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GEYA ELECTRICAL

GYAR9-NV-X Series

Smart Auto Recloser

Empower your systems,
with remote control and automation



GEYA
Electrical

GEYA ELECTRICAL

Founded in 2007,Geya Electrical Co. Ltd was located in Wenzhou, Zhejiang, China. Our company integrates R&D, production and sales, and committed to be the technology enterprise of low-voltage electrical equipment and automation control products.

After years of operating, our annual turnover has exceeded 200 million yuan. Geya's product series involve a variety of low-voltage electrical equipment and automation control products, including miniature circuit breaker (MCB), molded case circuit breaker (MCCB), residual circuit breaker (RCB), isolation switch, contactors, relays, timer, distribution box, etc. The product series are complete and the application fields are wide, which is widely recognized by domestic and foreign customers.

Our four major sales areas cover six continents, and Geya has been chosen and trusted by more than 40 foreign companies. We takes the development concept of "pursue nature of things, reach to the world", sticking to high standards and high quality.

We have obtained a number of national invention patents, and deployed our brand GEYA in most countries around the world. Global certifications include CCC, CE, SAA, SEMKO, TUV, CE and other EU authoritative certifications.

Our sales team gradually promote Geya brand to the global market, we sincerely welcome customers to achieve win-win and common development with Geya!





COMPANY PROFILE

ZHEJIANG GEYA ELECTRICAL CO.,LTD

Founded in **2007** Year

Company address **Wenzhou Yueqing**

Invention Patent **6** Items

Company address **20** Items



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PURSUE NATURE OF THINGS
REACH TO THE WORLD

Operational continuity
Compactness
Effectiveness
Connectivity

Wherever continuity of service is critical, especially in installations that are not easily accessible,Motor Operating Devices (GYAR9-NV-X1) for MCBs and RCDs and Auto-Reclosing units (GYAR9-NV-X2) for RCCBs allows remote control of the connected protection devices. The integration into the SMART energy management system enables increased connectivity and automated remote control.



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Motor operating devices
Auto-reclosing units
Empower your systems,
with remote control and automation

Motor operating devices & Auto-reclosing units Empower your systems, with remote control and automation

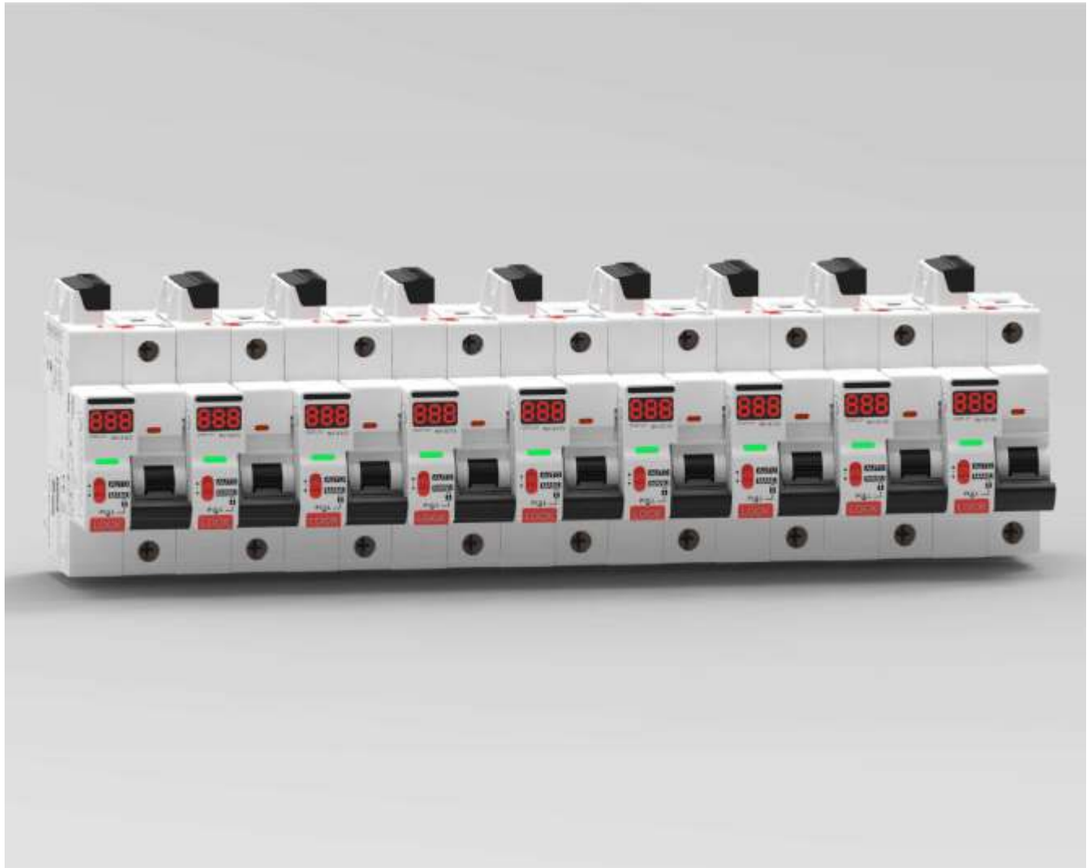
In scenarios where continuity of service is vital, particularly in hard-to-reach installations, Motor Operating Devices (GYAR9-NV-X1) for MCBs and RCDs and Auto-Reclosing units (GYAR9-NV-X2) for RCCBs are essential, enabling remote control of the associated protective equipment. Regardless of whether the application is residential, commercial or industrial, protective devices might be affected by unwanted tripping at any time due to their high sensitivity.
This accidental interruption of the service, unlike the reasons of actual hazardous situations, can be caused by a variety of circumstances, such as atmospheric events, start-up or shut-down of industrial machinery, harmonic components due to inverters and much more. Such situations often occur only temporarily, and to reactivate the circuit it is sufficient to reset the main protection device. Unfortunately, resetting is an operation that requires on-site intervention and involves unpredictable downtime.In public areas or stores, the loss of power to lighting systems, supermarket refrigerators or freezers, alarms, elevators or electric gates can have serious consequences for people and goods, ranging from the failure of public lighting and store signage or spoilage of food, to the impossibility of using anti-theft and surveillance systems, to the efficiency of payment systems.While in factories or offices, you may notice the malfunction of production lines, manufacturing machines, security systems, computers, etc. Novalink range of motor operating and auto-reclosing devices has been designed to prevent these types of incidents.

Motor Operating Devices are particularly suitable for centralized systems (either large or difficult to access) and where multiple daily interventions are required, such as unattended electrical lines, safety lines and unmanned stations.

Auto-Reclosing units are used to automatically reclose the associated device in the event of an untimely trip, such as an overcurrent caused by lightning. These devices are particularly suitable either in unattended systems or where continuity of service must be maintained.



Visualize, control and optimize your systems remotely.



Main applications
Keep your systems up and running

Wherever continuity of service is essential, Novalink offers motor operating devices (for MCBs and RCDs) and autoreclosing units (for RCBBs) to ensure remote management and continuous operation of your installation, in residential, commercial, and industrial applications.



Utility network or
telecommunication stations
Remote control and maintenance through NV-X1and NV-X2are highly beneficial for unmanned stations in hard-to-reach areas that allow operating and controlling main switches, reducing maintenance and on-site operation costs and time.



EV charging station
NV-X1or NV-X2 can ensure continuity of recharging operations, eliminating inconvenient downtime and unplanned waiting times.



Wind
The combination of a NV-X1 with an MCB or RCD supports remote resetting of the main protection device. Where service activities are expensive, our solution can help save time and costs.

Commercial and industrial sectors
NV-X2 ensure improved system functionality and customer satisfaction.
Continuity of electricity supply is key to security of customers and goods, efficiency of payment systems, attractiveness of spaces, and continuity of production.



Public areas
Where continuity of service is a benefit to people, RCCBs in combination with NV-X2 can provide continuity in public street or park lighting systems, as well as in surveillance systems.



Railway
The NV-X1 is a reliable solution for rail infrastructure where continuity of service of information panels, emergency exit signals or lighting systems, access control systems or HVAC systems is key to passenger safety and comfort.



Battery storage system
For a residential application with integrated solar, battery storage and EV charging, NV-X1 can be used in combination with MCBs.



Benefits

Operational continuity
Keep your systems up and running to save costs and time.

Compactness
Reduced size of installation thanks to slim product design as well as optimized performance.

Effectiveness
A comprehensive range to cover a wide scope of applications and needs with flexibilty to expand the system according to your specific needs.

Connectivity
Fully integrate the ranges within InSite energy management system with the compact communication modules*.



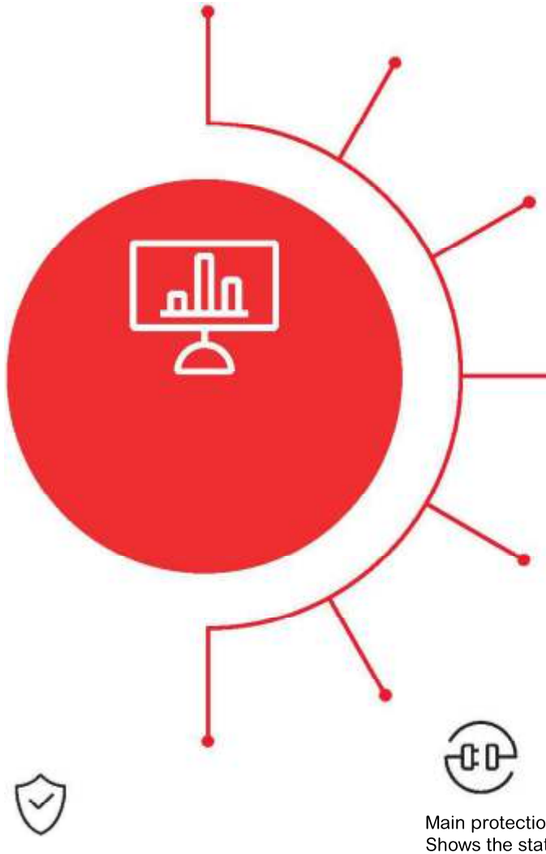
The power of data and interconnectivity

By mounting the compact communication module to the Motor Operating Unit (GYAR9-NV-X1) or Auto-Reclosing units (GYAR9-NV-X2 and GYAR9-NV-X2C), the devices can be connected to the SMART energy management system, either via Modbus or via Wi-Fi.This allows remote control of the opening and/or closing (for GYAR9-NV-X1) or automatic reclosing (for GYAR9-NV-X1 ranges) of the connected device to be set up and automated via the InSite web server. Continuous monitoring allows real-time and historical data to be easily accessed remotely.User-defined alerts and automated actions ensure quick responses to minimize downtime.



SMART web server integration

Open and close command
allows the end user to perform actions on the NV-X1 orNV-X2, and thus on the main protection device and the downstream installation circuits.
→ It helps to save costs and time in case of maintenance operations and the need to shut down/reactivate the affected lines.



Tripping and operations event counter (times, D/H)
is the number of operations (1,2,3….) handled and monitored by the NV-X1 orNV-X2.

→ Checking the event logs with its collection of event and alarm history, helps to track the installation status.

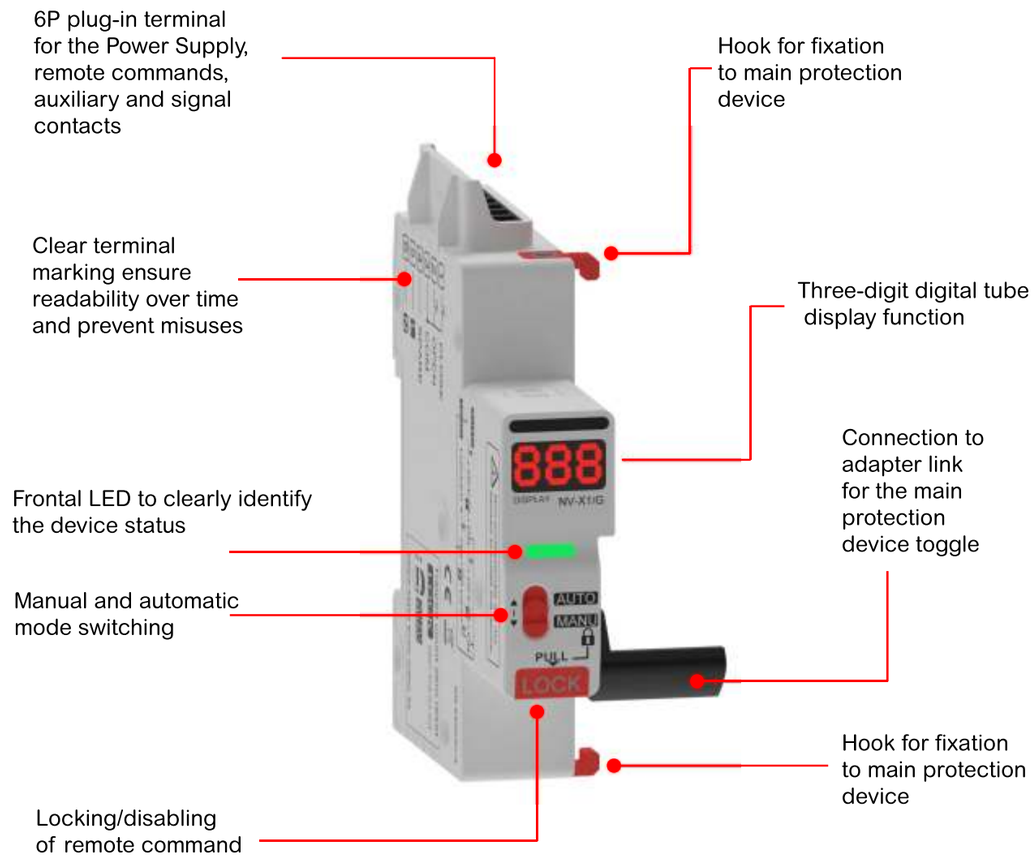
Optimum interface
Customizable dashboard in the InSite web server with user-friendly widgets and alarm setup.

Firmware upgrade
Remotely upgrade the firmware of NV-X1 through the InSite **** web server.

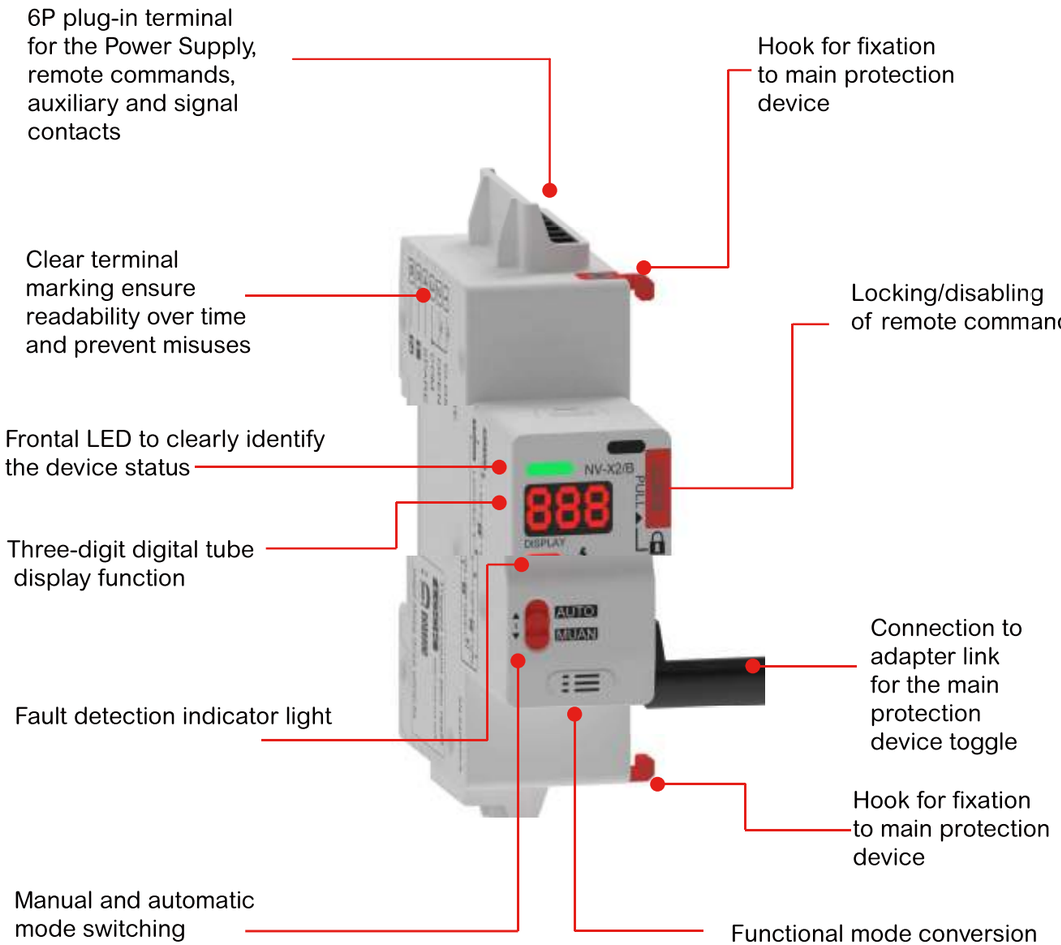
Settings
for autoreclosing units, a number of parameter values can be managed and adjusted by the user.
→ System customization can provide easy and flexible management.

Connection status
states if the NV-X1or NV-X2.are is correctly connected to InSite.
→ If the device is not connected, it will not be visible on the web server. Network status needs to be checked and connection operations may need to be performed again.

Main protection device monitoring
Shows the status of the protection device upstream NV-X1or NV-X2.
→ If the protection device is switched off and the downstream equipment is no longer running, the user is informed and can decide what action to take.

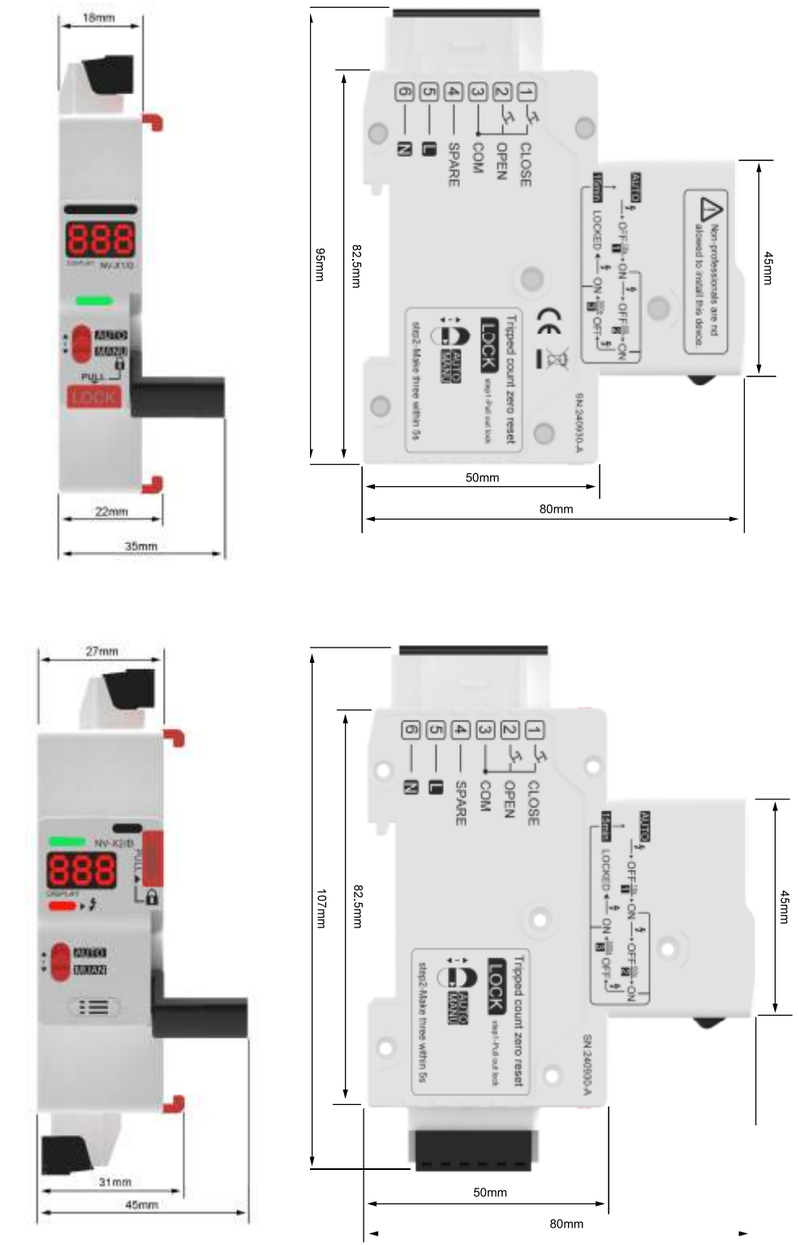


Compactness
As the Motor Operating Devices and Auto-Reclosing units come in a single module, they can help save space in switchboards and consumer units.



Connectivity
The ranges can be fully integrated into the InSite energy management system either via Modbus or via Wi-Fi, thanks to the compact communication modules* that can be mounted on the Motor Operating Devices and Auto-Reclosing units.

Expandability
Enhanced compatibility with main protection devices and with the wide portfolio of System pro M compact accessories, as well as the extended voltage ranges in two versions (24-48 V AC/DC and 230-240 V AC), allow more flexibility when installing.





GYAR9-NV-X1 Series
Technical features

Suitable for:	MCBs ***** and ***** series RCCBs *****(up to 100A) and ***** B type (up to 63A) RCBOs ***** Switch Disconnectors *****	
Number of modules	1	
Operating voltage	24…48 V AC/DC -10% +10%	230-240 V AC -15% +10%
Minimum operating voltage	21,6 V AC/DC 110 V AC	230-240 V AC -15% +10%
Power consumption during operation	<28 VA	<30 VA
Power consumption at rest	<1 VA	<1,5 VA
Closing time	<1 s	
Opening time	<1 s	
Mechanical endurance	10000	
Protecion degree acc. To EN 60529	IP40 (housing)/IP20 (terminals)	
Operating temperature (with daily average ≤ +35 °C)	-25 …+60 °C	
Storage temperature	-40 …+70 °C	
Overvoltage category	III	
Pollution degree acc. to EN 60664	2	
Shock resistance acc. to IEC/EN 60068-2-27	25g, 2 shocks, 13ms	
Vibration resistance acc. to IEC/EN 60068-2-6	1g - 20 cycle at 5… 150 …5 Hz	
Environmental conditions (damp heat) acc. to IEC/EN 60068-2-30	28 cycles with 55°C/90-96% and 25°C/95-100%	
Terminal type	plug-in	
Cross-section of conductors	0,2…2,5 mm2	
Tightening torque	0,4 Nm	
Stripping length of the cable	5 mm	
Cable length of the control circuits	10 m	
Remote control: close contact*	Terminal 6	
Remote control: open contact	Terminal 5	
Auxiliary contact	Terminal 4	
Signal contact	Terminal 3	

* In case of MCB trip the remote control inputs are inhibited
** Coupling with ***** or ***** allowed only in case of DC supply



GYAR9-NV-X2 Series
Technical features

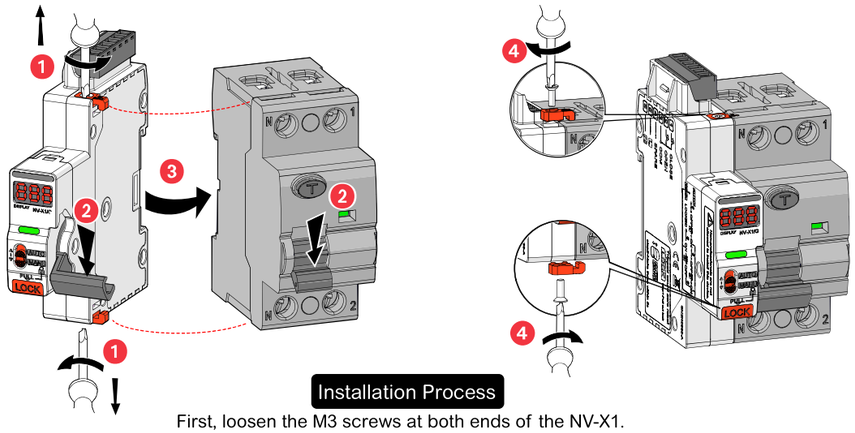
Suitable for:	MCBs NV-X1 and ***** series RCCBs *****(up to 100A) and*****B type (up to 63A) RCBOs ***** Switch Disconnectors *****	
Number of modules	1	
Operating voltage	24…48 V AC/DC -10% +10%	230-240 V AC -15% +10%
Minimum operating voltage	21,6 V AC/DC 110 V AC	230-240 V AC -15% +10%
Power consumption during operation	<28 VA	<30 VA
Power consumption at rest	<1 VA	<1,5 VA
Closing time	<1 s	
Opening time	<1 s	
Mechanical endurance	10000	
Protecion degree acc. To EN 60529	IP40 (housing)/IP20 (terminals)	
Operating temperature (with daily average ≤ +35 °C)	-25 …+60 °C	
Storage temperature	-40 …+70 °C	
Overvoltage category	III	
Pollution degree acc. to EN 60664	2	
Shock resistance acc. to IEC/EN 60068-2-27	25g, 2 shocks, 13ms	
Vibration resistance acc. to IEC/EN 60068-2-6	1g - 20 cycle at 5… 150 …5 Hz	
Environmental conditions (damp heat) acc. to IEC/EN 60068-2-30	28 cycles with 55°C/90-96% and 25°C/95-100%	
Terminal type	plug-in	
Cross-section of conductors	0,2…2,5 mm2	
Tightening torque	0,4 Nm	
Stripping length of the cable	5 mm	
Cable length of the control circuits	10 m	
Remote control: close contact*	Terminal 6	
Remote control: open contact	Terminal 5	
Auxiliary contact	Terminal 4	
Signal contact	Terminal 3	

* In case of MCB trip the remote control inputs are inhibited
** Coupling with ***** or ***** allowed only in case of DC supply

⚠⚠ DANGER

Please Note:Hazard of Electric Shock, Explosion, or Arc Flash
1. Installation, maintenance, and eventual replacement of this device must be performed by a qualified electrician.
2. This device is not repairable.
3. All applicable local, regional, and national regulations must be followed during the installation, use, maintenance, and replacement of this device.
4. If the device is damaged upon unpacking, do not install it.
5. Novalink Electric assumes no responsibility for any failure to comply with the instructions in this document and the referenced documents.
6. The service instructions must be followed throughout the life of this device.
7. Turn off all power before operating this equipment.
8. Use a properly rated voltage tester to check that all live conductors are energized.

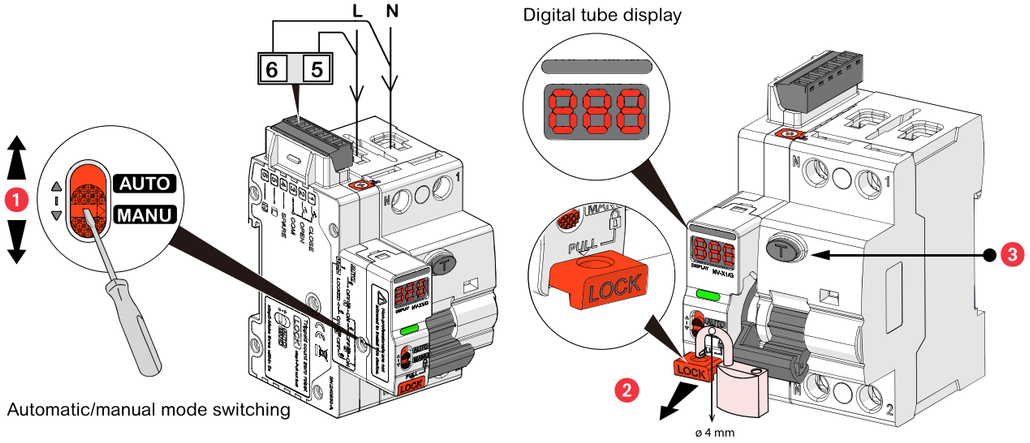
Failure to follow these instructions will result in death or serious injury.



Installation Process

First, loosen the M3 screws at both ends of the NV-X1.
Second, place the NV-X1 handle and the circuit breaker handle in the OFF position.
Third, align the NV-X1 and circuit breaker and connect them together.
Fourth, tighten the M3 screws at both ends of the NV-X1.

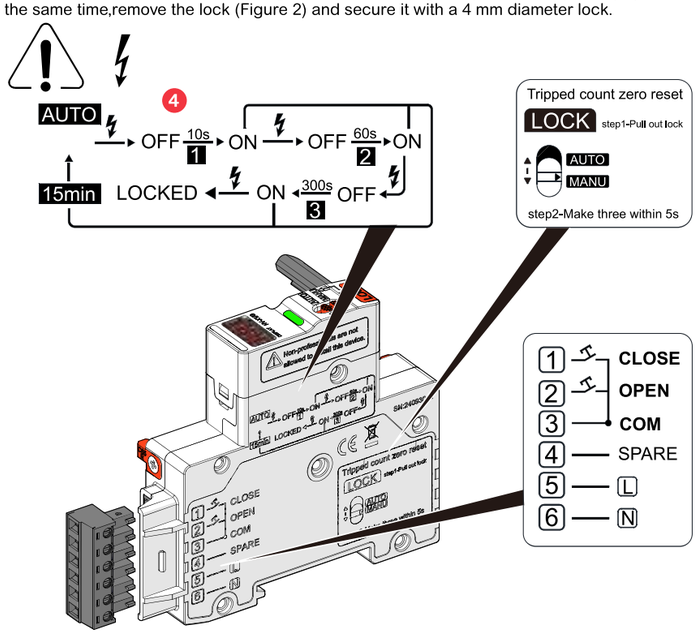
When the device requires maintenance, switch 1 to MANU.
1. Risk of electric shock, explosion, or arc burns.
2. Before maintaining the device, be sure to disconnect all power supplies.
3. Failure to follow these instructions can result in personal injury or death.



Automatic/manual mode switching

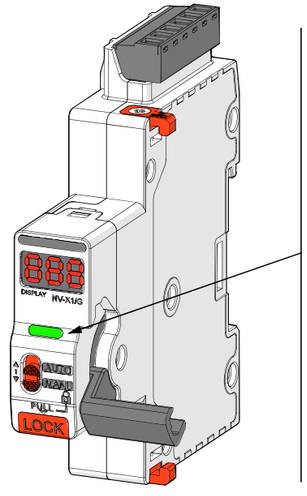
Device Operation

1) After powering up the NV-X1, turn the circuit breaker to the "ON" position and slide the NV-X1 selector switch from "MANU" to "AUTO" to enter automatic mode. (See "1" in the diagram).
2) After powering up the NV-X1, execute "TEST" (see "3" in the diagram) to activate the operating logic. After 10 seconds, the first closing attempt will be repeated. (See "4" in the diagram). The digital display will show 10, 9, 8, 7, ..., 0, and the circuit breaker will close.If this attempt fails, the circuit breaker will close again.
The digital display will show 30, 29, 28, 27, ..., 0, and the circuit breaker will close.
If this attempt fails, the circuit breaker will close again. The digital display will show 300, 299, 298, 297, ..., 0, and the circuit breaker will close. If all three attempts fail, the device will enter a locked state, requiring circuit repair by a qualified electrician.
However, if one of the three attempts succeeds, the circuit breaker will return to its original state after 15 minutes.
3) If a permanent fault occurs, switching from automatic (Figure 1) to manual (MANU) operation will be necessary for maintenance.
At the same time,remove the lock (Figure 2) and secure it with a 4 mm diameter lock.



When the digital tube counter accumulates a certain number of times, if you want to clear the count, please operate as shown in the figure.

Wiring Diagram



Red light on: The circuit breaker is in the open state (auxiliary control takes priority), and the NV-X1 automatic reclosing mode is invalid.

Green light on: The circuit breaker is in closed state.

Flashing green: The circuit breaker is in the 15-minute recovery reset state.

Flashing red: The circuit breaker is in the closing countdown state, and the digital tube displays synchronously.

Yellow light on: LOCK safety lock is pulled out, or MANU manual mode is valid, the circuit breaker is in locked state or maintenance manual mode.