

MINGRONG
ELECTRICAL PROTECTION

ZHEJIANG MINGRONG ELECTRICAL PROTECTION CO.,LTD

Add: Wei11th Road, Yueqing Economic Development Zone, Zhejiang Province

Tel: +86-577-62668810 62668813

Fax: +86-577-62668833

P.C.: 325600

Http: //www.mingrong.com

E-mail: info@mingrongep.com foreignersales@mingrongep.com

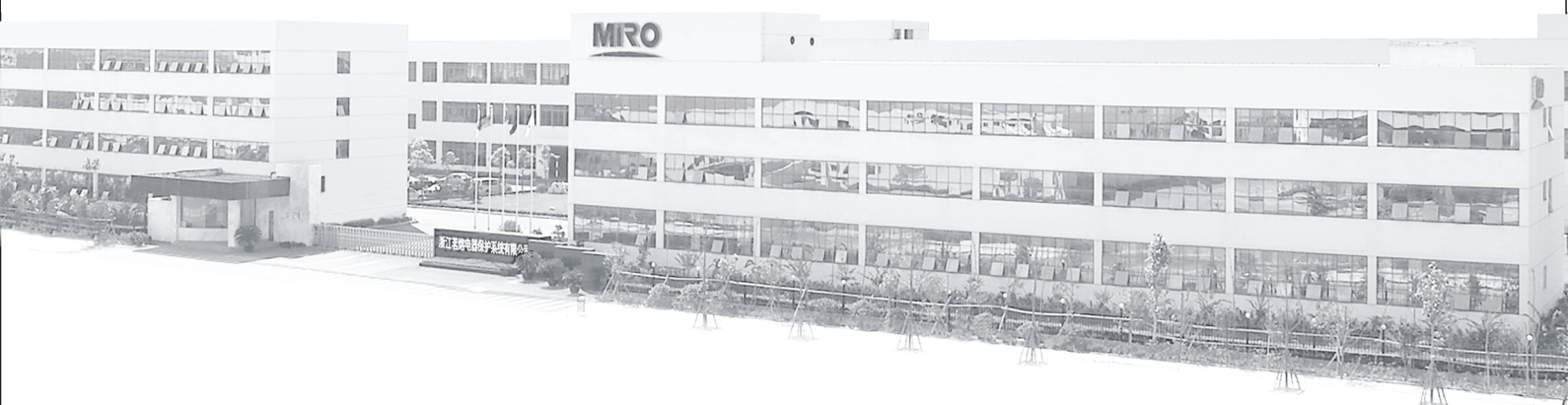
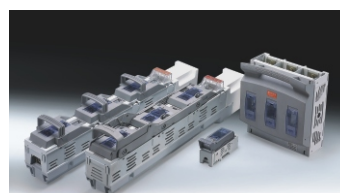
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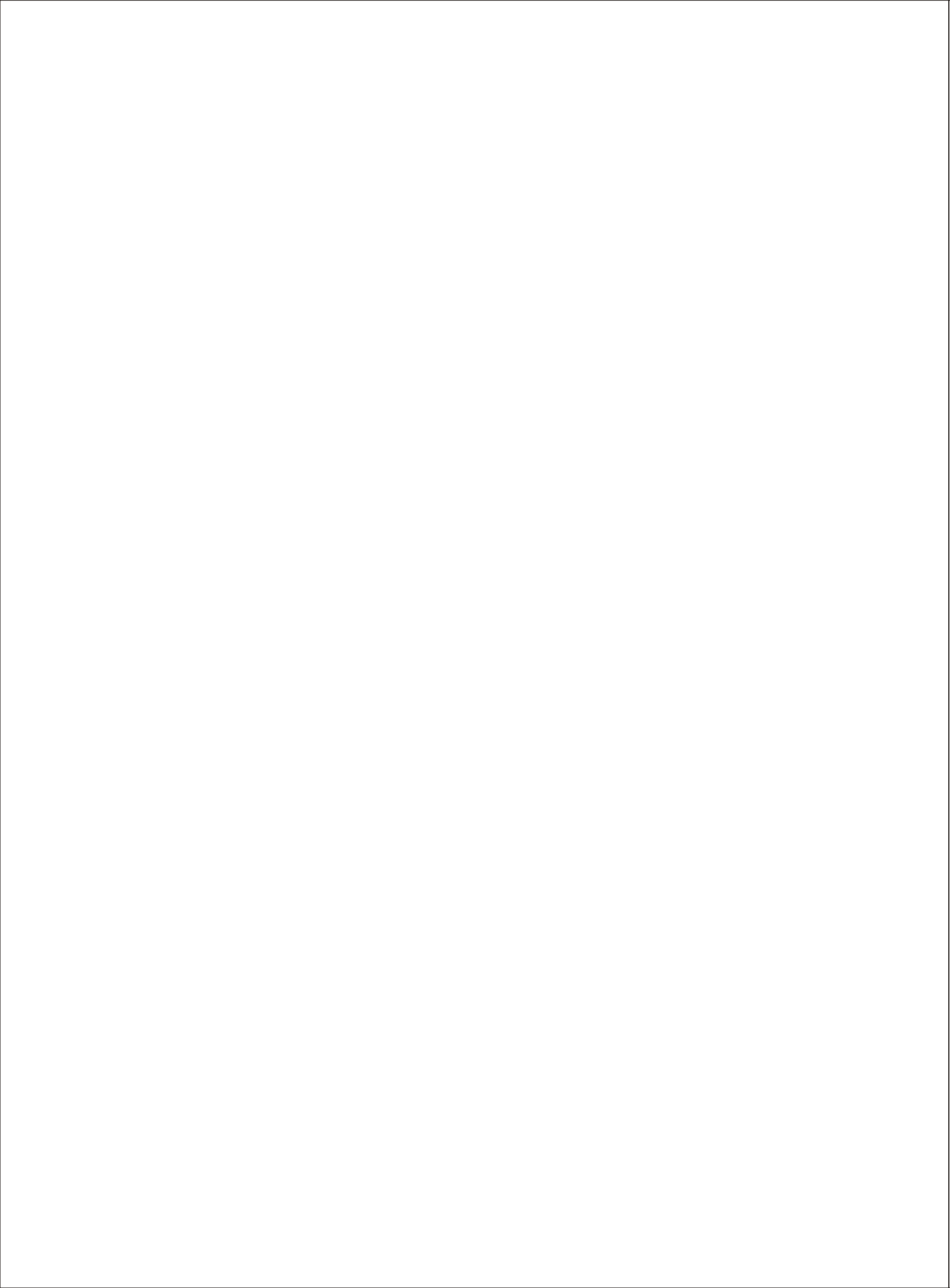
Professional + Manufacturing

Fuse-Switch-Disconnecter
Technical guide



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ZHEJIANG MINGRONG ELECTRICAL PROTECTION CO.,LTD



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Brief introduction

Located in the foot of Mount Yandang, Zhejiang Mingrong Electrical Protection Co., Ltd is one of the earliest professional companies in China specializing in the manufacture and sales of electrical products. Covering an area of 1200m², Mingrong has 450 employees.

With over 35 years of electrical protection experience and continuous technological innovation, Mingrong boasts most complete fuse product series. Its manufacturing center provides you variety of fuse and switches in the fields of electrical power, machinery, oil, shipping building, transportation, automation etc. Our products meet a number of international, national and regional standards, with international and regional accreditation of CCC, CE, CB, TUV, and DIN etc. Our numbers of patents and R&D team enable us to guarantee total customer satisfaction. MRO brand as the China Popular Trade Mark enjoys reputation home and abroad, we have gained over 300 national agent and franchise stores and a global sales network reaching over 50 countries and regions.

Mingrong' s reputation for leading product quality is the result of adoption of lean production, JDE system and zero defect prevention system. Our commitment to better serving our customer is clearly evident from the advanced international management system and state-of-art testing equipment.

Over the years, Mingrong has been awarded "Outstanding Enterprise", "Export-oriented Enterprise", "Big Taxpayer", "Provincial Contract-honoring & Promise-keeping Enterprise" by government, and " AAA Credit Enterprise" by Agricultural Bank of China.

With a long history of brand culture and international management, Mingrong is committed to provide you with most quality products and excellent service.



Main Electrical Components

Advantage

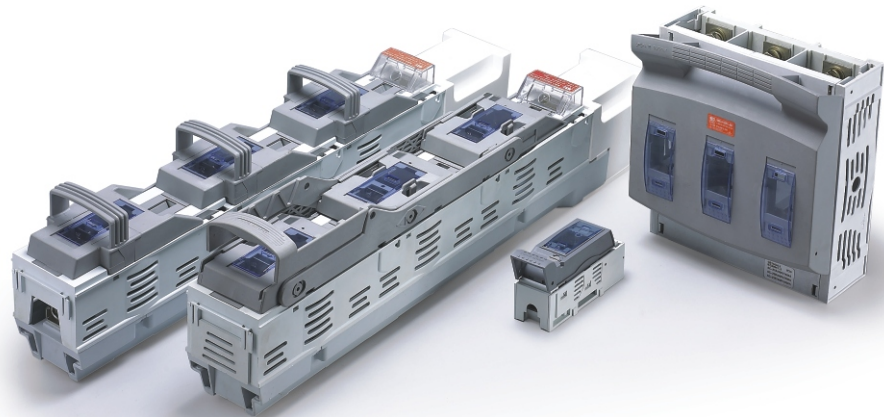
The product development and research to fuse and fusegear have been focused at all times worldwide, using its significant protection features to develop more reasonable product structure. MRO. H series are the newest products developing from various combinations of products, it combines fusing protection, isolation and switching in order to make the distribution unit smaller, more reasonable and attractive.

Safety

Except for conductive parts, all are the finger-touch protection

Environment-friendly

The products are made of environment-friendly material.



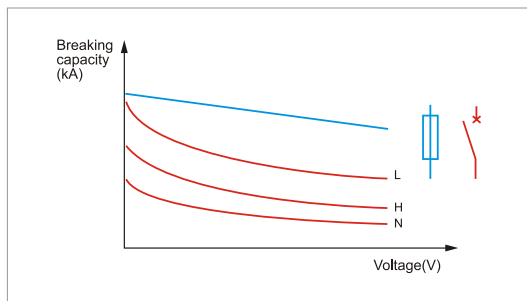
Electrical feature

1. Rating range

Fuse-switch-disconnector differs from other switch equipment, along with short-circuit, overload protection, isolation and switching functions. It is the newest fusegear equipment in the world combining with traditional fuse, disconnect and switch. It operates not only under load but also with perfect current-limiting and selective coordination. It can be used in low voltage distribution circuits widely, from low voltage side of transformer round to the input circuit to end user, current rating range from 160A-1250A for the distribution rooms or cable distribution boxes. It is designed to be simple, easy to install and safe, reliable to operate. It will help numbers of distribution sector users and the construction developer reaping much more significant economic benefits than circuit breakers solution.

2. Breaking capacity

Breaking capacity of the fuse-switch-disconnector is from 50kA to 120kA, which fully advances against the highest possible short-circuit condition in the realities of industrial power. The same breaking capacity for circuit breakers is not only expensive but also bulky size, therefore, the cost should be much higher and more difficult for control and maintenance.

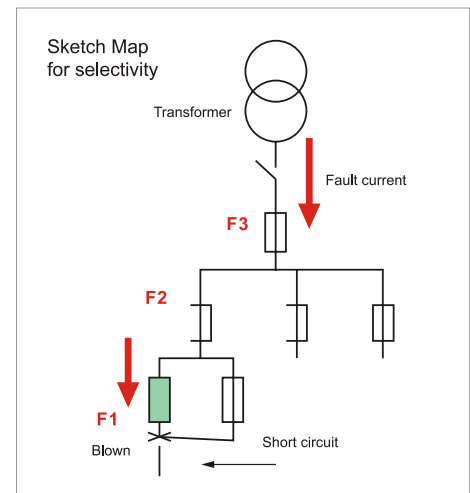


3. Operating under rated load

Fuse-switch-disconnector is different from our other combination of fuse products, such as insulation-disconnector or fuse holder, which are defined in the products standards definitely and can not be operated under the loads. Fuse-switch-disconnector is therefore not only isolated, but also has the switching function to break loads normally.

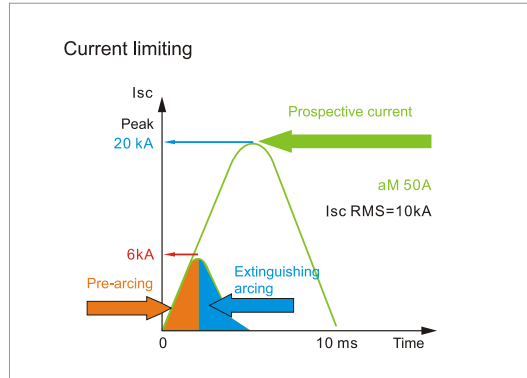
4. Discrimination

Discrimination means when there is overload or short circuit faults happen, the nearest protective component upstream opens, to ensure power supply continued to non-fault circuit and cut-off safely to fault circuit. The fuse rating ratio between upstream and downstream is 1.6:1 in accordance with international standards. Low ratio can not only reduce the current level of protection in more details for the entire network, but also reduce the overall harm significantly caused by fault current on power supply network. For circuit breaker, the ratio between upstream and downstream is 34:1 in accordance with the standards in order to ensure better security features. This will expand the current level for the whole network, thereby increasing the current level of the cables and electrical components, which must cause a great deal of waste for utility department and end users. Through the application of fuse-switch-disconnector, it will reduce the ratings of the switches, cables and electrical components, save the cost of investment and lower the operating power consumption.



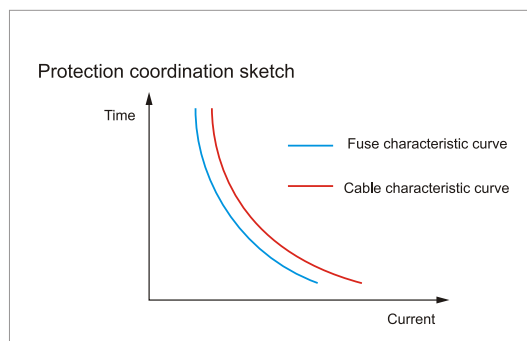
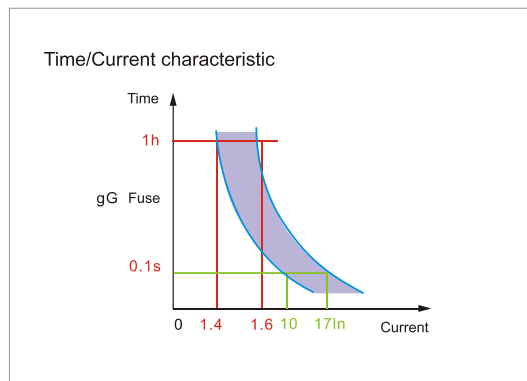
5. Current-limiting characteristic

Any other circuit protection devices can not be compared with the current limiting characteristics of the fuse. Relying on their own physical characteristics, Joule-integral I²t setting, these achieve to cut off the fault current before the prospective peak current run up to avoid the circuit system from harm. Normal circuit breakers are non-current limiting characteristics; the quality of their products, the aging extent of their structure will impact their current limiting characteristics greatly.



6. Excellent over current protection characteristic

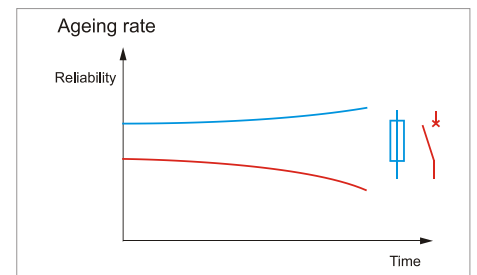
The characteristic curve of fuse is perfectly matched to the characteristics of transformers and cables, to ensure the transformer to run safely when working under the maximum load; especially for using dedicated transformer protection fuse, it will enable the transformer running for 10 hours under load by 1.2 times or 2 hours by 1.5 times of load safely. This is very high security and economic value if significant fluctuations in electricity load.



7. Anti-aging feature

Fuses are not the renewable parts, the products performance can be fully restored to the design requirements by replacing fuses.

Although circuit breakers can be switched repeatedly with convenience of users, at the same time, it definitely have been a lot of security risks, the contact wear, the sensitivity and the rated setting will inevitably be affected.



Reliability		
	Disadvantage of circuit breaker	Advantages of fuse
	Performance getting worse after breaking (ICS/ICU)	Performance remains unchanged
	Susceptible to be interfered	Only impacted by thermal action
	Easy to be impacted by environment and easy to aging	No aging

8. Telemetry

Fuse-switch-disconnector can be realized in the remote monitoring function in the low-voltage distribution network. In use of fuse-switch-disconnector is not only compliant to the international norms, but also great to meet the running norms of electrical appliances in our country.

Efficiency economy

1. To utility

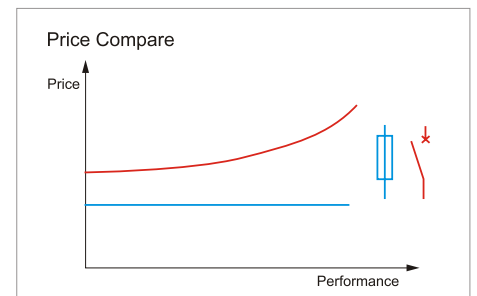
To developers and construction sector, in low-voltage distribution system, the cost is much lower than circuit breaker system when overall a doption of fuse-switch-disconnector.

2. To designer

Fuse is fully matched to transformer and cable characteristic curve, the fuse selection for designers is more convenient.

3. To user

The product configuration is easy and flexible for connection and installation. Ingress protection can be reached IP20.



MRO.H1 Fuse-Switch- Disconnecter

Product Application

MRO.H1(DR1) series of fuse-switch-disconnector are mainly used in circuits with high short-circuit current and motor circuit as power switch, disconnecting switch, emergency switch and circuit protection. It is not suitable to switch a single motor directly.



Product Description

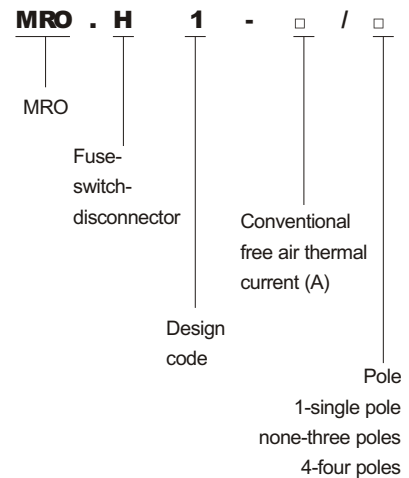
MRO.H1 series of fuse-switch-disconnector is the newest developing from various products combination of products, it combines fusing protection, isolation and switching in order to make the distribution unit smaller, more reasonable and attractive.

For MRO.H1 series of fuse-switch-disconnector, the rated insulation voltage is up to AC 50Hz 800V, the rated working voltage up to 690V and the rated working current up to 630A.

Product Features

- The switch with half sealed structures is made up of two parts: the seat and cover (the fuse holder). Through the window in the cover, it can observe the rated data of the fuse links and indicator status. The switch should be matched with the appropriate size of fuse links accordingly. MRO.H1-160/1 is single-pole and MRO.H1-160 is three-pole, both can be matched with size 000 and 00 fuselinks. MRO.H1-250/1, MRO.H1-400/1, MRO.H1-630/1 are single-pole and MRO.H1-250, MRO.H1-400, MRO.H1-630 are three-pole. They are matched with size 1, 2, 3 fuselinks separately. The three-pole switch can be combined with the single-pole version with the same size into four-pole switch.
- The switch has the features of small size, reliable operation, convenient installation and removal.
- All of these products, except for conductive parts, all are the finger-touch protection: IP20. Compliance with GB14048.3 and IEC/EN60947-3.

Catalogue Number



Rated making and breaking Capacities

Rated operational voltage(V)	Rated operational current(A)	Utilization category	Rated making and breaking Capacity					
			Making			Breaking		
			I/le	U/Ur	COS φ	Ic/Ie	Ur/Ur	COS φ
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	100	AC23B	10	1.05	0.45	8	1.05	0.45
	>100	AC23B	10	1.05	0.35	8	1.05	0.35

Note: I—making current U—making voltage
 I—rated operational current U—rated operational voltage
 I—breaking current U—recovery voltage



MRO.H1-100/1P

Technical data

Rated insulation voltage: 800V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 160A
 NH fuse-link size: 00,000
 Weight: 290g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	230/400V
Rated operational current:	100A	125A	160A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	00,000	00	00
Breaking capacity of fuselink:	50kA	100kA	100kA

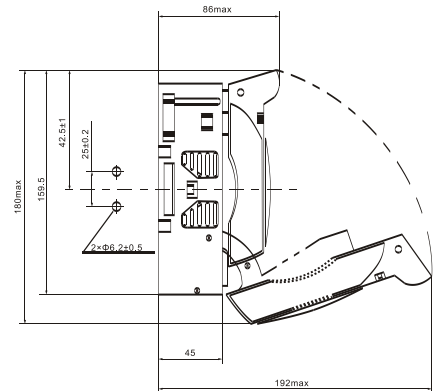
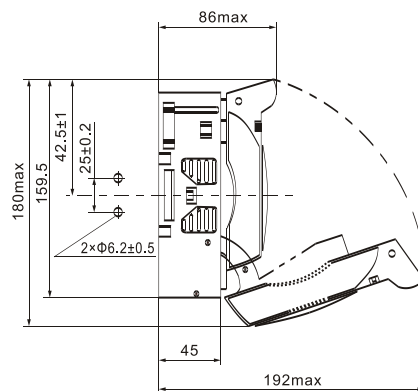
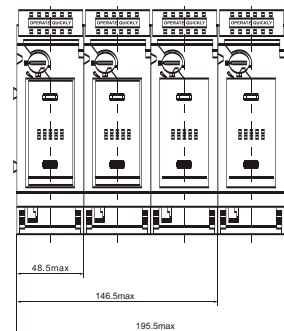
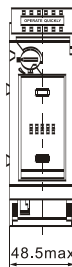
MRO.H1-100/4P

Technical data

Rated insulation voltage: 800V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 160A
 NH fuse-link size: 00,000
 Weight: 990g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	230/400V
Rated operational current:	100A	125A	160A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	00,000	00	00
Breaking capacity of fuselink:	50kA	100kA	100kA



MRO.H1-160 Fuse-Switch-Disconnecter



MRO.H1-160/1

Technical data

Rated insulation voltage: 800V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 160A
 NH fuse-link size: 00,000
 Weight: 290g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	230/400V
Rated operational current:	100A	125A	160A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	00,000	00	00
Breaking capacity of fuselink:	50kA	100kA	100kA

MRO.H1-160

Technical data

Rated insulation voltage: 800V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 160A
 NH fuse-link size: 00,000
 Weight: 700g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	230/400V
Rated operational current:	100A	125A	160A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	00,000	00	00
Breaking capacity of fuselink:	50kA	100kA	100kA

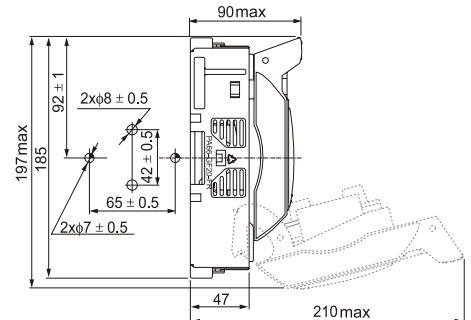
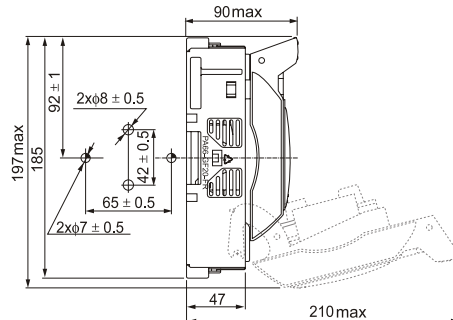
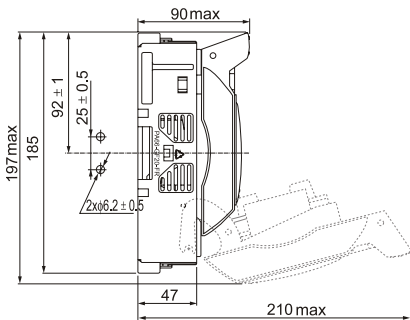
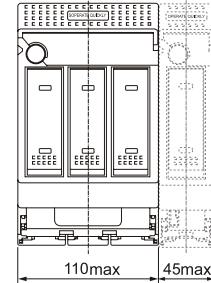
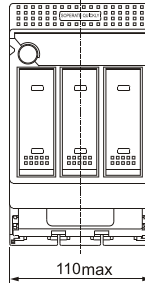
MRO.H1-160/4

Technical data

Rated insulation voltage: 800V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 160A
 NH fuse-link size: 00,000
 Weight: 990g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	230/400V
Rated operational current:	100A	125A	160A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	00,000	00	00
Breaking capacity of fuselink:	50kA	100kA	100kA



MRO.H1-250 Fuse-Switch-Disconnecter



MRO.H1-250/1

Technical data

Rated insulation voltage: 800V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 250A
 NH fuse-link size:1
 Weight: 735g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	230/400V
Rated operational current:	160A	200A	250A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	1	1	1
Breaking capacity of fuselink:	50kA	100kA	100kA

MRO.H1-250

Technical data

Rated insulation voltage: 800V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 250A
 NH fuse-link size:1
 Weight: 1510g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	230/400V
Rated operational current:	160A	200A	250A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	1	1	1
Breaking capacity of fuselink:	50kA	100kA	100kA

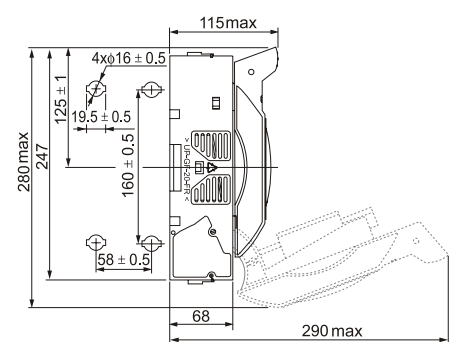
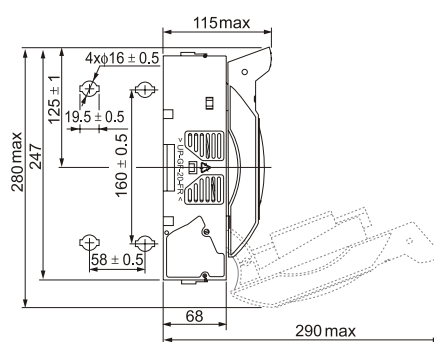
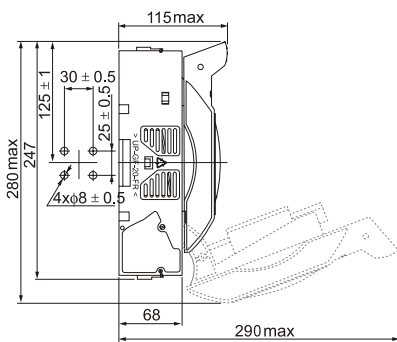
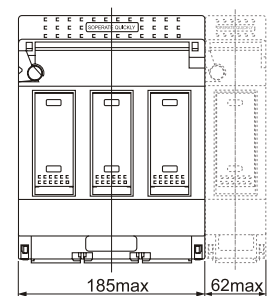
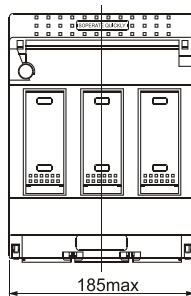
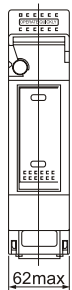
MRO.H1-250/4

Technical data

Rated insulation voltage: 800V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 250A
 NH fuse-link size:1
 Weight: 2245g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	230/400V
Rated operational current:	160A	200A	250A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	1	1	1
Breaking capacity of fuselink:	50kA	100kA	100kA



MRO.H1-400 Fuse-Switch-Disconnecter



MRO.H1-400/1

Technical data

Rated insulation voltage: 800V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 400A
 NH fuse-link size: 2
 Weight: 1302g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	230/400V
Rated operational current:	250A	315A	400A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	2	2	2
Breaking capacity of fuselink:	50kA	100kA	100kA

MRO.H1-400

Technical data

Rated insulation voltage: 800V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 400A
 NH fuse-link size: 2
 Weight: 3272g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	230/400V
Rated operational current:	250A	315A	400A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	2	2	2
Breaking capacity of fuselink:	50kA	100kA	100kA

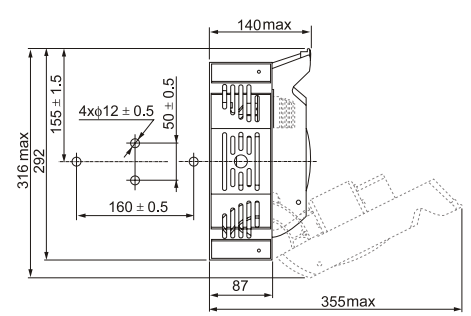
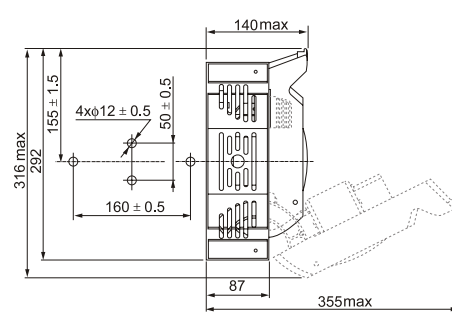
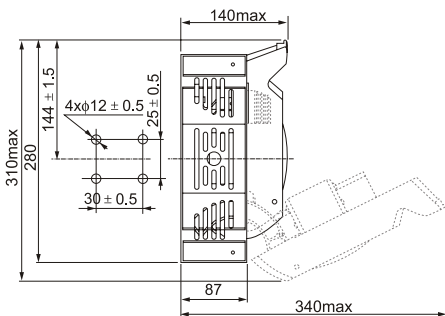
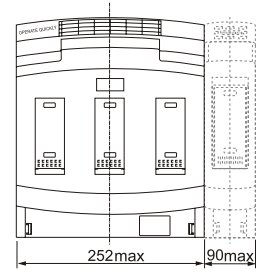
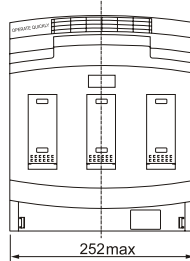
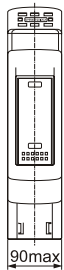
MRO.H1-400/4

Technical data

Rated insulation voltage: 800V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 400A
 NH fuse-link size: 2
 Weight: 4574g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	230/400V
Rated operational current:	250A	315A	400A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	2	2	2
Breaking capacity of fuselink:	50kA	100kA	100kA



MRO.H1-630 Fuse-Switch-Disconnecter



MRO.H1-630/1

Technical data

Rated insulation voltage: 800V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 630A
 NH fuse-link size: 3
 Weight: 1492g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	230/400V
Rated operational current:	400A	500A	630A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	3	3	3
Breaking capacity of fuselink:	50kA	100kA	100kA

MRO.H1-630

Technical data

Rated insulation voltage: 800V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 630A
 NH fuse-link size: 3
 Weight: 3855g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	230/400V
Rated operational current:	400A	500A	630A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	3	3	3
Breaking capacity of fuselink:	50kA	100kA	100kA

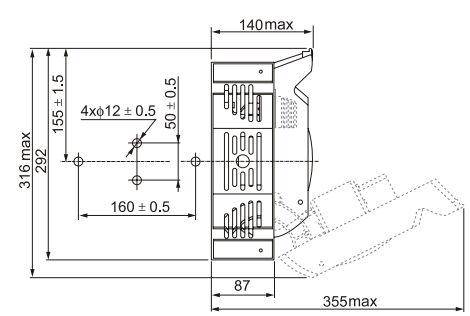
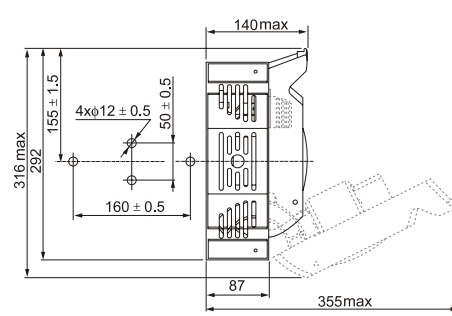
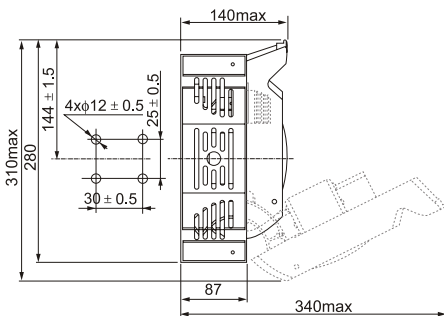
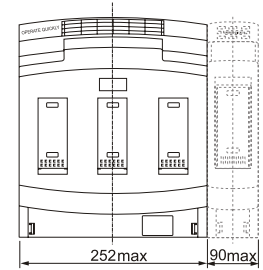
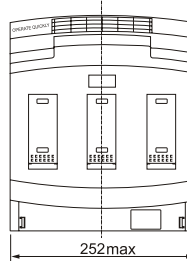
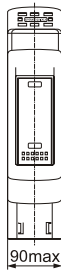
MRO.H1-630/4

Technical data

Rated insulation voltage: 800V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 630A
 NH fuse-link size: 3
 Weight: 5347g

The ratings on various operational voltage and utilization category

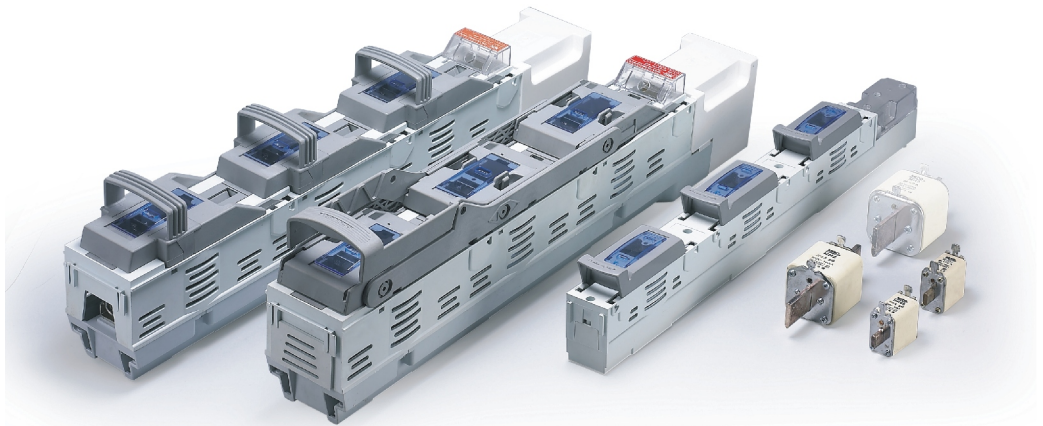
Rated operational voltage:	690V	500V	230/400V
Rated operational current:	400A	500A	630A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	3	3	3
Breaking capacity of fuselink:	50kA	100kA	100kA



MRO.H2 Fuse-Switch-Disconnecter

Product Application

MRO.H2 series of fuse-switch-disconnector are mainly used in circuits with high short-circuit current and motor circuit as power switch, disconnecting switch, emergency switch and circuit protection. It is not suitable to switch a single motor directly.



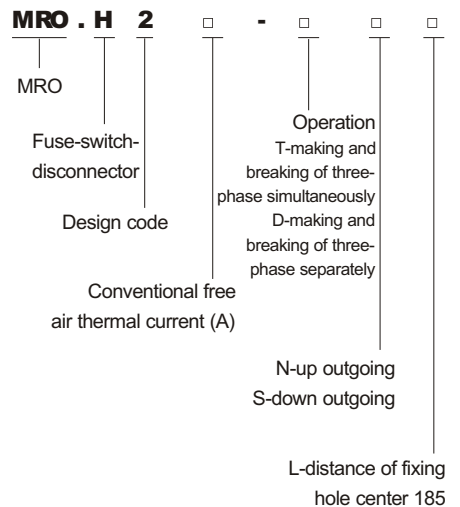
Product Features

- a. The switch with half sealed structures is made up of two parts: the seat and cover (the fuse holder). Through the window in the cover, it can observe the rated data of the fuse links and indicator status.
- b. Installation: The switch is molded designed. MRO.H2-160 (50mm in width), can be directly installed on 100mm busbar through the incoming feeder. There are two type connecting version available: up outgoing and down outgoing, three phases make and break simultaneously, suitable for NH000 and NH00 size fuses. MRO.H2-250 (102mm in width), can be directly installed on 185mm busbar through the incoming feeder, it also can be installed on the supporter by two 12x18 installation holes. There are two type connecting version available: up outgoing and down outgoing, three phases make and break simultaneously or separately, suitable for NH1 size fuses. MRO.H2-400 (102mm in width), can be directly installed on 185mm busbar through the incoming feeder, it also can be installed on the supporter by two 12x18 installation holes. There are two type version available: up outgoing and down outgoing, three phases make and break simultaneously or separately, suitable for NH1 size fuses. MRO.H2-630 (102mm in width), can be directly installed on 185mm busbar through the input line, it also can be installed on the supporter by two 12x18 installation holes. There are two type connecting version available: up outgoing and down outgoing, three phases make and break simultaneously or separately, suitable for NH3 size fuses. MRO.H2-160/L (52mm in width), can be directly installed on 185mm busbar through the input line. There are two type connecting version available: up outgoing and down outgoing, three phases make and break simultaneously or separately, suitable for NH000 and NH00 size fuses.
- c. The switch has the features of small size, reliable operation, convenient installation and removal.
- d. All of these products, except for conductive parts, all are the finger-touch protection: IP20. Compliance with GB14048.3 and IEC/EN60947-3.

Product Description

MRO.H2 series of fuse-switch-disconnector is the newest developing from various products combination of products, it combines fusing protection, isolation and switching in order to make the distribution unit smaller, more reasonable and attractive. For MRO.H2 series of fuse-switch-disconnector, the rated insulation voltage is up to AC 50Hz 1000V, the rated working voltage up to 690V and the rated working current up to 630A.

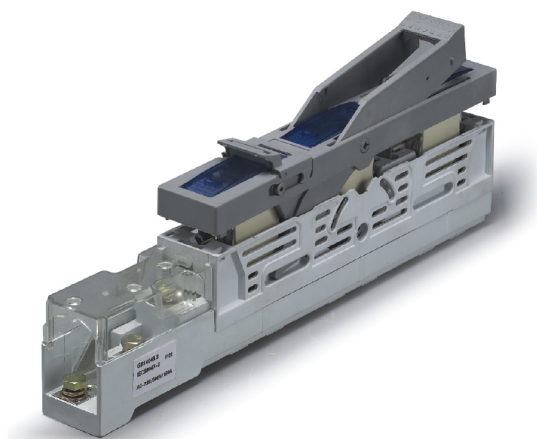
Catalogue Number



Rated making and breaking Capacity

Rated operational voltage(V)	Rated operational current(A)	Utilization category	Rated making and breaking Capacity					
			Making			Breaking		
			I/le	U/Ue	COS φ	Ic/Ie	Ur/Ue	COS φ
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	100	AC23B	10	1.05	0.45	8	1.05	0.45
	>100	AC23B	10	1.05	0.35	8	1.05	0.35

Note: I—making current U—making voltage
 I—rated operational current U—rated operational voltage
 I—breaking current U—recovery voltage



MRO.H2-160/TN

Technical data

Configuration: installation on bus bar,
 three phases make and break simultaneously, up outgoing cable
 Rated insulation voltage: 1000V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 160A
 NH fuse-link size: 00,000
 Weight: 1166g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	400V
Rated operational current:	80A 100A	100A 125A	100A 160A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	000 00	000 00	000 00
Breaking capacity of fuselink:	50kA	100kA	100kA

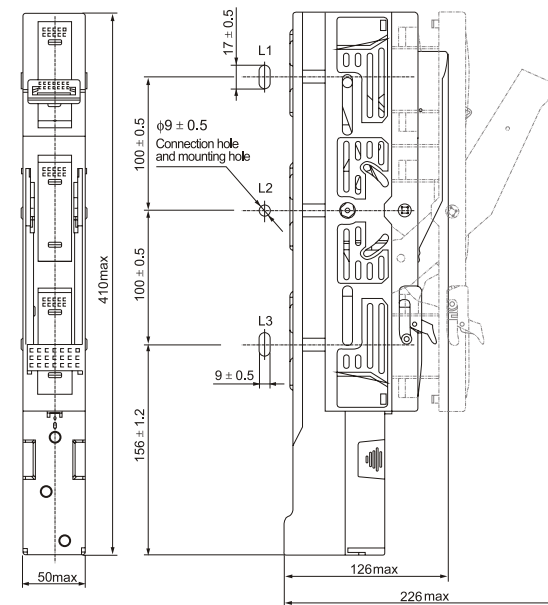
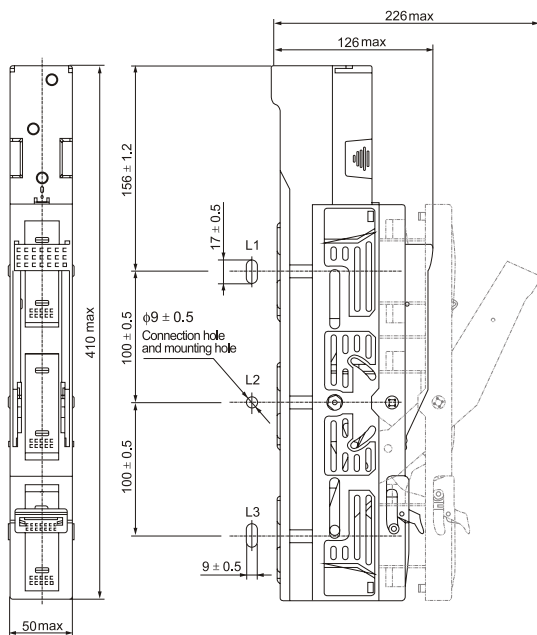
MRO.H2-160/TS

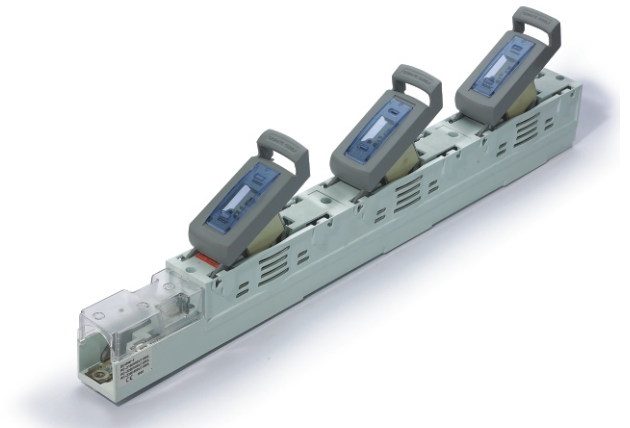
Technical data

Configuration: installation on bus bar,
 three phases make and break simultaneously, down outgoing cable
 Rated insulation voltage: 1000V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 160A
 NH fuse-link size: 00,000
 Weight: 1166g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	400V
Rated operational current:	80A 100A	100A 125A	100A 160A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	000 00	000 00	000 00
Breaking capacity of fuselink:	50kA	100kA	100kA





MRO.H2-160/DNL

Technical data

Configuration: installation on bus bar and supporter,
 three phases make and break separately, up outgoing cable
 Rated insulation voltage: 1000V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 160A
 NH fuse-link size: 00,000
 Weight: 1543g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	400V
Rated operational current:	80A 100A	100A 125A	100A 160A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	000 00	000 00	000 00
Breaking capacity of fuselink:	50kA	100kA	100kA

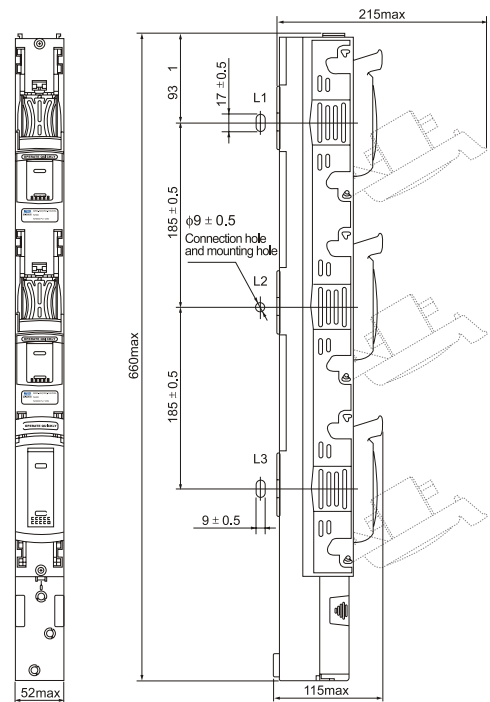
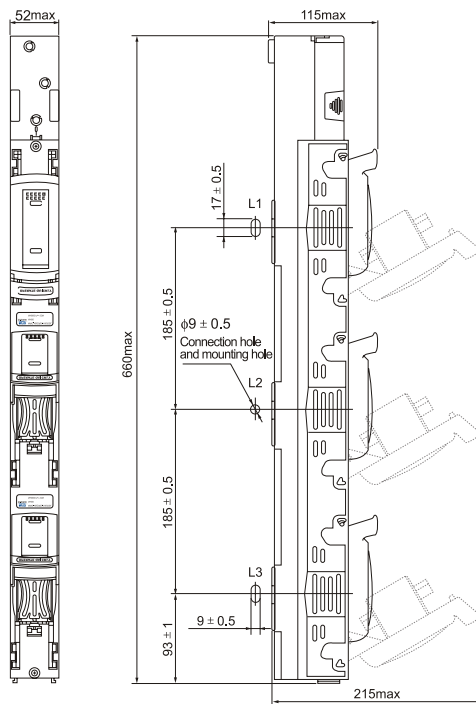
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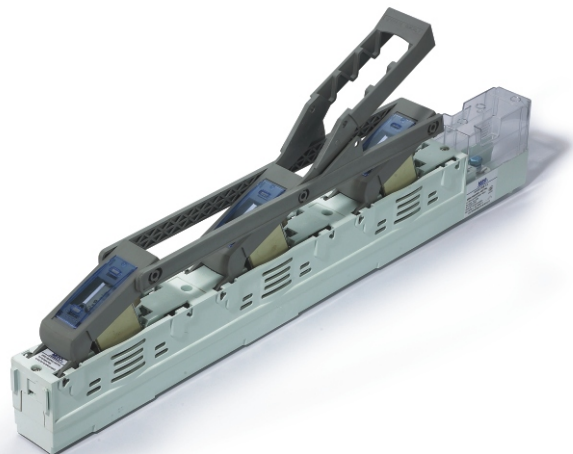
Technical data

Configuration: installation on bus bar and supporter,
 three phases make and break separately, down outgoing cable
 Rated insulation voltage: 1000V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 160A
 NH fuse-link size: 00,000
 Weight: 1543g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	400V
Rated operational current:	80A 100A	100A 125A	100A 160A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	000 00	000 00	000 00
Breaking capacity of fuselink:	50kA	100kA	100kA





MRO.H2-160/TNL

Technical data

Configuration: installation on bus bar and supporter,
 three phases make and break simultaneously, up outgoing cable
 Rated insulation voltage: 1000V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 160A
 NH fuse-link size: 00,000
 Weight: 1674g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	400V
Rated operational current:	80A 100A	100A 125A	100A 160A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	000 00	000 00	000 00
Breaking capacity of fuselink:	50kA	100kA	100kA

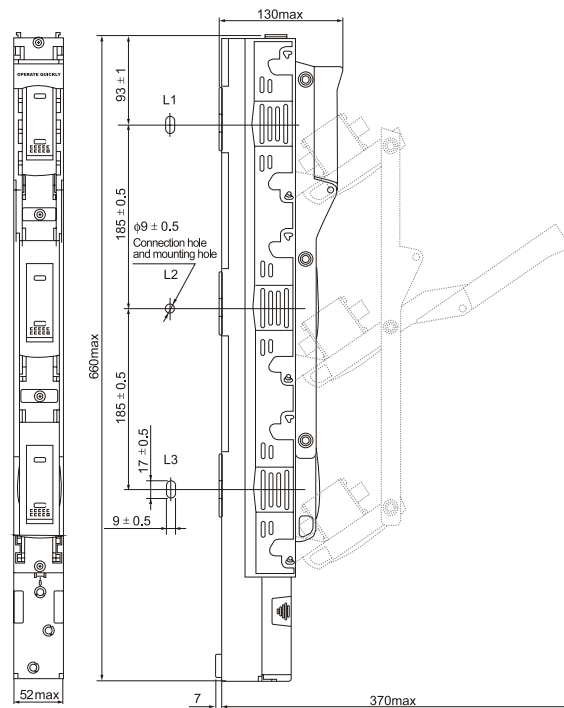
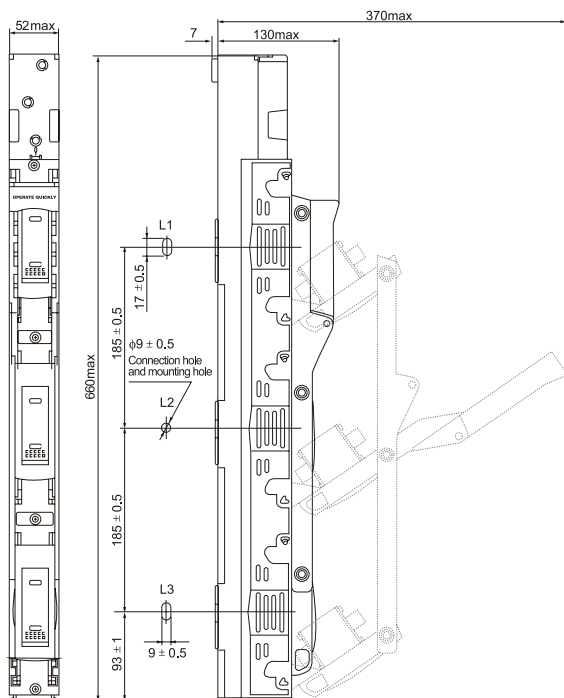
MRO.H2-160/TSL

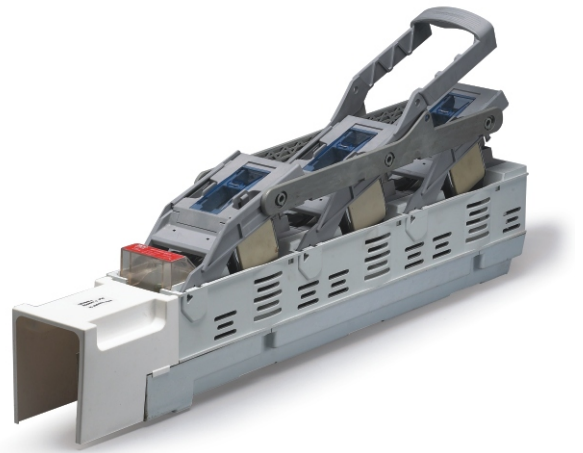
Technical data

Configuration: installation on bus bar and supporter,
 three phases make and break simultaneously, down outgoing cable
 Rated insulation voltage: 1000V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 160A
 NH fuse-link size: 00,000
 Weight: 1674g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	400V
Rated operational current:	80A 100A	100A 125A	100A 160A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	000 00	000 00	000 00
Breaking capacity of fuselink:	50kA	100kA	100kA





MRO.H2-250/TN

Technical data

Configuration: installation on bus bar and supporter, three phases make and break simultaneously, up outgoing cable
 Rated insulation voltage: 1000V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 250A
 NH fuse-link size: 1
 Weight: 5678g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	400V
Rated operational current:	160A	200A	250A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	1	1	1
Breaking capacity of fuselink:	50kA	100kA	100kA

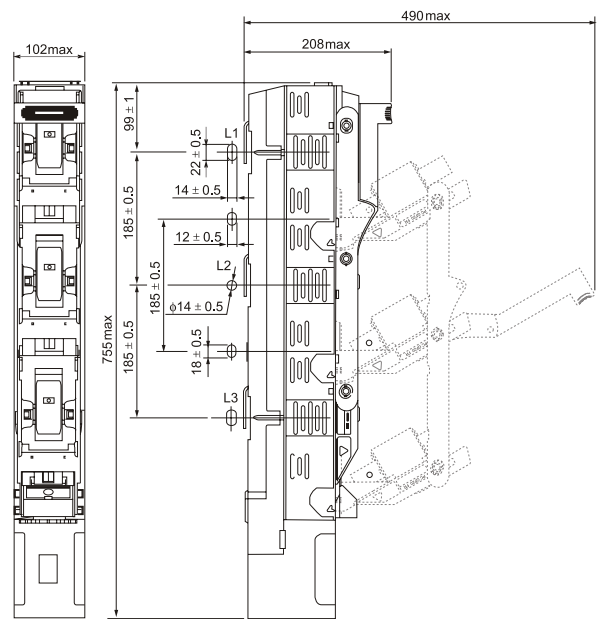
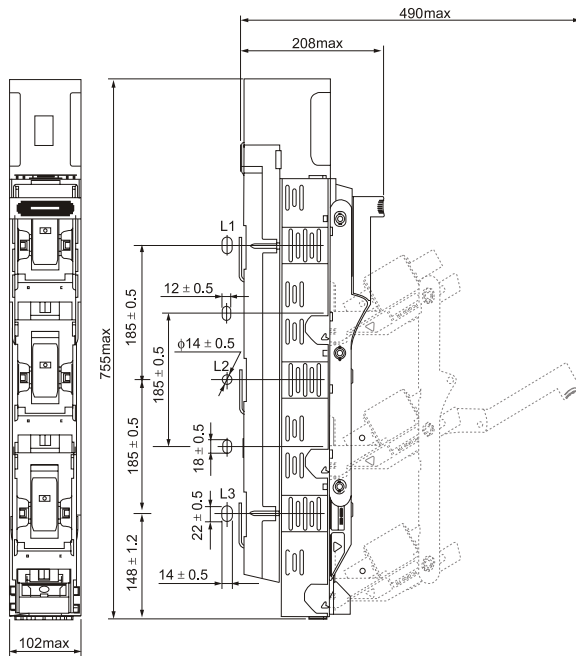
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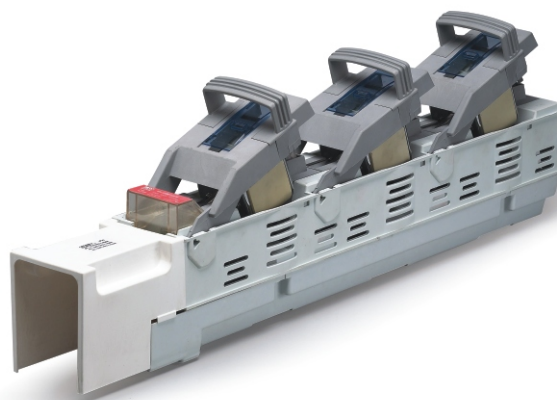
Technical data

Configuration: installation on bus bar and supporter, three phases make and break simultaneously, down outgoing cable
 Rated insulation voltage: 1000V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 250A
 NH fuse-link size: 1
 Weight: 5678g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	400V
Rated operational current:	160A	200A	250A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	1	1	1
Breaking capacity of fuselink:	50kA	100kA	100kA





MRO.H2-250/DN

Technical data

Configuration: installation on bus bar and supporter,
 three phases make and break separately, up outgoing cable
 Rated insulation voltage: 1000V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 250A
 NH fuse-link size: 1
 Weight: 5540g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	400V
Rated operational current:	160A	200A	250A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	1	1	1
Breaking capacity of fuselink:	50kA	100kA	100kA

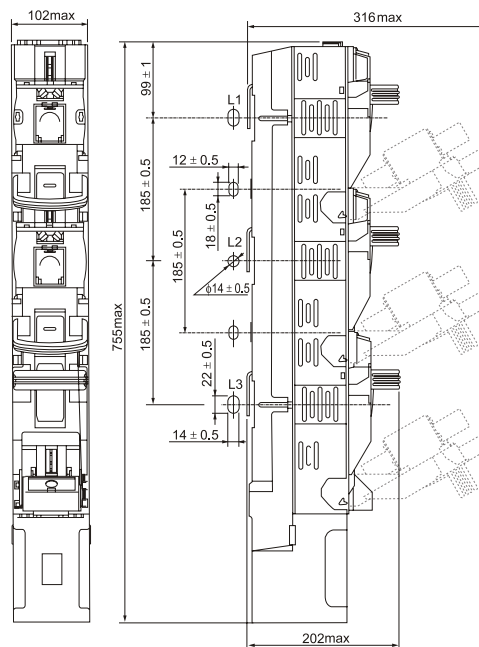
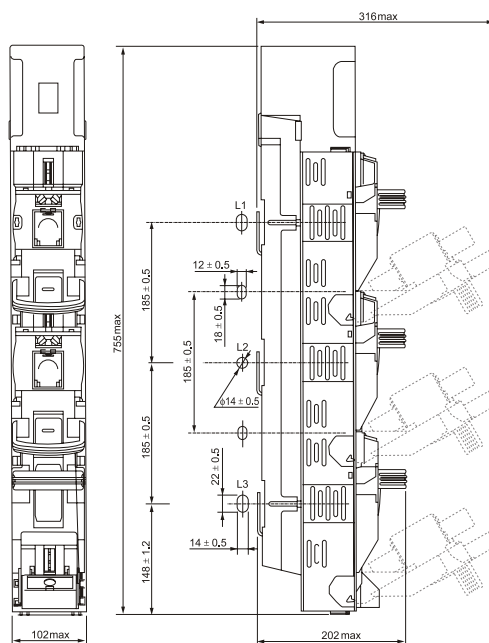
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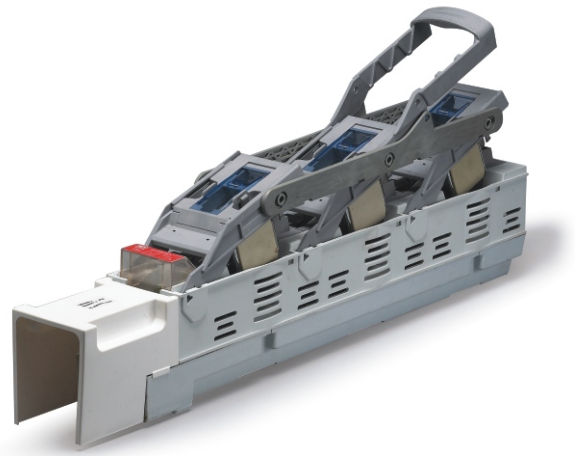
Technical data

Configuration: installation on bus bar and supporter,
 three phases make and break separately, down outgoing cable
 Rated insulation voltage: 1000V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 250A
 NH fuse-link size: 1
 Weight: 5540g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	400V
Rated operational current:	160A	200A	250A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	1	1	1
Breaking capacity of fuselink:	50kA	100kA	100kA





MRO.H2-400/TN

Technical data

Configuration: installation on bus bar and supporter,
 three phases make and break simultaneously, up outgoing cable
 Rated insulation voltage: 1000V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 400A
 NH fuse-link size: 2
 Weight: 5678g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	400V
Rated operational current:	250A	315A	400A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	2	2	2
Breaking capacity of fuselink	50kA	100kA	100kA

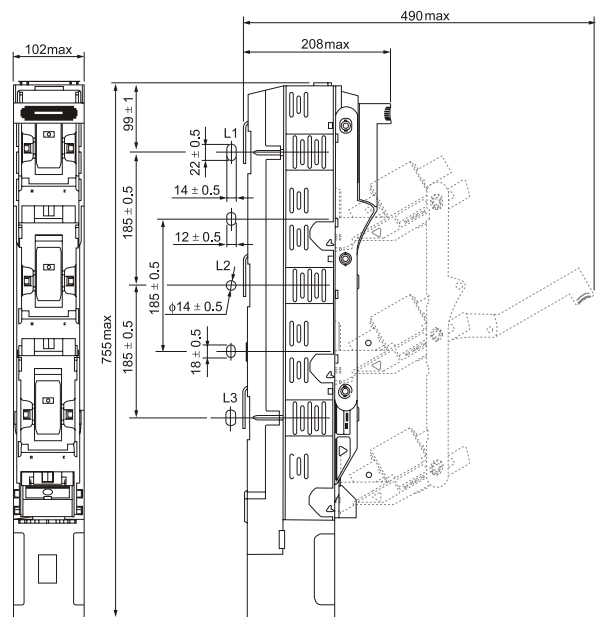
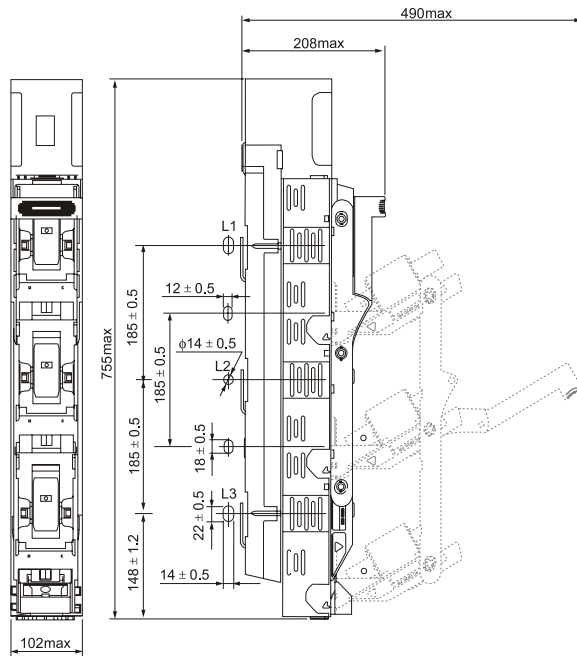
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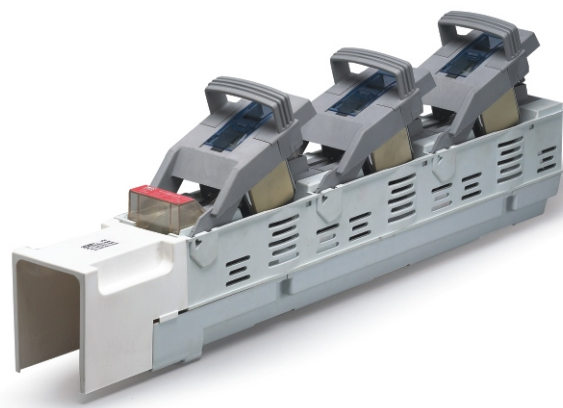
Technical data

Configuration: installation on bus bar and supporter,
 three phases make and break simultaneously, down outgoing cable
 Rated insulation voltage: 1000V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 400A
 NH fuse-link size: 2
 Weight: 5678g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	400V
Rated operational current:	250A	315A	400A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	2	2	2
Breaking capacity of fuselink	50kA	100kA	100kA





MRO.H2-400/DN

Technical data

Configuration: installation on bus bar and supporter,
 three phases make and break separately, up outgoing cable
 Rated insulation voltage: 1000V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 400A
 NH fuse-link size: 2
 Weight: 5540g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	400V
Rated operational current:	250A	315A	400A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	2	2	2
Breaking capacity of fuselink:	50kA	100kA	100kA

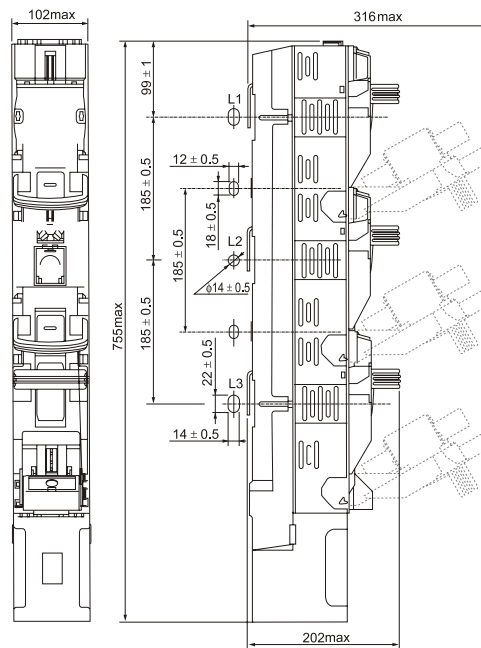
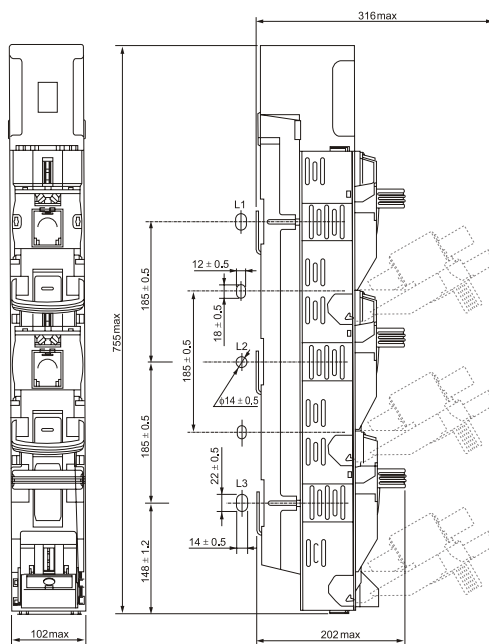
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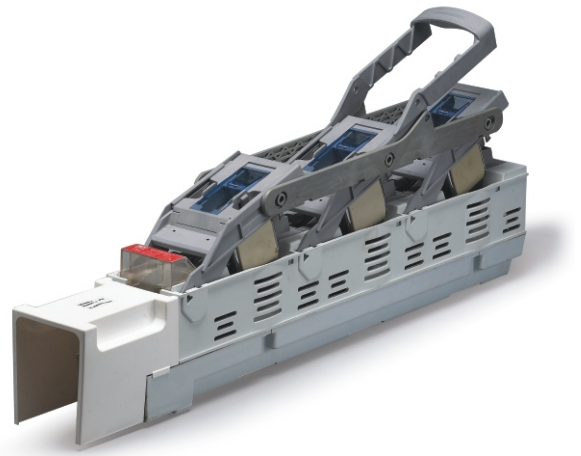
Technical data

Configuration: installation on bus bar and supporter,
 three phases make and break separately, down outgoing cable
 Rated insulation voltage: 1000V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 400A
 NH fuse-link size: 2
 Weight: 5540g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	400V
Rated operational current:	250A	315A	400A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	2	2	2
Breaking capacity of fuselink:	50kA	100kA	100kA





MRO.H2-630/TN

Technical data

Configuration: installation on bus bar and supporter, three phases make and break simultaneously, up outgoing cable
 Rated insulation voltage: 1000V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 630A
 NH fuse-link size: 3
 Weight: 6168g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	400V
Rated operational current:	400A	500A	630A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	3	3	3
Breaking capacity of fuselink:	50kA	100kA	100kA

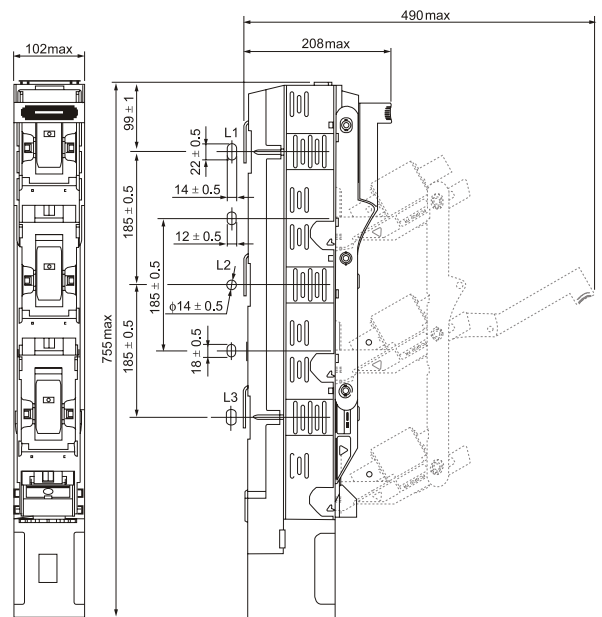
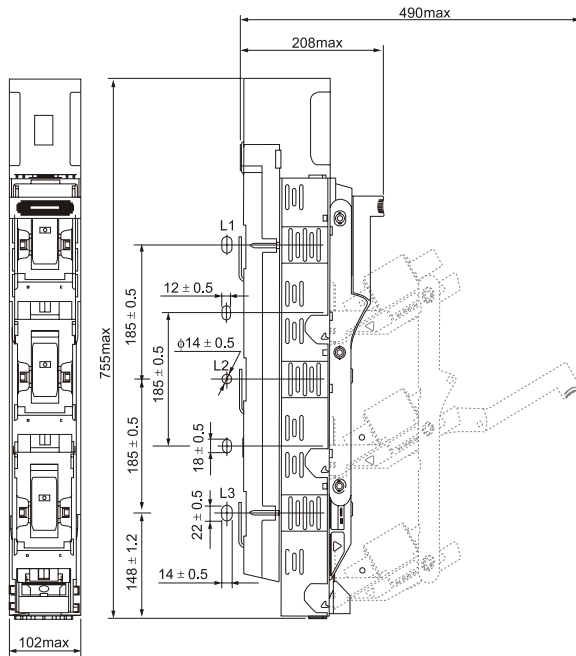
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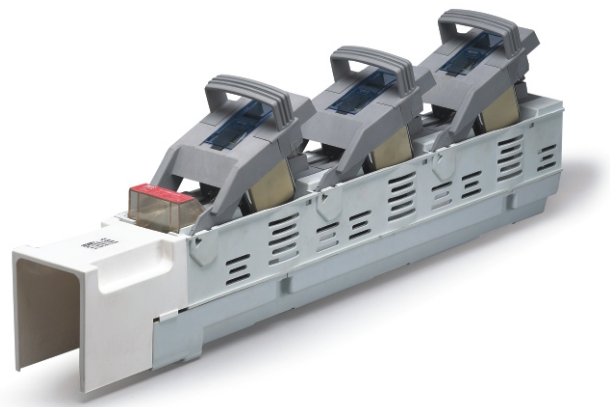
Technical data

Configuration: installation on bus bar and supporter, three phases make and break simultaneously, down outgoing cable
 Rated insulation voltage: 1000V
 Rated operational voltage: 400,500,690V
 Conventional free air thermal current with fuse-links: 630A
 NH fuse-link size: 3
 Weight: 6168g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	400V
Rated operational current:	400A	500A	630A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	3	3	3
Breaking capacity of fuselink:	50kA	100kA	100kA





MRO.H2-630/DN

Technical data

Configuration: installation on bus bar and supporter,
three phases make and break separately, up outgoing cable
Rated insulation voltage: 1000V
Rated operational voltage: 400,500,690V
Conventional free air thermal current with fuse-links: 630A
NH fuse-link size: 3
Weight: 6030g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	400V
Rated operational current:	400A	500A	630A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	3	3	3
Breaking capacity of fuselink:	50kA	100kA	100kA

MRO.H2-630/DS

Technical data

Configuration: installation on bus bar and supporter,
three phases make and break separately, down outgoing cable
Rated insulation voltage: 1000V
Rated operational voltage: 400,500,690V
Conventional free air thermal current with fuse-links: 630A
NH fuse-link size: 3
Weight: 6030g

The ratings on various operational voltage and utilization category

Rated operational voltage:	690V	500V	400V
Rated operational current:	400A	500A	630A
Utilization category:	AC21B	AC22B	AC23B
NH fuse-link size:	3	3	3
Breaking capacity of fuselink:	50kA	100kA	100kA

