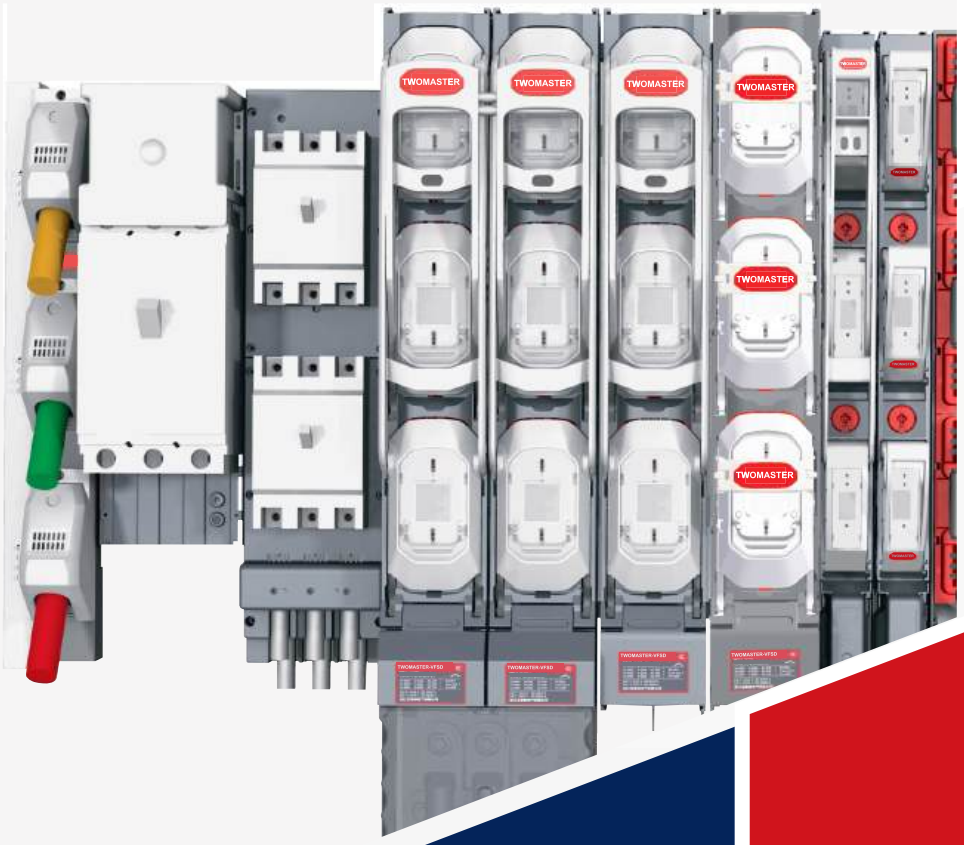
TWOMASTER



TWOMASTER VFSD

Vertical Fuse Switch Disconnector

160A-1000A

TWOMASTER VFSD

Vertical Fuse Switch Disconnector

160A-1000A

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The solution for

- Protection of industrial processes
- Main switchboard
- Distribution panel
- Photovoltaic Power Plants

Compliance with standards

- IEC 60947-3
- IEC 60269-2

Approvals and certifications

China Quality Certification Centre

Product Description

Series Overview
In the 185mm electrical system, the vertical fusedisconnector can be installed on the busbar orderly andcompactly.
With the connection of the hanging terminals, thebusbars do not need to be drilled, which is convenient,quick and easy to maintain.

- The installation of hanging terminal is efficient and fast.
- Overall protection structure, electricity safety and anti-accidental injury.
- There is a variety of wiring methods to adapt to a variety of site needs.
- The busbar is connected without holes, the component is flexibly applied, and it is easy to service and maintain.
- The system structure is compact to save space.

Product Code

TWOMASTER-VFSD Vertical Fuse Switch Disconnector				
Rating (A)	**No. of poles**	**Fuse Size**	**Switching Mode**	**Product Code**
160	3 Pole	NH00	1 pole	32233016
250	3 Pole	NH1	1 pole	32233025
400	3 Pole	NH2	1 pole	32233040
630	3 Pole	NH3	1 pole	32233063
1000	3 Pole	NH4	1 pole	32233100
1250	2x3 Pole	NH3	2x1 pole	32233120
2000	2x3 Pole	NH4	2x1 pole	32233200

TWOMASTER-VFSD Vertical Fuse Switch Disconnector				
Rating (A)	**No. of poles**	**Fuse Size**	**Switching Mode**	**Product Code**
160	3 Pole	NH00	3 pole	32233017
250	3 Pole	NH1	3 pole	32233026
400	3 Pole	NH2	3 pole	32233041
630	3 Pole	NH3	3 pole	32233064
1000	3 Pole	NH4	1 pole	32233101
1250	2x3 Pole	NH3	2x3 pole	32233121
2000	2x3 Pole	NH4	2x3 pole	32233201

TWOMASTER VFSD

Vertical Fuse Switch Disconnector

160A-1000A

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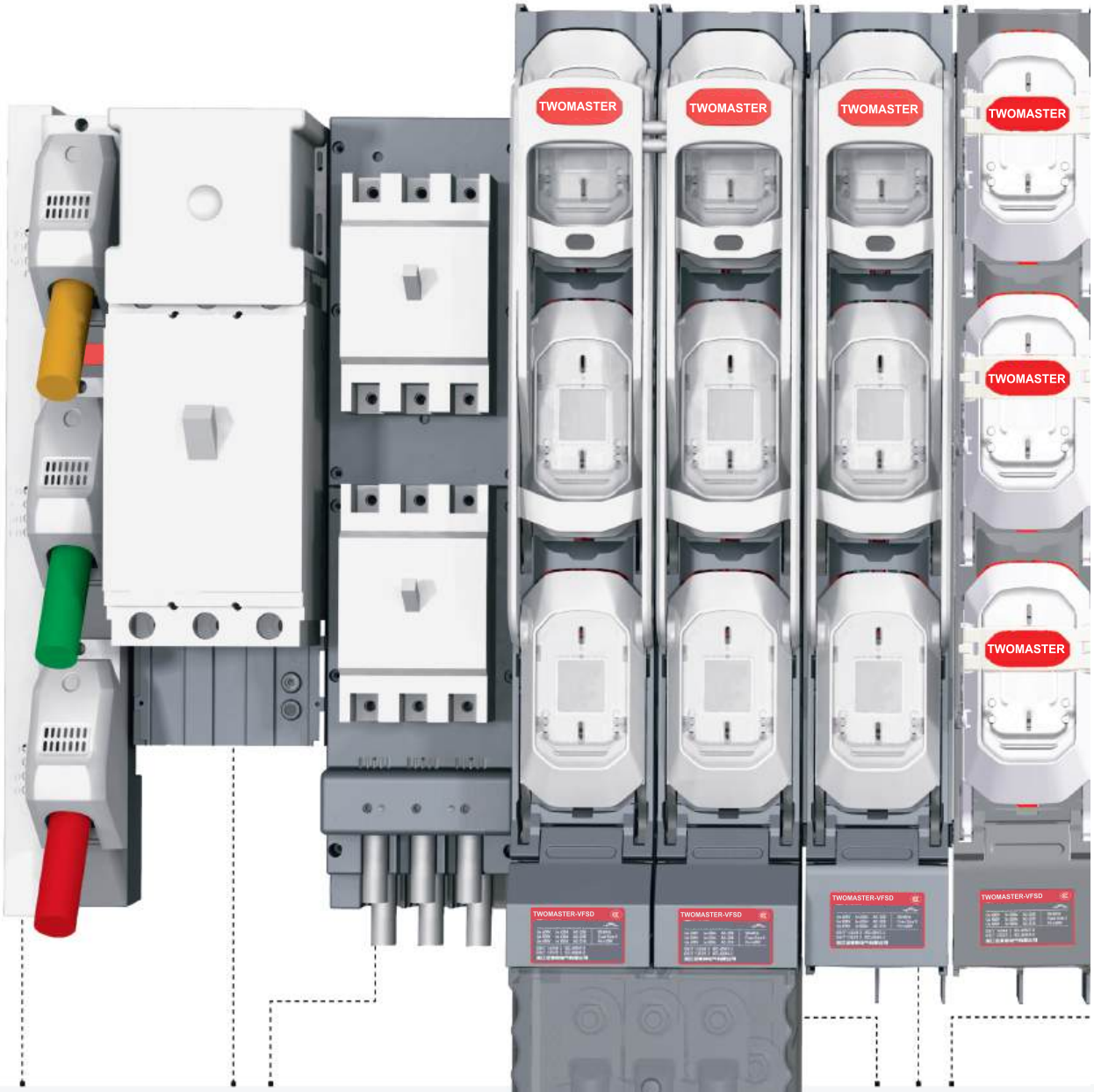

Strip Wiring Module

The strip wiring module with in-line integrated design solves the problem of customer's incoming wire layout, saves space and cost, and is safe and reliable.

MCCB Adapter

The circuit breaker can be quickly and easily installed into the system via an adapter. They can be used for the installation of circuit breakers for incoming and outgoing busbar systems and are compatible with most brands of circuit breakers.

Vertical Fuse Switch Disconnector

The new VFSD vertical fuse switch disconnector has integrated into the design philosophy of "independent innovation", it conceived and implemented a variety of new structures to help customer solve the application difficulties. At the same time, it has many patents.

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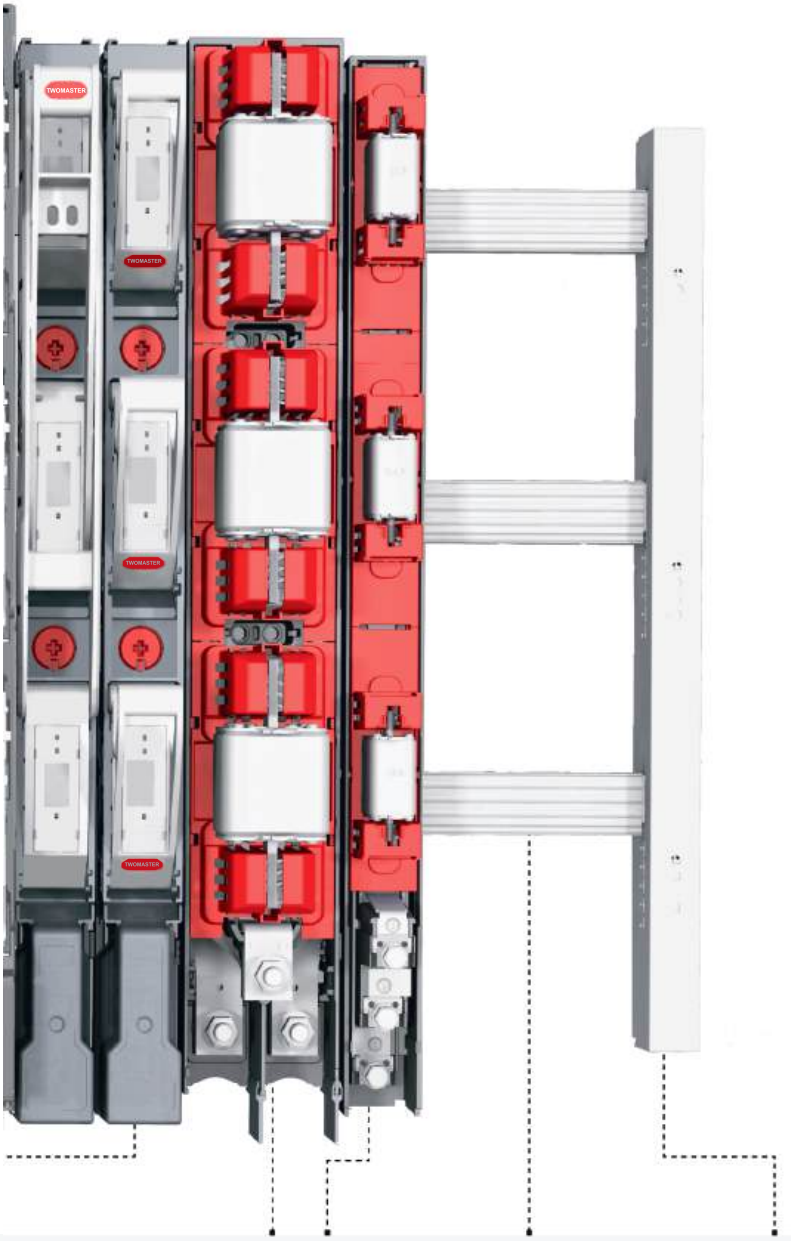
Vertical Fuse Switch Disconnector

160A-1000A



185mm

OVERVIEW of 185mm ELECTRICAL SYSTEM

Innovative Solutions And Efficient Experience

- With a modular 185mm electrical system, the vertical fuse switch disconnector, circuit breaker, fuse rail and other components can be installed in a busbar system with a 185mm space, of which all components are perfectly compatible.
- Thanks to the non-hole connection technology and modular design concept, the 185mm system has the advantages of simple and fast installation, safe and reliable power supply, diversified system functions, easy expansion of electrical circuit capacity and so on, bring even more helpful and innovative features to users.

Vertical Fuse Rail

The vertical fuse rail provides the basic functions in the electrical system: overload and short circuit protection, to ensure that the system runs reliably and to prevent hazards in time.

Busbar Cover

An anti-touch busbar cover is made of insulation material to ensure the safety of the 185mm system.

Busbar Support

The different sizes of busbar are directly installed in the electrical cabinet through busbar bracket with adjustable width, without being separately drilled, so as to realize non-drilling installation.

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Vertical Fuse Switch Disconnector

160A-1000A

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185mm

FULL RANGE DISPLAY of 185mm VERTICAL SWITCH

Series Overview

- In the 185mm electrical system, the vertical fuse disconnector can be installed on the busbar orderly and compactly.
- With the connection of the hanging terminals, the busbars do not need to be drilled, which is convenient, quick and easy to maintain.

- The installation of hanging terminal is efficient and fast.
- Overall protection structure, electricity safety and anti-accidental injury.
- There is a variety of wiring methods to adapt to a variety of site needs.
- The busbar is connected without holes, the component is flexibly applied, and it is easy to service and maintain.
- The system structure is compact to save space.

Position Block

The position block is installed on the base, and the spacing of the switches can be automatically arranged to be 5mm during the side-by-side installation to optimize the installation.

Electrical Fuse Monitor

The electrical fuse monitor is suitable for the monitoring component as a fuse in the control circuit. According to the fuse of the circuit, the panel outputs a work light or a fault light, and if the fault is displayed, it can simultaneously output a remote signal. When a new fuse is replaced, the monitor automatically returns to normal indication.

One-Phase Ammeter

With 3S monopole operation, a three-phase ammeter can be added to directly check the current of each phase.

Multi-Function Intelligent

The multi-function intelligent meter can be chosen for integrated installation, it has function of programmable measurement, display, digital communication and power pulse transmission output, which can complete electrical measurement, electric energy measurement, data display, acquisition and transmission. There is LED status display and remote RS-485 digital interface communication.

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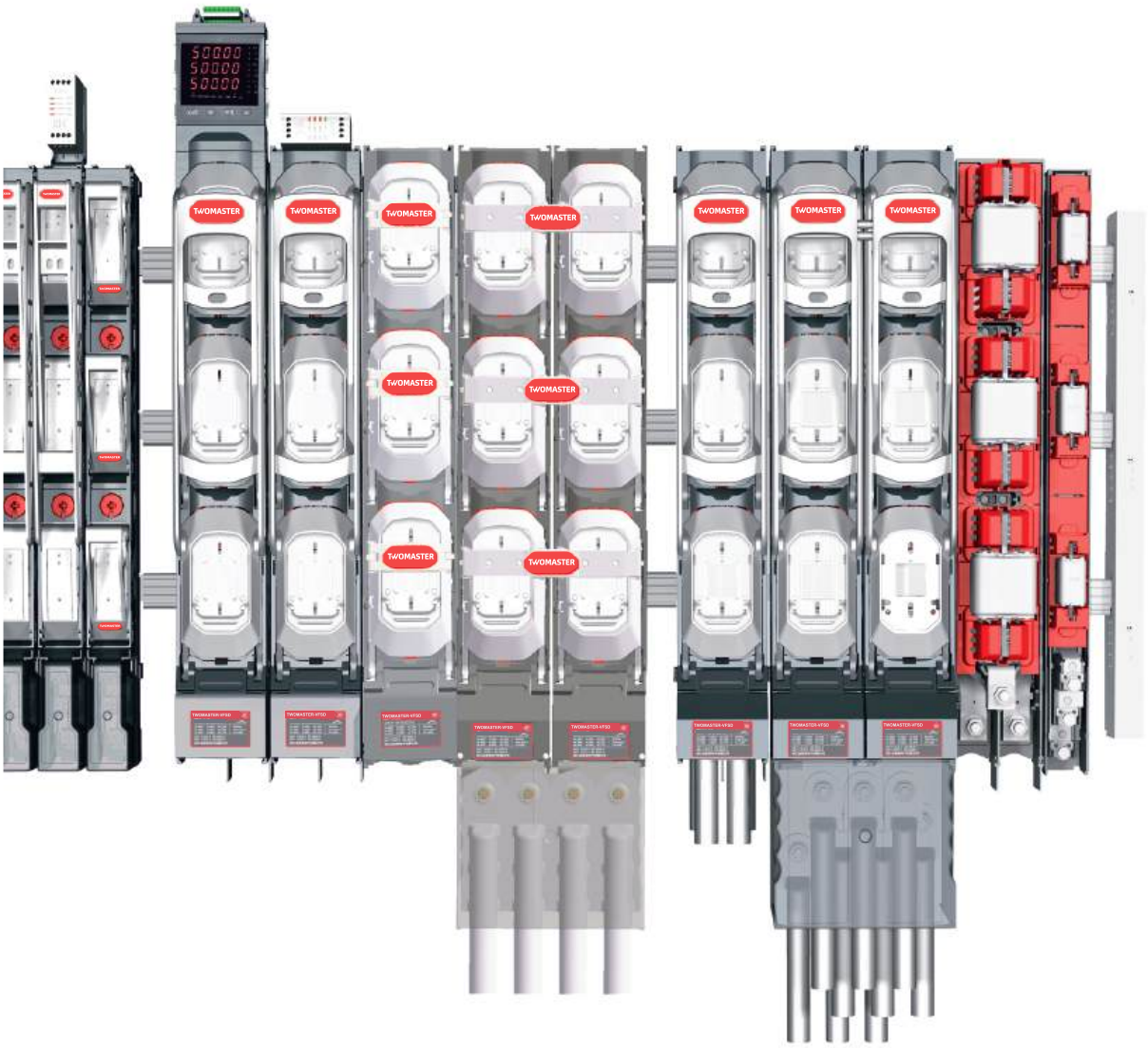
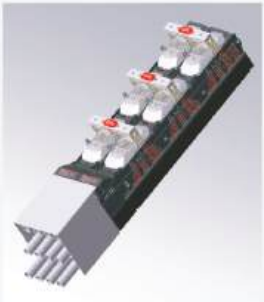
Vertical Fuse Switch Disconnector

160A-1000A





Connected In Parallel

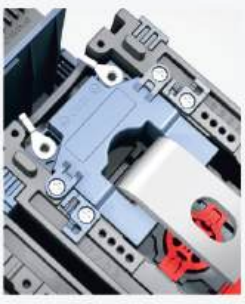
The two switches are connected in parallel and the maximum current can be up to 1250A (with fuse), and 2000A (with sold link)

Padlock

DNH18 switch structure is lockable design. When the electrical system is in normal operation or needs to be serviced or maintained, abnormal operation causing equipment failures and personal risk in the electrical system shall be prevented.

Logo

It is well designed and uses a two-color plastic injection molding process to show its ingenuity in the subtle aspects.



Structure

The integrated structure of switch transformer is adopted, and each phase can be installed with the transformer, which enhances the customer experience with convenient operation and service.

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Vertical Fuse Switch Disconnector

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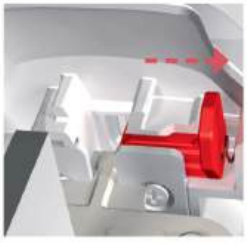
VERTICAL FUSE SWITCH DISCONNECTOR

The VFSD Vertical fuse switch is a new vertical fuse switch disconnector by OSSA for three years.
In the early stage of research and development, market research was carried out, user feedback was integrated, and the product structure was optimized according to the new PI planning of OSSA. Each design can solve the problems faced by user in practical application and provide the market with a new choice.

- The new VFSD vertical fuse switch disconnector is installed with a special hanging terminal and directly connected to the busbar. The hanging terminal can be fixed on the switch in advance and installed integrally with switch efficiently and conveniently.
- The VFSD vertical fuse switch disconnector can provide a variety of wiring modes to meet your wiring needs in different situations.

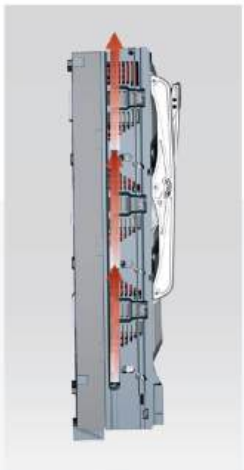


Horizontal Sliding Block

The fuse link is easy to assemble and disassemble, and can be locked and unlocked by laterally moving the red slider.

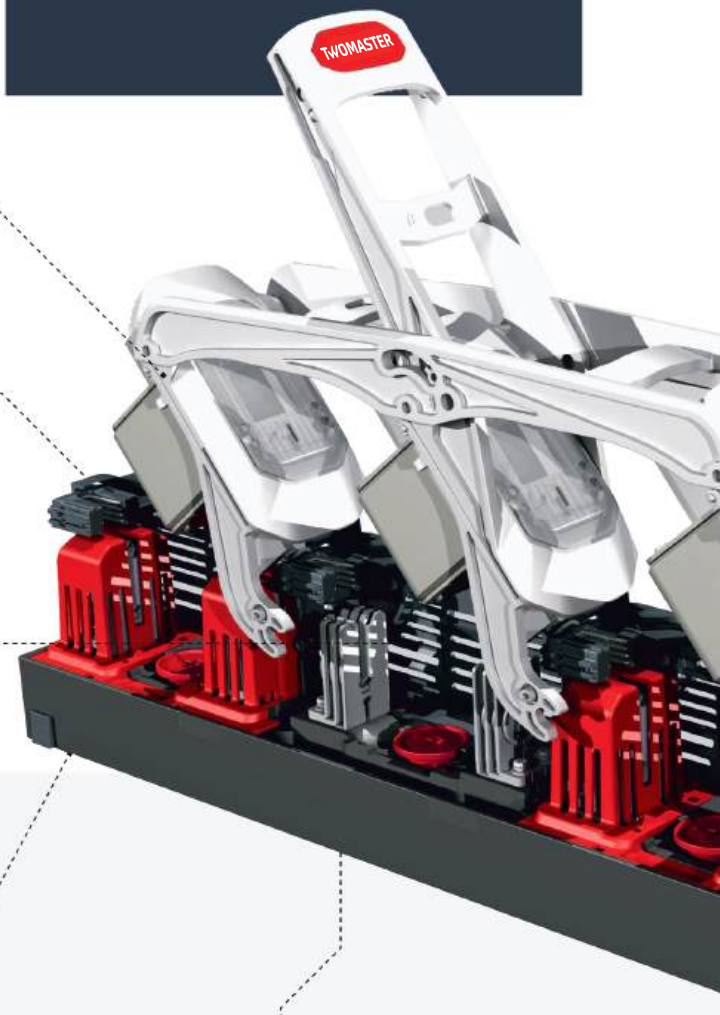
Arc-Extinguishing Chamber

The switch has a multi-piece arc-extinguishing chamber structure for fast arc extinguishing and the separate contact shield will protect the contact integrity when installed by the customer.



Heat Dissipation Structure

The heat dissipation groove channel is added on the side of the switch to improve heat dissipation when the switches are installed side by side.



Protective Block

The base is provided with a block protecting the copper parts to prevent the copper parts from rubbing against the ground when laid flat. It shall be ensured that the switch and the busbar are electrically conductive without virtual connection.

Hanging Terminal

The hanging terminal is fixed on the switch in advance, and is installed integrally with the switch to improve the installation speed and save labor. The application of high-strength alloy steel materials ensures long-term safe and reliable use of electricity.

TWOMASTER VFSD
Vertical Fuse Switch Disconnector
160A-1000A

Flip Shield

The flip shield can be opened and fixed upwards to facilitate cable wiring. After wiring,close the shield to cover the cable wiring position.

Wiring Bolt

Grade 8.8 geared flange bolts are used for safe and reliable connection and there is an self-locking function.The bolts face up and with visible holes, the cable lug is easy to install.

Cable Lug

The wiring bolts face upwards, which is convenient for the customer to connect the cable lug and to install. Each phase can be connected to wire Max. 2X240mm².

Connection Terminal (V-shape)

Each phase for connect wire 50-300mm².

Double Core Terminal

Each phase for connect wire Max. 2X240mm².

TWOMASTER VFSD

Vertical Fuse Switch Disconnector

160A-1000A

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Technical Parameters

					VFSD-160			VFSD-250			VFSD-400			VFSD-630		
Electrical parameter	With fuse link	Rated operating voltage	Ue	V	AC400	AC500	AC690	AC400	AC500	AC690	AC400	AC500	AC690	AC400	AC500	AC690
		Rated operating current	Ie	A	160	125	100	250	250	200	400	400	315	630	630	500
		Conventional thermal current	Ith	A	160	125	100	250	250	200	400	400	315	630	630	500
		Utilization Category			AC-23B	AC-23B	AC-22B	AC-23B	AC-22B	AC-21B	AC-23B	AC-22B	AC-21B	AC-23B	AC-22B	AC-21B
		Rated limited short-circuit current	Iq	kA	50			100	100	50	100	100	50	100	100	50
		Rated insulation voltage	Ui	V	1000			1000			1000			1000		
		Rated impulse withstand voltage	Uimp	kV	8			12			12			12		
		Rated frequency		Hz	50\60			50\60			50\60			50\60		
		Electrical endurance times		second	200			200			200			200		
	With copper link	Rated operating voltage	Ue	V	\			\	AC500	\	\	AC500	\	\	AC500	\
		Rated operating current	Ie	A	\			\	250	\	\	400	\	\	630	\
		Conventional thermal current	Ith	A	\			\	250	\	\	400	\	\	630	\
		Utilization Category			\			\	AC-23B	\	\	AC-23B	\	\	AC-23B	\
		Rated limited short-circuit current	Icw	kA	\			\	12	\	\	12	\	\	12	\
		Rated insulation voltage	Ui	V	\			1000			1000			1000		
		Rated impulse withstand voltage	Uimp	kV	\			12			12			12		
		Rated frequency		Hz	\			50\60			50\60			50\60		
		Electrical endurance Times		second	\			200			200			200		
Fuse		Fuse size (RT16NTNH) GB/T13539.2 IEC 60269-2			00			1			2			3		
		Operating current	In	A	160	125	100	250	250	200	400	400	315	630	630	500
		Power loss	P	W	12	12	12	18	23	32	28	34	45	40	48	60
Mechanism		Mechanical endurance times		second	1400			1400			800	800	1400	800		
		Busbar spacing		mm	185			185			185			185		
Protection		Frontal	On		IP20			IP20			IP20			IP20		
			Off		IP30			IP30			IP30			IP30		
Other		Electronic Fuse Monitor (EFM)			Can be added			Can be added			Can be added			Can be added		
		Signal feedback for opening and closing the switch (micro switch)			Can be added			Can be added			Can be added			Can be added		
Working conditions		Ambient temperature		℃	-5~+55											
		Working mode			Continuous operation											
		Operation			Handle											
		Installation form			Vertical											
		Sea level		Meter	≤2000											
		Pollution degree			3											
		Overvoltage category			III			IV								

TWOMASTER VFSD
Vertical Fuse Switch Disconnector
160A-1000A

Technical Parameters

					VFSD-1000	VFSD-630x2	VFSD-1000x2
Electrical parameter	With fuse link	Rated operating voltage	Ue	V	\	\	\
		Rated operating current	Ie	A	\	\	\
		Conventional thermal current	Ith	A	\	\	\
		Utilization Category			\	\	\
		Rated limited short-circuit current	Iq	kA	\	\	\
		Rated insulation voltage	Ui	V	\	\	\
		Rated impulse withstand voltage	Uimp	kV	\	\	\
		Rated frequency		Hz	\	\	\
		Electrical endurance times		second	\	\	\
	With copper link	Rated operating voltage	Ue	V	AC500	AC500	AC500
		Rated operating current	Ie	A	\ 1000 \	\ 1250 \	\ 2000 \
		Conventional thermal current	Ith	A	\ 1000 \	\ 1250 \	\ 2000 \
		Utilization Category			\ AC-21B \	\ AC-21B \	\ AC-21B \
		Rated limited short-circuit current	Icw	kA	\ 15, 25(special structure)	\ 15 \	\ 25 \
		Rated insulation voltage	Ui	V	1000	1000	1000
		Rated impulse withstand voltage	Uimp	kV	12	12	12
		Rated frequency		Hz	50\60	50\60	50\60
		Electrical endurance Times		second	100	100	100
Fuse		Fuse size (RT16NTNH) GB/T13539.2 IEC 60269-2			\	\	\
		Operating current	In	A	\	\	\
		Power loss	P	W	\	\	\
Mechanism		Mechanical endurance times		second	500	500	500
		Busbar spacing		mm	185	185	185
Protection		Frontal	On		IP20	IP20	IP20
			Off		IP30	IP30	IP30
Other		Electronic Fuse Monitor (EFM)			Can be added	Can be added	Can be added
		Signal feedback for opening and closing the switch (micro switch)			Can be added	Can be added	Can be added
Working conditions		Ambient temperature		℃	-5~+55		
		Working mode			Continuous operation		
		Operation			Handle		
		Installation form			Vertical		
		Sea level		Meter	≤2000		
		Pollution degree			3		
		Overvoltage category			IV		

TWOMASTER VFSD

Vertical Fuse Switch Disconnector

160A-1000A

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Technical Parameters

	Type	Item No.	Appearance	Name	Part No.	Conductor cross section min.-max. (mm^2)	Torque (N·m)	Quantity (per unit)	Specifications for the matched vertical fuse switch disconnector	Standard	Optional
Accessories	Product accessories	1.1		Position block	——	——	——	4	VFSD-250~630	●	
		1.2		Insulation board	——	——	——	2		●	
		1.3		Multi-function meter		——	——	1			●
		1.4		Current transformer (class 0.5)	Choose the switch model no. base on customer' s ampere in demand.	——	——	3			●
		1.5		Electronic Fuse Monitor (EFM)		——	——	1	VFSD-160~630		●
	Mounting terminal	2.1		Hanging terminal		——	8	3	VFSD-160		●
		2.2		Hanging terminal		——	30	3	VFSD-250~630		●
	Wiring terminal	3.1	Matching cable lug or busbar	M8 bolt	——	16-70	12	3	VFSD-160		●
		3.2	Matching cable lug or busbar	M10 bolt	——	35-240	30	3	VFSD-250		●
		3.3	Matching cable lug or busbar	M10 bolt	——	35-240	30	3	VFSD-400		●
		3.4	Matching cable lug or busbar	M12 bolt	——	70-240	35	3	VFSD-630		●
		3.5		Wiring terminal		16-70 s(r) 16-70 s(s) 16-70 f+AE	3	3	VFSD-160		●
		3.6		Wiring terminal		35-70 s(r) 16-150 s(s) 16-185sol(s)	25	3	VFSD-250		●
		3.7		Wiring terminal(V-shaped)		50~300s(r) 50~240s(s) 50~300sol(s)	30	3	VFSD-250~630		●
		3.8		Horizontal double core wiring terminal		2*185~240	30	1	VFSD-630		●
		3.9		Vertical double core wiring terminal		2*185~240	30	2	VFSD-630		●

TWOMASTER VFSD
Vertical Fuse Switch Disconnector
160A-1000A

Technical Parameters

No.	Part No.	Pole	Current	System	Size	Adaptation	Remarks
1	VFSD-160/3L	3	160A	185	668 × 50	Fixed installation (drill hole), three-phase synchronous operation and with fuse	
2	VFSD-160/311L	3	160A	185		Hanging installation, with auxiliary contacts, three-phase synchronous operation and with fuse	
3	VFSD-250/3L	3	250A	185	666 × 100	Fixed installation (drill hole), three-phase synchronous operation and with fuse	
4	VFSD-250/3S	3	250A	185		Fixed installation (drill hole), three-phase separate operation and with fuse	
5	VFSD-250/3LD	3	250A	185		Fixed installation (drill hole), three-phase synchronous operation and with fuse isolation knife	
6	VFSD-250/311L	3	250A	185		Fixed installation (drill hole), three-phase synchronous operation and with fuse	
7	VFSD-400/3L	3	400A	185		Fixed installation (drill hole), three-phase synchronous operation and with fuse	
8	VFSD-400/3S	3	400A	185		Fixed installation (drill hole), three-phase separate operation and with fuse	
9	VFSD-400/3LD	3	400A	185		Fixed installation (drill hole), three-phase synchronous operation and with fuse isolation knife	
10	VFSD-400/311L	3	400A	185		Fixed installation (drill hole), three-phase synchronous operation and with fuse	
11	VFSD-630/3L	3	630A	185		Fixed installation (drill hole), three-phase synchronous operation and with fuse	
12	VFSD-630/3S	3	630A	185		Fixed installation (drill hole), three-phase separate operation and with fuse	
13	VFSD-630/3LD	3	630A	185		Fixed installation (drill hole), three-phase synchronous operation and with fuse isolation knife	
14	VFSD-630/311L	3	630A	185		Hanging installation, with auxiliary contacts, three-phase synchronous operation and with fuse.	
Remarks	1. Please refer to the model no. definition of the vertical fuse switch disconnector to choose the right items in demand.						
	2.Other accessories, such as wiring terminals, please refer to the vertical fuse switch disconnector accessories list.						

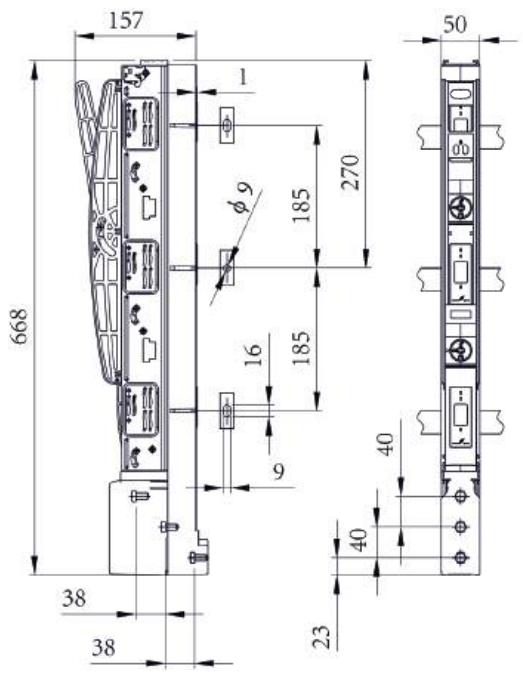
TWOMASTER VFSD

Vertical Fuse Switch Disconnector

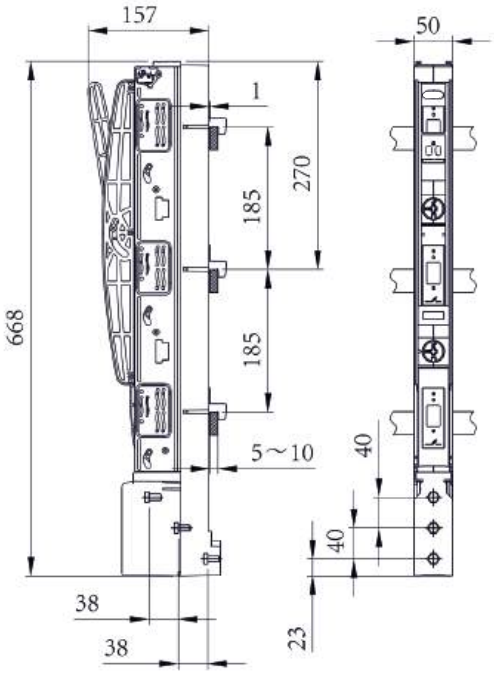
160A-1000A

Dimensions

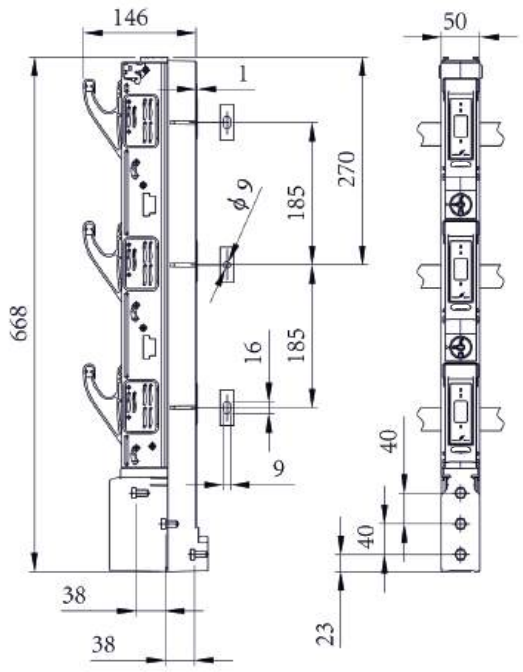
3L Fixed type installation diagram



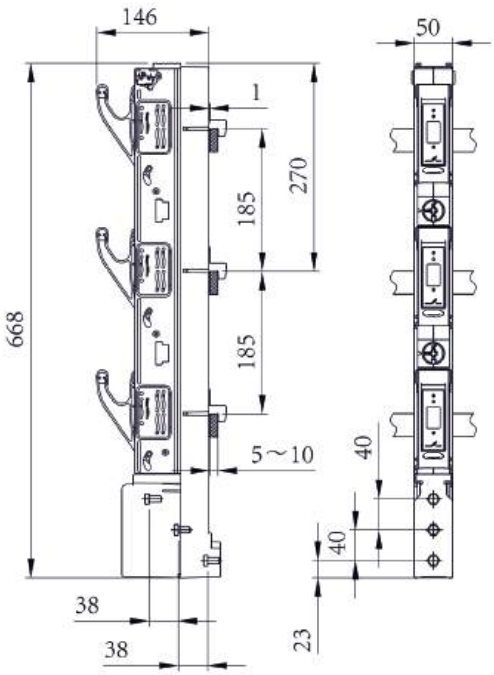
3L Hanging type installation diagram



3S Fixed type installation diagram



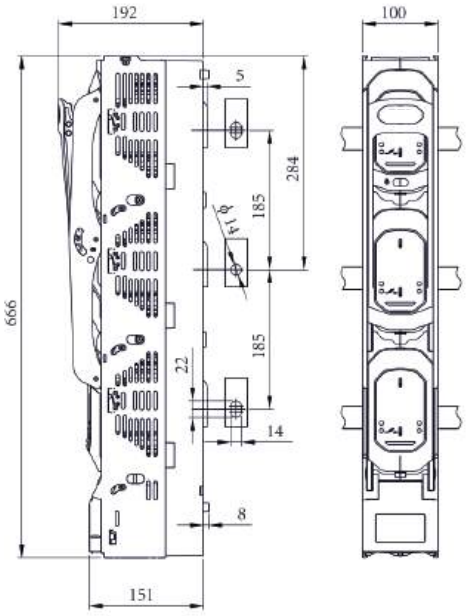
3S Hanging type installation diagram



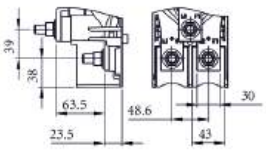
TWOMASTER VFSD
Vertical Fuse Switch Disconnector
160A-1000A

Dimensions

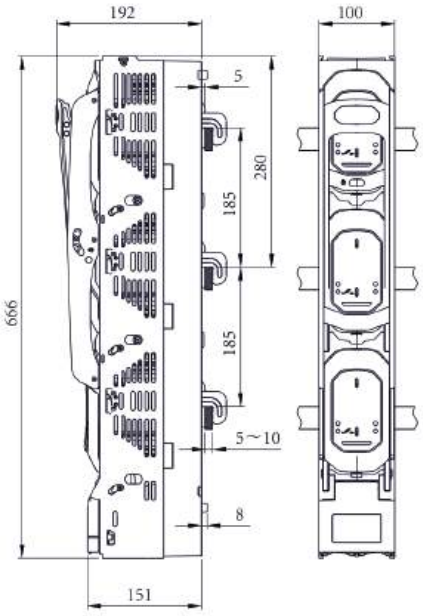
3L Fixed type installation diagram



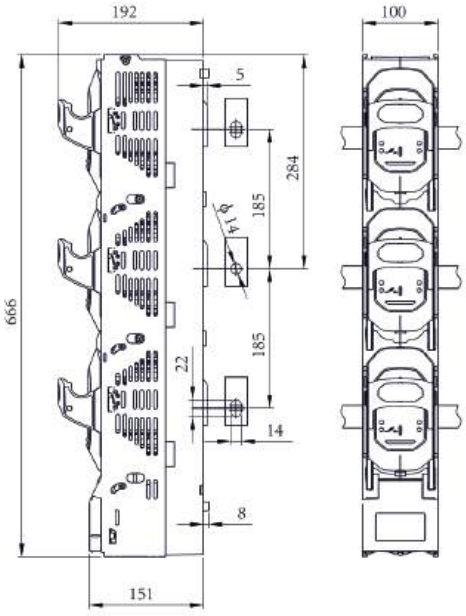
Wiring terminal clamp size diagram:



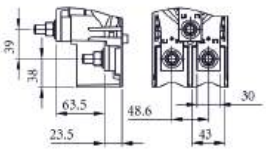
3L Hanging type installation diagram



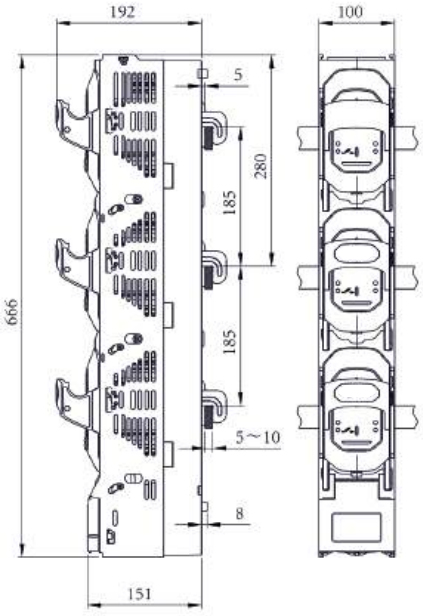
3S Fixed type installation diagram



Wiring terminal diagram



3S Hanging type installation diagram



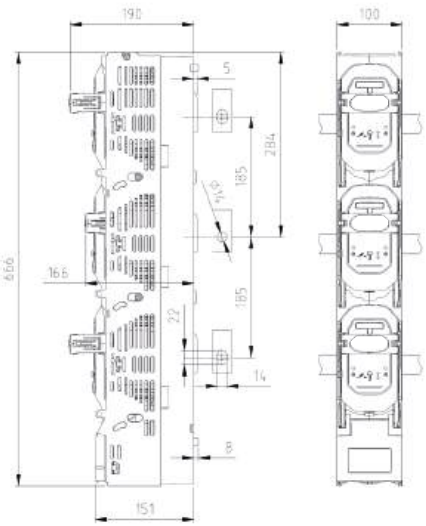
TWOMASTER VFSD

Vertical Fuse Switch Disconnector

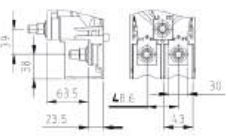
160A-1000A

Dimensions

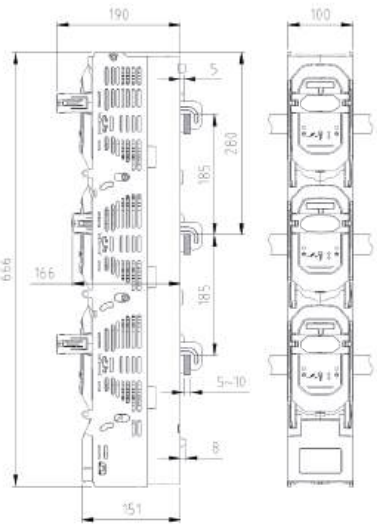
3S Fixed type installation diagram



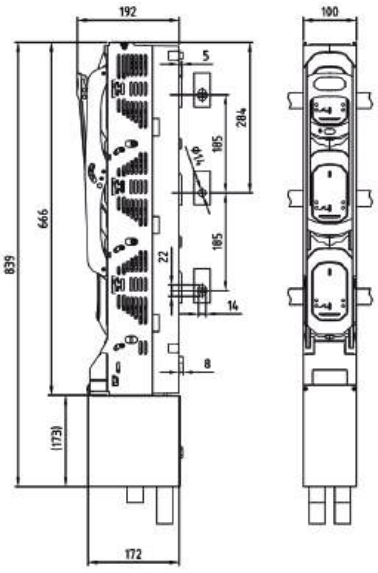
Terminal



3S Hanging type installation diagram



3L Fixed type installation diagram



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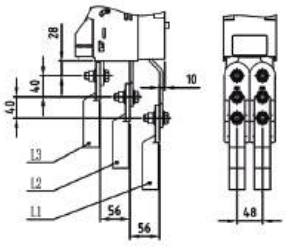
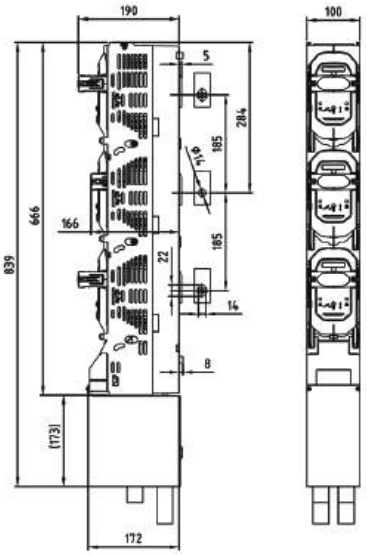


3S Fixed type installation diagram

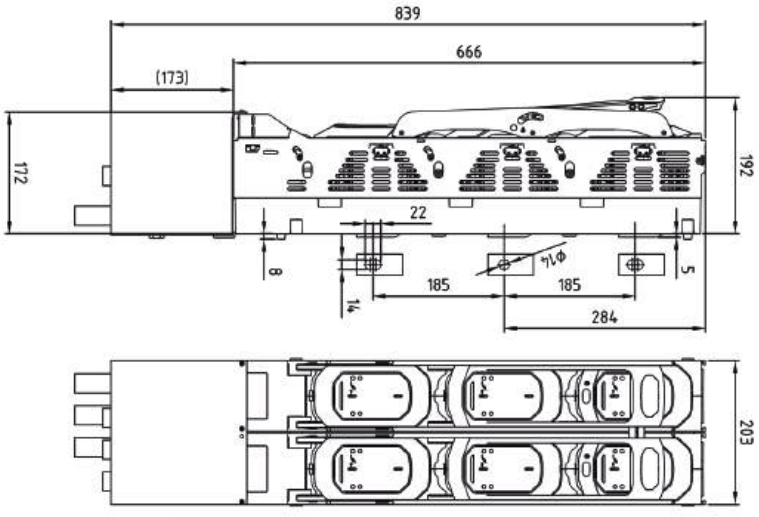


TWOMASTER VFSD

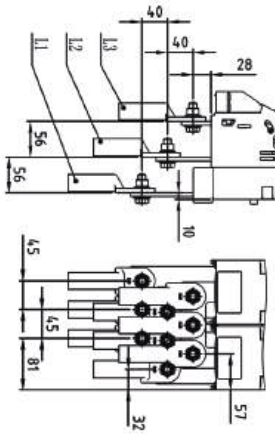
Vertical Fuse Switch Disconnector

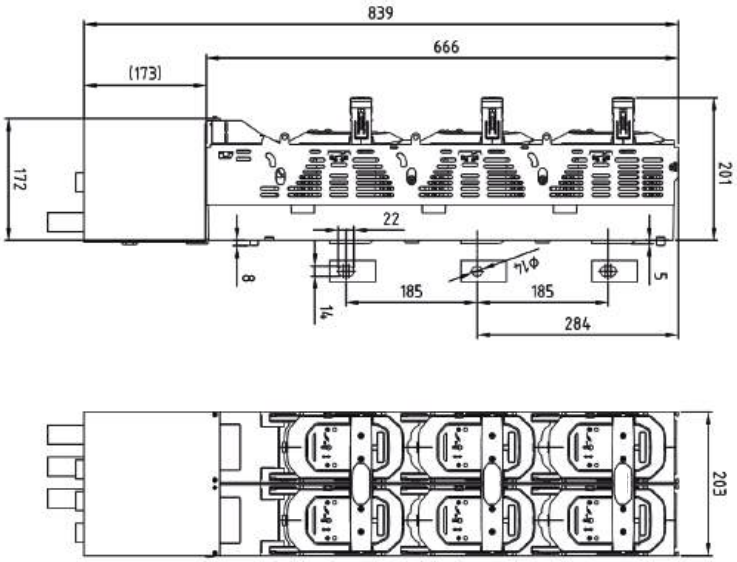
160A-1000A

Dimensions



3L Fixed type installation diagram





3S Fixed type installation diagram

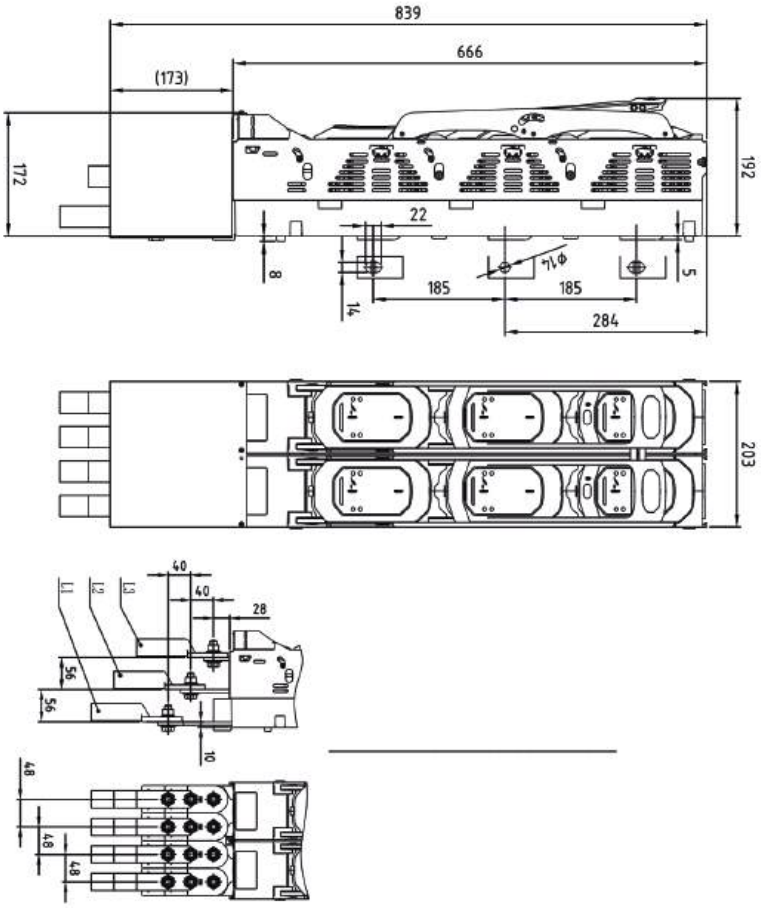
TWOMASTER VFSD

Vertical Fuse Switch Disconnector

160A-1000A

TWOMASTER

Dimensions



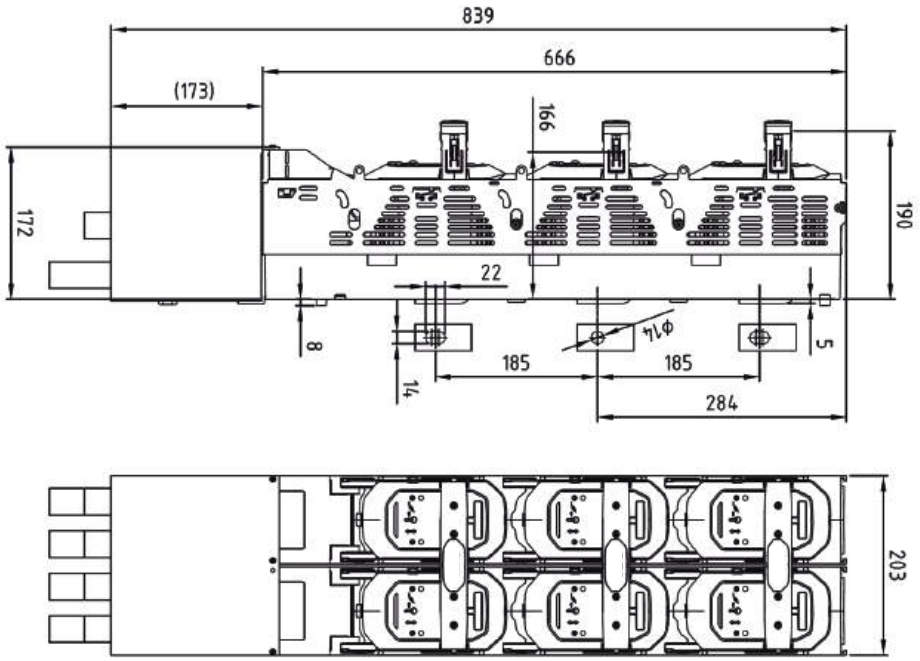
3L Fixed type installation diagram

TWOMASTER VFSD

Vertical Fuse Switch Disconnector

160A-1000A

Dimensions



3S Fixed type installation diagram