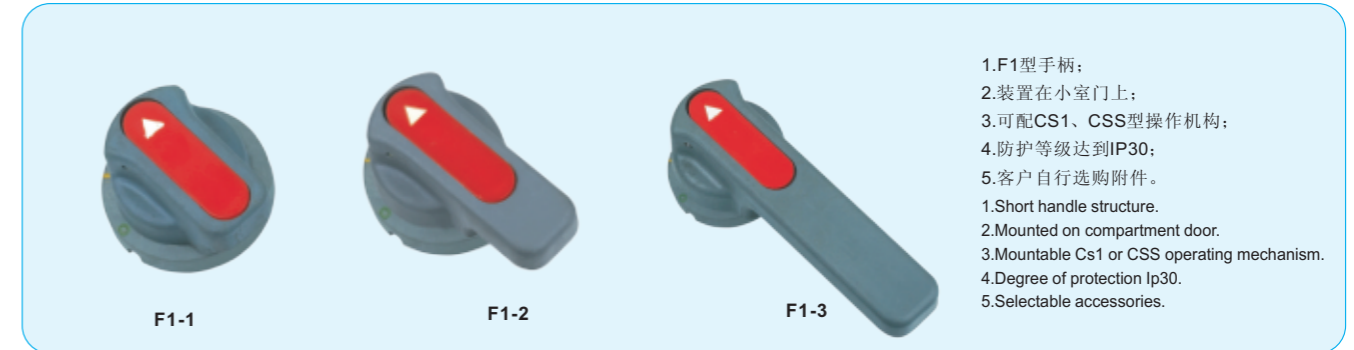
### CS2 Rotary handle operating mechanism



1. 装置在断路器上。
2. 具有断开装置锁扣装置。
3. 可配与小室门联锁装置。
4. 选购附件。

1. Mounted on MCCB.
2. Key lock for MCCB in open position.
3. Interlock with compartment door.
4. Selectable accessories.

## A型手柄 A type handle



1. F1型手柄;
2. 装置在小室门上;
3. 可配CS1、CSS型操作机构;
4. 防护等级达到IP30;
5. 客户自行选购附件。

1. Short handle structure.
2. Mounted on compartment door.
3. Mountable Cs1 or CSS operating mechanism.
4. Degree of protection Ip30.
5. Selectable accessories.

## F1-1 型手柄 F1-1 type handle



1. 短柄结构。
2. 装置在小室门上。
3. 可配CS1、CSS型操作机构。
4. 防护等级达到IP30。  
(与制造厂协商, 可供防护等级为IP54手柄)
5. 选购附件

1. Short handle structure.
2. Mounted on compartment door.
3. Mountable Cs1 or CSS operating mechanism.
4. Degree of protection Ip30.(The handle of Ip54 is available on request)
5. Selectable accessories.

1. 长柄结构。
2. 装置在小室门上。
3. 可配CS1、CSS型操作机构。
4. 防护等级达到IP30。  
(与制造厂协商, 可供防护等级为IP54手柄)
5. 选购附件

1. Long handle structure.
2. Mounted on compartment door.
3. Mountable Cs1 or CSS operating mechanism.
4. Degree of protection Ip30.(The handle of Ip54 is also available on request)
5. Selectable accessories.