



**BOR** Semiconductors

# Professional + Manufacturing

## Fuse Product catalogue

H.V. Fuse Links, L.V. Fuse Links, Fuse Bases, Fuse Carriers  
Fusegears, Fuse Alarms, Automobiles Fuse



**MINGRONG**  
ELECTRICAL PROTECTION

**ZHEJIANG MINGRONG ELECTRICAL PROTECTION CO., LTD**



ZHEJIANG MINGRONG ELECTRICAL PROTECTION CO., LTD

## Brief Introduction



ZHEJIANG MINGRONG ELECTRICAL PROTECTION CO., LTD, the foreign-invested enterprise, is one of the most famous and professional manufacturers of high-voltage and low-voltage fuse and fusegear. Company covers an area of 93,400 m<sup>2</sup>, with building area of 66,000 m<sup>2</sup> and employs 480 people.

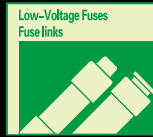
Company has strong technical capabilities, professional know-how, and advanced manufacturing equipments. With the standard quality control, the advanced check-out facility, the first-class surveillance and measure method, we continuously pursuit highest standard of product quality and make 'MIRO' a well-known and trustworthy brand in extensive customers. We have got ISO9001 and ISO14000 approval, CE and UL certificates as well as CCC on many products. The products are widely applied in lots of industries: electric power, petrochemical, machinery, metallurgy, building, telecom, traction and so on. With 28 series and 1000 more varieties, our products are popular throughout China and overseas.

We have gained excellent reputation from customers both in the domestic and the overseas markets for the well established quality system and reliable services. Meeting customers' demands and offering the best product and service will always be our goal continuously. And it will be also our great pleasure at your requests at any time.

***Leading speciality Superexcellent quality***

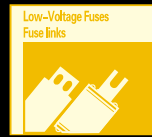


# Product Contents



## 1 Fuse links

- 4-7 Cylindrical fuse links
- 8-10 Round cartridge fuse links with knife contacts
- 11-16 Screw base type fuse links
- 17-26 Square pipe fuse links with knife contacts
- 27-28 Non-filler renewable fuse links



## 2 Bolt connected fuse links

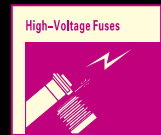
- 30-37 Bolt connected fuse links
- 38-43 Bolt connected round cartridge type fast-acting fuse links for semiconductor protection
- 44-53 Bolt connected square pipe type fast-acting fuse links for semiconductor protection



## 3 Fuse bases

- 55-62 Cylindrical fuse holders
- 63-70 Screw fuse bases
- 71-81 Fuse bases for square pipe fuses with knife contacts
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#### 4 Fuse alarms

89-90 Fuse alarms

#### 5 Fuse carriers

92-93 Fuse carrier (handle)

#### 6 Combining electric of fuse

95-107 Fuse disconnecting switches

#### 7 Automobile Fuse

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#### 8 High voltage fuse

113-133 H.V. HRC  
current-limiting fuse  
134-137 H.V. Drop-out fuse

**Professional High Voltage And Low Voltage *FUSE* Manufacturer**



# Products Assembly(part)



We dedicate in pursuing high quality and perfect brand.

In the field of the fuse manufacture, we insist on keeping up with the international standards, being unique on the production technique and the design of the product.

We are the first fuse company in this field obtaining UL certification, which is the high recognize to the quality of MIRO product, making MIRO competitive in the international market.

# Low-voltage Fuse Links Selection Guide

The purpose of using fuses is to cut off the line safely and correctly to protect discrete components or the whole line in case of circuit errors. The following are the necessary conditions to be considered when selecting fuses:

## ► Usual Service Conditions And Installation Conditions

Ambient temperature: -5°C ~+40°C

Height above sea level: not more than 2000m

Atmospheric condition: humidity: the installation site's relative air humidity does not exceed 50% while the maximum temperature is +40°C , And it can allow to have higher relative humidity under lower temperature. The average temperature does not exceed +25°C while in the wettest month, and the maximum relative humidity does not exceed 90% in this month. We must take measures when there is condensation on the products which due to the changed temperature.

Class of pollution: third class

Sort of installation: III

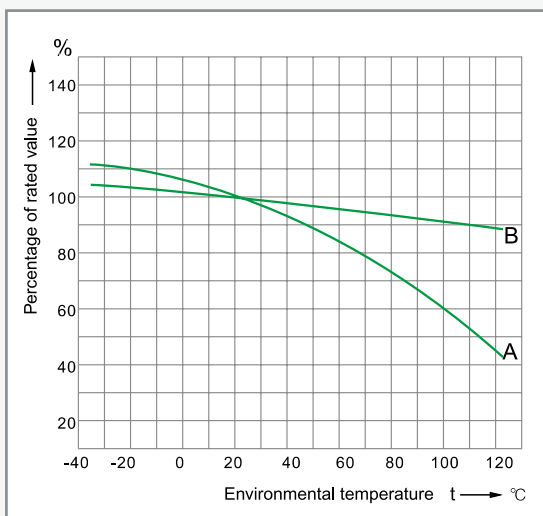
## ► Ambient Temperature

Ambient temperature means the air temperature directly around the fuse, and should not be understood as the room temperature. In many application cases, the fuses are at rather high temperature as they are installed with supporting devices or bases in different structures and they are closed in the distributing or controlling boxes.

## ► Derating

We recommend that the actual working current of a fuse should not exceed its rated current under the ambient temperature of 20°C . While selecting the fuses, environment and working conditions should be considered. Such as the variation of situation of closing, air flow, wire sizes (length and section) and instantaneous peak value etc. The current load capability of fuse links are tested under the ambient temperature of 20°C , However the actual load capability is affected by the ambient temperature. The higher the ambient temperature, the higher the working temperature and the shorter the service life of a fuse will be. On the other hand, the service life of a fuse can be longer when working under a lower ambient temperature.

The following is the typical curve showing the affection to the current load capability by the ambient temperature.



Environmental temperature-----Bearing capacity curve

e.g. when gG type fuse of 63A rating is used under ambient temperature of 20°C , reduction in working current is necessary when the ambient temperature is changed to 70°C . The ambient temperature-load capacity curve. A shows that the rating should be 78% at 70°C , and the new rating should be determined as:

$$I_n = \frac{63A}{0.78} = 80.77A$$

So fuse links of 80A rating should be selected for the new ambient temperature.

Note: A:(gG) type for line protection

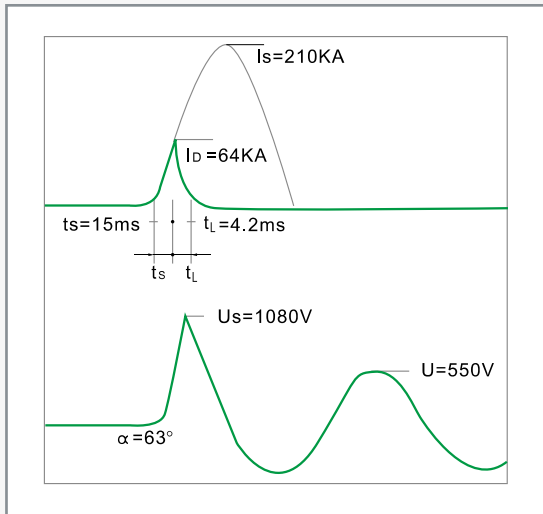
B: (aR) type for semi-conductor protection

## ► Malfunction

Malfunction is usually a result of incomplete analysis on the design of circuit, Special attention should be given to 1) normal rated current, 3) Ambient temperature, and 6) overload increment of factors to be considered for selection of fuses listed below. For example, frequent reasons for malfunction under normal working conditions are insufficient consideration to the start current of capacitor circuit and the ambient temperature around the fuse link.

### ▶ Rated Breaking Capacity

Rated breaking capacity is the maximum short-circuit current allowed for the fuse link to cutout reliably under rated voltage. The instantaneous current loaded to the fuse link is much larger than the normal working current when short-circuit occurs. The fuse link is supported to cutout the line in an undamaged condition i.e. without bursting. The rated breaking capacity of MIRO fuses is up to 120kA and the excellent current limiting characteristics reliably protect the equipment from damages by electric power.



Wave curve of current limiting characteristics of fuse link

- Where:  $I_s$ -peak value of maximum asymmetric current at 100KA perspective current  $I_D$  (The impulse factor of a short circuit should be 1.5).  
 $I_D$ - the actual current at breaking (limiting current)  
 $U_s$ -Arc voltage  
 $U$ - Voltage  
 $t_s$ - melting time  
 $t_l$ - Arcing time  
 $\alpha$ - Burning corner of arc after zero voltage.

### ▶ Fuse Supporter (Fuse Base)

In many application cases, fuse links are installed on fuse supporters/fuse bases. They are not to be used as switches for connection and disconnection of the load.

### ▶ Factors To Be Considered For Selection Of Fuses

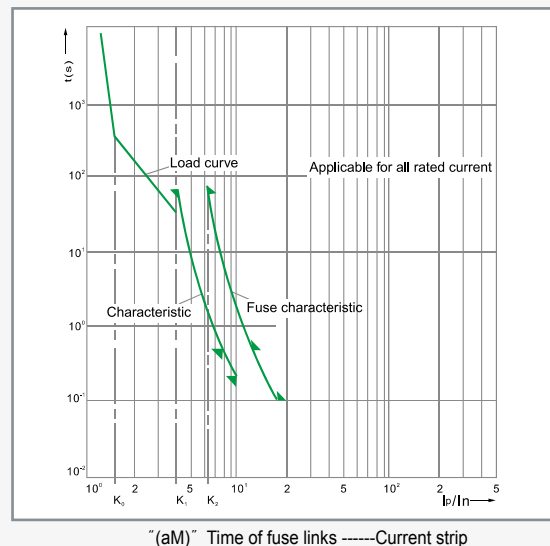
1. normal working current
2. working voltage
3. ambient temperature
4. overload current and cutout time
5. possible malfunction current
6. impulse current, surge current, starting current and transient value of the line
7. size and dimensions, connection methods, indicators, etc.

### ▶ Threshold Values Of aM Fuses

Gate limit of "aM" type fuse links:

$I_p(I_n)$	4	6.3	8	10	12.5	19
$t_{Fuse} \leq$ (s)	-	60	-	-	0.5	0.10
$t_{Before\ arc} \geq$ (s)	60	-	0.5	0.2	-	-

Note:  $I_p$ -Perspective current  
 $I_n$ -Rate current of fuse link





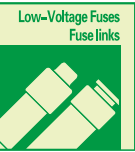
## Low Voltage Fuse

Professional High Voltage And Low Voltage Fuse Manufacturer

# Fuse Links



# Cylindrical Fuse Links



## ► Applications

Protection against overload and short circuit in electric lines (type gG), also available for protection of semiconductor parts and equipments against short-circuit (type aR) and protection of motors (type aM).

Rated voltage up to 660V; Rated current up to 125A; Working frequency 50Hz AC; Rated breaking capacity up to 100KA. Compliant with GB13539 and IEC269.

## ► Design Features

Variable cross-section fuse element made from pure metal sealed in cartridge made from high-duty ceramic or epoxy glass. Fuse tube filled with chemically treated high-purity quartz sand as arc-extinguishing medium. Dot-welding of fuse element ends to the caps ensures reliable electric connection; Striker may be attached to the fuse link to provide immediate activation of micro- switch to give various signals or cut the circuit automatically.

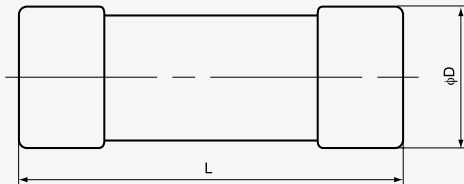
Special fuse as per Figure 1.2~1.4 can be supplied according to customers requirements.

## ► Basic Data

The models, dimensions, ratings are shown in Figures 1.1~1.4 and Table 1 .

Table 1

Cat. No.	Models		Cross-reference		Dimensions/sizes (mm) Fig. $\phi D \times L$	Rated voltage (V)	Rated current (A)	Weight (g)
	MIRO gG(Normal)	RS aR(Fast)	gG(Normal)	aR(Fast)				
0101	RO06	RS06	-	-	1.1 $\phi 12.7 \times 29$	250/380	1-32	6.5
0102	RO07	RS07	-	-	1.1 $\phi 30 \times 57$	600	10-100	75
0103	RO09	RS09	-	-	1.1 $\phi 18 \times 37$	500	2-63	17.4
0104	RO10	RS10	-	-	1.1 $\phi 18 \times 50$	500	2-63	23.5
0105	RO11	RS11	AJT JKS LPJ	ACL	1.1 $\phi 21 \times 58$	600	2-32	51.5
0106	RO12	RS12	AJT JKS LPJ	ACL	1.1 $\phi 27 \times 60$	600	35-100	90
0107	RO13	RS13	-	-	1.1 $\phi 15 \times 50$	500	2-40	23.2
0108	RO14	RS14	RT19-16 gF1	-	1.1 $\phi 8.5 \times 31.5$	500	0.5-20	4.4
0109	RO14A	RS14A	-	-	1.1 $\phi 8.5 \times 23$	250	0.5-20	3.5
0110	RO14B	RS14B	-	-	1.1 $\phi 8.5 \times 36$	380/500	0.5-20	5.0
0111	RO15	RS15	RT14-20 gF2 RT18-32 RT19-25	KTK KLM	1.1 $\phi 10.3 \times 38$	500/690	0.5-32	7.7
0112	RO15A	RS15A	-	-	1.1 $\phi 10.3 \times 25.8$	250	0.5-16	4.8
0113	RO15B	RS15B	-	-	1.1 $\phi 10.3 \times 31.5$	250/500	0.5-25	5.8
0114	RO15C	RS15C	-	-	1.1 $\phi 10.3 \times 34$	380/500	0.5-32	6.2
0115	RO15D	RS15D	-	-	1.1 $\phi 10.3 \times 57$	600	2-32	11
0116	RO16	RS16	RT14-32 gF3 RT18-32 RT19-40	FWP	1.1 $\phi 14.3 \times 51$	500/690	2-50	20.5
0117	RO16A	RS16A	-	-	1.1 $\phi 14.3 \times 38$	500	2-50	15.6
0118	RO16B	RS16B	-	-	1.1 $\phi 14.3 \times 45$	500	2-50	18.5
0119	RO16C	RS16C	-	-	1.1 $\phi 14.3 \times 67$	500	2-50	27.5
0120	RO17	RS17	RT14-63 gF4 RT18-125 RT19-100	URE2263	1.1 $\phi 22.2 \times 58$	500/690	10-125	58
0121	RO18	RS18	-	-	1.1 $\phi 9.6 \times 30$	380	0.5-25	4.8
0122	RO19	RS19	-	-	1.1 $\phi 20.5 \times 127$	600	0.5-32	91.2
0123	RO19A	RS19A	-	-	1.1 $\phi 20.5 \times 76$	250/500	0.5-63	63
0124	RO19B	RS19B	-	-	1.1 $\phi 20.5 \times 114$	600	0.5-32	85
0125	RO19C	RS19C	-	-	1.1 $\phi 27 \times 139$	600	32-63	172.4
0126	RO19D	RS19D	-	-	1.1 $\phi 27 \times 147$	600	32-63	160
0127	RO54	RS54	-	-	1.1 $\phi 5 \times 20$	250	0.5-16	1
0128	RO55	RS55	-	-	1.1 $\phi 5 \times 25$	250	0.5-16	1.3
0129	RO56	RS56	-	-	1.1 $\phi 6 \times 20$	250	0.5-16	1.7
0130	RO57	RS57	-	-	1.1 $\phi 6.3 \times 25$	250	0.5-16	2.1
0131	RO58	RS58	-	-	1.1 $\phi 6.3 \times 31.5$	250/500	0.5-16	2.5

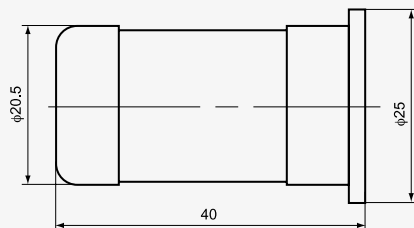


Low-Voltage Fuses  
Fuse links



Table 1 (Cont.)

Cat. No.	Models		Cross-reference		Dimensions/sizes (mm) Fig. $\phi D \times L$	Rated voltage (V)	Rated current (A)	Weight (g)
	MIRO gG(Normal)	RS aR(Fast)	gG(Normal)	aR(Fast)				
0132	RO08	RS08	-	JJS	1.2 $\phi 20.5 \times 40$	600	2-63	40



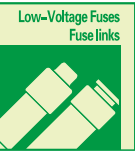


Table 1 (Cont.)

Cat. No.	Models		Cross-reference		Dimensions/sizes (mm) Fig. $\phi D \times L$	Rated voltage (V)	Rated current (A)	Weight (g)
	MIRO		gG(Normal)	aR(Fast)				
0133	RO15T	RS15T	ATQR	KTK KLKR	1.3 $\phi 10.3 \times 38$	380/500	0.5-32	7.5

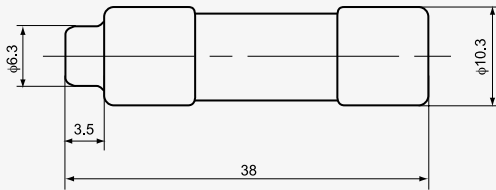


Figure 1.3



Table 1 (Cont.)

Cat. No.	Models		Cross-reference		Dimensions/sizes (mm) Fig. $\phi D \times L$	Rated voltage (V)	Rated current (A)	Weight (g)
	MIRO		gG(Normal)	aR(Fast)				
0134	RO16H	RS16H	FRN-R	-	1.4 $\phi 14.3 \times 51$	250	0.5-32	25
0135	RO17H	RS17H	-	-	1.4 $\phi 22.2 \times 58$	380/500	10-125	52
0136	RO19H	RS19H	FRS-R	-	1.4 $\phi 20.5 \times 127$	600	0.5-32	82
0137	RO19AH	RS19AH	FLNR	-	1.4 $\phi 20.5 \times 76$	250/500	0.5-63	60
0138	RO19BH	RS19BH	-	-	1.4 $\phi 20.5 \times 114$	600	0.5-32	72
0139	RO19CH	RS19CH	FRS-R	-	1.4 $\phi 27 \times 139$	600	35-63	148
0140	RO19DH	RS19DH	-	-	1.4 $\phi 27 \times 147$	600	35-63	172

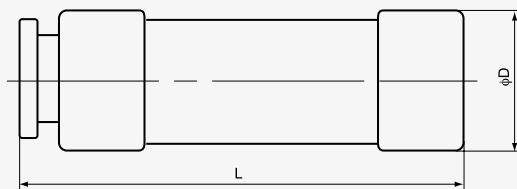
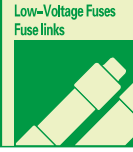
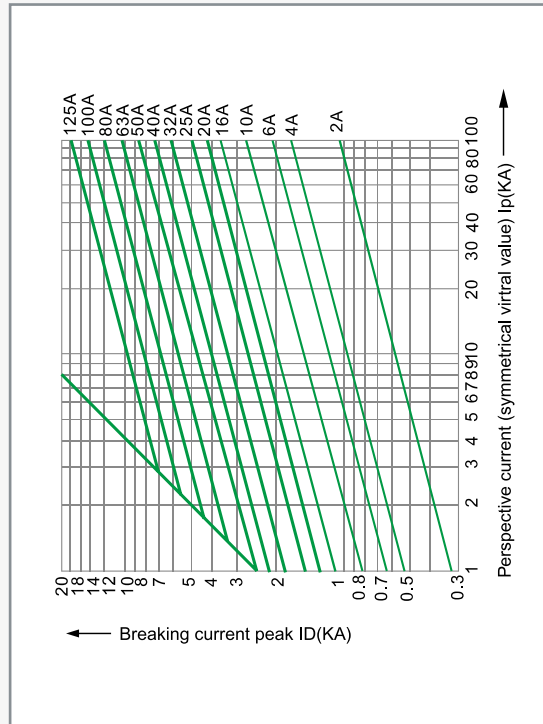
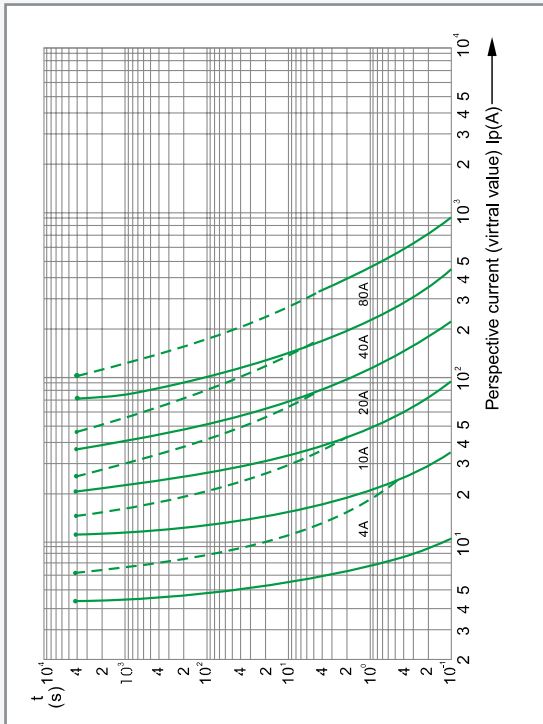
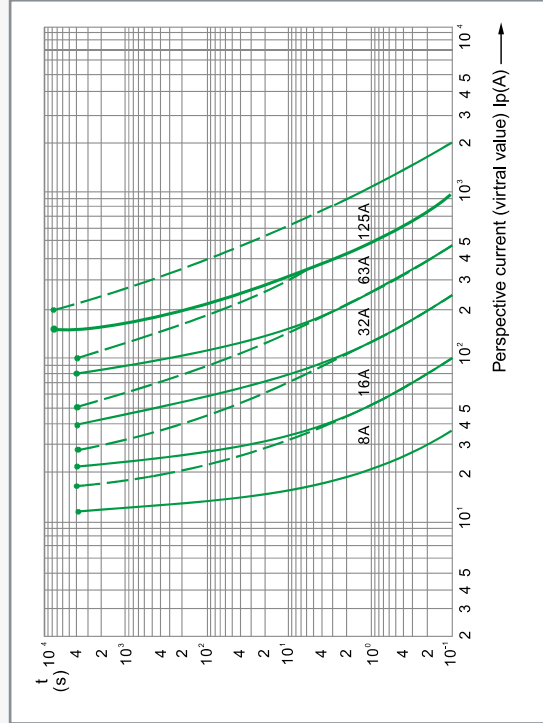
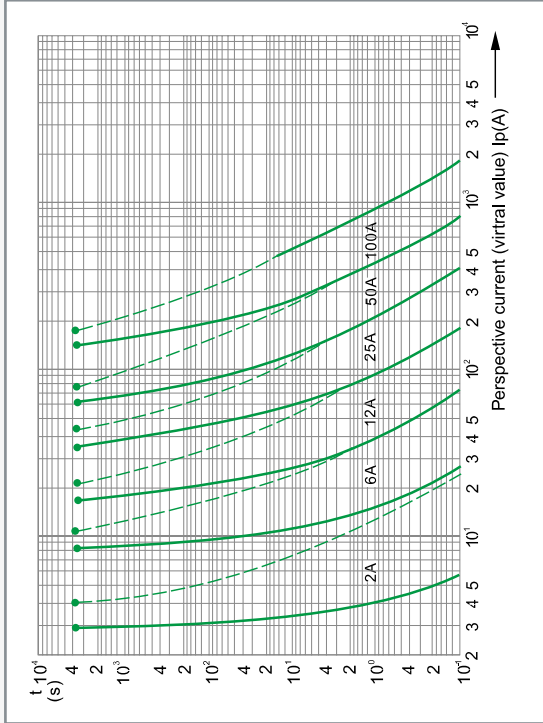


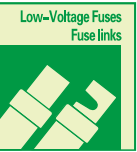
Figure 1.4



► **Characteristics Curve**



# Round Cartridge Fuse Links With Knife Contacts



## ▶ Applications

Protection against overload and short-circuit in electric lines and equipments (type gG), also available for protection of motors (type aM).

Rated voltage up to 600V; Rated current up to 630A; Working frequency 50Hz AC; Rated breaking capacity up to 100KA. Compliant with GB13539 and IEC269.

## ▶ Design Features

Variable cross-section fuse element made from pure metal sealed in cartridge made from high temperature resistant epoxy glass. Fuse tube filled with chemically treated high-purity quartz sand as arc-extinguishing medium. Dot-welding of fuse element ends to the knife contacts ensures reliable electric connection.

## ▶ Basic Data

The models, dimensions, ratings are shown in Figures 2.1~2.2 and Tables 2 .

Table 2

Cat. No.	Models MIRO	Cross reference	Rated voltage (V)	Rated current (A)	Dimensions/sizes (mm)								Weight (g)	
					Fig.	A	B	C	E	F	K	L		N
0201	RO20	RSF-R	600	63~100	2.1	200	34	25	3	19	12.5	7	6.5	272
0202	RO20A	-	250	63~100	2.1	149	27	25	3	19	12.5	7	6.5	139
0203	RO20B	-	250	101~200	2.1	181	40	35	5	28	17.5	7	11	394
0204	RO20C	-	600	101~200	2.1	244	46	35	5	28	17.5	7	11	610
0205	RO20D	FRS-R	250	201~400	2.1	219	53	48	6	41	24	10.5	16	740
0206	RO20E	-	600	201~400	2.1	295	66	48	6	41	24	10.5	16	1510
0207	RO20F	-	250	401~630	2.1	264	66	57	6	51	28.5	13.5	19	1250
0208	RO20G	-	600	401~630	2.1	340	76	57	6	51	28.5	13.5	19	2320

Note: The above products can be made as Figure 2.2 .

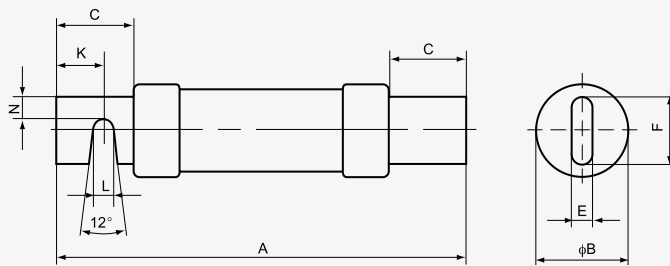


Figure 2.1



Table 2 (cont.)

Cat. No.	Models MIRO	Cross reference	Rated voltage (V)	Rated current (A)	Dimensions/sizes (mm)					Weight (g)	
					Fig.	A	B	C	E		F
0209	OT100	OT100	250	63~100	2.2	151	27	29	3.2	19.1	120
0210	OT200	OT200	250	101~200	2.2	181	40.3	37.5	4.8	28.6	320

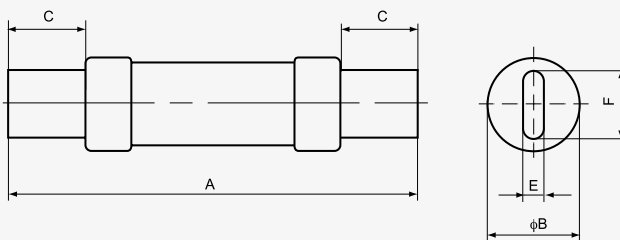
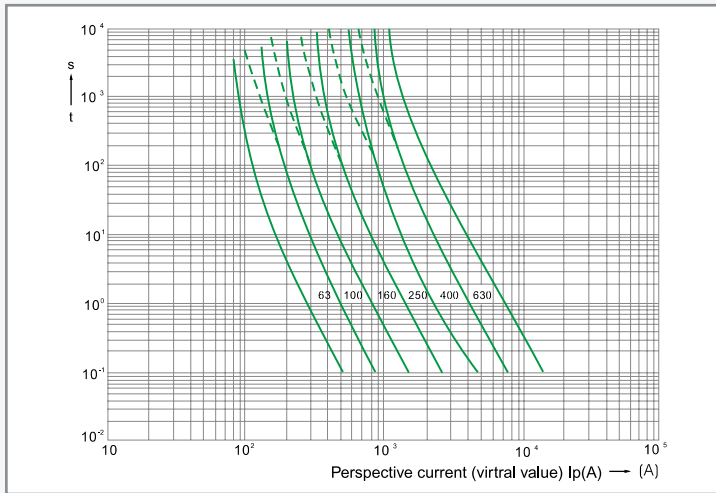
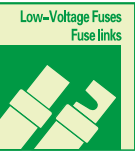


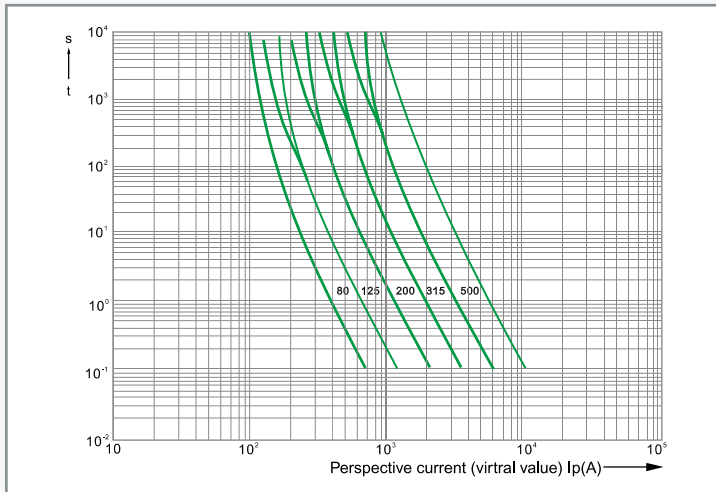
Figure 2.2



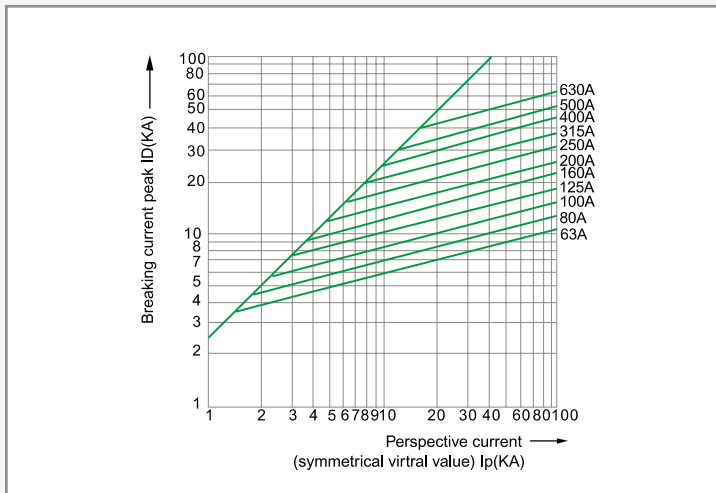
▶ **Characteristics Curve**



Time-current range of "gG" fuse links



Time-current range of "gG" fuse links



Breaking current characteristics curve of "gG" fuse links



## Screw Base Type Fuse Links



Low-Voltage Fuses  
Fuse Links

### ► Applications

Protection against overload and short-circuit in electric lines (type gG), also available for protection of semiconductor parts and equipments against short-circuit (type aR) and protection of motors (type aM).

Rated voltage up to 1140V; Rated current up to 630A; Working frequency 50Hz AC; Rated breaking capacity up to 50KA. Compliant with GB13539 and IEC269.

### ► Design Features

Variable cross-section fuse element made from pure metal sealed in cartridge made from high-duty ceramic. Fuse tube filled with chemically treated high-purity quartz sand as arc-extinguishing medium. Indicator springs out when fuse cuts to give caution.

### ► Basic Data

The models, dimensions, ratings are shown in Figures 3.1~3.7 and Tables 3 .

Table 3

Cat. No.	Models		Cross-reference		Sizes	Rated voltage (V)	Rated current (A)	Dimensions/size (mm)					Weight (g)								
	MIRO gG(Normal)	aR(Fast)	gG(Normal)	aR(Fast)				Fig.	$\phi A$	$\phi C$	$\phi D$	L									
0301	RO21	RS21	5SB	E27	5SD	D II	500	2~6	3.1	6	22	13	50	24.8							
								8~10	3.1	8	22	13	50								
								13	3.1	8	22	15	50								
								16	3.1	10	22	15	50								
								20	3.1	12	22	15	50								
								25	3.1	14	22	15	50								
								30~40	3.1	16	27	20	50								
0302	RO22	RS22	5SB	E33	5SD	D III	500	50	3.1	18	27	20	50	48.1							
								63	3.1	20	27	20	50								
								63	3.1	20	27	20	50								
0303	RO23	RS23	-	-	D III	750	2~6	3.1	6	27	20	70	64								
							8~10	3.1	8	27	20	70									
							16	3.1	10	27	20	70									
							20	3.1	12	27	20	70									
							25	3.1	14	27	20	70									
							35	3.1	16	27	20	70									
							50	3.1	18	27	20	70									
							63	3.1	20	27	20	70									
							0304	RO24	RS24	E16	-	-		500	2~6	3.1	6	12.5	11.3	50	11.7
															10	3.1	8	12.5	11.3	50	
16	3.1	10	12.5	11.3	50																
20~25	3.1	12	12.5	11.3	50																
0305	RO27	RS27	BLA	BLC	-	600	3~10	3.1	8	12.5	11.5	50	13.1								
0306	RO28	RS28	BLA	BLC	-	600	15~20	3.1	10	12.5	11.5	50	14.5								
0307	RO29	RS29	BLA	BLC	-	600	25~40	3.1	14	12.5	11.5	50	16.4								

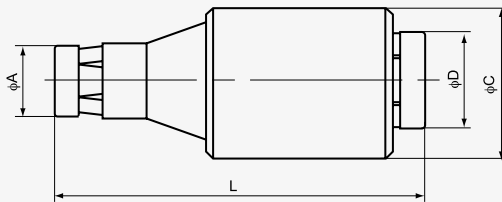


Figure 3.1

Table 3 (cont.)

Cat. No.	Models		Cross-reference		Sizes	Rated voltage (V)	Rated current (A)	Dimensions/size (mm)					Weight (g)			
	MIRO gG(Normal)	aR(Fast)	gG(Normal)	aR(Fast)				Fig.	$\phi A$	$\phi B$	$\phi C$	$\phi D$		L		
0308	RO26	RS26	E14	-	D01	380	2~6	3.2	5	7.3	10.6	10	36	12.7		
							10	3.2	5	8.5	10.6	10	36			
							16	3.2	5	9.7	10.6	10	36			
							D02	20	3.2	8.5	11	15	14		36	13.8
								25	3.2	8.5	12	15	14		36	
								35	3.2	8.5	13.3	15	14		36	
							D03	50	3.2	8.5	14.5	15	14		36	15.6
								63	3.2	8.5	16	15	14		36	
								80	3.2	17	22	22	21		43	
								100	3.2	17	25	22	21		43	
					M30 x 2											

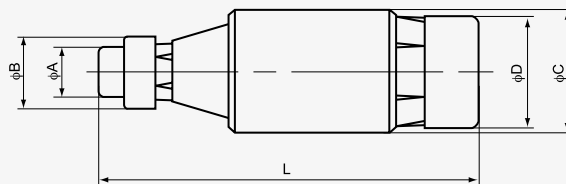


Figure 3.2



Table 3 (cont.)

Cat. No.	Models		Cross-reference	Sizes	Rated voltage (V)	Rated current (A)	Dimensions/size (mm)				Weight (g)	
	gG(Normal)	aR(Fast)					Fig.	$\phi A$	$\phi B$	$\phi C$		L
0309	RL1-15	RLS1-15	-	-	380	2~15	3.3	13	16.5	13	32	13
0310	RL1-60	RLS1-60	-	-	380	20~60	3.3	19	26.5	19	49	50.7

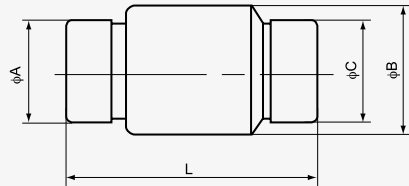


Figure 3.3



Low-Voltage Fuses Fuse links



Table 3 (cont.)

Cat. No.	Models		Cross-reference	Sizes	Rated voltage (V)	Rated current (A)	Dimensions/size (mm)					Weight (g)	
	gG(Normal)	aR(Fast)					gG(Normal)	aR(Fast)	Fig.	$\phi A$	$\phi B$		$\phi C$
0311	RL1-100	RLS1-100	-	-	380	50~100	3.4	6.5	27.5	32.5	27.5	92.8	
0312	RO201	RS201	5SB BLA	-	D IV	600	80	3.4	5	-	33.5	28.5	112.2
			RL6-100	-	D V	100	3.4	7	-	33.5	28.5	115	
0313	RO202	RS202	5SB BLA	-	-	600	150~350	3.4	8	-	45	38	200.5
0314	RO203	RS203	5SB BLA	-	-	600	400~630	3.4	10	-	60	50	320

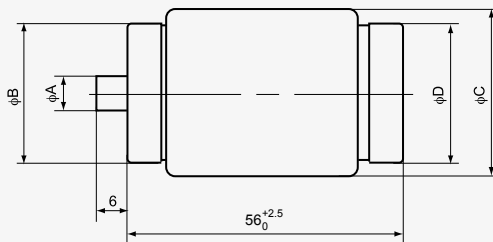


Figure 3.4



Table 3 (cont.)

Cat. No.	Models		Cross-reference	Sizes	Rated voltage (V)	Rated current (A)	Dimensions/size (mm) Fig.	Weight (g)
	gG(Normal)	aR(Fast)						
0315	RL1-200	RLS1-200	-	-	380	160~200	See Figure 3.5	204

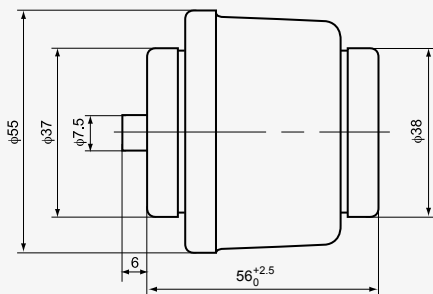


Figure 3.5



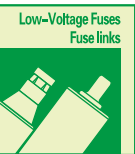


Table 3 (cont.)

Cat. No.	Models		Cross-reference	Sizes	Rated voltage (V)	Rated current (A)	Dimensions/size (mm) Fig.	Weight (g)
	MIRO	MIRO						
0316	RO25	RS25	-	-	500	2~25	See Figure 3.6	31.2

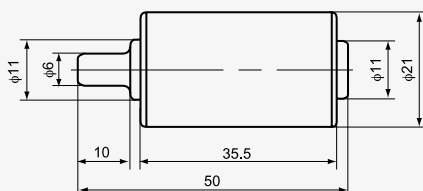


Figure 3.6



Table 3 (cont.)

Cat. No.	Models		Cross-reference	Sizes	Rated voltage (V)	Rated current (A)	Dimensions/size (mm) Fig.	Weight (g)
	MIRO	MIRO						
0317	RL5-40	-	-	-	1140	2~40	See Figure 3.7	22

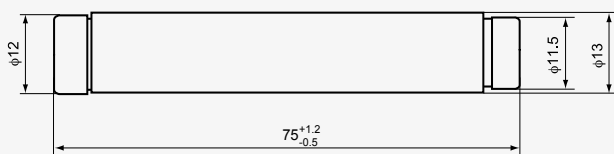
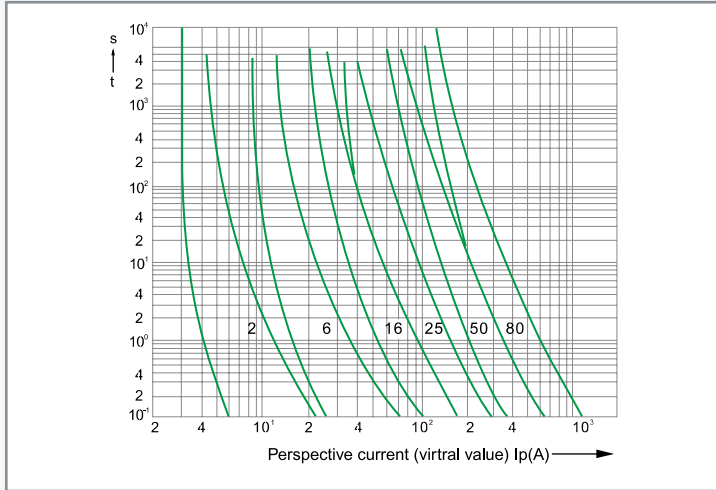


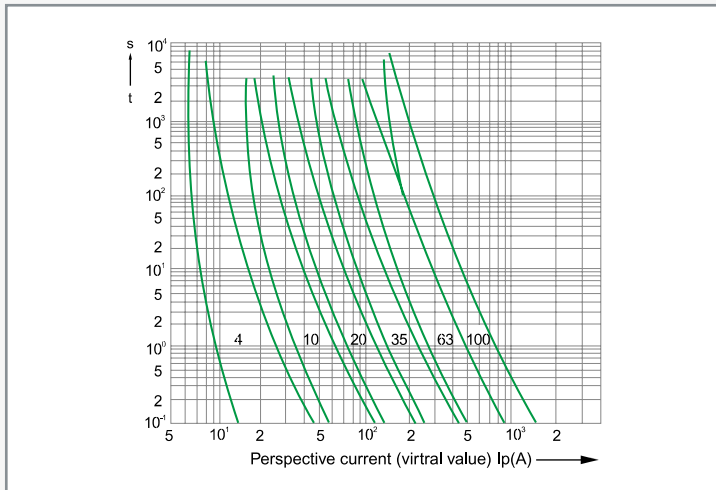
Figure 3.7



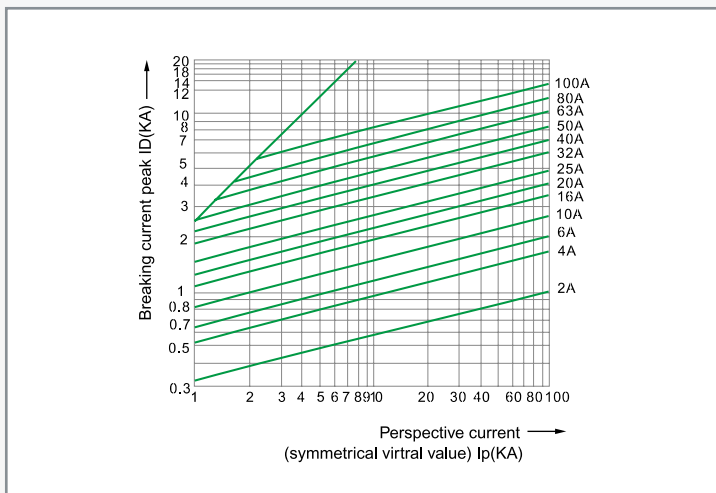
► **Characteristics Curve**



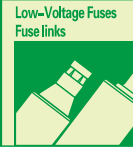
Time-current range of "gG" fuse links



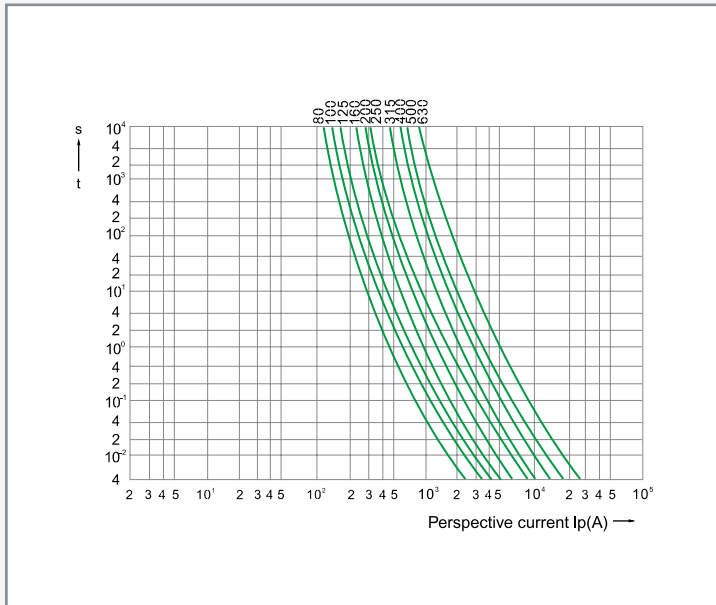
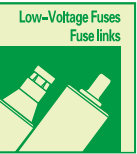
Time-current range of "gG" fuse links



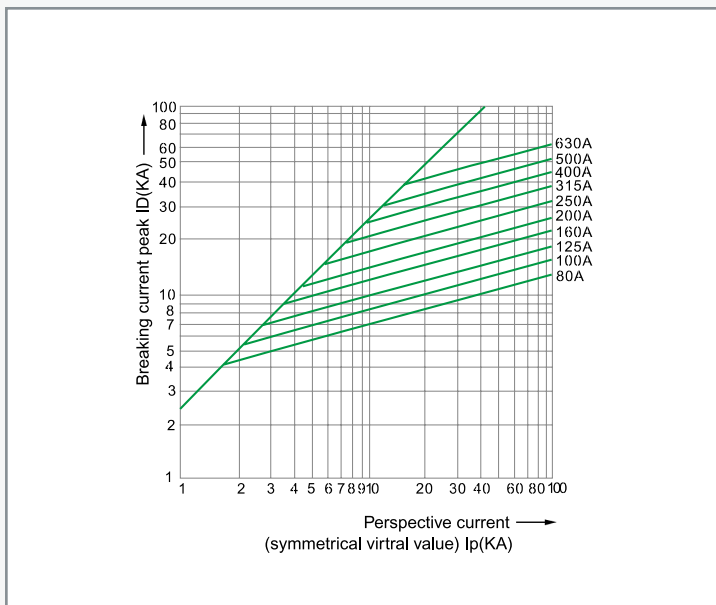
Breaking current characteristics curve of "gG" fuse links



▶ **Characteristics Curve**



Time-current rang of "gG" fuse links RO201~203



Breaking current characteristics curve of "gG" fuse links RO201~203

## Square Pipe Fuse Links With Knife Contacts



Low-Voltage Fuses  
Fuse links

### ► Applications

Protection against overload and short-circuit in electric lines (type gG), also available for protection of semiconductor parts and equipments against short-circuit (type aR) and protection of motors (type aM).

Rated voltage up to 1140V; Rated current up to 1250A; Working frequency 50Hz AC; Rated breaking capacity up to 120KA. Compliant with GB13539 and IEC269.

### ► Design Features

Variable cross-section fuse element made from pure copper or silver sealed in cartridge made from high-duty ceramic. Fuse tube filled with chemically treated high-purity quartz sand as arc-extinguishing medium. Dot-welding of fuse element ends to the terminals ensures reliable electric connection and forms insert knife type contacts. Indicator or striker may be attached to the fuse link to show cutout of fuse or to give various signals and to cut the circuit automatically.

### ► Basic Data

The models, dimensions, ratings are shown in Figures 4.1~4.13 and Tables 4 .

Table 4

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Dimensions/size (mm)			Weight (g)	
	MIRO		gG(Normal)	aR(Fast)			Sizes	Fig.	A		B
0401	NH00C	-	-	-	500/690	10-100	000	See Figure 4.1			138

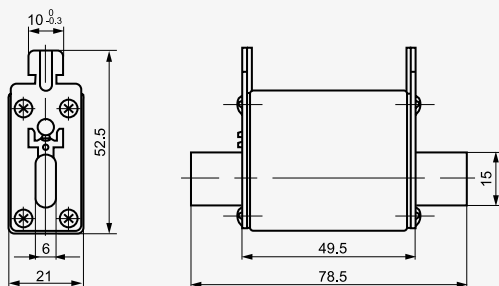


Figure 4.1



Table 4 (cont.)

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Dimensions/size (mm)					Weight (g)		
	MIRO		gG(Normal)	aR(Fast)			Sizes	Fig.	A	B	C		D	H
0402	NH00	RS31	-	3NE80...	500/690	10-160	00	4.2	78	50.5	15	30	60	201
0403	NH0	-	-	NGTC00	500/690	6-160	0	4.2	125	67	15	30	60	267

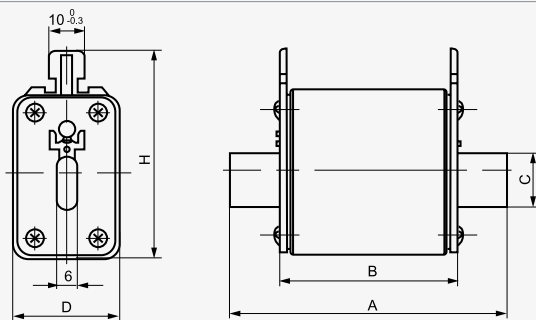


Figure 4.2



Table 4 (cont.)

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Dimensions/size (mm)					Weight (g)		
	MIRO		gG(Normal)	aR(Fast)			Sizes	Fig.	A	B	C		D	H
0404	NH1	RS32	-	-	500/690	32-250	1	4.3	135	68	20	46	58	447
0405	NH2	RS33	-	-	500/690	80-400	2	4.3	150	68	30	58	68	727
0406	NH3	RS34	-	-	500/690	160-630	3	4.3	150	68	36	70	82	975

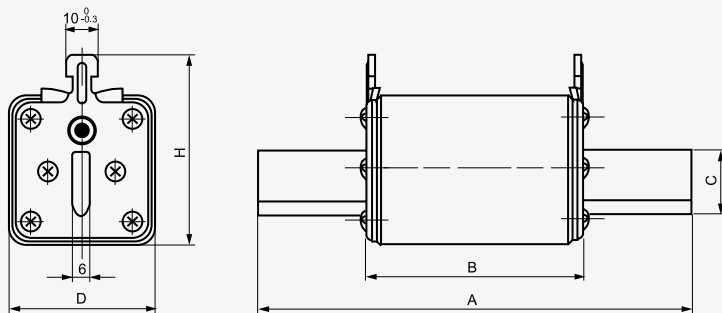


Figure 4.3





Table 4 (cont.)

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Dimensions/size (mm) Sizes Fig.	Weight (g)
	MIRO gG(Normal)	aR(Fast)	gG(Normal)	aR(Fast)				
0407	NH1	-	-	-	500/690	16~160	1 See Figure 4.4	312
	(Small volume)							

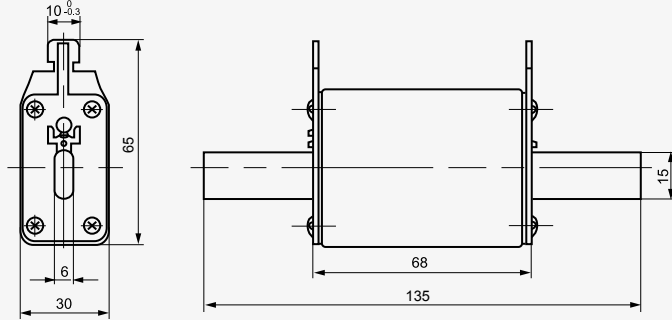
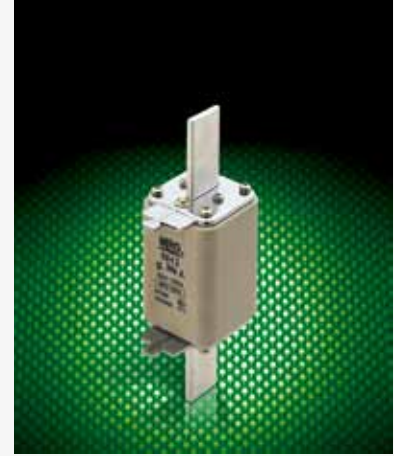


Figure 4.4



Low-Voltage Fuses Fuse links



Table 4 (cont.)

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Dimensions/size (mm)					Weight (g)		
	MIRO gG(Normal)	aR(Fast)	gG(Normal)	aR(Fast)			Sizes Fig.	A	B	C	D		H	
0408	NH2	-	-	-	500/690	35-250	2	4.5	150	67	20	46	67	458
	(Small volume)													
0409	NH3	-	-	-	500/690	200~400	3	4.5	150	67	30	58	81	727
	(Small volume)													

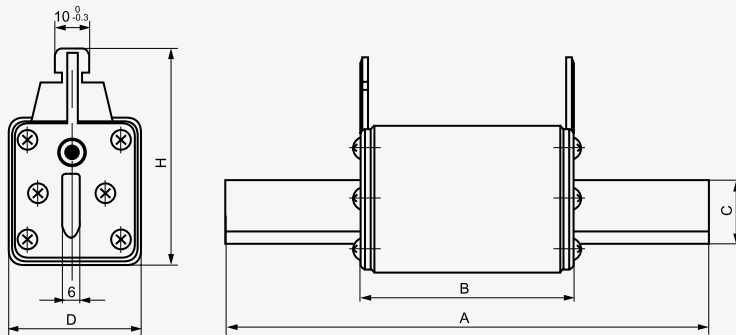


Figure 4.5



Table 4 (cont.)

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Dimensions/size (mm)					Weight (g)		
	MIRO		gG(Normal)	aR(Fast)			Sizes Fig.	A	B	C	D		H	
0410	RO30A	RS30A	NT00C	-	500/690	4~100	000	4.6	78	49	15	21	48	123
0411	RO30B	RS30B	NT00C	-	500/690	4~100	000	4.6	78	49	15	21	48	117
0412	RO30C	RS30C	3NA3	3NE18..	500/690	10~100	000	4.6	78	49	15	21	52.5	132
0413	RO31A	RS31A	PH00	-	500/690	10~160	00	4.6	78	49	15	30	53	178.5
0414	RO31B	RS31B	NT0	3NE41..	500/1140	6~160	0	4.6	125	68	15	29	61.5	278
0415	RO31C	RS31C	NT1	-	500/690	32~200	1	4.6	135	68	20	29	61.5	293.5

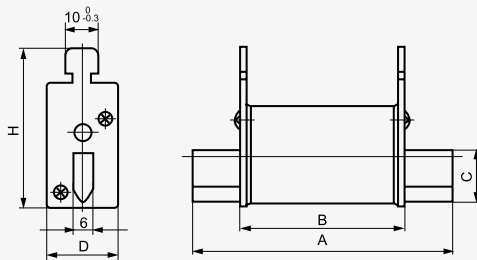


Figure 4.6



Table 4 (cont.)

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Dimensions/size (mm)					Weight (g)		
	MIRO		gG(Normal)	aR(Fast)			Sizes Fig.	A	B	C	D		H	
0416	NT00		RT16-00	NGTC00	500/690	6~160	00	4.7	78	49	15	29	56	175
0417	NT0		RT16-0	-	500/690	6~160	0	4.7	125	68	15	29	56	252

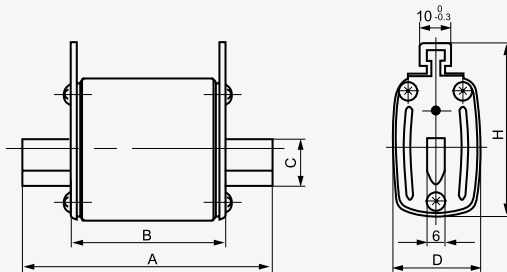


Figure 4.7



Table 4 (cont.)

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Dimensions/size (mm)	Weight (g)
	MIRO gG(Normal)	aR(Fast)	gG(Normal)	aR(Fast)				
0418	RO32	RS32	NT1 RT16-1 3NA1 RT20-1	3NE12.. NGTC1	500/690	32-250	1 4.8 135 68 20 48 60	455
0419	RO32A	RS32A	-	-	1140	200	1 4.8 172 110 19.5 44 58	570
0420	RO32B	RS32B	NT1 RT16-1	-	500	250	2 4.8 135 68 20 40 68	393
0421	RO33	RS33	NT2 RT16-2 3NA1 RT20-2	3NE13.. NGTC2	500/690	80-400	2 4.8 150 68 25 58 70	650
0422	RO33B	RS33B	RT16-2	-	500	400	2 4.8 150 68 25 52 71	580
0423	RO34	RS34	NT3 RT16-3 NH3 RT20-3	3NE14.. NGTC3	500/690	160-630	3 4.8 150 68 32 68 80	880
0424	RO35	RS35	-	-	500	6-160	4.8 135 68 20 30 53	249
0425	RO36	RS36	EAP0	-	500	32-200	1 4.8 135 68 20 40 59	356
0426	RO39A	RS39A	NT4a	-	380/500	500-1250 4a	4.8 200 90 50 97 113	2140

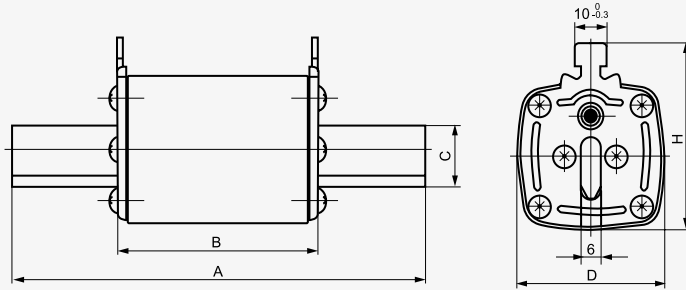


Figure 4.8



Table 4 (cont.)

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Dimensions/size (mm)	Weight (g)
	MIRO gG(Normal)	aR(Fast)	gG(Normal)	aR(Fast)				
0427	RO34K	RS34K	-	3NC8	500/690	150-630	4.9 140 68 32 68 6 108 10.5 85	810
0428	RO38	RS38	-	3NE3626	500/1000	200-630	4.9 160 86 32 70 6 126 11 82	1050
0429	RO39	RS39	NT4 RT17	-	500	500-1250	4 4.9 200 90 50 97 8 150 16.5 113	2470
0430	RO39B	RS39B	NT4B RT17	-	500	500-1000	4 4.9 200 79 50 88 8 150 17 115	2100

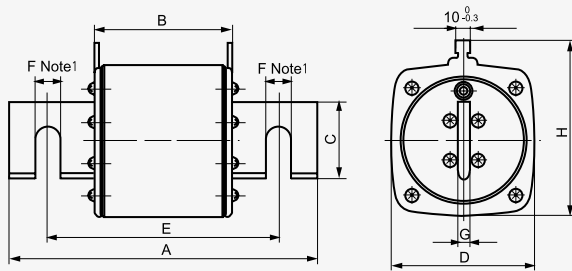


Figure 4.9

Note: The joint holes of two-horizontal type is allowed to be changed to one horizontal one straight type or two straight type.



Table 4 (cont.)

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Dimensions/size (mm) Sizes Fig.	Weight (g)
	MIRO		gG(Normal)	aR(Fast)				
0431	RO34A	RS34A	8SY5023	-	1140	450	- See Figure 4.10	1066

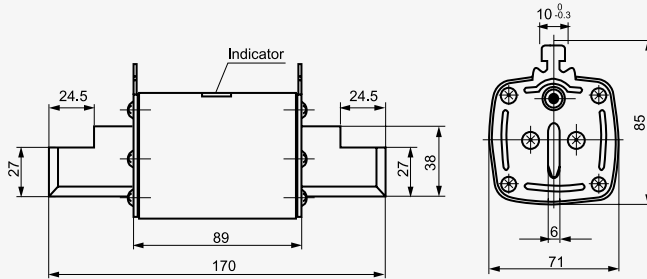


Figure 4.10



Table 4 (cont.)

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Dimensions/size (mm) Sizes Fig.	Weight (g)
	MIRO		gG(Normal)	aR(Fast)				
0432	RO31Z	RS31Z	RT16A-00	-	500/690	35~125	00 4.11 78 49 15 29 15 22.5 - 59.5 8	183
0433	RO32Z	RS32Z	RT16A-1	-	500/690	200~250	1 4.11 135 68 20 48 25 14.5 16 60 12	390
0434	RO33Z	RS33Z	RT16A-2	-	500/690	315~400	2 4.11 150 68 25 58 30 14.5 19 70 12	683
0435	RO34Z	RS34Z	RT16A-3	-	500/690	500~630	3 4.11 150 68 32 67 30 14.5 19 82 12	880
0436	NTA-1	-	-	-	500/690	200~250	1 4.11 135 68 20 48 8 26.5 - 60 8	380
0437	NTA-2	-	-	-	500/690	315~400	2 4.11 150 68 25 58 8 32 - 70 8	673
0438	NTA-3	-	-	-	500/690	500~630	3 4.11 150 68 32 67 8 40 - 82 8	870
0439	RO36Z	RS36Z	-	-	500/690	125~160	4.11 135 68 20 40 25 20 11.5 61 12	369

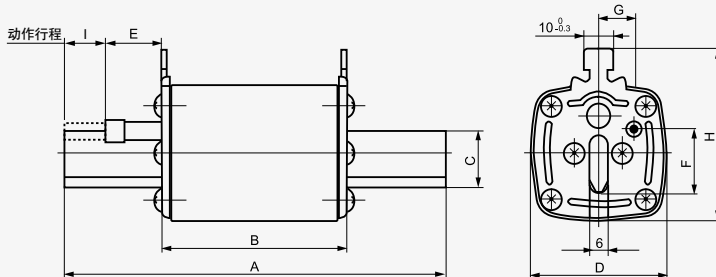


Figure 4.11



Table 4 (cont.)

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Dimensions/size (mm) Sizes Fig.	A	B	C	D	E	F	G	H	Weight (g)	
	MIRO		gG(Normal)	aR(Fast)													gG(Normal)
0440	RO32BZ	RS32BZ	-	HLS1	500	125-250	1	4.12	135	68	20	50.5	9	24.5	26	68	380
0441	RO33BZ	RS33BZ	-	HLS2	500	250-400	2	4.12	150	68	25	66.5	9	29	35	71	675

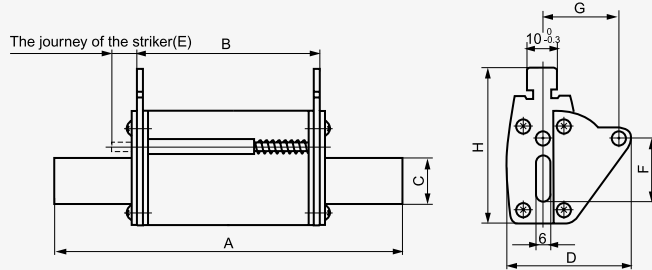


Figure 4.12



Low-Voltage Fuses Fuse links



Table 4 (cont.)

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Dimensions/size (mm) Sizes Fig.	A	B	C	D	H	Weight (g)	
	MIRO		gG(Normal)	aR(Fast)										
0442	RTO-50	-	-	-	380	10-50	-	4.13	103	66	10.3	25	52	189.5
0443	RTO-100	-	-	-	380	20-100	-	4.13	125	67	18	40	52	313
0444	RTO-200	-	-	-	380	50-200	-	4.13	135	67	23	46	58	404.5
0445	RTO-400	-	-	-	380	160-400	-	4.13	145	67	30	55	66	601
0446	RTO-600	-	-	-	380	250-600	-	4.13	165	67	36	66	77	855
0447	RTO-1000	-	-	-	380	500-1000	-	4.13	280	90	50	85	100	2050

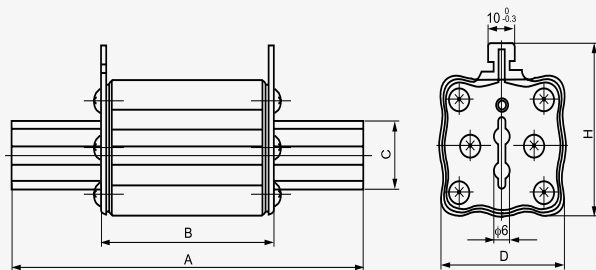
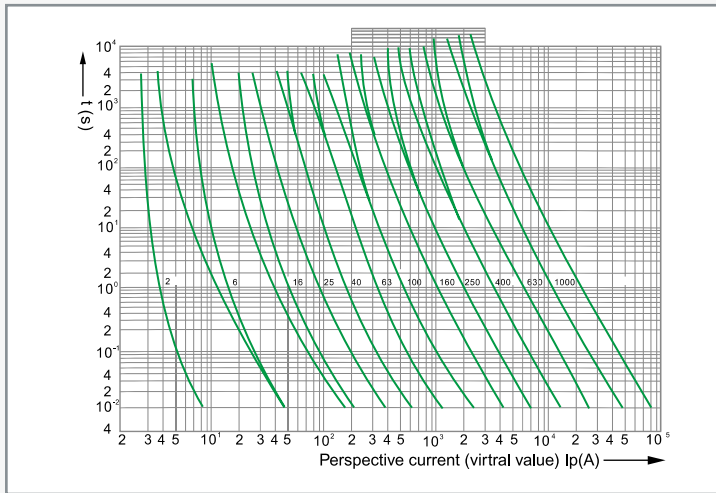
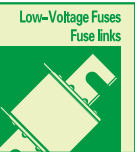


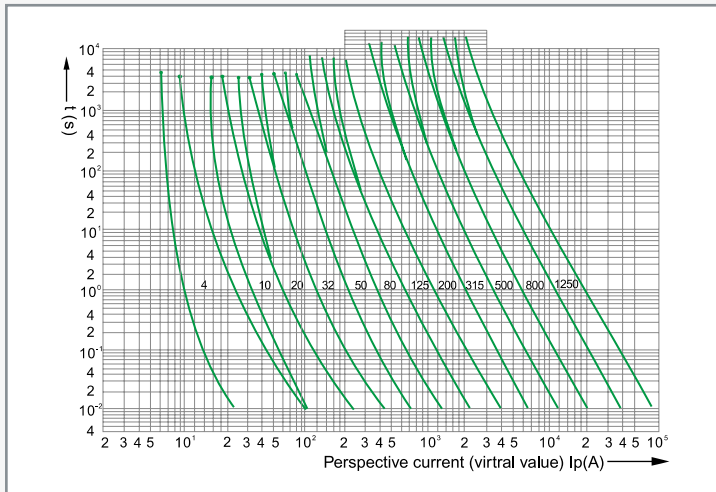
Figure 4.13



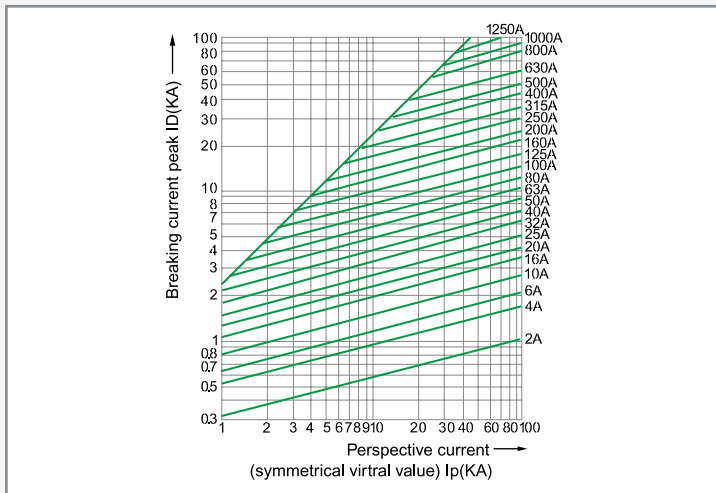
▶ **Characteristics Curve**



Time-current range of "gG" fuse links



Time-current range of "gG" fuse links



Breaking current characteristics curve of "gG" fuse links

Table 4 (cont.)

Cat. No.	Models	Size of applicable fuse base	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions/size(mm) fig.	Weight (g)
0448	N-00	00	690	160	See Figure 4.14	84

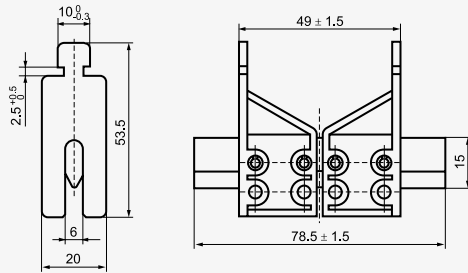


Figure 4.14



Table 4 (cont.)

Cat. No.	Models	Size of applicable fuse base	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions/size(mm) fig.	Weight (g)
0449	N-0	0	690	160	See Figure 4.15	98

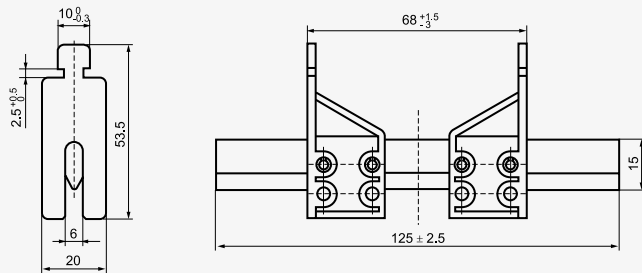


Figure 4.15



Table 4 (cont.)

Cat. No.	Models	Size of applicable fuse base	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions/size(mm) fig.	Weight (g)
0450	N-1	1	690	250	See Figure 4.16	148

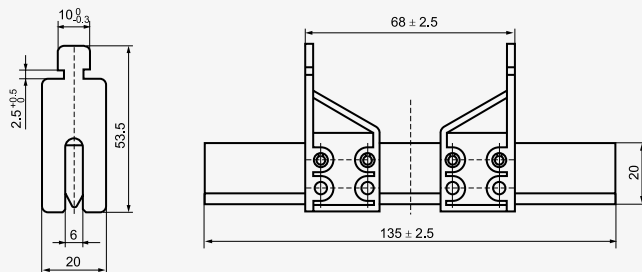


Figure 4.16



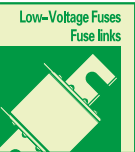


Table 4 (cont.)

Cat. No.	Models	Size of applicable fuse base	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions/size(mm) fig.	Weight (g)
0451	N-2	2	690	400	See Figure 4.17	241

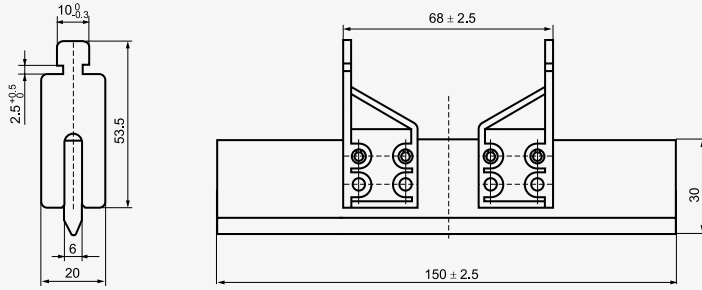


Figure 4.17



Table 4 (cont.)

Cat. No.	Models	Size of applicable fuse base	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions/size(mm) fig.	Weight (g)
0452	N-3	3	690	630	See Figure 4.18	288

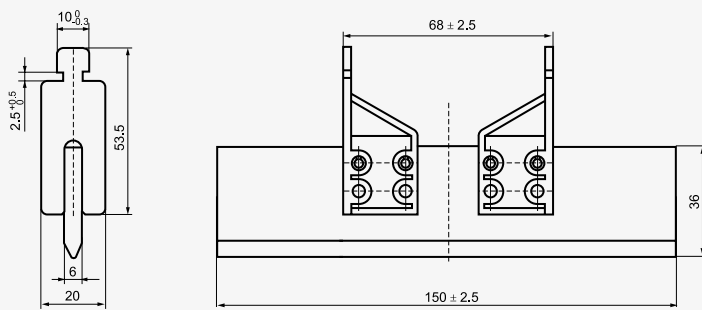


Figure 4.18





## Non-Filler Renewable Fuse Links



Low-Voltage Fuses  
Fuse links

### ► Applications

Protection against overload and short-circuit in electric lines (type gG).

Rated voltage up to 250V/600V; Rated current up to 200A; Working frequency 50Hz AC; Rated breaking capacity up to 10KA. Compliant with GB13539.

### ► Design Features

Cylindrical cap contacts for rated current up to 60A, and knife contacts for rated current up to 600A. Variable cross-section fuse element made from zinc alloy. Users can replace the burnt fuse element easily and use the fuse again.

### ► Basic Data

The models, dimensions, ratings are shown in Figures 8.1~8.2 and Tables 8 .

Table 8

Cat. No.	Models MIRO	Cross-reference	Rated voltage (V)	Rated current (A)	Fig.	Dimensions/sizes (mm)			Weight (g)
						A	B	$\phi D$	
0801	RW1-30	-	250	30	8.1	50.8	12.7	14.3	17.7
0802	RW1-60	-	250	60	8.1	76.2	15.9	20.6	40.3
0803	RW2-30	RF30	250	20~30	8.1	51	12.7	14.0	18
0804	RW2-60	RF60	250	60	8.1	77	16.7	20.2	53
0805	RW3-30	RFS30	600	30	8.1	128	16.7	20.2	87
0806	RW3-60	RFS60	600	60	8.1	140	20.7	25.7	125

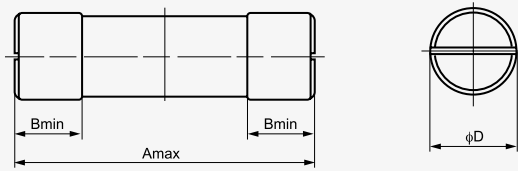


Figure 8.1



Table 8 (cont.)

Cat. No.	Models MIRO	Cross-reference	Rated voltage (V)	Rated current (A)	Fig.	Dimensions/sizes (mm)					Weight (g)
						A	B	C	$\phi D$	E	
0807	RW1-100	-	250	100	8.2	149.2	25.4	19.1	28.5	3.2	134
0808	RW1-200	-	250	200	8.2	181	34.9	28.6	39.5	4.8	324.5
0809	RW2-100	RF100	250	100	8.2	149	25	18	27	3	98
0810	RW2-200	RF200	250	200	8.2	182	36.5	28.4	47.2	4.8	146
0811	RW2-350	RF225~350	250	225~350	8.2	220	51.8	41.3	55.5	6.4	1251
0812	RW2-500	RF450~500	250	450~500	8.2	265	61	50.8	66.5	6.4	1272
0813	RW3-100	RFS100	600	100	8.2	202	26.2	18.8	37.6	3.2	246
0814	RW3-200	RFS200	600	200	8.2	246	36.5	28.4	47.2	4.8	359
0815	RW3-400	RFS225~400	600	225~400	8.2	297	51.8	41.3	66.5	6.4	1072
0816	RW3-600	RFS450~600	600	450~600	8.2	342	61	50.8	66.5	6.4	1332

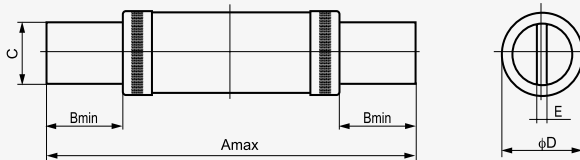


Figure 8.2



## Low Voltage Fuse

Professional High Voltage And Low Voltage Fuse Manufacturer

# Bolt Connected Fuse Links



# Bolt Connected Fuse Links



## ► Applications

Protection against overload and short-circuit in electric lines (type gG), also available for protection of semiconductor parts and equipment against short-circuit (type aR) and protection of motors (type aM).

Rated voltage up to 1200V; Rated current up to 630A; Working frequency 50Hz AC; Rated breaking capacity up to 80KA. Compliant with GB13539 and IEC269.

## ► Design Features

Variable cross-section fuse element made from pure copper or silver sealed in cartridge made from high-duty ceramic or epoxy glass. Fuse tube filled with chemically treated high-purity quartz sand as arc-extinguishing medium. Dot-welding of fuse element ends to the terminals ensures reliable electric connection and forms insert knife type contacts. Striker may be attached to the fuse link to provide immediate activation of microswitch to give various signals or cut the circuit automatically.

## ► Basic Data

The models, dimensions, ratings are shown in Figures 5.1~5.11 and Tables 5.

Table 5

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Dimensions/size (mm)								Weight (g)	
	MIRO	aR(Fast)	gG(Normal)	aR(Fast)			Fig.	A	B	C	$\phi$ D	E	F	H		$\phi$ d
0501	RGOK	RGSOK	NIT	-	415	1-32	5.1	34	45	55	13.5	11	0.8	14.5	5	14.4
0502	RG1K	RGS1K	-	-	500	40-63	5.1	54	73	85	22	13	1.2	25	6.5	60
0503	RG2	RGS2	TIS RT12-63	-	500	40-100	5.1	56	75	88	25.5	13	1.2	27	6.5	73.8

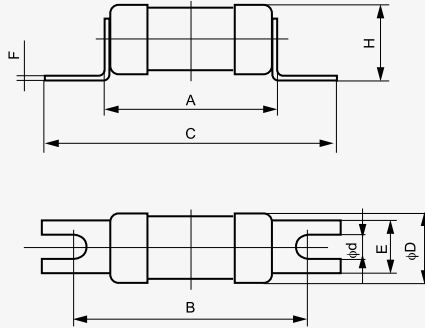


Figure 5.1



Low-Voltage Fuses Fuse links



Table 5 (cont.)

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Dimensions/size (mm)								Weight (g)	
	MIRO	aR(Fast)	gG(Normal)	aR(Fast)			Fig.	A	B	C	$\phi$ D	E	F	H		$\phi$ d
0504	RG1	RGS1	TIA	-	500	4-35	5.2	54	73	85	22	9.5	1.5	25	5.5x7.5	55
0505	RG4	RGS4	-	GSG	660/800	10-63	5.2	49.5	61	77	16.5	12.5	2.0	18	6.5x9	32
0506	RG6	RGS6	-	GSA	500	80	5.2	68	94	113	31	19	2.0	33	9x11.5	146
0507	RG7	-	TCP	-	500	100	5.2	68	94	113	34	19	2.0	35	9x11.5	228
0508	RG7A	RGS7A	-	PC10D	500	110-150	5.5	57	90	119	38	24	3.0	40	10.5	178
0509	RG11	RGS11	-	CR2L GSB	250	16-75	5.2	27.5	42	56	16.5	12.5	2.0	17.5	6.5x9	25
0510	RG12	RGS12	-	CR2L GSB	250	75-175	5.2	31.5	58	80	26	19	3.0	27	9x11.5	79.5
0511	RG14	RGS14	-	GSB	500	5-20	5.2	31	37	46	8.5	7	0.8	9.5	4.5x6	6
0512	RG14B	RGS14B	-	GSB	500	5-20	5.2	54	64	73	8.5	7	0.8	9.5	4.5x6	8.5
0513	RG15	RGS15	-	CR2L GSB	250	200	5.2	34	60	88	30	25	3.0	36	11x13	120
0514	RG17	RGS17	-	GSB	500	40-100	5.2	54	78	96	22.2	20.5	2	24	9x12	62.3
0515	RG18	RGS18	-	CR6L	600	75-150	5.2	40	70	95	30	25	3.2	33	11x13	147
0516	RG19	RGS19	-	CR6L	600	200-250	5.2	43	82	107	37	30	4.0	42	11x13	219
0517	RG0H	-	AAO	-	500	2-32	5.2	34	72	84	13.5	9.4	1.2	15	5.5x7.8	18
0518	RG4AD	RGS4AD	-	250GH	250	32-160	5.2	29	56	77	23.8	20	3	25.5	9x14	39
0519	RG4A	RGS4A	-	660GH	660	125-200	5.2	50	77	98	23.8	20	3	25.5	9x14	53
0520	RG4B	RGS4B	-	660GH	660	225-315	5.2	50.5	82	108	31	25	3	34	10.5x16	75

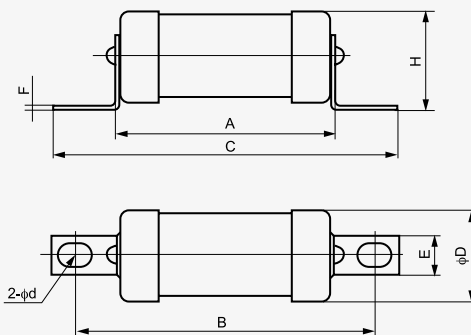


Figure 5.2



Table 5 (cont.)

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Dimensions/size (mm)					Weight (g)	
	MIRO		gG(Normal)	aR(Fast)			Fig.	A	C	$\phi D$	E		F
0521	RG0	RGS0	NS	-	415	1~32	5.3	32	59	13.5	11	0.8	15.2
0522	RG0D	RGS0D	NS	-	415	40~63	5.3	39	67	17.5	15	1.2	24

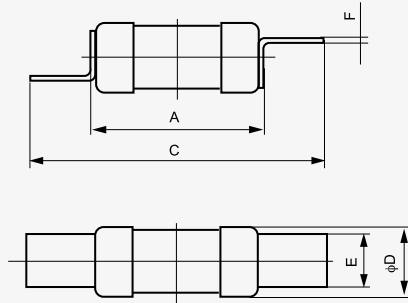


Figure 5.3



Table 5 (cont.)

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Dimensions/size (mm)										Weight (g)
	MIRO		gG(Normal)	aR(Fast)			Fig.	A	B	C	$\phi D$	E	F	G	H	$\phi d$	
0523	RG4(Z)	RGS4(Z)	-	-	660/1000	63	5.4	49.5	63	77	16.5	12.5	2	24	18	6.5 x 9	35
0524	-	RGS7F(Z)	-	-	660/1000	125~250	5.4	50	80	104	34	25	3	40	38	10.5 x 17	280
0525	-	RGS7(Z)	-	-	660/1000	125~300	5.4	59	85	110	38	25	3	44	41	11 x 14	295

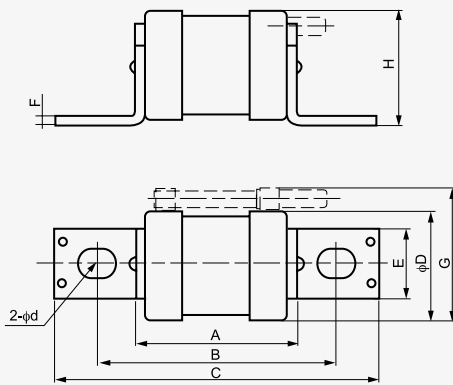


Figure 5.4



Table 5 (cont.)

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Dimensions/size (mm)								Weight (g)	
	MIRO gG(Normal)	aR(Fast)	gG(Normal)	aR(Fast)			Fig. A	B	C	$\phi$ D	E	F	H	$\phi$ d		
0526	RG2-1	RGS2-1	-	PC63	500	32-63	5.5	51	80	98	25	19	2.0	28.5	9	81
0527	RG5	RGS5	-	GSB	1200	6-32	5.5	110	121	138	22	13	1.5	27	6.5	91
0528	RG5-1	RGS5-1	-	-	1200	16-75	5.5	107.5	127	140	25.5	13	1.3	28	6.5×9	98
0529	RG5D	RGS5D	-	GSB	1200	32-63	5.5	110	124	138	26	13	1.5	27	6.5	107
0530	RG13	RGS13	-	PC25	500	2-25	5.5	57	75	91	15	13	1.5	20.5	6.5	37
0531	RG16	RGS16	-	GSB	500	25-40	5.5	56	78	95	14	13	1.5	17	6.5	29

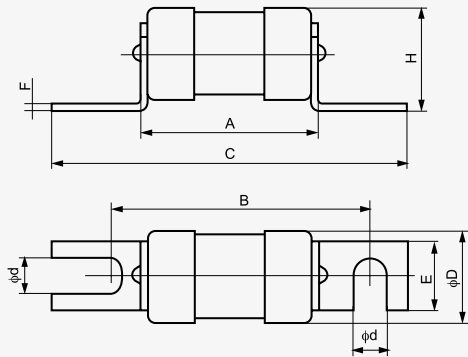


Figure 5.5



Low-Voltage Fuses  
Fuse links



Table 5 (cont.)

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Dimensions/size (mm)								Weight (g)
	MIRO gG(Normal)	aR(Fast)	gG(Normal)	aR(Fast)			Fig. A	B	C	$\phi$ D	E	F	$\phi$ d		
0532	RG8	RGS8	TC	-	415/550	125-160	5.6	63.5	110	135	38	19	3.0	8.5×15	212
0533	RG8B	RGS8B	-	-	415/550	80-100	5.6	60	74	94	22	20	3.0	6×9	60.9
0534	RG9	RGS9	RT15-200/B2	-	415/550	200	5.6	74	110	135	40	19	3	9.5×15	242
0535	RG10	RGS10	RT15-350/B3	-	415/550	250-350	5.6	76	110	135	53	25	3	9×15	451
0536	RG10B	RGS10B	TM	-	415/550	355-400	5.6	73.5	110	135	60	25	4	8.5×15	563

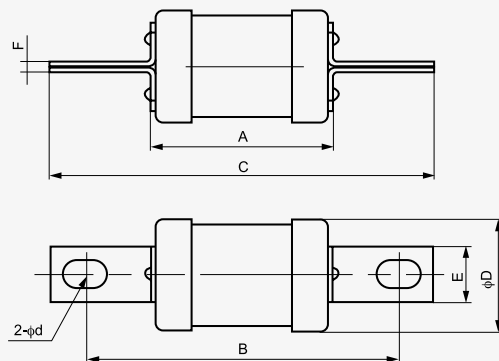


Figure 5.6



Table 5 (cont.)

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Dimensions/size (mm)								Weight (g)	
	MIRO		gG(Normal)	aR(Fast)			Fig.	A	B	C	$\phi D$	E	F	H		$\phi d$
0537	RG77	RGS77	-	GSG	660/1000	100-500	5.7	58	85	110	38	25	6	80	11×14	455
0538	RG77YK	RGS77YK	-	-	660/1000	100-500	5.7	58	110	137	38	25	6	80	10.5×22	495
0539	RG77F	RGS77F	-	-	600	100-350	5.7	50	80	104	34	25	6	76	10.5×17	335
0540	RG19	RGS19	-	CR6L	600	350-500	5.7	43	97	122	36.5	30	8	83	11×13	219

Note: 1) According to user's requirements, the above-mentioned products can be added fuse striker "Z". Please add "Z" after the model when ordering.  
2) RG77YK open type as dashed shows in the drawing.

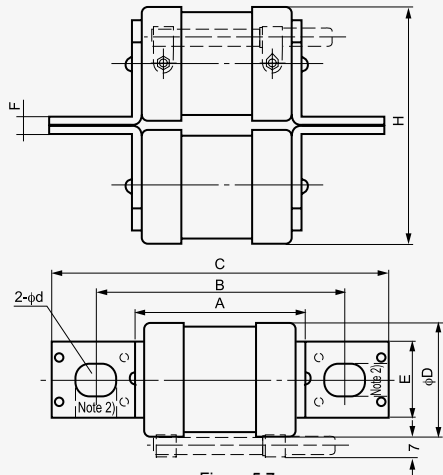


Figure 5.7



Table 5 (cont.)

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Dimensions/size (mm) Fig.	Weight (g)
	MIRO		gG(Normal)	aR(Fast)				
0541	RG7C	RGS7C	-	-	500/1000	100	See Figure 5.8	397

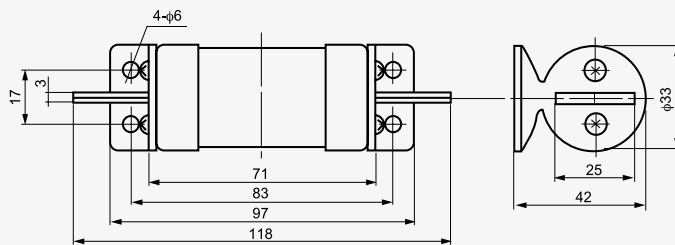


Figure 5.8





Table 5 (cont.)

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Dimensions/size (mm) Fig.	Weight (g)
	MIRO		gG(Normal)	aR(Fast)				
0542	RG8M	RGS8M	-	-	415/550	80-315	See Figure 5.9	507

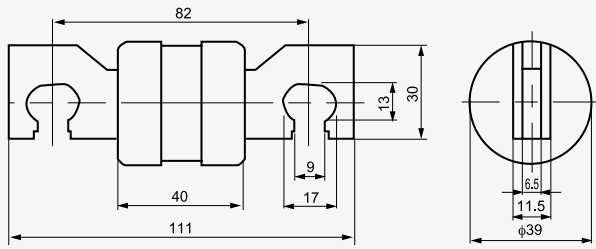


Figure 5.9



Low-Voltage Fuses  
Fuse links



Table 5 (cont.)

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Fig.	Dimensions/size (mm)					Weight (g)
	MIRO		gG(Normal)	aR(Fast)				A	B	C	φ D	E	
0541	RG10C	RGS10C	-	-	500/1000	355-400	5.10	82	133	210	60	6	840
0544	RG10D	RGS10D			500/1000	450-630	5.10	82	133	210	76	6	1350

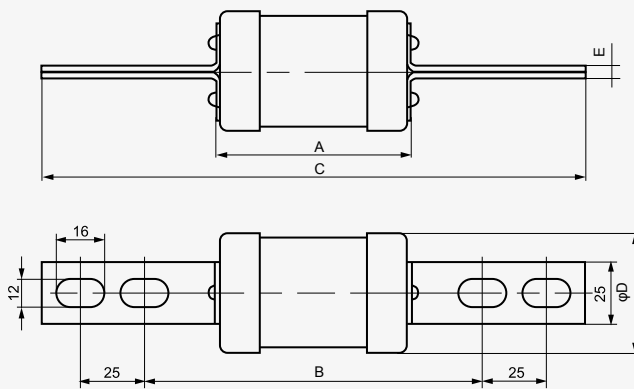


Figure 5.10



Table 5 (cont.)

Cat. No.	Models		Cross-reference		Rated voltage (V)	Rated current (A)	Dimensions/size (mm) Fig.	Weight (g)
	MIRO		gG(Normal)	aR(Fast)				
0544	RG44(Z)	RGS44(Z)	-	GSG	660/1000	75-160	See Figure 5.11	78

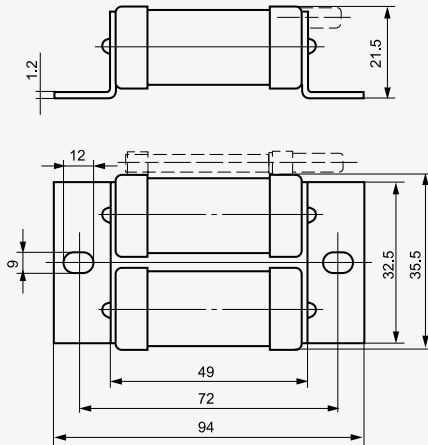
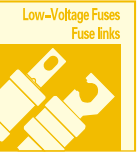
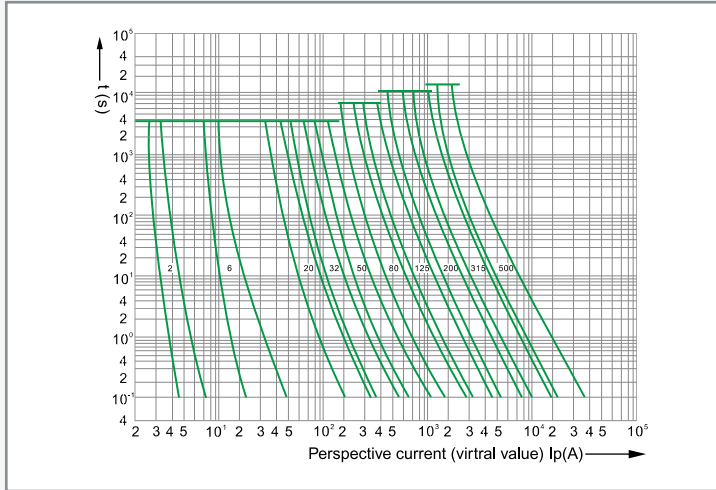


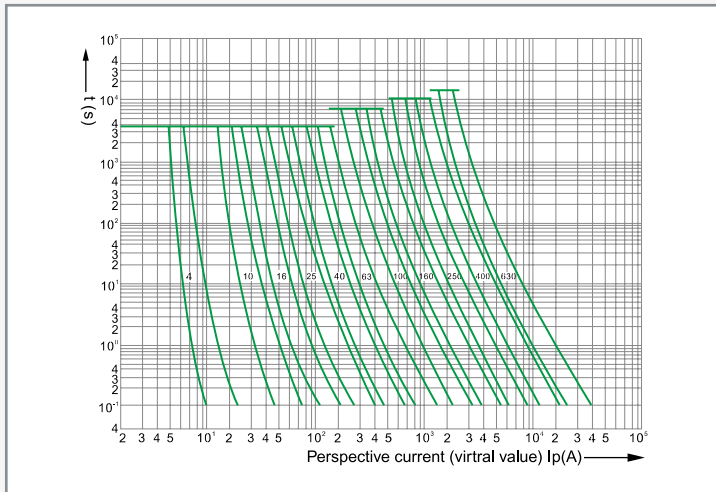
Figure 5.11



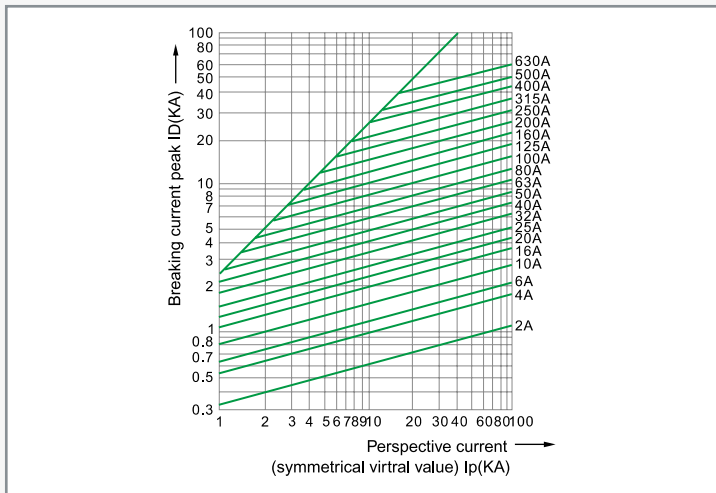
► **Characteristics Curve**



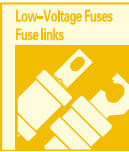
Time-current rang of "gG" fuse links



Time-current rang of "gG" fuse links



Breaking current characteristics curve of "gG" fuse links



## Bolt Connected Round Cartridge Type Fast-acting Fuse Links For Semiconductor protection



### ► Applications

This series of fuses are mainly used in circuits of AC 50Hz, rated voltage of 1500V and rated current of 1000A, to protect the semiconductor components and the whole unit from short-circuit.

The breaking capacity of the fuses is up to 100KA.

The fuses are compliant with the IEC269-1/IEC269-4 and GB13539.1/GB13539.4 .

### ► Design Features

The variable cross-section fuse element made of pure silver sheets are sealed in the melting tube made of epoxy glass fibre which is heat resistant. The fuse tube is filled with chemically-treated high-purity quarts as arc-extinguishing medium. The two ends of the melting body are connected to the (knife) contacts by dot welding.

### ► Basic Data

The models, dimensions, ratings are shown in Figures 6.1~6.6 and Tables 6 .



Table 6

Cat. No.	Models	Rated voltage (V)	Rated current (A)	Dimensions/sizes (mm)								Weight (g)
				Fig.	A	B	C	$\phi$ D	E	F	$\phi$ d	
0601	RS94A	250	40~200	6.1	70	52	32	28	22	5	8.2 × 12	98
0602	RS94C	250	40~200	6.1	80	62	42	28	22	5	8.2 × 12	106
0603	RS94D	250	30~200	6.1	80	57	26	29	22	5	8.2 × 12	120
0604	RS94E	250	30~200	6.1	80	60	41	31	24	5	8.2 × 12	142
0605	RS94F	250	40~200	6.1	80	58	38	33	25	5	8.2 × 12	135
0606	RS94G	250	40~250	6.1	88	62	42	36	26	5	10.2 × 15	202.5
0607	RS94H	250	30~150	6.1	70	53	27	22	16	5	8.2 × 12	82
0608	RS94J	250	40~160	6.1	67	51	26	26	19	3.5	8.2 × 12	102
0609	RS95A	500/660	50~200	6.1	91	72	54	28	22	5	8.2 × 12	112.5
0610	RS95B	500/660	50~200	6.1	92	73	54	31	25	5	8.2 × 12	150
0611	RS95C	500/660	50~100	6.1	92	73	54	26	19	5	8.2 × 12	114
0612	RS95D	500	100~200	6.1	92	72	45	30	25	5	8.2 × 12	149
0613	RS95E	500/660	40~200	6.1	92	72	54	31	25	6	8.2 × 12	155
0614	RS95F	500/660	50~160	6.1	93	75	54	26	19	5	8.2 × 12	145
0615	RS95FS	500	100	6.1	100	82	48	26	19	3	8.2 × 12	124
0616	RS95G	500/660	50~200	6.1	93	75	53	31	25	5	8.2 × 10	128
0617	RS95H	250	200~250	6.1	96	70	42	36	26	5	10.2 × 15	193
0618	RS95K	250	250~400	6.1	98	70	38	47	32	5	10.2 × 15	320
0619	RS95L	700	100~200	6.1	127	108	89	31	25	5	8.2 × 12	195
0620	RS95M	500	50~200	6.1	110	81	50	31	25	5	8.2 × 10	165
0621	RS95N	700	50~160	6.1	128	101	75	25	20	6	10.5 × 15	172
0622	RS95P	250	250~315	6.1	98	68	41	38	25	6	10.5 × 18	218
0623	RS95Q	500	50~160	6.1	110	95	75	25	18	5	6.2 × 10	148
0624	RS95R	700	35~100	6.1	110	84	50	31	25	6	8.2 × 18	160
0625	RS95S	250	160~250	6.1	100	65	30	36	30	6	10.5 × 15	188
0626	RS95T	500/660	100~200	6.1	112	87	52	27	21	5	10 × 18	210
0627	RS95U	500	100	6.1	100	82	48	26	19	5	8.2 × 12	148
0628	RS95V	600	100~160	6.1	128	98	60	25	19	3	10.2 × 15	262
0629	RS95W	500	40~200	6.1	129	96	53	34	24	6	12 × 20	183
0630	RS96A	250	200~300	6.1	100	70	40	40	26	6	10.5 × 18	230
0631	RS96B	500/660	200~315	6.1	110	83	53	38	26	6	10.5 × 18	240.5
0632	RS96C	500/660	100~160	6.1	112	92	72	25	20	6	10.5 × 15	125
0633	RS96D	500/660	75~200	6.1	112	90	60	26	26	5	10.5 × 15	241
0634	RS96E	500/660	200	6.1	112	93	73	31	25	5	7 × 9.5	166
0635	RS96F	500/660	200~400	6.1	113	87	70	40	26	6	10.5 × 15	255
0636	RS96G	500/660	400~500	6.1	114	87	56	51	38	6	10.5 × 15	437
0637	RS96GK	250	400~500	6.1	97	67	38	51	36	8	11 × 17	198
0638	RS96H	500/660	200	6.1	117	92	67	28	22	3	7 × 9.5	132
0639	RS96K	500/660	200~400	6.1	117	80	52	40	32	6	10.5 × 15	280
0640	RS96L	500/660	200~315	6.1	117	89	57	37	30	6	10.5 × 15	280
0641	RS96M	500	50~200	6.1	135	113	67	34	20	5	8.2 × 12	196
0642	RS96N	500	250~315	6.1	115	87	58	39	26	6	10.5 × 18	245
0643	RS96P	700	125~200	6.1	130	90	50	38	25	6.3	10.5 × 26	250
0644	RS96Q	250	315~400	6.1	100	71	38	43	35	9	10.5 × 15	195
0645	RS96R	500/660	35~300	6.1	113	83	53	40	30	6.5	12.2 × 18	197
0646	RS96S	250	40~200	6.1	95	68	40	27	20	5	9 × 18	153
0647	RS97A	500/660	300~500	6.1	120	90	58	46	32	6	10.5 × 18	450
0648	RS97B	500/660	50~200	6.1	126	100	74	38	26	6	10.5 × 18	295
0649	RS97C	500/700	350~500	6.1	128	98	70	51	38	6	10.5 × 18	460
0650	RS97D	500/700	200~315	6.1	130	98	72	38	26	6	10.5 × 18	288
0651	RS97E	500/660	200~315	6.1	145	111	77	38	29	5	7 × 11	300
0652	RS97F	500/660	200~400	6.1	145	105	76	41	28	8	10.5 × 18	355
0653	RS97G	500/660	200~400	6.1	146	110	76	41	29	5	7 × 9.5	341
0654	RS97H	500/660	200~400	6.1	146	110	75	48	36	8	12.5 × 18	520
0655	RS97K	500/660	200~400	6.1	130	100	70	53	42	8	14.2 × 18	480
0656	RS97L	500	200~400	6.1	125	103	48	51	38	6	10.5 × 18	420
0657	RS97M	500	400~500	6.1	145	102	53	51	38	6.3	14.5 × 30	465
0658	RS97N	500/660	200~315	6.1	145	113	88	38	25	6.3	10.5 × 18	353



Low-Voltage Fuses Fuse links

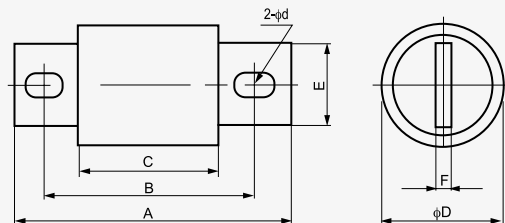


Figure 6.1

Table 6 (cont.)

Cat. No.	Models	Rated voltage (V)	Rated current (A)	Dimensions/size (mm)								Weight (g)
				Fig.	A	B	C	$\phi D$	E	F	$\phi d$	
0659	RS98A	500	600	6.1	165	114	56	64	50	8	10.5 × 18	635
0660	RS98B	500/660	600	6.1	170	130	80	70	50	6	10.5 × 18	1280
0661	RS98C	500/660	500	6.1	181	133	86	51	40	10	10.5 × 15	720
0662	RS98D	500/660	600	6.1	180	131	85	64	50	10	14.2 × 18	970
0663	RS98E	700	250~400	6.1	130	90	50	51	38	6.3	14.2 × 28	450
0664	RS98F	700	300~400	6.1	181	130	72	64	50	10	14.2 × 28	780
0665	RS98G	700	400~600	6.1	175	135	73	63	51	10	12.5 × 18	1135
0666	RS98H	700	400~500	6.1	166	118	70	50	38	6	16.2 × 22	583
0667	RS98K	700	500~600	6.1	181	114	50	64	51	9.5	14.2 × 45	996
0668	RS98L	700	500~800	6.1	167	137	72	70	50	8	10.5 × 18	1100
0669	RS98M	700	500~600	6.1	160	108	53	63	50	9	14.2 × 23	925
0670	RS98N	700	500~600	6.1	180	125	73	60	46	13	14.2 × 25	1050
0671	RS98P	500	400~500	6.1	110	80	53	50	40	6	10.5 × 18	410
0672	RS99A	500/660	500~600	6.1	190	140	90	65	50	10	14.2 × 18	1058
0673	RS99B	500/660	400~600	6.1	203	152	95	64	50	10	10.5 × 18	1410
0674	RS99C	500/660	400~600	6.1	217	157	101	60	50	12	16.2 × 28	1420
0675	RS99D	500	800~1000	6.1	180	127	85	76	61	11.3	16.2 × 22	1786
0676	RS99E	700	800~1250	6.1	200	150	100	90	70	13	20.5 × 30	1920
0677	RS99F	700	400~600	6.1	180	129	72	64	51	9.5	13.5 × 18	1200
0678	RS99G	700	800~1000	6.1	195	150	95	75	61	10	13 × 18	1830
0679	RS99H	500	500~600	6.1	145	103	46	52	38	8	15 × 29	560
0680	RS99J	500	400~600	6.1	175	123	70	65	50	10	14.2 × 30	962
0681	RS99K	500	400~600	6.1	181	133	72	64	51	10	13 × 33	1023
0682	RS99L	500	400~600	6.1	175	125	71	65	50	10	14.2 × 33	1010

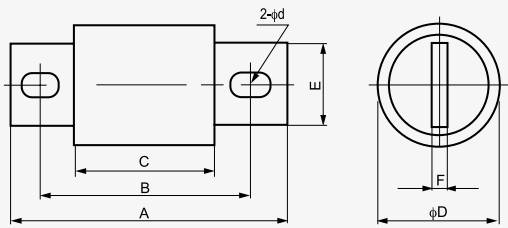
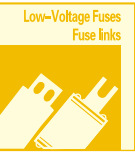


Figure 6.1

Table 6 (cont.)

Cat. No.	Models	Rated voltage (V)	Rated current (A)	Dimensions/size (mm)	Weight (g)
				Fig.	
0683	RS94B	500	40~100	See Figure 6.2	55

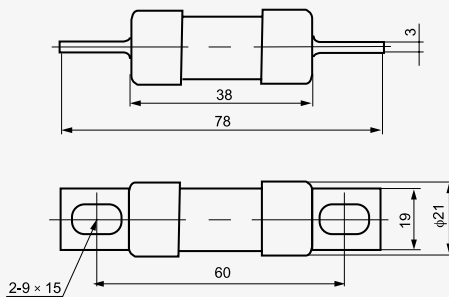


Figure 6.2



Table 6 (cont.)

Cat. No.	Models	Rated voltage (V)	Rated current (A)	Dimensions/size (mm) Fig.	Weight (g)
0684	RS99AP	700	1000	See Figure 6.3	2100

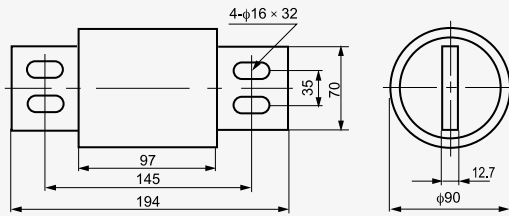


Figure 6.3



Low-Voltage Fuses  
Fuse links



Table 6 (cont.)

Cat. No.	Models	Rated voltage (V)	Rated current (A)	Dimensions/size (mm) Fig.	Weight (g)
0685	RS99LK	1000	1000	See Figure 6.4	996

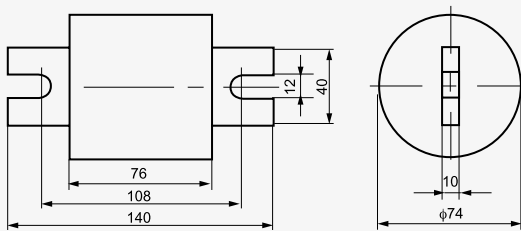


Figure 6.4



Table 6 (cont.)

Cat. No.	Models	Rated voltage (V)	Rated current (A)	Dimensions/size (mm) Fig.	Weight (g)
0686	RS97ML	1200	180	See Figure 6.5	1127

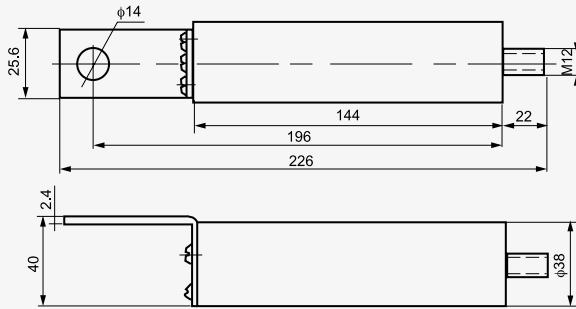


Figure 6.5



Table 6 (cont.)

Cat. No.	Models	Rated voltage (V)	Rated current (A)	Dimensions/size (mm) Fig.	Weight (g)
0687	RS99PX	700	1000	See Figure 6.6	1652

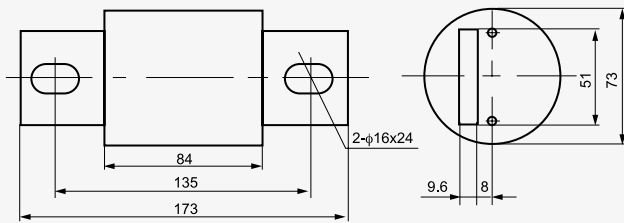


Figure 6.6

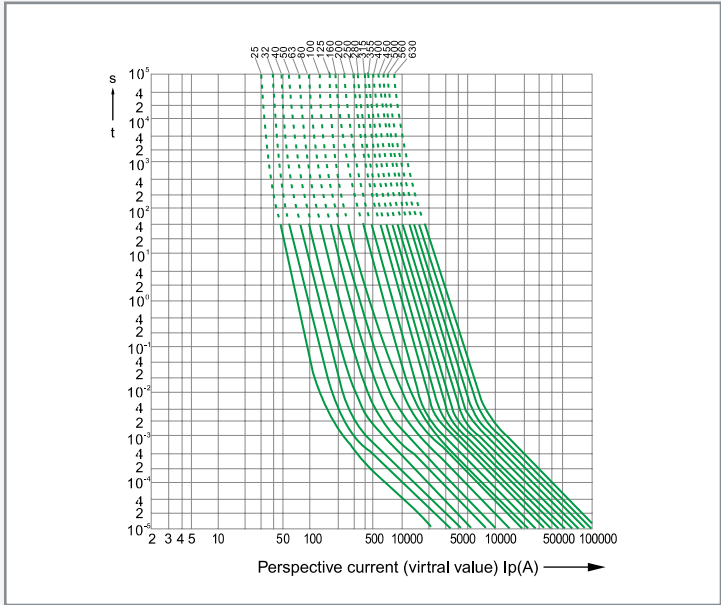


Low-Voltage Fuses  
Fuse links

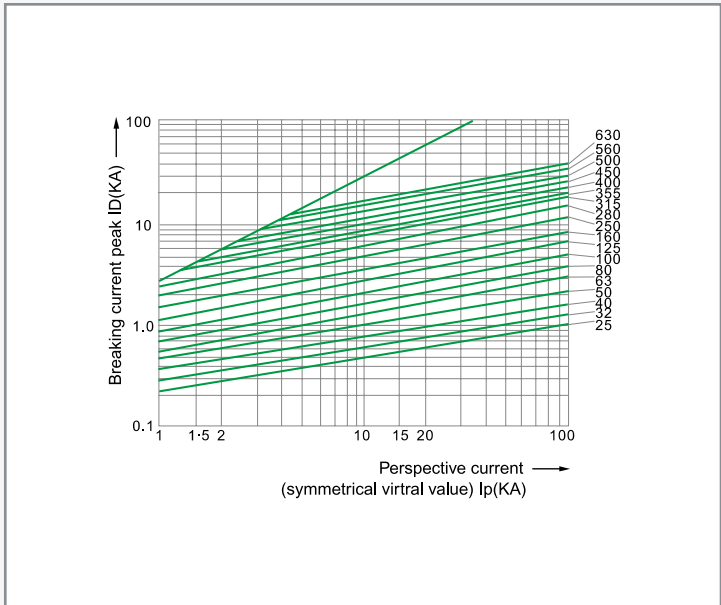
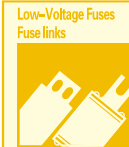




▶ **Characteristics Curve**



Time-current characteristics curve (fast) fuse links for semiconductor protection



Breaking current characteristics curve of (fast) fuse links for semiconductor protection

## Bolt Connected Square Pipe Type Fast-acting Fuse Links For Semiconductor protection



### ► Applications

This series of fuses are mainly used in circuits of AC 50Hz, rated voltage of 2000V and rated current of 2500A, to protect the semiconductor components and the whole unit from circuit short. (aR).

The breaking capacity of the fuses is up to 100KA.

The fuses are compliant with the IEC269-1/IEC269-4 and GB13539.1/GB13539.4 .

### ► Basic Data

The models, dimensions, ratings are shown in Figures 7.1~7.16 and Tables 7 .

### ► Design Features

The variable cross-section fuse element made from pure silver sheets are sealed in the melting tube made of high-density porcelain; The fuse tube is filled with chemically treated high-purity quartz as arc-extinguishing medium; The two ends of the melting body are connected to the (knife) contactor by dot welding; Both knife contactors and board contacts are available; A striker/indicator may be installed to the fuse link; When the fuse link breaks, signals are sent out in the case of an indicator, or the switch is pushed to cut the circuit in the case of a striker.

Table 7

Cat. No.	Models	Cross-reference	Rated voltage (V)	Rated current (A)	Dimensions/sizes (mm)									Weight (g)
					Fig.	A	B	C	D	E	F	H	$\phi d$	
0701	RS711B	NGT00 HLS00	380/800	32~160	7.1	50	77	100	29	27	2	42	11	198.5
0702	RGS30A	3NE87	660	10~100	7.1	50	77	98	21	20	2	42	9	122
0703	RGS30B	-	660	10~100	7.1	50	77	98	21	20	2	37	9	110
0704	RGS30C	RS0-250V	250	30~50	7.1	50	100	115	25	16	2	45	7	138
0705	RGS30C	RS0-500V RS3-300V	500	10~50	7.1	70	120	135	25	16	2	45	7	163

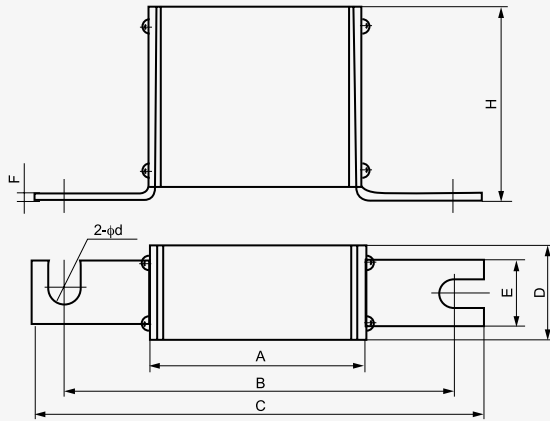


Figure 7.1

Table 7 (cont.)

Cat. No.	Models	Cross-reference	Rated voltage (V)	Rated current (A)	Dimensions/sizes (mm)									Weight (g)
					Fig.	A	B	C	D	E	F	H	$\phi d$	
0706	RGS36	RS0/RS3	250	32~200	7.2	52	100	120	40	20	2	48	9 × 12	277.5
0707	RGS32	RS0/RS3	250	63~250	7.2	55	100	125	48	29	3	50	11 × 17	400
0708	RGS33	RS0/RS3	250	80~400	7.2	55	100	130	58	30	3	60	11 × 17	542
0709	RGS34	RS0/RS3	250	160~630	7.2	59	100	135	67	40	5	72	14 × 20	950
0710	RGS36	RS0/RS3	500	320~200	7.2	72	120	140	40	20	2	48	9 × 12	336.5
0711	RGS32	RS0/RS3	500/750	63~250	7.2	75	120	145	48	29	3	50	11 × 17	482
0712	RGS33	RS0/RS3	500/750	80~400	7.2	75	120	150	58	30	3	60	11 × 17	670
0713	RGS34	RS0/RS3	500/750	160~630	7.2	79	120	155	67	40	5	72	14 × 20	1058
0714	RGS39	RS3	500/750	500~1000	7.2	79	145	185	86	50	5	90	18 × 28	1760

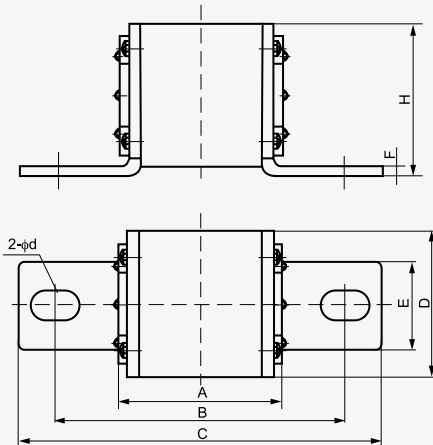


Figure 7.2



Low-Voltage Fuses Fuse links



Table 7 (cont.)

Cat. No.	Models MIRO	Cross-reference	Rated voltage (V)	Rated current (A)	Dimensions/sizes (mm) Fig.	Weight
						(g)
0715	RGS39	RS3-750V	750	800~1500	See Figure 7.3	1730

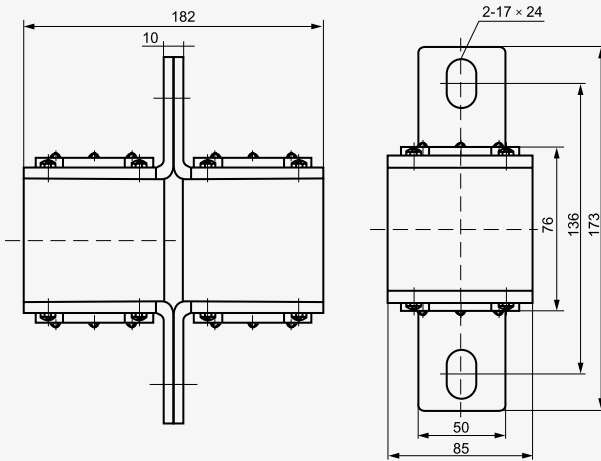


Figure 7.3



Table 7 (cont.)

Cat. No.	Models MIRO	Cross-reference	Rated voltage (V)	Rated current (A)	Fig.	Dimensions/sizes (mm)							Weight (g)
						A	B	C	D	E	F	$\phi d$	
0716	RS71B	LK-NES	800	50~200	7.4	76	104	135	43	22	6	10.5	370
0717	NGT1	RS6-1	380/690/1000	100~250	7.4	68	110	140	48	25	6	10.5	458
0718	NGT2	RS6-2	380/690/1000	200~400	7.4	68	110	140	58	32	6	10.5	654
0719	NGT3	RS6-3	380/690/1000	355~630	7.4	68	110	140	68	38	6	10.5	920

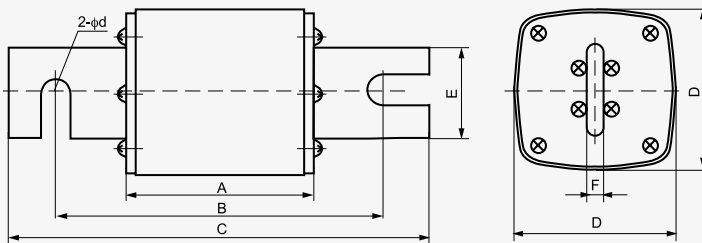


Figure 7.4



Low-Voltage Fuses Fuse links



Table 7 (cont.)

Cat. No.	Models		Rated voltage (V)	Rated current (A)	Dimensions/sizes (mm) Fig.	Weight (g)
	MIRO	Cross-reference				
0720	RS71	NG1	660	80~160	See Figure 7.5	340

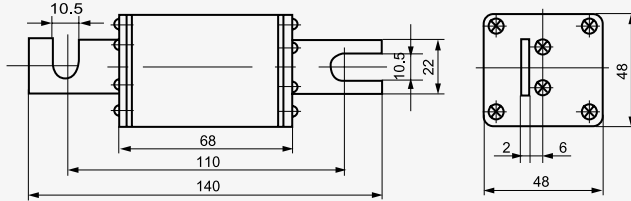


Figure 7.5



Low-Voltage Fuses Fuse links



Table 7 (cont.)

Cat. No.	Models		Rated voltage (V)	Rated current (A)	Fig.	Dimensions/sizes (mm)								Weight (g)
	MIRO	Cross-reference				A	B	C	D	E	F	H	$\phi d$	
0721	NGT1Q	3NE32...	660/1000	100~250	7.6	68	108	140	48	20	6	58	10.5	465
0722	RS75AQ	3NE33...	660/1000	300~630	7.6	68	108	140	60	32	6	78	12.5	730

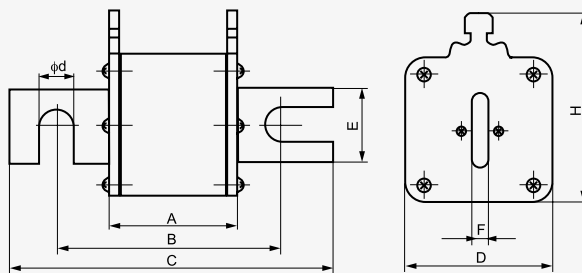


Figure 7.6



Table 7 (cont.)

Cat. No.	Models MIRO	Cross-reference	Rated voltage (V)	Rated current (A)	Dimensions/sizes (mm)										Weight (g)
					Fig.	A	B	C	D	E	F	H	$\phi d$		
0723	RS72B	A1-66C-D8	660	200-400	7.7	44	76	108	50	25	6	68	10.5	360.5	
0724	RS72C	A1-66C-D1	660	315-400	7.7	44	108	140	50	25	6	68	10.5	383	
0725	RS73A	A2-66C-D8	660	250-630	7.7	44	76	108	60	32	6	78	10.5	527	
0726	RS73B	A2-66C-D1	660	250-630	7.7	44	108	140	60	32	6	78	10.5	551	
0727	RS73D	-	660	200-400	7.7	44	92	127	60	32	6	78	13	550	
0728	RS74A	A3-66C-D8	660	400-800	7.7	44	76	108	73	38	6	90	12.5	810	
0729	RS74B	A3-66C-D1	660	500-800	7.7	44	108	140	73	38	6	90	12.5	860	
0730	RS74D	-	660	500-800	7.7	44	92	127	73	40	6	90	13	944	
0731	RS75A	-	660/1000	450-630	7.7	66	108	140	60	32	6	78	12.5	700	
0732	RS75B	-	660/1000	500-630	7.7	76	108	140	60	32	6	78	12.5	770	
0733	RS76AYK	170M61...	660/1000	630-800	7.7	66	108	140	72	38	6	90	10.5	1045	
0734	RS76C	170M62...	660/1000	630-800	7.7	76	108	140	72	38	6	90	12.5	1436	
0735	RS450	3NET	1500	450	7.7	172	208	240	74	32	6	92	12.5	1965	

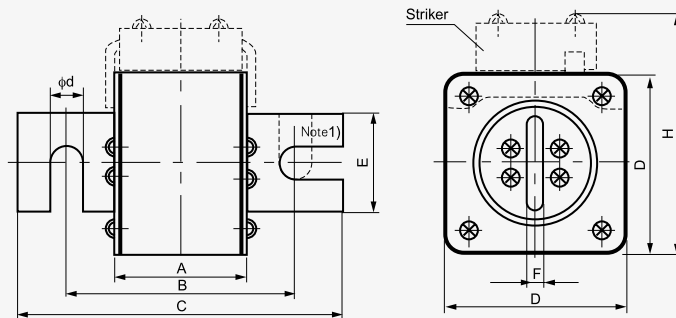


Figure 7.7

Note 1) : Openings on knives are radial in RS76D, RS74SD.

Table 7 (cont.)

Cat. No.	Models MIRO	Cross-reference	Rated voltage (V)	Rated current (A)	Dimensions/sizes (mm)										Weight (g)
					Fig.	A	B	C	D	E	F	H	$\phi d$		
0736	RS76A	-	660/1000	500-800	7.8	68	102	140	72	38	6	90	12.5 x 22	1055	
0737	RS76B	-	660/1000	500-800	7.8	68	108	140	72	38	6	90	12.5 x 22	1040	
0738	RS89B	-	1000	1600	7.8	70	107	150	105	50	16	120	14 x 23	2800	

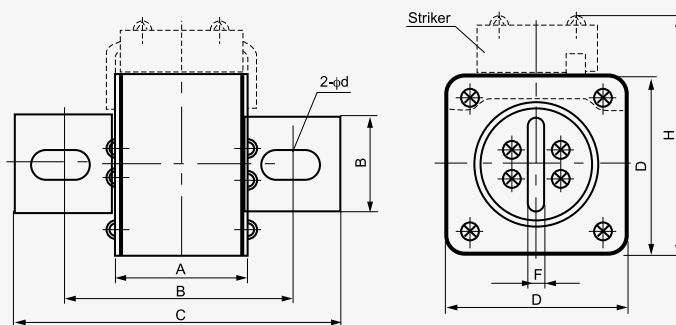


Figure 7.8

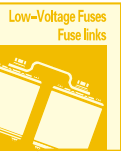


Table 7 (cont.)

Cat. No.	Models MIRO	Cross-reference	Rated voltage (V)	Rated current (A)	Dimensions/sizes (mm) Fig.	Weight
						(g)
0739	RS72A(Z)	-	660	80~315	See Figure 7.9	238

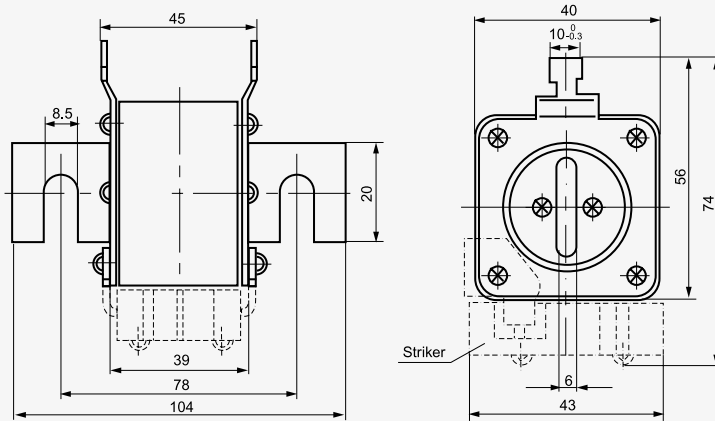


Figure 7.9



Low-Voltage Fuses Fuse links



Table 7 (cont.)

Cat. No.	Models MIRO	Cross-reference	Rated voltage (V)	Rated current (A)	Dimensions/sizes (mm) Fig.	A	C	D	H	md	Weight (g)
0740	RS550	-	2000	550	7.10	130	136	73	73	12	1960
0741	NGT3M	-	380/660/1000	355~630	7.10	67	76	67	85	12	910
0742	RS77	A1-66C-TS	660	200~400	7.10	42	51	50	68	8	354
0743	RS77A	A0-66C-TS	660	80~160	7.10	42	51	40	58	8	225
0744	RS77B	A2-66C-TS	660	400~630	7.10	42	51	60	78	10	518
0745	RS77C	A3-66C-TS	660	630~1000	7.10	45	54	74	92	12	865
0746	RS77H	-	1000	200~400	7.10	66	76	50	68	8	528
0747	RS78	3NE43..6B	660	315~500	7.10	66	77	60	77	10	660
0748	RS79	-	1000	400~1000	7.10	92	106	74	92	12	1655
0749	RS79A	170M34..	660	200~400	7.10	46	52	43	61	8	277
0750	RS79C	-	1000	400~1000	7.10	77	85	74	92	12	1325
0751	RS79D	140M63..	1000	800~1000	7.10	67	75	74	92	12	1170
0752	RS79E	170M64..	1000	630~1000	7.10	87	95	74	92	12	1420
0753	RS550Z	-	2000	550	7.10	135	143	74	92	12	1985
0754	RS82	CS5F	500	75~200	7.10	40	47	47	70	8	325
0755	RS83	CS5F	500	200~400	7.10	43	51	57	82	8	450
0756	RS84	CS5F	500	450~630	7.10	42	53	72	92	10	830
0757	RS85	CS10F	500	200~630	7.10	66	76	60	77	10	740
0758	RS86	3NE64..	500	300~700	7.10	66	77	72	92	10	1110
0759	RS86A(Z)	RSF-4	500/800	800~1250	7.10	68	78	85	130	12	1200
0760	RS87	RSF-5	500/1000	1250~1600	7.10	70	80	105	150	16	1320
0761	RS87A(Z)	RSF-6	800/1000	1600~2000	7.10	81	91	120	165	16	2216
0762	RS88A	-	660	800~1600	7.10	78	90	105	127	16	1240

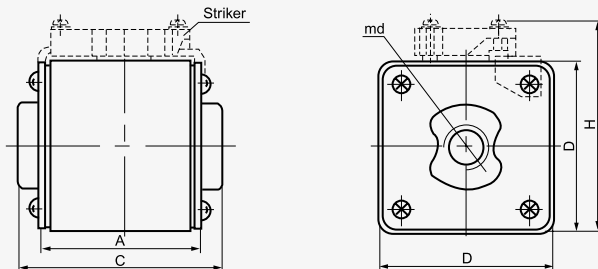


Figure 7.10



Table 7 (cont.)

Cat. No.	Models	Cross-reference	Rated voltage (V)	Rated current (A)	Dimensions/sizes (mm) Fig.	Weight (g)
0763	RS88	-	660	630-800	See Figure 7.11	955

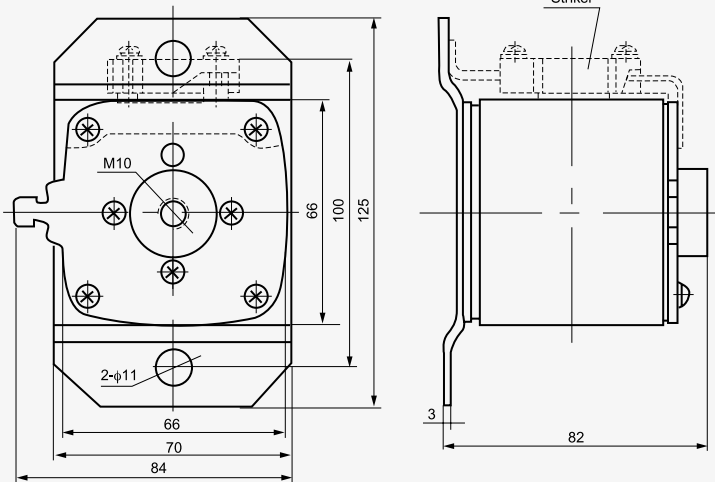


Figure 7.11



Table 7 (cont.)

Cat. No.	Models	Cross-reference	Rated voltage (V)	Rated current (A)	Dimensions/sizes (mm) Fig.	Weight (g)
0764	RS89(Z)	170M70..	1000	1000-1600	See Figure 7.12	2930

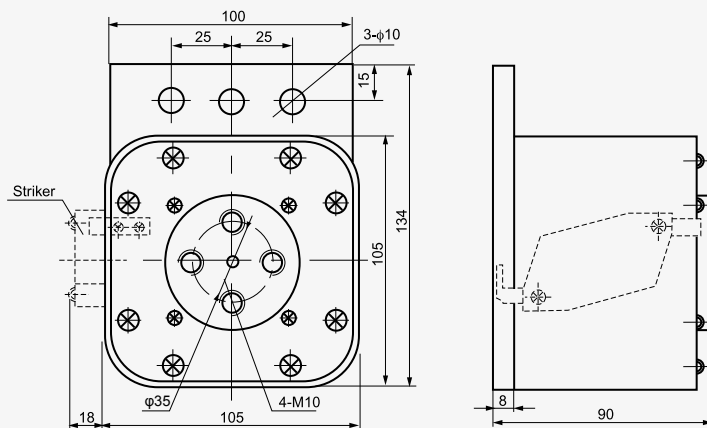


Figure 7.12





Table 7 (cont.)

Cat. No.	Models		Rated voltage (V)	Rated current (A)	Dimensions/sizes (mm) Fig.	Weight (g)
	MIRO	Cross-reference				
0765	RS88-2M	-	660	1000~1600	See Figure 7.13	2335

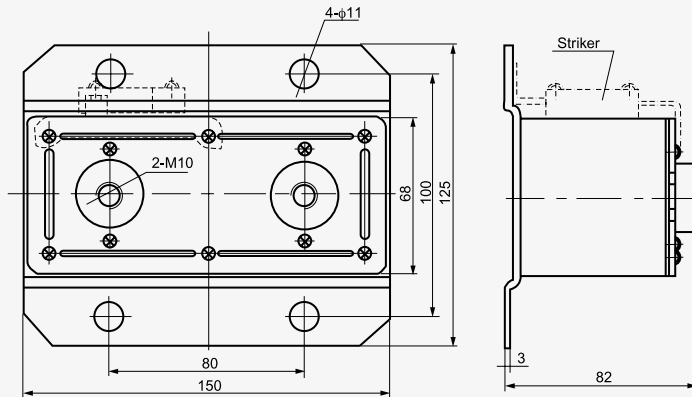


Figure 7.13



Low-Voltage Fuses Fuse links



Table 7 (cont.)

Cat. No.	Models		Rated voltage (V)	Rated current (A)	Dimensions/sizes (mm) Fig.	Dimensions/sizes (mm)										Weight (g)
	MIRO	Cross-reference				A	B	C	D	E	F	H	H1	md		
0766	RS85-2H	-	1000	1000	7.14	60	72	132	95	36	146	93	68	10	1500	
0767	RS86-2H	RSF-3-P2K	1000	1400	7.14	73	92	162	140	40	180	102	76	10	2504	

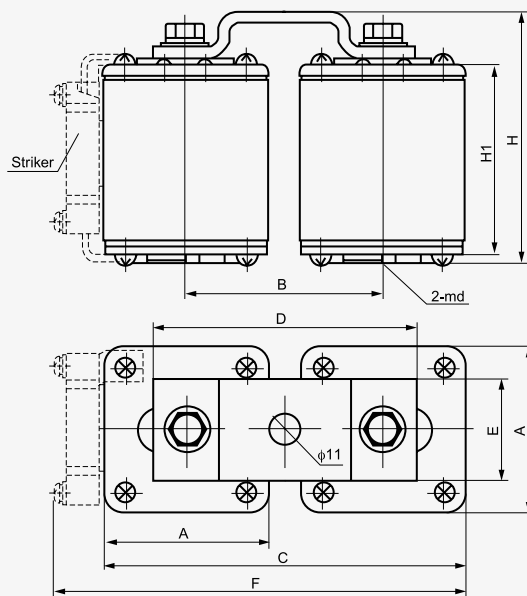


Figure 7.14



Table 7 (cont.)

Cat. No.	Models MIRO	Cross-reference	Rated voltage (V)	Rated current (A)	Dimensions/sizes (mm)	Weight (g)
					Fig.	
0768	RS85-2M	-	500	100~315	See Figure 7.15	710

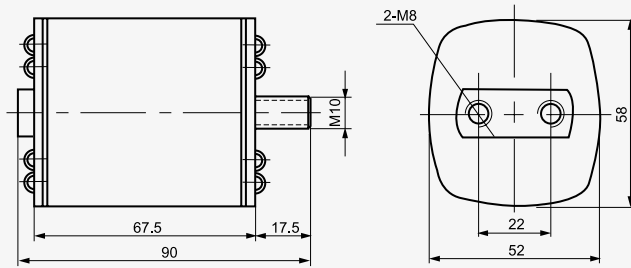


Figure 7.15



Table 7 (cont.)

Cat. No.	Models MIRO	Cross-reference	Rated voltage (V)	Rated current (A)	Fig.	Dimensions/sizes (mm)							Weight (g)
						A	B	C	D	H	H1	Md	
0769	RS77C-2M	-	660	1000~2000	7.16	75	100	185	18	55	47	12	2700
0770	RSH20	-	2000	1000~2000	7.16	75	100	185	18	140	130	10	3890

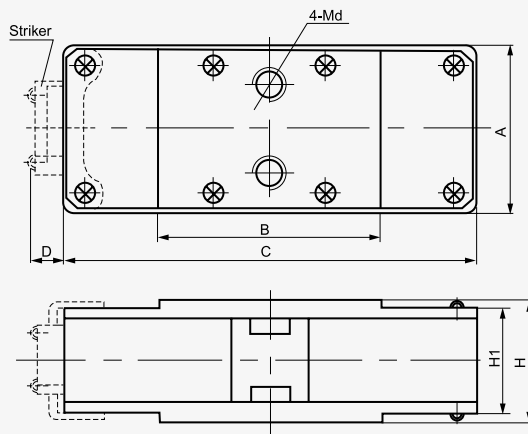
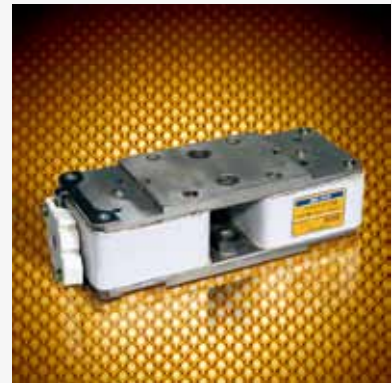
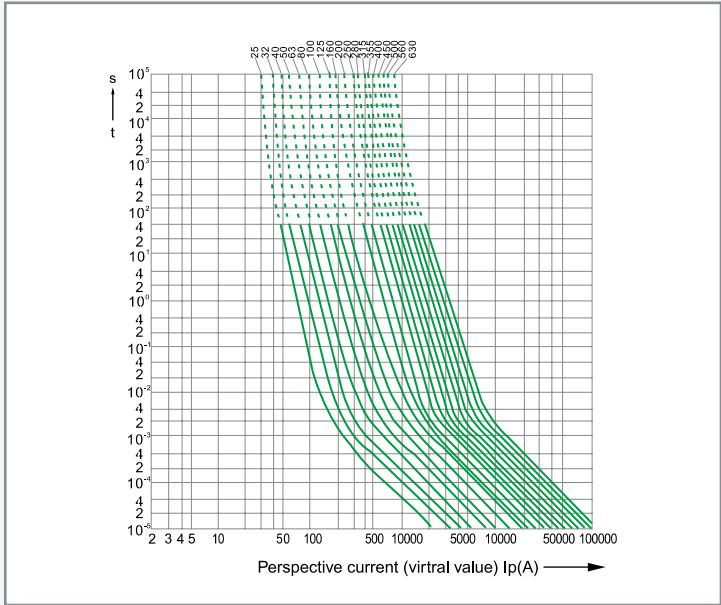


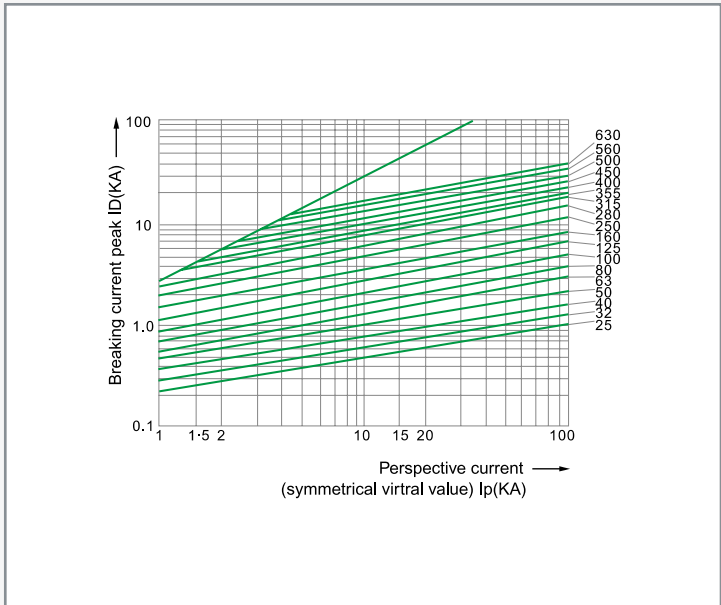
Figure 7.16



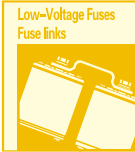
► **Characteristics Curve**



Time-current characteristics curve of (fast) fuse links for semiconductor protection



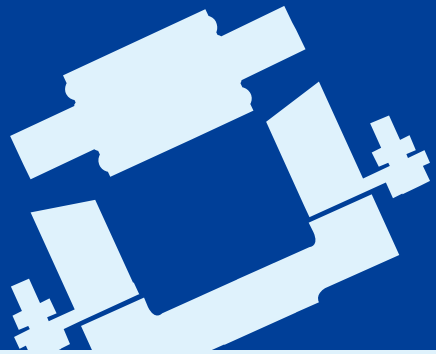
Breaking current characteristics curve of (fast) fuse links for semiconductor protection



## Low Voltage Fuse

Professional High Voltage And Low Voltage Fuse Manufacturer

# Fuse Bases



## Cylindrical Fuse Holders



### ► Applications

These fuse holders are supporters for fuses with size up to  $22 \times 58\text{mm}$ . They are capable of working under heat caused by rated current and expected short impacting current up to 100KA. It can also function as a fuse disconnecting switch by multi-phase combination. There are two in/out lines at the RT18N fuse base, providing a power cut function. The RT18L type has a safety lock to lock the fuse carrier when disconnected to avoid wrong operation; it can also be equipped with an indicator, which goes on when the fuse linke breaks.

Rated insulate voltage up to 690V; Working frequency 50Hz AC; Conventional free air thermal current up to 125A; Compliant with GB13539.1, GB13539.2, GB13539.6, GB14048.3 and IEC269-1, IEC269-2, IEC269-2-1, IEC947-3 .

### ► Design Features

After the plastic-injected case is equipped with contacts and fuse links, the bases are formed by welding or riveting both capable of being multi-phase structured. FB15C, FB16-3J, FB19C-3J, RT19 are open-structure, and others are semi-concealed structure. There are five fuse sizes available to choose from for the same fuse base of RT18N, RT18B and RT18C. There are two sets of in-out lines for RT18N. One is installed with fuse links of the according size. The other is a permanent open contacts with double breaking points. The whole base unit can cut the power. RT18 bases are all DIN rail installed, among which the RT18L is equipped with safety lock against wrong operation in the breaking state.

### ► Basic Data

The models, rated insulate voltage, rated current, and dimensions are shown in Figures 9.1~9.14 and Table 9 (Width of N-phase combination is Bn-nB).

Table 9

Cat. No.	Models	Fuse link models	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm)		Weight (g)
					Fig.		
0901	RT14-20	10 × 38	500	20	Bolt installing hole $\phi$ 4.5	See Figure 9.1	38
0902	RT14G-20	10 × 38	500	20	G32-15 rail installation	See Figure 9.1	44

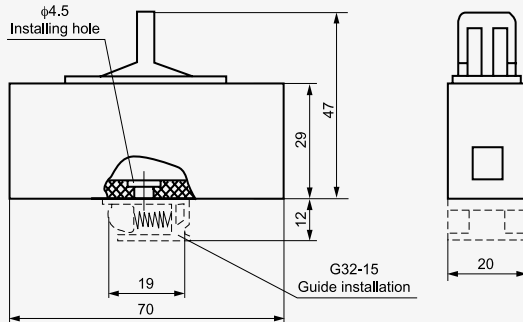


Figure 9.1



Table 9 (cont.)

Cat. No.	Models	Fuse link models	Rated insulation voltage(V)	Conventional free air thermal current(A)	Fig.	Dimensions (mm)					Weight (g)
						A1	B	H1	H2	$\phi$ d	
0903	RT14-32	14 × 51	500	32	9.2	105	26.5	57	135	5.5	148
0904	RT14-63	22 × 58	500	63	9.2	125	35	66	158	5.5	241

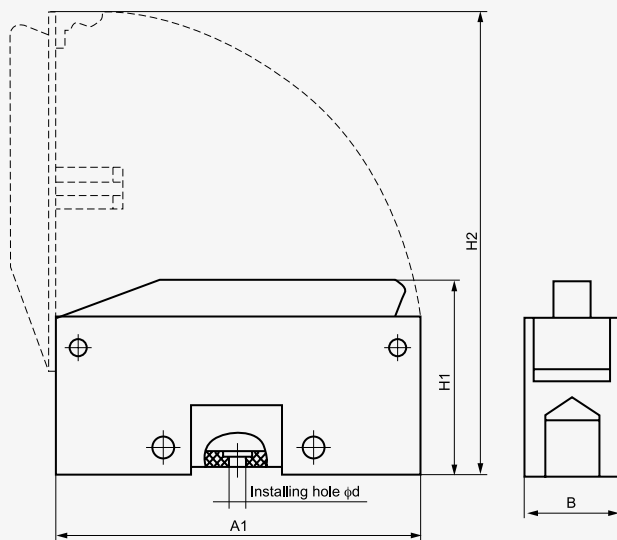


Figure 9.2



Table 9 (cont.)

Cat. No.	Models	Fuse link models	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm)					Weight (g)	
					Fig.	A	B	H1	H2		$\phi d$
0905	RT19-16	8.5 × 31.5	500	16	9.3	69	18.5	28.5	41.5	5	34
0906	RT19-25	10 × 38	500	25	9.3	80	23	35	53	6.5	57

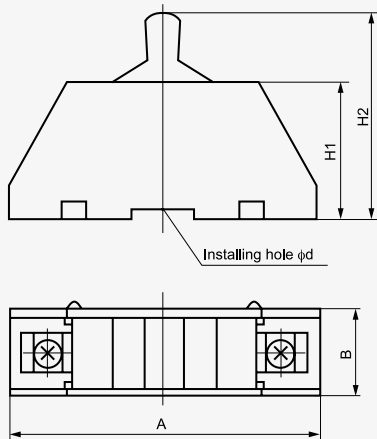


Figure 9.3



Low-Voltage Fuses Fuse Bases



Table 9 (cont.)

Cat. No.	Models	Fuse link models	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm)					Weight (g)
					Fig.	A	B	H1	$\phi d$	
0907	RT19-40	14 × 51	500	40	9.4	91	28.5	40	5.5	78
0908	RT19-100	22 × 58	500	100	9.4	108	36	50	6.5	157

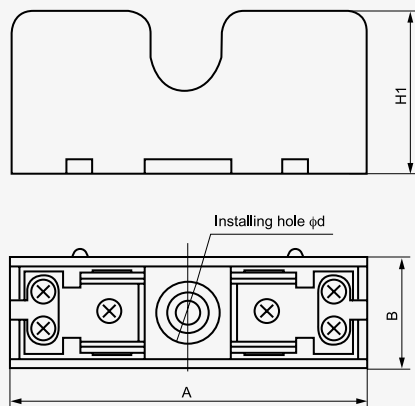


Figure 9.4



Table 9 (cont.)

Cat. No.	Models	Fuse link models	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm)					Weight (g)	
					Fig.	A1	A2	B	H1		H2
0909	RT18-32(X)	10 × 38	690	32	9.5	79	81	18	61	80	59
0910	RT18B-10	8.5 × 23	690	10	9.5	80	82	18	60	78	59
0911	RT18B-16	10 × 25.8	690	16	9.5	80	82	18	60	78	59
0912	RT18B-20	8.5 × 31.5	690	20	9.5	80	82	18	60	78	59
0913	RT18B-25	10 × 31.5	690	25	9.5	80	82	18	60	78	59
0914	RT18B-32	10 × 38	690	32	9.5	80	82	18	60	78	59
0915	RT18C-10	8.5 × 23	690	10	9.5	77	78	18	62	81	56
0916	RT18C-16	10 × 25.8	690	16	9.5	77	78	18	62	81	56
0917	RT18C-20	8.5 × 31.5	690	20	9.5	77	78	18	62	81	56
0918	RT18C-25	10 × 31.5	690	25	9.5	77	78	18	62	81	56
0919	RT18C-32	10 × 38	690	32	9.5	77	78	18	62	81	56
0920	RT18M-32	10 × 38	690	32	9.5	78	81	18	60	80	56
0921	HG30-32	10 × 38	690	32	9.5	78	80	18	73	88	57
0922	RT18-63(X)	14 × 51	690	63	9.5	96	99	27	62.5	91	108

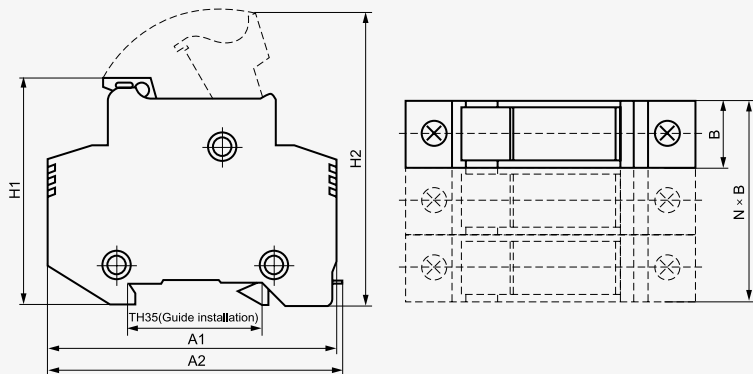


Figure 9.5

Table 9 (cont.)

Cat. No.	Models	Fuse link models	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm)		Weight (g)
					Fig.		
0923	RT18N-10	8.5 × 23	500	10	See Figure 9.6		70
0924	RT18N-16	10 × 25.8	500	16	See Figure 9.6		62
0925	RT18N-20	8.5 × 31.5	500	20	See Figure 9.6		63
0926	RT18N-25	10 × 31.5	500	25	See Figure 9.6		62
0927	RT18N-32	10 × 38	500	32	See Figure 9.6		62

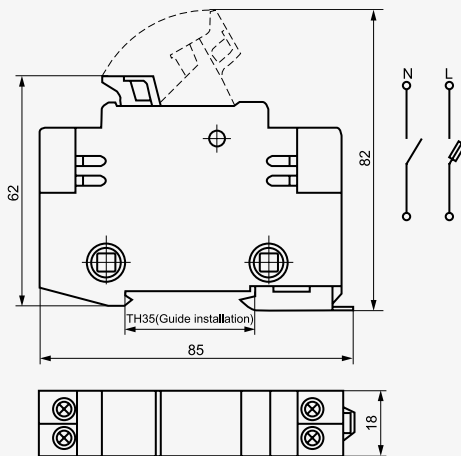


Figure 9.6





Table 9 (cont.)

Cat. No.	Models	Fuse link models	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm)					Weight (g)	
					Fig.	A1	A2	B	H1		H2
0928	RT18L-63	14 × 51	690	63	9.7	108	115	27	78	100	114
0929	RT18L-125	22 × 58	690	125	9.7	126	134	36	78	104	182

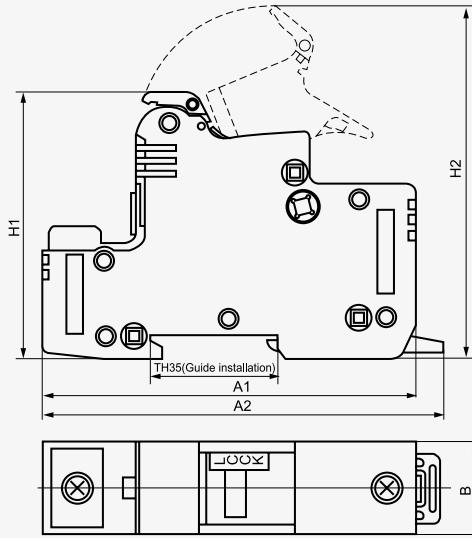


Figure 9.7



Low-Voltage Fuses Fuse Bases



Table 9 (cont.)

Cat. No.	Models	Fuse link models	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm)						Weight (g)	
					Fig.	A1	A2	B	H1	H2		$\phi d$
0930	HG30-63	14 × 51	500	63	9.8	107	80	27	80	102	4.5	167
0931	HG30-125	22 × 58	500	125	9.8	140	110	36	90	109	4.5	185

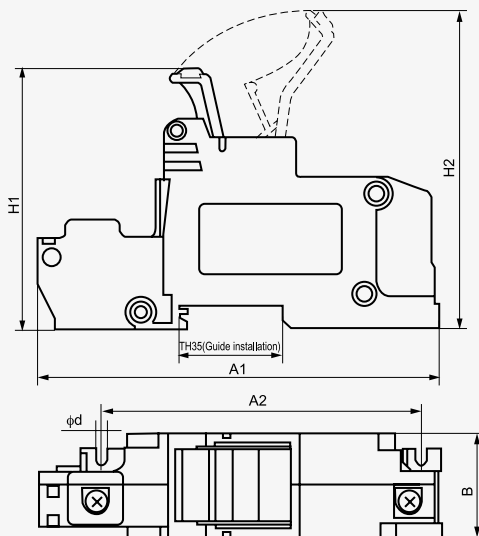


Figure 9.8



Table 9 (cont.)

Cat. No.	Models	Fuse link models	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
0932	FB14-16X	8.5 × 31.5	500	16	See Figure 9.9	38

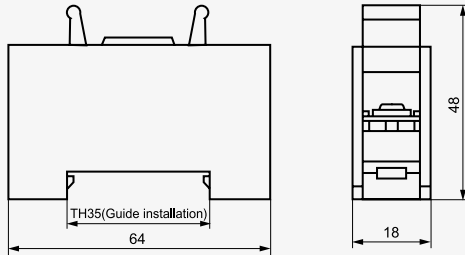


Figure 9.9



Table 9 (cont.)

Cat. No.	Models	Fuse link models	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
0933	FB15C	10 × 38	500	32	See Figure 9.10	25

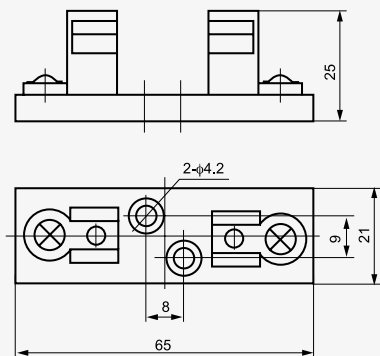


Figure 9.10



Table 9 (cont.)

Cat. No.	Models	Fuse link models	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
0934	FB16-3J	14 × 51	500	50	See Figure 9.11	140

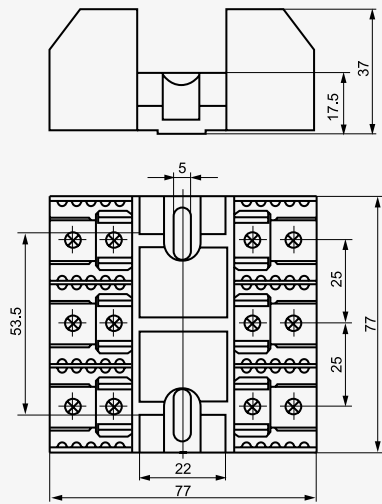


Figure 9.11



Table 9 (cont.)

Cat. No.	Models	Fuse link models	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
0935	FB19C-3J	27 × 139	600	63	See Figure 9.12	365

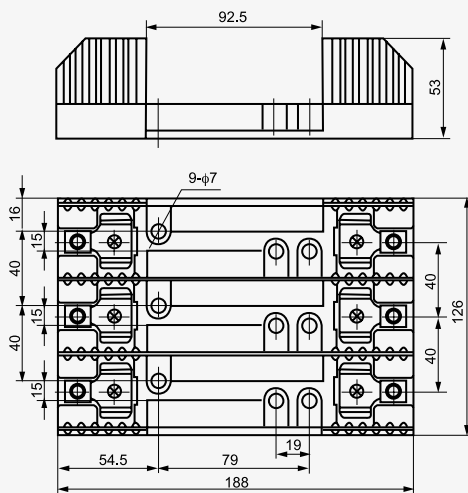


Figure 9.12



Table 9 (cont.)

Cat. No.	Models	Fuse link models	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm)										Weight (g)
					Fig.	A1	A2	A3	B1	B2	H1	H2	$\phi d$		
0936	ZRB-50	14 × 51	500	50	9.13	98	95.5	42.5	12	30	45	123	5	104	
0937	ZRB-100	22 × 58	500	100	9.13	107.5	103.5	48.5	18	35	59	142	6	150	

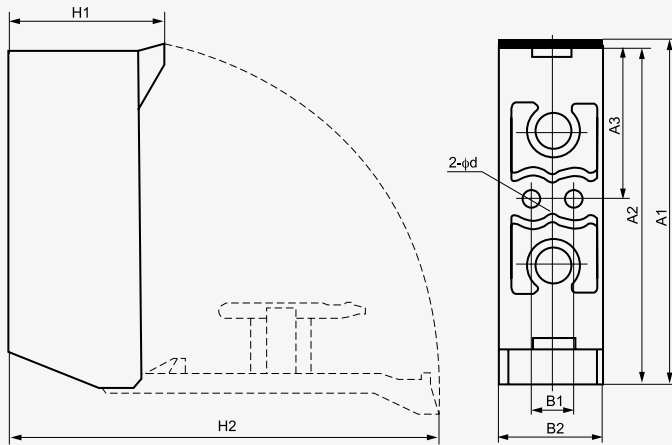


Figure 9.13

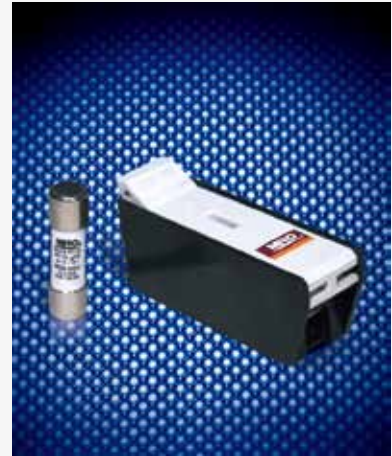


Table 9 (cont.)

Cat. No.	Models	Fuse link models	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm)	Weight (g)
					Fig.	
0938	RT14E-100	22 × 58	500	100	See Figure 9.14	146

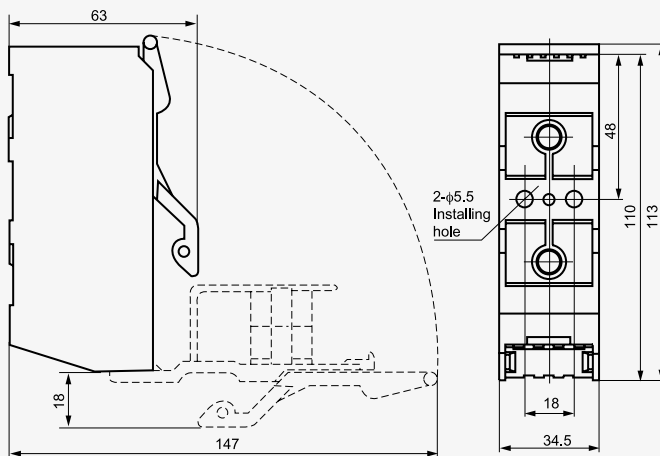


Figure 9.14



## Screw Fuse Bases



Low-Voltage Fuses  
Fuse Bases

### ► Applications

Supporters for D01-D03, DII~DIII fuses of all application kinds (gG, aM, aR) in electric lines (type gG) are capable of working under the heat caused by rated current and prospective short-circuit impacting current up to 50KA.

Rated insulate voltage up to 1140V; Working frequency 50Hz AC; Rated current 200A. Compliant with GB13539.1, GB13539.3, GB13539.5 and IEC 269-1, IEC269-3 .

### ► Design Features

This series of fuses bases are made up of fuse carrier and supporter. Insert the fuse into the carrier, which will be screwed into the supporter to form a complete screw fuse unit. There is a transparent glass window on the top of the fuse carrier, through which the status of the fuse can be easily observed. It can be screw installed or rail installed. (Figures 10.1-10.13).

### ► Basic Data

The models, rated insulate voltage, rated current, and dimensions are shown Figures 10.1~10.13 and Table 10 .

Table 10

Cat. No.	Models	Fuse link		Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm)								Weight (g)	
		Size	Models			Fig.	A1	A2	B1	B2	B3	H	$\phi$ D		$\phi$ d
1001	RO(FB)21	D II	RL6-25	500	25	10.1	27	45	30	45	68	72	38.5	5 × 6	159
1002	RO(FB)22	D III	RL6-63	500	63	10.1	38	53	33	54	85	80	48	5 × 6	265
1003	FB24	-	RO(S)24	660	25	10.1	25	35	22	33	56	68	30	4 × 6	118

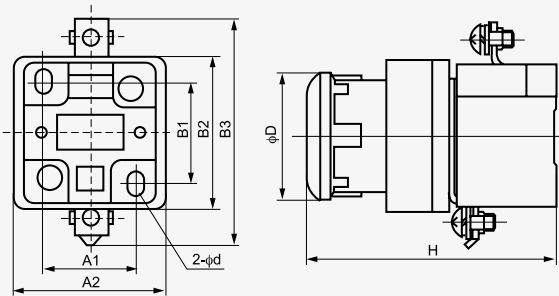


Figure 10.1



Table 10 (cont.)

Cat. No.	Models	Fuse link		Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm)								Weight (g)
		Size	Models			Fig.	A1	A2	B1	B2	H	$\phi$ D	$\phi$ d	
1004	RO(FB)21-3J	D II	RO21	500	25	10.2	37	90	42	77	79	38	5 × 7	604
1005	RO(FB)22-3J	D III	RO22	500	63	10.2	37	110	48	95	80	48	6 × 10	860

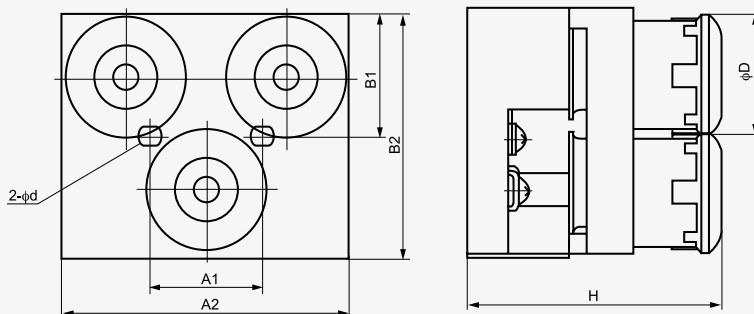


Figure 10.2



Table 10 (cont.)

Cat. No.	Models	Fuse link		Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm)										Weight (g)
		Size	Models			Fig.	A1	A2	B1	B2	C	H	$\phi$ D	$\phi$ d		
1006	RL1-15	-	RL1-15	380	15	10.3	24	35	28	41	64	60	33	5	116	
1007	RL1-60	-	RL1-60	380	60	10.3	34	55	41	55	78	70	48	6	243	
1008	RL1-100	-	RL1-100	380	100	10.3	45	83	53	83	120	100	70	8	798	
1009	RL1-200	-	RL1-200	380	200	10.3	63	87	64	87	152	110	85	10	1460	

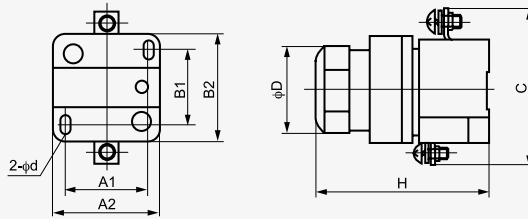


Figure 10.3



Low-Voltage Fuses Fuse Bases



Table 10 (cont.)

Cat. No.	Models	Fuse link		Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm)	Weight (g)
		Size	Models				
1010	FB26A-63	-	RO26	500	63	See Figure 10.4	63

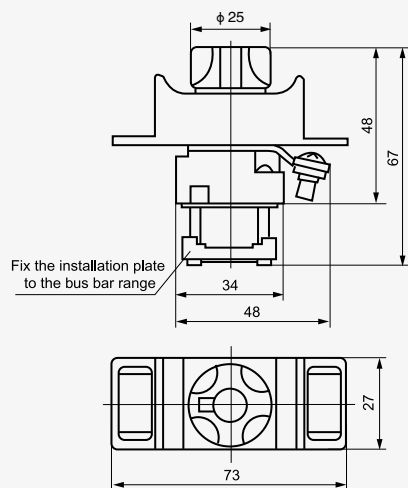


Figure 10.4



Table 10 (cont.)

Cat. No.	Models	Fuse link Size	Fuse link Models	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
1011	FB26B-63	-	RO26	500	63	See Figure 10.5	80

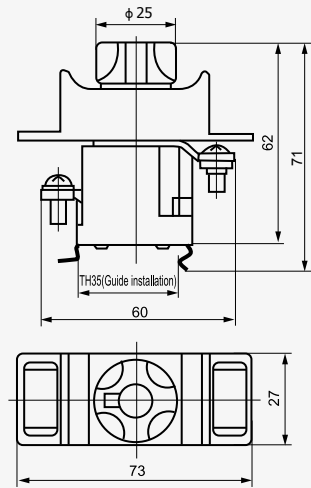


Figure 10.5



Table 10 (cont.)

Cat. No.	Models	Fuse link Size	Fuse link Models	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
1012	FB26C-63	-	RO26	500	63	See Figure 10.6	74

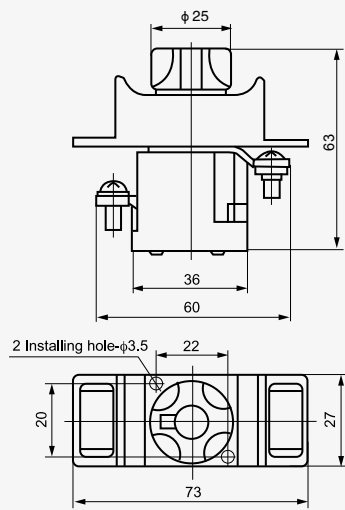


Figure 10.6

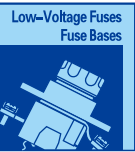




Table 10 (cont.)

Cat. No.	Models	Fuse link Size	Fuse link Models	Rated insulation voltage(V)	Rated current(A)	Conventional free air thermal Fig.	Dimensions (mm)	Weight (g)
1013	FB26A-100	-	RO26	500	100	See Figure 10.7		194

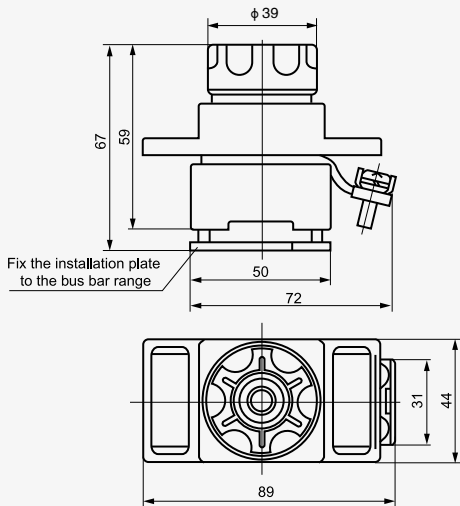


Figure 10.7



Low-Voltage Fuses Fuse Bases



Table 10 (cont.)

Cat. No.	Models	Fuse link Size	Fuse link Models	Rated insulation voltage(V)	Rated current(A)	Conventional free air thermal Fig.	Dimensions (mm)	Weight (g)
1014	FB26B-100	-	RO26	500	100	See Figure 10.8		228

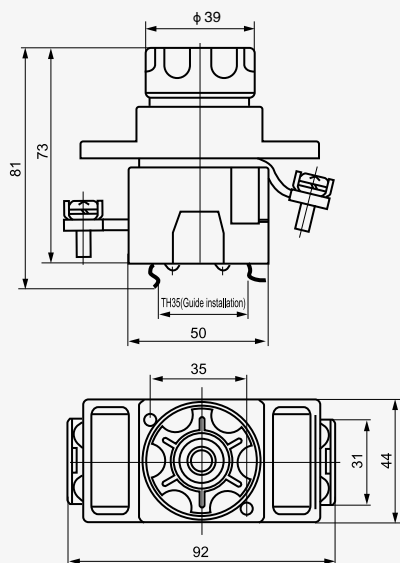


Figure 10.8



Table 10 (cont.)

Cat. No.	Models	Fuse link Size	Models	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight
							RO26
1015	FB26C-100	-	RO26	500	100	See Figure 10.9	226

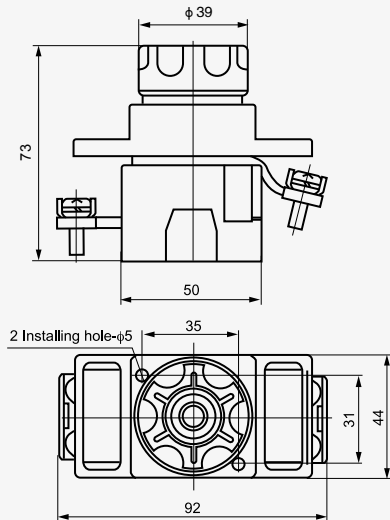


Figure 10.9



Table 10 (cont.)

Cat. No.	Models	Fuse link Size	Models	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.							Weight	
						A1	A2	B1	B2	H	$\phi$ D	$\phi$ d	(g)	
1016	FB26-16	D01	RL8B	500	16	10.10	-	18	-	55	59	17	-	83
1017	FB26-63	D02	RL8B	500	63	10.10	20	27	54	77	72	26	5	86

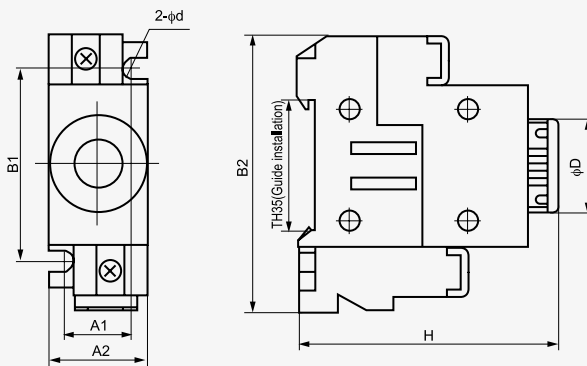


Figure 10.10



Table 10 (cont.)

Cat. No.	Models	Fuse link		Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
		Size	Models				
1018	FB26-16-3J	D01	RL8B	500	16	See Figure 10.11	286
1019	FB26-63-3J	D02	RL8B	500	63	See Figure 10.11	295

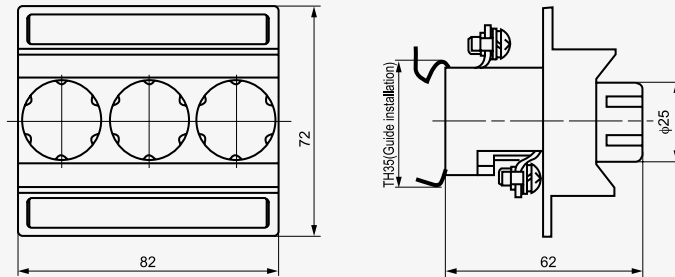


Figure 10.11



Low-Voltage Fuses Fuse Bases



Table 10 (cont.)

Cat. No.	Models	Fuse link		Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
		Size	Models				
1020	FB26D-63	D02	RO26	500	63	See Figure 10.12	114

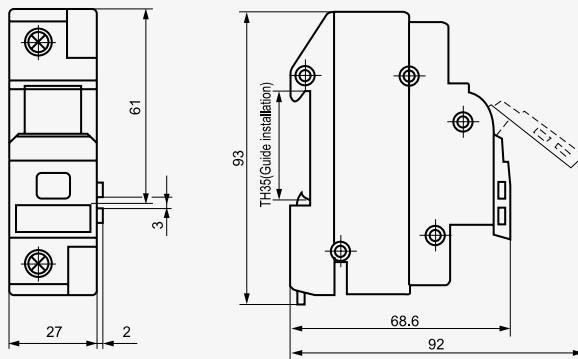


Figure 10.12



Table 10 (cont.)

Cat. No.	Models	Fuse link		Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
		Size	Models				
1021	RL5	-	-	1140	25	See Figure 10.13	260

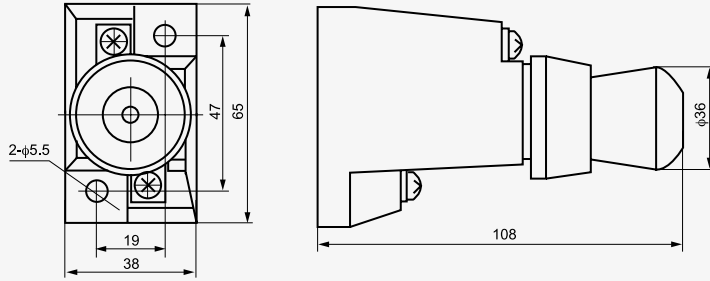
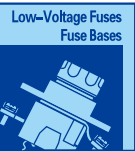
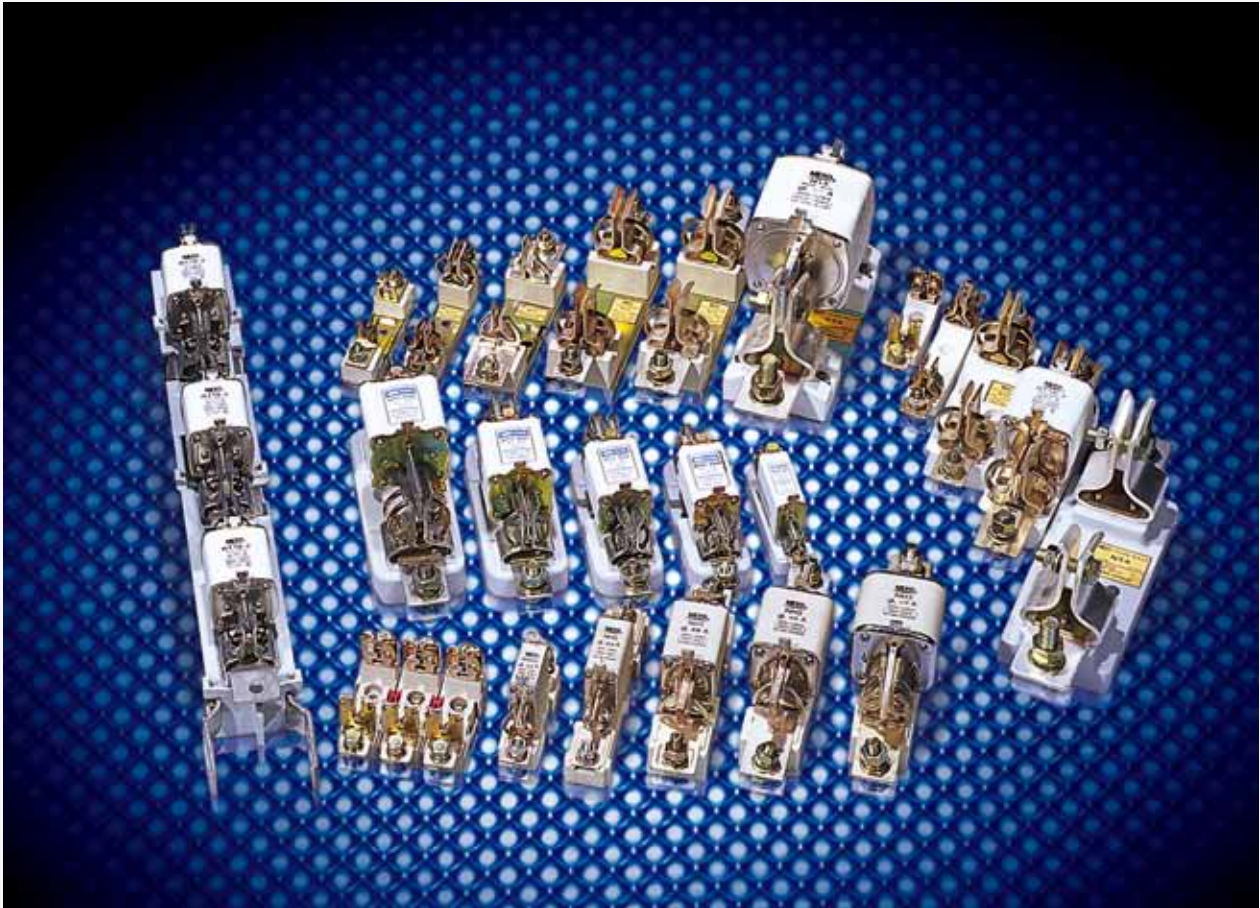


Figure 10.13



## Fuse Bases For Square Pipe Fuses With Knife Contacts



Low-Voltage Fuses  
Fuse Bases



### ► Applications

Supporters for NH000-NH4 fuses of all kinds (gG, aM, aR) in electric lines (type gG), capable of working under the heat caused by rated current and prospective short-circuit impacting current up to 120KA.

Rated insulate voltage up to 660V; Working frequency 50Hz AC; Rated current 1000A. Compliant with GB13539 and IEC269.

### ► Design Features

The bases are made up of high-density ceramic, heat-resistant resin board and wedge-shaped static contacts in a open structure. The product is featured with good heat sinking, high mechanic density, reliable connection and simple operation. It is available for all NH000-NH4 fuses.

### ► Basic Data

The models, rated insulate voltage, conventional free air thermal current, and dimensions are shown in Figures 11.1~11.19 and Table 11 .

Table 11

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
1101	NT00	NH000 NH00	690	160	See Figure 11.1	193

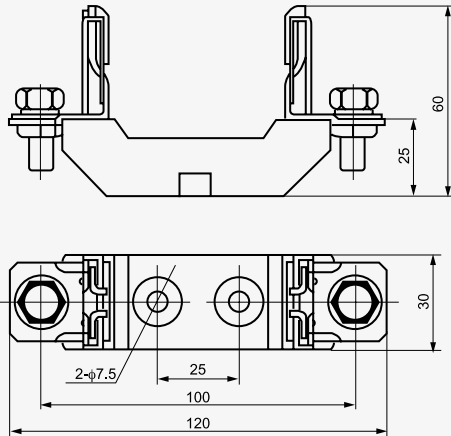


Figure 11.1



Table 11 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
1102	NT0	NH0	690	160	See Figure 11.2	295

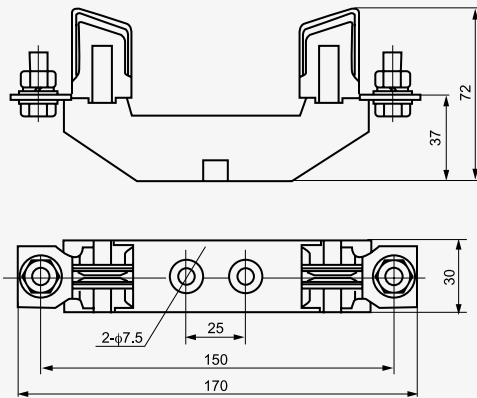


Figure 11.2

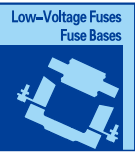


Table 11 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm)										Weight (g)
					Fig.	A1	A2	A3	B1	B2	H1	H2	$\phi d$		
1103	NT1	NH1	690	250	11.3	25	175	200	27	58	38	84	10.5	550	
1104	NT2	NH2	690	400	11.3	25	200	225	30	60	38	100	10.5	770	
1105	NT3	NH3	690	630	11.3	25	210	250	41	60	40	105	10.5	965	

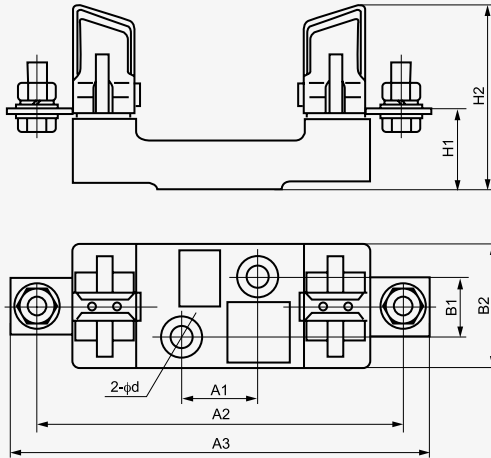


Figure 11.3



Low-Voltage Fuses  
Fuse Bases



Table 11 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm)	Weight (g)
					Fig.	
1106	NT4	NH4	690	1000	See Figure 11.4	3400

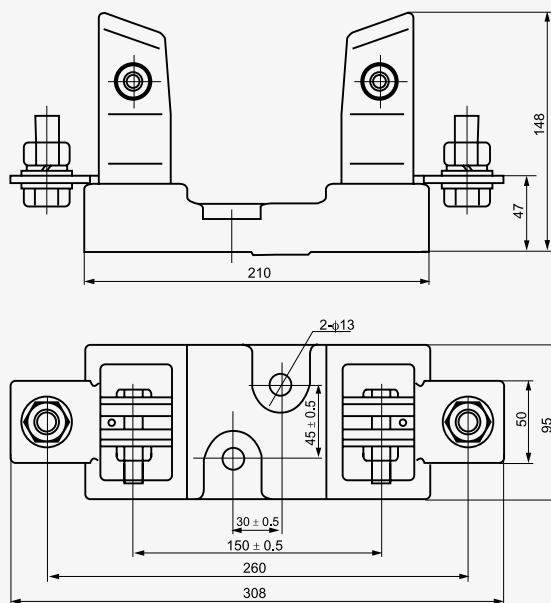


Figure 11.4



Table 11 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
1107	NH00	000 00	690	160	See Figure 11.5	170

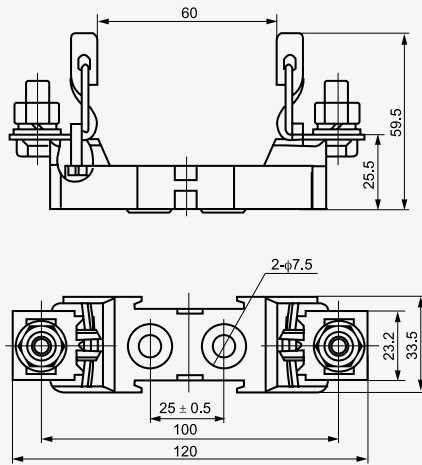


Figure 11.5



Table 11 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
1108	NH00-3J	000 00	690	160	See Figure 11.6	516

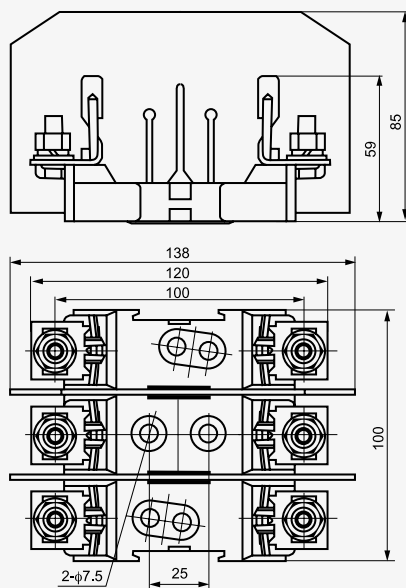


Figure 11.6

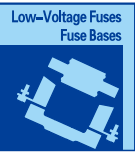




Table 11 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
1109	NH0	0	690	160	See Figure 11.7	294

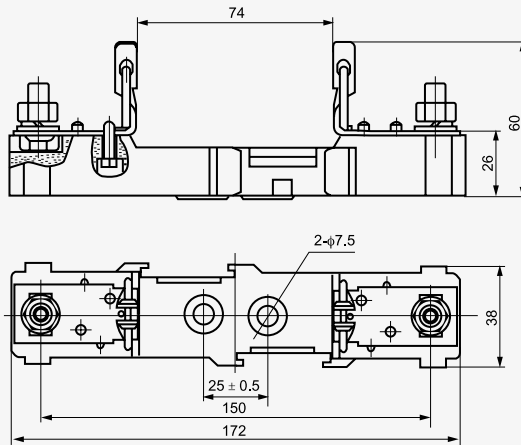


Figure 11.7



Low-Voltage Fuses  
Fuse Bases



Table 11 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
1110	NH1	1	690	250	See Figure 11.8	502

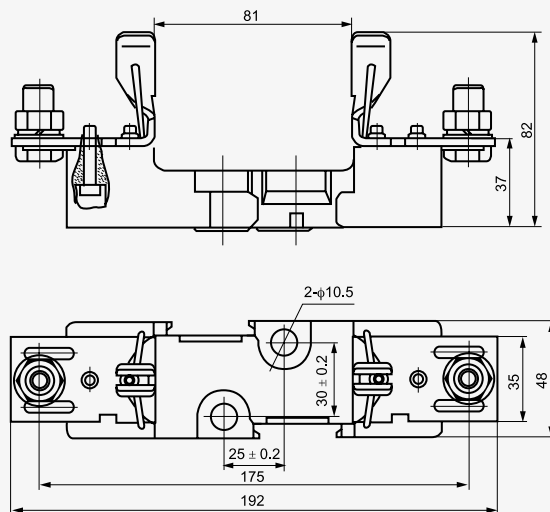


Figure 11.8



Table 11 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
1111	NH2	2	690	400	See Figure 11.9	526

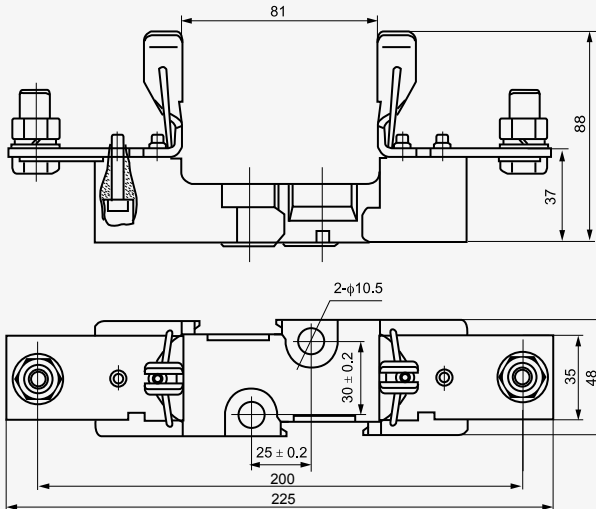


Figure 11.9



Table 11 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
1112	NH3	3	690	630	See Figure 11.10	762

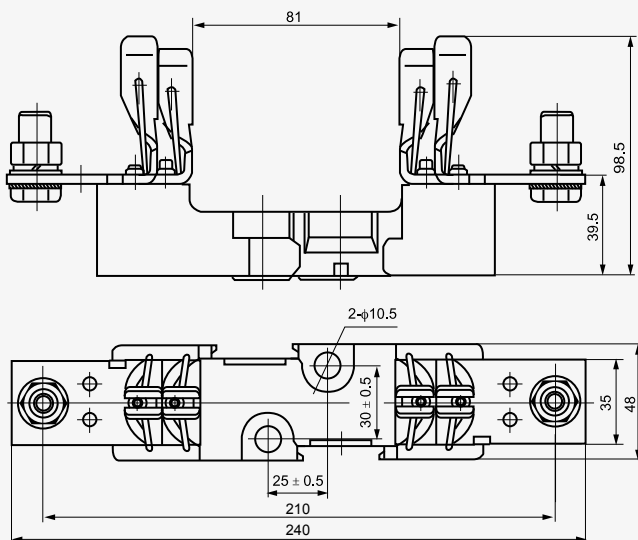


Figure 11.10



Table 11 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
1113	NH00S1	000 00	690	160	See Figure 11.11	240

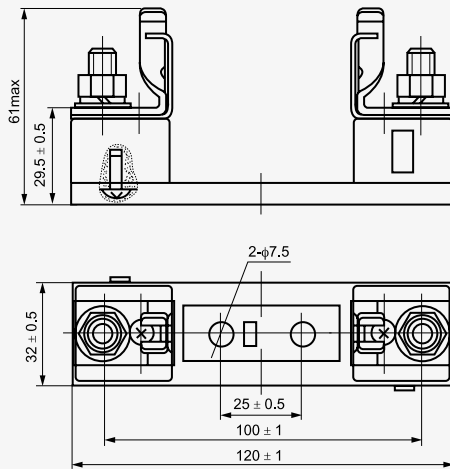


Figure 11.11 (Single connection bolt)



Low-Voltage Fuses  
Fuse Bases



Table 11 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
1114	NH00S2	000 00	690	160	See Figure 11.12	296

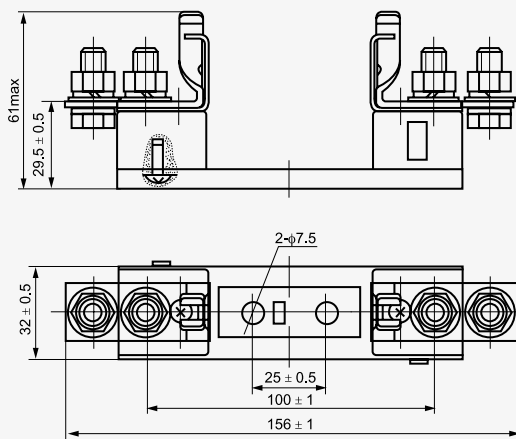


Figure 11.12 (Double connection bolt)



Table 11 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm)	Weight (g)
					Fig.	
1115	NT0S	0	690	160	See Figure 11.13	322

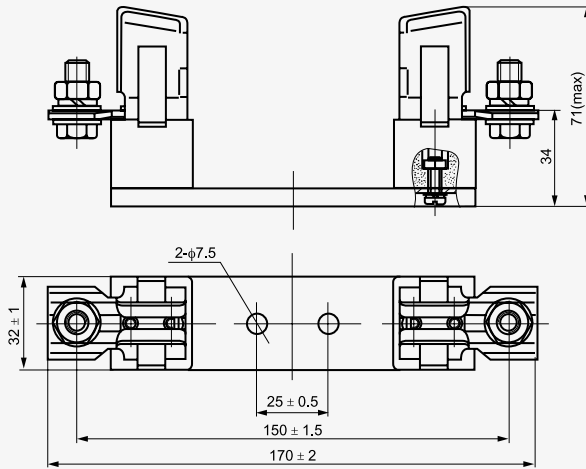


Figure 11.13

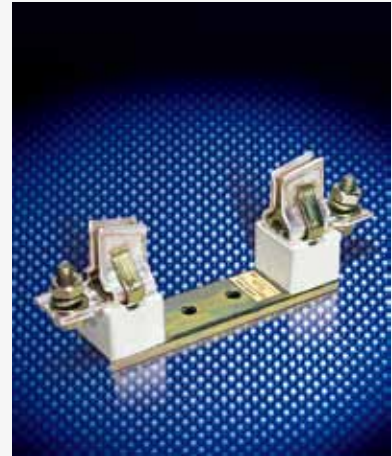


Table 11 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	A1	A2	B1	H1	H2	Weight (g)
						11.14	11.14	11.14	11.14	11.14	
1116	NT1S	1	690	250	11.14	175	200	50	38	82	604
1117	NT2S	2	690	400	11.14	200	230	64	54	104	1006
1118	NT3S	3	690	630	11.14	210	250	64	54	120	1200

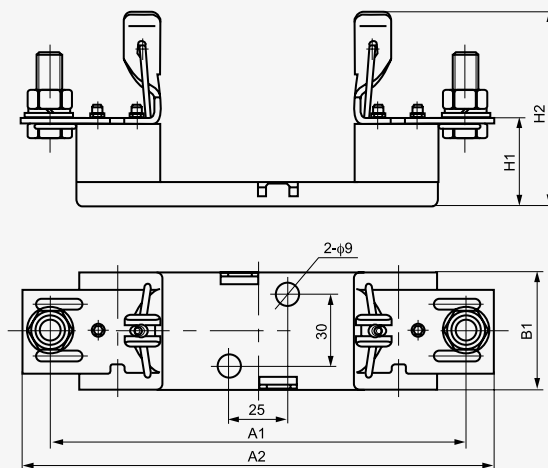


Figure 11.14

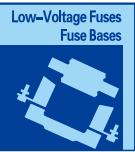
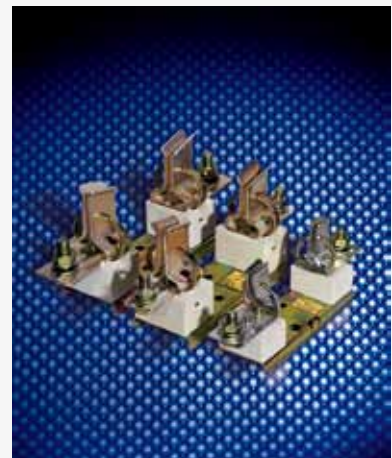


Table 11 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
1119	NT4S	4	690	1000	See Figure 11.15	3520

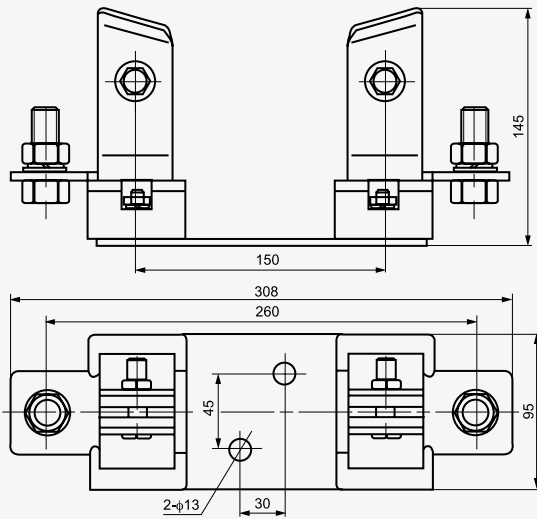


Figure 11.15



Low-Voltage Fuses  
Fuse Bases



Table 11 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
1120	NT2-3J	2	400	See Figure 11.16	3600	

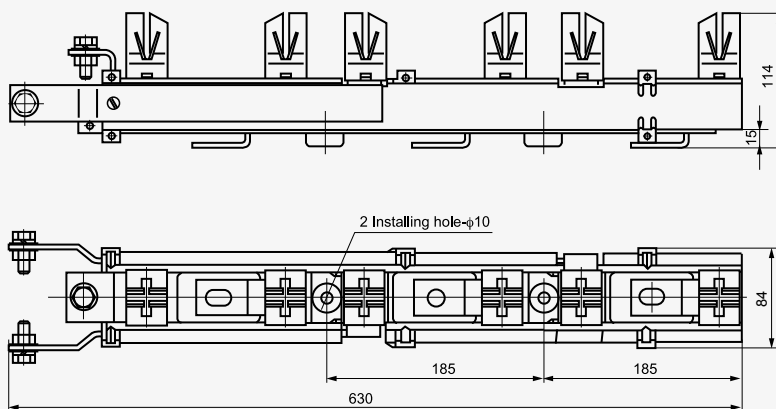


Figure 11.16



Table 11 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions	Weight (g)
					(mm) Fig.	
1121	RTO-50	RTO-50	380	50	See Figure 11.17	184

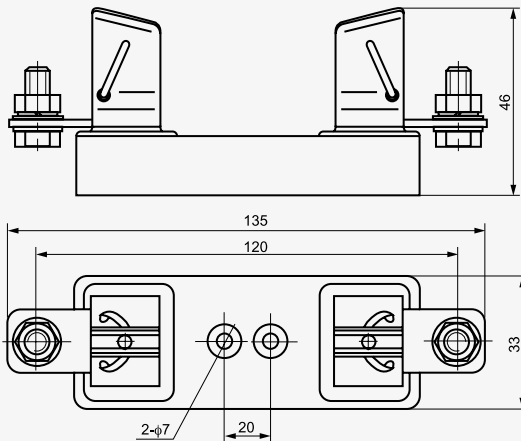


Figure 11.17



Table 11 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions	Weight (g)
					(mm) A1 A2 B1 H1 Fig.	
1122	RTO-100	RTO-100	380	100	11.18 180 160 55 73	570
1123	RTO-200	RTO-200	380	200	11.18 200 175 60 83	760
1124	RTO-400	RTO-400	380	400	11.18 220 190 70 95	1110

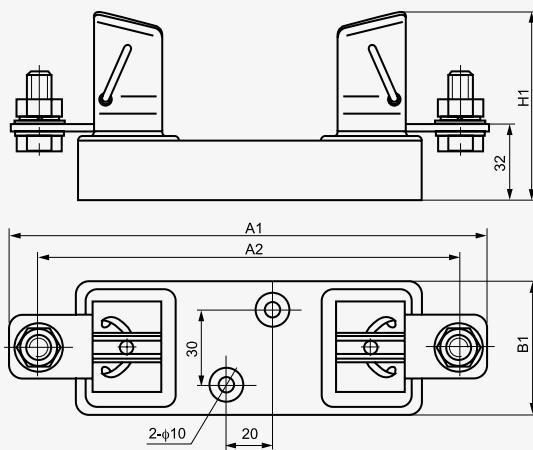


Figure 11.18

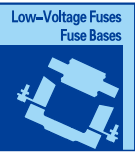


Table 11 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
1125	RTO-600	RTO-600	380	600	See Figure 11.19	1900

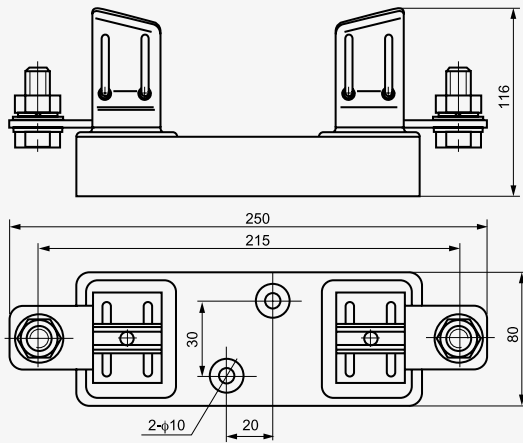


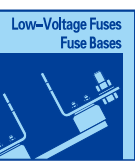
Figure 11.19



Low-Voltage Fuses  
Fuse Bases



## Special Fuse Bases/holders



### ▶ Applications

Supporters for bolting fuses in electric lines are capable of working under the heat caused by rated current and prospective short-circuit impacting current up to 100KA.

Rated insulation voltage up to 1000V; Working frequency 50Hz AC; Rated current up to 630A. Compliant with GB13539 and IEC269 .

### ▶ Design Features

There are two kinds of structures for this type of fuse bases: One is made up with fuse carrier, supporter/base (Figure 12.1). The bolting fuse link is installed to the carrier, then it is inserted to static contacts of the supporter/base. There is no carrier for the other structure, where the bolting fuse is directly installed to the static contacts of the supporter/base. The company can also produce other non-standard bases at the customers' requirements.

### ▶ Basic Data

The models, rated insulation voltage, conventional free air thermal current, and dimensions are shown in Figures 12.1~12.6 and Table 12.



Table 12

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm)										Weight (g)
					Fig.	A1	A2	A3	B1	B2	H1	H2	$\phi$ d		
1201	RG0K	RG0K	660	32	12.1	34	0	68	0	26	34	49	5	92	
1202	RG2	RG2 RGS2	660	63	12.1	51	6.5	105	13	35	44	66	5.5	264	
1203	RG7	RG4 RGS7	660	100	12.1	61	7	129	19	50	62	94	7.5	679	

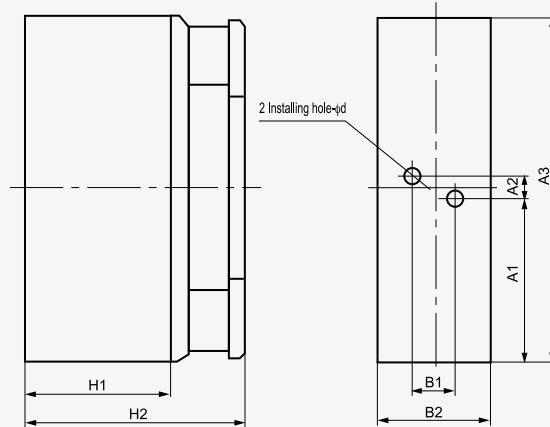


Figure 12.1



Low-Voltage Fuses Fuse Bases



Table 12 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm)		Weight (g)	
					Fig.	A1		B1
1204	FB77	RS77 RS77B RS77C RS84	660	630	12.2	221	40	985
1205	FB77A	RS77A RS82 RS79A RS83	660	630	12.2	214	30	905

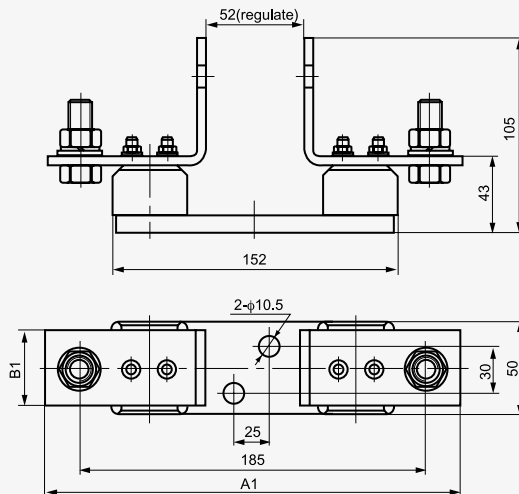


Figure 12.2



Table 12 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
1206	FB711C	RGS30A RGS-30B RS711B RS711C NGT00	800	200	See Figure 12.3	182

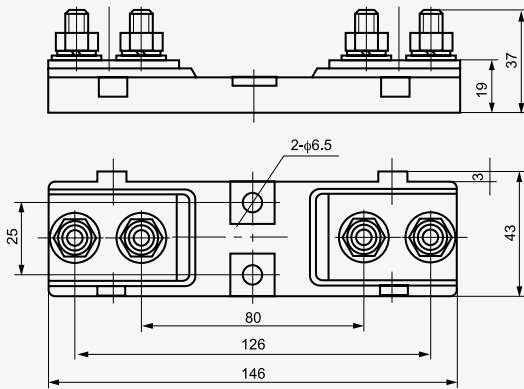


Figure 12.3



Table 12 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
1207	FB73B	NGT1-3 RS73B RS75A RS75B	1000	630	See Figure 12.4	826

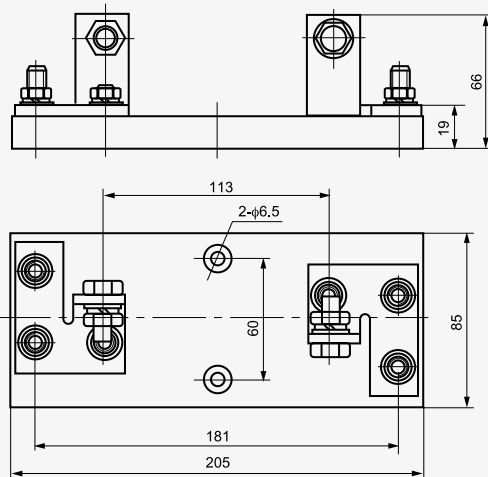


Figure 12.4



Table 12 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
1208	FB20C	RO20C	600	200	See Figure 12.5	632

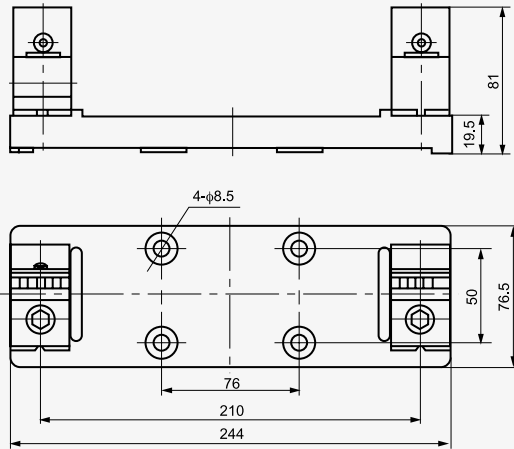


Figure 12.5



Low-Voltage Fuses  
Fuse Bases



Table 12 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
1209	NT00S-3J	-	690	160	See Figure 12.6	845

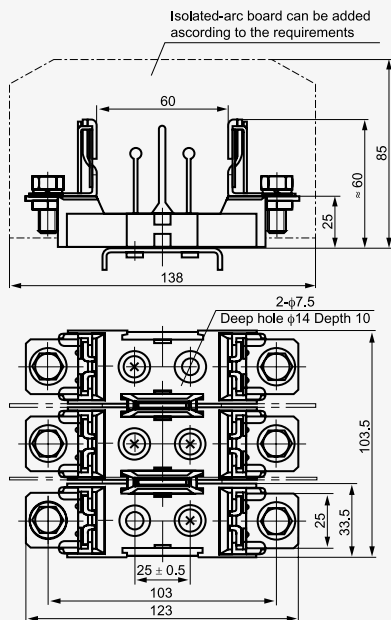


Figure 12.6



Table 12 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
1210	FB32A	RO32A	1140	250	See Figure 12.7	496

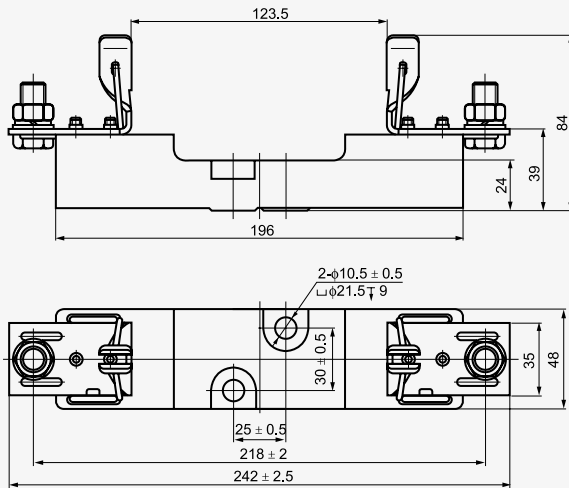


Figure 12.7



Table 12 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
1211	FB34A	RO34A	1140	630	See Figure 12.8	856

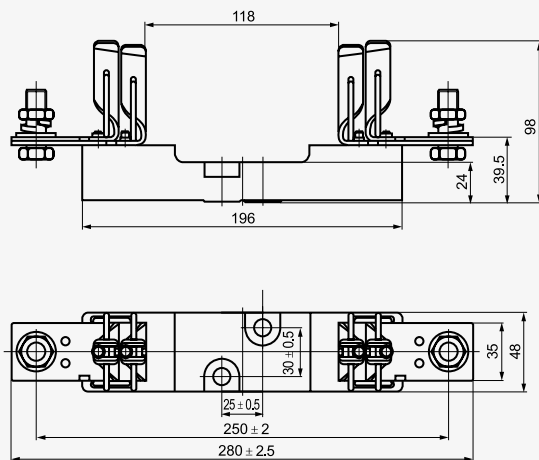


Figure 12.8

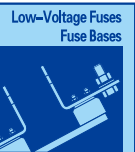


Table 12 (cont.)

Cat. No.	Models	Fuse link Size	Rated insulation voltage(V)	Conventional free air thermal current(A)	Dimensions (mm) Fig.	Weight (g)
1211	NH00B-3J	000,00	690	160	See Figure 12.9	470

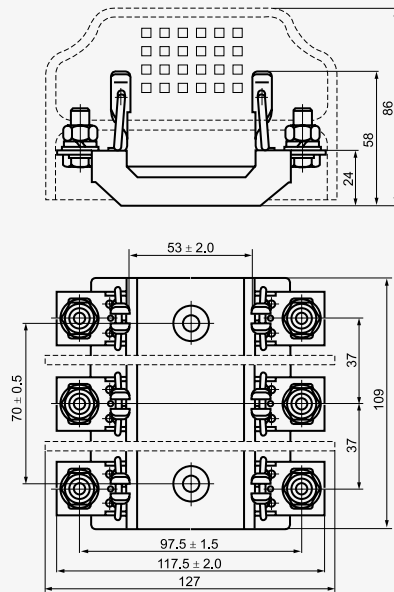


Figure 12.9



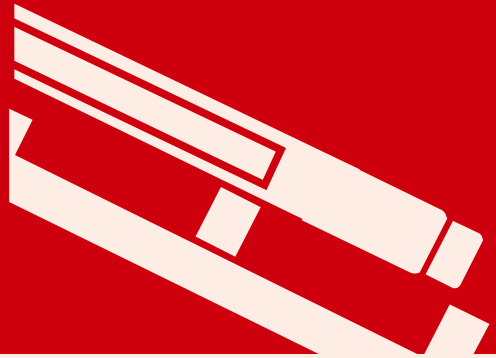
Low-Voltage Fuses  
Fuse Bases



## Low Voltage Fuse

Professional High Voltage And Low Voltage Fuse Manufacturer

# Fuse Alarms



## Fuse Alarms



### ► Applications

This series of fuse alarms are used in electric lines of 50Hz AC and rated voltage up to 1000V as melting signal/siren for the fuse links.

### ► Design Features

It is made up of the following parts: 1. Melt striker; 2. Micro switch (with one normal close contact and one normal open contact); 3. A base for the striker and the switch.

Fuse alarms are usually paralleled under the lid fastening screws at the ends of the fuse. When the fuse breaks, the striking pin springs out of the striker, the microswitch pushed and signal sent out or circuit cut down. The distance between the two fastening ends can be adjusted in a certain range for paralleling to fuses with different heights.

### ► Basic Data

Models, rated voltage and dimensions are shown in Figure 13.1~13.2 and Table 13 .

Table 13

Cat. No.	Models	Components *	Rated insulation voltage(V)	Dimensions (mm)					Weight (g)	
				Fig.	L1	L2	D	d		A
1301**	RX1-1000 RX2-1000	Striker	1000	13.1	85	92	11	7.5	7.5	17
1302	RZS1-1000	Striker	1000	13.1	58	64	11	5	12	15.5
1303	RX1A-1000	Striker	1000	13.1	55	60	8.5	3.5	7.5	12.5

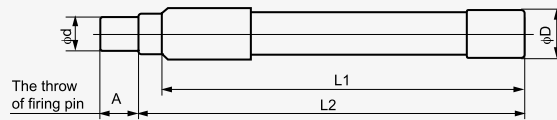


Figure 13.1



Table 13 (cont.)

Cat. No.	Models	Components *	Rated insulation voltage(V)	Dimensions (mm)					Weight (g)	
				Fig.	L1	L2	D	d		A
1304**	RX1-1000 RX2-1000	Striker base	1000	13.2	54.5	114	27	22.5	41~88	42
1305	RZS1-1000	Striker base	1000	13.2	36.5	90	28	26	30~72	33
1306	RX1A-1000	Striker base		Prepared and decided by the customer					27	

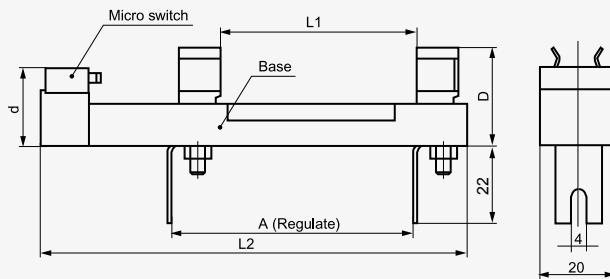


Figure 13.2



Note: \* The model for the striker and striker base is the same, but the name is different.  
 \*\* RX1-1000 and RX2-1000 same in dimensions and technical data.



## Low Voltage Fuse

Professional High Voltage And Low Voltage Fuse Manufacturer

# Fuse Carriers



## Fuse Carrier (Handle)



### ▶ Applications

Uploading and downloading of NH000-NH4 insert type fuses of all sizes to and from the bases. Reliable insulation. Safe and convenient operation. Small manual power requirements.

Rated insulate voltage up to 1000V. Working frequency 50Hz AC.

### ▶ Design Features

The fuse carrier is made up of catching holes, push button, guard board and handle. There are three positions for the catching holes, for NH000-NH00, NH0-NH3, and NH4 fuses.

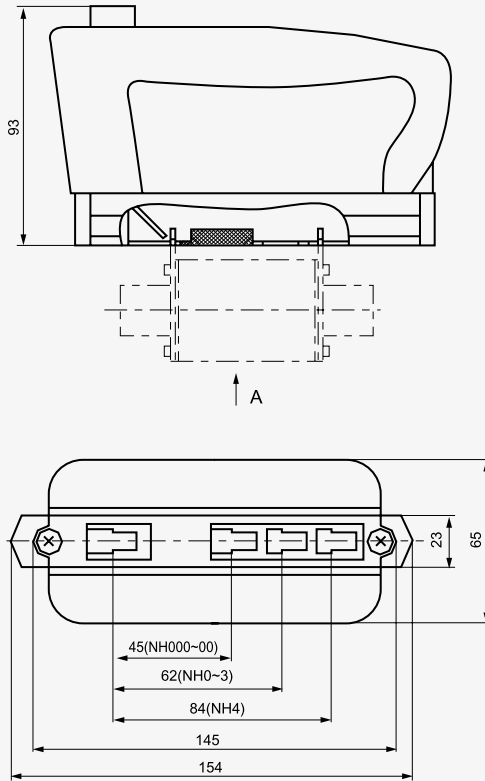
### ▶ Basic Data

The models, rated insulation voltage, and dimensions are shown in Figures 14.1 and Table 14 .



Table 14

Cat. No.	Models	Catching holes fuse	Rated insulation voltage(V)	Dimensions (mm) Fig.	Weight (g)
1401	NT	000~4	1000	See Figure 14.1	174



View of A direction

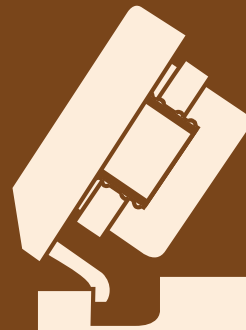
Figure 14.1



**Combinating Electric of Fuse**

Professional High Voltage And Low Voltage Fuse Manufacturer

# Fuse Disconnecting Switches



# Fuse Disconnecting Switches



## 15.1 MRO.H0(DR0)-160 Fuse Disconnecting Switches

### ► Applications

MRO.H0(DR0)-160 fuse disconnecting switch are mainly used in circuits with high short-circuit current and motor circuit as power switch, disconnecting switch or emergency switch. Rated insulate voltage up to 50Hz AC, 690V; Rated working voltage up to 660V; Rated working current up to 160A.

Rated limiting short-circuit is 100kA at the voltage of 500V and 50kA at 690V.

The fuse disconnecting switch complies with GB14048.3 and IEC/EN60947-3.

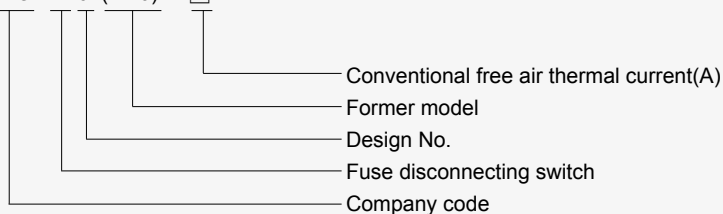
### ► Design Features

The switch with three-phase and half sealed structures is made up of two parts: the seat and the cover (melt-loading device). The front operation can observe the rated data of the fuse links and indicator status. The switch can be matched with NH000 and NH00 fuse. The switch has features of small volume, reliable operation, convenient fuse install and removal and small-required manual operation power.

### ► Basic Data

Model Meaning:

MRO · H 0 (DR0) - □



See the Drawing 15.1 and Table 15.1~15.3: the product types, rated insulation voltage, rated working voltage, conventional free air thermal current, dimensions, install size, working condition and the capacity for cutting out and in.

Table 15.1 Basic data of switch

Cat. No.	Models	Rated insulation voltage(V)	Rated working voltage(V)	Conventional free air thermal current (V)	Fuse link models	Dimensions /sizes (mm)	Weight (g)
1501	MRO.HQ(DR0)-160	690	380, 500, 690	160	00, 000	See Fig. 15.1	1350

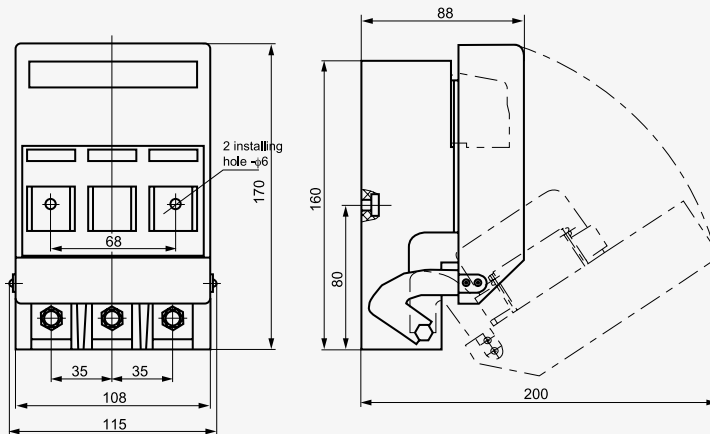


Figure 15.1 MRO.HQ(DR0)-160



Table 15.2 The working current of the switch at different voltages and different applications

Models	Rated working voltage(V)	Rated working current /applications		Fuse link models	The rated breaking capacity of the fuse links (kA)
MRO.HQ (DR0)-160	380	160A/AC-22	160A/AC-23	000,00	100
	500	160A/AC-22	80A/AC-23		100
	690	160A/AC-21	36A/AC-23		50

Table 15.3 Rated open and breaking capacity of the switch

Rated working voltage(V)	Rated working current(A)	Applications	Rated open and breaking capacity					
			Connecting			Breaking		
			I/le	U/Ur	COS $\phi$	Ic/le	Ur/Ur	COS $\phi$
380	160	AC-21	1.5	1.05	0.95	1.5	1.05	0.95
380	160	AC-22	3	1.05	0.65	3	1.05	0.65
380	100	AC-23	10	1.05	0.45	8	1.05	0.45
500	160	AC-21	1.5	1.05	0.95	1.5	1.05	0.95
500	100	AC-22	3	1.05	0.65	3	1.05	0.65
500	50	AC-23	10	1.05	0.45	8	1.05	0.45
690	100	AC-21	1.5	1.05	0.95	1.5	1.05	0.95
690	80	AC-22	3	1.05	0.65	3	1.05	0.65
690	36	AC-23	10	1.05	0.45	8	1.05	0.45

Note: I — connecting current  
 le — rated working current  
 Ic — breaking current  
 U — post connecting voltage  
 Ur — recovery current  
 Ue — rated working voltage

## 15.2 MRO.H1(DR1) Fuse Disconnecting Switches

### ► Applications

MRO.H1(DR1) series of fuse disconnecting switch, are mainly used in circus with high short-circuit current and motor circuit as power switch, disconnecting switch or emergency switch and for AC protection. MRO.H1(DR1) is unfit for directly opening and shutting single electric motor.

Rated insulation voltage up to AC 50Hz 800V; Rated working voltage up to 690V; Rated working current up to 630A.

Rated limiting short-circuit is 100kA at the voltage of 500V and 50kA at 690V.

The switch complies with GB14048.3 and IEC/EN60947-3.

### ► Design Features

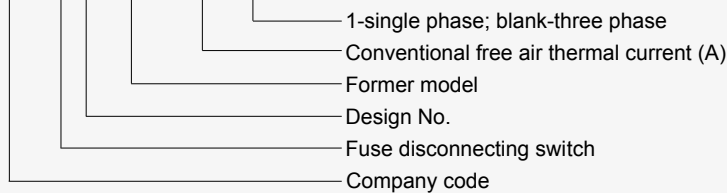
The switch with half sealed structures is made up of two parts: the seat and the cover (melt-loading device). The front cooperation can observe the rated data of the fuse links and indicator status. MRO.H1(DR1)-160 is single phase, can be matched with 000 and 00 fuses. MRO.H1(DR1)-160 with three-phase abreast structure, can be matched with 000 and 00 fuse. MRO.H1(DR1)-250/1, MRO.H1(DR1)-400/1, MRO.H1(DR1)-630/1 are single phase, can be matched with 1, 2 and 3 fuse respectively. MRO.H1(DR1)-250, MRO.H1(DR1)-400, MRO.H1(DR1)-630 with three-phase abreast structure, can be matched with 1, 2 and 3 fuse respectively. Above switches with three-phase abreast structure can be assembled with the single phase, which makes four-phase abreast structure.

The switch has the features of small volume, reliable operation, convenient fuse install and removal and small-require manual operation power.

### ► Basic Data

Model meaning:

MRO · H 1 (DR1) - □ / □



See the Drawing 15.2~15.7 and Table 15.4~15.6: the product types, rated insulation voltage, rated working voltage, conventional free air thermal current, dimensions, install size, working condition and the capacity for cutting out and in.

Table 15.4 Basic data of switch

Cat. No.	Models	Rated insulation voltage(V)	Rated working voltage(V)	Conventional free air thermal current (V)	Fuse link models	Dimensions /sizes (mm)	Weight (g)
1502	MRO.H1(DR1)-160/1	800	400, 500, 690	160	00, 000	See Fig. 15.2	290
1503	MRO.H1(DR1)-160	800	400, 500, 690	160	00, 000	See Fig. 15.3	700
1504	MRO.H1(DR1)-160/4	800	400, 500, 690	160	00, 000	See Fig. 15.3	990
1505	MRO.H1(DR1)-250/1	800	400, 500, 690	250	1	See Fig. 15.4	735
1506	MRO.H1(DR1)-250	800	400, 500, 690	250	1	See Fig. 15.5	1510
1507	MRO.H1(DR1)-250/4	800	400, 500, 690	250	1	See Fig. 15.5	2245
1508	MRO.H1(DR1)-400/1	800	400, 500, 690	400	2	See Fig. 15.6	1302
1509	MRO.H1(DR1)-400	800	400, 500, 690	400	2	See Fig. 15.7	3272
1510	MRO.H1(DR1)-400/4	800	400, 500, 690	400	2	See Fig. 15.7	4574
1511	MRO.H1(DR1)-630/1	800	400, 500, 690	630	3	See Fig. 15.6	1492
1512	MRO.H1(DR1)-630	800	400, 500, 690	630	3	See Fig. 15.7	3855
1513	MRO.H1(DR1)-630/4	800	400, 500, 690	630	3	See Fig. 15.7	5347



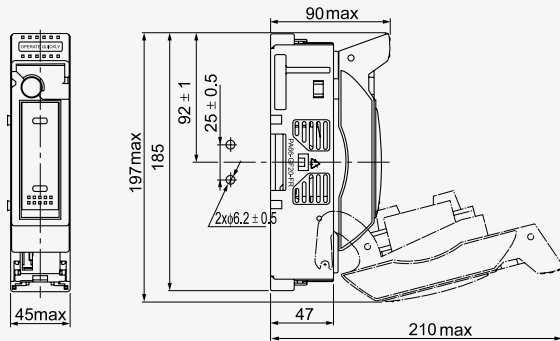


Figure 15.2 MRO.H1(DR1)-160/1

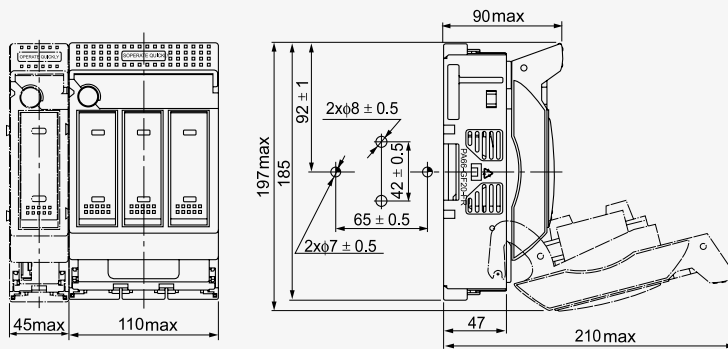


Figure 15.3 MRO.H1(DR1)-160 MRO.H1(DR1)-160/4

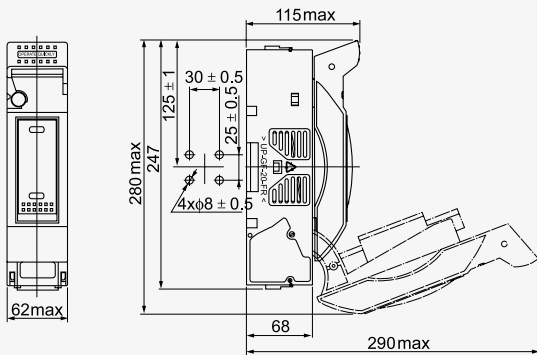
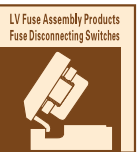


Figure 15.4 MRO.H1(DR1)-250/1

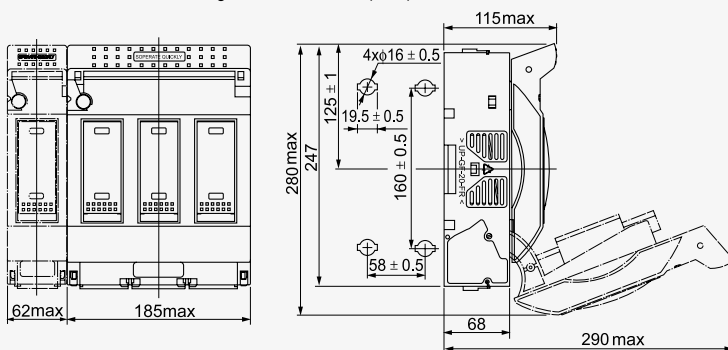


Figure 15.5 MRO.H1(DR1)-250 MRO.H1(DR1)-250/4



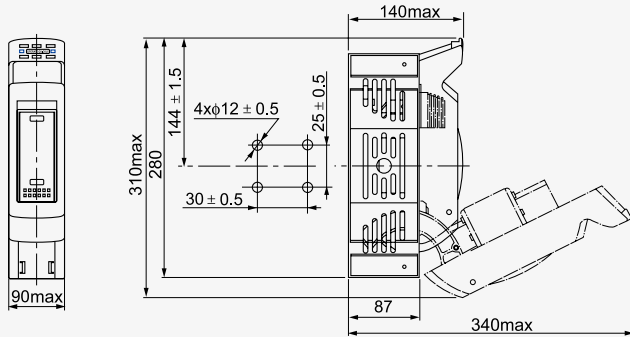


Figure 15.6 MRO.H1(DR1)-400/1 MRO.H1(DR1)-630/1

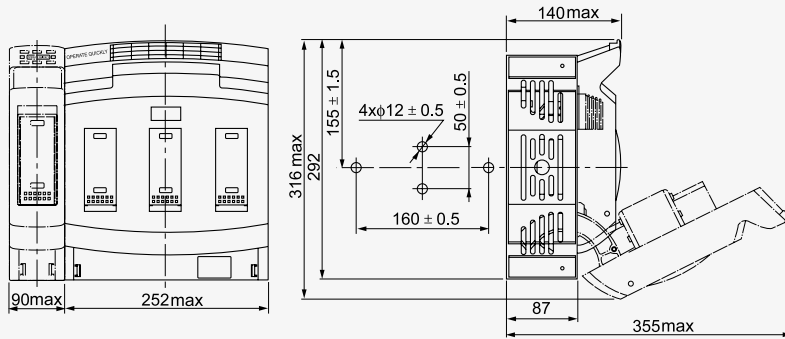


Figure 15.7 MRO.H1(DR1)-400 MRO.H1(DR1)-400/4  
 MRO.H1(DR1)-630 MRO.H1(DR1)-630/4



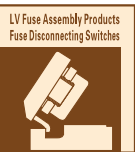
Table 15.5 The working current of the switch at different voltages and different applications

Models	Rated working voltage(V)	Rated working current (A)	Application	Fuse link models	The rated breaking capacity of the fuse links (kA)
MRO.H1(DR1)-160/1	690	100	AC21B	00, 000	50
	500	125	AC22B	00	100
	230/400	160	AC23B	00	100
MRO.H1(DR1)-160, MRO.H1(DR1)-160/4	690	100	AC21B	00, 000	50
	500	125	AC22B	00	100
	230/400	160	AC23B	00	100
MRO.H1(DR1)-250/1	690	160	AC21B	1	50
	500	200	AC22B	1	100
	230/400	250	AC23B	1	100
MRO.H1(DR1)-250, MRO.H1(DR1)-250/4	690	160	AC21B	1	50
	500	200	AC22B	1	100
	230/400	250	AC23B	1	100
MRO.H1(DR1)-400/1	690	250	AC21B	2	50
	500	315	AC22B	2	100
	230/400	400	AC23B	2	100
MRO.H1(DR1)-400, MRO.H1(DR1)-400/4	690	250	AC21B	2	50
	500	315	AC22B	2	100
	230/400	400	AC23B	2	100
MRO.H1(DR1)-630/1	690	400	AC21B	3	50
	500	500	AC22B	3	100
	230/400	630	AC23B	3	100
MRO.H1(DR1)-630, MRO.H1(DR1)-630/4	690	400	AC21B	3	50
	500	500	AC22B	3	100
	230/400	630	AC23B	3	100

Table 15.6 Rated open and breaking capacity of the switch

Rated working voltage(V)	Rated working current(A)	Applications	Rated open and breaking capacity					
			Connecting			Breaking		
			I/le	U/Ur	COS $\phi$	Ic/Ie	Ur/Ur	COS $\phi$
690	All current	AC21B	1.5	1.05	0.95	1.5	1.05	0.95
500	All current	AC22B	3	1.05	0.65	3	1.05	0.65
400	$\leq 100$	AC23B	10	1.05	0.45	8	1.05	0.45
	$> 100$	AC23B	10	1.05	0.35	8	1.05	0.30

Note: I — connecting current      U — post connecting voltage  
 le — rated working current      Ur — rated working voltage  
 Ir — breaking current              Ur — recovery current



## 15.3 MRO.H2(DR2) Fuse Disconnecting Switches

### ► Applications

MRO.H2(DR2) series fuse disconnecting switch are mainly used in circuit with high short-circuit current and motor circuit as power switch, disconnecting switch or emergency switch and for AC protection.

Rated insulation voltage up to AC 50Hz 1000V; Rated working voltage up to 690V; Rated working current up to 630A.

Rated limiting short-circuit is 100kA at the voltage of 500V and 50kA at 690V.

Rated short-time withstand current (valid) : 20Ith/1S. The fuse disconnecting switch complies with GB14048.3 and IEC/EN60947-3 .

### ► Design Features

The switch is made up of two parts: the seat and the cover (melt-loading device), three-phase and sealed. The front operation can observe the rated data of the fuse links and indicator status. The switch is molded designed.

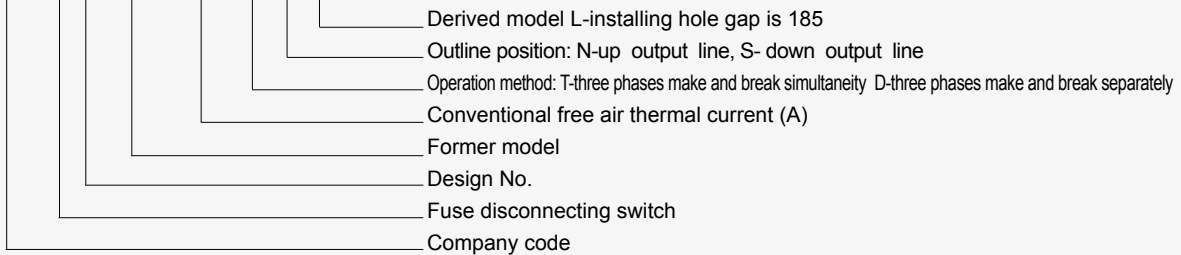
Installation: MRO-H2(DR2)-160 (50mm in width), can be directly installed on 100mm busbar through the output line. It has up output line and down output line. Three phases make and break simultaneously. This switch is suitable for 000, 00 fuse. MRO-H2(DR2)-400 (102mm in width), can be directly installed on 185mm busbar through the output line, it can also be installed on the supporter by two  $\phi 12 \times 18$  installation hole. Both of the installation methods have up output line and down output line, and three phases make and break simultaneously. This switch is suitable for NH1, NH2 fuses. MRO-H2(DR2)-630 (102mm in width), can be directly installed on 185mm busbar through the input line, it can also be installed on the supporter by two  $\phi 12 \times 18$  installation hole. Both of the installation methods have up output line and down output line, and three phases make and break separately. This switch is suitable for NH3 fuses. MRO-H2(DR2)-160/L (52mm in width), can be directly installed on 185mm busbar through the input line. Both of the installation methods have up output line and down output line, and three phases make and break separately. This switch is suitable for 000 and 00 fuses.

The switch has the feature of small volume, reliable performance, convenient fuse install and removal, small-required manual operation power.

### ► Basic Data

Model meaning:

MRO · H 2 (DR2) - □ / □ □ □



See the Drawing 15.8~15.17 and Table 15.7~15.9: the product types, rated insulation voltage, rated working voltage, conventional free air thermal current, dimensions, install size, working condition and the capacity for cutting out and in.

Table 15.7 Basic data of switch

Cat. No.	Models	Structure	Rated insulation voltage(V)	Rated working voltage(V)	Conventional free air thermal current (A)	Fuse link models	Dimensions / sizes (mm)	Weight (g)
1514	MRO.H2(DR2)-160/TN	Installation on busbar, three phases make and break simultaneity, up outlet line	1000	400, 500, 690	160	00, 000	See fig. 15.8	1166
1515	MRO.H2(DR2)-400/TN	Installation on busbar or support, three phases make and break simultaneity, up outlet line	1000	400, 500, 690	400	1, 2	See fig. 15.10	5678
1516	MRO.H2(DR2)-630/TN	Installation on busbar or support, three phases make and break simultaneity, up outlet line	1000	400, 500, 690	630	3	See fig. 15.10	6168
1517	MRO.H2(DR2)-160/TNL	Installation on busbar or support, three phases make and break simultaneity, down outlet line	1000	400, 500, 690	160	00, 000	See fig. 15.16	1674
1518	MRO.H2(DR2)-160/TS	Installation on busbar or support, three phases make and break simultaneity, down outlet line	1000	400, 500, 690	160	00, 000	See fig. 15.9	1166
1519	MRO.H2(DR2)-400/TS	Installation on busbar or support, three phases make and break simultaneity, down outlet line	1000	400, 500, 690	400	1, 2	See fig. 15.11	5678
1520	MRO.H2(DR2)-630/TS	Installation on busbar or support, three phases make and break simultaneity, down outlet line	1000	400, 500, 690	630	3	See fig. 15.11	6168
1521	MRO.H2(DR2)-160/TSL	Installation on busbar or support, three phases make and break simultaneity, up outlet line	1000	400, 500, 690	160	00, 000	See fig. 15.17	1674
1522	MRO.H2(DR2)-400/DN	Installation on busbar or support, three phases make and break simultaneity, up outlet line	1000	400, 500, 690	400	1, 2	See fig. 15.12	5540
1523	MRO.H2(DR2)-630/DN	Installation on busbar or support, three phases make and break simultaneity, up outlet line	1000	400, 500, 690	630	3	See fig. 15.12	6030
1524	MRO.H2(DR2)-160/DNL	Installation on busbar or support, three phases make and break simultaneity, down outlet line	1000	400, 500, 690	160	00, 000	See fig. 15.14	1543
1525	MRO.H2(DR2)-400/DS	Installation on busbar or support, three phases make and break simultaneity, down outlet line	1000	400, 500, 690	400	1, 2	See fig. 15.13	5540
1526	MRO.H2(DR2)-630/DS	Installation on busbar or support, three phases make and break simultaneity, down outlet line	1000	400, 500, 690	630	3	See fig. 15.13	6030
1527	MRO.H2(DR2)-160/DSL	Installation on busbar or support, three phases make and break simultaneity, down outlet line	1000	400, 500, 690	160	00, 000	See fig. 15.15	1543

Note: MRO.H2(DR2)-250 and MRO.H2(DR2)-400 can be used universally.



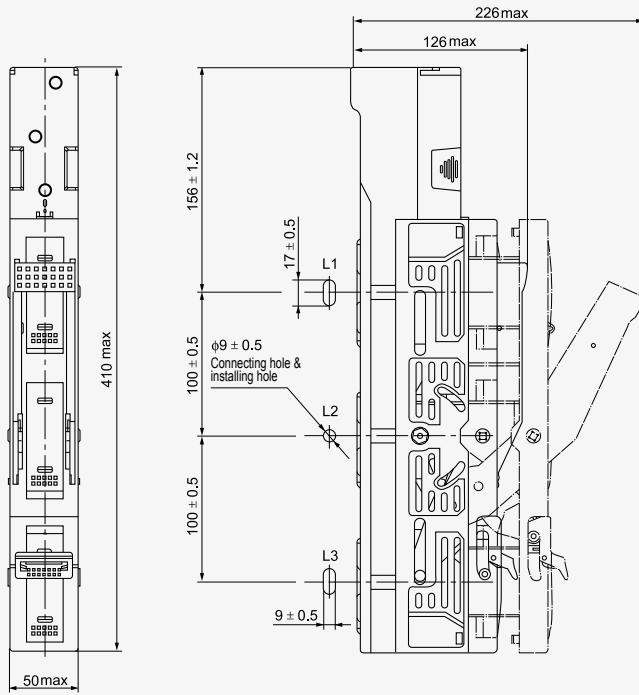


Figure15.8 MRO.H2(DR2)-160/TN

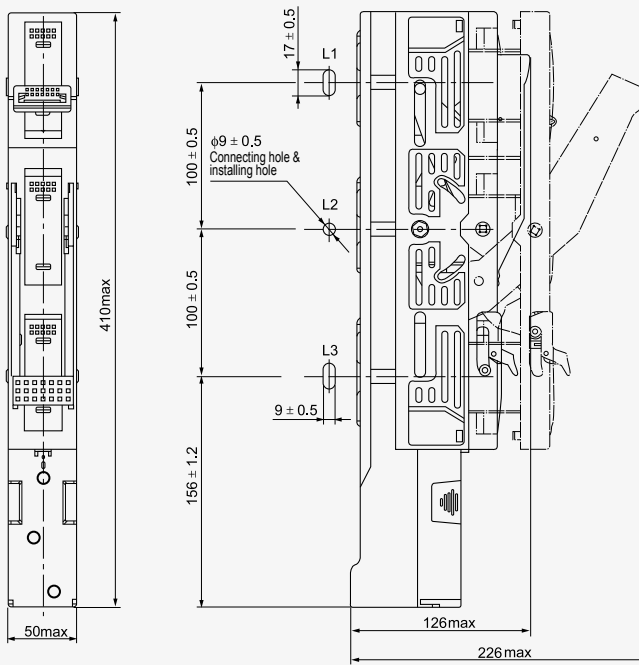
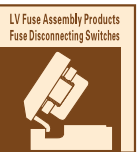


Figure15.9 MRO.H2(DR2)-160/TS



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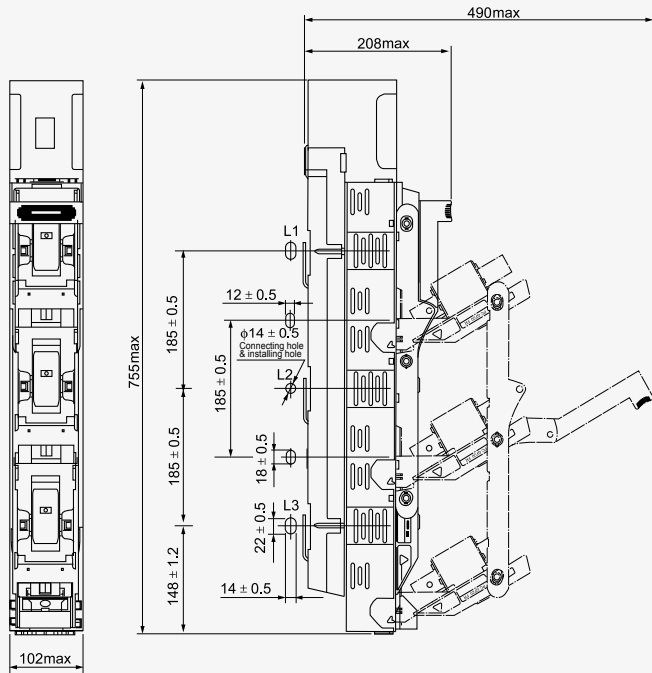


Figure15.10 MRO.H2(DR2)-400/TN MRO.H2(DR2)-630/TN

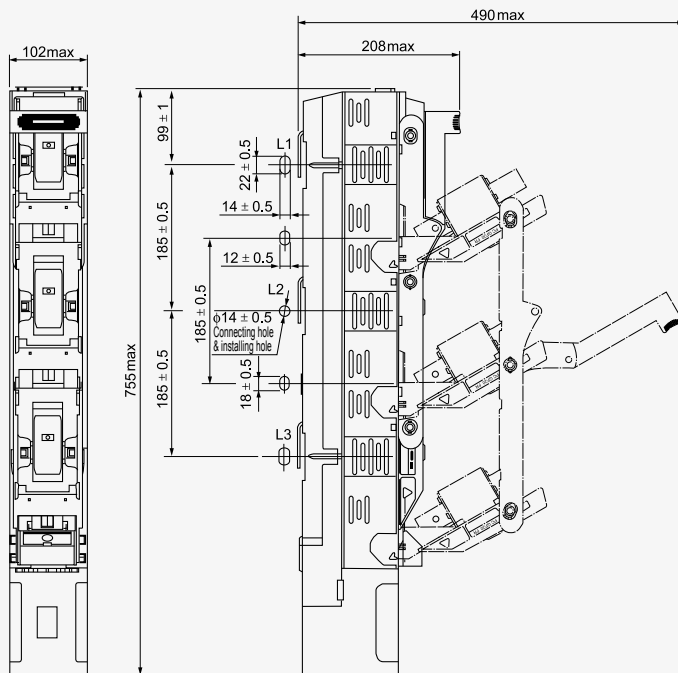


Figure15.11 MRO.H2(DR2)-400/TS MRO.H2(DR2)-630/TS



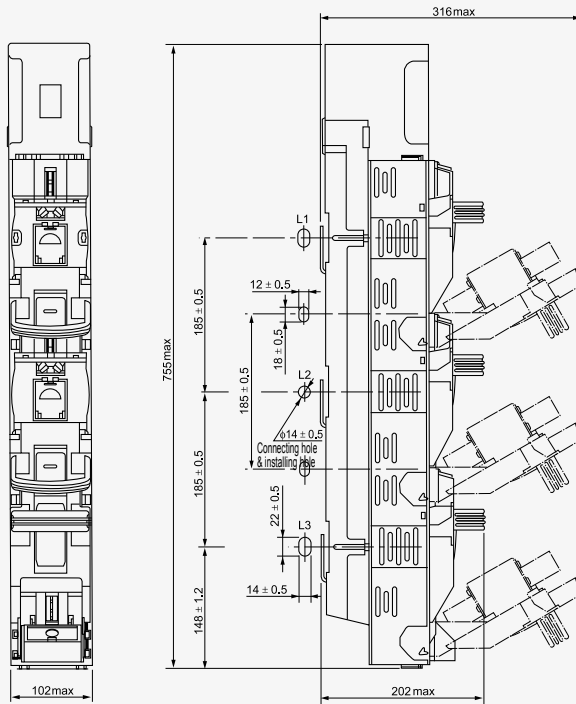


Figure15.12 MRO.H2(DR2)-400/DN MRO.H2(DR2)-630/DN

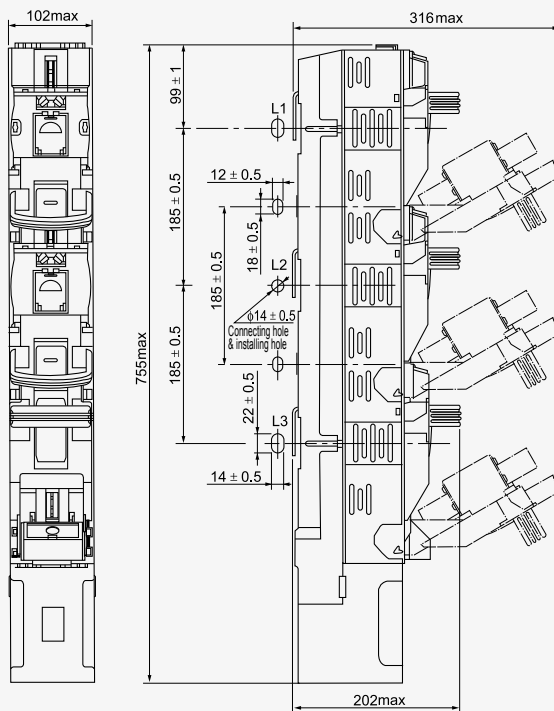
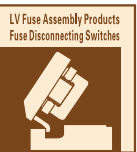


Figure15.13 MRO.H2(DR2)-400/DS MRO.H2(DR2)-630/DS



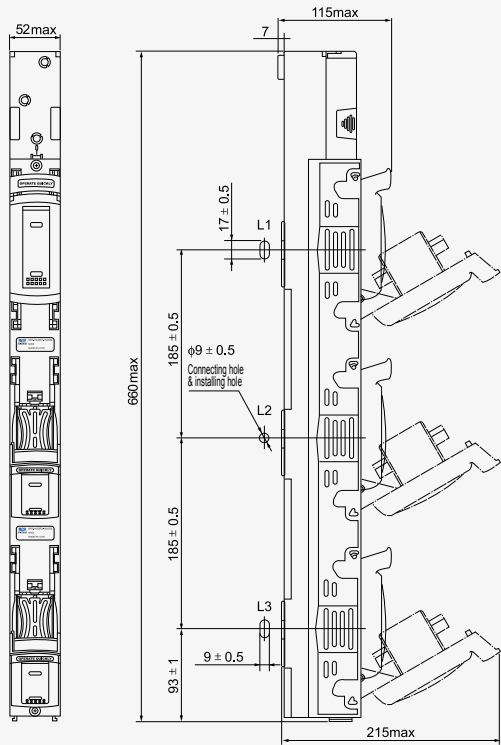


Figure 15.14 MRO.H2(DR2)-160/DNL

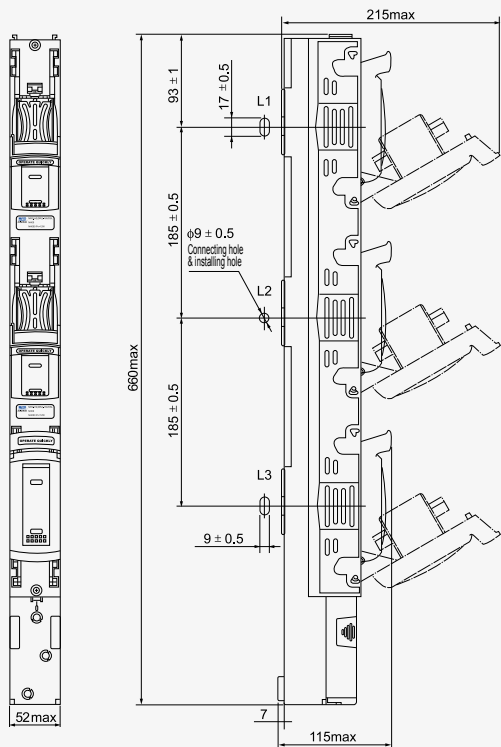


Figure 15.15 MRO.H2(DR2)-160/DSL



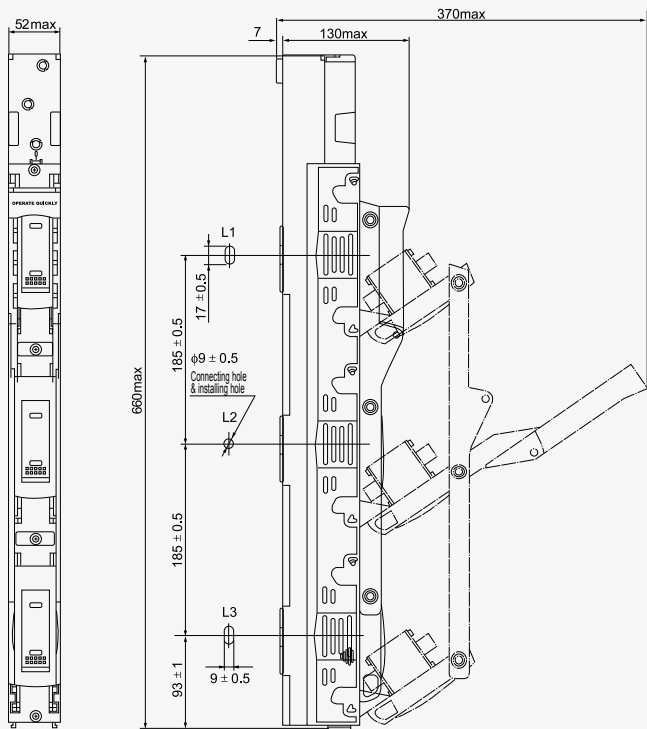


Figure 15.16 MRO.H2(DR2)-160/TNL

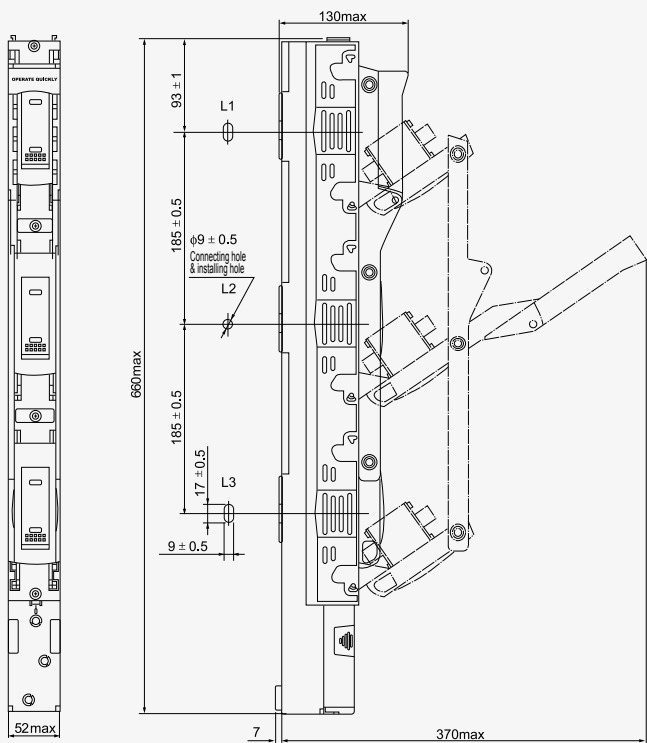
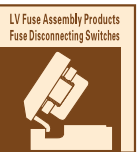


Figure 15.17 MRO.H2(DR2)-160/TSL



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Table 15.8 The working current of the switch at different voltages and different applications

Models	Rated working voltage(V)	Rated working current (A)	Application	Fuse link models	The rated breaking capacity of the fuse links (kA)
MRO.H2(DR2)-160	690	80	AC21B	000	50
	500	100	AC22B		100
	400	100	AC23B		100
	690	100	AC21B	00	50
	500	125	AC22B		100
MRO.H2(DR2)-400	400	160	AC23B		100
	690	160	AC21B	1, 2	50
	690	200	AC21B		50
MRO.H2(DR2)-630	690	250	AC21B		50
	500	315	AC22B		100
	400	400	AC23B		100
	690	400	AC21B	3	50
MRO.H2(DR2)-160/L	500	500	AC22B		100
	400	630	AC23B		100
	690	80	AC21B	000	50
	500	100	AC22B		100
	400	100	AC23B		100
	690	100	AC21B	00	50
	500	125	AC22B		100
	400	160	AC23B		100

Table 15.9 Rated open and breaking capacity of the switch

Rated working voltage(V)	Rated working current(A)	Applications	Rated open and breaking capacity					
			Connecting			Breaking		
			I/le	U/Ue	COS $\phi$	Ic/le	Ur/Ue	COS $\phi$
690	All current	AC21B	1.5	1.05	0.95	1.5	1.05	0.95
500	All current	AC22B	3	1.05	0.65	3	1.05	0.65
400	$\leq 100$	AC23B	10	1.05	0.45	8	1.05	0.45
	$> 100$	AC23B	10	1.05	0.35	8	1.05	0.30

Note: I — connecting current      U — post connecting voltage  
 le — rated working current      Ue — rated working voltage  
 Ic — breaking current              Ur — recovery current



## Automobile Fuse

Professional High Voltage And Low Voltage Fuse Manufacturer



## Automobile Fuse



### ► Applications

Protection against overloads and circuit short in electric lines. Rated voltage up to 48V DC or 50Hz 125V AC; Rated current up to 800A.

### ► Design Features

This series of vehicle fuses are made up with two parts: fuse links and fuse bases. According to different applications, the fuse links can be divided into normal type (CNL, RQ1) and fast type (CNN), both bolting connected. The fuse links can be connected directly to the bus-bar, saving a fuse base. It can also be fastened to an installed fuse base (RQD-1) for convenient fuse exchange.

### ► Basic Data

Models, rated voltage and dimensions are shown in figures 16.1~16.4 and table 16 .

Automobile Fuse



Table 16

Cat. No.	Models	Name	Rated voltage (V)	Rated current (A)	Dimensions/sizes (mm)				Weight (g)	
					Fig.	A	B	C		D
1601	RQ1	Fuse links	DC48/AC125	60~800	16.1	9	0.6~1.8	11	8.5	54
1602	CNL	Fuse links	DC48/AC125	35,40,50,60,80,100,125	16.1	10.2	0.3~1.1	8.7	8.7	32
1603				130,150,175,200,225,250						
1604				275,300,325,	16.1	10.2	0.5~1.0	8.7	8.7	68
1605				350,400,500				11	11	65
1606				600,675,750,800	16.1	12	0.65~0.9	8.7	8.7	258
1607								11	11	255

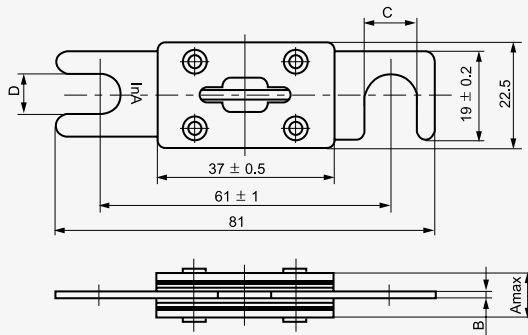


Figure 16.1



Table 16 (cont.)

Cat. No.	Models	Name	Rated voltage (V)	Rated current (A)	Dimensions/sizes (mm)				Weight (g)	
					Fig.	A	B	C		D
1608	CNN	Fuse links	DC48/AC125	10	16.2	11.4	1.3	8.7	8.7	32
1609										11
1610				35,40,50,60,80,90,100,125,150,	16.2	10.9	1.3	8.7	8.7	54
1611				175,180,200,225,250,275,300				11	11	51
1612				325,350,400,	16.2	15.2	5.2	8.7	8.7	69
1613				500,600				11	11	65
1614				700,800	16.2	16.5	6.4	8.7	8.7	87
1615								11	11	84

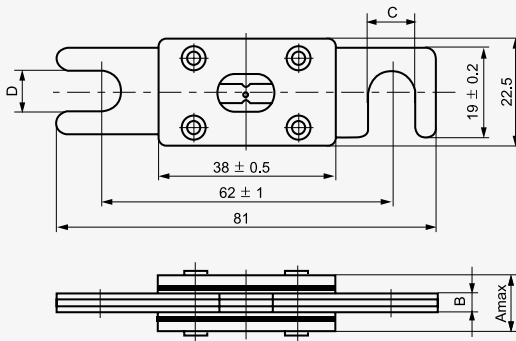


Figure 16.2



Automobile Fuse



Table 16 (cont.)

Cat. No.	Models	Name	Rated voltage (V)	Rated current (A)	Dimensions/sizes (mm) Fig.	Weight (g)
1616	RQ6	Fuse links	DC48/AC125	80~150	See Figure 16.3	22

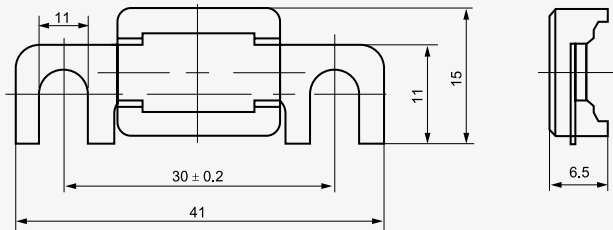


Figure 16.3



Table 16 (cont.)

Cat. No.	Models	Name	Rated voltage (V)	Rated current (A)	Dimensions/sizes (mm) Fig.	Weight (g)
1617	RQD-1	Fuse links bast	AC220	800	See Figure 16.4	139

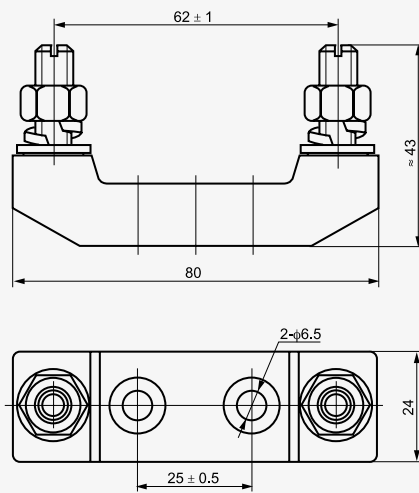


Figure 16.4



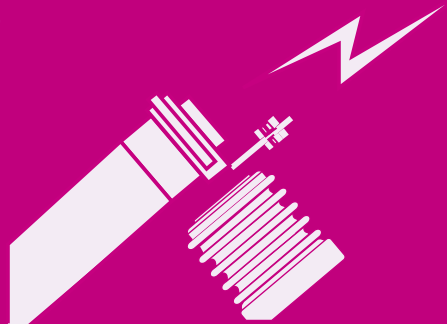
Automobile Fuse



## High Voltage Fuse

Professional High Voltage And Low Voltage Fuse Manufacturer

# Fuses



## High Voltage Fuse



### H.V. HRC current-limiting fuses type S for transformer protection

#### ► Applications

H.V. current-limiting fuses type S is mainly used in AC50Hz, rated voltage 3.6-40.5kV, rated current up to 200A circuit for protection transformers and power equipments from overload and short-circuit. It can also be used with load switch, vacuum contact. It conforms to IEC282-1, GB15166.2 and DIN standard.

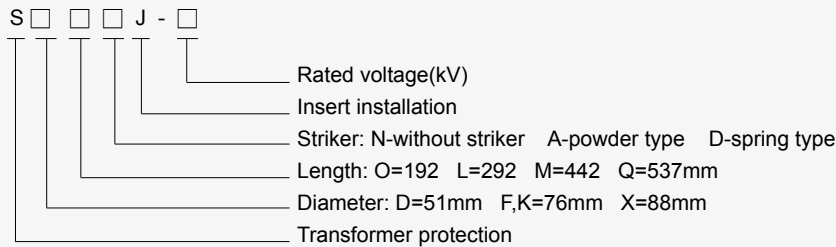
#### ► Design Features

S type H.V. HRC current-limiting fuses is insert installation. The striker parallels to the fuse element made from pure silver. They are sealed in the fuse tube filled with chemically treated high-purity quartz sand. The fuse tube is made from heat resistance, high duty ceramic or epoxy glass. When fault circuit happens, the fuse link melts, the high-resistant metal wire paralleling to fuse links melts immediately at the appearance of the arc, and the striker jumps out to push the chained equipment contact, signaling the melting automatically cutting the circuit. The striker has spring type and powder type. Spring type striker use energy released by spring to push the striker; Powder type striker use high pressure caused by the lighting powder to push the striker. S type H.V. HRC current-limiting fuses has many merits as high current-limiting ability, high breaking capacity, quick and punctual in action, reliable in performance.

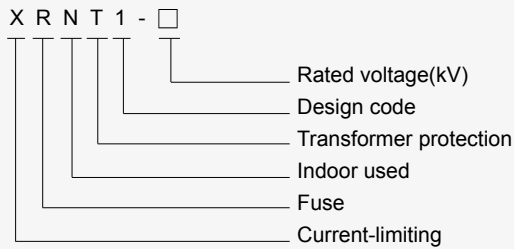


### ► Mode And Implication

Cross-reference:



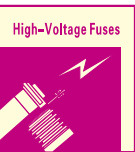
Department Model:



### ► Basic Data

Cat. No.	Models		Rated voltage (kV)	Rated current of the fuse links (A)	Rated breaking current (kA)	Dimensions (mm) (See fig.17.1)		Weight (Kg)
	Foreign	Department				φD	L	
1701	SDO.J	XRNT1	3.6	6.3, 10, 16, 20, 25, 31.5, 40	31.5	51	192	1.12
1702	SDL.J	XRNT1	7.2	6.3, 10, 16, 20, 25, 31.5, 40, 50, 63	31.5	51	292	1.47
1703	SFL.J	XRNT1	7.2	80, 100, 125, 160	31.5	76	292	3.15
1704	SDL.J	XRNT1	12	6.3, 10, 16, 20, 25, 31.5, 40	31.5	51	292	1.47
1705	SFL.J	XRNT1	12	50, 63, 71, 80, 100	31.5	76	292	3.15
1706	SKL.J	XRNT1	12	125	31.5	76	292	3.15
1707	SXL.J	XRNT1	12	160, 200	31.5	88	292	4.15
1708	SDM.J	XRNT1	24	6.3, 10, 16, 20, 25, 31.5, 40	31.5	51	442	2.7
1709	SFM.J	XRNT1	24	50, 63, 71, 80, 100	31.5	76	442	4.5
1710	SKM.J	XRNT1	24	125	31.5	76	442	4.5
1711	SXM.J	XRNT1	24	160	31.5	88	442	5.4
1712	SDQ.J	XRNT1	40.5	3.15, 6.3, 10, 16, 20, 25	31.5	51	537	2.9
1713	SFQ.J	XRNT1	40.5	31.5, 40	31.5	76	537	5.51
1714	SXQ.J	XRNT1	40.5	63	31.5	88	537	6.5

Note: Under stipulated condition, min. breaking current of fuses could be as high as 2.5~3.0 times than rated current.





► Selection of Prodper Fuse Links for Transformer Protection

Transformer capacity (KVA)	Transformer primary voltage			
	7.2(kV)	10(kV)	20(kV)	30(kV)
50	SDL.J-7.2kV/8A	SDL.J-12kV/6.3A	SDM.J-24kV/3.15A	SDQ.J-40.5kV/3.15A
100	SDL.J-7.2kV/16A	SDL.J-12kV/10A	SDM.J-24kV/6.3A	SDQ.J-40.5kV/6.3A
125	SDL.J-7.2kV/20A	SDL.J-12kV/12A	SDM.J-24kV/6.3A	SDQ.J-40.5kV/6.3A
160	SDL.J-7.2kV/25A	SDL.J-12kV/16A	SDM.J-24kV/8A	SDQ.J-40.5kV/6.3A
200	SDL.J-7.2kV/31.5A	SDL.J-12kV/20A	SDM.J-24kV/10A	SDQ.J-40.5kV/8A
250	SDL.J-7.2kV/40A	SDL.J-12kV/25A	SDM.J-24kV/12A	SDQ.J-40.5kV/10A
300/315	SDL.J-7.2kV/50A	SDL.J-12kV/31.5A	SDM.J-24kV/16A	SDQ.J-40.5kV/10A
400	SDL.J-7.2kV/63A	SDL.J-12kV/40A	SDM.J-24kV/20A	SDQ.J-40.5kV/16A
500	SFL.J-7.2kV/80A	SFL.J-12kV/50A	SDM.J-24kV/25A	SDQ.J-40.5kV/16A
630	SFL.J-7.2kV/100A	SFL.J-12kV/63A	SDM.J-24kV/31.5A	SDQ.J-40.5kV/20A
750/800	SFL.J-7.2kV/125A	SFL.J-12kV/80A	SDM.J-24kV/40A	SDQ.J-40.5kV/25A
1000	SFL.J-7.2kV/160A	SFL.J-12kV/100A	SFM.J-24kV/50A	SFQ.J-40.5kV/31.5A
1250		SKL.J-12kV/125A	SFM.J-24kV/63A	SFQ.J-40.5kV/40A
1600		SXL.J-12kV/160A	SFM.J-24kV/80A	SFQ.J-40.5kV/50A
2000		SXL.J-12kV/200A	SFM.J-24kV/100A	SXQ.J-40.5kV/63A

► Dimensions

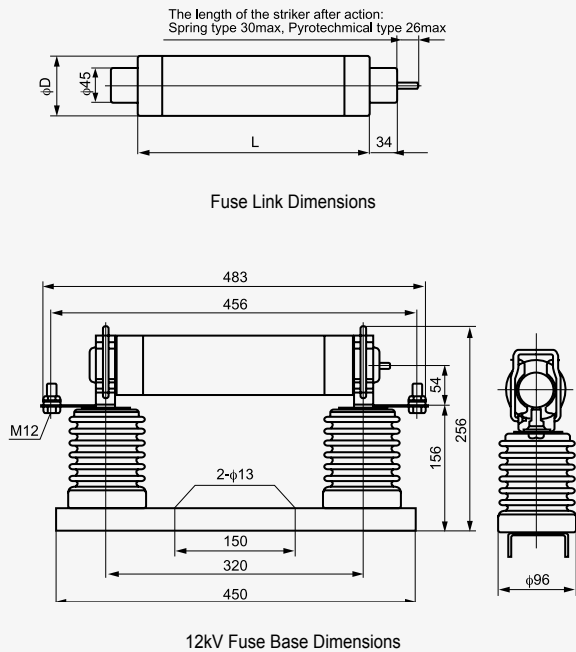


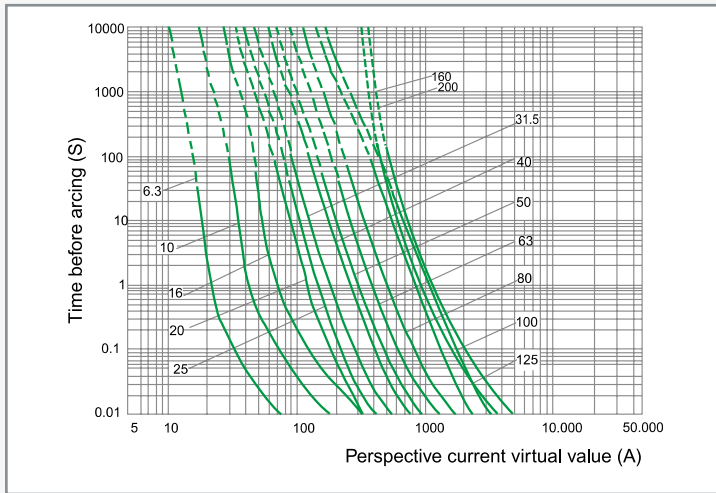
Figure 17.1



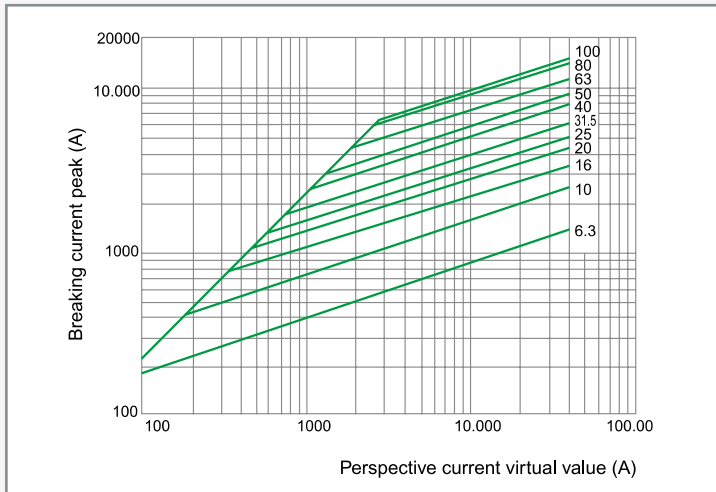
High-Voltage Fuses



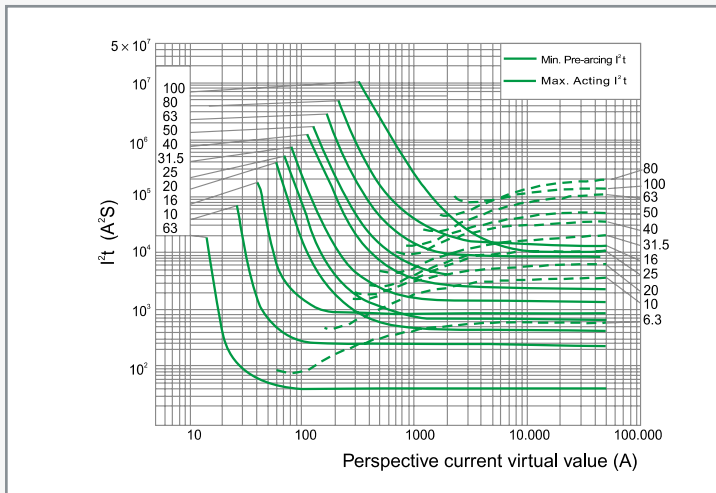
► **Characteristics Curve**



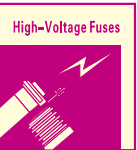
Time-current characteristics of fuse link type S



Breaking-current characteristics of fuse link type S



$I^2.t$  characteristics of fuse link type S



## H.V HRC current-limiting fuses type A/B for transformer protection

### ► Applications

H.V HRC current-limiting fuses type A/B for transformer protection is mainly used in AC 50Hz, rated voltage 3.6-40.5kV, rated current up to 160A circuit for protecting transformers and power equipment from overload and short-circuit. It can also be used with load switch, vacuum contact.

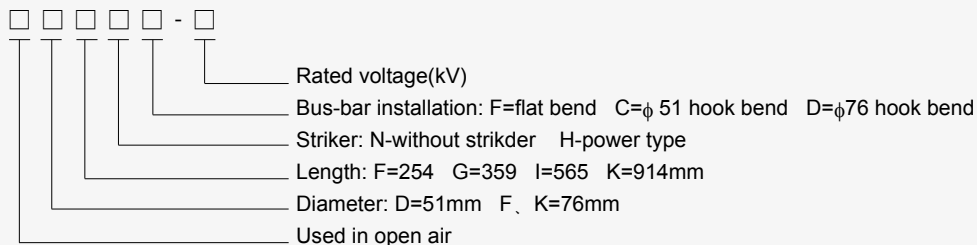
It conforms to IEC282-1, GB15166.2 and. BS standard.

### ► Design Features

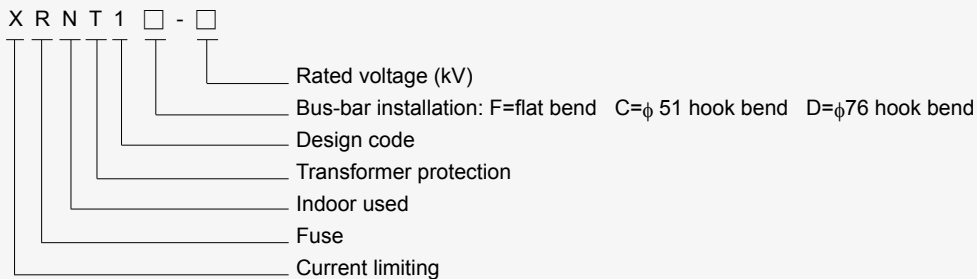
A/B type H.V HRC current-limiting fuses is bus-bar installation. The fuse link is fastened to the bus bar directly with bolts. It is small in volume, reliable in connection. The striker parallels to the fuse element made from pure silver. They are sealed in the fuse tube filled with chemically treated high-purity quartz sand. The fuse tube is made from heat resistant, high duty ceramic or epoxy glass. When fault circuit happens, the fuse link melts, the high-resistant metal wire paralleling to fuse links melts immediately at the appearance of the arc, and the striker jumps out to push the chained equipment contact, signaling the melting or automatically cutting the circuit. A/B type H.V HRC current-limiting fuses has many merits and high current-limiting ability, high breaking capacity, quick and punctual in action, reliable in performance.

### ► Mode And Implication

Cross-reference:



Department Model:



### ► Basic Data

Cat. No.	Models		Rated voltage (kV)	Rated current of the fuse links (A)	Rated breaking current (kA)	Dimensions (mm) (See fig.17.2)		Weight (Kg)
	Foreign	Department				φD	L	
1715	ADFH	XRNT1	3.6	6.3, 10, 16, 20, 25, 31.5, 40	31.5	51	254	1.5
1716	ADGH	XRNT1	3.6	6.3, 10, 16, 20, 25, 31.5, 40, 50, 63, 80, 100	31.5	51	359	2.0
1717	ADFH	XRNT1	7.2	6.3, 10, 16, 20, 25, 31.5, 40, 50, 63,	20	51	254	1.5
1718	AFFH	XRNT1	7.2	80, 100	31.5	76	254	2.3
1719	BDGH	XRNT1	7.2	6.3, 10, 16, 20, 25, 31.5, 40, 50, 63, 80,	31.5	51	359	2.0
1720	BFGH	XRNT1	7.2	90, 100, 125, 140, 160	31.5	76	359	4.0
1721	ADFH	XRNT1	12	6.3, 10, 16, 20, 25, 31.5	12	51	254	1.5
1722	BDGH	XRNT1	12	6.3, 10, 16, 20, 25, 31.5, 35.5, 40, 45, 50	31.5	51	359	2.0
1723	BFGH	XRNT1	12	56, 63, 71, 80, 90, 100	31.5	76	359	4.0
1724	AKGH	XRNT1	12	112, 125	31.5	76	359	4.0
1725	ADIH	XRNT1	24	6.3, 10, 16, 20, 25, 31.5	12	51	565	3.0
1726	AFIH	XRNT1	24	40, 50, 63, 80, 90	16	76	565	6.1
1727	ADIH	XRNT1	40.5	3.15, 5, 6.3, 10, 16, 20, 25, 31.5	16	51	565	3.0
1728	AFIH	XRNT1	40.5	40	25	76	565	6.1
1729	AFKH	XRNT1	40.5	50, 63, 71	25	76	914	9.7

Note: Under stipulated condition, min. breaking current of fuses could be as high as 2.5~3.0 times than rated current.



### ► Selection of Proper H.V. Fuses According to The Transformer Capacity

Transformer capacity (KVA)	Transformer primary voltage		10(kV)	
	6.6(kV)	6.6 (kV)	Fuse models	Rated current(A)
200	BDGH-12kV	31.5	BDGH-12kV	20
250	BDGH-12kV	40	BDGH-12kV	25
300/315	BDGH-12kV	50	BDGH-12kV	31.5
400	BFGH-12kV	63	BDGH-12kV	40
500	BFGH-12kV	80	BDGH-12kV	50
630	BFGH-12kV	100	BFGH-12kV	63
750/800	BFGH-7.2kV	125	BFGH-12kV	71
1000	BFGH-7.2kV	140	BFGH-12kV	90
1250	BFGH-7.2kV	160	AKGH-12kV	112
1500/1600	BFGH-7.2kV	160	AKGH-12kV	125

### ► Dimensions

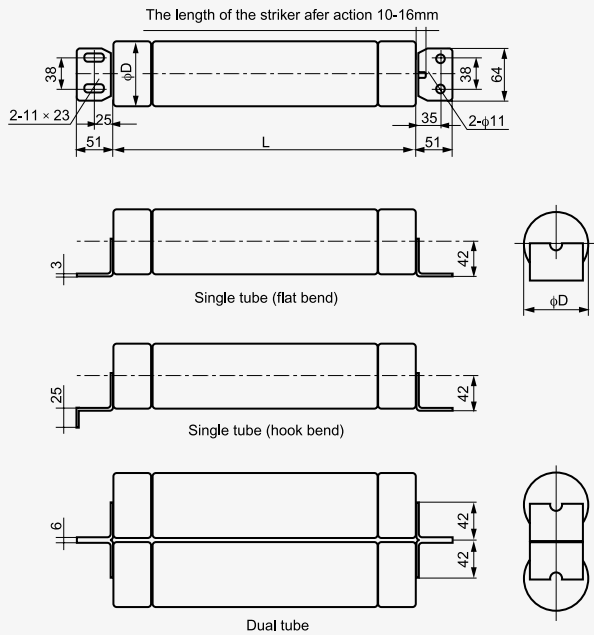
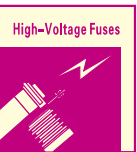
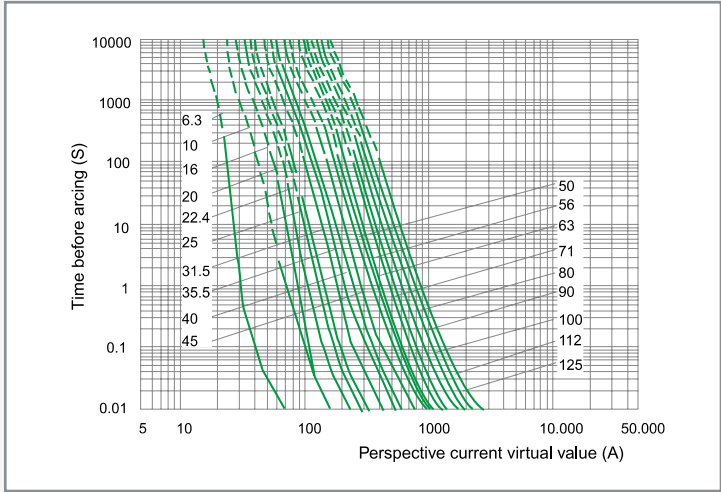


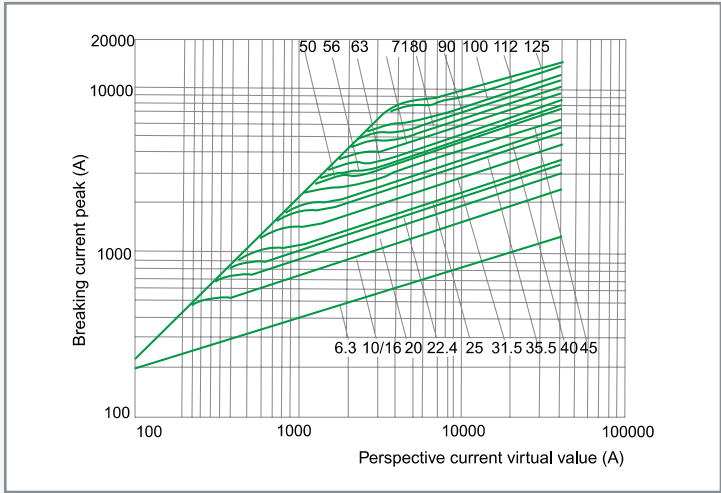
Figure 17.2



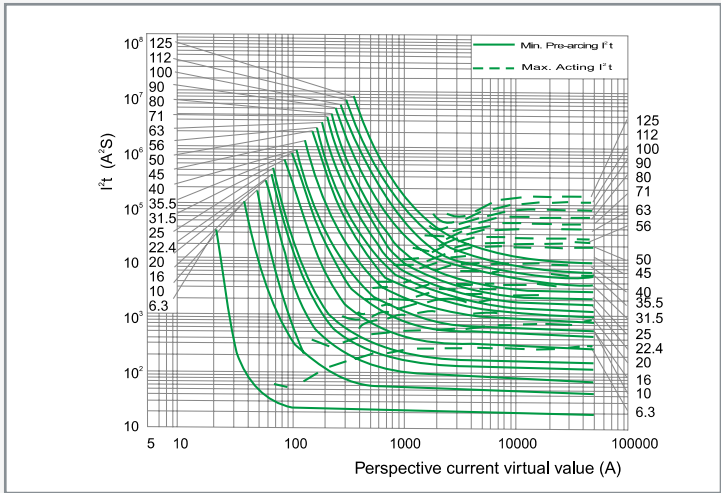
► **Characteristics Curve**



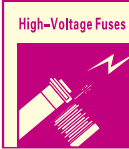
Time-current characteristics of fuse link type A/B



Breaking-current characteristics of fuse link type A/B



$I^2.t$  characteristics of fuse link type A/B



## H.V HRC current-limiting fuses type W for motor protection

### ► Applications

H.V HRC current-limiting fuses type W for motor protection is mainly used in AC 50Hz, rated voltage 3.6-10kV, rated current up to 400A(3.6kV), 224A(7.2kA) circuit for protecting motor and power equipment from overload and short-circuit. It can also be used with load switch, vacuum contact

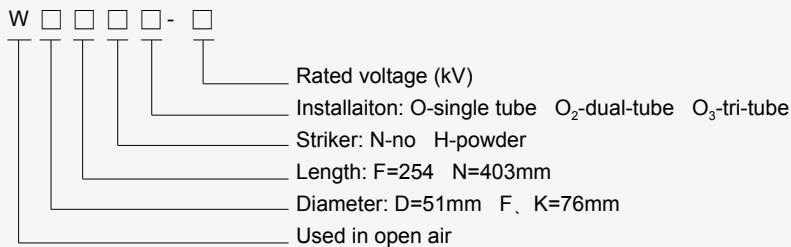
It conforms to IEC282-1, IEC644, BS and GB15166.2.

### ► Design Features

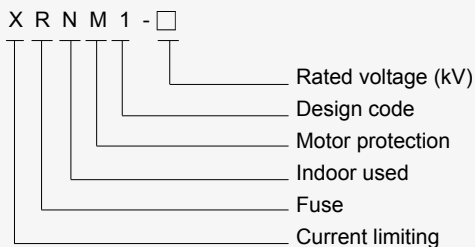
W type H.V HRC current-limiting fuses has two installation: bus-bar installation and insert installation. It is small in volume, reliable in connection. The power striker parallels to the fuse element made from pure silver. They are sealed in the fuse tube filled with chemically treated high-purity quartz sand. The fuse tube is made from heat resistant, high duty ceramic or epoxy glass. When fault circuit happens. the fuse link melts, the high-resistant metal wire paralleling to fuse links melts immediately at the appearance of the arc, and the striker jumps out to push the chained equipment contact, signaling the melting or automatically cutting the circuit. W type H.V HRC current-limiting fuses has many merits as high current-limiting ability, high breaking capacity, quick and punctual in action, reliable in performance.

### ► Mode And Implication

Cross-reference:



Department Model:



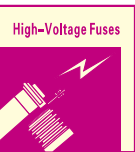
### ► Basic Data

Cat. No.	Models		Rated voltage (kV)	Rated current of the fuse links (A)	Rated breaking current (kA)	Dimensions (mm) (See fig.17.3~17.4)		Weight (Kg)
	Foreign	Department				φD	L	
1730	WDF.O	XRNM1	3.6	50, 63, 80, 100, 125	50	51	254	1.4
1731	WFF.O	XRNM1	3.6	125, 160, 200	50	76	254	2.8
1732	WKF.O	XRNM1	3.6	250, 315, 355, 400	50	76	254	2.8
1733	WFN.O	XRNM1	7.2	25, 31.5, 40, 50, 63, 80, 100, 125, 160	40	76	403	4.15
1734	WKN.O	XRNM1	7.2	200, 224	40	76	403	4.15
1735		XRNM1	10	25, 31.5, 40, 50, 63, 80, 100, 125, 160, 200, 224	40	76	600	5.26

Notes: Under stipulated condition, min.breaking current of fuses could be as high as 2.5~3.0 times than rated current.

7.2KV fuse link of 224A or above have a dual-tube body

3.6KV fuse link of 400A or above have a dual-tube body



► **Dimensions**

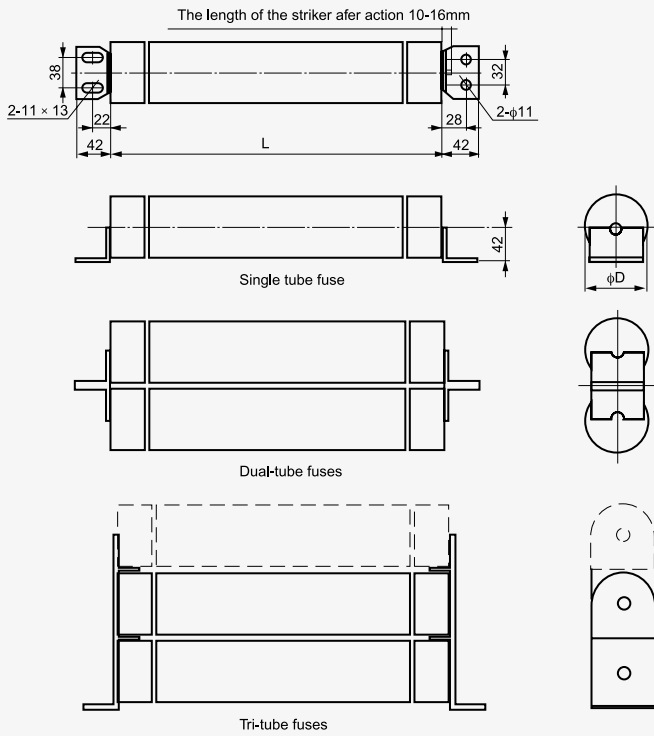


Figure 17.3 fuses for busbar installation

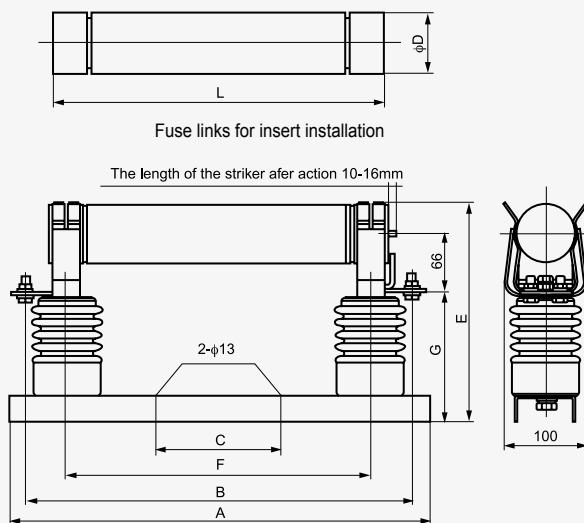


Figure 17.4 fuses for insert installation



High-Voltage Fuses



Dimension of motor protection fuse type W for busbar installation (mm)

Dimensions	Code	A	B	C	G	E	F
Model							
WFF.O		390	312	340	140	246	209
WKF.O		390	312	340	140	246	209
WFN.O		500	461	150	160	266	358
WKN.O		500	461	150	160	266	358
XRNM1		690	659	350	160	266	555

### ▶ Selection for W type motor current-limit fuse box

When started with full voltage, Rated current  $\approx$  twice of loaded motor current; When started under other circumstances, rated current  $\approx$  1.5 times of loaded motor current. For directly started motor, fuses of proper rated current should be selected according to the following formula;

$$I_y = N \cdot I_n \cdot \phi$$

$I_y$  — starting current

$N$  — Ratio of starting current and loaded current, usually  $N \approx 6$

$I_n$  — loaded motor current

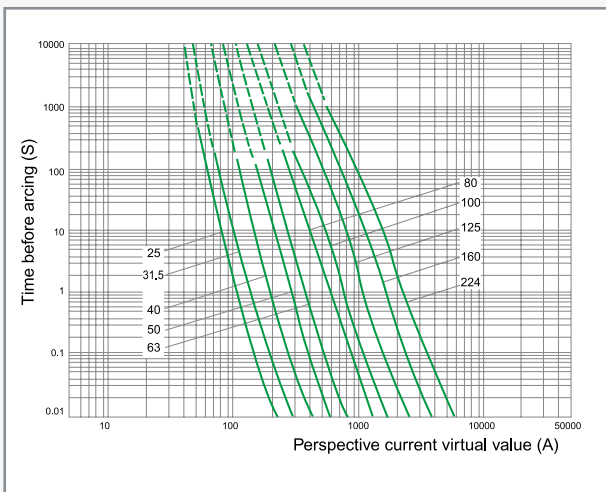
$\phi$  — comprehensive coefficient, see the table below

$\phi$  comprehensive coefficient

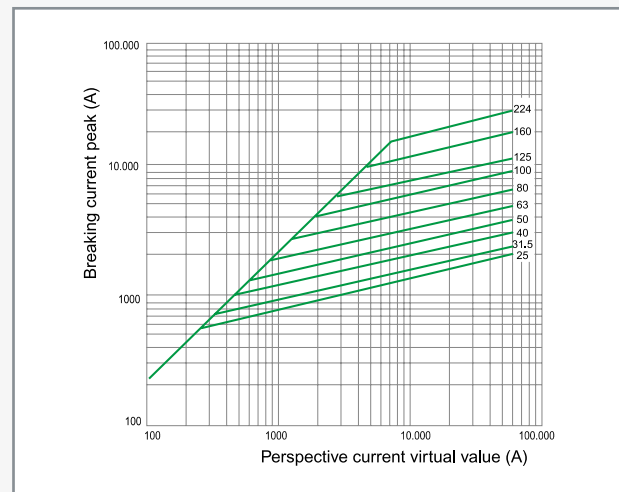
Start times	2	4	8	16
$\phi$	1.7	1.9	2.1	2.3

Refer to time-current characteristic diagram for selection of proper H.V. fuse link, Rated current of fuse link should be 1.3 times than loaded motor current.

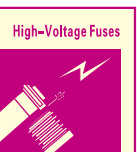
### ▶ Characteristics Curve



Time-current characteristics of 10kV fuse links type XRNM1

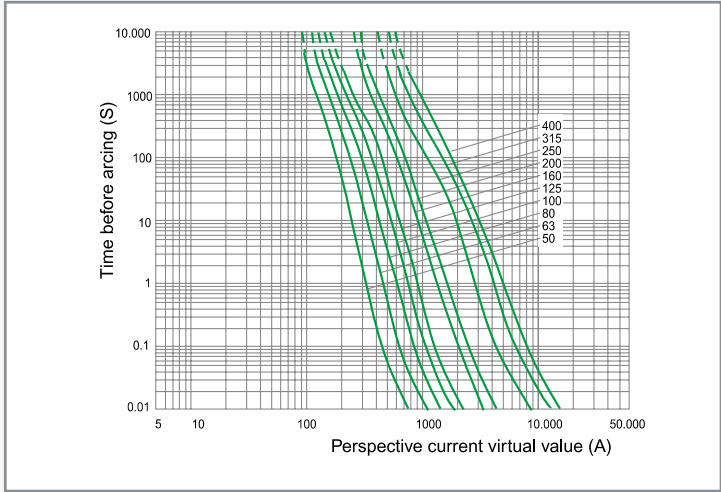


Cut-off current characteristics of 10kV fuse links type XRNM1

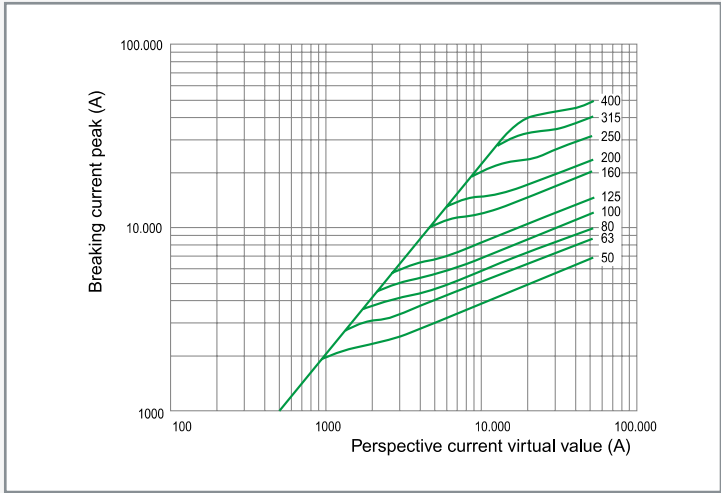




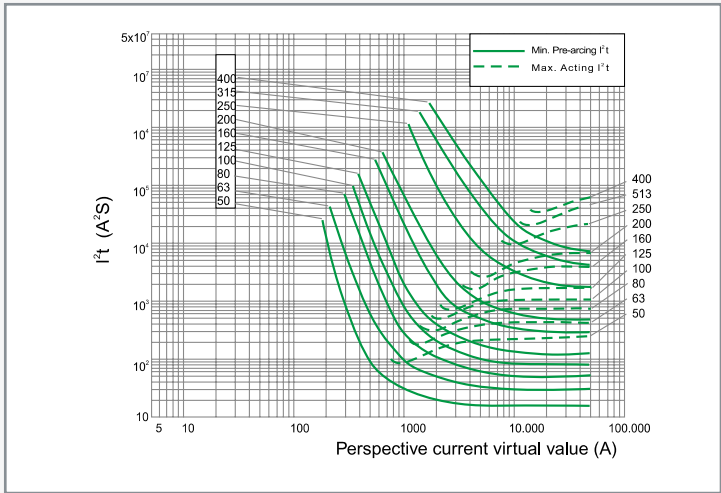
► **Characteristics Curve**



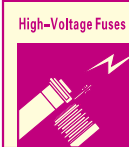
Time-current characteristics of 3.6kV fuse links



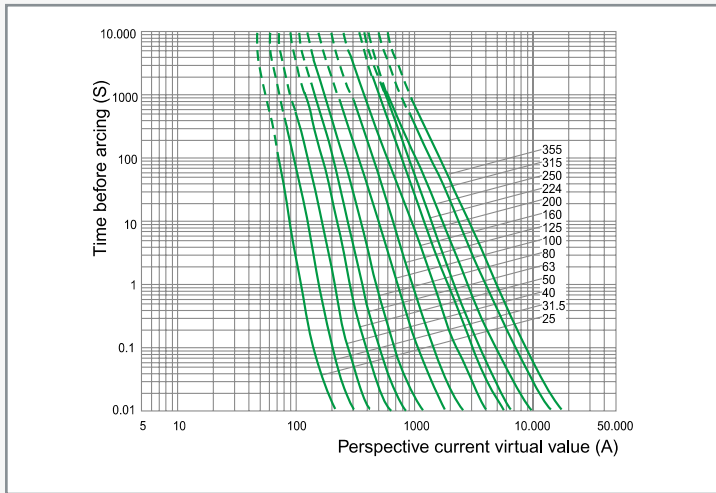
Cut-off current characteristic of 3.6kV fuse links



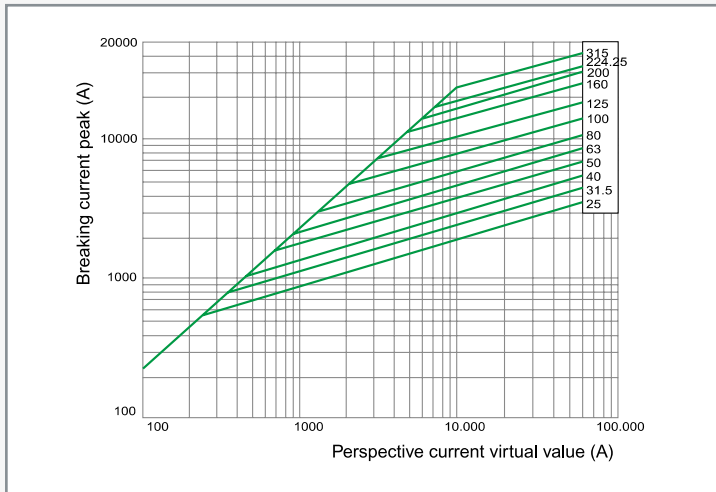
I<sup>2</sup>.t characteristics of 3.6kV fuse links



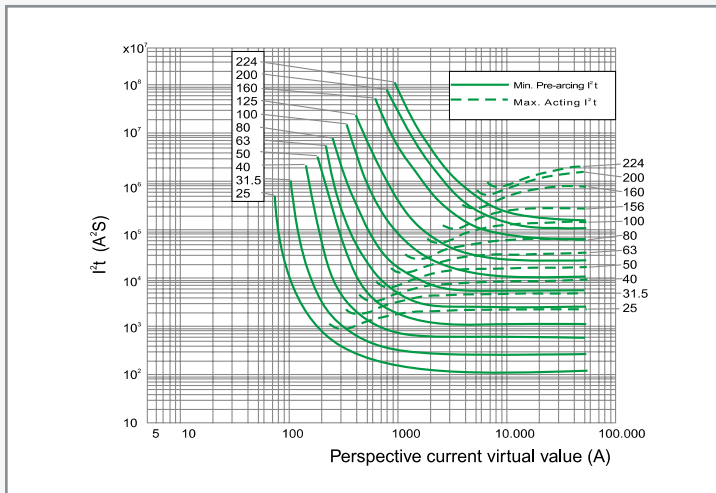
▶ **Characteristics Curve**



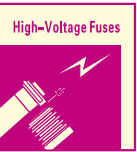
Time-current characteristics of 7.2kV fuse links



Cut-off current characteristic of 7.2kV fuse links



I².t characteristics of 7.2kV fuse links



## H.V HRC current-limiting fuses type F for transformer protection

### ► Applications

H.V HRC current-limiting fuses type F for transformer protection is mainly used in AC 50Hz, rated voltage up to 24kV, rated current 160A circuit for protection transformers and power equipment from overload and short-circuit.

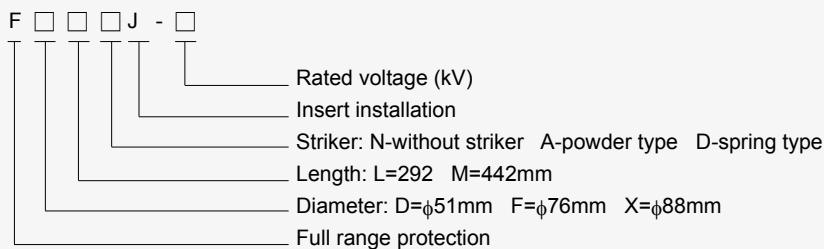
It conforms to IEC282-1, BS, DIN and GB15166.2.

### ► Design Features

F type H.V HRC current-limiting fuses has two installation: Bus-bar installation and insert installation, It is small in volume, reliable in connection and convenient in install and removal. The striker parallels to the fuse element made from pure silver. They are sealed in the fuse tube filled with chemically treated high-purity quartz sand. The fuse tube is made from heat resistant, high duty ceramic or epoxy glass. When fault circuit happens, the fuse link melts, the high-resistant metal wire paralleling to fuse links melts immediately at the appearance of the arc, and the striker jumps out to push the chained equipment contact, signaling the melting or automatically cutting the circuit. The striker has spring type and powder type. Spring type strikers use the energy released by spring to push the striker; Powder type strikers use high pressure caused by the lighting powder to push the striker. F type fuse can reliably break the fault circuit which causes the fuse link to melt and which is up to the rated breaking current. It is not only featured with high breaking capacity of the current-limiting fuses, but also with protection of low overload of the un-current-limiting fuses. F type fuse had a protection of full scope breaking capacity.

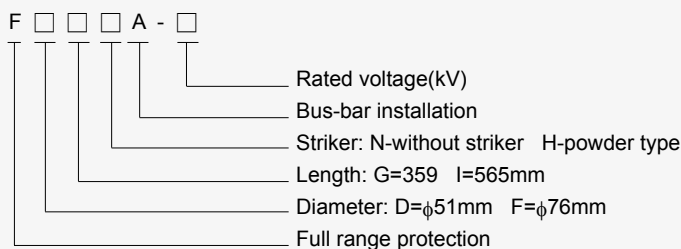
### ► Mode And Implication

Conform to DIN standard



Cat. No.	Models	Rated voltage (kV)	Rated current of fuse link (A)	Rated breaking current (kA)	Dimensions (mm) (See fig.17.5)		Weight (Kg)
					φD	L	
1736	FDL.J	12	6.3, 10, 16, 20, 25, 31.5	50	51	292	1.47
1737	FFL.J	12	40, 50, 63	50	76	292	3.15
1738	FXL.J	12	80, 100	50	88	292	4.15
1739	FDM.J	24	6.3, 10, 16, 20, 25, 31.5	35.5	51	442	2.7
1740	FFM.J	24	25, 31.5, 40, 45	35.5	76	442	4.5

Conform to BS standard



Cat. No.	Models	Rated voltage (kV)	Rated current of fuse link (A)	Rated breaking current (kA)	Dimensions (mm) (See fig.17.6)		Weight (Kg)
					φD	L	
1741	FFGHA	12	10, 16, 20, 25, 31.5, 40, 50, 63	40	76	359	4.0
1742	FDIHA	24	3.15, 5, 6.3, 10, 16, 20, 31.5	35.5	51	565	3.0



► **Dimensions**

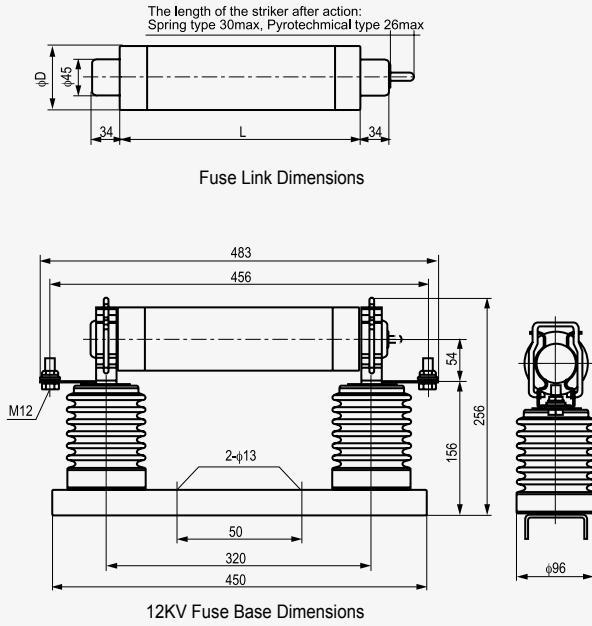


Figure 17.5

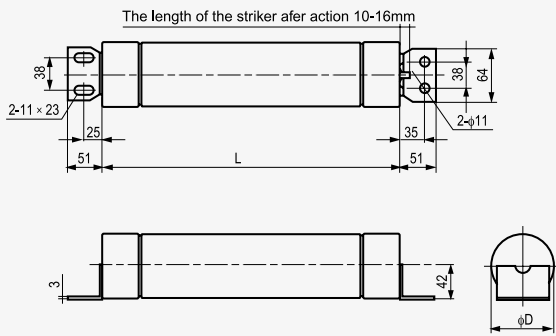
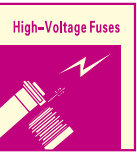


Figure 17.6



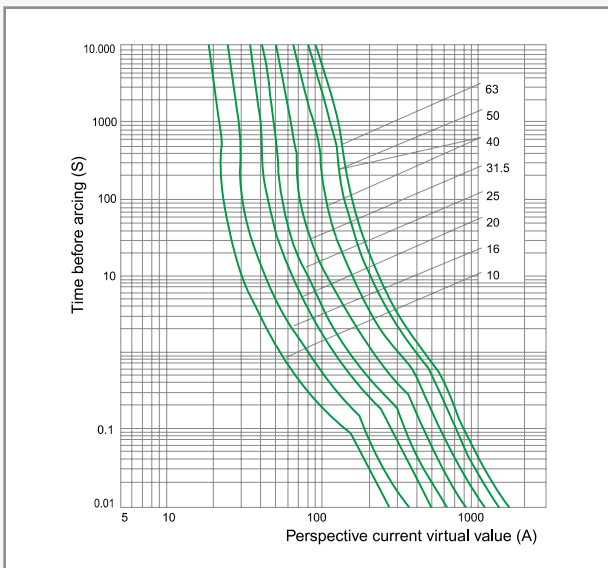
► **I<sup>2</sup>t Characteristics of Full-range H.V. Current-limiting Fuses Type F**

Rated working voltage (kV)	Rated working current (A)	Min. prearcing I <sup>2</sup> · t (A <sup>2</sup> · S)	Max. melting I <sup>2</sup> · t (A <sup>2</sup> · S)
12	10	2.2 × 10 <sup>2</sup>	4.7 × 10 <sup>3</sup>
12	16	3.4 × 10 <sup>2</sup>	6.1 × 10 <sup>3</sup>
12	20	7.7 × 10 <sup>2</sup>	1.1 × 10 <sup>4</sup>
12	25	1.3 × 10 <sup>3</sup>	1.6 × 10 <sup>4</sup>
12	31.5	2.5 × 10 <sup>3</sup>	2.5 × 10 <sup>4</sup>
12	40	3.8 × 10 <sup>3</sup>	3.8 × 10 <sup>4</sup>
12	50	6.8 × 10 <sup>3</sup>	5.6 × 10 <sup>4</sup>
12	63	8.1 × 10 <sup>3</sup>	8.4 × 10 <sup>4</sup>

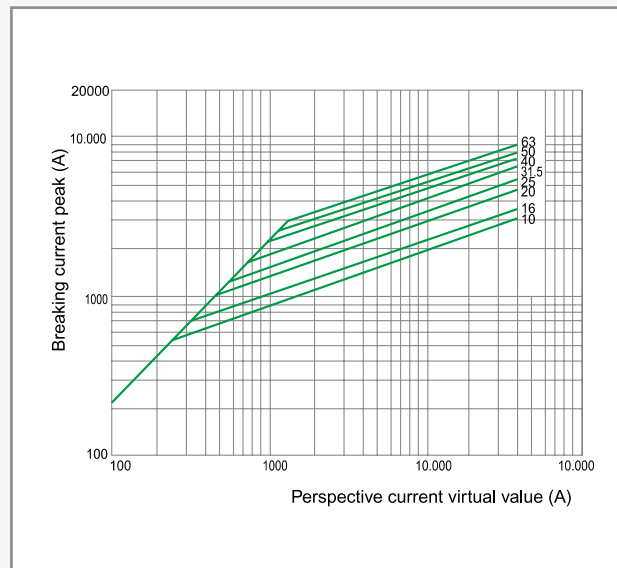
► **Selection of Proper Full-range H.V. Fuses Type F for Transformer Protection**

Capacity of transformer (kVA)	Primary voltage of transformer 12kV Fuse models (It conforms to DIN and BS)		Rated current of fuse link(A)
≤ 125	FDL-J-12	FFGHA-12	10
160	FDL-J-12	FFGHA-12	16
200	FDL-J-12	FFGHA-12	20
250	FDL-J-12	FFGHA-12	25
315	FDL-J-12	FFGHA-12	31.5
400	FDL-J-12	FFGHA-12	40
500	FFL-J-12	FFGHA-12	50
630	FFL-J-12	FFGHA-12	63
800	FFL-J-12	FFGHA-12	63

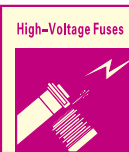
► **Characteristics Curve**



Time-current characteristics of 12kV fuse links type F



Cut-off current characteristics of 12kV fuse links type F



## H.V HRC current-limiting Fuses Type XRNP for Transformer Protection

### ► Applications

H.V HRC current-limiting fuses type XRNP for transformer protection is mainly used in AC 50Hz, rated voltage 3.6-40.5kV, rated current up to 6.3A circuit for protection transformers from overload and short-circuit.

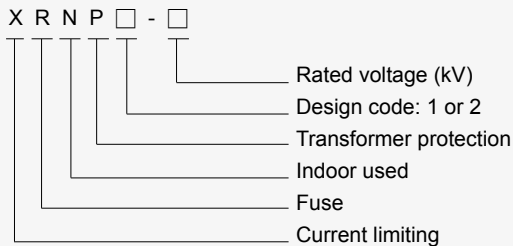
It conforms to IEC282-1, BS and GB15166.2.

### ► Design Features

XRNP type H.V HRC current-limiting fuses is insert installation. It is convenient for in stall and removal. The fuse link made of high-resistance metal wire and low-resistance metal wire. They are sealed in the fuse tube filled with chemically treated high-purity quartz sand. The fuse tube is made from heat resistance, high duty ceramic or epoxy glass. When fault circuit happens, the fuse link melts causing arc, quartz sand extinguish the arc immediately, signaling the melting or automatically cutting the circuit.

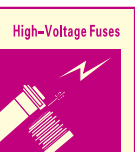
### ► Mode And Implication

Department model



### ► Basic Data

Cat. No.	Models	Rated voltage (kV)	Rated current of fuse links (A)	Rated breaking current (kA)	Dimensions (mm)		Weight (Kg)
					Fig.	L	
1743	XRNP1	3.6	0.5, 1, 2, 3.15, 6.3	50	17.7	142	0.19
1744	XRNP1	7.2	0.5, 1, 2, 3.15, 6.3	50	17.7	142(195)	0.19(0.22)
1745	XRNP1	12	0.5, 1, 2, 3.15	40	17.7	195	0.22
1746	XRNP1	24	0.5, 1, 2, 3.15	40	17.7	355	0.43
1747	XRNP1	40.5	0.5, 1, 2, 3.15	50	17.7	465	0.55
1748	XRNP2	12	0.5, 1, 2, 3.15	50	See figure 17.8		1.12



► **Dimensions**

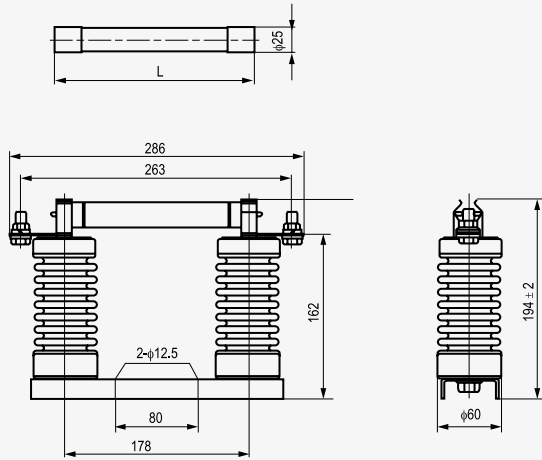


Figure 17.7 12kV H.V. Fuse Type XRNP1

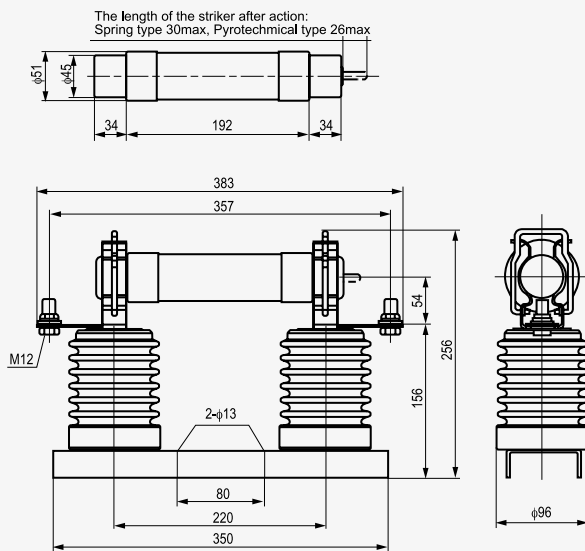


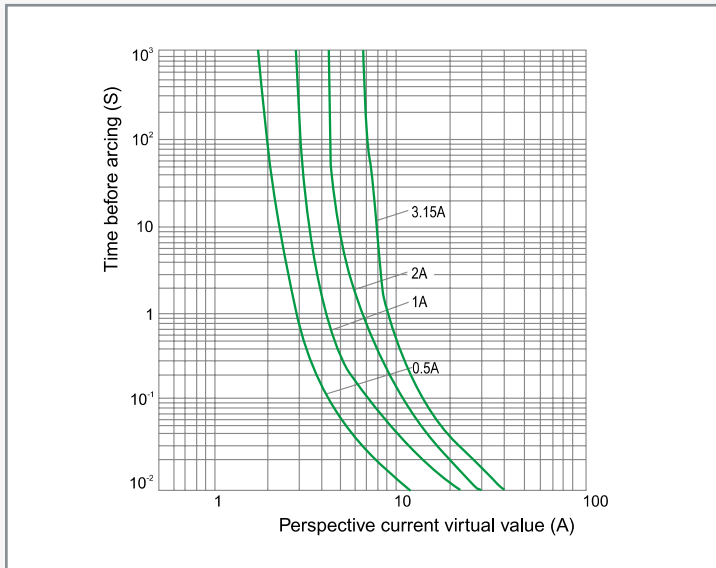
Figure 17.8 12kV H.V. Fuse Type XRNP2



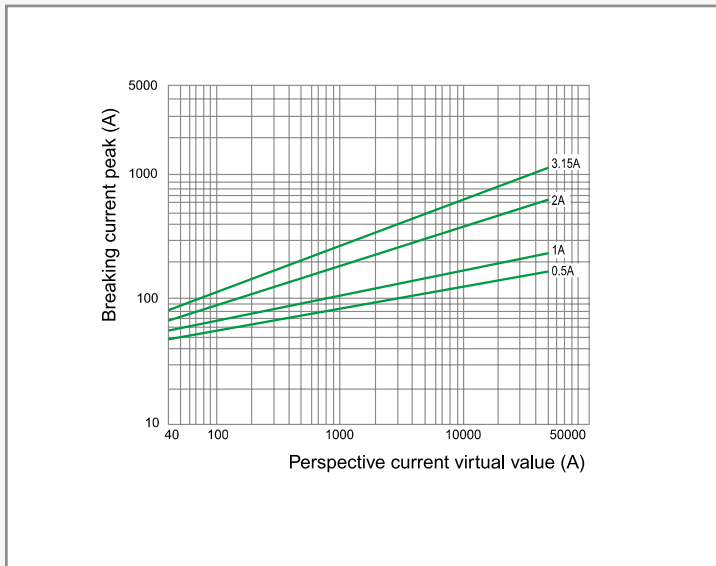
High-Voltage Fuses



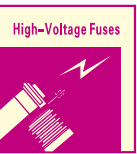
▶ **Characteristics Curve**



Time-current characteristics of 12kV fuse links type XRNP1



Cut-off current characteristics of 12kV fuse links type XRNP1





## Oil H.V HRC Current-limiting Fuses Type O for Transformer Protection

### ► Applications

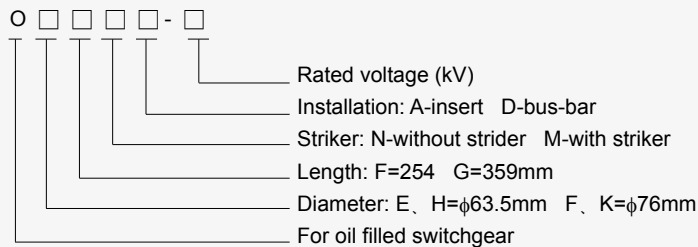
Oil H.V HRC current-limiting fuses type O for transformer protection is mainly used in AC 50Hz, rated voltage 3.6-24kV, rated current 200A(3.6kV), 160A(7.2kV), 125A(12kV) and below circuit for protecting transformers and power equipments from overload and short-circuit.

It conforms to IEC282-1, BS, DIN and GB1566.2.

### ► Design Features

O type H.V HRC current-limiting fuses has two installation: Bus-bar installation and insert installation, It is small in volume, reliable in convenient in install and removal. The striker parallels to the fuse element make from pure silver. They are sealed in the fuse tube filled with chemically treated high-purity quartz sand. the fuse tube is made from heat resistant, high duty ceramic or epoxy glass. When fault circuit happens, the fuse link melts. At the appearance of the arc the high-resistant metal wire paralleling to fuse links melts immediately, which lights the powder and caused high pressure pushing the striker jumps out to push the chained equipment contact, signaling the melting or automatically cutting the circuit. O type H.V HRC current-limiting fuses are featured with high sealing property, low power consume, high breaking capacity, quick and punctual action, reliable performance.

### ► Mode And Implication



### ► Basic Data

Cat. No.	Models	Rated voltage (kV)	Rated current of fuse links (A)	Rated breaking current (kA)	Dimensions (mm)(See fig.17.9~17.10) L	Weight (Kg)
1749	OEFMA	3.6	6.3, 10, 16, 20, 25, 31.5, 40, 50, 63, 80, 100, 125, 160, 200	50	254	1.9
1750	OEFMA	7.2	80, 100, 112	50	254	1.9
1751	OHGMA	7.2	100, 125, 140, 160	50	359	2.6
1752	OEFMA	12	6.3, 10, 16, 20, 25, 31.5, 40, 50, 63	40	254	1.9
1753	OHFMA	12	71, 80	40	254	1.9
1754	OHGMA	12	6.3, 10, 16, 20, 25, 31.5, 40, 50, 63, 80, 100, 125	40	359	2.6
1755	OEGMA	24	6.3, 10, 16, 20, 25, 31.5, 40, 50, 63	25	359	2.6
1756	OFGMD	12	63, 80, 100, 125	40	359	4.0
1757	OKGMD	12	160, 200	40	359	4.0

Note: Under stipulated conditions, min.breaking current could be as high as 2.5~5 times than rated current.



► **Dimensions**

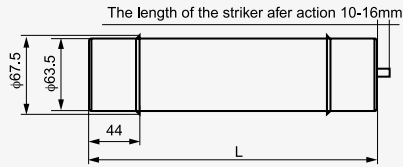


Figure 17.9

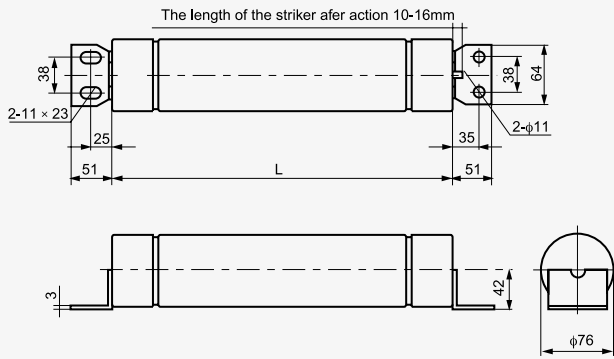
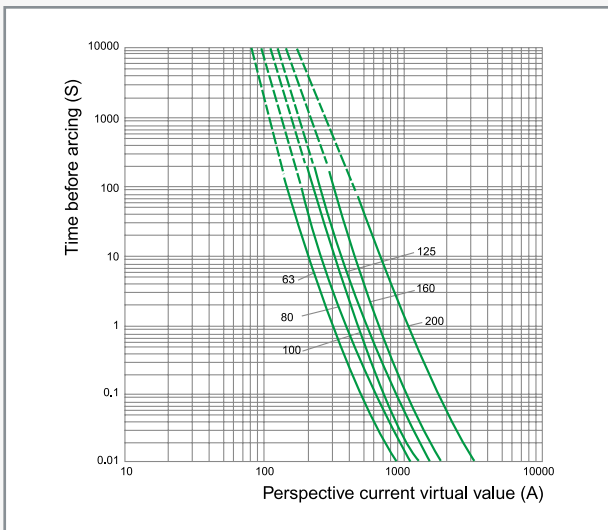


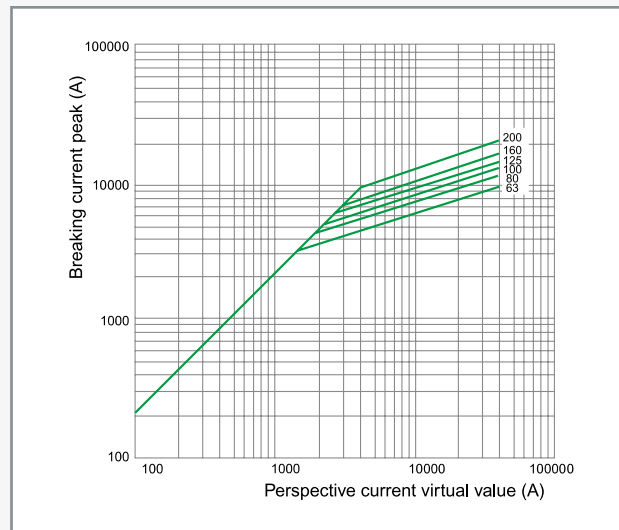
Figure 17.10



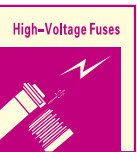
► **Characteristics Curve**



Time-current characteristics of fuse links



Cut-off current characteristics of fuse links



## Special H.V. HRC Current-limiting

### ► Applications

Special H.V. HRC Fuse are mainly used in circuit for protection transformer motor and other power equipment from overload and short-circuit.



H.V. Current-limiting Fuses for Protection of Transformer and Motor



H.V. Current-limiting Fuses for Protection of Large Capacity Transformer



Mini-H.V. Current-limiting Fuses for Protection of Transformer Instrument



## LRO H.V. Drop-out Fuse

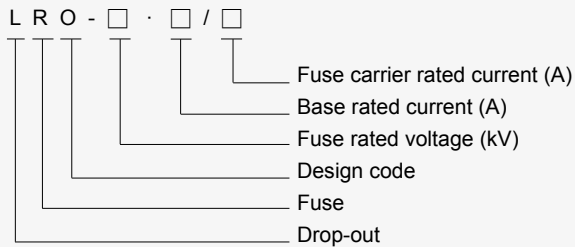
### ► Applications

LRO H.V drop-out fuse is mainly used in AC 50Hz, rated voltage 30kV, rated current up to 200A circuit for protecting transformers and circuit from overload and short-circuit.

### ► Design Futures

LRO H.V Drop-out fuse is made up of two parts: base and fuse link, Static contact is fastened to the two ends of the insulated bracket of the base; Removable contact is fastened to both ends of the fuse link. Fuse tube is made up of internal arc-extinguishing tube and external phenolic aldehyde paper tube or epoxy glass tube. When fault current happens, the fuse link melts, fuse carrier falls automatically creating obvious isolation space.

### ► Mode And Implication



### ► Basic Data and Dimensions

Cat. No.	Models	Rated voltage (kV)	Rated current(A)		Rated max.breaking current (kA)	Impulse voltage (kV)	Distance (mm)	Dimensions (mm)(See fig.17.11)				Weight (Kg)
			Base	Fuse carrier				A1	B1	H1	H2	
1758	LRO-15kV.200A/100A	15	200	100	10	75	250	321	115	398	226	7.5
1759	LRO-15kV.200A/200A			200	12							
1760	LRO-24kV.200A/100A	24	200	100	8	75	530	357	135	482	273	11.6
1761	LRO-24kV.200A/200A			200	10							
1762	LRO-30kV.200A/100A	30	200	100	6	75	700	371	115	482	320	14.5
1763	LRO-30kV.200A/200A			200	8							

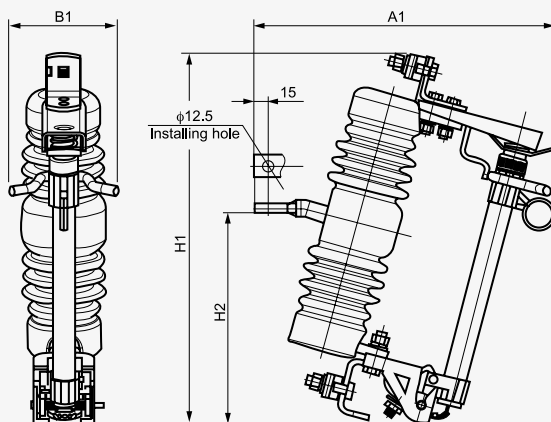
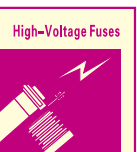


Figure 17.11



## LR1 H.V. Drop-out Fuse

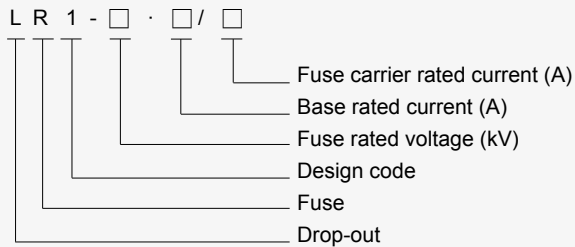
### ► Applications

LR1 H.V. Drop-out fuse is mainly used in AC 50Hz, rated voltage 24kV, rated current up to 200A circuit for protection transformers and circuit from overload and short-circuit.

### ► Design Features

LR1 H.V. Drop-out fuse is made up of two parts: base and fuse link. Static contact is fastened to two ends of the insulated bracket of the base; Removable contact is fastened to both ends of the fuse link. Fuse tube is made up of internal arc-extinguishing tube and external phenolic aldehyde paper tube or epoxy glass tube. When fault current happens, the fuse link melts, fuse carrier falls automatically creating obvious isolation space.

### ► Mode And Implication



### ► Basic Data and Dimensions

Cat. No.	Models	Rated voltage (kV)	Rated current(A)		Rated max.breaking current (kA)	Impulse voltage (kV)	Distance (mm)	Dimensions (mm)(See fig.17.11)				Weight (Kg)
			Base	Fuse carrier				A1	B1	H1	H2	
1764	LR1-15kV.200A/100A	15	200	100	10	75	250	350	100	432	220	7.6
1765	LR1-15kV.200A/200A			200	12							
1766	LR1-24kV.200A/100A	24	200	100	8	75	530	363	135	456	267	12.2
1767	LR1-24kV.200A/200A			200	10							

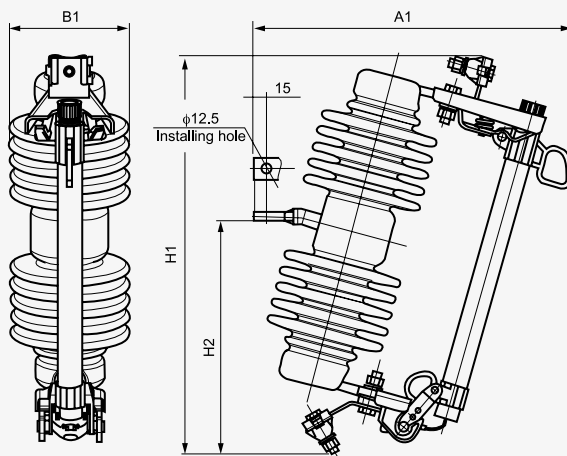


Figure 17.12



## LR2 H.V. Drop-out Fuse

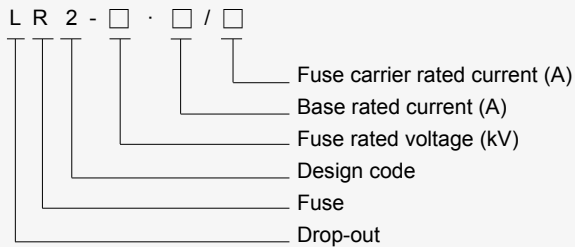
### ► Applications

LR2 H.V. Drop-out fuse is mainly used in AC 50Hz, rated voltage 15kV, rated current up to 200A circuit for protecting transformers and circuit from overload and short-circuit.

### ► Design Futures

LR2 H.V. Drop-out fuse is made up of two parts: base and fuse link. Static contact is fastened to the two ends of the insulated bracket of the base; Removable contact is fastened to both ends of the fuse link. fuse tube is made up of internal arc-extinguishing tube and external phenolic aldehyde paper tube or epoxy glass tube. When fault current happens, the fuse link melts, fuse carrier falls automatically creating obvious isolating space.

### ► Mode And Implication



### ► Basic Data and Dimensions

Cat. No.	Models	Rated voltage (kV)	Rated current(A)		Rated max.breaking current (kA)	Impulse voltage (kV)	Distance (mm)	Dimensions (mm) Fig.	Weight (Kg)
			Base	Fuse carrier					
1768	LR2-15kV.200A/100A	15	200	100	10	75	250	See Figure 17.13	7.3
1769	LR2-15kV.200A/200A			200	12				

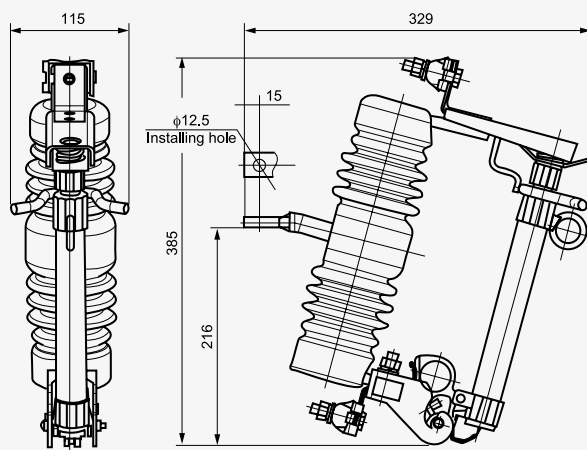
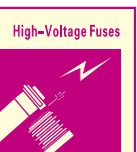


Figure 17.13



## Guidance for H.V. Fuse Selection

### ▶ Rated Voltage and Current of H.V. Fuses

#### Rated Voltage of H.V. Fuses

H.V. fuses selected should be of a rated voltage matchable to power voltage

The rated voltage of fuses used in 3-phase circuit should be chosen according to the wire voltage.

The rated voltage of fuses used in single-phase circuit should be of 115% of max. phase voltage.

When the H.V. fuse links are installed into 3-phase circuit, better choice is to select fuses according to max. wire voltage.

#### Rated current of H.V. fuses

The fuse element has a rated current less than that of fuse link.

The rated current of fuse should be 1.25 times of operating current of loads.

Devaluation should be considered when the fuses are fixed in a 3-phase sealed or unsealed cabinet, or in an insulating cast canister.

#### Breaking capacity

the max. breaking capacity of fuses should be no less than max. short-circuit current of the protected circuit. The min. melting current should be less than the min. short-circuit current of the protected circuit.

### ▶ Storage of H.V. Fuses

The fuses should be kept in a dry place.

Give fuses fallen or seriously shocked a careful examination before use it.

Recheck the resistance of fuses which has been kept for a long time before selling.

### ▶ Installation and Replacement

Make sure that all the spare parts are tightly fixed when installing to avoid the overheating under operation.

When one of three fuses installed in 3-phase circuit acted, the other two also should be replaced.

The replacement of an acted fuses should be done in 10 minutes after its action. Under the circumstance such as smock leakage, noise from the fuse after its action, the fuse can be replaced only after it is out of the circuit.

More consideration on safety should be taken when the replacement is done to fuses installed near power supply equipments or electrified conductor.

The fuses can not be installed in a dusty, polluted, humid place.

### ▶ Transportation of Fuses

Try to avoid the fuses from shocking, falling-down and impact, if such things happen, do test it thoroughly before using.

#### Notes before ordering:

The user should have a clear picture about the rated voltage, rated current, breaking current and protecting objects of the fuse.

Please feel free to contact us for your special requirement beyond our catalogue.





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Dumankaya Cad. D Blok D:1 Kurtköy  
34912 Pendik - İSTANBUL - TÜRKİYE  
T: +90 (216) 504 05 20 F: +90 (216) 504 03 57  
www.borelektronik.com.tr info@borelektronik.com.tr

**MINGRONG**  
ELECTRICAL PROTECTION

## ZHEJIANG MINGRONG ELECTRICAL PROTECTION CO., LTD

Add: Wei 11th Road, Economic Development Zone, Yueqing, Zhejiang, PR China  
Tel: +86-577-62668813  
Fax: +86-577-62668822  
P.C.: 325600  
Http: //www.mingrong.com  
E-mail: foreignsales@mingrongep.com info@mingrongep.com

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